

APPENDIX A - PAYNE AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p align="center">The payment URL authenticator is a hash of other information in the payment URL, the hash being defined by a key shared by the merchant and the operator of the payment computer.”</p> <p>(Payne, Col. 5, lines 27-46)</p> <p>Payne further teaches associating a payment object identity (i.e., the signature or hash, which is the MD5 hash of the attributes and information entries in the payment URL) with information entries (e.g., a text description of the item to be put into the buyer’s SmartStatement) and attributes (e.g., desc is an attribute).</p> <p>A payment URL looks like this: <code>http://payment.openmarket.com/pay.cgi?hash:field1=value1&field2=value2</code></p> <p>In any of the field values, the following characters are escaped: '+', '&', '=', ' ', and anything less than 0x20.</p> <p>The URL fields encode the details of the payment order:</p> <p align="center">Description (desc) This is a text description of the item to be put into the buyer’s SmartStatement</p> <p align="center">Signature (hash) The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The signature prevents user tampering of the</p> <p>(Id., Appendix E, Pg. 5, Exh. Pg. 128)⁵</p> <p>Additionally, Payne teaches associating <i>other object identities</i> (e.g., object identities associated with a merchant computer) with information entries and attributes. Payne teaches creating a signature hash associated with the information entries and attributes, which are included in the access URL that is sent to a merchant computer:</p>

⁵ For the Examiner’s convenience, Exhibit 3 has been paginated by requester, as certain appendices to the Payne patent do not have page numbers. Thus, citations to “Exh. p. ___” are to the page numbers created by requester for the Exhibit.

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		<div> </div> <p>(Id., Fig. 10)</p> <p>An access URL looks like this:</p> <p><code>http://merchart.foo.com/@hash:field1=value1& field2=value2/real-url</code></p> <p>In any of the field values, the following characters are escaped: '+', '&', '=', ',', and anything less than 0x20.</p> <p>The URL fields encode the details of the access:</p> <p>Expire (expire)</p> <p>This fields specifies the expiration time for the access, in seconds since January 1, 1970 UTC.</p> <p>IP Address (ip)</p> <p>specifies the ip address from which the request must come</p> <p>Signature (hash)</p> <p>The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The ipaddr is the IP address of the client attempting access and domain is the access domain. The signature prevents user tampering of the access URL.</p> <p>The effect is to grant access to a specified domain, from a specified client IP address, for an (optional) period of time.</p> <p>If desired, any additional information can be encoded in an access URL.</p> <p>User ID (id)</p> <p>The unique ID of the buyer, from the field principal_id of the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>User Name (name)</p> <p>The print name of the buyer, from the field principal_name from the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>(Id., Appendix E, Pg. 9, Exh. Pg. 136)</p> <p>Above, the merchant access “signature(hash)” is associated with</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
		<p>information entries and attributes contained in the access URL (e.g., User ID, User Name, IP Address).</p> <p>Payne also discloses “names”, which are unique per object, and can be used to access information entries and attributes:</p> <p>Resolvable A name will contain enough information to allow the document or index to which it refers to be accessed, perhaps via resolution into an intermediate, more physical, name.</p> <p>Unique Each object can only have one such name. The fact that two such names are different implies that the objects to which they refer are different (in some way).</p> <p><i>(Id., Appendix D, Pgs. 2-3, Exh. Pgs. 103-104)</i></p> <pre>puts \$f "<INPUT name='use_url' type='checkbox' \ [state use_url]>File Name of Information
" puts \$f "By choosing this option you can include the name of your file.<F>" puts \$f "<H3>Custom Information for Store Items</H3>" puts \$f "You can also specify attributes of your products to be entered" puts \$f "that are not supplied above. Examples: Colors, Weight, Sizes," puts \$f "Dimensions, Number of Pages, Running Time.<P>"</pre> <p><i>(Id., Appendix F, page entitled “CustItemEntryPage.cgi,” Exh. Pg. 164)</i></p> <p><u>Payne/’519 Application/Gifford</u></p> <p>Payne/’519 Application/Gifford discloses that nonces (i.e., object identities) representing a payment order are stored in a settlement database (i.e. a VIS), and are checked (i.e., used to identify a payment order object) during a payment transaction versus entries in a settlement database (VIS).</p> <p>“Replay is checked for by making sure that the sender did not previously present a payment order with the same nonce by checking an index of committed payment orders by nonce in settlement database 74. If nonces are based on time, then a payment order that is older than an administratively determined value can be rejected out of hand. Time based nonces or sequential nonces permit old nonces to be removed from the settlement database 74.”</p> <p>(’519 Application, Pg. 21, line 24 – Pg. 25, line 6) (<i>similarly, see Gifford, Col. 8, lines 55–62</i>)</p> <p><i>One of ordinary skill in the art would understand the nonce described in</i></p>

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Bl. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p><i>Payne/’519 Application/Gifford to be a number used once, a unique identifier used for authentication purposes.</i></p> <p>Payne/’519 Application/Gifford also discloses that “digests” (i.e., object identities) are sent along with an object (i.e., a payment order) in order to identify the object in the client or payment computers databases.</p> <p>“In a first method for authenticators, at steps 80 or 89, a digest of the payment order is signed by the sending computer using a public-key cryptographic system such as RSA. This signature is used as the authenticator. As is well known in the art, the signing can be accomplished using a private key created from a public-key pair, where the signing key is only known by the signer, and the other public key is known to the receiving computer. At the payment computer the public key corresponding to each sender is kept in credential database 76. The private key for the payment service is also kept in database 76. At steps 82 or 91, the signature of the received message is checked using the public key known to the receiving computer.”</p> <p><i>(Id., Pg. 26, lines 10-22) (similarly, see Gifford, Col. 10, lines 30-42)</i></p> <p>“A digest of a payment order can be created with an algorithm such as MD5 (R. Rivest, The MD5 Message-Digest Algorithm, MIT Laboratory for Computer Science, Network Working Group Request for Comments 1321).”</p> <p><i>(Id., Pg. 30, lines 10-13) (similarly, see Gifford, Col. 11, lines 60-63)</i></p> <p>Payne/’519 Application/Gifford also discloses that an authenticator, generated by a Smart-Card, can be used to identify a payment order object:</p> <p>“In a third method for authenticators, at step 80 the authenticator is computed by a protected device external to the system such as a Smart-Card. A protected device is specifically designed to be extremely difficult both to replicate and to compromise. In this method, the payment order is communicated at 80 to a Smart-Card. The Smart-Card computes and signs a digest of the payment order, and then communicates the signature back at 80 to be used as an authenticator. A Smart-Card produced authenticator uniquely associates a payment order with its creating Smart-Card.”</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p><i>(Id., Pg. 27, lines 10-19) (similarly, see Gifford, Col. 10, lines 54-64)</i></p> <p>Payne/'519 Application/Gifford discloses objects representing digital advertisements, which are associated with information entries and attributes (e.g., price, product abstract).</p> <p>“The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers.”</p> <p><i>(Id., Pg. 6, line 21 – Pg. 7, line 3) (similarly, see Gifford, Col. 3, lines 15-21)</i></p> <p>“A digital advertisement includes a product description and a price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p> <p><i>(Id., Pg. 10, line 23 – Col. 11, line 2) (similarly, see Gifford, Col. 4, lines 53-56)</i></p> <p>Payne/'519 Application/Gifford also teaches a system for associating payment object identities (e.g., a sender-unique nonce) with payment order information entries and attributes (e.g., sender identity, payment amount, beneficiary):</p> <p>“A payment order describes the identity of a sender, a payment amount, a beneficiary, and a sender unique nonce. A sender is a principal making a payment.”</p> <p><i>(Id., Pg. 5, lines 19-22) (similarly, see Gifford, Col. 2, lines 53-55)</i></p>
6	wherein the object identity represents a networked object;	<p><u>PAYNE:</u></p> <p>Payne teaches that an object name (object identity) will represent a networked object. The object identity “signature” is shared over the network between computers via the payment URL mechanism:</p> <p>“The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(Payne, Col. 4, lines 43-45)</p> <p>A payment URL looks like this:</p> <p><code>http://payment.cpenmarket.com/pay.cgi?hash:field1=value1& field2=value2</code></p> <p>In any of the field values, the following characters are escaped: '+', '&', '=', '.', and anything less than 0x20.</p> <p>The URL fields encode the details of the payment order.</p> <p>Signature (hash) The signature (hash) is computed as the MDS hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The signature prevents user tampering of the</p> <p>(Id., Appendix E, Pg. 5, Exh. Pg. 128)</p> <p>Additionally, Payne also teaches an object identity sent to the merchant computer via an access URL representing a networked object:</p> <p>An access URL looks like this:</p> <p><code>http://merchant.foo.com/@hash:field1=value1& field2=value2/real-url</code></p> <p>The URL fields encode the details of the access:</p> <p>Signature (hash) The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The ipaddr is the IP address of the client attempting access and domain is the access domain. The signature prevents user tampering of the access URL.</p> <p>(Id., Appendix E, Pg. 9, Exh. Pg. 136)</p> <p>This paper discusses the requirements on a universal syntax which can be used to refer to objects available using existing protocols, and may be extended with technology. It makes a recommendation for a generic syntax, and for specific forms for "Uniform Resource Locators" (URLs) of objects accessible using existing Internet protocols.</p> <p>(Id., Appendix D, Pg. 1, Exh. Pg. 102)</p> <p>Payne discloses that object identities (i.e., "names") are resolvable, that is, they allow an object to be accessed over the network:</p> <p>Resolvable A name will contain enough information to allow the document or index to which it</p>

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		<p align="center">refers to be accessed, perhaps via resolution into an intermediate, more physical, name.</p> <p align="center">Unique Each object can only have one such name. The fact that two such names are different implies that the objects to which they refer are different (in some way)</p> <p>(<i>Id.</i>, Appendix D, Pgs. 2-3, Exh. Pgs. 103-104)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>Payne/'519 Application/Gifford further teaches that an object identity "signature" is shared over the network between computers via the payment URL mechanism:</p> <p align="center">"The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers."</p> <p>(<i>'519 Application</i>, Pg. 6, line 21 – Col. 7, line 3) (<i>similarly, see Gifford</i>, Col. 3, lines 15-21)</p> <p align="center">"Purchase button 48 will send the optional user reference string in dialog box 50 to the merchant computer described by the URL behind button 48 and purchase the product corresponding to digital advertisement 39. Cancel link 49 will return the user to the document shown in FIG. 2.</p> <p align="center">When purchase button 48 is activated, a document 51 is sent by the merchant computer and displayed by the buyer computer as shown in FIG. 11."</p> <p>(<i>Id.</i>, Pg. 18, lines 4-12) (<i>similarly, see Gifford</i>, Col. 7, lines 30-38)</p> <p>Payne/'519 Application/Gifford discloses that "documents," such as those that are represented by the object identities in the advertising databases, may be broadly construed to be any kind of digital data, and thus can be considered "objects."</p> <p align="center">"A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio,</p>

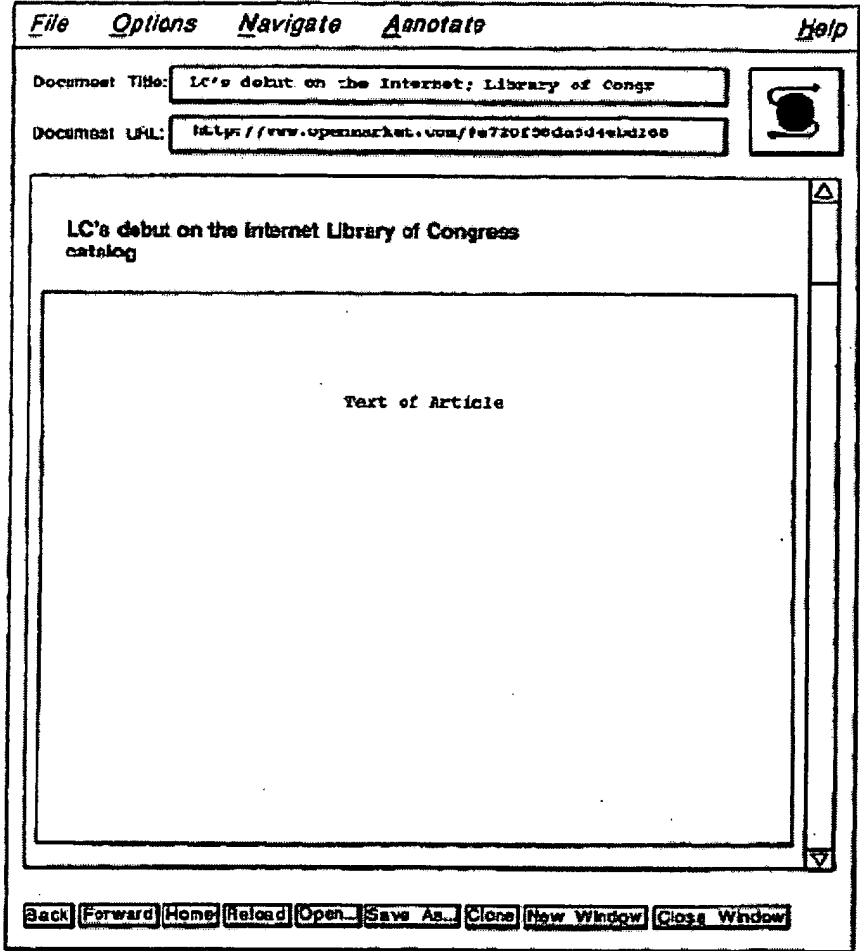
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		<p>and video, and documents that contain programs.”</p> <p><i>(Id.</i>, Pg. 11, lines 16-19) <i>(similarly, see Gifford, Col. 5, lines 3-6)</i></p>
7	<p>storing said information entries and said attributes in a virtual information store;</p>	<p><u>PAYNE:</u></p> <p>Payne further teaches storing product information (entries and attributes) in a virtual information “store”. Payne discloses the use of an associative array (i.e., a TCL associative array, which stores the signature hash) to store information entries and attributes in a virtual information store associated with a <u>payment computer</u>:</p> <p>The value_array contains the necessary name-value pairs to handle payment</p> <pre> set value_array(domain) ...domain... (a domain is a security code of the thing purchased, it is also used to detect duplicate purchases, so it should be unique to separately buyable items) set value_array(desc) ...item description... set value_array(amt) ...monetary amount... set value_array(cc) ...currency code... (OPTIONAL, but US dollars set value_array(expire) ...seconds of access... (OPTIONAL, default is 30 days at the moment) set value_array(url) ...URL of the thing bought... (In the shopping cart case, this should be the URL of the relevant catalog page) </pre> <p>(Payne, Appendix E, Pg. 6, Exh. Pg. 130)</p> <p>In particular, in the example TCL code immediately above, the set value_array(desc) instruction stores the “item description” in the associative array “value_array” using the attribute “desc.” A TCL associative array is an information store (i.e., the array stores data, such as the item description, in a table, which is indexed by the attribute “desc.”) The “set” instruction adds the information entries and attributes to the associative array. Therefore, Payne discloses storing information entries and attributes in a virtual information store associated with a payment computer.</p> <p>Additionally, Payne also teaches storing networked objects in a virtual information store associated with a <u>merchant computer</u>:</p> <p>“Creation computer 20 is programmed to build a “store” of products for the merchant. A printout of a computer program for use in creating such a “store” in accordance with the present invention is provided as Appendix F.”</p>

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		<p>(<i>Id.</i>, Col. 4, lines 46-49)</p> <p>“[T]he payment computer creates an access URL (step 80) that includes a merchant computer identifier, a domain identifier, a product identifier, an indication of the end of the duration time for which access to the product is to be granted, the buyer network address, and an access URL authenticator that is a digital signature based on a cryptographic key. The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer. The payment computer then records the product identifier, the domain, the user account, the merchant account, the end of duration time, and the actual payment amount in the settlement database (step 88).</p> <p>(<i>Id.</i>, Col. 7, lines 18-30)</p> <p>Figure 10 discloses an access URL, which consists of information entries and attributes (e.g., expiration date, user name) associated with an object identity (the “hash” signature” in the access URL), which would be <u>stored in a virtual information store associated with a merchant computer</u>, in a similar manner to that described for the payment URLs associated with a payment computer, above.</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		 <p>The screenshot shows a web browser window with a menu bar containing 'File', 'Options', 'Navigate', 'Annotate', and 'Help'. Below the menu bar are two input fields: 'Document Title:' with the text 'LC's debut on the Internet Library of Congress' and 'Document URL:' with the text 'http://www.openmarket.com/fe720f96d9d4e1d308'. To the right of these fields is a circular icon. The main content area displays the title 'LC's debut on the Internet Library of Congress catalog' above a large rectangular frame labeled 'Text of Article'. At the bottom of the window is a navigation bar with buttons for 'Back', 'Forward', 'Home', 'Reload', 'Open...', 'Save As...', 'Clone', 'New Window', and 'Close Window'.</p> <p style="text-align: center;">FIG. 10</p> <p>(<i>Id.</i>, Fig. 10)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>Encoding access in URLs</p> <p>An access URL looks like this:</p> <pre>http://merchant.foo.com/@hash:field1=value1&field2=value2/real-url</pre> <p>In any of the field values, the following characters are escaped: '+', '&', '=', '*', and anything less than 0x20.</p> <p>The URL fields encode the details of the access:</p> <p>Expire (expire) This field specifies the expiration time for the access, in seconds since January 1, 1970 UTC.</p> <p>IP Address (ip) specifies the ip address from which the request must come</p> <p>Signature (hash) The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The ipaddr is the IP address of the client attempting access and domain is the access domain. The signature prevents user tampering of the access URL.</p> <p>The effect is to grant access to a specified domain, from a specified client IP address, for an (optional) period of time.</p> <p>If desired, any additional information can be encoded in an access URL.</p> <p>User ID (id) The unique ID of the buyer, from the field principal_id of the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>User Name (name) The print name of the buyer, from the field principal_name from the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>(Id., Appendix E, Pg. 9, Exh. Pg. 136)</p> <pre>puts \$f "<INPUT name=\"use_url\" type=checkbox \ (state use_url)>File Name of Information
" puts \$f "By choosing this option you can include the name of your file.<P>" puts \$f "<H3>Custom Information for Store Items</H3>" puts \$f "You can also specify attributes of your products to be entered" puts \$f "that are not supplied above. Examples: Colors, Weights, Sizes." puts \$f "Dimensions, Number of Pages, Running Time.<P>"</pre> <p>(Id., Appendix F, page entitled "CustItemEntryPage.cgi," Exh. Pg. 164)</p> <p>It is suggested that each object have a unique name. This name could be stored in the object in some representations, or stored in a database accessible to the server, for example. Any references within that object should be parsed in the context of the official name. In the presence of a directory service, the official name will normally be the registered name of the object. However, a name in any scheme will do, so long as it is completely specified.</p>

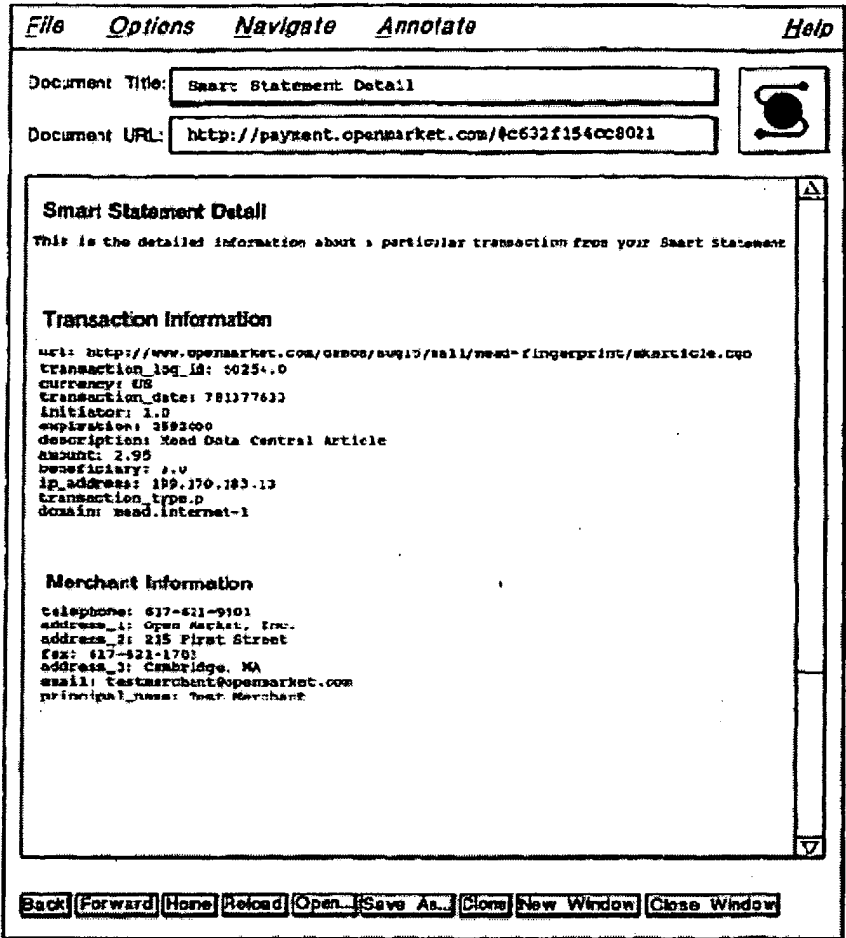
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		<p>(<i>Id.</i>, Appendix D, Pg. 5, Exh. Pg. 106)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers.”</p> <p>(‘519 Application, Pg. 6, line 21 – Col. 7, line 3) (<i>similarly, see Gifford, Col. 3, lines 15-21</i>)</p> <p>“A digital advertisement includes a product description and a price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p> <p>(<i>Id.</i>, Pg. 10, line 23 – Col. 11, line 2) (<i>similarly, see Gifford, Col. 4, lines 53-56</i>)</p> <p>Further, Payne/'519 Application/Gifford discloses a similar virtual information store(s) on the payment computer, for storing information about accounts and purchases:</p> <p>“... each payment computer [has] an account database 73, a settlement database 74, an authorized address database 75, a sender credential database 76, a financial system interface 77, and a real-time authorization interface 78. The interfaces 77 and 78 may be implemented by a single communications line.”</p> <p>(<i>Id.</i>, page 19, lines 19-24) (<i>similarly, see Gifford, Col. 8, lines 2-7</i>)</p> <p>The account database, for example, has information entries and attributes regarding a user’s account, such as spending limits and amount spent, as well as identifiers for the account and its location, even if outside the network:</p> <p>“Account database 73 maintains temporal spending amounts, such as the amount spent in the current day, and also maintains temporal spending limits. The account database may</p>

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		<p>also maintain a translation between principal identifiers and external account identifiers. Settlement database 74 records committed payment orders along with any authorization information for the orders that was obtained from interface 78.”</p> <p><i>(Id., Pg. 20, lines 5-12) (similarly, see Gifford, Col. 8, lines 13-20)</i></p>
8	<p>assigning a unique network address to said object identity;</p>	<p><u>PAYNE:</u> Payne teaches using unique network addresses (e.g., “payment URLs”) to identify objects associated with a <i>payment computer</i>:</p> <p align="center">“The payment URL authenticator is a hash of other information in the payment URL, the hash being defined by a key shared by the merchant and the operator of the payment computer.”</p> <p><i>(Payne, Col. 5, lines 43-47)</i></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		 <p>The screenshot shows a web browser window with a menu bar (File, Options, Navigate, Annotate, Help) and a title bar. The document title is 'Smart Statement Detail' and the URL is 'http://payment.openmarket.com/tc632f154cc8021'. The main content area is titled 'Smart Statement Detail' and contains the following text:</p> <p>This is the detailed information about a particular transaction from your Smart Statement</p> <p>Transaction Information</p> <p>url: http://www.openmarket.com/osmos/buy15/sell/need-fingerprint/mkarticle.cgo transaction_log_id: 50254.0 currency: US transaction_date: 781377633 initiator: 1.0 expiration: 359200 description: Need Data Central Article amount: 2.95 beneficiary: 2.0 ip_address: 199.170.183.13 transaction_type: p domain: need.internet-1</p> <p>Merchant Information</p> <p>telephone: 617-421-9101 address_1: Open Market, Inc. address_2: 215 First Street fax: 617-421-1701 address_3: Cambridge, MA email: testmerchant@openmarket.com principal_name: Test Merchant</p> <p>At the bottom of the browser window, there is a toolbar with buttons for Back, Forward, Home, Reload, Open..., Save As..., Close, New Window, and Close Window.</p>
		<p>FIG. 12</p> <p>(<i>Id.</i>, Fig. 12)</p> <p>Payne further teaches assigning a unique network address, the payment URL, which is a network accessible address created by concatenating a base URL with the object identity:</p> <p align="center">Encoding payment orders in URLs</p> <p>A payment URL looks like this: <code>http://payment.openmarket.com/pay.cgi?hash:field1=value1& field2=value2</code></p> <p align="center"><code>http://payment.openmarket.com/pay.cgi?hash:field1=value1& field2=value2</code></p> <p>(<i>Id.</i>, Appendix E, Pg. 5, Exh. Pg. 128)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>Two components are necessary for the payment URL. The URL itself, which refers to the <code>nph-payment</code> script on the payment server, and the ticket, which is the signed name-value list.</p> <p>The URL is usually a constant, it is stored in <code>.../lib/payment.tcl</code> as</p> <pre>set paylinkbase "\$payment_server_root/bin/nph-payment.cgi?"</pre> <p>where <code>\$payment_server_root</code> is inherited from <code>.../lib/mall.conf</code></p> <p>The ticket is created using <code>.../lib/ticket.tcl</code> by code like the following:</p> <pre>set nv(name1) value1 set nv(name2) value2 set ticket [create-ticket \$secretkey nv]</pre> <p>where <code>name1-value1</code> and <code>name2-value2</code> are the name value pairs to be encoded. The procedure <code>create-ticket</code> properly formats and quotes the name value pairs, and signs the result using an MD5 hash of the string with the <code>secretkey</code>. The <code>secretkey</code> is an arbitrary string, but will usually be a 16-hex-digit DES key.</p> <p>(Id., Appendix E, Pg. 10, Exh. Pg. 138).</p> <p>Additionally, Payne teaches assigning a unique network address (e.g., an access URL) for object identities associated with a merchant computer:</p> <p>“Otherwise, the payment computer creates an access URL (step 80) that includes a merchant computer identifier, a domain identifier, a product identifier, an indication of the end of the duration time for which access to the product is to be granted, the buyer network address, and an access URL authenticator that is a digital signature based on a cryptographic key. The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer.”</p> <p>(Id., Col. 7, lines 18-27)</p> <p>Appendix E discloses that the access URL is created by concatenating an address at the merchant computer with the object identity (“@hash”) associated with information entries and attributes:</p> <p>An access URL looks like this:</p> <pre>http://merchant.foo.com/@hash:field1=value1& field2=value2/real-url</pre>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(<i>Id.</i>, Appendix E, Pg. 9, Exh. Pg. 136)</p> <p>universal set). The term "address" is reserved for a string which specifies a more or less physical location. The term "locator" refers to a URL as here defined.</p> <p>(<i>Id.</i>, Appendix D, Pg. 2, Exh. Pg. 103)</p> <p>Resolvable A name will contain enough information to allow the document or index to which it refers to be accessed, perhaps via resolution into an intermediate, more physical, name.</p> <p>Unique Each object can only have one such name. The fact that two such names are different implies that the objects to which they refer are different (in some way).</p> <p>(<i>Id.</i>, Appendix D, Pgs. 2-3, Exh. Pgs. 103-104)</p> <p>It is suggested that each object have a unique name. This name could be stored in the object in some representations, or stored in a database accessible to the server, for example. Any references within that object should be parsed in the context of the official name. In the presence of a directory service, the official name will normally be the registered name of the object. However, a name in any scheme will do, so long as it is completely specified.</p> <p>(<i>Id.</i>, Pg. 5, Exh. Pg. 106)</p> <p>An addressing syntax is required which will be able to encompass existing physical address spaces, and be extendible to any future protocols. This requires that it contain an identifier for the protocol in use. The format of the rest of the address will necessarily depend to a certain extent on the protocol.</p> <p>(<i>Id.</i>)</p> <p>Recommendations</p> <p>This section describes the syntax for "Uniform Resource Locators" (URLs); that is, basically physical addresses of objects which are retrievable using protocols already deployed on the net. The generic syntax provides a framework for new schemes for names to be resolved using as yet undefined protocols.</p> <p>The syntax is described in two parts. Firstly, we give the syntax rules of a completely specified name; secondly, we give the rules under which parts of the name may be omitted in a well-defined context.</p> <p>(<i>Id.</i>, Pg. 8, Exh. Pg. 109)</p>

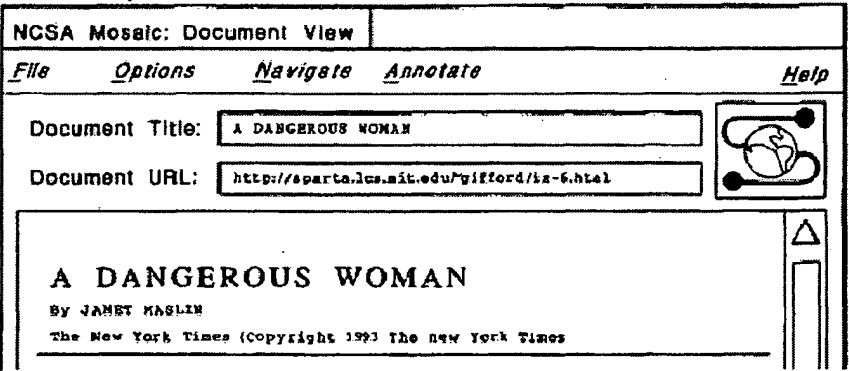
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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
		<p><u>Payne/519 Application/Gifford</u></p> <p>“Payment orders are signed with authenticators that can be based on any combination of a secret function of the payment order parameters, a single-use transaction identifier, or a specified network address.”</p> <p>(519 Application, Abstract) (similarly, see Gifford, Abstract)</p> <p>“Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(Id., Pg. 11, lines 14-19) (similarly, see Gifford, Col. 5, lines 1-6)</p> <p>“An initial user inquiry 19 from activating link 1 results in the HTTP request 20 for a specific document with a specified URL. The URL specifies the name of the merchant computer. The merchant computer retrieves the document given the URL at 21, and returns it to the buyer computer at 22.”</p> <p>(Id., Pg. 13, lines 15-20) (similarly, see Gifford, Col. 5, lines 51-56)</p> <p>Each advertisement in the advertisement database (VIS) contains a link that represents a given product from a given merchant. When a user clicks on the link, a URL is generated which allows the user to enter purchase information and direct a request for a specific object to the merchant offering the object represented by the link, allowing the object to be located and sent back to the user upon payment. Thus, the object identified in the advertisement has a unique network address for the object assigned to it:</p> <p>“Figure 9 shows digital advertisements 39, 40, 41, 42, 43, and 44 that were found in response to the query initiated by button 40. A scroll bar 45 shows that there are additional digital advertisements that are not shown. When link 46 is activated, the missing account information document shown in Figure 10 is returned by the merchant computer.</p> <p>Figure 10 shows that the merchant computer has partial information on the buyer’s account. Message 47 shows that the merchant computer already knows the buyer’s account number. Purchase button 48 will send the optional user reference string</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>in dialog box 50 to the merchant computer described by the URL behind button 48 and purchase the product corresponding to digital advertisement 39. Cancel link 49 will return the user to the document shown in Figure 2.</p> <p>When purchase button 48 is activated, a document 51 is sent by the merchant computer and displayed by the buyer computer as shown in Figure 11.”</p> <p>(<i>Id.</i>, Pg. 17, line 18 – Pg. 18, line 12) (<i>similarly, see Gifford, Col. 7, lines 20-38</i>)</p> <div style="border: 1px solid black; padding: 5px;"> <p>NCSA Mosaic: Document View</p> <p><i>File Options Navigate Annotate Help</i></p> <p>Document Title: Query Results: movie review</p> <p>Document URL: http://sparta.lcs.mit.edu/gifford/ia-4.html</p> <hr/> <p>QUERY RESULTS: movie review</p> <hr/> <p>1. Dec. 2 1993 14J2 178 lines \$1.00 ⁴⁶ ³⁹ ⁴⁵</p> <p>In "A Dangerous Women" Debra Winger sinks deeply into the drab role of Martha Morgan, a sheltered innocent living in a small California town.</p> </div> <p>(‘519 Application/Gifford, Fig. 9)</p> <div style="border: 1px solid black; padding: 5px;"> <p align="center">Digital Copyright License Purchase</p> <hr/> <p>In exchange for the specified fee you will be licensed for individual use of the copyrighted material.</p> <hr/> <p>Confirm a charge of \$1.00 on your VISA 4262 1501 2000 1466 ⁴⁷</p> <p><u>Purchase</u> ⁴⁸</p> <p><u>Cancel</u> ⁴⁹</p> </div> <p>(‘519 Application/Gifford, Fig. 10)</p>

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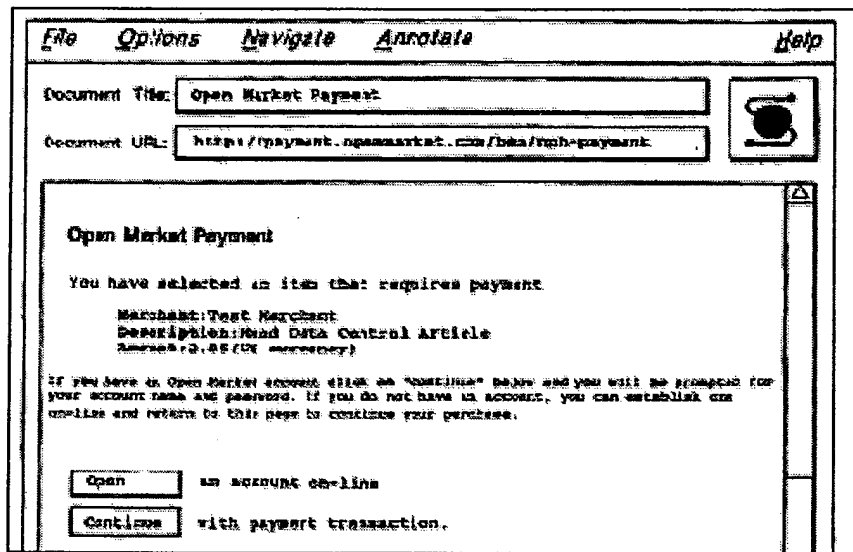
El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p align="center">51</p>  <p align="center">('519 Application/Gifford, Fig. 11)</p>
9	<p>initiating, in response to the first signal, communication between the user device and a second computer system;</p>	<p><i>Claim Construction Note (Broadly Construed): This claim element does not require that the user device communicate directly with the second computer system, but rather encompasses the user device communicating with the second computer system indirectly via other devices or systems (including through the first computer system).</i></p> <p>PAYNE: Payne teaches initiating communication between the user device and the payment computer (second computer system) in response to the buyer selecting a product (the first signal):</p> <p>“The user browses through the advertising document and eventually requests a product (step 32). This results in the buyer computer sending payment URL A to the payment computer (step 34).”</p> <p>(Payne, Col. 5, lines 27-30)</p> <p>“In this alternative embodiment, payment URL A contains the same contents as above. The buyer computer then sends the payment URL A it has received from the merchant computer to the payment computer.”</p> <p>(<i>Id.</i>, Col. 5, lines 52-56)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>to allow new buyers and merchants to enter the market.”</p> <p>(‘519 Application, Pg. 1, lines 19-22) (<i>similarly, see Gifford, Col. 1, lines 20-24</i>)</p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(<i>Id.</i>, Pg. 3, lines 11-14) (<i>similarly, see Gifford, Col. 1, lines 63-66</i>)</p> <p>“Figure 12 shows an alternative method of processing a sales transaction. In this method when the user requests a purchase at 52, the buyer computer constructs a payment order at 53 and sends it for approval to the payment computer at 54. The payment computer authorizes the payment order at 55; and when the payment order is authorized, returns an unforgeable certificate at 56 that the payment order is valid. Means of creating such unforgeable certificates are described in authenticator method number one below. If at step 55 the payment order is not authorized, a rejection message is sent at 56 and the sales transaction is terminated.”</p> <p>(<i>Id.</i>, Pg. 18, lines 13-24) (<i>similarly, see Gifford, Col. 7, lines 39-49</i>)</p>
10	using the second computer system for sending second display information to the user device,	<p><u>Claim Construction Note (Broadly Construed):</u> <i>The claim does not require that the “display information” be displayed by the user device. The claim does not require that the second computer system send the display information directly to the user device; it may be sent via other devices or system systems (including, e.g., the first computer system).</i></p> <p><u>PAYNE:</u> Payne teaches having the payment computer (second computer system) send (second) display information to the buyer computer (user device):</p> <p>“FIG. 6 is a screen snapshot of a confirmation document that the payment computer sends to the buyer computer in FIG. 2.”</p> <p>(Payne, Col. 4, lines 8-10)</p>

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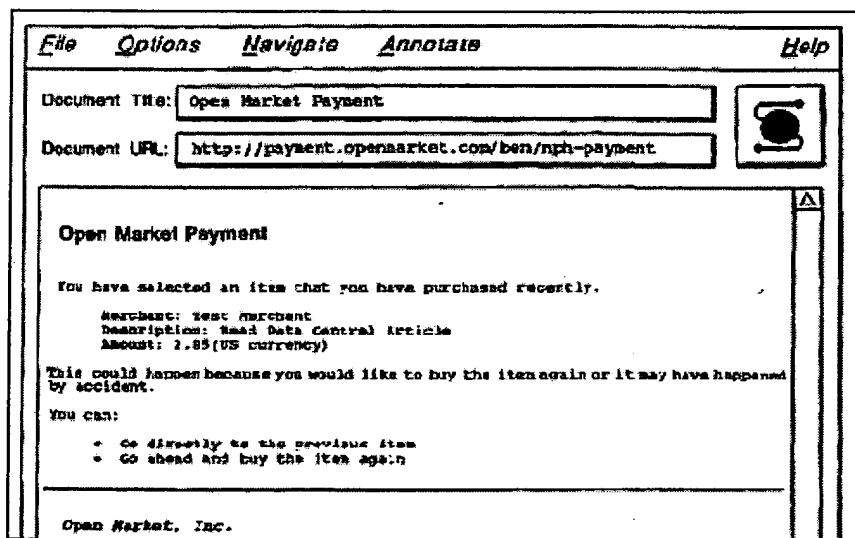
El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
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(*Id.*, Fig. 6)

“FIG. 9 is a screen snapshot of a document that the payment computer sends to the buyer computer in FIG. 2 and that provides an option either to repurchase or to use a previously purchased access.”

(*Id.*, Col. 4, lines 15-19)



(*Id.*, Fig. 9)

“When the payment computer receives the payment URL it verifies whether the payment URL authenticator was created from

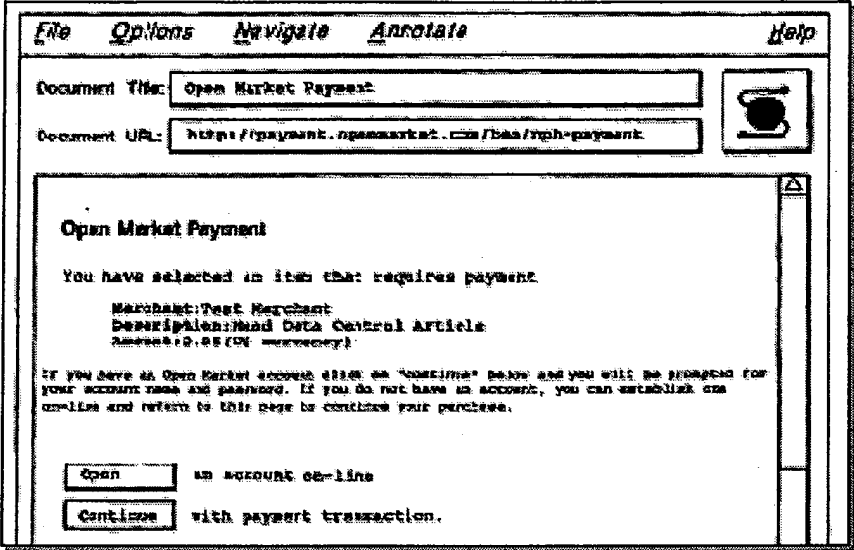
APPENDIX A - PAYNE AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>the contents of the payment URL using the cryptographic key (step 36). If not, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 38). Otherwise, the payment computer determines whether the expiration time has past (step 40). If it has, the payment computer sends a document to the buyer computer indicating that the time has expired (step 41). Otherwise, the payment computer checks the buyer computer network address to see if it matches the one specified in the payment URL (step 42). If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one."</p> <p><i>(Id., Col. 5, line 57 – Col. 6, line 14)</i></p> <p><u>Payne/'519 Application/Gifford</u></p> <p>"The payment computer authorizes the payment order at 55; and when the payment order is authorized, returns an unforgeable certificate at 56 that the payment order is valid. Means of creating such unforgeable certificates are described in authenticator method number one below. If at step 55 the payment order is not authorized, a rejection message is sent at 56 and the sales transaction is terminated."</p> <p><i>(‘519 Application, Pg. 18, lines 17-24) (similarly, see Gifford, Col. 7, lines 43-49)</i></p>
11	wherein the second display information includes a list of at least one	<p><i><u>Claim Construction Note (Broadly Construed):</u> The claim language "a list of at least one commercial service" encompasses any information directly or indirectly indicating even a single commercial service. This claim does not require that the list itself be displayed. The "commercial service" recited in this claim element need not be the commercial service recited earlier in this claim (element 3).</i></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
	commercial service;	<p><u>PAYNE:</u> Payne teaches sending display information including providing an option of opening an account or completing a payment service (at least one commercial service):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one.”</p> <p><i>(Id., Col. 6, lines 1-14)</i></p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p><i>(Id., Col. 6, lines 31-42)</i></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		 <p>The screenshot shows a web browser window with a menu bar containing 'File', 'Options', 'Navigate', 'Annotate', and 'Help'. Below the menu bar, there are two input fields: 'Document Title:' with the text 'Open Market Payment' and 'Document URL:' with the text 'https://paymark.opamarket.com/baa/oph-paymark'. A small icon of a computer monitor is to the right of the URL field. The main content area is titled 'Open Market Payment' and contains the following text: 'You have selected an item that requires payment.', 'Merchant: Test Merchant', 'Description: Head Data Control Article', and 'Amount: 0.00 USD (including tax)'. Below this text is a paragraph: 'If you have an Open Market account click on "continue" below and you will be prompted for your account name and password. If you do not have an account, you can establish one on-line and return to this page to continue your purchase.' At the bottom, there are two buttons: 'Open an account on-line' and 'Continue with payment transaction.'</p> <p>(Id., Fig. 6)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
12	accepting a second signal in response to a user input to select a commercial service from the list; and	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device.</i></p> <p><u>PAYNE:</u> Payne teaches allowing a user to select an option to open an account or complete a payment (selecting a commercial service):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one.”</p> <p>(Payne, Col. 6, lines 1-14)</p>

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Bl. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<pre> graph TD 46[user opens new account] --> 48[buyer computer sends payment URL C to payment computer; payment URL C is similar to payment URL A but also indicates that an account does not yet exist] 48 --> 50[payment computer creates new account document] 50 --> 52[payment computer sends new account document to buyer computer] 52 --> 54[user enters new account name, account password, credit card number, security information and expiration date of credit card and presses a "submit" button] 54 --> 56[buyer computer sends new account information to payment computer] 56 --> 58[payment computer enters new account] 58 --> 60[user clicks "continue" button] 60 --> 62[buyer computer sends payment URL B to payment computer; payment URL B is similar to payment URL A but also indicates that the user already has an account] 62 --> 64[payment computer instructs the buyer computer to provide the account name and password] 64 --> 66[the buyer computer prompts the user for this information by creating an account name prompt and a similar password prompt] 66 --> 68[user enters the information] 68 --> 70[the buyer computer sends the account name and password to the payment computer] </pre>
		<p>(<i>Id.</i>, Figs. 2C, 2D)</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p>(<i>Id.</i>, Col. 6, lines 31-42)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
13	completing a commercial transaction relating to the selected commercial service.	<p><i>Claim Construction Note (Broadly Construed): The claim does not require this completing of a commercial transaction to involve the user of the user device.</i></p> <p><u>PAYNE:</u> Payne further teaches completing the opening of an account (at least one commercial service), and further teaches completing a purchase with that account (another commercial service):</p> <p>“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(Payne, Col. 6, lines 15-30)</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p>(Id., Col. 6, lines 31-42)</p> <p>“The payment computer verifies whether the user name and password are correct (step 72). If they are not correct, the</p>

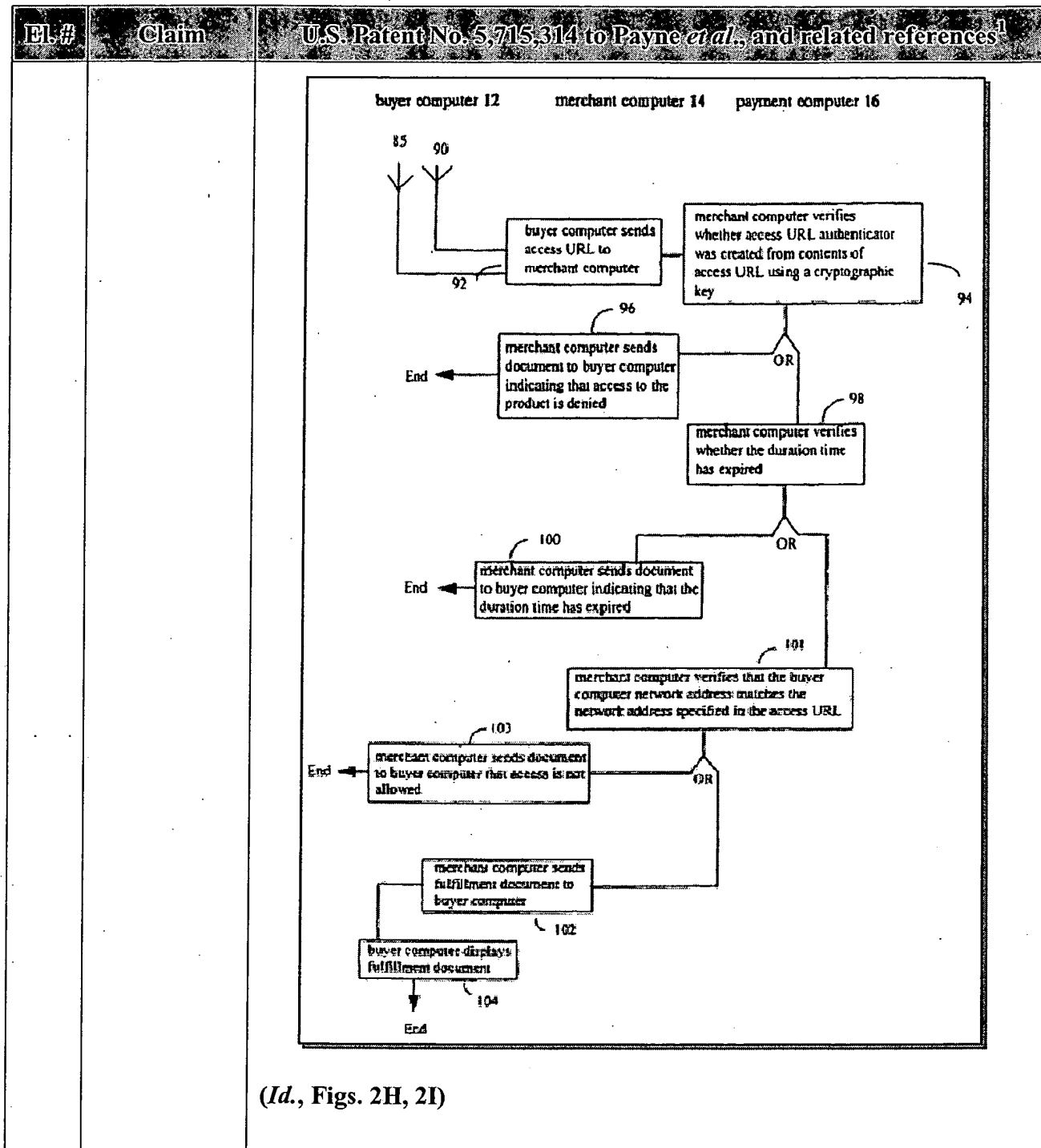
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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 74). Otherwise, the payment computer determines whether additional security is warranted, based on, e.g., whether the payment amount exceeds a threshold (step 73). If additional security is warranted, the payment computer creates a challenge form document and sends it to the buyer computer (step 75). The user enters the security information (step 77), the buyer computer sends the security information to the payment computer (step 79), and the payment computer determines whether the security information is correct (step 81). If it is not correct, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 83).</p> <p>If the security information is correct, or if additional security was not warranted, the payment computer checks the settlement database to determine whether the user has unexpired access to the domain identifier contained in the payment URL (step 82). If so, the payment computer sends to the buyer computer a document providing an option either to repurchase or to use the previously purchased access (step 84). An example of such a document is shown in FIG. 9. The user can respond to the recent purchase query document by choosing to access the previously purchased document (step 85) or to go ahead and buy the currently selected product (step 86).</p> <p>If the user chooses to access the previously purchased document, the buyer computer skips to step 92 (see below). If the user chooses to buy the currently selected product, the payment computer calculates an actual payment amount that may differ from the payment amount contained in the payment URL (step 87). For example, the purchase of a product in a certain domain may entitle the user to access other products in the domain for free or for a reduced price for a given period of time.</p> <p>The payment computer then verifies whether the user account has sufficient funds or credit (step 76). If not, the payment computer sends a document to the buyer computer indicating that the user account has insufficient funds (step 78). Otherwise, the payment computer creates an access URL (step 80) that includes a merchant computer identifier, a domain identifier, a product identifier, an indication of the end of the duration time for which access to the product is to be granted, the buyer network address, and an access URL authenticator that is a digital signature based</p>

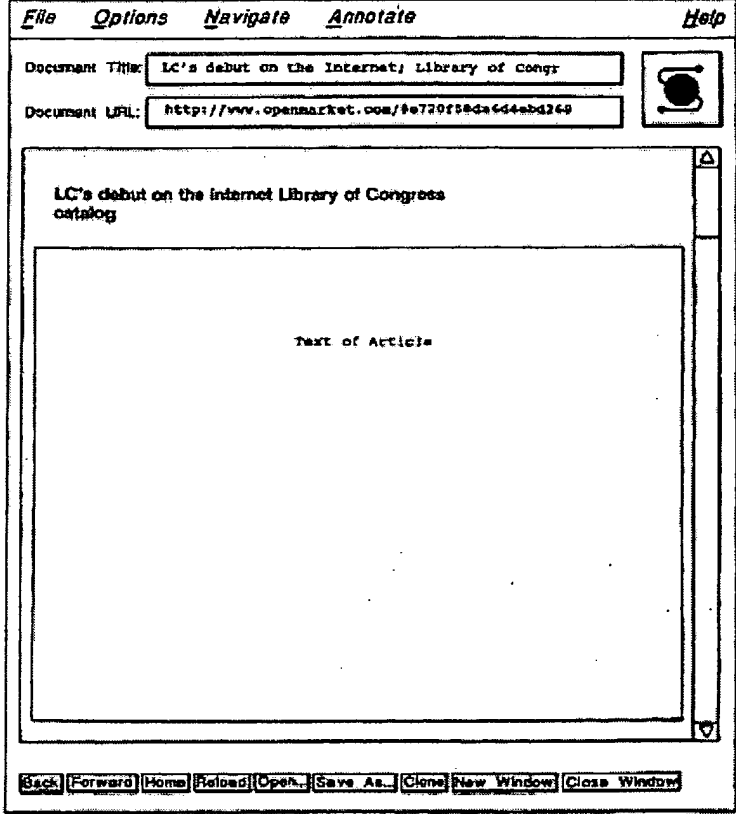
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EL #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>on a cryptographic key. The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer. The payment computer then records the product identifier, the domain, the user account, the merchant account, the end of duration time, and the actual payment amount in the settlement database (step 88).</p> <p>The payment computer then sends a redirect to access URL to the buyer computer (step 90), which sends the access URL to the merchant computer (step 92). The merchant computer verifies whether the access URL authenticator was created from the contents of the access URL using the cryptographic key (step 94). If not, the merchant computer sends a document to the buyer computer indicating that access to the product is denied (step 96).</p> <p>Otherwise, the merchant computer verifies whether the duration time for access to the product has expired (step 98). This is done because the buyer computer can request access to a purchased product repeatedly. If the duration time has expired, the merchant computer sends a document to the buyer computer indicating that the time has expired (step 100). Otherwise the merchant computer verifies that the buyer computer network address is the same as the buyer network address in the access URL (step 101), and if so, sends a fulfillment document to the buyer computer (step 102), which is displayed by the buyer computer (step 104)."</p> <p><i>(Id., Col. 6, line 43 – Col. 7, line 50)</i></p>

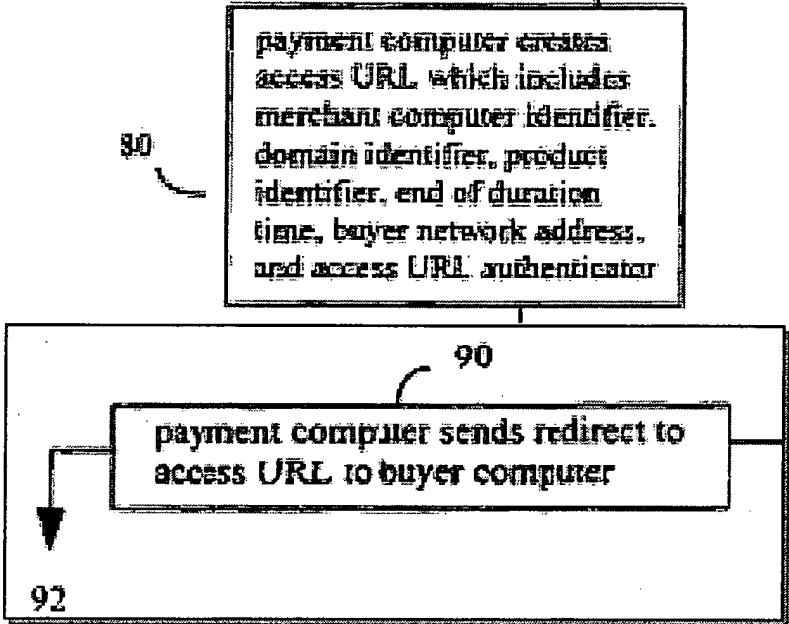
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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
		 <p>(<i>Id.</i>, Fig. 10)</p>
14	2. The method of claim 1, wherein the second computer system includes an object router.	<p>PAYNE: Payne teaches a payment computer (second computer) that performs object routing:</p> <div style="border: 1px solid black; padding: 5px; margin-left: 40px;"> <p>82</p> <p>payment computer checks settlement database to determine if user has unexpired access to the domain identifier combined in the payment URL.</p> </div>

APPENDIX A - PAYNE AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		 <p>80 payment computer creates access URL which includes merchant computer identifier, domain identifier, product identifier, end of duration time, buyer network address, and access URL authenticator</p> <p>90 payment computer sends redirect to access URL to buyer computer</p> <p>92</p> <p>(Payne, Figs. 2F, 2G)</p> <p>Target URL (uz1)</p> <p>This is the real URL (usually on the merchant's machine) where the client will be redirected after the payment order is processed.</p> <p>(<i>Id.</i>, Appendix E, page beginning with "Encoding payment orders in URLs," Exh. Pg. 128)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>"An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations."</p> <p>(<i>'519 Application</i>, Pg. 3, lines 11-14) (<i>similarly, see Gifford</i>, Col. 1, lines 63-66)</p> <p>"A Network Payment System</p> <p>A network payment system 300 as shown in Figure 13, employs a public packet-switched network 69 to interconnect a plurality of client computers 70 and 71, and a plurality of payment computers such as 72, each payment computer having an account database 73, a settlement database 74, an authorized address database 75, a sender</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>credential database 76, a financial system interface 77, and a real-time authorization interface 78.”</p> <p>(<i>Id.</i>, Pg. 19, lines 15-23) (<i>similarly, see Gifford</i>, Col. 7, line 66 – Col. 8, line 6)</p> <div> <pre> graph TD PC[Payment Computer] --> IFN[Real-Time Financial Authorization Network (Credit Card, Debit Card, etc.)] PC --> FSI[Financial System Settlement Interface] </pre> <p>The diagram shows a central box labeled 'Payment Computer' with three horizontal lines on its right side. Two arrows point upwards from the top of this box. The left arrow points to the text 'Real-Time Financial Authorization Network (Credit Card, Debit Card, etc.)', which is labeled with a circled '78'. The right arrow points to the text 'Financial System Settlement Interface', which is labeled with a circled '77'.</p> </div> <p>(‘519 Application/Gifford, Fig. 13)</p> <p>Request is routed by Payment Computer over Interface (78, above) to real time financial authorization network, namely the payment computer provides an information channel for identifying and accessing a collection of information involved in a transaction, namely information regarding a user’s account:</p> <p>“A real-time authorization request message is sent at 86 to the external financial system over interface 78. If the external financial system approves authorization request 86, an authorization message is returned at 87. If request 86 is not approved, the external financial system sends a rejection message to the payment computer at 87.”</p> <p>(<i>Id.</i>, Pg. 23, lines 1-7) (<i>similarly, see Gifford</i>, Col. 9, lines 14-20)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<div style="text-align: center;"> <p>PAYMENT COMPUTER REAL-TIME FINANCIAL AUTHORIZATION NETWORK</p> <pre> graph TD PO[Payment Order 81] --> V[82 - Verify Authenticator] V --> C[83 - Check for Address Restrictions] C --> R[84 - Check for Replay and Spending Limits] R --> M[85 - Construct Message for Real-Time Authorization] M --> AR[Authorization Request 86] AR --> AN[Authorization Number 87] </pre> </div> <p>(‘519 Application/Gifford, Fig. 14)</p> <p>“At 88 the payment order is committed to execution and is recorded in settlement database 74. Recorded with the payment order in database 74 are portions of authorization message 87 that show that the payment computer contacted the remote financial system. The amount of the payment order is added to running temporal spending records in database 73, and an authorization message is sent to the client computer at 90. The authorization message includes the payment order.”</p> <p>(<i>Id.</i>, Pg. 24, lines 16-24) (<i>similarly, see Gifford, Col. 9, lines 53-61</i>)</p>
15	3. The method of claim 1,	<p>PAYNE: Payne further discloses a second computer system that includes a virtual information store.</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>wherein the second computer system includes a virtual information store.</p>	<p>Payne discloses the use of an associative array (i.e., a TCL associative array, which stores the signature hash) to store information entries and attributes in a <u>virtual information store associated with a payment computer</u> (second computer system):</p> <p>“The payment computer is programmed to receive the payment message, to cause an access message to be created to enable the user to access the product, and to record a purchase transaction record in the settlement database.”</p> <p>(Payne, Col. 3, lines 47-51)</p> <p>“Payment computer 16 also has access to a shopping cart database 21 in which a "shopping cart" of products that a user wishes to purchase can be maintained as the user shops prior to actual purchase of the contents of the shopping cart.”</p> <p>(Id., Col. 5, lines 11-15)</p> <p>The value_array contains the necessary name-value pairs to handle payment</p> <pre> set value_array(domain) ...domain... (a domain is a security c of the thing purchased, it is also used to detect duplic purchases, so it should be unique to separately buyable set value_array(desc) ...item description... set value_array(amt) ...monetary amount... set value_array(cc) ...currency code... (OPTIONAL, but US i set value_array(expire) ...seconds of access... (OPTIONAL, defa is 30 days at the moment) set value_array(url) ...URL of the thing bought... (In the shopping cart case, this should be the URL of the relevant catalog page) </pre> <p>(Id., Appendix E, Pg. 6, Exh. Pg. 130)</p> <p>In particular, in the example TCL code immediately above, the set value_array(desc) instruction stores the “item description” in the associative array “value_array” using the attribute “desc.” A TCL associative array is an information store (i.e., the array stores data, such as the item description, in a table, which is indexed by the attribute “desc.”) The “set” instruction adds the information entries and attributes to the associative array. Therefore, Payne discloses <u>storing information entries and attributes in a virtual information store associated with a payment computer.</u></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p align="center">Encoding access in URLs</p> <p>An access URL looks like this:</p> <p align="center">http://merchant.foo.com/@hash:field1=value1&field2=value2/real-url</p> <p>In any of the field values, the following characters are escaped: '+', '&', '=', ' ', and anything less than 0x20.</p> <p>The URL fields encode the details of the access:</p> <p>Expire (expire) This field specifies the expiration time for the access, in seconds since January 1, 1970 UTC.</p> <p>IP Address (ip) specifies the ip address from which the request must come</p> <p>Signature (hash) The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The ipaddr is the IP address of the client attempting access and domain is the access domain. The signature prevents user tampering of the access URL.</p> <p>The effect is to grant access to a specified domain, from a specified client IP address, for an (optional) period of time.</p> <p>If desired, any additional information can be encoded in an access URL.</p> <p>User ID (id) The unique ID of the buyer, from the field principal_id of the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>User Name (name) The print name of the buyer, from the field principal_name from the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>(Id., Appendix E, Pg. 9, Exh. Pg. 136)</p> <p>It is suggested that each object have a unique name. This name could be stored in the object in some representations, or stored in a database accessible to the server, for example. Any references within that object should be parsed in the context of the official name. In the presence of a directory service, the official name will normally be the registered name of the object. However, a name in any scheme will do, so long as it is completely specified.</p> <p>(Id., Appendix D, Pg. 5, Exh. Pg. 106)</p> <p><u>Payne/519 Application/Gifford</u></p> <p>“The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
		<p>advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers.”</p> <p>(‘519 Application, Pg. 6, line 21 – Col. 7, line 3) (<i>similarly, see Gifford, Col. 3, lines 15-21</i>)</p> <p>“A digital advertisement includes a product description and a price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p> <p>(<i>Id.</i>, Pg. 10, line 23 – Col. 11, line 2) (<i>similarly, see Gifford, Col. 4, lines 53-56</i>)</p> <p>Further, Payne/’519 Application/Gifford discloses a similar virtual information store(s) on the payment computer, for storing information about accounts and purchases:</p> <p>“... each payment computer [has] an account database 73, a settlement database 74, an authorized address database 75, a sender credential database 76, a financial system interface 77, and a real-time authorization interface 78. The interfaces 77 and 78 may be implemented by a single communications line.”</p> <p>(<i>Id.</i>, page 19, lines 19-24) (<i>similarly, see Gifford, Col. 8, lines 2-7</i>)</p> <p>The account database, for example, has information entries and attributes regarding a user’s account, such as spending limits and amount spent, as well as identifiers for the account and its location, even if outside the network:</p> <p>“Account database 73 maintains temporal spending amounts, such as the amount spent in the current day, and also maintains temporal spending limits. The account database may also maintain a translation between principal identifiers and external account identifiers. Settlement database 74 records committed payment orders along with any authorization information for the orders that was obtained from interface 78.”</p> <p>(<i>Id.</i>, Pg. 20, lines 5-12) (<i>similarly, see Gifford, Col. 8, lines 13-20</i>)</p>
16	4. The method of	<p><u>PAYNE:</u> Payne further discloses a payment computer (second computer) that</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>claim 1, wherein the second computer system includes a value-added network switch.</p>	<p>utilizes a VAN switch, namely, when a user selects a web page control, a request is sent to switch from a web application to a transactional application to process and act in response to a user request.</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(’519 Application, Pg. 3, lines 11-14) (similarly, see Gifford, Col. 1, lines 63-66)</p> <p>“A Network Payment System</p> <p>A network payment system 300 as shown in Figure 13, employs a public packet-switched network 69 to interconnect a plurality of client computers 70 and 71, and a plurality of payment computers such as 72, each payment computer having an account database 73, a settlement database 74, an authorized address database 75, a sender credential database 76, a financial system interface 77, and a real-time authorization interface 78.”</p> <p>(Id., Pg. 19, lines 15-23) (similarly, see Gifford, Col. 7, line 66 – Col. 8, line 6)</p> <div> <p>The diagram shows a central box labeled "Payment Computer" with several horizontal lines on its right side. Two vertical arrows point upwards from the top of the "Payment Computer" box. The left arrow points to the text "Real-Time Financial Authorization Network (Credit Card, Debit Card, etc.)" with a curved line and the number "78" above it. The right arrow points to the text "Financial System Settlement Interface" with a curved line and the number "77" above it.</p> </div> <p>(’519 Application/Gifford, Fig. 13)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>Request is routed by Payment Computer over Interface (78, above) to real time financial authorization network:</p> <p>“A real-time authorization request message is sent at 86 to the external financial system over interface 78. If the external financial system approves authorization request 86, an authorization message is returned at 87. If request 86 is not approved, the external financial system sends a rejection message to the payment computer at 87.”</p> <p><i>(Id., Pg. 23, lines 1-7) (similarly, see Gifford, Col. 9, lines 14-20)</i></p> <p>Payne discloses a number of different applications that are performed in response to user input:</p> <div style="text-align: center;"> <pre> graph TD subgraph PC [PAYMENT COMPUTER] 81[81 Payment Order] 82[82 Verify Authenticator] 83[83 Check for Address Restrictions] 84[84 Check for Replay and Spending Limits] 85[85 Construct Message for Real-Time Authorization] end subgraph RFA [REAL-TIME FINANCIAL AUTHORIZATION NETWORK] 86[86 Authorization Request] 87[87 Authorization Number] end 81 --> 82 82 --> 83 83 --> 84 84 --> 85 85 --> 86 86 --> 87 87 --> 85 </pre> </div> <p><i>(‘519 Application/Gifford, Fig. 14)</i></p>

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EL. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
		<p>“At 88 the payment order is committed to execution and is recorded in settlement database 74. Recorded with the payment order in database 74 are portions of authorization message 87 that show that the payment computer contacted the remote financial system. The amount of the payment order is added to running temporal spending records in database 73, and an authorization message is sent to the client computer at 90. The authorization message includes the payment order.”</p> <p><i>(Id., Pg. 24, lines 16-24) (similarly, see Gifford, Col. 9, lines 53-61)</i></p> <p>Payne/’519 Application/Gifford also discloses, as an alternative, executing a computer program in lieu of performing a transaction using documents passed between computers:</p> <p>“In an alternate embodiment, document 22 is executed at 23 as a program. A program is defined as a set of instructions that can exhibit conditional behavior based upon user actions or the environment of the buyer computer. As is known to those skilled in the art, there are many techniques for representing programs as data. The program can be interpreted or it can be directly executed by the buyer computer. The program when executed will cause the buyer computer to interact with the user leading to the user purchase request 24, and the purchase message 25.”</p> <p><i>(’519 Application, Pg. 13, line 24 – Pg. 14, line 8) (similarly, see Gifford, Col. 5, line 60 – Col. 6, line 2)</i></p> <p><i>Thus, Payne explicitly or inherently discloses a VAN switch on the second computer system.</i></p> <p><i>Additionally, such a switch is inherent in Payne’s disclosure of clicking on web page links to invoke applications.</i></p>
17	5. The method of claim 1, wherein the second computer system includes a legacy database.	<p><u>PAYNE:</u> Payne teaches using an “existing financial system network” with information about existing accounts, which inherently would involve the use of existing, or “legacy” databases containing such information.</p> <p><u>Payne/’519 Application/Gifford</u></p> <p>“For wide acceptance the retail mechanism will need to be a logical evolution of existing credit-card, debit-card, and Automated Clearing</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>House facilities, while for acceptance the wholesale mechanism will need to be an evolved version of corporate electronic funds transfer.”</p> <p>(‘519 Application, Pg. 2, lines 8-13) (<i>similarly, see Gifford, Col. 1, lines 36-40</i>)</p> <p>“The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment . . .”</p> <p>(<i>Id.</i>, Pg. 2, lines 18-20) (<i>similarly, see Gifford, Col. 1, lines 45-48</i>)</p> <p>“Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing financial instruments for payment.”</p> <p>(<i>Id.</i>, Pg. 2, line 23 – Col. 3, line 2) (<i>similarly, see Gifford, Col. 1, lines 50-53</i>)</p> <p>“A further object of the invention is to allow users in an untrusted network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p> <p>(<i>Id.</i>, Pg. 5, lines 12-15) (<i>similarly, see Gifford, Col. 2, lines 46-49</i>)</p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p>(<i>Id.</i>, Pg. 8, lines 3-5) (<i>similarly, see Gifford, Col. 3, lines 46-48</i>)</p> <p><i>Alternatively, in view of [Payne’s/Gifford’s] disclosure of using his system with existing financial networks, it would have been obvious to one skilled in the art that Payne’s invention would have been used to access any conventional databases, e.g., a “legacy” database.</i></p> <p><i>See, e.g., Ex. 2, ‘506 patent file history, April 2, 2007 Office Action, Exh. Pg. 250 (“[Prior art reference] teaches invoking/switching to one of internal applications for accessing external databases It would have been obvious to one skilled in the art that [prior art reference] would have been used to access any conventional databases, e.g., legacy database.”)</i></p>
18	6. The method of	<p><u>PAYNE:</u> Payne teaches using the HTTP protocol, HTML, and URLs to control</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>claim 1, wherein the control includes a web page control.</p>	<p>access to, and display of, web pages (web page control):</p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, Appendix D describes how documents are named with Uniform Resource Locators (URLs”) in the network of computers, and Appendix E describes the authentication of URLs using digital signatures.”</p> <p>(Payne, Col. 10, lines 9-20)</p> <p>The user browses through the advertising document and eventually requests a product.</p> <p>(<i>Id.</i>, Col. 5, lines 26-27)</p> <p><i>HTML</i> HyperText Markup Language - HTML is a SGML DTD. In practical terms, HTML is a collection of styles used to define the various components of a World Wide Web document.</p> <p>(<i>Id.</i>, Appendix A, Exh. Pg. 38)</p> <pre>set value_array(url) ...URL of the thing bought... (In the shopping cart case, this should be the URL of the relevant catalog page)</pre> <p>(<i>Id.</i>, Appendix E, page entitled “Shopping Cart Mechanism; how to write payment and shopping cart URLs,” Exh. Pg. 130)</p> <p>Further, the documents shown in the ‘519 Application, Figures 2-5 and 8-11 are shown as NCSA MOSAIC pages. MOSAIC was a well-known web browser, and would have been known as such to one of ordinary skill in the art. Thus, the various controls shown in the ‘519 Application, Figs. 2-5 and 8-11 are web page controls. (See ‘519 Application, Figs. 2-5 and 8-11.)</p> <p>The documents shown in the Payne patent itself, Figs. 5-14 are similar to the Mosaic documents shown in the ‘519 Application, and would have been understood as such by one of ordinary skill in the art, particularly in view of Payne’s description of MOSAIC HTML forms above, and in Appendix B. (See Payne, Figs. 5-14.)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
		<p>Thus, the “open” and “continue” links shown in Payne, Fig. 6 are web page controls:</p> <p>“Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an “open” link and a “continue” link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a “continue” button if the user already has an account with the payment computer, or to click on an “open” button if the user does not already have an account and wishes to open one.”</p> <p>(<i>Id.</i>, Col. 6, lines 5-15)</p> <div> </div> <p align="center">FIG. 6</p> <p>(<i>Id.</i>, Fig. 6)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, and Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(‘519 Application, Pg. 11, lines 7-19) (similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6)</p> <p>“In the case of link 2, a short audio segment is retrieved from a merchant computer and played. In the case of link 3, the query that can be entered into the query dialog box 4 is sent to a merchant computer, and a document is retrieved from the merchant computer and displayed.”</p> <p>(Id., Pg. 12, lines 1-6) (similarly, see Gifford, Col. 5, lines 13-17)</p> <p>“For example, if link 5 is activated the missing payment information document shown in FIG. 4 is retrieved from the merchant computer and displayed.”</p> <p>(Id., Pg. 12, lines 15-18) (similarly, see Gifford, Col. 5, lines 27-29)</p>
19	7. The method of claim 1, wherein the first computer system is in a first corporate network and wherein the second computer system is in a second corporate	<p><u><i>Claim Construction Note (Broadly Construed):</i></u> This claim does not require that the two corporate networks be operated by separate corporations.</p> <p><u>PAYNE:</u> Payne teaches using different corporate networks for the merchant computer (first computer system) and payment computer (second computer system):</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
	network.	<p>20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p>(‘519 Application, Pg. 1, lines 19-22) (<i>similarly, see Gifford, Col. 1, lines 20-24</i>)</p> <p>“Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing financial instruments for payment.”</p> <p>(<i>Id.</i>, Pg. 2, line 23 – Pg. 3, line 2) (<i>similarly, see Gifford, Col. 1, lines 50-53</i>)</p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(<i>Id.</i>, Pg. 3, lines 11-14) (<i>similarly, see Gifford, Col. 1, lines 63-66</i>)</p> <p>“In existing credit card payment systems, a credit card's issuing bank takes on the fraud risk associated with misuse of the card when a merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
		<p align="center">instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments.”</p> <p align="center">(<i>Id.</i>, Pg. 4, lines 8-23) (similarly, see Gifford, Col. 2, lines 16-32)</p>
20	<p>8. The method of claim 7, wherein the first corporate network is operated by a first business entity and wherein the second corporate network is operated by a second business entity.</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the first business entity or the second business entity.</i></p> <p><u>PAYNE:</u> Payne teaches having a merchant (first business entity) avoid risk by allowing for a purchase transaction to be pre-approved or otherwise verified by the corporate entity making the payment (second business entity) to the merchant:</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p>(’519 Application, Pg. 1, lines 19-22) (similarly, see Gifford, Col. 1, lines 20-24)</p> <p>“In existing credit card payment systems, a credit card's issuing bank takes on the fraud risk associated with misuse of the card when a merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments."</p> <p><i>(Id., Pg. 4, lines 8-23) (similarly, see Gifford, Col. 2, lines 16-32)</i></p> <p>"An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations."</p> <p><i>(Id., Pg. 3, lines 11-14) (similarly, see Gifford, Col. 1, lines 63-66)</i></p>
21	9. The method of claim 1, wherein the second computer system includes a legacy computing system.	<p><u>PAYNE:</u> Payne teaches using an "existing financial system network" with information about existing accounts, which explicitly or inherently would involve the use of a "legacy" computing system.</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>"For wide acceptance the retail mechanism will need to be a logical evolution of existing credit-card, debit-card, and Automated Clearing House facilities, while for acceptance the wholesale mechanism will need to be an evolved version of corporate electronic funds transfer."</p> <p><i>('519 Application, Pg. 2, lines 8-13) (similarly, see Gifford, Col. 1, lines 36-40)</i></p> <p>"The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment . . ."</p> <p><i>(Id., Pg. 2, lines 18-20) (similarly, see Gifford, Col. 1, lines 45-48)</i></p> <p>"Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing financial instruments for payment."</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p><i>(Id., Pg. 2, line 23 – Pg. 3, line 2) (similarly, see Gifford, Col. 1, lines 50-53)</i></p> <p>“A further object of the invention is to allow users in an untrusted network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p> <p><i>(Id., Pg. 5, lines 12-15) (similarly, see Gifford, Col. 2, lines 46-49)</i></p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p><i>(Id., Pg. 8, lines 3-5) (similarly, see Gifford, Col. 3, lines 46-48)</i></p> <p><i>Alternatively, in view of [Payne’s/Gifford’s] disclosure of using his system with existing financial networks, it would have been obvious to one skilled in the art that Payne’s invention would have been used to access any conventional computing systems, e.g., “legacy” computing systems.</i></p> <p><i>See, e.g., Ex. 2, ‘506 patent file history, April 2, 2007 Office Action, Exh. Pg. 250 (“[Prior art reference] teaches invoking/switching to one of internal applications for accessing external databases It would have been obvious to one skilled in the art that [prior art reference] would have been used to access any conventional databases, e.g., legacy database.”)</i></p>
22	10. The method of claim 1, wherein the user device includes a web browser.	<p><u>PAYNE:</u> Payne explicitly or inherently discloses that the user device includes a web browser.</p> <p>“This invention relates to user-interactive network sales systems for implementing an open marketplace for goods or services over computer networks such as the Internet.”</p> <p>(Payne, Col. 1, lines 15-17)</p> <p>“The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Id., Col. 4, lines 43-45)</p> <p>“The user browses through the advertising document and eventually requests a product (step 32). This results in the buyer</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
		<p>computer sending payment URL A to the payment computer (step 34).”</p> <p><i>(Id.</i>, Col. 5, lines 27-30)</p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, Appendix D describes how documents are named with Uniform Resource Locators (URLs”) in the network of computers, and Appendix E describes the authentication of URLs using digital signatures.”</p> <p><i>(Id.</i>, Col. 10, lines 9-20)</p> <p>Further, the documents shown in the ‘519 Application, Figures 2-5 and 8-11 are shown as NCSA MOSAIC pages. MOSAIC was a well-known web browser, and would have been known as such to one of ordinary skill in the art. Thus, the MOSAIC documents displayed on the buyer computer, shown in Figs. 2-5 and 8-11, would necessarily be shown on a web browser. <i>(See</i> ‘519 Application, Figs. 2-5 and 8-11; <i>see also</i> similar figures in Payne.)</p> <p>The documents shown in the Payne patent itself, Figs. 5-14 are similar to the Mosaic documents shown in the ‘519 Application, and would have been understood as such by one of ordinary skill in the art, particularly in view of Payne’s description of MOSAIC HTML forms above, and in Appendix B. <i>(See</i> Payne, Figs. 5-14.)</p> <p>Therefore, Payne explicitly or inherently discloses a web browser included in the user device.</p> <p><u>Payne/’519 Application/Gifford</u></p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(HTTP) between buyer and merchant computers, and Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(‘519 Application, Pg. 11, lines 7-19) (<i>similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6</i>)</p>
23	11. The method of claim 10, wherein the display information includes web page content.	<p><u>PAYNE:</u> Payne teaches using the HTTP protocol, HTML, and URLs to control access to, and display of, web pages (web page content):</p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, Appendix D describes how documents are named with Uniform Resource Locators (URLs”) in the network of computers, and Appendix E describes the authentication of URLs using digital signatures.”</p> <p>(Payne, Col. 10, lines 9-20)</p> <p><i>HTML</i> HyperText Markup Language – HTML is a SGML DTD. In practical terms, HTML is a collection of styles used to define the various components of a World Wide Web document.</p> <p>(<i>Id.</i>, Appendix A, Exh. Pg. 38)</p> <pre>set value_array(url) ...URL of the thing bought... (In the shopping cart case, this should be the URL of the relevant catalog page)</pre> <p>(<i>Id.</i>, Appendix E, page entitled “Shopping Cart Mechanism; how to write payment and shopping cart URLs,” Exh. Pg. 130)</p> <p><u>Payne/’519 Application/Gifford</u></p> <p>“The software architecture underlying the particular preferred</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne, <i>et al.</i> , and related references ¹
		<p>embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, and Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(‘519 Application, Pg. 11, lines 7-19) (similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6)</p> <p>“In the case of link 2, a short audio segment is retrieved from a merchant computer and played. In the case of link 3, the query that can be entered into the query dialog box 4 is sent to a merchant computer, and a document is retrieved from the merchant computer and displayed.”</p> <p>(Id., Pg. 12, lines 1-6) (similarly, see Gifford, Col. 5, lines 13-17)</p> <p>“For example, if link 5 is activated the missing payment information document shown in FIG. 4 is retrieved from the merchant computer and displayed.”</p> <p>(Id., Pg. 12, lines 15-18) (similarly, see Gifford, Col. 5, lines 27-29)</p> <p>Further, the documents shown in the ‘519 Application, Figures 2-5 and 8-11 are shown as NCSA MOSAIC pages. MOSAIC was a well-known web browser, and would have been known as such to one of ordinary skill in the art. Thus, the MOSAIC documents displayed on the buyer computer, shown in Figs. 2-5 and 8-11, are web page content. (See ‘519 Application, Figs. 2-5 and 8-11; see also similar figures in Payne.)</p> <p>The documents shown in the Payne patent itself, Figs. 5-14 are similar to the Mosaic documents shown in the ‘519 Application, and would have been understood as such by one of ordinary skill in the art, particularly in view of Payne’s description of MOSAIC HTML forms above, and in Appendix B. (See Payne, Figs. 5-14.)</p> <p><i>Therefore, Payne explicitly discloses web page content.</i></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
24	12. The method of claim 1, wherein the list of at least one commercial service includes a payment service.	<p>PAYNE: Payne teaches sending display information including providing an option of opening an account for payment, or making a payment using such an account (payment service):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one.”</p> <p>(Payne, Col. 6, lines 1-14)</p> <p>“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(Id., Col. 6, lines 15-30)</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70)."</p> <p><i>(Id.</i>, Col. 6, lines 31-42).</p> <p>"The payment computer verifies whether the user name and password are correct (step 72). If they are not correct, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 74). Otherwise, the payment computer determines whether additional security is warranted, based on, e.g., whether the payment amount exceeds a threshold (step 73). If additional security is warranted, the payment computer creates a challenge form document and sends it to the buyer computer (step 75). The user enters the security information (step 77), the buyer computer sends the security information to the payment computer (step 79), and the payment computer determines whether the security information is correct (step 81). If it is not correct, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 83).</p> <p>If the security information is correct, or if additional security was not warranted, the payment computer checks the settlement database to determine whether the user has unexpired access to the domain identifier contained in the payment URL (step 82). If so, the payment computer sends to the buyer computer a document providing an option either to repurchase or to use the previously purchased access (step 84). An example of such a document is shown in FIG. 9. The user can respond to the recent purchase query document by choosing to access the previously purchased document (step 85) or to go ahead and buy the currently selected product (step 86).</p> <p>If the user chooses to access the previously purchased document, the buyer computer skips to step 92 (see below). If the user chooses to buy the currently selected product, the payment computer calculates an actual payment amount that may differ from the payment amount contained in the payment URL (step 87). For example, the purchase of a product in a certain domain may entitle the user to access other products in the domain for free or for a reduced price for a given period of time.</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>The payment computer then verifies whether the user account has sufficient funds or credit (step 76). If not, the payment computer sends a document to the buyer computer indicating that the user account has insufficient funds (step 78). Otherwise, the payment computer creates an access URL (step 80) that includes a merchant computer identifier, a domain identifier, a product identifier, an indication of the end of the duration time for which access to the product is to be granted, the buyer network address, and an access URL authenticator that is a digital signature based on a cryptographic key. The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer. The payment computer then records the product identifier, the domain, the user account, the merchant account, the end of duration time, and the actual payment amount in the settlement database (step 88).</p> <p>The payment computer then sends a redirect to access URL to the buyer computer (step 90), which sends the access URL to the merchant computer (step 92). The merchant computer verifies whether the access URL authenticator was created from the contents of the access URL using the cryptographic key (step 94). If not, the merchant computer sends a document to the buyer computer indicating that access to the product is denied (step 96).</p> <p>Otherwise, the merchant computer verifies whether the duration time for access to the product has expired (step 98). This is done because the buyer computer can request access to a purchased product repeatedly. If the duration time has expired, the merchant computer sends a document to the buyer computer indicating that the time has expired (step 100). Otherwise the merchant computer verifies that the buyer computer network address is the same as the buyer network address in the access URL (step 101), and if so, sends a fulfillment document to the buyer computer (step 102), which is displayed by the buyer computer (step 104)."</p> <p><i>(Id., Col. 6, line 43 – Col. 7, line 50)</i></p> <p><u>Payne/'519 Application/Gifford</u></p> <p>"SUMMARY OF THE INVENTION</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers. Users can purchase products with their buyer computers after they have specified an account to pay for the purchase. A network payment service is used to authorize the purchase before merchant fulfillment is performed.</p> <p>(‘519 Application, Pg. 6, line 20 – Pg. 7, lines 7) (<i>similarly, see Gifford, Col. 3, lines 12-25</i>)</p>
25	13. The method of claim 12, wherein a user is provided with access to a payment electronic back office system.	<p><i>Claim Construction Note (Broadly Construed): As “back office” is a business label that does not provide any structural or functional limitation on the claimed method, this claim does not limit the method of claim 12. This claim does not preclude the user being provided access via an agent of the user.</i></p> <p><u>PAYNE:</u> Payne teaches providing a user with access to a payment electronic back office system.</p> <p><i>Applicant describes a user being provided access to a payment electronic back office system as follows:</i></p> <p><i>“Once Bank POSvc application 510 has been activated, user 100 will be able to connect to Bank services and utilize the application to perform banking transactions, <u>thus</u> accessing data from a host or data repository 575 in the Bank “Back Office.”</i></p> <p>(‘506 Patent, Col. 7, lines 32-36)(<i>emphasis added</i>)</p> <p><u>Payne/’519 Application/Gifford</u></p> <p>Similarly, Payne/’519 Application/Gifford teaches that using the payment application, the user accesses data from an existing financial network that is used to perform payment services:</p> <p>“The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment . . .”</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(519 Application, Pg. 2, lines 18-20) (<i>similarly, see Gifford, Col. 1, lines 45-48</i>)</p> <p>“A further object of the invention is to allow users in an untrusted network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p> <p>(<i>Id.</i>, Pg. 5, lines 12-15) (<i>similarly, see Gifford, Col. 2, lines 46-49</i>)</p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p>(<i>Id.</i>, Pg. 8, lines 3-5) (<i>similarly, see Gifford, Col. 3, lines 46-48</i>)</p>
26	14. An apparatus for providing a service over a digital network, the apparatus comprising:	<p><u>PAYNE:</u> Payne discloses an apparatus for providing a service over a digital network:</p> <p>“Network sales system”</p> <p>(Payne, Title)</p> <p>“A network-based sales system includes at least one buyer computer for operation by a user desiring to buy a product, at least one merchant computer, and at least one payment computer. The buyer computer, the merchant computer, and the payment computer are interconnected by a computer network. . . .”</p> <p>(<i>Id.</i>, Abstract)</p> <p>“This invention relates to user-interactive network sales systems for implementing an open marketplace for goods or services over computer networks such as the Internet.”</p> <p>(<i>Id.</i>, Col. 1, lines 14-16)</p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, and Appendix D</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(‘519 Application, Pg. 11, lines 7-19) (<i>similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6</i>)</p>
27	a processor;	<p><u>PAYNE:</u> Payne discloses multiple computers which are capable of processing instructions, and therefore inherently discloses processors:</p> <p>“In another aspect, the invention features a network-based link message system that includes at least one client computer for operation by a client user and at least one server computer for operation by a server user. The client computer and the server computer are interconnected by a computer network. The client computer is programmed to send an initial link message to the server computer. The server computer is programmed to receive the initial link message from the client computer and to create, based on information contained in the initial link message, a session link message that encodes a state of interaction between the client computer and the server computer. The session link message includes a session link authenticator, computed by a cryptographic function of the session link contents, for authenticating the session link message. The server computer is programmed to cause the session link message to be sent to the client computer. The client computer is programmed to cause the session link message to be sent to a computer in the network that is programmed to authenticate the session link message by examining the session link authenticator and that is programmed to respond to the session link message based on the state of the interaction between the client computer and the server computer.”</p> <p>(Payne, Col. 2, lines 43-65)</p> <p>“In another aspect, the invention features a network payment system that includes at least one buyer computer for operation by a user desiring to buy a product and at least one payment computer for processing payment messages from the buyer computer.”</p> <p>(<i>Id.</i>, Col. 3, lines 38-42)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references
		<p>“If the user requests that the entire contents of the shopping cart be purchased (step 124) the buyer computer causes the payment URL for the shopping cart to be activated (step 126) and the payment URL is processed in a manner analogous to the processing of payment URLs for individual products (beginning with step 36 in FIG. 2).”</p> <p>(<i>Id.</i>, Col. 8, lines 25-31)</p>
28	a machine-readable storage device including one or more instructions executable by the processor for providing a commercial service over a digital network;	<p>PAYNE: Payne discloses computers which have access to databases for storage of information (storage devices), and further discloses those computers (processors) executing instructions for providing a commercial service over a digital network:</p> <p>“In another aspect, the invention features a network-based link message system that includes at least one client computer for operation by a client user and at least one server computer for operation by a server user. The client computer and the server computer are interconnected by a computer network. The client computer is programmed to send an initial link message to the server computer. The server computer is programmed to receive the initial link message from the client computer and to create, based on information contained in the initial link message, a session link message that encodes a state of interaction between the client computer and the server computer. The session link message includes a session link authenticator, computed by a cryptographic function of the session link contents, for authenticating the session link message. The server computer is programmed to cause the session link message to be sent to the client computer. The client computer is programmed to cause the session link message to be sent to a computer in the network that is programmed to authenticate the session link message by examining the session link authenticator and that is programmed to respond to the session link message based on the state of the interaction between the client computer and the server computer.”</p> <p>(Payne, Col. 2, lines 43-65)</p> <p>“In another aspect, the invention features a network payment system that includes at least one buyer computer for operation by a user desiring to buy a product and at least one payment computer</p>

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EL #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p align="center">for processing payment messages from the buyer computer.”</p> <p>(<i>Id.</i>, Col. 3, lines 38-42)</p> <div> <pre> graph LR 12[buyer computer] --- 10[network] 10 --- 16[payment computer] 16 --- 22((settlement database)) 16 --- 21((shopping cart database)) 10 --- 14[merchant computer] 14 --- 15((advertising document database)) 10 --- 20[creation computer] 20 --- 18((digital advertisement database)) </pre> </div> <p align="right">FIG. 1</p> <p>(<i>Id.</i>, Fig. 1)</p> <p>“Creation computer 20 creates a digital advertisement database 18 that stores advertising documents (which may for example be in the form of summaries of newspaper or newsletter articles, accompanied by prices) and product fulfillment items (which may be the products themselves if the products can be transmitted over the network, or which may be hard goods identifiers if the products are hard goods, i.e., durable products as opposed to information products). Creation computer 20 transmits contents of the advertising document database 18 to merchant computer 14 to enable the merchant computer to cause advertisements and products to be sent to buyers. Merchant computer 14 maintains advertising documents locally in advertising document database 15.”</p> <p>(<i>Id.</i>, Col. 4, lines 52-65)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“A digital advertisement includes a product description and a price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		('519 Application, Pg. 10, line 23 – Pg. 11, line 2) (<i>similarly, see Gifford, Col. 4, lines 43-56</i>)
29	sending first display information from a first computer system to a user device,	<u><i>See element 2, above.</i></u>
30	wherein the first display information includes a control associated with a commercial service;	<u><i>See element 3, above.</i></u>
31	accepting a first signal in response to a user input to activate the control; and	<u><i>See element 4, above.</i></u>
32	initiating, in response to the first signal, communication between the user device and a second computer system,	<u><i>See element 9, above.</i></u>
33	wherein the second computer system acts	<u><i>See element 10, above.</i></u>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	to send second display information to the user device,	
34	wherein the second display information includes a list of at least one commercial service;	<u><i>See element 11, above.</i></u>
35	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list; and	<u><i>See element 12, above.</i></u>
36	to complete a commercial transaction relating to the selected commercial service;	<u><i>See element 13, above.</i></u>
37	associating an object identity with information	<u><i>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</i></u> <u><i>See element 5, above.</i></u>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	entries and attributes,	
38	wherein the object identity represents a networked object;	<u>See element 6, above.</u>
39	storing said information entries and said attributes in a virtual information store; and	<u>See element 7, above.</u>
40	assigning a unique network address to said object identity.	<u>See element 8, above.</u>
41	15. A machine-readable storage device including instructions executable by a processor for providing a commercial service over a digital network, the machine-readable storage	<p><u>PAYNE:</u> Payne discloses computers which have access to databases for storage of information (storage devices), and further discloses computers which are capable of processing instructions, and therefore inherently discloses processors for providing a commercial service over a digital network:</p> <p align="center">“Network sales system”</p> <p>(Payne, Title)</p> <p>“A network-based sales system includes at least one buyer computer for operation by a user desiring to buy a product, at least one merchant computer, and at least one payment computer. The buyer computer, the merchant computer, and the payment computer are interconnected by a computer network. . . .”</p> <p>(Id., Abstract)</p>

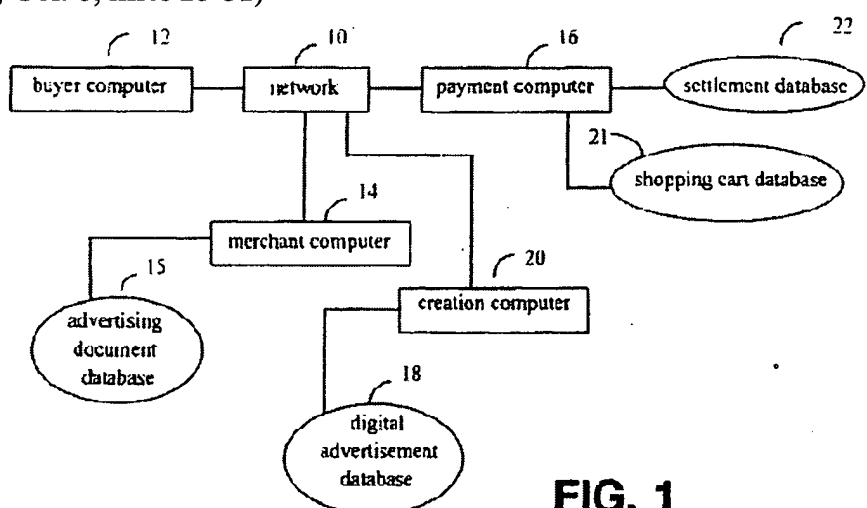
APPENDIX A - PAYNE AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>device including one or more instructions for:</p>	<p>“This invention relates to user-interactive network sales systems for implementing an open marketplace for goods or services over computer networks such as the Internet.”</p> <p><i>(Id., Col. 1, lines 14-16)</i></p> <p>“A user at a buyer computer asks to have advertisements displayed, and the buyer computer requests advertisements from a merchant computer, which sends the advertisements to the buyer computer.”</p> <p><i>(Id., Col. 1, lines 24-27)</i></p> <p>“In another aspect, the invention features a network-based link message system that includes at least one client computer for operation by a client user and at least one server computer for operation by a server user. The client computer and the server computer are interconnected by a computer network. The client computer is programmed to send an initial link message to the server computer. The server computer is programmed to receive the initial link message from the client computer and to create, based on information contained in the initial link message, a session link message that encodes a state of interaction between the client computer and the server computer. The session link message includes a session link authenticator, computed by a cryptographic function of the session link contents, for authenticating the session link message. The server computer is programmed to cause the session link message to be sent to the client computer. The client computer is programmed to cause the session link message to be sent to a computer in the network that is programmed to authenticate the session link message by examining the session link authenticator and that is programmed to respond to the session link message based on the state of the interaction between the client computer and the server computer.”</p> <p><i>(Id., Col. 2, lines 43-65)</i></p> <p>“The client computer is programmed to display the product descriptions, to receive a request from the client user to display a product corresponding to a product description displayed by the client computer, and to cause a product hypertext link derived</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p align="center">from a purchase transaction record to be activated.”</p> <p>(<i>Id.</i>, Col. 3, lines 29-34)</p> <p>“In another aspect, the invention features a network payment system that includes at least one buyer computer for operation by a user desiring to buy a product and at least one payment computer for processing payment messages from the buyer computer.”</p> <p>(<i>Id.</i>, Col. 3, lines 38-42)</p> <p>“Creation computer 20 creates a digital advertisement database 18 that stores advertising documents (which may for example be in the form of summaries of newspaper or newsletter articles, accompanied by prices) and product fulfillment items (which may be the products themselves if the products can be transmitted over the network, or which may be hard goods identifiers if the products are hard goods, i.e., durable products as opposed to information products). Creation computer 20 transmits contents of the advertising document database 18 to merchant computer 14 to enable the merchant computer to cause advertisements and products to be sent to buyers. Merchant computer 14 maintains advertising documents locally in advertising document database 15.”</p> <p>(<i>Id.</i>, Col. 4, lines 52-65)</p> <p>“With reference to FIG. 2, a purchase transaction begins when a user at buyer computer 12 requests advertisements (step 24) and buyer computer 12 accordingly sends an advertising document URL (universal resource locator) to merchant computer 14 (step 26). The merchant computer fetches an advertising document from the advertising document database (step 28) and sends it to the buyer computer (step 30). An example of an advertising document is shown in FIG. 5. Details of URLs and how they are used are found in the microfiche Appendix G.”</p> <p>(<i>Id.</i>, Col. 5, lines 16-25)</p> <p>“If the user requests that the entire contents of the shopping cart be purchased (step 124) the buyer computer causes the payment URL for the shopping cart to be activated (step 126) and the payment URL is processed in a manner analogous to the processing of payment URLs for individual products</p>

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IEL #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(beginning with step 36 in FIG. 2).”</p> <p>(<i>Id.</i>, Col. 8, lines 25-31)</p>  <p align="right">FIG. 1</p> <p>(<i>Id.</i>, Fig. 1)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, and Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p>(‘519 Application, Pg. 11, lines 7-19) (<i>similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6</i>)</p> <p>“FIG. 2 shows an overview screen that has been retrieved from a merchant computer by a buyer computer and displayed by the buyer computer.”</p> <p>(<i>Id.</i>, Pg. 11, lines 20-22) (<i>similarly, see Gifford, Col. 5, lines 7-9</i>)</p> <p>“A digital advertisement includes a product description and a</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p> <p><i>(Id., Pg. 10, line 23 – Pg. 11, line 2) (similarly, see Gifford, Col. 4, lines 43-56)</i></p>
42	sending first display information from a first computer system to a user device,	<u>See element 2, above.</u>
43	wherein the first display information includes a control associated with a commercial service;	<u>See element 3, above.</u>
44	accepting a first signal in response to a user input to activate the control;	<u>See element 4, above.</u>
45	initiating, in response to the first signal, communication between the user device and a second computer system,	<u>See element 9, above.</u>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
46	wherein the second computer system acts to send second display information to the user device,	<u>See element 10, above.</u>
47	wherein the second display information includes a list of at least one commercial service;	<u>See element 11, above.</u>
48	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list;	<u>See element 12, above.</u>
49	and to complete a commercial transaction relating to the selected commercial service;	<u>See element 13, above.</u>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
50	associating an object identity with information entries and attributes,	<p><i>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</i></p> <p><u>See element 5, above.</u></p>
51	wherein the object identity represents a networked object;	<p><u>See element 6, above.</u></p>
52	storing said information entries and said attributes in a virtual information store; and	<p><u>See element 7, above.</u></p>
53	assigning a unique network address to said object identity.	<p><u>See element 8, above.</u></p>
54	16. A method for providing a commercial service over a digital network, the method comprising:	<p><u>PAYNE:</u> Payne discloses a method for providing a commercial service over a digital network:</p> <p align="center">“Network sales system”</p> <p>(Payne, Title)</p> <p>“A network-based sales system includes at least one buyer computer for operation by a user desiring to buy a product, at least one merchant computer, and at least one payment computer. The buyer computer, the merchant computer, and the payment computer are interconnected by a computer network. . . .”</p> <p>(<i>Id.</i>, Abstract)</p>

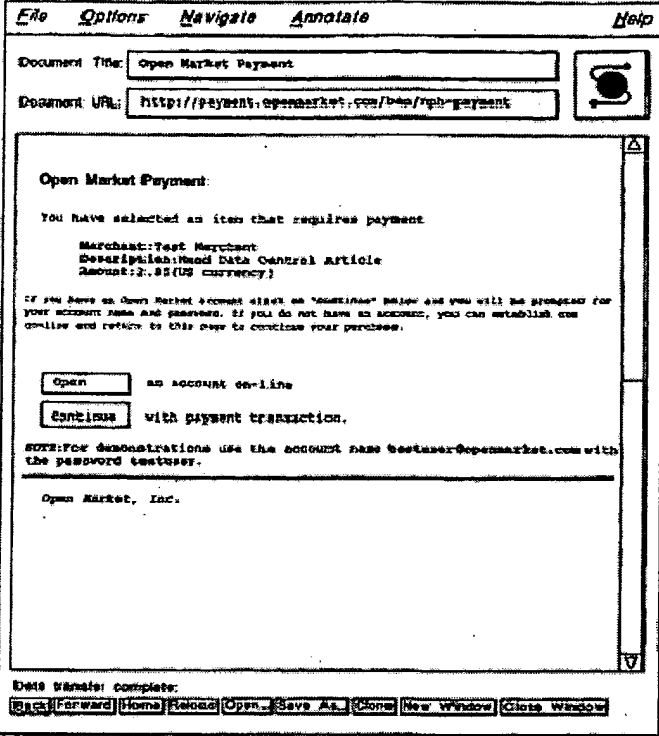
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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>“This invention relates to user-interactive network sales systems for implementing an open marketplace for goods or services over computer networks such as the Internet.”</p> <p><i>(Id., Col. 1, lines 14-16)</i></p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“The software architecture underlying the particular preferred embodiment is based upon the hypertext conventions of the World Wide Web. Appendix A describes the Hypertext Markup Language (HTML) document format used to represent digital advertisements, Appendix B describes the HTML forms fill out support in Mosaic 2.0, Appendix C is a description of the Hypertext Transfer Protocol (HTTP) between buyer and merchant computers, and Appendix D describes how documents are named with Uniform Resource Locators (URLs) in the network of computers. A document is defined to be any type of digital data broadly construed, such as multimedia documents that include text, audio, and video, and documents that contain programs.”</p> <p><i>(’519 Application, Pg. 11, lines 7-19) (similarly, see Gifford, Col. 4, line 61 – Col. 5, line 6)</i></p>
55	using first computing resources operated by a first business entity to send first display information to a user device,	<p><i>Claim Construction Note (Broadly Construed):</i> <i>This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the user device being part of the first computing resources. Thus, for example, the user may be the first business entity and may operate computing resources that include the user device.</i></p> <p><u>PAYNE:</u> Payne discloses sending display information from a payment computer (using first computing resources provided by a first business entity) to a buyer computer (user device):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one."</p> <p>(Payne, Col. 6, lines 1-14)</p> <pre> graph TD PC16[Payment Computer 16] -- 44 --> B12[Buyer Computer 12] B12 -- OR --> U45[user opens new account 45] B12 -- OR --> U60[user continues with payment 60] U60 --> B62[Buyer Computer sends payment URL B 62] B62 --> PC16 PC16 -- 50 --> PC16 U45 --> B48[Buyer Computer sends payment URL C 48] B48 --> PC16 PC16 -- 50 --> PC16 PC16 -- 52 --> B12 B12 -- 34 --> End34[] PC16 -- 64 --> End64[] </pre> <p align="center">FIG. 2C</p> <p>(<i>Id.</i>, Fig. 2C)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		 <p align="center">FIG. 6</p> <p><i>(Id., Fig. 6)</i></p>
56	wherein the first display information includes first and second controls;	<p>PAYNE: The document sent from the payment computer includes controls either for opening an account (first control) or finalizing a transaction to receive an online document (second control):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment computer, or to click on an "open" button if the user does not already have an account and wishes to open one.”</p> <p><i>(Payne, Col. 6, lines 1-14)</i></p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
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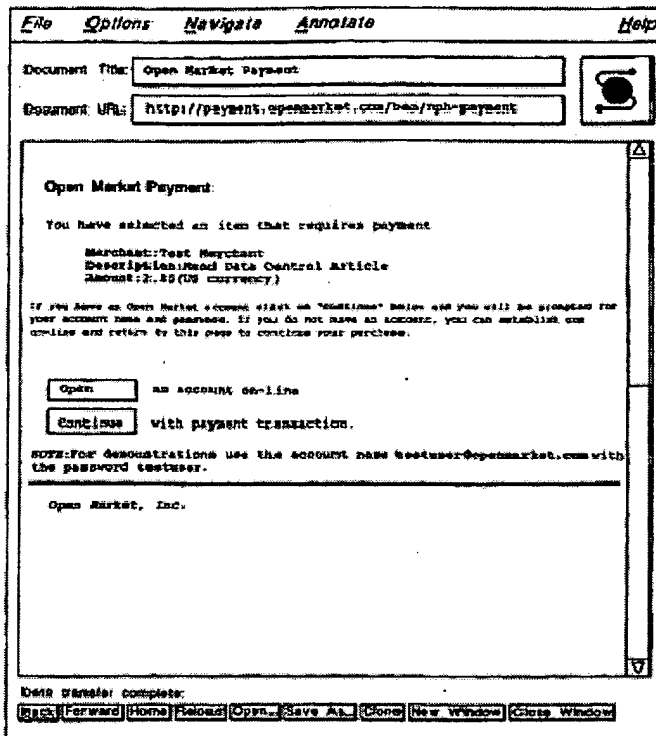


FIG. 6

(Id., Fig. 6)

57

accepting a first signal in response to a user input to activate the first control;

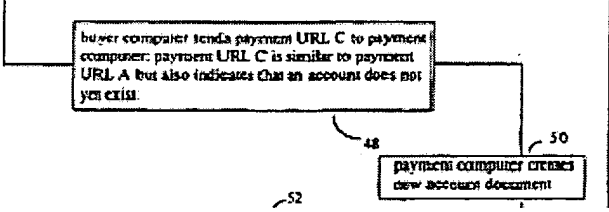
Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device. There is no requirement that the first control and second control be independent in any way. For example, the two controls may be contained in the same object. Also, there is no requirement that the user input activating the first control not also activate the second control.

PAYNE:

Payne teaches accepting a first signal from a user to activate a control:

“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(Payne, Col. 6, lines 15-30)</p>  <p>(<i>Id.</i>, Fig. 2C)</p>
58	first performing, in response to the first signal, a first commercial service associated with the first control,	<p><u>PAYNE:</u> Payne teaches that a first commercial service (opening an account) is performed in response to a first control:</p> <p>“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(Payne, Col. 6, lines 15-30)</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
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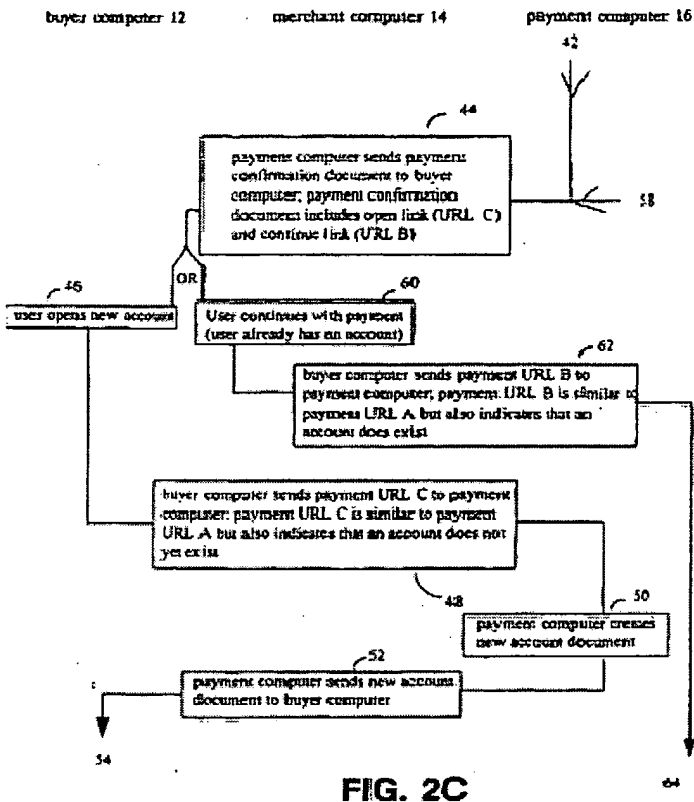
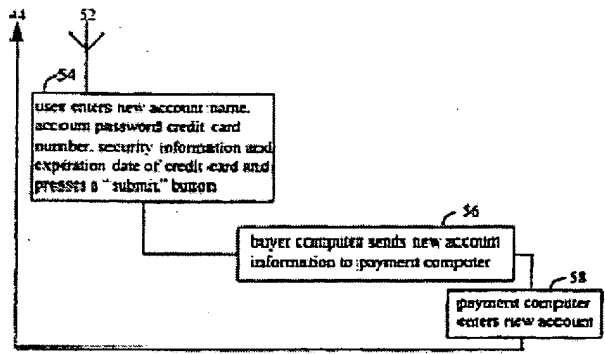


FIG. 2C



(Id., Figs. 2C, 2D)

59	wherein the first performing is accomplished under the control of the first business entity interacting	<p><i>Claim Construction Note (Broadly Construed):</i> This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the first performing to be accomplished under control of business entities in addition to the first business entity.</p> <p>PAYNE: Payne teaches that the first performing is accomplished by the first business entity (payment computer) interacting with the user device:</p>
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Bl. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	with the user device;	<p>“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(Payne, Col. 6, lines 15-30)</p> <pre> graph TD subgraph Buyer_Computer [buyer computer 12] 46[46 user opens new account] 60[60 User continues with payment (user already has an account)] 48[48 buyer computer sends payment URL C to payment computer; payment URL C is similar to payment URL A but also indicates that an account does not yet exist] 62[62 buyer computer sends payment URL B to payment computer; payment URL B is similar to payment URL A but also indicates that an account does exist] 52[52 payment computer sends new account document to buyer computer] end subgraph Merchant_Computer [merchant computer 14] 44[44 payment computer sends payment confirmation document to buyer computer; payment confirmation document includes open link (URL C) and continue link (URL B)] end subgraph Payment_Computer [payment computer 16] 50[50 payment computer creates new account document] 58[58] end 46 -- OR --> 48 60 -- OR --> 62 48 --> 48 62 --> 62 48 --> 50 50 --> 52 52 --> 52 44 --> 58 58 --> 58 </pre> <p align="center">FIG. 2C</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<pre> graph TD 54[54: user enters new account name, account password, credit card number, security information and expiration date of credit card and presses a "submit" button] --> 56[56: buyer computer sends new account information to payment computer] 56 --> 58[58: payment computer enters new account] </pre> <p>(<i>Id.</i>, Figs. 2C, 2D)</p>
60	accepting a second signal in response to a user input to activate the second control;	<p><i>Claim Construction Note (Broadly Construed):</i> This claim does not require that the second signal be sent or accepted near in time to the first signal. Thus, a user given two options might choose one on Monday, and a second on Wednesday, and meet this claim. Also, this claim does not require that the user input be to the user device.</p> <p>PAYNE: Payne further teaches accepting a second signal (clicking continue) to activate a second control:</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p>(Payne, Col. 6, lines 31-42)</p>
61	second performing, in response to the second signal, a second commercial	<p><i>Claim Construction Note (Broadly Construed):</i> This claim does not require that the second performing be done near in time to the first performing.</p> <p>PAYNE: Payne teaches a second “performing” of a commercial service, namely providing the document requested once it has been paid for</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i>, and related references¹
	<p>service associated with the second control,</p>	<p>from the buyer's account:</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p>(Payne, Col. 6, lines 31-42)</p> <p>“The payment computer then sends a redirect to access URL to the buyer computer (step 90), which sends the access URL to the merchant computer (step 92). The merchant computer verifies whether the access URL authenticator was created from the contents of the access URL using the cryptographic key (step 94). If not, the merchant computer sends a document to the buyer computer indicating that access to the product is denied (step 96).</p> <p>Otherwise, the merchant computer verifies whether the duration time for access to the product has expired (step 98). This is done because the buyer computer can request access to a purchased product repeatedly. If the duration time has expired, the merchant computer sends a document to the buyer computer indicating that the time has expired (step 100). Otherwise the merchant computer verifies that the buyer computer network address is the same as the buyer network address in the access URL (step 101), and if so, sends a fulfillment document to the buyer computer (step 102), which is displayed by the buyer computer (step 104).”</p> <p>(<i>Id.</i>, Col. 7, lines 31-50)</p>

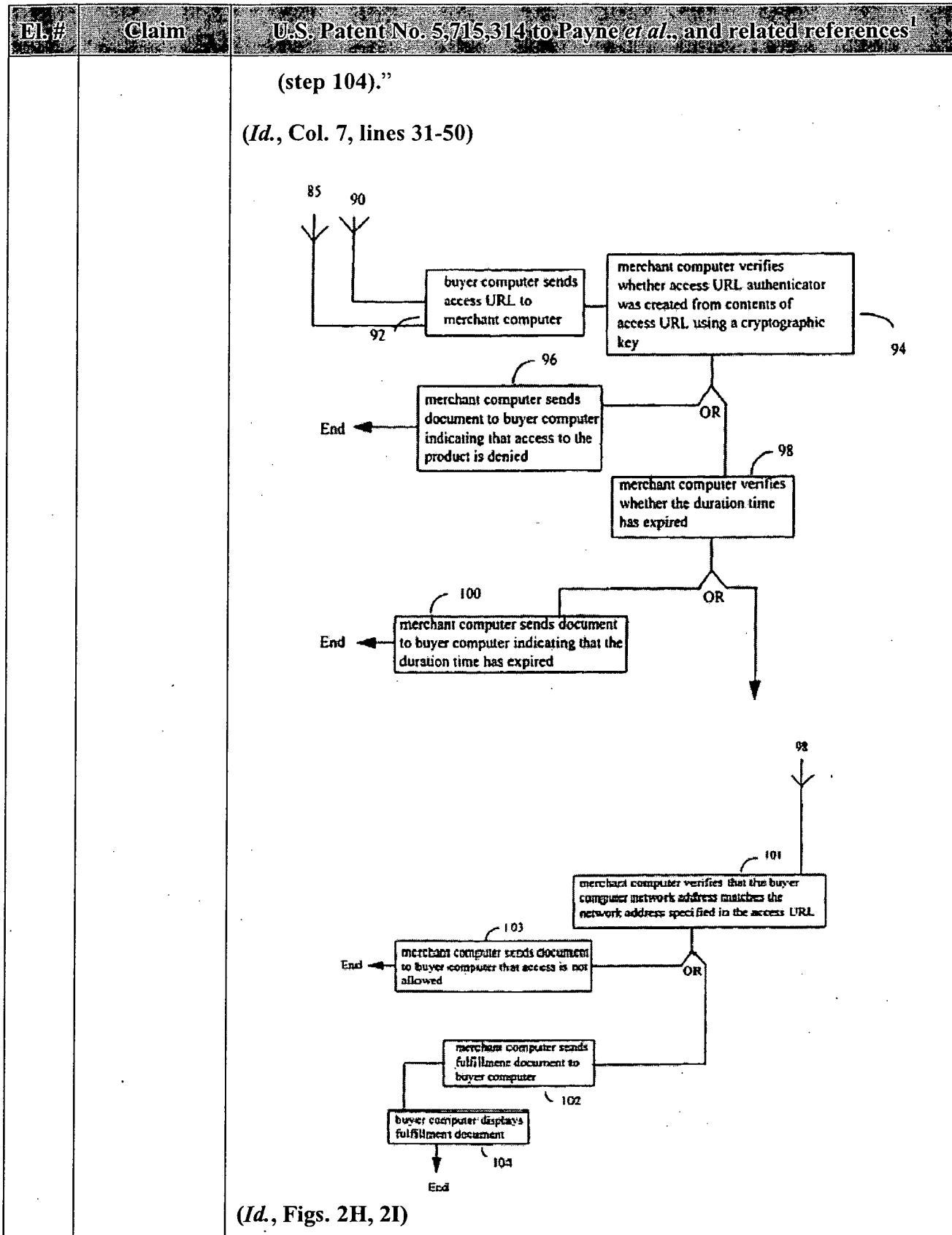
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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
		<p>(<i>Id.</i>, Figs. 2H, 2I)</p>
62	wherein the second performing is accomplishe	<p><i>Claim Construction Note (Broadly Construed):</i> This claim does not prohibit the user device from being operated or owned by the second business entity. Nor does it prohibit the first computing resources being used as part of this second performing. Nor does it prohibit the second</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>d under the control of a second business entity operating second computing resources and interacting with the user device;</p>	<p><i>business entity from interacting with the user device via the first business entity. Nor does it prohibit the second performing to be accomplished under control of business entities in addition to the second business entity.</i></p> <p><u>PAYNE:</u> Payne teaches that the second performing (verifying rights and providing access to a requested document) is accomplished under the control of a second business entity (the merchant computer) operating second computing resources and interacting with the user device (the buyer computer):</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p>“The payment computer then sends a redirect to access URL to the buyer computer (step 90), which sends the access URL to the merchant computer (step 92). The merchant computer verifies whether the access URL authenticator was created from the contents of the access URL using the cryptographic key (step 94). If not, the merchant computer sends a document to the buyer computer indicating that access to the product is denied (step 96).</p> <p>Otherwise, the merchant computer verifies whether the duration time for access to the product has expired (step 98). This is done because the buyer computer can request access to a purchased product repeatedly. If the duration time has expired, the merchant computer sends a document to the buyer computer indicating that the time has expired (step 100). Otherwise the merchant computer verifies that the buyer computer network address is the same as the buyer network address in the access URL (step 101), and if so, sends a fulfillment document to the buyer computer (step 102), which is displayed by the buyer computer</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
63	associating an object identity with information entries and attributes,	<p><i>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</i></p> <p><u>See element 5, above.</u></p>
64	wherein the object identity represents a networked object;	<p><u>See element 6, above.</u></p>
65	storing said information entries and said attributes in a virtual information store; and	<p><u>See element 7, above.</u></p>
66	assigning a unique network address to said object identity.	<p><u>See element 8, above.</u></p>
67	17. The method of claim 16, further comprising: exchanging information between the first and second business entities in order to complete a	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the second business entity. Nor does it prohibit the first computing resources being used as part of this second performing. Nor does it prohibit the second business entity from interacting with the user device via the first business entity. Nor does it prohibit the second performing to be accomplished under control of business entities in addition to the second business entity.</i></p> <p><u>PAYNE:</u> Payne further teaches exchanging information between the merchant computer (first business entity) and the payment computer (second business entity):</p> <p>“The user then requests purchase of an advertised product, and the</p>

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El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>transaction in response to one or more of the signals.</p>	<p>buyer computer sends a purchase message to the merchant computer. The merchant computer constructs a payment order that it sends to the payment computer, which authorizes the purchase and sends an authorization message to the merchant computer. When the merchant computer receives the authorization message it sends the product to the buyer computer.”</p> <p>(Payne, Col. 1, lines 27-35)</p> <p><u>Payne/’519 Application/Gifford</u></p> <p>“The merchant computer then attempts to construct a payment order at 26 using the information it has gathered about the user. The buyer computer may have previously supplied certain credentials using fill out forms or other account identification means such as providing the network address of the buyer computer in the normal course of communication. If the merchant computer is able to construct a complete payment order at 26 the payment order is sent to a payment computer for authorization at 27. If a payment order can be constructed, processing continues at 28.”</p> <p>(’519 Application, Pg. 14, lines 9-18) (<i>similarly, see Gifford, Col. 6, lines 3-13</i>)</p> <p>“In a variation, the merchant computer at 59 checks to ensure the payment order has not been previously used. This can be accomplished by checking with a payment computer or maintaining a merchant computer database of previously accepted payment orders. The unforgeable certificate created at step 56 does not need to include the user account information. This variation is useful if the user wishes to make purchases and remain anonymous to the merchant.”</p> <p>(<i>Id.</i>, Pg. 19, lines 7-14) (<i>similarly, see Gifford, Col. 7, lines 56-63</i>)</p>
68	<p>18. The method of claim 16, wherein a three-way transaction is achieved between the first computing</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit this transaction consisting of the first performing step and/or second performing step. Nor does it prohibit the user device being part of the first computer resources and/or the second computing resources. This claim does not require that the transaction be achieved directly between the recited resources and device; i.e., it may be indirect using one or more intermediaries. Nor does it require a two-way exchange between the first computing resources and second computing resources.</i></p> <p><u>PAYNE:</u></p>

APPENDIX A - PAYNE AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 5,715,314 to Payne <i>et al.</i> , and related references ¹
	<p>resources, the second computing resources and the user device.</p>	<p>Payne further teaches an embodiment where there is a three-way transaction between the merchant computer (first computing resources), the payment computer (second computing resources) and the buyer computer (user device):</p> <p>“The user then requests purchase of an advertised product, and the buyer computer sends a purchase message to the merchant computer. The merchant computer constructs a payment order that it sends to the payment computer, which authorizes the purchase and sends an authorization message to the merchant computer. When the merchant computer receives the authorization message it sends the product to the buyer computer.”</p> <p>(Payne, Col. 1, lines 27-35)</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <div> <pre> graph LR 12[12 buyer computer] --- 10[10 network] 14[14 merchant computer] --- 10 16[16 payment computer] --- 10 </pre> </div> <p>(Id., Fig. 1)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“The merchant computer then attempts to construct a payment order at 26 using the information it has gathered about the user. The buyer computer may have previously supplied certain credentials using fill</p>

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		<p>out forms or other account identification means such as providing the network address of the buyer computer in the normal course of communication. If the merchant computer is able to construct a complete payment order at 26 the payment order is sent to a payment computer for authorization at 27. If a payment order can be constructed, processing continues at 28.”</p> <p>(‘519 Application, Pg. 14, lines 9-18) (similarly, see Gifford, Col. 6, lines 3-13)</p> <p>“In either case, the flowchart continues in Figure 6 where the payment computer checks the authorization of the payment order at 28. If the payment system authorizes the request, an authorization message at 29 is returned to the buyer computer, and the merchant computer checks at 30 that the authorization message came from the payment computer using the authenticator mechanism described below. Assuming that the authorization message is valid, the merchant computer performs fulfillment at 30, returning the purchased product in response at 31.”</p> <p>(<i>Id.</i>, Pg. 16, lines 5-14) (similarly, see Gifford, Col. 6, lines 50-59)</p>
69	19. The method of claim 16, wherein a plurality of computing resources are used, each on a separate corporate network, and each operated by one of a plurality of different business entities.	<p><u>PAYNE:</u> Payne teaches having a merchant (first business entity with computing resources) avoid risk by allowing for a purchase transaction to be pre-approved or otherwise verified by the corporate entity making the payment (second business entity with its own computing resources) to the merchant:</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p>“The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer.”</p>

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		<p><i>(Id.</i>, Col. 7, lines 24-27)</p> <p>The disclosure of “sharing” between a merchant and the operator of the payment computer further implicitly or inherently discloses that the merchant is not the operator of the payment computer, and thus that they are separate entities.</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p>(’519 Application, Pg. 1, lines 19-22) (similarly, see Gifford, Col. 1, lines 20-24)</p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(<i>Id.</i>, Pg. 3, lines 11-14) (similarly, see Gifford, Col. 1, lines 63-66)</p> <p>“In existing credit card payment systems, a credit card's issuing bank takes on the fraud risk associated with misuse of the card when a merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments.”</p> <p>(<i>Id.</i>, Pg. 4, lines 8-23) (similarly, see Gifford, Col. 2, lines 16-32)</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
70	1. A method for providing a service over a digital network, the method comprising:	<p>- Ginter discloses a “virtual distribution environment” (VDE) which is a services-based, controls-based, objects-based, networks-based system for completing multi-party commercial transactions including on-line payments.</p> <p align="center"><u>Providing Commercial Services Over a Digital Network</u></p> <p>- Ginter discloses methods and systems for providing myriad commercial services over one or more digital networks forming a Virtual Distribution Environment (VDE). VDE is services-based (e.g., 73:46), objects-based, and controls-based. Ginter has more than 600 references to the word “service” (or variants) and identifies hundreds of different types of services, including services provided by VDE and services initiated externally to VDE. They include an unlimited range of on-line services such as Compuserve (e.g., 243:25, 279:47), legal research services such as LEXIS (272:50, 273:61), commercial database services, information delivery services, information clearinghouse services, credit-card, billing, and other financial services (including VISA, Mastercard and American Express services (229:8-13), audit services, certification services, CAD/CAM services, service-locator and information-locator services, software description list services, store-and-forward services, home banking services, advertising services, video production services, testing services, smart agent execution services, electronic negotiation services, VDE-control services including “services-based” VDE functions (e.g., 59:18, 70:65, 73:46, 87:6), and VDE system and infrastructure services, including network, channel, communication, database, backup, security, clearinghouse, object repository, and name services, etc. (E.g., 6:32, 25:43, 26:14, 27:16, 37:26, 40:64, 43:1, 44:60, 51:47, 52:48, 59:18, 70:65, 73:46, 87:6, 88:29-45, 91:27, 91:44, 94:7, 100:38, 115:65-116:48, 123:7-15, 126:8, 129:8, 132:41, 223:41, 229:7-13, 232:50, 239:38, 240:55, 241:4, 249:55, 252:39-60, 257:13-21, 264:43-45, 279:60, 280:3, 280:23, 314:44).</p> <p align="center"><u>Applications and Controls Providing Commercial Services</u></p> <p>- Ginter also discloses a wide range of applications and executable controls that are available to users to provide an unlimited array of services, including:</p> <p>- <u>VDE-Managed Conventional Applications</u>: real-time interactive games, teleconferencing or on-line bulletin boards (14:11), or databases or software applications which can be selected and licensed using VDE and then used to obtain data (e.g., actions in a game, communications</p>

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		<p>on a bulletin board) via communications managed by VDE, etc.</p> <p>- <u>VDE-Management Applications and Controls</u>: VDE “Rights Applications,” template applications, load modules, objects, containers, and component assemblies selected and used by a user to help define the controls governing use of other content (e.g., 286:24-51).</p> <p>- A few representative statements in Ginter describing these service-providing applications are below:</p> <p align="center"><u>VDE-Managed Conventional Applications</u></p> <ul style="list-style-type: none"> • “Information distributed using VDE may take many forms. ... This information may take many forms including: movies, audio recordings, games, electronic catalog shopping, multimedia, training materials, E-mail and personal documents, object oriented libraries, software programming resources, and reference/record keeping information resources (such as business, medical, legal, scientific, governmental, and consumer databases).” (7:42-53). • “Content providers who employ the present invention may include, for example, software application and game publishers, database publishers, cable, television, and radio broadcasters, electronic shopping vendors, and distributors of information in electronic document, book, periodical, e-mail and/or other forms.” (13:58-63). <p>- Executable programs obtained using VDE also may be run over the network using VDE:</p> <ul style="list-style-type: none"> • “VDE may also be used, for example, for multi-site ‘real-time’ interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-16). • “Traveling objects can travel “out-of-channel,” allowing, for example, a user to give a copy of a traveling object whose content is a software program, a movie or a game, to a neighbor” (24:50-56). • “Generally, content objects 880 include or provide information content. This “content” may be any sort of electronic

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		<p>information. For example, content may include: computer software, movies, books, music, information databases, multimedia information, virtual reality information, machine instructions, computer data files, communications messages and/or signals, and other information, at least a portion of which is used and/or manipulated by one or more electronic appliances. VDE 100 can also be configured for authenticating, controlling, and/or auditing electronic commercial transactions and communications such as inter-bank transactions, electronic purchasing communications, and the transmission of, auditing of, and secure commercial archiving of, electronically signed contracts and other legal documents; the information used for these transactions may also be termed "content." (131:59-132:8).</p> <ul style="list-style-type: none"> • "...program or a non-VDE aware application program. The content of the object created by an author in conjunction with such programs may include text, formatted text, pictures, moving pictures, sounds, computer software, multimedia, electronic games, electronic training materials, various types of files, and so on, without limitation." (255:33-38). <p align="center"><u>VDE-Management Applications and Controls</u></p> <p>- The executable controls created and used with VDE constitute "rights applications," which are transactional applications as they are used to perform and manage transactions:</p> <ul style="list-style-type: none"> • "VDE is a secure system for regulating electronic conduct and commerce. Regulation is ensured by control information put in place by one or more parties. These parties may include content providers, electronic hardware manufacturers, financial service providers, or electronic "infrastructure" companies such as cable or telecommunications companies. The control information implements "Rights Applications." Rights applications "run on" the "base software" of the preferred embodiment. This base software serves as a secure, flexible, general purpose foundation that can accommodate many different rights applications, that is, many different business models and their respective participant requirements." (6:28-40). • "A rights application under VDE is made up of special purpose pieces, each of which can correspond to one or more basic electronic processes needed for a rights protection

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		<p>environment. These processes can be combined together like building blocks to create electronic agreements that can protect the rights, and may enforce fulfillment of the obligations, of electronic information users and providers. One or more providers of electronic information can easily combine selected building blocks to create a rights application that is unique to a specific content distribution model. A group of these pieces can represent the capabilities needed to fulfill the agreement(s) between users and providers. These pieces accommodate many requirements of electronic commerce including:" (6:41-54).</p> <p>- These rights applications and other controls are user selectable as they are separate from the underlying VDE foundation software:</p> <ul style="list-style-type: none"> • "In a VDE, the separation between a rights application and its foundation permits the efficient selection of sets of control information that are appropriate for each of many different types of applications and uses. These control sets can reflect both rights of electronic community members, as well as obligations (such as providing a history of one's use of a product or paying taxes on one's electronic purchases). VDE flexibility allows its users to electronically implement and enforce common social and commercial ethics and practices. By providing a unified control system, the present invention supports a vast range of possible transaction related interests and concerns of individuals, communities, businesses, and governments. Due to its open design, VDE ..." (7:10-23). • "For example, the template concept may be used to provide individual, overall frameworks for organizations and individuals that create, modify, market, distribute, consume, and/or otherwise use movies, audio recordings and live performances, magazines, telephony based retail sales, catalogs, computer software, information data bases, multimedia, commercial communications, advertisements, market surveys, infomercials, games, CAD/CAM services for numerically controlled machines, and the like." (27:9-17). • "In order to provide a manageable user interface to the content available to VDE repository end users 3310 and to provide administrative information used in the determination of control information packaged in VDE content containers shipped to end users 3310, the repository in this example includes a content

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		<p>catalog 3322. ... In addition, the catalog may also indicate the forms of electronic agreement and/or agreement VDE template applications (offering optional, selectable control structures and/or one or more opportunities to provide related parameter data) that are available to end users 3310 through the repository for given pieces of content in deciding, for example, options and/or requirements for: what type(s) of information is recorded during such content's use, the charge for certain content usage activities, differences in charges based on whether or not certain usage information is recorded and/or made available to the repository and/or content provider, the redistribution rights associated with such content, the reporting frequency for audit transmissions, the forms of credit and/or currency that may be used to pay certain fees associated with use of such content, discounts related to certain volumes of usage, discounts available due to the presence of rights associated with other content from the same and/or different content providers, sales, etc. Furthermore, a VDE repository content catalog 3322 may indicate some or all of the component assemblies that are required in order to make use of content such that the end user's system and the repository can exchange messages to help ensure that any necessary VDE component assemblies or other VDE control information is identified, and if necessary and authorized, are delivered along with such content to the end user (rather than, for example, being requested later after their absence has been detected during a registration and/or use attempt).” (286:14-52).</p> <ul style="list-style-type: none"> • “In this example, if an end user does not have a relationship established with a financial provider (who has authorized the content providers whose content may be obtained through use of the repository to make use of their currency and/or credit to pay for any usage fees associated with such provider's content) and/or if an end user desires a new source of such credit, the end user may request credit from the repository clearinghouse system 3302B. If an end user is approved for credit, the repository may extend credit in the form of credit amounts (e.g. recorded in one or more UDEs) associated with a budget method managed by the repository. In this example, the clearinghouse of the repository supports a billing system with a paper system for resolving amounts owed through the mail, a credit card system for resolving amounts owed through charges to one or more credit cards, and an electronic funds transfer system for resolving such amounts

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		<p align="center">through direct debits to a bank account.” (288:43-67).</p> <p align="center"><u>The Claimed Steps Providing a Service Over a Network</u></p> <p>- As explained below, Ginter discloses at least seven categories of use scenarios (which are not mutually exclusive) performing the business method recited in this claim:</p> <ol style="list-style-type: none"> 1. <u>VDE Object Repositories</u>: Any end user’s VDE device (e.g., Figs. 7-8) is provided with the ability to select (e.g., Figs. 72B-72D) between various available objects (e.g., Figs. 5, 30-31), which selection activates various controls and causes communications with one or more VDE content repositories (first computer system) which in turn may communicate with other repositories and/or content or service providers (second computer system) which in turn may communicate directly or indirectly with the user device. (E.g., Figs. 78, 84 (Internet Repository 3404) and 86/86A). 2. <u>Other VDE Multi-Party Transactions</u>: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87,). 3. <u>VDE Display Unit</u>: Where a user’s display device has its own VDE protection, the remainder of the user’s available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE object repository or content provider or service provider qualify as a second computer system. (E.g., Figs. 7, 8, 70, 72B-72D).

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		<p>4. <u>VDE Docking Terminal</u>: Where the user's device docks with a business (e.g., retailer's or bank's) terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal's operator, such as any VDE object repository or content provider or service provider contacted as part of a transaction involving the user, qualify as a second computer system. (E.g., Figs. 7, 8, 71, 72B-72D).</p> <p>5. <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). "The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network." (222:40-47). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). (222:21-223:43; Fig. 8).</p> <p>6. <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems) (E.g., Figs. 72B-72D, 74).</p> <p>7. <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin board services disclosed in Ginter provide multi-site interaction and thus retrieves data from one or more other computer systems (both control data over the VDE network and data unique to the controlled content but still managed by VDE). (E.g., 14:9-14 ("VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.")).</p> <p align="center"><u>Fig. 78 VDE Object Repository Description</u></p> <p>- Ginter has a long and detailed disclosure of its VDE object repository, including the following excerpt which is quoted at length here (and incorporated by reference throughout this claim chart) as it helps put in context some of the other VDE disclosures referenced in this claim chart:</p>

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		<ul style="list-style-type: none"> • “Example--VDE Protected Content Repository <p>As the "Digital Highway" emerges, there is increased discussion concerning the distribution of content across networks and, in particular, public networks such as the Internet. Content may be made available across public networks in several ways including:</p> <p>"mailing" content to a user in response to a request or advance purchase (sending a token representing the commitment of electronic funds or credit to purchase an item);</p> <p>supporting content downloadable from an organization's own content repository, such a repository comprising, for example, a store of products (such as software programs) and/or a store of information resources, normally organized into one or more databases; and</p> <p>supporting a public repository into which other parties can deposit their products for redistribution to customers (normally by making electronic copies for distribution to a customer in response to a request).</p> <p>One possible arrangement of VDE nodes involves use of one or more "repositories." A repository, for example, may serve as a location from which VDE participants may retrieve VDE content containers. In this case, VDE users may make use of a network to gain access to a "server" system that allows one or more VDE users to access an object repository containing VDE content containers.</p> <p>Some VDE participants may create or provide content and/or VDE content container objects, and then store content and/or content objects at a repository so that other participants may access such content from a known and/or efficiently organized (for retrieval) location. For example, a VDE repository (portion of a VDE repository, multiple VDE Object Repositories, and/or providers of content to such repositories) may advertise the availability of certain types of VDE protected content by sending out email to a list of network users. If the network users have secure VDE subsystems in their electronic appliances, they may then choose to access such a repository directly, or through one or more smart agents and, using an application program for example, browse (and/or electronically search)</p>

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		<p>through the offerings of VDE managed content available at the repository, download desirable VDE content containers, and make use of such containers. If the repository is successful in attracting users who have an interest in such content, VDE content providers may determine that such a repository is a desirable location(s) to make their content available for easy access by users. If a repository, such as CompuServe, stores content in non-encrypted (plaintext) form, it may encrypt "outgoing" content on an "as needed" basis through placing such content in VDE content containers with desired control information, and may employ VDE secure communications techniques for content communication to VDE participants.</p> <p>VDE Object Repositories may also offer other VDE services. For example, a repository may choose to offer financial services in the form of credit from the repository that may be used to pay fees associated with use of VDE objects obtained from the repository. Alternatively or in addition, a VDE repository may perform audit information clearinghouse services on behalf of VDE creators or other participants (e.g. distributors, redistributors, client administrators, etc.) for usage information reported by VDE users. Such services may include analyzing such usage information, creating reports, collecting payments, etc.</p> <p>...</p> <p>A public repository system may be established and maintained as a non-profit or for-profit service. An organization offering the service may charge a service fee, for example, on a per transaction basis and/or as a percentage of the payments by, and/or cost of, the content to users. A repository service may supply VDE authoring tools to content creators, publishers, distributors, and/or value adding providers such that they may apply rules and controls that define some or all of the guidelines managing use of their content and so that they may place such content into VDE content container objects.</p> <p>A repository may be maintained at one location or may be distributed across a variety of electronic appliances, such as a variety of servers (e.g. video servers, etc.) which may be at different locations but nonetheless constitute a single resource. A VDE repository arrangement may employ VDE secure communications and VDE node secure subsystems ("protected processing environments"). The content comprising a given collection or unit of information desired by a user may be</p>

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		<p>spread across a variety of physical locations. For example, content representing a company's closing stock price and the activity (bids, lows, highs, etc.) for the stock might be located at a World Wide Web server in New York, and content representing an analysis of the company (such as a discussions of the company's history, personnel, products, markets, and/or competitors) might be located on a server in Dallas. The content might be stored using VDE mechanisms to secure and audit use. The content might be maintained in clear form if sufficient other forms of security are available at such one or more of sites (e.g. physical security, password, protected operating system, data encryption, or other techniques adequate for a certain content type). In the latter instances, content may be at least in part encrypted and placed in VDE containers as it streams out of a repository so as to enable secure communication and subsequent VDE usage control and usage consequence management.</p> <p>A user might request information related to such a company including stock and other information. This request might, for example, be routed first through a directory or a more sophisticated database arrangement located in Boston. This arrangement might contain pointers to, and retrieve content from, both the New York and Dallas repositories. This information content may, for example, be routed directly to the user in two containers (e.g. such as a VDE content container object from Dallas and a VDE content container object from New York). These two containers may form two VDE objects within a single VDE container (which may contain two content objects containing the respective pieces of content from Dallas and New York) when processed by the user's electronic appliance. Alternatively, such objects might be integrated together to form a single VDE container in Boston so that the information can be delivered to the user within a single container to simplify registration and control at the user's site. The information content from both locations may be stored as separate information objects or they may be joined into a single, integrated information object (certain fields and/or categories in an information form or template may be filled in by one resource and other fields and/or categories may be filled by information provided by a different resource). A distributed database may manage such a distributed repository resource environment and use VDE to secure the storing, communicating, auditing, and/or use of information through</p>

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		<p>VDE's electronic enforcement of VDE controls. VDE may then be used to provide both consistent content containers and content control services.</p> <p>An example of one possible repository arrangement 3300 is shown in FIG. 78. In this example, a repository 3302 is connected to a network 3304 that allows authors 3306A, 3306B, 3306C, and 3306D; a publisher 3308; and one or more end users 3310 to communicate with the repository 3302 and with each other. A second network 3312 allows the publisher 3308, authors 3306E and 3306F, an editor 3314, and a librarian 3316 to communicate with each other and with a local repository 3318. The publisher 3308 is also directly connected to author 3306E. In this example, the authors 3306 and publisher 3308 connect to the repository 3302 in order to place their content into an environment in which end users 3310 will be able to gain access to a broad selection of content from a common location.</p> <p>In this example, the repository has two major functional areas: a content system 3302A and a clearinghouse system 3302B. The content system 3302A is comprised of a user/author registration system 3320, a content catalog 3322, a search mechanism 3324, content storage 3326, content references 3328, and a shipping system 3330 comprised of a controls packager 3322, a container packager 3334, and a transaction system 3336. The clearinghouse system 3302B is comprised of a user/author registration system 3338; template libraries 3340; a control structure library 3342; a disbursement system 3344; an authorization system 3346 comprised of a financial system 3348 and a content system 3350; a billing system 3352 comprised of a paper system 3354, a credit card system 3356, and an electronic funds transfer (EFT) system 3358; and an audit system 3360 comprised of a receipt system 3362, a response system 3364, a transaction system 3366, and an analysis system 3368." (279:5-281:53).</p>
70	sending first display information from a first	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being part of the first computer system. This claim does not require that the display information be sent directly from the first computer system to the user device; i.e., it may be sent</i></p>

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	<p>computer system to a user device,</p>	<p><i>indirectly via some other system or device. The claim does not require that the "display information" be displayed by the user device.¹</i></p> <p align="center"><u>User Device</u></p> <p>- Ginter discloses a wide range of VDE user devices for accessing VDE services and VDE-managed services, including all sorts of computers and other electronic appliances:</p> <ul style="list-style-type: none"> • “‘Rights operating system’ 602 in this example can work with many different types of appliances 600. For example, it can work with large mainframe computers, "minicomputers" and "microcomputers" such as personal computers and portable computing devices. It can also work in control boxes on the top of television sets, small portable "pagers," desktop radios, stereo sound systems, telephones, telephone switches, or any other electronic appliance.” (59:5-13; see also 4:60, 32:59-63, 251:61-67, Fig. 7 (“electronic appliance 600), Fig. 8 (600), Fig. 70, Fig. 71). • “FIG. 7 shows an example of an electronic appliance 600 including SPU 500. Electronic appliance 600 may be practically any kind of electrical or electronic device, such as: a computer a T.V. "set top" control box a pager a telephone a sound system a video reproduction system a video game player a "smart" credit card <p>Electronic appliance 600 in this example may include a keyboard or keypad 612, a voice recognizer 613, and a display 614. A human user can input commands through keyboard 612 and/or voice recognizer 613, and may view information on display 614. Appliance 600 may communicate with the outside</p>

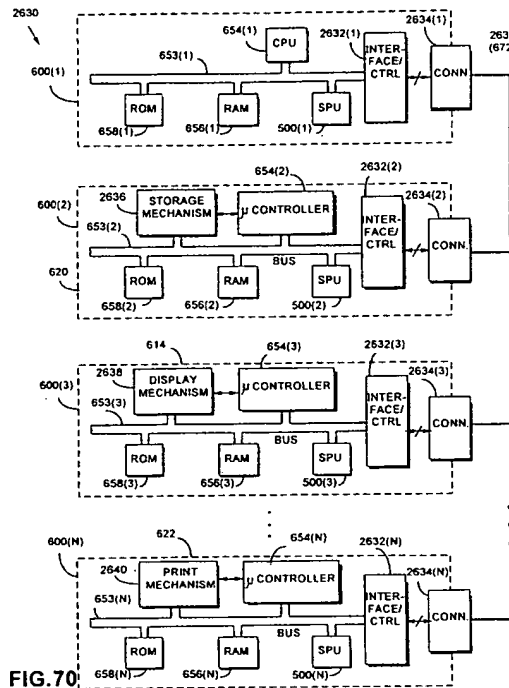
¹ Where appropriate, Requester has included in this Appendix notes on claim construction that Requester believes are consistent with the broadest reasonable interpretation standard afforded claims during reexamination. The cited prior art either anticipates or renders obvious each claim (*see* specific SNQs in Section IV of the Request), even if the claims are read more narrowly than Requester has proposed. Requester does not admit that any interpretations of any of the claims or constructions of claim terms that may be set forth herein would also be proper in the Litigations or in other court proceedings that do not apply the “broadest reasonable interpretation” standard applied during reexamination. See MPEP § 2258.I.G.

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		<p>world through any of the connections devices normally used within an electronic appliance.” (58:13-32).</p> <p>- Ginter discloses user devices having displays, such as televisions or VDE-protected monitors, connected to other user devices running VDE, such as set-top TV or cable control boxes or video-game player or VDE-protected processing units. (See 32:59-63, 58:13-32, 59:5-13, 251:61-67; Fig. 70).</p> <p>- Ginter discloses that a display monitor itself (e.g., display 600(3) in Fig. 70) can be a separate VDE-protected device:</p> <ul style="list-style-type: none"> • “Various security and/or performance advantages may be realized by employing a distributed VDE design within a single VDE installation. For example, designing a hardware based VDE secure subsystem into an electronic appliance VDE display device, and designing said subsystem's integration with said display device so that it is as close as possible to the point of display, will increase the security for video materials by making it materially more difficult to "steal" decrypted video information as it moves from outside to inside the video system. Ideally, for example, a VDE secure hardware module would be in the same physical package as the actual display monitor, such as within the packaging of a video monitor or other display device, and such device would be designed, to the extent commercially practical, to be as tamper resistant as reasonable.” (38:6-19; see also 224:46-62, Fig. 70 (600(3))).

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Sending Display Information (With Control (see element # 72 below))
From First Computer System to User Device

- For each of the above seven use scenario categories, Ginter discloses a first computer system sending a user device display information with a control.

- VDE Object Repositories: Any end user's VDE device (Figs. 7-8) is provided with selections of objects (Figs. 5, 30-31) leading it to communicate with one or more VDE content repositories (first computer system) which in turn communicates with other repositories and/or content or service providers (second computer system). (See Figs. 72B-72D; 78, 84 (Internet Repository 3404) and 86/86A, 286:14-52, 288:43-289:5.).

- “The clearinghouse may, in addition or alternatively, send an administrative object to the end user's electronic appliance 600 that instructs the electronic appliance to display one or more messages to the user. These messages may inform the user about certain conditions and/or they may request additional information from the user. For example, the message may instruct the end user to contact the clearinghouse directly by telephone or otherwise to resolve an indicated problem, enter a PIN, or it may instruct the user to contact a new service

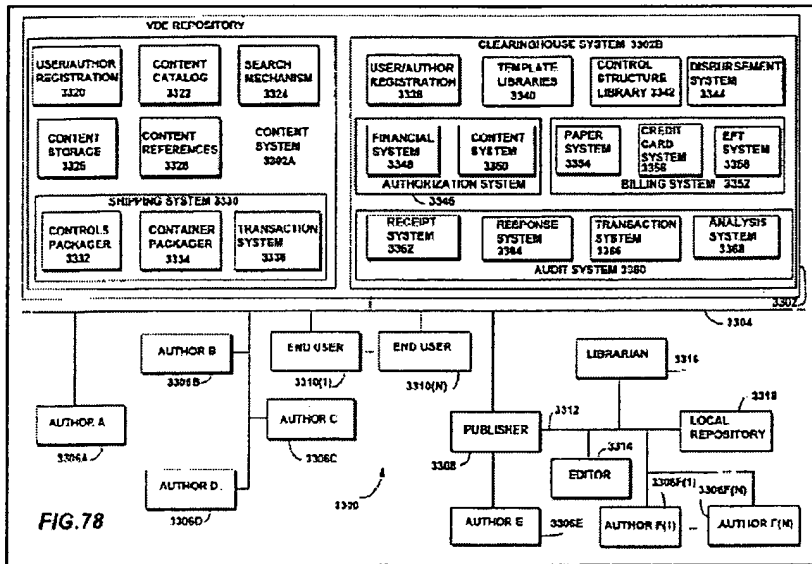
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		<p>company to re-register the associated VDE object. Alternatively, the message may tell the end user that she needs to acquire new usage permissions for the object, and may inform the user of cost, status and other associated information.” (160:18-31).</p> <p>- In the following example, the user first is provided with a choice between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select:</p> <ul style="list-style-type: none"> • “Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog.” (236:60-237:6). <p>- The VDE repository (which could be CompuServe (279:49)) itself can be a commercial service that may charge a fee. (280:25). The repository of Fig. 78 may be distributed, e.g., among repositories in Dallas, New York, and Boston, and controlled by a distributed database. (280:34-281:22). E.g., the user/author registration system 3320 (which sends the author a request to register (281:59-282:2), user templates (282:32) and authoring software (283:3) and one or more component assemblies for user to select (283:30) for registering author's content with the repository.</p> <p>- The VDE object repository may be the network server for a Local Area Network. (See, e.g., 223:4-25; Fig. 8).</p> <p>- Ginter Figs. 86 and 86A show content creator 102 communicating content and controls for VDE transactions with (1) corporate content repository 702 inside of corporation 700 (see 313:57-314:24), (2) users 112a, 112b, and 112c outside of that corporation (see 312:22-52) (and possibly requiring them to deal with other parties to complete a</p>

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transaction (see 312:49-52), (3) commercial content repository 200g (312:53-313:15), and (4) users 112d, 112e, and 112f via commercial content repository 200g. Corporation 700 has two repositories, and user 112g gets permissions at repository 704 and content at repository 702. (314:10-24).



- Other VDE Multi-Party Transactions: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87). E.g., VDE administrator provides VDE services from independent financial clearinghouse 116a. (254:7-31).

- “user might be given the choice of a variety of meter/billing methods, such as: payment by VISA or MasterCard; choosing between billing based upon the quantity of material retrieved from an information database, based on the time of

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		<p>use, and/or both. The user might be offered a discount on time and/or quantity billing if he is willing to allow certain details concerning his retrieval of content to be provided to third parties (e.g., for demographic purposes)." (157:28-36).</p> <p>- <u>VDE Display Unit</u>: Where a user's display device has its own VDE protection, the remainder of the user's available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE repository or content provider or service provider qualify as second computer system. (See Figs. 7, 8, 70, 72B-72D).</p> <p>- <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). E.g.:</p> <ul style="list-style-type: none"> • "Networking SPUs 500 and/or VDE Electronic Appliances 600 In the context of many computers interconnected by a local or wide area network, it would be possible for one or a few of them to be VDE electronic appliances 600. For example, a VDE-capable server might include one or more SPUs 500. This centralized VDE server could provide all VDE services required within the network or it can share VDE service with VDE server nodes; that is, it can perform a few, some, or most VDE service activities. For example, a user's non-VDE computer could issue a request over the network for VDE-protected content. In response to the request, the VDE server could comply by accessing the appropriate VDE object 300, releasing the requested content and delivering the content over the network 672 to the requesting user. Such an arrangement would allow VDE capabilities to be easily integrated into existing networks without requiring modification or replacement of the various computers and other devices connected to the networks. <p>For example, a VDE server having one or more protected processing environments 650 could communicate over a network with workstations that do not have a protected processing environment. The VDE server could perform all secure VDE processing, and release resulting content and</p>

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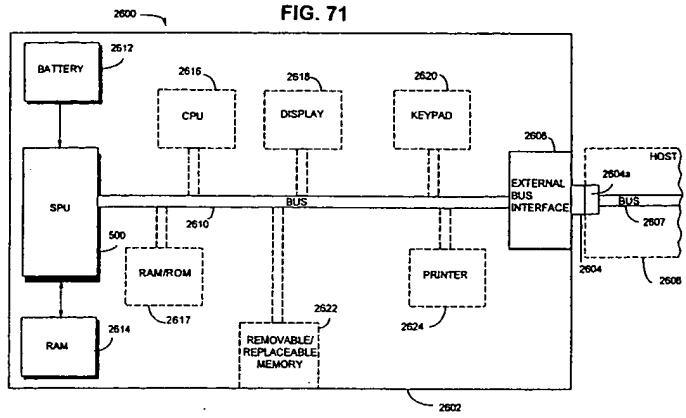
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		<p>other information to the workstations on the network. This arrangement would require no hardware or software modification to the workstations. ...</p> <p>As discussed above in connection with FIG. 8, multiple VDE electronic appliances 600 may communicate with one another over a network 672 or other communications path. Such networking of VDE electronic appliances 600 can provide advantages. Advantages include, for example, the possibility of centralizing VDE resources, storing and/or archiving metering information on a server VDE and delivering information and services efficiently across the network 672 to multiple electronic appliances 600.</p> <p>For example, in a local area network topology, a "VDE server" electronic appliance 600 could store VDE-protected information and make it available to one or more additional electronic appliances 600 or computers that may communicate with the server over network 672. As one example, an object repository 728 storing VDE objects could be maintained at the centralized server, and each of many networked electronic appliance 600 users could access the centralized object repository over the network 672 as needed. When a user needs to access a particular VDE object 300, her electronic appliance 600 could issue a request over network 672 to obtain a copy of the object. The "VDE server" could deliver all or a portion of the requested object 300 in response to the request. Providing such a centralized object repository 728 would have the advantage of minimizing mass storage requirements local to each electronic appliance 600 connected to the network 672, eliminate redundant copies of the same information, ease information management burdens, provide additional physical and/or other security for particularly important VDE processes and/or information occurring at the server, where providing such security at VDE nodes may be commercially impractical for certain business models, etc.</p> <p>It may also be desirable to centralize secure database 610 in a local area network topology. For example, in the context of a local area network, a secure database 610 server could be provided at a centralized location. Each of several electronic appliances 600 connected to a local area network 672 could issue requests for secure database 610 records over the network, and receive those records via the network. The</p>

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		<p>records could be provided over the network in encrypted form. "Keys" needed to decrypt the records could be shared by transmitting them across the network in secure communication exchanges. Centralizing secure database 610 in a network 672 has potential advantages of minimizing or eliminating secondary storage and/or other memory requirements for each of the networked electronic appliances 600, avoiding redundant information storage, allowing centralized backup services to be provided, easing information management burdens, etc." (222:21-223:43; Fig. 8).</p> <p>- <u>VDE Docking Terminal</u>: Where the user's device docks with a retailer's or bank's terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal's operator, such as any VDE repository or content provider or service provider qualify as second computer system. (See Figs. 7, 8, 71, 72B-72D).</p> <p>- Ginter discloses use of portable electronic appliances, either as a standalone user device or to be connected to a separate host system device, such as a computer or television or video arcade game:</p> <ul style="list-style-type: none"> • "Portable Electronic Appliance: Electronic appliance 600 provided by the present invention may be portable. FIG. 71 shows one example of a portable electronic appliance 2600. Portable appliance 2600 may include a portable housing 2602 that may be about the size of a credit card in one example. Housing 2602 may connect to the outside world through, for example, an electrical connector 2604 having one or more electrical contact pins (not shown). Connector 2604 may electrically connect an external bus interface 2606 internal to housing 2602 to a mating connector 2604a of a host system 2608. External bus interface 2606 may, for example, comprise a PCMCIA (or other standard) bus interface to allow portable appliance 2600 to interface with and communicate over a bus 2607 of host system 2608. Host 2608 may, for example, be almost any device imaginable, such as a computer, a pay telephone, another VDE electronic appliance 600, a television, an arcade video game, or a washing machine, to name a few examples." (226:46-63; see generally 226:44-235:7 (describing myriad uses for VDE portable appliances and their host appliances)).

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- For example, the user device may be a portable transaction card (e.g., smart card) or portable appliance (with display (Fig. 71)) that docks with an electronic appliance, such as a retail establishment's or bank's (228:45) terminal with a docking station (first computer system) or host's portable device (231:49-51), which in turn has an on-line connection to a financial clearinghouse and/or merchant and/or government organization (second computer system), to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71).

- These portable user devices may have their own "display devices." (228:10; Fig. 71). Portable electronic appliance's "Display 2618 may be used to display information from SPU 500, CPU 2616 and/or host 2608." (228:20-21).

- In one example, the user's portable electronic appliance temporarily docks with a retail establishment's VDE appliance for purposes of conducting a two-way retail transaction via communication with either the retailer's app:

- "In one embodiment, the **portable appliance 2600** could support secure (in this instance encrypted and/or authenticated) **two-way communications with a retail terminal which may contain a VDE electronic appliance 600 or communicate with a retailer's or third party provider's VDE electronic appliance 600**. During such a secure two-way communication between, for example, each participant's secure VDE subsystem, portable appliance 2600 VDE secure subsystem may provide

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		<p>authentication and appropriate credit or debit card information to the retail terminal VDE secure subsystem. During the same or different communication session, the terminal could similarly, securely communicate back to the portable appliance 2600 VDE secure subsystem details as to the retail transaction (for example, what was purchased and price, the retail establishment's digital signature, the retail terminal's identifier, tax related information, etc.).” (230:22-39).</p> <p>- The host terminal may be menu driven, allowing the user to select the type of transaction desired:</p> <ul style="list-style-type: none"> • “Retail, clearinghouse, or other commercial organizations may maintain and use by securely communicating to appliance 2600 one or more of generic classifications of transaction types (for example, as specified by government taxation rules) that can be used to automate the parsing of information into records and/or for database information "roll-ups" for; and/or in portable appliance 2600 or one or more associated VDE nodes. In such instances, host 2608 may comprise an auxiliary terminal, for example, or it could comprise or be incorporated directly within a commercial establishments cash registers or other retail transactions devices. The auxiliary terminal could be menu and/or icon driven, and allow very easy user selection of categorization. It could also provide templates, based on transaction type, that could guide the user through specifying useful or required transaction specific information (for example, purpose for a business dinner and/or who attended the dinner). For example, a user might select a business icon, then select from travel, sales, meals, administration, or purchasing icons for example, and then might enter in very specific information and/or a key word, or other code that might cause the downloading of a transaction's detail into the portable appliance 2600. This information might also be stored by the commercial establishment, and might also be communicated to the appropriate government and/or business organizations for validation of the reported transactions” (230:66-231:24). <p>- The retailer’s auxiliary terminal (first computer system) to which the user’s portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction:</p> <ul style="list-style-type: none"> • “In a retail establishment, the auxiliary terminal host 2608 might

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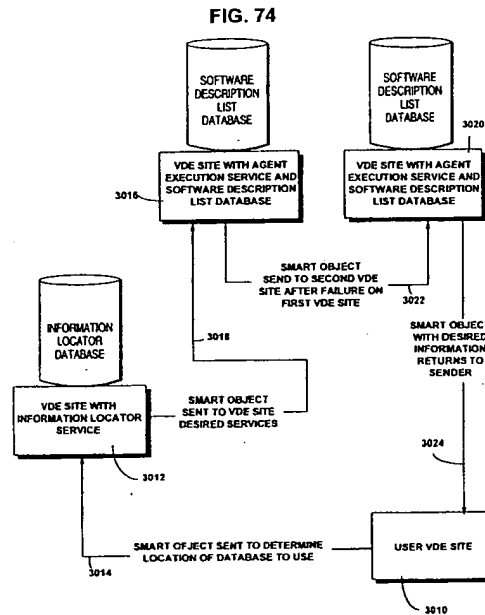
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		<p>take the form of a portable device presented to the user, for example at the end of a meal. The user might place his portable appliance 2600 into a smart card receptacle such as a PCMCIA slot, and then enter whatever additional information that might appropriately describe the transaction as well as satisfying whatever electronic appliance 600 identification procedure(s) required. The transaction, given the availability of sufficient credit, would be approved, and transaction related information would then be communicated back from the auxiliary terminal directly into the portable appliance 2600. This would be a highly convenient mode of credit usage and record management. The portable device auxiliary terminal might be "on-line," that is electronically communicating back to a commercial establishment and/or third party information collection point through the use of cellular, satellite, radio frequency, or other communications means. The auxiliary terminal might, after a check by a commercial party in response to receipt of certain identification information at the collection point, communicate back to the auxiliary terminal whether or not to accept the portable appliance 2600 based on other information, such as a bad credit record or a stolen portable appliance 2600. Such a portable auxiliary terminal would also be very useful at other commercial establishments, for example at gasoline stations, rental car return areas, street and stadium vendors, bars, and other commercial establishments where efficiency would be optimized by allowing clerks and other personnel to consummate transactions at points other than traditional cash register locations." (231:49-232:11).</p> <p>- The portable appliance may communicate with a VDE administrator during the same session to get approval for the transaction. (232:12-38).</p> <p>- <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems) (Figs. 72B-72D, 74).</p> <p>- Ginter discloses the use of "smart objects" to locate and retrieve data from remote databases:</p> <ul style="list-style-type: none"> • "...provide smart object agents that can carry requests, data, and/or methods, including budgets, authorizations, credit or currency, and content. For example, smart objects may travel to and/or from remote information resource locations and fulfill

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requests for electronic information content. Smart objects can, for example, be transmitted to a remote location to perform a specified database search on behalf of a user or otherwise "intelligently" search remote one or more repositories of information for user desired information. After identifying desired information at one or more remote locations, by for example, performing one or more database searches, a smart object may return via communication to the user in the form of a secure "return object" containing retrieved information. A user may be charged for the remote..." (37:3-17, 237:8-24; see Figs. 73-74).

- "Research can be automatically managed using VDE. Smart objects can be, used to securely search out, pay for if necessary, and retrieve information from VDE enabled information resources on the information highway. Examples of such resources might include LEXIS, Westlaw, and other related legal databases. Once the information is retrieved, it may be securely embedded in the VDE content client container." (273:57-64)



- Interactive N-Party Applications: The interactive VDE-controlled games, teleconferencing and bulletin boards disclosed in Ginter provides multi-site interaction and thus retrieves data (both control data over the VDE network and data unique to the controlled content but still managed by VDE) from one or more other computer systems. (E.g.,

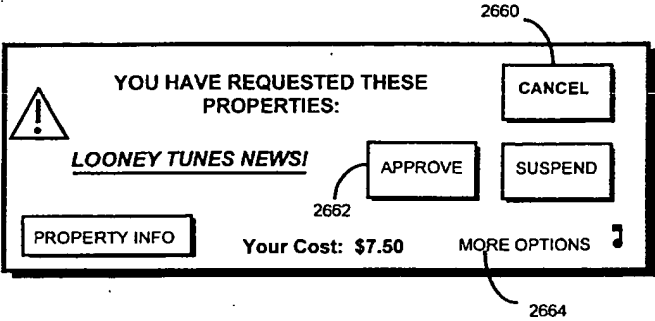
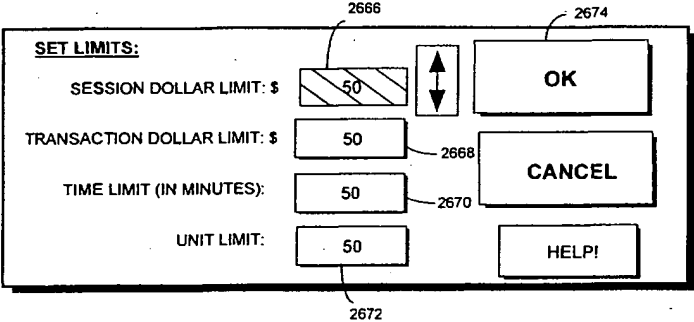
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		14:9-14 (“VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced. ”)).
71	wherein the first display information includes a control associated with a commercial service;	<p><i>Claim Construction Note (Broadly Construed): The claim does not require that the control itself be displayed. The control may be associated with more than one commercial service. The “commercial service” recited in this claim element need not be a commercial service listed in a later step (element 80) of this claim.</i></p> <p align="center"><u>A Control Associated with a Commercial Service</u></p> <p>- At the heart of Günter’s VDE system are “controls” (also called “rules” and “control structures”) created by VDE users, using other VDE controls, and then used by VDE to control the same or other users’ use of VDE-protected objects and services. The word “control” (or variants) appears 1,939 times in Ginter (including 1,640 instances of the word “control” and 115 instances of “controls”). Figs. 5A and 5B hint at the wide variety of controls that are associated with any VDE object. (See generally 54:22-55:13, 56:31-57:29, 81:10-85:32, 124:65-126:63, Figs. 30-31). E.g.:</p> <ul style="list-style-type: none"> • “A rights application under VDE is made up of special purpose pieces, each of which can correspond to one or more basic electronic processes needed for a rights protection environment. These processes can be combined together like building blocks to create electronic agreements that can protect the rights, and may enforce fulfillment of the obligations, of electronic information users and providers. One or more providers of electronic information can easily combine selected building blocks to create a rights application that is unique to a specific content distribution model. A group of these pieces can represent the capabilities needed to fulfill the agreement(s) between users and providers. These pieces accommodate many requirements of electronic commerce including:...” (6:41-54). • “For example, the template concept may be used to provide individual, overall frameworks for organizations and individuals that create, modify, market, distribute, consume, and/or otherwise use movies, audio recordings and live performances, magazines, telephony based retail sales, catalogs, computer software, information data bases, multimedia, commercial communications, advertisements, market surveys, infomercials,

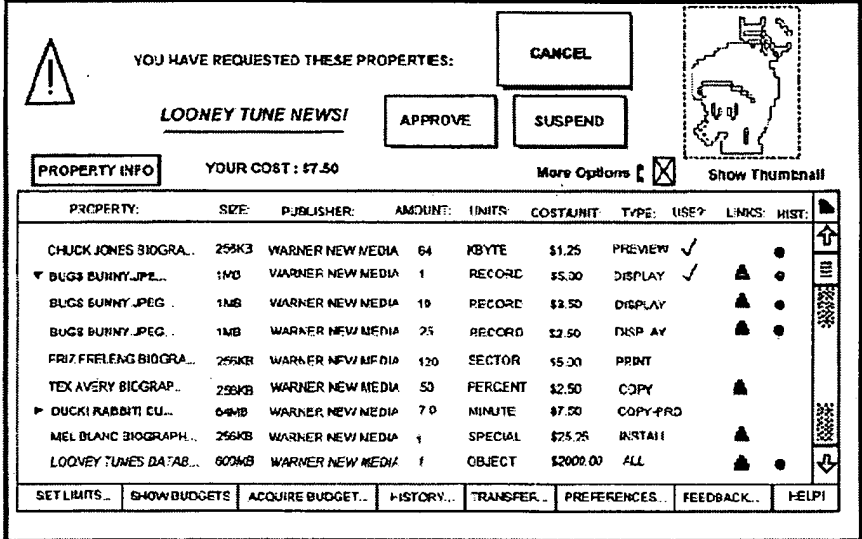
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		<p>games, CAD/CAM services for numerically controlled machines, and the like.” (27:9-17).</p> <p align="center">FIG. 5B</p> <p>- Every control mentioned in Ginter is associated with a commercial service. VDE itself is a commercial service, providing transaction management, control, security, auditing, and other related services. Many VDE controls are also associated with some third-party commercial service as well, such as the providers or distributors or clearinghouses of VDE-protected content, including independent financial services providers. (See generally Figs. 1-2, 77-87).</p> <p align="center"><u>Display Information Including a Control</u></p> <p>- Most of the controls disclosed in Ginter are activated by users entering requests via a user device in response to displayed information communicated via VDE from elsewhere. For example, Ginter discloses in connection with Figs. 72B-72D displaying various content and action choices to a user, and the user’s selection of any of those choices activates one or more “controls” associated with the user’s selection. Examples of controls include transaction limits as shown in Figs. 72B, 72C, and any of the types of controls identified in Figs. 5A/5B (and/or at 54:22-55:13, 56:31-57:29, 81:10-85:32, 124:65-126:63) can be associated with any of the content objects shown in Fig. 72D. A user selecting any object (e.g., any listed in Fig. 72D), begins a path of execution of multiple controls, typically involving multiple parties.</p>

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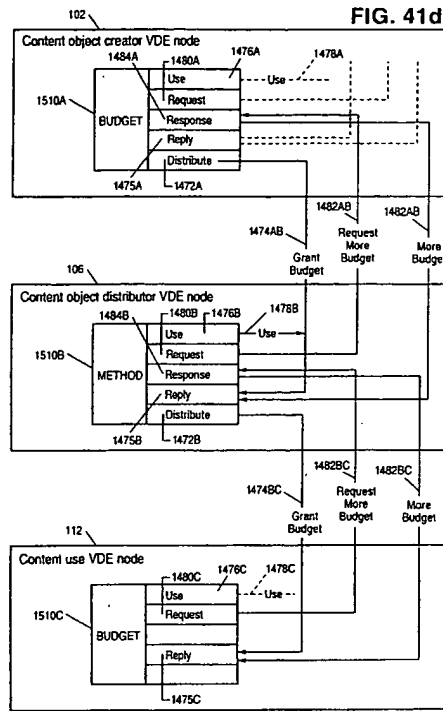
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		<p style="text-align: center;">FIG. 72B</p>  <p style="text-align: center;">FIG. 72C</p> 

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		<p align="center">FIG. 72D</p>  <p align="center">YOU HAVE REQUESTED THESE PROPERTIES:</p> <p align="center">LOONEY TUNE NEWSI</p> <p align="center">YOUR COST: \$7.50</p> <p align="center">More Options <input checked="" type="checkbox"/> Show Thumbnail</p> <table border="1"> <thead> <tr> <th>PROPERTY:</th> <th>SIZE:</th> <th>PUBLISHER:</th> <th>AMOUNT:</th> <th>UNITS:</th> <th>COST/UNIT:</th> <th>TYPE:</th> <th>USE?</th> <th>LINKS:</th> <th>HIST:</th> </tr> </thead> <tbody> <tr> <td>CHUCK JONES BIOGRA...</td> <td>256KB</td> <td>WARNER NEW MEDIA</td> <td>64</td> <td>KBYTE</td> <td>\$1.25</td> <td>PREVIEW</td> <td>✓</td> <td>●</td> <td>●</td> </tr> <tr> <td>▼ BUGS BUNNY.JPE...</td> <td>1MB</td> <td>WARNER NEW MEDIA</td> <td>1</td> <td>RECORD</td> <td>\$5.00</td> <td>DISPLAY</td> <td>✓</td> <td>▲</td> <td>●</td> </tr> <tr> <td>BUGS BUNNY.JPEG</td> <td>1MB</td> <td>WARNER NEW MEDIA</td> <td>10</td> <td>RECORD</td> <td>\$2.50</td> <td>DISPLAY</td> <td></td> <td>▲</td> <td>●</td> </tr> <tr> <td>BUGS BUNNY.JPEG</td> <td>1MB</td> <td>WARNER NEW MEDIA</td> <td>25</td> <td>RECORD</td> <td>\$2.50</td> <td>DISP AY</td> <td></td> <td>▲</td> <td>●</td> </tr> <tr> <td>FRIZ FRELENG BIOGRA...</td> <td>256KB</td> <td>WARNER NEW MEDIA</td> <td>120</td> <td>SECTOR</td> <td>\$5.00</td> <td>PRINT</td> <td></td> <td></td> <td></td> </tr> <tr> <td>TEK AVERY BIOGRAP...</td> <td>256KB</td> <td>WARNER NEW MEDIA</td> <td>50</td> <td>PERCENT</td> <td>\$2.50</td> <td>COPY</td> <td></td> <td>▲</td> <td></td> </tr> <tr> <td>▶ DUCKI RABBITI CU...</td> <td>64MB</td> <td>WARNER NEW MEDIA</td> <td>70</td> <td>MINUTE</td> <td>\$7.50</td> <td>COPY-PRO</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MEL BLANC BIOGRAPH...</td> <td>256KB</td> <td>WARNER NEW MEDIA</td> <td>1</td> <td>SPECIAL</td> <td>\$75.25</td> <td>INSTAN</td> <td></td> <td>▲</td> <td></td> </tr> <tr> <td>LOONEY TUNES DATA...</td> <td>600MB</td> <td>WARNER NEW MEDIA</td> <td>1</td> <td>OBJECT</td> <td>\$2009.00</td> <td>ALL</td> <td></td> <td>▲</td> <td>●</td> </tr> </tbody> </table> <p>SET LIMITS... SHOW BUDGETS ACQUIRE BUDGET... HISTORY... TRANSFER... PREFERENCES... FEEDBACK... HELP!</p>	PROPERTY:	SIZE:	PUBLISHER:	AMOUNT:	UNITS:	COST/UNIT:	TYPE:	USE?	LINKS:	HIST:	CHUCK JONES BIOGRA...	256KB	WARNER NEW MEDIA	64	KBYTE	\$1.25	PREVIEW	✓	●	●	▼ BUGS BUNNY.JPE...	1MB	WARNER NEW MEDIA	1	RECORD	\$5.00	DISPLAY	✓	▲	●	BUGS BUNNY.JPEG	1MB	WARNER NEW MEDIA	10	RECORD	\$2.50	DISPLAY		▲	●	BUGS BUNNY.JPEG	1MB	WARNER NEW MEDIA	25	RECORD	\$2.50	DISP AY		▲	●	FRIZ FRELENG BIOGRA...	256KB	WARNER NEW MEDIA	120	SECTOR	\$5.00	PRINT				TEK AVERY BIOGRAP...	256KB	WARNER NEW MEDIA	50	PERCENT	\$2.50	COPY		▲		▶ DUCKI RABBITI CU...	64MB	WARNER NEW MEDIA	70	MINUTE	\$7.50	COPY-PRO				MEL BLANC BIOGRAPH...	256KB	WARNER NEW MEDIA	1	SPECIAL	\$75.25	INSTAN		▲		LOONEY TUNES DATA...	600MB	WARNER NEW MEDIA	1	OBJECT	\$2009.00	ALL		▲	●
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		<p>- Each item of content identified in Fig. 72D, for example, is protected by an object's VDE controls protecting that content (see Figs. 5, 30-31). When a user requests to use ("consumc") such VDE-protected objects, that constitutes a request to register for the object (Fig. 43), or open it (Fig. 49), or read it (Fig. 50), or access it (Fig. 54)—all of which activate multiple VDE-controlled transactions such as executing a "meter method," "billing method," and "budget method" (see Figs. 3, 45-48). These transactions often involve three or more separate parties (and their separate computing systems) to the transaction, and often involve communications over each of three legs of a communication triangle (i.e., a user of content communicates with two different sources of content, and those two sources also communicate) all as part of a transaction. (See Figs. 41a-41d, 72B-72D, 77, 79, 87). E.g. (see 168:61-172:54):</p>																																																																																																				

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- VDE management transactions rely on VDE controls including VDE Rights Applications and executable “components” thereof (e.g., component assemblies and load modules)) and/or VDE Application Templates. (E.g., 4:25, 4:42, 5:7, 6:28-54, 7:8, 7:57, 40:14, 40:64, 132:4, 147:67, 177:56, 178:1). These user-selectable controls are separate from the underlying VDE foundation software. (E.g., 7:10-23, 27:9-17, 286:14-52, 288:43-289:5).

- Ginter discloses myriad ways in which VDE sites may send menus of selections or other such display information to a user device so that the user can select or choose objects or controls. E.g., a user may select from a list of resource locations or classes, which choice automatically connects the user to a remote source where the user is presented with browsing interface with choices of objects:

- “Other important “pop-up” user interface 686 functions include **dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an**

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		<p>electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:7, Fig. 72D).</p> <p>- Various VDE methods invoked when a user seeks to consume VDE-protected content send options to be displayed on the display of a user's electronic appliance, from which the user selects to control the desired transaction. For example, REGISTER method displays "registration options from method options":</p> <ul style="list-style-type: none"> • "The steps shown in FIG. 43a may be, for example, performed at a user VDE node in response to some action by or on behalf of the user. For example the user may ask to access an object that has not yet been (or is not now) properly registered to her. ... At this stage, the REGISTER method 2400 may allow the user to select Register options from the set of method options allowed by PERC 808 accessed at block 2410 (block 2422). As one simple example, the PERC 808 may permit the user to pay by VISA or MasterCard but not by American Express; block 2422 may display a prompt asking the user to select between paying using her VISA card and paying using her MasterCard (block 2424). The REGISTER method 2400 preferably validates the user selected registration options and requires the user to select different options if the initial user options were invalid (block 2426, "no" exit to decision block 2428). Once the user has made all required registration option selections and those selections have been validated ("yes" exit to decision block 2428), the REGISTER method 2400 may write an User Registration Table (URT) corresponding to this object and this user which embodies the user registration selections made by the user along with other registration information required by PERC 808 and/or the Register MDE (blocks 2430, 2432)." (175:8-12, 36-55, Fig. 43a). <p>- In Ginter, the user is provided with user interface mechanisms to select between multiple control objects, and user interface mechanisms to select between multiple types of content. For example, a VDE repository (e.g., Fig. 78) may be accessed over a network using a web browser and the user may browse through a catalog of content choices</p>

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		<p>and select content, after which a separate content system 3302A (281:39-44, Fig. 78) locates the content. (287:16-67). E.g.:</p> <ul style="list-style-type: none"> • “In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion of the registration process. If the end user...” (287:16-21). <p>- Further examples of display information including controls include:</p> <ul style="list-style-type: none"> • “FIG. 72B shows an example of a "pop-up" user interface 686 dialog that is activated when an action by the user has been "trapped," in this case to warn the user about the amount of expense that will be incurred by the user's action, as well as to alert the user about the object 300 which has been requested and what that particular object will cost to use. In this example, the interface dialog provides a button allowing the user to request further detailed information about the object, including full text descriptions, a list of associated files, and perhaps a history of past usage of the object including any residual rights to use the object or associated discounts. The "Cancel" button 2660 in FIG. 72B cancels the user's trapped request. "Cancel" is the default in this example for this dialog and can be activated, for example, by the return and enter keys on the user's keyboard 612, by a "mouse click" on that button, by voice command, or other command mechanisms. The "Approve button" 2662, which must be explicitly selected by a mouse click or other command procedure, allows the user to approve the expense and proceed. The "More options" control 2664 expands the dialog to another level of detail which provides further options, an example of which is shown in FIG. 72C. FIG. 72C shows a secondary dialog that is presented to the user by the "pop-up" user interface 686 when the "More options" button 2664 in FIG. 72B is selected by the user. As shown, this dialog includes numerous buttons for obtaining further information and performing various tasks. In this particular example, the user is permitted to set "limits" such as, for example, the session dollar limit amount (field 2666), a total transaction dollar limit amount (field 2668), a time limit (in minutes) (field 2670), and a "unit limit" (in number of units such as paragraphs, pages, etc.) (field 2672). Once the user has made her selections, she may "click on" the OKAY

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		<p>button (2674) to confirm the limit selections and cause them to take effect. Thus, pop-up user interface dialogues can be provided to specify user preferences, such as setting limits on budgets and/or other aspects of object content usage during any one session or over a certain duration of time or until a certain point in time. Dialogs can also be provided for selecting object related usage options such as selecting meters and budgets to be used with one or more objects. Selection of options may be applied to types (that is classes) of objects by associating the instruction with one or more identifying parameters related to the desired one or more types. User specified configuration information can set default values to be used in various situations, and can be used to limit the number or type of occasions on which the user's use of an object is interrupted by a "pop-up" interface 686 dialog. For example, the user might specify that a user request for VDE protected content should be automatically processed without interruption (resulting from an exceptions action) if the requested processing of information will not cost more than \$25.00 and if the total charge for the entire current session (and/or day and/or week, etc.) is not greater than \$200.00 and if the total outstanding and unpaid charge for use hasn't exceeded \$2500.00." (236:4-49).</p> <p>- The system may display notices that the user needs to replenish his budget, and provide an "Acquire Budget" control button to do so:</p> <ul style="list-style-type: none"> • "Pop-up user interface dialogs may also be used to notify the user about significant conditions and events. For example, interface 686 may be used to inform a user that a budget value is low and needs replenishing..." (236:49-56; see Fig. 72D "Acquire Budget..." button). • "Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content

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		<p>using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user.” (285:57-286:13).</p> <ul style="list-style-type: none"> • “Once an end user has connected to the VDE repository and authentication has occurred, the user may begin manipulating and directing their user interface software to browse through a repository content catalog 3322 (e.g. lists of publications, software, games, movies, etc.), use the search mechanism to help locate content of interest, schedule content for delivery, make inquiries of account status, availability of usage analysis information, billing information, registration and account profile information, etc. If a user is connecting to obtain content, the usage requirements for that content may be delivered to them. If the user is connecting to deliver usage information to the repository, information related to that transmission may be delivered to them. Some of these processes are described in more detail below. In this example, when an end user requests content from the VDE repository (e.g. by selecting from a menu of available options), the content system 3302A locates the content either in the content references and/or in content storage. ... If the transaction is authorized,.... When the container and any transactions related to delivery have been completed, the container is transmitted across the network to the end user.” (287:49-288:24). • “Application of content control information normally occurs securely within one or more VDE secure sub-system PPEs 650. This process may employ a VDE template that enables a user, through easy to use GUI user interface tools, to specify VDE content control information for certain or all embedded content, and which may include menu driven, user selectable and/or definable options, such as picking amongst alternative control methods (e.g. between different forms of metering) which may be represented by different icons picturing (symbolizing) different control functions and apply such functions to an increment of VDE secured content, such as an embedded object listed on an object directory display.” (296:16-28). <p>- <u>Additional disclosures</u>: user selects from different protection models</p>

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		<p>available on same installation (17:27, 18:43, 19:38); user menus (26:27-45); selection of method types (e.g. functionality) and rights through menu choices such as multiple choice, icon, selection, and/or prompting for method parameter data (such as identification information, prices, budget limits, dates) (e.g., 26:46-55, 154:47-64); menu-driven terminals (231:10); user's object authoring software presents menus of different methods to include in the object (254:66-255:30), electronic negotiation and formation of agreements via plural users' selections of choices for terms. (19:16-57, 38:60-39:2, 247:10-42).</p>
72	<p>accepting a first signal in response to a user input to activate the control;</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device. For example, the user device may be a VDE-protected display monitor and the user might use a keyboard to activate the control.</i></p> <p>- Ginter discloses several mechanisms for linking signals from a user application to a transaction services and applications by, e.g., routing information and objects between the two, and creating "channels" (a task processing mechanism) for linking user-initiated events and service requests to the executable transactional methods (applications) needed to service those requests (110:41-112:27, 113:66-115:30; and see Figs. 41a-41d and 168:61-172:54).</p> <p>- All VDE controls are activated (selected, initiated and executed) directly or indirectly by user actions in directly selecting controls or in selecting objects thereby triggering the activation of associated controls. (See, e.g., Figs. 41a-41d, 168:61-172:54). Controls are designed to be activated by users; in part by being designed to be separate from the underlying VDE foundation software:</p> <ul style="list-style-type: none"> • "In a VDE, the separation between a rights application and its foundation permits the efficient selection of sets of control information that are appropriate for each of many different types of applications and uses. These control sets can reflect both rights of electronic community members, as well as obligations (such as providing a history of one's use of a product or paying taxes on one's electronic purchases). VDE flexibility allows its users to electronically implement and enforce common social and commercial ethics and practices. By providing a unified control system, the present invention supports a vast range of possible transaction related interests and concerns of individuals, communities, businesses, and governments. Due to its open design, VDE ..." (7:10-23).

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<ul style="list-style-type: none"> • “In the preferred embodiment, ROS 602 responds to an "event" by performing a process in response to the event. ROS 602 dynamically creates active processes and tasks in response to the occurrence of an event. For example, ROS 602 may create and begin executing one or more component assemblies 690 for performing a process or processes in response to occurrence of an event. The active processes and tasks may terminate once ROS 602 has responded to the event. This ability to dynamically create (and end) tasks in response to events provides great flexibility, and also permits limited execution resources such as those provided by an SPU 500 to perform a virtually unlimited variety of different processes in different contexts.” (167:18-30). • “Generally, "user-initiated" events are happenings attributable to a user (or a user application). A common "user--initiated" event is a user's request (e.g., by pushing a keyboard button, or transparently using redirector 684) to access an object 300 or other VDE-protected information. "System-initiated" events are <p>ROS 602 provided by the preferred embodiment responds to an event by specifying and beginning processes to process the event. These processes are, in the preferred embodiment, based on methods 1000. Since there are an unlimited number of different types of events, the preferred embodiment supports an unlimited number of different processes to process events. This flexibility is supported by the dynamic creation of component assemblies 690 from independently deliverable modules such as method cores 1000', load modules 1100, and data structures such as UDEs 1200.” (167:39-61).</p> • “The OPEN method process starts with an "open event." This open event may be generated by a user application, an operating system intercept or various other mechanisms for capturing or intercepting control. For example, a user application may issue a request for access to a particular content stored within the VDE container. As another example, another method may issue a command.” (181:22-28). <p>- Ginter discloses express user activation of VDE controls (e.g., an “Approve” button) to request a transaction such as a request to create a budget for obtaining digital content information. (See generally Figs.</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>72B, 72C).</p> <p>- For example, Ginter discloses using World Web Protocols (100:31-37) to send signals to a Web server in response to a user using Web browser software to indicate a request, such as a requested activation of a control. E.g., the user accesses the VDE repository's web server over a network and uses a web browser to operate the selection mechanisms (e.g., to browse the content catalog). Under HTTP, this sends requests to the Web server.</p> <p>- The New York and Dallas Web Servers example quote above at claim element no. 70 ("Fig. 78 VDE Object Repository Description"). (280:43-281:2).</p> <ul style="list-style-type: none"> • "Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:6).
73	<p>associating an object identity with information entries and attributes,</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require any relationship between any of its "associating," "storing" and "assigning" steps, on the one hand, and the remaining steps in the claim, on the other hand.</i></p> <p>- Ginter discloses that each VDE object (regardless of where it is stored) has a unique VDE identifier (i.e., object identity). E.g.:</p> <ul style="list-style-type: none"> • "Object ID field 466(4) in the example uniquely identifies the registered VDE object 300." (155:29-30) <p>- Each load module (small units of executable code that may be assembled by VDE users into component assemblies (controls)) may be individually named and uniquely addressable within a global name</p>

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		<p>space. (84:52-56).</p> <p>- Additionally, other information fields (e.g., content creator) and attributes (e.g., attribute field) may also be associated with the VDE object, and stored in a secure database (whether on a VDE repository or lookup system.) (See Fig. 31).</p> <div> </div> <p align="center">FIG. 31</p> <p>- Ginter describes some of these Fig. 31 table entries as follows:</p> <ul style="list-style-type: none"> • “460 as having a plurality of object registration records 460(1), 460(2),... These records correspond to VDE objects 300(1), 300(2),... stored within object repository 728. FIG. 31 shows an example format for an object registration record 460 provided by the preferred embodiment. Object registration record 460(N) may include the following fields: <p>site record number field 466(1) object type field 466(2) creator ID field 466(3) object ID field 466(4)</p>

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		<p>a reference field 466(5) that references subject table 462 an attribute field 466(6) a minimum registration interval field 466(7) a tag 466(8) to a subject table record, and a check value field 466(9).</p> <p>The site record number field 466(1) specifies the site record number for this object registration record 460(N). In one embodiment of secure database 610, each record stored within the secure database is identified by a site record number. This site record number may be used as part of a database lookup process in order to keep track of all of the records within the secure database 610.</p> <p>Object type field 466(2) may specify the type of registered VDE object 300 (e.g., a content object, an administrative object, etc.).</p> <p>Creator ID field 466(3) in the example may identify the creator of the corresponding VDE object 300.</p> <p>Object ID field 466(4) in the example uniquely identifies the registered VDE object 300." (155:1-30).</p> <ul style="list-style-type: none"> • "FIG. 30 shows an example of how these various tables may interact with one another to provide a secure database lookup mechanism." (154:65-67).
74	wherein the object identity represents a networked object;	<p>- VDE objects are networked in that they are accessible via networks to which the VDE system has access. E.g.:</p> <ul style="list-style-type: none"> • "the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.)" (286:1-5).
75	storing said information entries and said attributes in a virtual information store;	<p>- Ginter discloses that "information entries" and attributes are stored in a virtual information store (e.g., a VDE repository and attendant content storage systems, including an object registration table 460 in Fig. 31 and described at 151:43-152:10, that "incorporates by reference" the objects (see Figs. 30-31)).</p> <p>- These VDE repository information stores are virtual because they contain references to remote physical storage locations:</p>

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		<ul style="list-style-type: none"> • “Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user.” (285:57-286:13). • “Once an end user has connected to the VDE repository and authentication has occurred, the user may begin manipulating and directing their user interface software to browse through a repository content catalog 3322 (e.g. lists of publications, software, games, movies, etc.), use the search mechanism to help locate content of interest, schedule content for delivery, make inquiries of account status, availability of usage analysis information, billing information, registration and account profile information, etc. If a user is connecting to obtain content, the usage requirements for that content may be delivered to them. If the user is connecting to deliver usage information to the repository, information related to that transmission may be delivered to them. Some of these processes are described in more detail below. In this example, when an end user requests content from the VDE repository (e.g. by selecting from a menu of available options), the content system 3302A locates the content either in the content references and/or in content storage. ... If the transaction is authorized,... When the container and any transactions related to delivery have been completed, the container is transmitted across the network to the end user.” (287:49-288:24). <p>- To the extent that “object” in this claim is broad enough to encompass a service, Ginter further discloses a virtual information store for</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>services, namely an RPC Services Table:</p> <ul style="list-style-type: none"> • “Remote (and local) procedure calls may be dispatched by a RPC Manager 732 using an "RPC Services Table." An RPC Services Table describes where requests for specific services are to be routed for processing. Each row of an RPC Services Table in the preferred embodiment contains a services ID, the location of the service, and an address to which control will be passed to service a request. An RPC Services Table may also include control information that indicates which instance of the RPC dispatcher controls the service. Both RPC Manager 732 and any attached SPEs 503 and HPEs 655 may have symmetric copies of the RPC Services Table. If an RPC service is not found in the RPC services tables, it is either rejected or passed to external services manager 772 for remote servicing. Assuming RPC manager 732 finds a row corresponding to the request in an RPC Services Table, it may dispatch the request to an appropriate RSI. The receiving RSI accepts a request from the RPC manager 732 (which may have looked up the request in an RPC service table), and processes that request in accordance with internal priorities associated with the specific service.” (90:16-29). • “SPE RPC Manager 550 and its integrated service manager uses two tables to dispatch remote procedure calls: an RPC services table, and an optional RPC dispatch table. The RPC services table describes where requests for specific services are to be routed for processing. In the preferred embodiment, this table is constructed in SPU RAM 534a or NVRAM 534b, and lists each RPC service "registered" within SPU 500. Each row of the RPC services table contains a service ID, its location and address, and a control byte. In simple implementations, the control byte indicates only that the service is provided internally or externally. In more complex implementations, the control byte can indicate an instance of the service (e.g., each service may have multiple "instances" in a multi-tasking environment). ROS RPC manager 732 and SPE 503 may have symmetric copies of the RPC services table in the preferred embodiment. If an RPC service is not found in the RPC services table, SPE 503 may either reject it or pass it to ROS RPC manager 732 for service.” (115:66-116:17). <p>- Ginter discloses using this virtual information store mechanism to route Remote Procedure Calls from service requestors to service</p>

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		<p>providers:</p> <ul style="list-style-type: none"> • “RPC manager 732 manages the RPC interface. It receives service requests in the form of one or more "Remote Procedure Calls" (RPCs) from a service requester, and routes the service requests to a service provider(s) that can service the request. For example, when rights operating system 602 receives a request from a user application via user API 682, RPC manager 732 may route the service request to an appropriate service through the "RPC service interface" ("RSI"). The RSI is an interface between RPC manager 732, service requesters, and a resource that will accept and service requests.” (87:45-55).
76	<p>assigning a unique network address to said object identity;</p>	<p>- Ginter discloses that a VDE object available on a VDE network is assigned a network address, URL, and/or file system reference to locate the physical location at which the object’s contents are stored. Ginter also discloses that this address alone is sufficient to locate the user-requested content which indicates that this address is unique (under the broadest reasonable construction) to that requested content. E.g.:</p> <ul style="list-style-type: none"> • “If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.). After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user. In some circumstances (e.g. when container modification is required, when encryption must be changed, if financial transactions are required prior to release, etc.), further processing may be required by the repository in order to prepare such VDE managed content and/or VDE content container for transmission to an end user.” (285:67-286:13). <p>- Each VDE site may have its own unique ID providing a unique address:</p> <ul style="list-style-type: none"> • “The PPE site ID uniquely identifies the PPE 650. The site ID is preferably unique so as to uniquely identify the PPE 650 and distinguish that PPE from all other PPEs. The site ID in the preferred embodiment provides a unique address that may be used for various purposes, such as for example to

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		<p>provide "address privacy" functions." (211:17-22).</p> <p>- Each load module (small units of executable code that may be assembled by VDE users into component assemblies (controls)) may be individually named and uniquely addressable within a global name space. (84:52-56, 138:21-24).</p> <p>- VDE maintains mappings between VDE IDs and addresses and routing information for processing resources and between Service IDs and routing information for services:</p> <ul style="list-style-type: none"> • "The Name Services Manager 752 supports three subservices: user name services, host name services, and services name services. User name services provides mapping and lookup between user name and user ID numbers, and may also support other aspects of user-based resource and information security. Host name services provides mapping and lookup between the names (and other information, such as for example address, communications connection/routing information, etc.) of other processing resources (e.g., other host electronic appliances) and VDE node IDs. Services name service provides a mapping and lookup between services names and other pertinent information such as connection information (e.g., remotely available service routing and contact information) and service IDs." (99:49-54).
77	<p>initiating, in response to the first signal, communication between the user device and a second computer system;</p>	<p><i>Claim Construction Note (Broadly Construed): This claim element does not require that the user device communicate directly with the second computer system, but rather encompasses the user device communicating with the second computer system indirectly via other devices or systems (including through the first computer system).</i></p> <p>- Ginter discloses that user activation of controls leads to communication between the user device and other computer systems, including computer systems other than the one that sent the control to the user device. Ginter discloses that its wide range of disclosed commercial services (see # 70) may be performed under control of any of a wide range of second business entities and second computer systems. This is true for all seven categories of use scenarios identified above.</p> <p>- <u>VDE Object Repositories</u>: Any user who selects an object causes communication with one or more VDE content repositories, including a repository that sent the user the object/control (first computer system)</p>

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		<p>but also other repositories and/or content or service providers (second computer system). (See Figs. 78, 84 (Internet Repository 3404) and 86/86A, 72B-72D).</p> <p>- For example, Ginter discloses presenting the user with choices between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select. The user, of course, is free to choose a control associated with a first business entity and computer system and then sometime later chose a control associated with a second business entity and computer system:</p> <ul style="list-style-type: none"> • “Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog.” (236:60-237:6). <p>- For example, either the New York repository or the Dallas repository qualifies as the second computer system, each of which interacts with the user device by sending it the user-requested information, in the New York and Dallas Web Servers example quoted above at claim element no. 70 (“Fig. 78 VDE Object Repository Description”). (280:43-281:2).</p> <p>- More generally, Ginter discloses that objects only virtually stored at a repository may be sent from the actual remote source directly to the user device, or alternatively sent to the repository:</p> <ul style="list-style-type: none"> • “Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content,

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		<p>whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user.” (285:57-286:13).</p> <p>- More generally, in response to the user request for specific information (i.e., a specific transaction application), the content packager and shipping system of the repository’s content system 3302A will obtain the requested content, along with the required controls, and deliver the resulting container object to the user (287:63-288:24), and the required VDE modules (e.g., credit card system) will be called as well. In other words, the Web server is used to browse for and select available content, and then VDE content system 3302A takes over to locate and deliver the content, and handle payment therefor. (288:25-289:4). E.g.:</p> <ul style="list-style-type: none"> • “...stored in the content catalog 3322, the end user's account profile, and/or the author's account profile to determine the precise nature of container format and/or control information that may be required to create a VDE content container to fulfill the end user's request. The shipping system then accesses the clearinghouse system 3302B to gather any necessary additional control structures to include with the container, to determine any characteristics of the author's and/or end user's account profiles that may influence either the transaction(s) associated with delivering the content to the end user or with whether the transaction may be processed. If the transaction is authorized, and all elements necessary for the container are available, the controls packager forms a package of control information appropriate for this request by this end user, and the container packager takes this package of control information and the content and forms an appropriate container (including any permissions that may be codeliverable with the container, incorporating any encryption requirements, etc.) If required by the repository or the author's account profile, transactions related to delivery of content are recorded by the transaction system of

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		<p>the shipping system. When the container and any transactions related to delivery have been completed, the container is transmitted across the network to the end user.” (288:1-24).</p> <ul style="list-style-type: none"> • “For example, if an end user has requested and obtained a VDE content container from the repository, that container is typically shipped to the end user along with control structures appropriate to the content, the author's requirements and account profile, the end user's account profile, the content catalog 3322, and/or the circumstances of the delivery (e.g. the first delivery from a particular author, a subscription, a marketing promotion, presence and/or absence of certain advertising materials, requests formulated on behalf of the user by the user's local VDE instance, etc.) Even though, in this example, the repository...” (289:3-23). <p>- For example, one disclosed way in which a user can replenish his budget (e.g., by clicking the Fig. 72D “Acquire Budget” button (see 236:49:56), is to contact a VDE repository. The repository’s clearinghouse system then offers the user several choices for replenishing his budget by getting new or additional credit from any of several financial service providers:</p> <ul style="list-style-type: none"> • “As indicated above, end users 3310 in this example will periodically contact the VDE repository to transmit content usage information (e.g. related to consumption of budget, recording of other usage activities, etc.), replenish their budgets,” (289:5-9). • “In this example, if an end user does not have a relationship established with a financial provider (who has authorized the content providers whose content may be obtained through use of the repository to make use of their currency and/or credit to pay for any usage fees associated with such provider's content) and/or if an end user desires a new source of such credit, the end user may request credit from the repository clearinghouse system 3302B. If an end user is approved for credit, the repository may extend credit in the form of credit amounts (e.g. recorded in one or more UDEs) associated with a budget method managed by the repository. Periodically, usage information associated with such a budget method is transmitted by the end user to the audit system of the repository. After such a transmission (but potentially before the connection is terminated), an amount owing is recorded for processing by

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		<p>the billing system, and in accordance with the repository's business practices, the amount of credit available for use by the end user may be replenished in the same or subsequent transmission. In this example, the clearinghouse of the repository supports a billing system with a paper system for resolving amounts owed through the mail, a credit card system for resolving amounts owed through charges to one or more credit cards, and an electronic funds transfer system for resolving such amounts through direct debits to a bank account." (288:43-67).</p> <ul style="list-style-type: none"> • "The response system 3364 [of the VDE repository, see Fig. 78] is used to send information to the end user to, for example, replenish a budget, deliver usage controls, update permissions information, and to transmit certain other information and/or messages requested and/or required by an end user in the course of their interaction with the clearinghouse." (290:10-11). <p>- For example, any of the VDE Object Repositories shown in Fig. 78 qualifies as this claim's second computer system:</p> <ul style="list-style-type: none"> • "An example of one possible repository arrangement 3300 is shown in FIG. 78. In this example, a repository 3302 is connected to a network 3304 that allows authors 3306A, 3306B, 3306C, and 3306D; a publisher 3308; and one or more end users 3310 to communicate with the repository 3302 and with each other. A second network 3312 allows the publisher 3308, authors 3306E and 33069 an editor 3314, and a librarian 3316 to communicate with each other and with a local repository 3318. The publisher 3308 is also directly connected to author 3306E. In this example, the authors 3306 and publisher 3308 connect to the repository 3302 in order to place their content into an environment in which end users 3310 will be able to gain access to a broad selection of content from a common location." (281:23-36; see also 287:1-7 ("what other clearinghouses may be used by the end user in the course of interacting with content obtained from the repository,...")). <p>- For example, the second computer system can be that of the corporation 700 in Ginter Figs. 86 and 86A, or any of the other VDE appliances shown in Fig. 86/86A outside of corporation 700. (See 312:49-314:24).</p>

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		<p align="center">FIG. 86</p> <p align="center">FIG. 86A</p> <p>- <u>Other VDE Multi-Party Transactions:</u> Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>- Figs. 41a-41d depict multiple methods (transactional applications) at different VDE nodes communicating among each other via requests, responses, replies, etc. to perform various transactions concerning the distribution and consuming of content and tracking and payment therefor. (168:61-172:54). Ginter discloses that each of the multiple parties may communicate with each of the others, directly or via an intermediary. E.g.:</p> <ul style="list-style-type: none"> • “FIG. 41c shows the extension the control mechanism described in FIGS. 41a-41b to three nodes (600A, 600B, 600C). Each request-response pair operates in the manner as described for FIG. 41b, with several pairs linked together to form a chain of

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		<p>control and handling between several VDE nodes 600A, 600B, 600C. This mechanism may be used to extend the chain of handling and control to an arbitrary number of VDE nodes using any configuration of nodes. For example, VDE node 600C might communicate directly to VDE node 600A and communicate directly to VDE 600B, which in turn communicates with VDE node 600A. Alternately, VDE node 600C might communicate directly with VDE node 600A, VDE node 600A may communicate with VDE node 600B, and VDE node 600B may communicate with VDE node 600C.” (169:57-170:4).</p> <p>- In connection with its Fig. 79, Ginter discloses multiple VDE users be presented with two more choices of controls to select in order to access content from the same or different creators. And most of these choices involve multi-party transactions, both preceding the user’s choosing particular controls and as a result of the user choosing to access or use the content under particular controls. More specifically, several of the business entities ((see Fig. 79 which shows User B communicating with Creator B, Distributor C and Distributor B, and Distributor C communicating with Creator B and Distributor B. User D and User E and User/Distributor A and Distributor B also communicate with multiple providers of objects whom communicate with each other. (298:33-309:33). E.g.:</p> <p>- User B has six different controls from which to choose in order to access and use content from Creator B (see 305:24-41, 308:53-309:33). These choices between controls are also choices between which business entities to include in a multi-party VDE transaction. And, several of these business entities have themselves transacted with each other, e.g., to create the controls, and will be part of the transaction chosen by the User B, such as Distributor A and Creator B (303:65-304:42), and Distributor C and Creator B, and Distributor B and Distributor C, and Distributor A and User/Distributor A (via User/Distributor B). (302:32-303:3).</p> <p>- User/Distributor A can choose between Distributor A and Creator B, to access content provided by Creator B (304:66-305:23) (“In this example, user/distributor A may have a choice between paying a "rental" fee through a chain of handling passing through distributor A, and a fee based on the quantity of decryption through a chain of handling direct to creator B.”) If User/Distributor A chooses to activate the control provided by Distributor A, then User/Distributor A will collect usage information, and send that to Distributor A, who in turn will send payments to Creator B, all using VDE, thereby forming a</p>

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		<p>multi-party transaction. (303:65-304:39).</p> <p>- User D can choose between Client Administrator or User/Distributor C. (306:65-307:16).</p> <div> <p align="center">FIG. 79</p> <pre> graph TD CA[CREATOR A] --- DA[DISTRIBUTOR A] CB[CREATOR B] --- DA CB --- UDA[USER/DISTRIBUTOR A] CB --- CAADMIN[CLIENT ADMINISTRATOR] CC[CREATOR C] --- DB[DISTRIBUTOR B] DB --- CAADMIN DB --- UD[USER D] subgraph DashedBox [] DC[DISTRIBUTOR C] --- CD[CREATOR D] end CE[CREATOR E] --- DB DB --- UE[USER E] UDA --- UB[USER B] UDB[USER/DISTRIBUTOR B] --- UB CAADMIN --- UC[USER C] CAADMIN --- UD </pre> </div> <p>- Fig. 77 illustrates the peer-to-peer, and N-party transactions, services and communications that attend VDE-protected use of VDE-protected objects and content. (See 253:22-254:34). For example, Fig. 77 shows VDE Users communicating with both Client Administrator and Financial Clearinghouse, and Client Administrator communicating with Financial Clearinghouse:</p> <ul style="list-style-type: none"> • “Independent financial providers can play an important role in VDE 100. The VDE financial provider role is similar to the role played by organizations such as VISA in traditional distribution scenarios. In any distribution model, authorizing payments for use of products or services and auditing usage for consistency and irregularities, is critical. In VDE 100, these are the roles filled by independent financial providers. The independent financial providers may also provide audit services to content providers. Thus, budgets or limits on use, and audits, or records of use, may be processed by (and may also be put in place by) clearinghouses 116, and the clearinghouses may then collect usage payments from users 112. Any VDE user 112 may assign the right to process information or perform

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		<p>services on their behalf to the extend (sic) allowed by senior control information. The arrangement by which one VDE participant acts on behalf of another is called a "proxy." Audit, distribution, and other important rights may be "proxied" if permitted by the content provider. One special type of "proxy" is the VDE administrator 116b." (254:8-25).</p> <p align="center">FIG. 77</p> <p>- Similarly, Fig. 87 shows client users interacting with clearinghouse 116 (first computer system) and (via the client's administrator 700) with content redistributor 106a (second computer system), and that the clearinghouse and content redistributor communicate with each other as well. (314:26-44).</p>

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		<p style="text-align: center;">FIG. 87</p> <pre> graph TD subgraph 3600 [VIRTUAL SILICON CONTAINER] 102((CONTENT CREATOR)) 116((CLEARINGHOUSE)) 106((CONTENT DISTRIBUTOR)) 3602((CLIENT USERS OPTIONAL UP TO N LEVELS)) 700((CLIENT)) 106a((CONTENT REDISTRIBUTOR OPTIONAL)) 102 --> 116 116 --> 102 116 --> 106 106 --> 116 106 --> 106a 106a --> 106 106a --> 700 700 --> 106a 700 --> 3602 3602 --> 700 end </pre> <p>- For example, the second computer system can be that of VISA, MasterCard, American Express or any other “independent financial providers” referenced by Ginter for “authorizing payments for use of products or services and auditing usage.” (254:7-15; see also 52:4-6, 229:8-13, 264:37-48). A user activating a control for use of controlled content may automatically cause a payment transaction with such a financial provider. (288:25-61, 301:44-60).</p> <p>- For example, the second computer system can be that of any business entity(ies) with which a VDE user negotiates, using the communication of VDE controls, with plural users’ selections of choices for terms for the agreement (E.g., 19:16-57, 38:60-39:2, 247:10-42). Ginter discloses such negotiations involving electronic VDE communications between multiple commercial parties, as shown, e.g., in Figs. 2, 2A, 77-87. (253:22-317:20).</p> <p>- Users can use the selection mechanism to request to use, and use, each of the above-identified types of transactional applications to perform an interactive real-time transaction, be it using VDE-retrieved executable applications (interactive games, databases, other software, etc.) in their normal manner perhaps under control of VDE, or using VDE objects or modules to perform real-time services (e.g., accessing desired content and having credit debited based on use or using retrieved control objects to govern the use of content (and in the process retrieve data, such as budget data). (see, e.g., Fig. 3 and 55:48-56:30) such as debit or credit services). As another example, when a user requests to access controlled content within an object, the object (application), using VDE, will perform the Open method (see Fig. 49 and 181:13-182:16) which retrieves various administrative data from the secure database 610 to allow the transaction to proceed.</p>

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		<p>- Ginter discloses that a selection of an item during a browsing operation may automatically cause a connection to the source of the selected content:</p> <ul style="list-style-type: none"> • “Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content 65 providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog.” (236:60-237:7). • “FIG. 54 is a flowchart of an example of program control steps performed by an ACCESS method 2000. As described above, an ACCESS method may be used to access content embedded in an object 300 so it can be written to, read from, or otherwise manipulated or processed. In ..., in the general case, an ACCESS method 2000 must go through a more complicated procedure in order to obtain the object. For example, some objects (or parts of objects) may only be available at remote sites or may be provided in the form of a real-time download or feed (e.g., in the case of broadcast transmissions). Even if the object is stored locally to the VDE node, it may be stored as a secure or protected object so that it is not directly accessible to a calling process. ACCESS method 2000 establishes the connections, routings, and security requisites needed to access the object. ACCESS method 2000 reads the ACCESS method MDE from the secure database, reads it in accordance with the ACCESS method DTD, and loads encrypted content source and routing information based on the MDE (blocks 2010, 2012). This source and routing information specifies the location of the encrypted content. ACCESS method 2000 then determines whether a connection to the content is available (decision block 2014). This "connection" could be, for example, an on-line connection to a remote site, a real-time information feed, or a path to a secure/protected resource, for example. If the
		<p>Even if the object is stored locally to the VDE node, it may be stored as a secure or protected object so that it is not directly accessible to a calling process. ACCESS method 2000 establishes the connections, routings, and security requisites needed to access the object. ACCESS method 2000 reads the ACCESS method MDE from the secure database, reads it in accordance with the ACCESS method DTD, and loads encrypted content source and routing information based on the MDE (blocks 2010, 2012). This source and routing information specifies the location of the encrypted content. ACCESS method 2000 then determines whether a connection to the content is available (decision block 2014). This "connection" could be, for example, an on-line connection to a remote site, a real-time information feed, or a path to a secure/protected resource, for example. If the</p>

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		<p>connection to the content is not currently available ("No" exit of decision block 2014), then ACCESS method 2000 takes steps to open the connection (block 2016)...." (189:9-56).</p> <p>- <u>VDE Display Unit</u>: Where a user's display device has its own VDE protection, the remainder of the user's available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE repository or content provider or service provider qualify as second computer system with which the user device communicates. (See Figs. 7, 8, 70, 72B-72D).</p> <p>- Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first computer system can be the user's VDE central processing unit (e.g., Fig. 70, item 600(1)), and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- <u>VDE Server With User Workstations</u>: Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p> <p>- <u>VDE Docking Terminal</u>: Where the user's device docks with a retailer's or bank's terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal's operator, such as any VDE repository or content provider or service provider qualify as second computer system with which the user device communicates. (See Figs. 7, 8, 71, 72B-72D).</p> <p>- In a VDE docking station embodiments, the first computer system may be the VDE terminal of the bank, retailer, or other business entity with which the user's VDE appliance docks, while the second computer system may be that of any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-</p>

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		<p>way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed (39:17-40:4, 226:45-235:7; Fig. 71).</p> <p>- More specifically, the retailer's auxiliary terminal (first computer system) to which the user's portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction. (232:12-38).</p> <p>- <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems). The second computer system can be that of any business entity(ies) with which a "smart object" interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74).</p> <p>- <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin boards disclosed in Ginter provides multi-site interaction and thus retrieves data (both control data over the VDE network and data unique to the controlled content but still managed by VDE) from one or more other computer systems. (E.g., 14:9-14 ("VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced."))).</p>
78	using the second computer system for sending second display information to the user device,	<p><i>Claim Construction Note (Broadly Construed): The claim does not require that the "display information" be displayed by the user device. The claim does not require that the second computer system send the display information directly to the user device; it may be sent via other devices or system systems (including, e.g., the first computer system).</i></p> <p>- Ginter discloses various scenarios in which a first computer system will provide the user with a control whose activation initiates a second computer system to send the user device a list of at least one commercial service. For example, a user may select from a list of resource locations or classes, which choice automatically connects the user to a remote source where the user is presented with browsing interface with choices of objects. See Fig. 72D and:</p> <ul style="list-style-type: none"> • "Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase,

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		<p>either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:7).</p> <p>- Much of the content selected in this manner constitutes executable objects and thus qualifies as transactional applications. Examples of executable content accessible via the content catalog include VDE template applications, component assemblies needed to make use of content, and executable content itself (such as interactive games, software, etc.). (286:14-52). In addition, selections by the user invoke different VDE applications, such as the EFT system or credit card system, etc.</p> <p>- Further examples of service selection display mechanisms include:</p> <ul style="list-style-type: none"> • "FIG. 72B shows an example of a "pop-up" user interface 686 dialog that is activated when an action by the user has been "trapped," in this case to warn the user about the amount of expense that will be incurred by the user's action, as well as to alert the user about the object 300 which has been requested and what that particular object will cost to use. In this example, the interface dialog provides a button allowing the user to request further detailed information about the object, including full text descriptions, a list of associated files, and perhaps a history of past usage of the object including any residual rights to use the object or associated discounts. The "Cancel" button 2660 in FIG. 72B cancels the user's trapped request. "Cancel" is the default in this example for this dialog and can be activated, for example, by the return and enter keys on the user's keyboard 612, by a "mouse click" on that button, by voice command, or other command mechanisms. The "Approve button" 2662, which must be explicitly selected by a mouse click or other command procedure, allows the user to approve the expense and proceed. The "More options" control 2664 expands the dialog to another level of detail

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		<p>which provides further options, an example of which is shown in FIG. 72C. FIG. 72C shows a secondary dialog that is presented to the user by the "pop-up" user interface 686 when the "More options" button 2664 in FIG. 72B is selected by the user. As shown, this dialog includes numerous buttons for obtaining further information and performing various tasks. In this particular example, the user is permitted to set "limits" such as, for example, the session dollar limit amount (field 2666), a total transaction dollar limit amount (field 2668), a time limit (in minutes) (field 2670), and a "unit limit" (in number of units such as paragraphs, pages, etc.) (field 2672). Once the user has made her selections, she may "click on" the OKAY button (2674) to confirm the limit selections and cause them to take effect. Thus, pop-up user interface dialogues can be provided to specify user preferences, such as setting limits on budgets and/or other aspects of object content usage during any one session or over a certain duration of time or until a certain point in time. Dialogs can also be provided for selecting object related usage options such as selecting meters and budgets to be used with one or more objects. Selection of options may be applied to types (that is classes) of objects by associating the instruction with one or more identifying parameters related to the desired one or more types. User specified configuration information can set default values to be used in various situations, and can be used to limit the number or type of occasions on which the user's use of an object is interrupted by a "pop-up" interface 686 dialog. For example, the user might specify that a user request for VDE protected content should be automatically processed without interruption (resulting from an exceptions action) if the requested processing of information will not cost more than \$25.00 and if the total charge for the entire current session (and/or day and/or week, etc.) is not greater than \$200.00 and if the total outstanding and unpaid charge for use hasn't exceeded \$2500.00." (235:59-236:49).</p> <ul style="list-style-type: none"> • "In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion of the registration process. If the end user..." (287:16-21). <p>- The system may display notices that the user needs to engage various services, such as a service to replenish his budget, and provide one or</p>

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		<p>more control buttons to allow that:</p> <ul style="list-style-type: none"> • “Pop-up user interface dialogs may also be used to notify the user about significant conditions and events. For example, interface 686 may be used to inform a user that a budget value is low and needs replenishing,...” (236:49-56; see Fig. 72D “Acquire Budget...” button). <p>- <u>Additional disclosures</u>: user selects from different protection models available on same installation (17:27, 18:43, 19:38); user menus (26:27-45); selection of method types (e.g. functionality) and rights through menu choices such as multiple choice, icon, selection, and/or prompting for method parameter data (such as identification information, prices, budget limits, dates) (e.g., 26:46-55, 154:47-64); menu-driven terminals (231:10); user’s object authoring software presents menus of different methods to include in the object (254:66-255:30), electronic negotiation and formation of agreements via plural users’ selections of choices for terms (19:16-57, 38:60-39:2, 247:10-42).</p>
79	wherein the second display information includes a list of at least one commercial service;	<p><i>Claim Construction Note (Broadly Construed): The claim language “a list of at least one commercial service” encompasses any information directly or indirectly indicating even a single commercial service. This claim does not require that the list itself be displayed. The “commercial service” recited in this claim element need not be the commercial service recited earlier in this claim (element 72).</i></p> <p>- Ginter discloses that each of the “second computer systems” identified above for the seven use scenario categories will send to the user device display information that includes identification of one or more commercial services. As noted above, these commercial services may be particular VDE controls, or VDE-system services, or third-party services including independent financial service providers, etc.</p> <p>- <u>VDE Object Repositories</u>: VDE Object Repositories send user devices display information from which they can choose between a selection of objects and other commercial services. (See Figs. 72B-72D, 78, 84 (Internet Repository 3404) and 86/86A).</p> <p>- For example, Ginter discloses presenting the user with a catalog, menu or other list of choices between different objects or sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects or content to select. The user, of course, is free to choose a control associated with a first business entity and computer system and then sometime later chose a</p>

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		<p>control associated with a second business entity and computer system:</p> <ul style="list-style-type: none"> • “Other important “pop-up” user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a “browsing” dialog.” (236:60-237:6). <p>- For example, either the New York repository or the Dallas repository qualifies as the second computer system, each of which interacts with the user device by sending it the user-requested information, in the New York and Dallas Web Servers example quoted above at claim element no. 70 (“Fig. 78 VDE Object Repository Description”). (280:43-281:2).</p> <ul style="list-style-type: none"> • “Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user.” (285:57-286:13). • “Once an end user has connected to the VDE repository and authentication has occurred, the user may begin manipulating

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		<p>and directing their user interface software to browse through a repository content catalog 3322 (e.g. lists of publications, software, games, movies, etc.), use the search mechanism to help locate content of interest, schedule content for delivery, make inquiries of account status, availability of usage analysis information, billing information, registration and account profile information, etc. If a user is connecting to obtain content, the usage requirements for that content may be delivered to them. If the user is connecting to deliver usage information to the repository, information related to that transmission may be delivered to them. Some of these processes are described in more detail below. In this example, when an end user requests content from the VDE repository (e.g. by selecting from a menu of available options), the content system 3302A locates the content either in the content references and/or in content storage. ... If the transaction is authorized,.... When the container and any transactions related to delivery have been completed, the container is transmitted across the network to the end user.” (287:49-288:24).</p> <ul style="list-style-type: none"> • “For example, if an end user has requested and obtained a VDE content container from the repository, that container is typically shipped to the end user along with control structures appropriate to the content, the author's requirements and account profile, the end user's account profile, the content catalog 3322, and/or the circumstances of the delivery (e.g. the first delivery from a particular author, a subscription, a marketing promotion, presence and/or absence of certain advertising materials, requests formulated on behalf of the user by the user's local VDE instance, etc.) Even though, in this example, the repository...” (289:3-23). <p>- For example, one disclosed way in which a user can replenish his budget (e.g., by clicking the Fig. 72D “Acquire Budget” button (see 236:49:56), is to contact a VDE repository. The repository’s clearinghouse system then offers the user multiple services for replenishing his budget by getting new or additional credit from any of several financial service providers. (See, e.g., 289:5-9, 288:43-67, and 290:10-11).</p> <p>- <u>Other VDE Multi-Party Transactions</u>: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to</p>

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		<p>“consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>- Figs. 41a-41d depict multiple methods (transactional applications) at different VDE nodes communicating among each other via requests, responses, replies, etc. to perform various transactions concerning the distribution and consuming of content and tracking and payment therefor. (168:61-172:54). Ginter discloses that each of the multiple parties may communicate with each of the others, directly or via an intermediary. E.g.:</p> <ul style="list-style-type: none"> • “FIG. 41c shows the extension the control mechanism described in FIGS. 41a-41b to three nodes (600A, 600B, 600C). Each request-response pair operates in the manner as described for FIG. 41b, with several pairs linked together to form a chain of control and handling between several VDE nodes 600A, 600B, 600C. This mechanism may be used to extend the chain of handling and control to an arbitrary number of VDE nodes using any configuration of nodes. For example, VDE node 600C might communicate directly to VDE node 600A and communicate directly to VDE 600B, which in turn communicates with VDE node 600A. Alternately, VDE node 600C might communicate directly with VDE node 600A, VDE node 600A may communicate with VDE node 600B, and VDE node 600B may communicate with VDE node 600C.” (169:57-170:4). <p>- Each of the “second computer systems” identified above for this category of scenarios is as able as the “first computer system” to send the user device a catalog, menu or other list of object, control or other service choices. For example, in connection with Fig. 79:</p> <p>- After User B engages in communications negotiating controls with each of the other parties, user B is presented with six different services and controls from which to choose in order to access and use content</p>

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		<p>from Creator B. (see 305:24-41, 308:53-309:33).</p> <p>- The same is true for User/Distributor A:</p> <ul style="list-style-type: none"> • “In this example, user/distributor A may have a choice between paying a "rental" fee through a chain of handling passing through distributor A, and a fee based on the quantity of decryption through a chain of handling direct to creator B.” (304:66-305:23). <p>- If User/Distributor A chooses the services of Distributor A, then User/Distributor A will collect usage information, and send that to Distributor A, who in turn will send payments to Creator B, all using VDE, thereby forming a multi-party transaction. (303:65-304:39).</p> <p>- For example, the second computer system can be that of VISA, MasterCard, American Express or any other “independent financial providers” referenced by Ginter for “authorizing payments for use of products or services and auditing usage.” (254:7-15; see also 52:4-6, 264:37-48, 229:8-13). A user activating a control for use of controlled content may automatically cause a payment transaction with such a financial provider. (301:44-60; 288:25-61).</p> <p>- Users can use the selection mechanism to request to use, and use, each of the above-identified types of transactional applications to perform an interactive real-time transaction, be it using VDE-retrieved executable applications (interactive games, databases, other software, etc.) in their normal manner perhaps under control of VDE, or using VDE objects or modules to perform real-time services (e.g., accessing desired content and having credit debited based on use or using retrieved control objects to govern the use of content (and in the process retrieve data, such as budget data). (see, e.g., Fig. 3 and 55:48-56:30) such as debit or credit services). As another example, when a user requests to access controlled content within an object, the object (application), using VDE, will perform the Open method (see Fig. 49 and 181:13-182:16) which retrieves various administrative data from the secure database 610 to allow the transaction to proceed. E.g.:</p> <ul style="list-style-type: none"> • “Application of content control information normally occurs securely within one or more VDE secure sub-system PPEs 650. This process may employ a VDE template that enables a user, through easy to use GUI user interface tools, to specify VDE content control information for certain or all embedded content, and which may include menu driven, user selectable

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		<p>and/or definable options, such as picking amongst alternative control methods (e.g. between different forms of metering) which may be represented by different icons picturing (symbolizing) different control functions and apply such functions to an increment of VDE secured content, such as an embedded object listed on an object directory display." (296:16-28).</p> <p>- Various VDE methods send service options to be displayed on the display of a user's electronic appliance, from which the user selects to control the desired transaction. For example, REGISTER method displays "registration options from method options":</p> <ul style="list-style-type: none"> • "The steps shown in FIG. 43a may be, for example, performed at a user VDE node in response to some action by or on behalf of the user. For example the user may ask to access an object that has not yet been (or is not now) properly registered to her. ... At this stage, the REGISTER method 2400 may allow the user to select Register options from the set of method options allowed by PERC 808 accessed at block 2410 (block 2422). As one simple example, the PERC 808 may permit the user to pay by VISA or MasterCard but not by American Express; block 2422 may display a prompt asking the user to select between paying using her VISA card and paying using her MasterCard (block 2424). The REGISTER method 2400 preferably validates the user selected registration options and requires the user to select different options if the initial user options were invalid (block 2426, "no" exit to decision block 2428). Once the user has made all required registration option selections and those selections have been validated ("yes" exit to decision block 2428), the REGISTER method 2400 may write an User Registration Table (URT) corresponding to this object and this user which embodies the user registration selections made by the user along with other registration information required by PERC 808 and/or the Register MDE (blocks 2430, 2432)." (175:8-12, 36-55). <p>- Ginter discloses that a selection of an object associated with a service during a browsing operation may automatically cause a connection to that service:</p> <ul style="list-style-type: none"> • "Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either

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		<p>from locally stored VDE protected objects and/or from one or more various, remotely located content 65 providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:7; see 189:9-56).</p> <p>- <u>VDE Display Unit</u>: Where a user's display device has its own VDE protection, the remainder of the user's available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE repository or content provider or service provider qualify as second computer system with which the user device communicates. (See Figs. 7, 8, 70, 72B-72D).</p> <p>- Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first computer system can be the user's VDE central processing unit (e.g., Fig. 70, item 600(1)), and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- <u>VDE Server With User Workstations</u>: Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p> <p>- <u>VDE Docking Terminal</u>: Where the user's device docks with a retailer's or bank's terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal's operator, such as any VDE repository or content provider or service provider qualify as second computer system with which the user</p>

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		<p>device communicates. (See Figs. 7, 8, 71, 72B-72D).</p> <p>- In a VDE docking station embodiments, the first computer system may be the VDE terminal of the bank, retailer, or other business entity with which the user's VDE appliance docks, while the second computer system may be that of any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed (39:17-40:4, 226:45-235:7; Fig. 71).</p> <p>- More specifically, the retailer's auxiliary terminal (first computer system) to which the user's portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction:</p> <ul style="list-style-type: none"> • "In a retail establishment, the auxiliary terminal host 2608 might take the form of a portable device presented to the user, for example at the end of a meal. The user might place his portable appliance 2600 into a smart card receptacle such as a PCMCIA slot, and then enter whatever additional information that might appropriately describe the transaction as well as satisfying whatever electronic appliance 600 identification procedure(s) required. The transaction, given the availability of sufficient credit, would be approved, and transaction related information would then be communicated back from the auxiliary terminal directly into the portable appliance 2600. This would be a highly convenient mode of credit usage and record management. The portable device auxiliary terminal might be "on-line," that is electronically communicating back to a commercial establishment and/or third party information collection point through the use of cellular, satellite, radio frequency, or other communications means. The auxiliary terminal might, after a check by a commercial party in response to receipt of certain identification information at the collection point, communicate back to the auxiliary terminal whether or not to accept the portable appliance 2600 based on other information, such as a bad credit record or a stolen portable appliance 2600. Such a portable auxiliary terminal would also be very useful at other commercial establishments, for example at gasoline

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		<p>stations, rental car return areas, street and stadium vendors, bars, and other commercial establishments where efficiency would be optimized by allowing clerks and other personnel to consummate transactions at points other than traditional cash register locations.” (231:49-232:11). The portable appliance may communicate with a VDE administrator during the same session to get approval for the transaction. (232:12-38).</p> <p>- <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems). The second computer system can be that of any business entity(ies) with which a “smart object” interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74):</p> <p>- <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin boards disclosed in Ginter provides multi-site interaction and thus retrieves data (both control data over the VDE network and data unique to the controlled content but still managed by VDE) from one or more other computer systems. (E.g., 14:9-14 (“VDE may also be used, for example, for multi-site “real-time” interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.”)).</p>
80	accepting a second signal in response to a user input to select a commercial service from the list; and	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device. For example, the user device may be a VDE display unit and the user might use some other input unit such as a keyboard or mouse to select a commercial service.</i></p> <p>- <u>See claim element 77, above.</u> As explained above, Ginter discloses that the user selections of a commercial service (as described above) send signals to other VDE devices (e.g., parts of a distributed VDE repository) over a network or networks, such as the Internet (see, e.g., 18:45, 24:58, 36:12, 279:9, 310:7) or various other networks. E.g.:</p> <ul style="list-style-type: none"> • “This contact may, for example, be established automatically or in response to a user command. It may be initiated across the electronic highway 108, or across other communications networks such as a LAN, WAN, two-way cable or using portable media exchange between electronic appliances.” (159:1-5). • “A repository may be maintained at one location or may be distributed across a variety of electronic appliances, such as a

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		<p>variety of servers (e.g. video servers, etc.) which may be at different locations but nonetheless constitute a single resource. A VDE repository arrangement may employ VDE secure communications and VDE node secure subsystems 40 ("protected processing environments"). The content comprising a given collection or unit of information desired by a user may be spread across a variety of physical locations." (280:34-43; see also 12:2-5, 86:2-7, 281-16-22 (each referring to use of distributed database to store control information)).</p> <ul style="list-style-type: none"> • "The VDE repository stores Content References in order to locate the remote content being requested, and presents that available remote content for selection for by user in the same fashion as locally stored content: "Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user. In some circumstances (e.g. when container modification is required, when encryption must be changed, if financial transactions are required prior to release, etc.), further processing may be required by the repository in order to prepare such VDE managed content and/or VDE content container for transmission to an end user." (285:58-286:13). • "In Fig. 78, for example, there are two repositories each part of a different network: "An example of one possible repository arrangement 3300 is shown in FIG. 78. In this example, a repository 3302 is connected to a network 3304 that allows authors 3306A, 3306B, 3306C, and 3306D; a publisher 3308; and one or more end users 3310 to communicate with the

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		<p>repository 3302 and with each other. A second network 3312 allows the publisher 3308, authors 3306E and 33069 an editor 3314, and a librarian 3316 to communicate with each other and with a local repository 3318. The publisher 3308 is also directly connected to author 3306E. In this example, the authors 3306 and publisher 3308 connect to the repository 3302 in order to place their content into an environment in which end users 3310 will be able to gain access to a broad selection of content from a common location." (281:23-36).</p> <ul style="list-style-type: none"> • "In this example, when an end user requests content from the VDE repository (e.g., by selecting from a menu of available options), the content system 3302A locates the content either in the content references and/or in content storage. The content system 3302A may then refer to information stored in the content catalog 3322, the end user's account profile, and/or the author's account profile to determine the precise nature of container format and/or control information that may be required to create a VDE content container to fulfill the end user's request. The shipping system then accesses the clearinghouse system 3302B to gather any necessary additional control structures to include with the container, to determine any characteristics of the author's and/or end user's account profiles that may influence either the transaction(s) associated with delivering the content to the end user or with whether the transaction may be processed. If the transaction is authorized, and all elements necessary for the container are available, the controls packager forms a package of control information appropriate for this request by this end user, and the container packager takes this package of control information and the content and forms an appropriate container (including any permissions that may be codeliverable with the container, incorporating any encryption requirements, etc.)" (287:63-288:19).
81	<p>completing a commercial transaction relating to the selected commercial service.</p>	<p><i>Claim Construction Note (Broadly Construed): The claim does not require this completing of a commercial transaction to involve the user of the user device.</i></p> <p>- Ginter discloses completion of transactions related to user-selected commercial services, including on-line services such as Compuserve (e.g., 243:25, 279:47), legal research services such as LEXIS (272:50, 273:61), commercial database services, information delivery services,</p>

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		<p>information clearinghouse services, credit-card, billing, and other financial services (including VISA, Mastercard and American Express services (229:8-13), audit services, certification services, CAD/CAM services, service-locator and information-locator services, software description list services, store-and-forward services, home banking services, advertising services, video production services, testing services, smart agent execution services, electronic negotiation services, VDE-control services including "services-based" VDE functions (e.g., 59:18, 70:65, 73:46, 87:6), and VDE system and infrastructure services, including network, channel, communication, database, backup, security, clearinghouse, object repository, and name services, etc. (E.g., 6:32, 25:43, 26:14, 27:16, 37:26, 40:64, 43:1, 44:60, 51:47, 52:48, 59:18, 70:65, 73:46, 87:6, 88:29-45, 91:27, 91:44, 94:7, 100:38, 115:65-116:48, 123:7-15, 126:8, 129:8, 132:41, 223:41, 229:7-13, 232:50, 239:38, 240:55, 241:4, 249:55, 252:39-60, 257:13-21, 264:43-45, 279:60, 280:3, 280:23, 314:44).</p> <p>- For example, any selection of an object associated with a commercial service that involves access or reading of controlled content, requires completion of several VDE-control transactions (e.g., methods). E.g.:</p> <ul style="list-style-type: none"> • "FIG. 54 is a flowchart of an example of program control steps performed by an ACCESS method 2000. As described above, an ACCESS method may be used to access content embedded in an object 300 so it can be written to, read from, or otherwise manipulated or processed. In ..., in the general case, an ACCESS method 2000 must go through a more complicated procedure in order to obtain the object. For example, some objects (or parts of objects) may only be available at remote sites or may be provided in the form of a real-time download or feed (e.g., in the case of broadcast transmissions). Even if the object is stored locally to the VDE node, it may be stored as a secure or protected object so that it is not directly accessible to a calling process. ACCESS method 2000 establishes the connections, routings, and security requisites needed to access the object. ACCESS method 2000 reads the ACCESS method MDE from the secure database, reads it in accordance with the ACCESS method DTD, and loads encrypted content source and routing information based on the MDE (blocks 2010, 2012). This source and routing information specifies the location of the encrypted content. ACCESS method 2000 then determines whether a connection to the content is available (decision block 2014). This "connection" could be, for example, an on-line connection to a remote site, a real-time information

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		<p>feed, or a path to a secure/protected resource, for example. If the connection to the content is not currently available ("No" exit of decision block 2014), then ACCESS method 2000 takes steps to open the connection (block 2016)...." (189:9-56).</p> <p>- For example, REGISTER method displays "registration options from method options":</p> <ul style="list-style-type: none"> • "The steps shown in FIG. 43a may be, for example, performed at a user VDE node in response to some action by or on behalf of the user. For example the user may ask to access an object that has not yet been (or is not now) properly registered to her. ... At this stage, the REGISTER method 2400 may allow the user to select Register options from the set of method options allowed by PERC 808 accessed at block 2410 (block 2422). As one simple example, the PERC 808 may permit the user to pay by VISA or MasterCard but not by American Express; block 2422 may display a prompt asking the user to select between paying using her VISA card and paying using her MasterCard (block 2424). The REGISTER method 2400 preferably validates the user selected registration options and requires the user to select different options if the initial user options were invalid (block 2426, "no" exit to decision block 2428). Once the user has made all required registration option selections and those selections have been validated ("yes" exit to decision block 2428), the REGISTER method 2400 may write an User Registration Table (URT) corresponding to this object and this user which embodies the user registration selections made by the user along with other registration information required by PERC 808 and/or the Register MDE (blocks 2430, 2432)." (175:8-12, 36-55, Fig. 43a). <p>- Ginter discloses completing each of the commercial transactions related to the selected commercial service. Each type of commercial service and transaction noted above allows the user to complete a commercial transaction. E.g., using VDE to:</p> <ul style="list-style-type: none"> • "complete[] a successful VDE negotiation" (300:9); • "transactions related to delivery have been completed" (288:23); • "completion of the registration process" (287:21);

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		<ul style="list-style-type: none"> • “a completed electronic contract” (243:43); • “A complete VDE process to service a ‘use event’ may typically be constructed as a combination of methods” (178:26-27); • “a completed shipment of an administrative object” (152:51); • “Upon the completion of the test” (315:15).
82	2. The method of claim 1, wherein the second computer system includes an object router.	<p>- Ginter discloses that any VDE node (including any designated as a second computer in the above discussion of claim 1) can include a processor (e.g., Fig. 8, 9) programmed to store and use “routing information” to locate, access, and transmit objects including executable objects (including services).</p> <p>- A remote procedure call (RPC) manager (550 (Fig. 13) and 732 (Fig. 12)) routes service calls and requests to internal and external services, and performs “message routing.” (See, e.g., 115:30-116:48, 79:39-42). Additionally, mail filters may “route objects” to/from the world outside of VDE. (104:57-64).</p> <p>- Ginter discloses several mechanisms for linking signals from a user application to a transaction services and applications by, e.g., routing information and objects between the two, and creating “channels” (a task processing mechanism) for linking user-initiated events and service requests to the executable transactional methods (applications) needed to service those requests (110:41-112:27, 113:66-115:30; and see Figs. 41a-41d and 168:61-172:54).</p> <p>- Ginter discloses storing and using “routing information” to locate and retrieve the contents of an object to be accessed by a user:</p> <ul style="list-style-type: none"> • “The External Services Manager 772 [Fig. 12] provides protocol support capabilities to interface to external service providers. External services manager 772 may, for example, obtain external service routing information from name services manager 752, and then initiate contact to a particular external service (e.g., another VDE electronic appliance 600, a financial clearinghouse, etc.) through communications manager 776. External services manager 772 uses a service.” (100:6-13). • “ACCESS method 2000 reads the ACCESS method MDE from the secure database, reads it in accordance with the ACCESS

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>method DTD, and loads encrypted content source and routing information based on the MDE (blocks 2010, 2012). This source and routing information specifies the location of the encrypted content. ACCESS method 2000 then determines whether a connection to the content is available (decision block 2014). This "connection" could be, for example, an on-line connection to a remote site, a real-time information feed, or a path to a secure/protected resource, for example." (189:43-53).</p> <p>- "Access method" locates the objects transparently to the user so that the user need not know whether the object is local or remote. (189:9-31; see Fig. 54).</p> <p>- An object repository manager (770 (Fig. 12)) routes requests from objects:</p> <ul style="list-style-type: none"> • "In this integration scenario, file system 687 of the preexisting operating system is used for all accesses to secondary storage. However, VDE objects 300 may be stored on secondary storage in the form of external object repository 728, file system 687, or remotely accessible through communications manager 776. When object switch 734 wants to access external object repository 728, it makes a request to the object repository manager 770 that then routes the request to object repository 728 or to redirector 692 (which in turn accesses the object in file system 687)." (97:12-22). <p>- Ginter discloses storing and using "routing information" to locate the correct destination to which to transmit an outgoing object:</p> <ul style="list-style-type: none"> • "Outgoing administrative object manager 754 receives administrative objects from object switch 734, object repository manager 770 or other source for transmission to another VDE electronic appliance. Outgoing administrative object manager 754 takes care of sending the outgoing object to its proper destination. Outgoing administrative object manager 754 may obtain routing information from name services manager 752, and may use communications service 776 to send the object. Outgoing administrative object manager." (100:48-57). <p>- A counterpart Incoming administrative object manager routes</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>incoming objects. (100:65-101:2).</p> <p>- Ginter also routes objects comprising data streams:</p> <ul style="list-style-type: none"> • “Object switch 734 handles, controls and communicates (both locally and remotely) VDE objects 300. In the preferred embodiment, the object switch may include the following elements: <p style="margin-left: 40px;"> a stream router 758; a real time stream interface(s) 760 (which may be connected to real time data feed(s) 694); a time dependent stream interface(s) 762; a intercept 692; a container manager 764; one or more routing tables 766; and buffering/storage 768. </p> <p>Stream router 758 routes to/from "real time" and "time independent" data streams handled respectively by real time stream interface(s) 760 and time dependent stream interface(s) 762. Intercept 692 intercepts I/O requests that involve real-time information streams such as, for example, real time feed 694. The routing performed by stream router 758 may be determined by routing tables 766.” (88:48-67).</p>
83	3. The method of claim 1, wherein the second computer system includes a virtual information store.	<p>- Ginter discloses that any of the second computer systems identified above may be a VDE repository or other VDE node with the tables and virtual storage systems identified as “virtual information store.”</p> <p><u>See element 76, above.</u></p>
84	4. The method of claim 1, wherein the second computer	<p align="center"><u>Value-Added Network</u></p> <p>- Ginter discloses that the VDE architecture provides a value added network comprising an “electronic commerce marketplace” (21:31), “distributed electronic management system” (9:17, 11:7), “value chain business model” (10:29), “single electronic world” (8:64), and “general</p>

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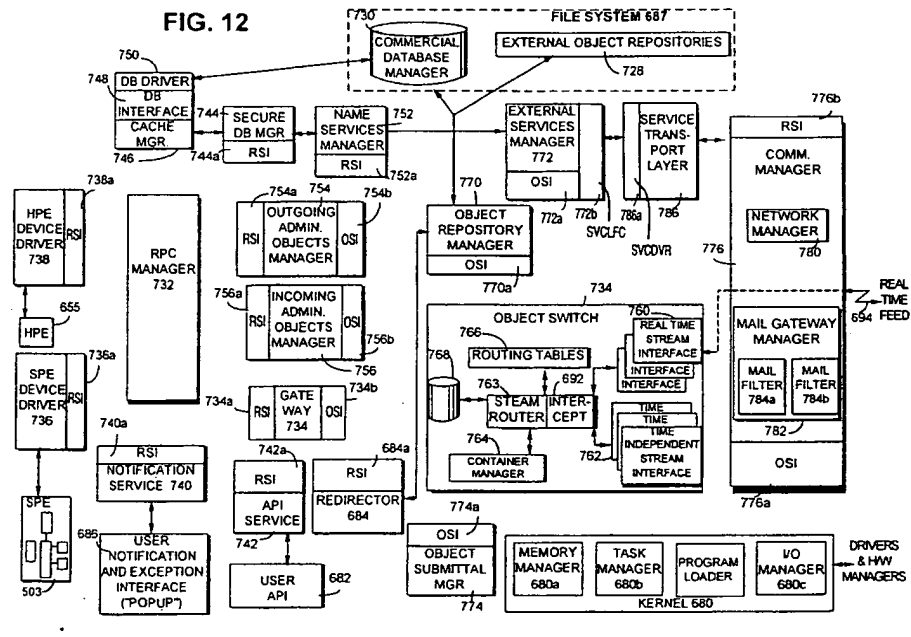
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	<p>system includes a value-added network switch.</p>	<p>purpose electronic transaction/distribution control system” (11:25-30) that provides security, auditing, billing, payment and other services.</p> <p>- Ginter expressly refers to “value adding providers”:</p> <ul style="list-style-type: none"> • “A repository service may supply VDE authoring tools to content creators, publishers, distributors, and/or value adding providers such that they may apply rules and controls that define some or all of the guidelines managing use of their content and so that they may place such content into VDE content container objects.” (280:27). <p>- An exemplary VDE repository accessible over a network is illustrated in Ginter, Fig. 78, which comprises one or more computers that provide search, retrieval, payment (e.g., credit card 3356 and EFT system 3358), and delivery services (shipping system) (280:34-42).</p> <p align="center"><u>Value-Added Network Switch</u></p> <p>- Ginter discloses several types of switches as part of its VDE value-added network, including electronic switch 200a (52:63-67 and Fig. 1) and object switch 734 (Fig. 10, 12). E.g.:</p> <ul style="list-style-type: none"> • “Object Switch 734 <p>Object switch 734 handles, controls and communicates (both locally and remotely) VDE objects 300. In the preferred embodiment, the object switch may include the following elements:</p> <p>a stream router 758; a real time stream interface(s) 760 (which may be connected to real time data feed(s) 694); a time dependent stream interface(s) 762; a intercept 692; a container manager 764; one or more routing tables 766; and buffering/storage 768.</p> <p>Stream router 758 routes to/from "real time" and "time independent" data streams handled respectively by real time stream interface(s) 760 and time dependent stream interface(s) 762. Intercept 692 intercepts I/O requests that involve real-time information streams such as, for example, real time feed 694.</p>

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The routing performed by stream router 758 may be determined by routing tables 766. Buffering/storage 768 provides temporary store-and-forward, buffering and related services. Container manager 764 may (typically in conjunction with SPE 503) perform processes on VDE objects 300 such as constructing, deconstructing, and locating portions of objects.” (88:47-89:5).

- “When object switch 734 wants to access external object repository 728, it makes a request to the **object repository manager 770** that then routes the request to **object repository 728** or to **redirector 692** (which in turn accesses the object in file system 687.” (97:12-22).



85	5. The method of claim 1, wherein the second computer system includes a legacy database.	<p>- Ginter’s VDE is designed to work with pre-existing content including a wide range of legacy databases, including those associated with legal research:</p> <ul style="list-style-type: none"> • “Research can be automatically managed using VDE. Smart objects can be, used to securely search out, pay for if necessary, and retrieve information from VDE enabled information resources on the information highway. Examples of such resources might include LEXIS, Westlaw, and other related legal databases. Once the information is retrieved, it may be securely embedded in the VDE content client container.”
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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>(273:57-64).</p> <ul style="list-style-type: none"> • “Information distributed using VDE may take many forms. ... This information may take many forms including: movies, audio recordings, games, electronic catalog shopping, multimedia, training materials, E-mail and personal documents, object oriented libraries, software programming resources, and reference/record keeping information resources (such as business, medical, legal, scientific, governmental, and consumer databases).” (7:42-53). • “Content providers who employ the present invention may include, for example, software application and game publishers, database publishers, cable, television, and radio broadcasters, electronic shopping vendors, and distributors of information in electronic document, book, periodical, e-mail and/or other forms.” (13:58-63). • “Generally, content objects 880 include or provide information content. This "content" may be any sort of electronic information. For example, content may include: computer software, movies, books, music, information databases, multimedia information, virtual reality information, machine instructions, computer data files, communications messages and/or signals, and other information, at least a portion of which is used and/or manipulated by one or more electronic appliances. VDE 100 can also be configured for authenticating, controlling, and/or auditing electronic commercial transactions and communications such as inter-bank transactions, electronic purchasing communications, and the transmission of, auditing of, and secure commercial archiving of, electronically signed contracts and other legal documents; the information used for these transactions may also be termed "content.”” (131:59-132:8). <p>- The New York and Dallas Web Servers example quoted above at claim element no. 70 (“Fig. 78 VDE Object Repository Description”). (280:43-281:2).</p> <p>- The VDE object repository may be CompuServe (279:49) or other existing commercial service that charges a fee. (280:25).</p>
86	6. The	- Ginter discloses that VDE nodes storing or virtually storing protected

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	<p>method of claim 1, wherein the control includes a web page control.</p>	<p>objects, including VDE Object Repositories, may be servers and in particular may be Web servers. (279:22-28, 280:34-65; see generally (for example uses of VDE repository): 279:22-292:62). A user may use Web applications to request content that is located on such servers, for example using the Mosaic web browser. (280:34-59; 287:16-21). E.g.:</p> <ul style="list-style-type: none"> • “In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion of the registration process. If the end user chooses to make use of the application software provided by the repository, they may be able to avoid certain complexities of interaction that may occur if a standard package is used.” (287:16-25). <p>- The New York and Dallas Web Servers example quoted above at claim element no. 70 (“Fig. 78 VDE Object Repository Description”). (280:34-59).</p> <p>- Any VDE object may be formatted to be accessed using WWW protocols, HTTP, URL and HTML:</p> <ul style="list-style-type: none"> • “If External Services Manager 772 is used to access VDE objects, many different techniques are possible. For example, the VDE objects may be formatted for use with the World Wide Web protocols (HTML, HTTP, and URL) by including relevant headers, content tags, host ID to URL conversion (e.g., using Name Services Manager 752) and an HTTP-aware instance of Services Transport Layer 786.” (100:31-37). • “If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.).” (285:67-286:5).
87	<p>7. The method of claim 1, wherein the first computer system is in a</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the two corporate networks be operated by separate corporations.</i></p> <p>- Ginter discloses that multiple corporations (see, e.g., 700 (Fig. 86)</p>

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	<p>first corporate network and wherein the second computer system is in a second corporate network.</p>	<p>may use VDE:</p> <ul style="list-style-type: none"> • “Content providers who employ the present invention may include, for example, software application and game publishers, database publishers, cable, television, and radio broadcasters, electronic shopping vendors, and distributors of information in electronic document, book, periodical, e-mail and/or other forms. Corporations, government agencies, and/or individual "end-users" who act as storers of, and/or distributors of, electronic information, may also be VDE content providers.” (13:58-66; see also 39:54, 253:32, 265:41, 274:31-40, 311:13-314:24, and Figs. 85-86). • “VDE distributors 106 may also include "end-users" who provide electronic information to other end-users. For example, FIG. 77 shows a further example of a virtual distribution environment 100 chain of handling and control provided by the present invention. As compared to FIG. 2, FIG. 77 includes a new "client administrator" participant 700. In addition, FIG. 77 shows several different content users 112(1), 112(2), . . . , 112(n) that may all be subject to the "jurisdiction" of the client administrator 700. Client administrator 700 may be, for example, a further rights distributor within a corporation or other organization that distributes rights to employees or other organization participant units (such as divisions, departments, networks, and or groups, etc.) subject to organization-specific "rules and control information." The client administrator 700 may fashion rules and control information for distribution, subject to "rules and control" specified by creator 102 and/or distributor 106.” (253:22-39). • “Creators of VDE protected content may interact with other VDE participants in many different ways. A VDE creator 102 may, for example, distribute content and/or content control information directly to users, distribute content and/or content control information to commercial content repositories, distribute content and/or content control information to corporate content repositories, and/or distribute content and/or content control information to other VDE participants.” (312:1-10). <p>- For each of the seven use scenario categories discussed above with a first computer system and a second computer system, Ginter discloses that these may be operated by any of the wide range of VDE users,</p>

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El.#	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>including separate corporations. E.g.:</p> <ul style="list-style-type: none"> • “VDE can be used to protect the rights of parties who create electronic content such as, for example: records, games, movies, newspapers, electronic books and reference materials, personal electronic mail, and confidential records and communications. The invention can also be used to protect the rights of parties who provide electronic products, such as publishers and distributors; the rights of parties who provide electronic credit and currency to pay for use of products, for example, credit clearinghouses and banks; the rights to privacy of parties who use electronic content (such as consumers, business people, governments); and the privacy rights of parties described by electronic information, such as privacy rights related to information contained in a medical record, tax record, or personnel record. <p>In general, the present invention can protect the rights of parties who have:</p> <p>(a) commercial interests in electronically distributed information--the present invention can help ensure, for example, that parties, will be paid for use of distributed information in a manner consistent with their agreement;</p> <p>(b) proprietary and/or confidentiality interests in electronic information--the present invention can, for example, help ensure that data is used only in authorized ways;</p> <p>(c) interests in electronic credit and electronic currency storage, communication, and/or use--this can include electronic cash, banking, and purchasing; and</p> <p>(d) interests in electronic information derived, at least in part, from use of other electronic information.” (4:17-44).</p> <ul style="list-style-type: none"> • “Such a form factor is conveniently portable, and may be insertable into a wide array of computers and consumer appliances, as well as receptacles at commercial establishments such as retail establishments and banks, and at public communications points, such as telephone or other telecommunication "booths.” (228:42-47). <p>- VDE concerns communications over networks of virtually any kind.</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>Ginter contains more than 130 references to a network, and shows VDE Object Repositories and VDE nodes connected to networks (e.g., networks 3304 and 3312 (Fig. 78), and network 672 (Fig. 70)). E.g.:</p> <ul style="list-style-type: none"> • “VDE allows the owners and distributors of electronic digital information to reliably bill for, and securely control, audit, and budget the use of, electronic information. It can reliably detect and monitor the use of commercial information products. VDE uses a wide variety of different electronic information delivery means: including, for example, digital networks, digital broadcast, and physical storage media such as optical and magnetic disks. VDE can be used by major network providers, hardware manufacturers, owners of electronic information, providers of such information, and clearinghouses that gather usage information regarding, and bill for the use of, electronic information.” (3:27-34). • “Employing VDE as a general purpose electronic transaction/distribution control system allows users to maintain a single transaction management control arrangement on each of their computers, networks, communication nodes, and/or other electronic appliances.” (11:29-33). • “VDE control processes such as metering, budgeting, decrypting and/or fingerprinting, may as relates to a certain user content usage activity, be performed in a user's local VDE installation secure subsystem, or said processes may be divided amongst plural secure subsystems which may be located in the same user VDE installations and/or in a network server and in the user installation.” (17:43-50). • “If desired, ROS 602 may independently distribute control information over very low bandwidth connections that may or may not be "real time" connections. ROS 602 provided by the preferred embodiment is "network friendly," and can be implemented with any level of networking protocol. Some examples include e-mail and direct connection at approximately "Layer 5" of the ISO model.” (74:14-20). • “ROS 602 is services based. The ROS services provided using a host processor 654 and/or a secure processor (SPU 500) are linked in the preferred embodiment using a "Remote Procedure Call" ("RPC") internal processing request structure. Cooperating processors may request interprocess services using a RPC

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		<p>mechanism, which is minimally time dependent and can be distributed over cooperating processors on a network of hosts. The multi-processor architecture provided by ROS 602 is easily extensible to support any number of host or security processors." (73:53).</p> <ul style="list-style-type: none"> • "Typically, the end user's electronic appliance 600 may initiate communications with a clearinghouse (Block 1152). This contact may, for example, be established automatically or in response to a user command. It may be initiated across the electronic highway 108, or across other communications networks such as a LAN, WAN, two-way cable or using portable media exchange between electronic appliances. The process of exchanging administrative information need not occur in a single "on line" session, but could instead occur over time based on a number of different one-way and/or two-way communications over the same or different communications means. However, the process 1150 shown in FIG. 35 is a specific example where the end user's electronic appliance 600 and the other VDE participant (e.g., a clearinghouse) establish a two-way real-time interactive communications exchange across a telephone line, network, electronic highway 108, etc." (159:1-15). • "The same mechanism could be used to communicate with the existing credit card (e.g. VISA) network by submitting VDE based charges against the charge account." (178:2-4). • "For example, a VDE server having one or more protected processing environments 650 could communicate over a network with workstations that do not have a protected processing environment. The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network. This arrangement would require no hardware or software modification to the workstations." (222:40-47). • "For example, in a local area network topology, a "VDE server" electronic appliance 600 could store VDE-protected information and make it available to one or more additional electronic appliances 600 or computers that may communicate with the server over network 672. As one example, an object repository 728 storing VDE objects could be

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		<p>maintained at the centralized server, and each of many networked electronic appliance 600 users could access the centralized object repository over the network 672 as needed. When a user needs to access a particular VDE object 300, her electronic appliance 600 could issue a request over network 672 to obtain a copy of the object. The "VDE server" could deliver all or a portion of the requested object 300 in response to the request. Providing such a centralized object repository, 728 would have the advantage of minimizing mass storage requirements local to each electronic appliance 600 connected to the network 672, eliminate redundant copies of the same information, ease information management burdens, provide additional physical and/or other security for particularly important VDE processes and/or information occurring at the server, where providing such security at VDE nodes may be commercially impractical for certain business models, etc." (223:4-25).</p>
88	<p>8. The method of claim 7, wherein the first corporate network is operated by a first business entity and wherein the second corporate network is operated by a second business entity.</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the first business entity or the second business entity.</i></p> <p>- Ginter broadly discloses that any business entities can communicate over networks under VDE control. Thus, the first corporate network can be operated by any VDE content creator, VDE content distributor, or VDE content end user, including any VDE financial services provider, as can the second corporate network. E.g.:</p> <ul style="list-style-type: none"> • "In this FIG. 2 example, information relating to content use is, as shown by arrow 114, reported to a financial clearinghouse 116. Based on this "reporting," the financial clearinghouse 116 may generate a bill and send it to the content user 112 over a "reports and payments" network 118. Arrow 120 shows the content user 112 providing payments for content usage to the financial clearinghouse 116. Based on the reports and payments it receives, the financial clearinghouse 116 may provide reports and/or payments to the distributor 106. The distributor 106 may, as shown by arrow 122, provide reports and/or payments to the content creator 102. The clearinghouse 116 may provide reports and payments directly to the creator 102. Reporting and/or payments may be done differently. For example, clearinghouse 116 may directly or through an agent, provide reports and/or payments to each of VDE content creators 102, and rights distributor 106, as well as

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		<p>reports to content user 112.</p> <p>The distributor 106 and the content creator 102 may be the same person, or they may be different people. For example, a musical performing group may act as both content creator 102 and distributor 106 by creating and distributing its own musical recordings. As another example, a publishing house may act as a distributor 106 to distribute rights to use works created by an author content creator 102. Content creators 102 may use a distributor 106 to efficiently manage the financial end of content distribution.</p> <p>The "financial clearinghouse" 116 shown in FIG. 2 may also be a "VDE administrator." Financial clearinghouse 116 in its VDE administrator role sends "administrative" information to the VDE participants. This administrative information helps to keep the virtual distribution environment 100 operating properly. The "VDE administrator" and financial clearinghouse roles may be performed by different people or companies, and there can be more than one of each." (53:54-54:21).</p> <ul style="list-style-type: none"> - For example any VDE user may be using an appliance on his or her business entity's corporate network, with a VDE object repository on that network (e.g., 3318 (Fig. 78) or 702 or 704 (Fig. 86) and using VDE to communicate with some other corporate network. - For example, the first or second business entity can be whoever operates the Boston database arrangement and/or other VDE repository that displays to the user a catalog of objects including the objects available at the New York and Dallas repositories in the World Wide Web server example at 280:43-281:2. - For example, the first or second business entity might be whoever operated repository 3302 in the example of Ginter Fig. 78, which can present a user with a display such as that of Fig. 72D with multiple controls leading to multiple remote sources. (236:60-237:6). - More generally, the first or second business entity in Ginter can be any entity operating a virtual content repository which may store some user-requested objects locally but only have pointers to other remotely stored objects. (285:57-286:13). - The Ginter VDE repository (e.g., Fig. 78) itself is a commercial service which could be CompuServe (279:49) or other business entity

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		<p>which may charge a fee. (280:25).</p> <ul style="list-style-type: none"> - The first or second business entity can be any of the repositories shown in Ginter Figs. 86 and 86A. (See 312:49-314:24). - For example, the first or second business entity can be any business entity(ies) with which a VDE user negotiates, using the communication of VDE controls, with plural users' selections of choices for terms for the agreement. (E.g., 19:16-57, 38:60-39:2, 247:10-42). Ginter discloses such negotiations involving electronic VDE communications between multiple commercial parties, as shown, e.g., in Figs. 2, 2A, 77-87. (253:22-317:20). - For example, the first or second business entity can be any business entity(ies) with whom user is communicating as part of a VDE-controlled "multi-site 'real-time' interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced." (14:9-16). - For example, the first or second business entity can be any business entity(ies) with which a "smart object" interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74). - In VDE docking station embodiments, the first business entity may be the bank, retailer, or other business entity controlling the VDE terminal with which the user's VDE appliance docks, while the second business entity may be any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71). - Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first business entity can be whatever business entity controls the user's VDE central processing unit (e.g., Fig. 70, item 600(1)), and the second business entity can be any business entity controlling any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also

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		<p>224:46-62).</p> <p>- Similarly, where the user device is a corporate workstation (222:40-47), then the first business entity is whichever one operates that corporate network having the VDE server connected to that workstation over a network, and the second business entity can be any other business entity operating a VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p>
89	<p>9. The method of claim 1, wherein the second computer system includes a legacy computing system.</p>	<p>- Ginter discloses that a VDE node, in particular a clearinghouse, need not have special security hardware, but rather can be a computing system running VDE protection software:</p> <ul style="list-style-type: none"> • “In some embodiments and where commercially acceptable, certain VDE participants, such as clearinghouses that normally maintain sufficiently physically secure non-VDE processing environments, may be allowed to employ HPEs [Host Processing Environments] rather VDE hardware elements and interoperate, for example, with VDE end-users and content providers. VDE components together comprise a configurable, consistent, secure and "trusted" architecture for distributed, asynchronous control of electronic content and/or appliance usage. VDE supports a "universe wide" environment for electronic content delivery, broad dissemination, usage reporting, and usage related payment activities.” (13:3-13). • “HPEs 655 may be provided in two types: secure and not secure. For example, it may be desirable to provide non-secure versions of HPE 655 to allow electronic appliance 600 to efficiently run non-sensitive VDE tasks using the full resources of a fast general purpose processor or computer.” (78:6-10). • “In the preferred embodiment, an SPE 503 is supported by the hardware resources of an SPU 500. An HPE 655 may be supported by general purpose processor resources and rely on software techniques for security/protection. HPE 655 thus gives ROS 602 the capability of assembling and executing certain component assemblies 690 on a general purpose CPU such as a microcomputer, minicomputer, mainframe computer or supercomputer processor.” (103:8-16).

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90	10. The method of claim 1, wherein the user device includes a web browser.	<p>- Ginter discloses that VDE nodes holding or pointing to protected content, including VDE Object Repositories, may be servers and in particular may be Web servers. (279:22-28, 280:34-65; see generally (for example uses of VDE repository): 279:22-292:62). A user may use Web applications to request content that is located on such servers, for example using the Mosaic web browser. (280:34-59; 287:16-21).</p> <ul style="list-style-type: none"> • “In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion of the registration process. If the end user chooses to make use of the application software provided by the repository, they may be able to avoid certain complexities of interaction that may occur if a standard package is used.” (287:16-25). <p>- In the example below, a New York Web server has a VDE repository (see Fig. 78), and thus is accessed with a Web browser to select the content desired by the user:</p> <p>- The New York and Dallas Web Servers example quoted above at claim element no. 70 (“Fig. 78 VDE Object Repository Description”). (280:34-59).</p> <p>- Any VDE object may be formatted to be accessed using WWW protocols, HTTP, URL and HTML:</p> <ul style="list-style-type: none"> • “If External Services Manager 772 is used to access VDE objects, many different techniques are possible. For example, the VDE objects may be formatted for use with the World Wide Web protocols (HTML, HTTP, and URL) by including relevant headers, content tags, host ID to URL conversion (e.g., using Name Services Manager 752) and an HTTP-aware instance of Services Transport Layer 786.” (100:31-37). • “If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.).” (285:67-286:5). <p>- As quoted above (from col. 287), Ginter expressly discloses using a Web browser to operate selection mechanisms providing choices of</p>

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		content on a VDE repository.
91	11. The method of claim 10, wherein the display information includes web page content.	<p>- Ginter discloses that VDE nodes holding or pointing to protected content, including VDE Object Repositories, may be servers and in particular may be Web servers. (279:22-28, 280:34-65; see generally (for example uses of VDE repository): 279:22-292:62). A user may use Web applications to request content that is located on such servers, for example using the Mosaic web browser. (280:34-59; 287:16-21).</p> <ul style="list-style-type: none"> • “In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion of the registration process. If the end user chooses to make use of the application software provided by the repository, they may be able to avoid certain complexities of interaction that may occur if a standard package is used.” (287:16-25; see also 280:34-59, 100:31-37, 285:67-286:5).
92	12. The method of claim 1, wherein the list of at least one commercial service includes a payment service.	<p>- Ginter discloses a wide range of payment services, and giving users the ability to select between different payment services. E.g.:</p> <ul style="list-style-type: none"> • “VDE can, for example, securely control electronic currency, payments, and/or credit management (including electronic credit and/or currency receipt, disbursement, encumbering, and/or allocation) using such a "secure subsystem."... also securely supports the payment of money owed (including money owed for content and/or appliance usage) by one or more parties to one or more other parties, in the form of electronic credit and/or currency.” (9:24-40). • “Not only can electronically reported transaction related information be trusted under the present invention, but payment may be automated by the passing of payment tokens through a pathway of payment (which may or may not be the same as a pathway for reporting). Such payment can be contained within a VDE container created automatically by a VDE installation in response to control information (located, in the preferred embodiment, in one or more permissions records) stipulating the "withdrawal" of credit or electronic currency (such as tokens) from an electronic account (for example, an account securely maintained by a user's VDE installation secure

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		<p>subsystem) based upon usage of VDE controlled electronic content and/or appliances (such as governments, financial credit providers, and users)." (14:51-65).</p> <ul style="list-style-type: none"> • "support provider revenue information resulting from customer use of content and/or appliances, and/or provider and/or end-user payment of taxes, through the transfer of credit and/or electronic currency from said end-user and/or provider to a government agency, might occur "automatically" as a result of such received control information causing the generation of a VDE content container whose content includes customer content usage information reflecting secure, trusted revenue summary information and/or detailed user transaction listings (level of detail might depend, for example on type or size of transaction-- information regarding a bank interest payment to a customer or a transfer of a large (e.g. over \$10,000) might be, by law, automatically reported to the government). Such summary and/or detailed information related to taxable events and/or currency, and/or creditor currency transfer, may be passed along a pathway of reporting and/or payment to the government in a VDE container." (30:9-27). • "For example, content usage payment may be automatically made, either through a clearinghouse, or directly, to different content providers for different portions (sic)." (32:28-30). • "VDE further supports automated passing of electronic currency and/or credit information, including payment tokens (such as in the form of electronic currency or credit) or other payment information, through a pathway of payment, which said pathway may or may not be the same as a pathway for content usage information reporting. Such payment may be placed into a VDE container created automatically by a VDE installation in response to control information stipulating the "withdrawal" of credit or electronic currency from an electronic credit or currency account based upon an amount owed resulting from usage of VDE controlled electronic content and/or appliances. Payment credit or currency may then be automatically communicated in protected (at least in part encrypted) form through telecommunication of a VDE container to an appropriate party such as a clearinghouse, provider of original property content or appliance, or an

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		<p align="center">agent for such provider (other than a clearinghouse)." (35:24-41).</p> <p>- For example, a user's portable VDE device can be used to transfer funds from the user's bank account to another account. (233:44-234:31).</p>
93	<p>13. The method of claim 12, wherein a user is provided with access to a payment electronic back office system.</p>	<p><i>Claim Construction Note (Broadly Construed):</i> As "back office" is a business label that does not provide any structural or functional limitation on the claimed method, this claim does not limit the method of claim 12. This claim does not preclude the user being provided access via an agent (e.g., "intelligent agent") of the user.</p> <p>- Ginter discloses the user directly or indirectly accessing (broadly construed) the user's account at a VDE repository and/or bank and/or credit card company, which account could of course be maintained in a company's back office location. (See, e.g., 29:20-28, 52:11-13, 171:56-172:54, 233:45-63, 287:49-62, 288:25-43, 288:43-289:11). E.g.:</p> <ul style="list-style-type: none"> • "An end user may make use of credit and/or currency securely stored within the end user's VDE installation secure subsystem to pay for charges related to use of VDE content received from the repository, and/or the user may maintain a secure credit and/or currency account remotely at the repository, including a "virtual" repository where payment is made for the receipt of such content by an end user. This later approach may provide greater assurance for payment to the repository and/or content providers particularly if the end user has only an HPE based secure subsystem. If an end user electronic credit and/or currency account is maintained at the repository in this example, charges are made to said account based on end user receipt of content from the repository. Further charges to such a remote end user account may be made based on end user usage of such received content and based upon content usage information communicated to the repository clearinghouse system 3302B." (288:25-43). • "Once an end user has connected to the VDE repository and authentication has occurred, the user may begin manipulating and directing their user interface software to browse through a repository content catalog 3322 (e.g. lists of publications, software, games, movies, etc.), use the search mechanism to help locate content of interest, schedule content for delivery, make inquiries of account status, availability of usage

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		<p>analysis information, billing information, registration and account profile information, etc.” (287:49-62).</p> <ul style="list-style-type: none"> • “For example, AUDIT method 2520 at this point could call an external process to perform, for example, an electronic funds transfer against the user's bank account or some other bank account. The AUDIT administrative response can, if desired, call an external process that interfaces VDE to one or more existing computer systems. The external process could be passed the user's account number, PIN, dollar amount, or any other information configured in, or associated with, the VDE audit trail being processed. The external process can communicate with non-VDE hosts and use the information passed to it as part of these communications. For example, the external process could generate automated clearinghouse (ACH) records in a file for submittal to a bank. This mechanism would provide the ability to automatically credit or debit a bank account in any financial institution. The same mechanism could be used to communicate with the existing credit card (e.g. VISA) network by submitting VDE based charges against the charge account.” (177:54-178:4). <p><i>See element 93, above.</i></p>
94	14. An apparatus for providing a service over a digital network, the apparatus comprising:	<p>- Ginter discloses a “virtual distribution environment” (VDE) which is a services-based, controls-based, objects-based, networks-based system for completing multi-party commercial transactions including on-line payments.</p> <p>- Ginter discloses at least seven categories of scenarios including this recited type of apparatus:</p> <ol style="list-style-type: none"> 1. <u>VDE Object Repositories</u>: Any end user’s VDE device (e.g., Figs. 7, 8) is provided with the ability to select (e.g., Figs. 72B-72D) between various available objects (e.g., Figs. 5, 30-31), which selection activates various controls and causes communications with one or more VDE content repositories (first computing resources) which in turn may communicate with other repositories and/or content or service providers (second computing resources) which in turn may communicate directly or indirectly with the user device. (E.g., Figs. 78, 84 (Internet Repository 3404) and 86/86A). 2. <u>Other VDE Multi-Party Transactions</u>: Any VDE content user,

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		<p>creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>3. <u>VDE Display Unit</u>: Where a user’s display device has its own VDE protection, the remainder of the user’s available computing resources qualify as the first computing resources able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE repository or content provider or service provider qualify as a second computing resources. (E.g., Figs. 7, 8, 70, 72B-72D).</p> <p>4. <u>VDE Docking Terminal</u>: Where the user’s device docks with a business (e.g., retailer’s or bank’s) terminal, that terminal qualifies as the first computing resources, while any and all other VDE nodes not operated by the terminal’s operator, such as any VDE repository or content provider or service provider contacted as part of a transaction involving the user, qualify as a second computing resources. (E.g., Figs. 7, 8, 71, 72B-72D).</p> <p>5. <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). “The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network.” (222:40-47). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). (222:21-223:43; Fig. 8).</p>

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		<p>6. <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computing resources) (E.g., Figs. 72B-72D, 74).</p> <p>7. <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin board services disclosed in Ginter provide multi-site interaction and thus retrieves data from one or more other computing resources (both control data over the VDE network and data unique to the controlled content but still managed by VDE). (E.g., 14:9-14 (“VDE may also be used, for example, for multi-site “real-time” interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.”)).</p>
95	a processor;	- Ginter discloses that its VDE electronic appliances have at least one processor. (See, e.g., Figs. 8 (CPU 654), 9 (microprocessor 520), 70 (SPUs and CPU), 71 (SPU and CPU)).
96	a machine-readable storage device including one or more instructions executable by the processor for providing a commercial service over a digital network;	<p>- Each disclosed processor operates by executing instructions stored on some machine-readable storage device. Ginter discloses many examples of a machine readable medium having data representing sequences of instructions (e.g., a Protected Processing Environment executing “load modules.”). <i>See generally</i> Ginter, Figs. 8-12. E.g.:</p> <ul style="list-style-type: none"> • “Secondary storage 652 in this example stores code and data used by CPU 654 and/or SPU 500 to control the overall operation of electronic appliance 600. For example, FIG. 8 shows that “Rights Operating System” (“ROS”) 602 (including a portion 604 of ROS that provides VDE functions and a portion 606 that provides other OS functions) shown in FIG. 7 may be stored on secondary storage 652. ... Thus, the code that is executed to perform VDE and other OS functions 604, 606, and secure files 610 (as well as VDE objects 300) associated with those functions may be stored in secondary storage 652.” (60:50-66). • “The degree of overall security of the VDE system is primarily dependent on the degree of tamper resistance and concealment of VDE control process execution and related data storage activities. Employing special purpose semiconductor packaging techniques can significantly contribute

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		<p>to the degree of security. Concealment and tamper-resistance in semiconductor memory (e.g., RAM, ROM, NVRAM) can be achieved, in part, by employing such memory within an SPU package, by encrypting data before it is sent to external memory (such as an external RAM package) and decrypting encrypted data within the CPU/RAM package before it is executed." (21:8-20).</p> <ul style="list-style-type: none"> • "Stored in each SPU 500 and/or electronic appliance secondary memory 652 may be, for example, an instance of ROS 602 software, application programs 608, objects 300 containing VDE controlled property content and related information, and management database 610 that stores both information associated with objects and VDE control information. ROS 602 includes software intended for execution by SPU microprocessor 520 for, in part, controlling usage of VDE related objects 300 by electronic appliance 600. As will be explained, these SPU programs include "load modules" for performing basic control functions. These various programs and associated data are executed and manipulated primarily by microprocessor 520." (63:57-64:2). • "In the preferred embodiment, SPU 500 uses three general kinds of memory: (1) internal ROM 532; (2) internal RAM 534; and (3) external memory (typically RAM and/or disk supplied by a host electronic appliance). The internal ROM 532 and RAM 534 within SPU 500 provide a secure operating environment and execution space. Because of cost limitations, chip fabrication size, complexity and other limitations, it may not be possible to provide sufficient memory within SPU 500 to store all information that an SPU needs to process in a secure manner. Due to the practical limits on the amount of ROM 532 and RAM 534 that may be included within SPU 500, SPU 500 may store information in memory external to it, and move this information into and out of its secure internal memory space on an as needed basis." (67:23-38).
97	sending first display information from a first	<u>See element 71, above.</u>

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	computer system to a user device,	
98	wherein the first display information includes a control associated with a commercial service;	<u>See element 72, above.</u>
99	accepting a first signal in response to a user input to activate the control; and	<u>See element 73, above.</u>
100	initiating, in response to the first signal, communication between the user device and a second computer system,	<u>See element 78, above.</u>
101	wherein the second computer system acts to send second display information to the user device,	<u>See element 79, above.</u>
1023	wherein the second	<u>See element 80, above.</u>

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	display information includes a list of at least one commercial service;	
103	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list; and	<u>See element 81, above.</u>
104	to complete a commercial transaction relating to the selected commercial service;	<u>See element 82, above.</u>
105	associating an object identity with information entries and attributes,	<u>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</u> <u>See element 74, above.</u>
106	wherein the object identity represents a networked object;	<u>See element 75, above.</u>
107	storing said information	<u>See element 76, above.</u>

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	entries and said attributes in a virtual information store; and	
108	assigning a unique network address to said object identity.	<u>See element 77, above.</u>
109	15. A machine-readable storage device including instructions executable by a processor for providing a commercial service over a digital network, the machine-readable storage device including one or more instructions for:	<p>- Ginter discloses a “virtual distribution environment” (VDE) which is a services-based, controls-based, objects-based, networks-based system for completing multi-party commercial transactions including on-line payments.</p> <p><u>machine-readable storage device including instructions executable by a processor</u></p> <p><u>See elements 96 and 97, above.</u></p> <p><u>providing a commercial service over a digital network</u></p> <p><u>See element 70, above.</u></p> <p>- Ginter discloses at least seven categories of scenarios including the type of business method that would be performed by execution of this type of recited stored instructions:</p> <ol style="list-style-type: none"> 1. <u>VDE Object Repositories</u>: Any end user’s VDE device (e.g., Figs. 7-8) is provided with the ability to select (e.g., Figs. 72B-72D) between various available objects (e.g., Figs. 5, 30-31), which selection activates various controls and causes communications with one or more VDE content repositories (first computer system) which in turn may communicate with other repositories and/or content or service providers (second computer system) which in turn may communicate directly or indirectly with the user device. (E.g., Figs. 78, 84 (Internet Repository 3404) and 86/86A). 2. <u>Other VDE Multi-Party Transactions</u>: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87,).</p> <p>3. <u>VDE Display Unit</u>: Where a user’s display device has its own VDE protection, the remainder of the user’s available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE object repository or content provider or service provider qualify as a second computer system. (E.g., Figs. 7, 8, 70, 72B-72D).</p> <p>4. <u>VDE Docking Terminal</u>: Where the user’s device docks with a business (e.g., retailer’s or bank’s) terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal’s operator, such as any VDE object repository or content provider or service provider contacted as part of a transaction involving the user, qualify as a second computer system. (E.g., Figs. 7, 8, 71, 72B-72D).</p> <p>5. <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). “The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network.” (222:40-47). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). (222:21-223:43; Fig. 8).</p> <p>6. <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>VDE sites (computer systems) (E.g., Figs. 72B-72D, 74).</p> <p>7. <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin board services disclosed in Ginter provide multi-site interaction and thus retrieves data from one or more other computer systems (both control data over the VDE network and data unique to the controlled content but still managed by VDE). (E.g., 14:9-14 ("VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced."))).</p>
110	sending first display information from a first computer system to a user device,	<u>See element 71, above.</u>
111	wherein the first display information includes a control associated with a commercial service;	<u>See element 72, above.</u>
112	accepting a first signal in response to a user input to activate the control;	<u>See element 73, above.</u>
113	initiating, in response to the first signal, communicatio	<u>See element 78, above.</u>

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	n between the user device and a second computer system,	
114	wherein the second computer system acts to send second display information to the user device,	<u><i>See element 79, above.</i></u>
115	wherein the second display information includes a list of at least one commercial service;	<u><i>See element 80, above.</i></u>
116	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list;	<u><i>See element 81, above.</i></u>
117	and to complete a commercial transaction relating to the	<u><i>See element 82, above.</i></u>

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	selected commercial service;	
118	associating an object identity with information entries and attributes,	<u>See element 74, above.</u>
119	wherein the object identity represents a networked object;	<u>See element 75, above.</u>
120	storing said information entries and said attributes in a virtual information store; and	<u>See element 76, above.</u>
121	assigning a unique network address to said object identity.	<u>See element 77, above.</u>
122	<p>16. A method for providing a commercial service over a digital network, the method comprising:</p>	<p>- Ginter discloses a “virtual distribution environment” (VDE) which is a services-based, controls-based, objects-based, networks-based system for completing multi-party commercial transactions including on-line payments.</p> <p align="center"><u>providing a commercial service over a digital network</u></p> <p><u>See element 70, above.</u></p> <p>- Ginter discloses at least seven categories of scenarios performing this recited business method:</p> <p>1. <u>VDE Object Repositories</u>: Any end user’s VDE device (e.g.,</p>

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		<p>Figs. 7-8) is provided with the ability to select (e.g., Figs. 72B-72D) between various available objects (e.g., Figs. 5, 30-31), which selection activates various controls and causes communications with one or more VDE content repositories (first computer system) which in turn may communicate with other repositories and/or content or service providers (second computer system) which in turn may communicate directly or indirectly with the user device. (E.g., Figs. 78, 84 (Internet Repository 3404) and 86/86A).</p> <p>2. <u>Other VDE Multi-Party Transactions</u>: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>3. <u>VDE Display Unit</u>: Where a user’s display device has its own VDE protection, the remainder of the user’s available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE object repository or content provider or service provider qualify as a second computer system. (E.g., Figs. 7, 8, 70, 72B-72D).</p> <p>4. <u>VDE Docking Terminal</u>: Where the user’s device docks with a business (e.g., retailer’s or bank’s) terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal’s operator, such as any VDE object repository or content provider or service provider contacted as part of a transaction involving the user, qualify as a second computer system. (E.g., Figs. 7, 8, 71, 72B-72D).</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter et al.
		<p>5. <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). "The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network." (222:40-47). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). (222:21-223:43; Fig. 8).</p> <p>6. <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems) (E.g., Figs. 72B-72D, 74).</p> <p>7. <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin board services disclosed in Ginter provide multi-site interaction and thus retrieves data from one or more other computer systems (both control data over the VDE network and data unique to the controlled content but still managed by VDE). (E.g., 14:9-14 ("VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced."))).</p>
123	using first computing resources operated by a first business entity to send first display information to a user device,	<p><i><u>Claim Construction Note (Broadly Construed):</u> This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the user device being part of the first computing resources. Thus, for example, the user may be the first business entity and may operate computing resources that include the user device.</i></p> <p align="center"><u>User Device</u></p> <p><i><u>See element 71, above.</u></i></p> <p align="center"><u>Display Information Sent to User Device</u></p> <p><i><u>See element 71, above.</u></i></p> <p align="center"><u>first computing resources operated by a first business entity</u></p>

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El. #	Claim	U.S. Patent No: 5,910,987 to Ginter <i>et al.</i>
		<p>- Ginter's first computing resources can be any appliance or computing system, or combination of appliance and computing systems, operated by any VDE participant, including any VDE content creator, VDE content distributor, VDE content end user, or any VDE financial services provider. The display information can be any VDE object, instructions, user interface element or other information described in Ginter being communicated to VDE users.</p> <p>- For example, the first business entity can be whoever operates the Boston database arrangement and/or other VDE repository that displays to the user a catalog of objects including the objects available at the New York and Dallas repositories in the New York and Dallas Web Servers example quoted above at claim element no. 70 ("Fig. 78 VDE Object Repository Description"). (280:43-281:2).</p> <p>- For example, the first business entity might be repository 3302 in the example of Ginter Fig. 78, which can present a user with a display such as that of Fig. 72D with multiple controls leading to multiple remote sources:</p> <ul style="list-style-type: none"> • "An example of one possible repository arrangement 3300 is shown in FIG. 78. In this example, a repository 3302 is connected to a network 3304 that allows authors 3306A, 3306B, 3306C, and 3306D; a publisher 3308; and one or more end users 3310 to communicate with the repository 3302 and with each other. A second network 3312 allows the publisher 3308, authors 3306E and 33069 an editor 3314, and a librarian 3316 to communicate with each other and with a local repository 3318. The publisher 3308 is also directly connected to author 3306E. In this example, the authors 3306 and publisher 3308 connect to the repository 3302 in order to place their content into an environment in which end users 3310 will be able to gain access to a broad selection of content from a common location." (281:23-36; see also (287:1-7) ("what other clearinghouses may be used by the end user in the course of interacting with content obtained from the repository,...") • "Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:6).</p> <p>- More generally, the first business entity in Ginter can be any entity operating a virtual content repository which may store some user-requested objects locally but only have pointers to other remotely stored objects:</p> <ul style="list-style-type: none"> • "Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user." (285:57-286:13). <p>- The Ginter VDE repository (e.g., Fig. 78) itself is a commercial service which could be CompuServe (279:49) or other first or second business entity which may charge a fee. (280:25).</p> <p>- The first business entity can be any of the repositories shown in Ginter Figs. 86 and 86A. (See 312:49-314:24).</p> <p>- For example, the first business entity can be any business entity(ies) with which a VDE user negotiates, using the communication of VDE controls, with plural users' selections of choices for terms for the</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>agreement (E.g., 19:16-57, 38:60-39:2, 247:10-42). Ginter discloses such negotiations involving electronic VDE communications between multiple commercial parties, as shown, e.g., in Figs. 2, 2A, 77-87. (253:22-317:20).</p> <p>- For example, the first business entity can be any business entity(ies) with whom user is communicating as part of a VDE-controlled “multi-site ‘real-time’ interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-16).</p> <p>- For example, the first business entity can be any business entity(ies) with which a “smart object” interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74).</p> <p>- In VDE docking station embodiments, the first business entity may be the bank, retailer, or other business entity controlling the VDE terminal with which the user’s VDE appliance docks, while the second business entity may be any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71).</p> <p>- More specifically, the retailer’s auxiliary terminal (first computer system) to which the user’s portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction:</p> <ul style="list-style-type: none"> • “In a retail establishment, the auxiliary terminal host 2608 might take the form of a portable device presented to the user, for example at the end of a meal. The user might place his portable appliance 2600 into a smart card receptacle such as a PCMCIA slot, and then enter whatever additional information that might appropriately describe the transaction as well as satisfying whatever electronic appliance 600 identification procedure(s) required. The transaction, given the availability of sufficient credit, would be approved, and transaction related information would then be communicated back from the auxiliary terminal directly into the portable appliance 2600. This would be a highly

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>convenient mode of credit usage and record management. The portable device auxiliary terminal might be "on-line," that is electronically communicating back to a commercial establishment and/or third party information collection point through the use of cellular, satellite, radio frequency, or other communications means. The auxiliary terminal might, after a check by a commercial party in response to receipt of certain identification information at the collection point, communicate back to the auxiliary terminal whether or not to accept the portable appliance 2600 based on other information, such as a bad credit record or a stolen portable appliance 2600. Such a portable auxiliary terminal would also be very useful at other commercial establishments, for example at gasoline stations, rental car return areas, street and stadium vendors, bars, and other commercial establishments where efficiency would be optimized by allowing clerks and other personnel to consummate transactions at points other than traditional cash register locations." (231:49-232:11).</p> <p>- The portable appliance may communicate with a VDE administrator during the same session to get approval for the transaction. (232:12-38).</p> <p>- Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first business entity can be whatever business entity controls the user's VDE central processing unit (e.g., Fig. 70, item 600(1)), and the second business entity can be any business entity controlling any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p>
124	wherein the first display information	<u>display information includes controls</u>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
	includes first and second controls;	<p><u>See element 72, above.</u></p> <p align="center"><u>display information includes first and second controls</u></p> <p>- Ginter's first and second controls can be any VDE object, instructions, user interface element or other information described in Ginter communicated to VDE users, from which users can choose.</p> <p>- Ginter discloses that a VDE repository may send plural controls instructing a user's device to display messages to the user:</p> <ul style="list-style-type: none"> • “The clearinghouse may, in addition or alternatively, send an administrative object to the end user's electronic appliance 600 that instructs the electronic appliance to display one or more messages to the user. These messages may inform the user about certain conditions and/or they may request additional information from the user. For example, the message may instruct the end user to contact the clearinghouse directly by telephone or otherwise to resolve an indicated problem, enter a PIN, or it may instruct the user to contact a new service company to re-register the associated VDE object. Alternatively, the message may tell the end user that she needs to acquire new usage permissions for the object, and may inform the user of cost, status and other associated information.” (160:18-31). <p>- Ginter discloses plural controls being associated with each object or set of content that a user may be desire to access. (E.g., Figs. 5A, 5B, 30-31; 6:41-54, 27:9-17, 54:22-55:13, 56:31-57:29, 81:10-85:32, 124:65-126:63).</p> <p>- Most of the controls disclosed in Ginter are provided with other alternative controls to be chosen and activated by users entering requests via a user device in response to displayed information communicated via VDE from elsewhere. For example, Ginter discloses in connection with Figs. 72B-72D displaying various content and action choices to a user, and the user's selection of any of those choices activates one or more “controls” associated with the user's selection. Examples of controls include transaction limits as shown in Figs. 72B, 72C, and any of the types of controls identified in Figs. 5A/5B (and/or at 54:22-55:13, 56:31-57:29, 81:10-85:32, 124:65-126:63) can be associated with any of the content objects shown in Fig. 72D. A user selecting any object (e.g., any listed in Fig. 72D), begins a path of execution of multiple controls, possibly involving multiple parties.</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>- Each item of content identified in Fig. 72D, for example, is protected by an object's VDE controls protecting that content (see Figs. 5, 30-31). When a user requests to use ("consume") such VDE-protected objects, that constitutes a request to register for the object (Fig. 43), or open it (Fig. 49), or read it (Fig. 50), or access it (Fig. 54)—all of which activate multiple VDE-controlled transactions such as executing a "meter method," "billing method," and "budget method" (see Figs. 3, 45-48). These transactions often involve three or more separate parties (and their separate computing systems) to the transaction, and often involve communications over each of three legs of a communication triangle (i.e., a user of content communicates with two different sources of content, and those two sources also communicate) all as part of a transaction. (See Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>- Figs. 41a-41d depict multiple methods (transactional applications) at different VDE nodes communicating among each other via requests, responses, replies, etc. to perform various transactions concerning the distribution and consuming of content and tracking and payment therefor. (168:61-172:54).</p> <p>- Ginter discloses myriad ways in which VDE sites may send menus of selections or other such display information to a user device so that the user can select or choose objects or controls.</p> <p>- A user may select from a list of resource locations or classes, which choice automatically connects the user to a remote source where the user is presented with browsing interface with choices of objects:</p> <ul style="list-style-type: none"> • "Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:7, Fig. 72D).

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>- Various VDE methods invoked when a user seeks to consume VDE-protected content send options to be displayed on the display of a user's electronic appliance, from which the user selects to control the desired transaction. For example, REGISTER method displays "registration options from method options":</p> <ul style="list-style-type: none"> • "The steps shown in FIG. 43a may be, for example, performed at a user VDE node in response to some action by or on behalf of the user. For example the user may ask to access an object that has not yet been (or is not now) properly registered to her. ... At this stage, the REGISTER method 2400 may allow the user to select Register options from the set of method options allowed by PERC 808 accessed at block 2410 (block 2422). As one simple example, the PERC 808 may permit the user to pay by VISA or MasterCard but not by American Express; block 2422 may display a prompt asking the user to select between paying using her VISA card and paying using her MasterCard (block 2424). The REGISTER method 2400 preferably validates the user selected registration options and requires the user to select different options if the initial user options were invalid (block 2426, "no" exit to decision block 2428). Once the user has made all required registration option selections and those selections have been validated ("yes" exit to decision block 2428), the REGISTER method 2400 may write an User Registration Table (URT) corresponding to this object and this user which embodies the user registration selections made by the user along with other registration information required by PERC 808 and/or the Register MDE (blocks 2430, 2432)." (175:8-12, 36-55, Fig. 43a). <p>- In Ginter, the user is provided with user interface mechanisms to select between multiple control objects, and user interface mechanisms to select between multiple types of content. For example, a VDE repository (e.g., Fig. 78) may be accessed over a network using a web browser and the user may browse through a catalog of content choices and select content, after which a separate content system 3302A (281:39-44, Fig. 78) locates the content. (287:16-67). E.g.:</p> <ul style="list-style-type: none"> • "In order to make use of the repository, the end user may operate application software. In this example, the end user may either make use of a standard application program (e.g. a World Wide Web browser such as Mosaic), or they may make use of application software provided by the repository after completion

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		<p>of the registration process. If the end user..." (287:16-21).</p> <p>- Further examples of display information including multiple controls include:</p> <ul style="list-style-type: none"> • "FIG. 72B shows an example of a "pop-up" user interface 686 dialog that is activated when an action by the user has been "trapped," in this case to warn the user about the amount of expense that will be incurred by the user's action, as well as to alert the user about the object 300 which has been requested and what that particular object will cost to use. In this example, the interface dialog provides a button allowing the user to request further detailed information about the object, including full text descriptions, a list of associated files, and perhaps a history of past usage of the object including any residual rights to use the object or associated discounts. The "Cancel" button 2660 in FIG. 72B cancels the user's trapped request. "Cancel" is the default in this example for this dialog and can be activated, for example, by the return and enter keys on the user's keyboard 612, by a "mouse click" on that button, by voice command, or other command mechanisms. The "Approve button" 2662, which must be explicitly selected by a mouse click or other command procedure, allows the user to approve the expense and proceed. The "More options" control 2664 expands the dialog to another level of detail which provides further options, an example of which is shown in FIG. 72C. FIG. 72C shows a secondary dialog that is presented to the user by the "pop-up" user interface 686 when the "More options" button 2664 in FIG. 72B is selected by the user. As shown, this dialog includes numerous buttons for obtaining further information and performing various tasks. In this particular example, the user is permitted to set "limits" such as, for example, the session dollar limit amount (field 2666), a total transaction dollar limit amount (field 2668), a time limit (in minutes) (field 2670), and a "unit limit" (in number of units such as paragraphs, pages, etc.) (field 2672). Once the user has made her selections, she may "click on" the OKAY button (2674) to confirm the limit selections and cause them to take effect. Thus, pop-up user interface dialogues can be provided to specify user preferences, such as setting limits on budgets and/or other aspects of object content usage during any one session or over a certain duration of time or until a certain point in time. Dialogs can also be provided for selecting object related usage options such as selecting meters and budgets to be

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>used with one or more objects. Selection of options may be applied to types (that is classes) of objects by associating the instruction with one or more identifying parameters related to the desired one or more types. User specified configuration information can set default values to be used in various situations, and can be used to limit the number or type of occasions on which the user's use of an object is interrupted by a "pop-up" interface 686 dialog. For example, the user might specify that a user request for VDE protected content should be automatically processed without interruption (resulting from an exceptions action) if the requested processing of information will not cost more than \$25.00 and if the total charge for the entire current session (and/or day and/or week, etc.) is not greater than \$200.00 and if the total outstanding and unpaid charge for use hasn't exceeded \$2500.00." (236:4-49).</p> <p>- The system may display notices that the user needs to replenish his budget, and provide an "Acquire Budget" control button to do so:</p> <ul style="list-style-type: none"> • "Pop-up user interface dialogs may also be used to notify the user about significant conditions and events. For example, interface 686 may be used to inform a user that a budget value is low and needs replenishing,..." (236:49-56; see Fig. 72D "Acquire Budget..." button). • "Some VDE managed content provided to end users 3310 through the repository may be stored in content storage. Other information may be stored elsewhere, and be referenced through the content references. In the case where content references are used, the repository may manage the user interactions in such a manner that all repository content, whether stored in content storage or elsewhere (such as at another site), is presented for selection by end users 3310 in a uniform way, such as, for example, a consistent or the same user interface. If an end user requests delivery of content that is not stored in content storage, the VDE repository may locate the actual storage site for the content using information stored in content references (e.g. the network address where the content may be located, a URL, a filesystem reference, etc.) After the content is located, the content may be transmitted across the network to the repository or it may be delivered directly from where it is stored to the requesting end user." (285:57-286:13).

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<ul style="list-style-type: none"> • “Once an end user has connected to the VDE repository and authentication has occurred, the user may begin manipulating and directing their user interface software to browse through a repository content catalog 3322 (e.g. lists of publications, software, games, movies, etc.), use the search mechanism to help locate content of interest, schedule content for delivery, make inquiries of account status, availability of usage analysis information, billing information, registration and account profile information, etc. If a user is connecting to obtain content, the usage requirements for that content may be delivered to them. If the user is connecting to deliver usage information to the repository, information related to that transmission may be delivered to them. Some of these processes are described in more detail below. In this example, when an end user requests content from the VDE repository (e.g. by selecting from a menu of available options), the content system 3302A locates the content either in the content references and/or in content storage. ... If the transaction is authorized,.... When the container and any transactions related to delivery have been completed, the container is transmitted across the network to the end user.” (287:49-288:24). • “Application of content control information normally occurs securely within one or more VDE secure sub-system PPEs 650. This process may employ a VDE template that enables a user, through easy to use GUI user interface tools, to specify VDE content control information for certain or all embedded content, and which may include menu driven, user selectable and/or definable options, such as picking amongst alternative control methods (e.g. between different forms of metering) which may be represented by different icons picturing (symbolizing) different control functions and apply such functions to an increment of VDE secured content, such as an embedded object listed on an object directory display.” (296:16-28). <p>- <u>Additional disclosures:</u> user selects from different protection models available on same installation (17:27, 18:43, 19:38); user menus (26:27-45); selection of method types (e.g. functionality) and rights through menu choices such as multiple choice, icon, selection, and/or prompting for method parameter data (such as identification information, prices, budget limits, dates) (e.g., 26:46-55, 154:47-64); menu-driven terminals (231:10); user’s object authoring software presents menus of different methods to include in the object (254:66-255:30), electronic negotiation</p>

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		<p>and formation of agreements via plural users' selections of choices for terms. (19:16-57, 38:60-39:2, 247:10-42).</p> <p align="center"><u>Sending Display Information (With Multiple Controls) From First Computing Resources to User Device</u></p> <p>- For each of the above seven scenario categories, Ginter discloses first computing resources sending a user device display information with multiple controls.</p> <p>- <u>VDE Object Repositories</u>: Any end user's VDE device (Figs. 7-8) is provided with selections of objects (Figs. 5, 30-31) leading it to communicate with one or more VDE content repositories (first computer system) which in turn communicates with other repositories and/or content or service providers (second computer system). (See Figs. 72B-72D, 78, 84 (Internet Repository 3404) and 86/86A).</p> <ul style="list-style-type: none"> • “The clearinghouse may, in addition or alternatively, send an administrative object to the end user's electronic appliance 600 that instructs the electronic appliance to display one or more messages to the user. These messages may inform the user about certain conditions and/or they may request additional information from the user. For example, the message may instruct the end user to contact the clearinghouse directly by telephone or otherwise to resolve an indicated problem, enter a PIN, or it may instruct the user to contact a new service company to re-register the associated VDE object. Alternatively, the message may tell the end user that she needs to acquire new usage permissions for the object, and may inform the user of cost, status and other associated information.” (160:18-31). <p>- In the following example, the user first is provided with a choice between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select:</p> <ul style="list-style-type: none"> • “Other important "pop-up" user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an

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		<p>electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a "browsing" dialog." (236:60-237:6).</p> <p>- The VDE repository (which could be CompuServe (279:49) itself can be a commercial service that may charge a fee. (280:25). The repository of Fig. 78 may be distributed, e.g., among repositories in Dallas, New York, and Boston, and controlled by a distributed database. (280:34-281:22). E.g., the user/author registration system 3320 (which sends the author a request to register (281:59-282:2), user templates (282:32) and authoring software (283:3) and one or more component assemblies for user to select (283:30) for registering author's content with the repository.</p> <p>- The VDE object repository may be the network server for a Local Area Network. (See, e.g., 223:4-25; Fig. 8).</p> <ul style="list-style-type: none"> • "In order to provide a manageable user interface to the content available to VDE repository end users 3310 and to provide administrative information used in the determination of control information packaged in VDE content containers shipped to end users 3310, the repository in this example includes a content catalog 3322. ... In addition, the catalog may also indicate the forms of electronic agreement and/or agreement VDE template applications (offering optional, selectable control structures and/or one or more opportunities to provide related parameter data) that are available to end users 3310 through the repository for given pieces of content in deciding, for example, options and/or requirements for: what type(s) of information is recorded during such content's use, the charge for certain content usage activities, differences in charges based on whether or not certain usage information is recorded and/or made available to the repository and/or content provider, the redistribution rights associated with such content, the reporting frequency for audit transmissions, the forms of credit and/or currency that may be used to pay certain fees associated with use of such content, discounts related to certain volumes of usage, discounts available due to the presence of rights associated with other content from the same and/or different content providers, sales, etc. Furthermore, a VDE repository content catalog

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		<p>3322 may indicate some or all of the component assemblies that are required in order to make use of content such that the end user's system and the repository can exchange messages to help ensure that any necessary VDE component assemblies or other VDE control information is identified, and if necessary and authorized, are delivered along with such content to the end user (rather than, for example, being requested later after their absence has been detected during a registration and/or use attempt).” (286:14-52).</p> <ul style="list-style-type: none"> • “In this example, if an end user does not have a relationship established with a financial provider (who has authorized the content providers whose content may be obtained through use of the repository to make use of their currency and/or credit to pay for any usage fees associated with such provider's content) and/or if an end user desires a new source of such credit, the end user may request credit from the repository clearinghouse system 3302B. If an end user is approved for credit, the repository may extend credit in the form of credit amounts (e.g. recorded in one or more UDEs) associated with a budget method managed by the repository. In this example, the clearinghouse of the repository supports a billing system with a paper system for resolving amounts owed through the mail, a credit card system for resolving amounts owed through charges to one or more credit cards, and an electronic funds transfer system for resolving such amounts through direct debits to a bank account.” (288:43-67). <p>- Ginter Figs. 86 and 86A shows content creator 102 communicating content and controls for VDE transactions with (1) corporate content repository 702 inside of corporation 700 (see 313:57-314:24), (2) users 112a, 112b, and 112c outside of that corporation (see 312:22-52) (and possibly requiring them to deal with other parties to complete a transaction (see 312:49-52), (3) commercial content repository 200g (312:53-313:15), and (4) users 112d, 112e, and 112f via commercial content repository 200g. Corporation 700 has two repositories, and user 112g gets permissions at repository 704 and content at repository 702. (314:10-24).</p> <p>- <u>Other VDE Multi-Party Transactions</u>: Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31, 41a-41d), as</p>

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		<p>when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 41a-41d, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 77, 79, 87, 72B-72D). E.g., VDE administrator provides VDE services from independent financial clearinghouse 116a. (254:7-31).</p> <p>- <u>VDE Display Unit</u>: Where a user’s display device has its own VDE protection, the remainder of the user’s available computing resources qualify as the first computer system able to send display and other information to that user device, while any and all other VDE nodes not operated by the user, such as any VDE repository or content provider or service provider qualify as second computer system. (See Figs. 7, 8, 70, 72B-72D).</p> <p>- <u>VDE Server With User Workstations</u>: Ginter discloses corporate workstations as user devices connected over a LAN or other network to a VDE server (which qualifies as a first computer system). In this scenario, any VDE objects repository or other VDE node outside the corporation qualifies as a second computer system in communication with the user devices (via the first computer system). E.g.:</p> <ul style="list-style-type: none"> • “Networking SPUs 500 and/or VDE Electronic Appliances 600 In the context of many computers interconnected by a local or wide area network, it would be possible for one or a few of them to be VDE electronic appliances 600. For example, a VDE-capable server might include one or more SPUs 500. This centralized VDE server could provide all VDE services required within the network or it can share VDE service with VDE server nodes; that is, it can perform a few, some, or most VDE service activities. For example, a user's non-VDE computer could issue a request over the network for VDE-protected content. In response to the request, the VDE server could comply by accessing the appropriate VDE object 300, releasing the requested content and delivering the content over the network 672 to the requesting user. Such an arrangement would allow VDE capabilities to be easily integrated into existing networks without requiring modification or replacement

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		<p>of the various computers and other devices connected to the networks.</p> <p>For example, a VDE server having one or more protected processing environments 650 could communicate over a network with workstations that do not have a protected processing environment. The VDE server could perform all secure VDE processing, and release resulting content and other information to the workstations on the network. This arrangement would require no hardware or software modification to the workstations. ...</p> <p>As discussed above in connection with FIG. 8, multiple VDE electronic appliances 600 may communicate with one another over a network 672 or other communications path. Such networking of VDE electronic appliances 600 can provide advantages. Advantages include, for example, the possibility of centralizing VDE resources, storing and/or archiving metering information on a server VDE and delivering information and services efficiently across the network 672 to multiple electronic appliances 600.</p> <p>For example, in a local area network topology, a "VDE server" electronic appliance 600 could store VDE-protected information and make it available to one or more additional electronic appliances 600 or computers that may communicate with the server over network 672. As one example, an object repository 728 storing VDE objects could be maintained at the centralized server, and each of many networked electronic appliance 600 users could access the centralized object repository over the network 672 as needed. When a user needs to access a particular VDE object 300, her electronic appliance 600 could issue a request over network 672 to obtain a copy of the object. The "VDE server" could deliver all or a portion of the requested object 300 in response to the request. Providing such a centralized object repository 728 would have the advantage of minimizing mass storage requirements local to each electronic appliance 600 connected to the network 672, eliminate redundant copies of the same information, ease information management burdens, provide additional physical and/or other security for particularly important VDE processes and/or information occurring at the server, where providing such security at VDE nodes may be commercially impractical for certain business models, etc.</p>

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		<p>It may also be desirable to centralize secure database 610 in a local area network topology. For example, in the context of a local area network, a secure database 610 server could be provided at a centralized location. Each of several electronic appliances 600 connected to a local area network 672 could issue requests for secure database 610 records over the network, and receive those records via the network. The records could be provided over the network in encrypted form. "Keys" needed to decrypt the records could be shared by transmitting them across the network in secure communication exchanges. Centralizing secure database 610 in a network 672 has potential advantages of minimizing or eliminating secondary storage and/or other memory requirements for each of the networked electronic appliances 600, avoiding redundant information storage, allowing centralized backup services to be provided, easing information management burdens, etc." (222:21-223:43; Fig. 8).</p> <p>- <u>VDE Docking Terminal</u>: Where the user's device docks with a retailer's or bank's terminal, that terminal qualifies as the first computer system, while any and all other VDE nodes not operated by the terminal's operator, such as any VDE repository or content provider or service provider qualify as second computer system. (See Figs. 7, 8, 71, 72B-72D). E.g., Ginter discloses use of portable electronic appliances, either as a standalone user device or to be connected to a separate host system device, such as a computer or television or video arcade game:</p> <ul style="list-style-type: none"> • "Portable Electronic Appliance: Electronic appliance 600 provided by the present invention may be portable. FIG. 71 shows one example of a portable electronic appliance 2600. Portable appliance 2600 may include a portable housing 2602 that may be about the size of a credit card in one example. Housing 2602 may connect to the outside world through, for example, an electrical connector 2604 having one or more electrical contact pins (not shown). Connector 2604 may electrically connect an external bus interface 2606 internal to housing 2602 to a mating connector 2604a of a host system 2608. External bus interface 2606 may, for example, comprise a PCMCIA (or other standard) bus interface to allow portable appliance 2600 to interface with and communicate over a bus 2607 of host system 2608. Host 2608 may, for example, be almost any device imaginable, such as a computer, a pay telephone, another VDE electronic appliance 600, a television,

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		<p>an arcade video game, or a washing machine, to name a few examples.” (226:46-63; see generally 226:44-235:7 (describing myriad uses for VDE portable appliances and their host appliances)).</p> <p>- For example, the user device may be a portable transaction card (e.g., smart card) or portable appliance (with display (Fig. 71)) that docks with an electronic appliance, such as a retail establishment’s or bank’s (228:45) terminal with a docking station (first computer system) or host’s portable device (231:49-51), which in turn has an on-line connection to a financial clearinghouse and/or merchant and/or government organization (second computer system), to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71).</p> <p>- These portable user devices may have their own “display devices.” (Fig. 71; 228:10). Portable electronic appliance’s “Display 2618 may be used to display information from SPU 500, CPU 2616 and/or host 2608.” (228:20-21).</p> <p>- In one example, the user’s portable electronic appliance temporarily docks with a retail establishment’s VDE appliance for purposes of conducting a two-way retail transaction via communication with either the retailer’s app:</p> <ul style="list-style-type: none"> • “In one embodiment, the portable appliance 2600 could support secure (in this instance encrypted and/or authenticated) two-way communications with a retail terminal which may contain a VDE electronic appliance 600 or communicate with a retailer's or third party provider's VDE electronic appliance 600. During such a secure two-way communication between, for example, each participant's secure VDE subsystem, portable appliance 2600 VDE secure subsystem may provide authentication and appropriate credit or debit card information to the retail terminal VDE secure subsystem. During the same or different communication session, the terminal could similarly, securely communicate back to the portable appliance 2600 VDE secure subsystem details as to the retail transaction (for example, what was purchased and price, the retail establishment's digital signature, the retail terminal's identifier, tax related information,

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		<p>etc.).” (230:22-39).</p> <p>The host terminal may be menu driven, allowing the user to select the type of transaction desired:</p> <ul style="list-style-type: none"> • “Retail, clearinghouse, or other commercial organizations may maintain and use by securely communicating to appliance 2600 one or more of generic classifications of transaction types (for example, as specified by government taxation rules) that can be used to automate the parsing of information into records and/or for database information "roll-ups" for; and/or in portable appliance 2600 or one or more associated VDE nodes. In such instances, host 2608 may comprise an auxiliary terminal, for example, or it could comprise or be incorporated directly within a commercial establishments cash registers or other retail transactions devices. The auxiliary terminal could be menu and/or icon driven, and allow very easy user selection of categorization. It could also provide templates, based on transaction type, that could guide the user through specifying useful or required transaction specific information (for example, purpose for a business dinner and/or who attended the dinner). For example, a user might select a business icon, then select from travel, sales, meals, administration, or purchasing icons for example, and then might enter in very specific information and/or a key word, or other code that might cause the downloading of a transaction's detail into the portable appliance 2600. This information might also be stored by the commercial establishment, and might also be communicated to the appropriate government and/or business organizations for validation of the reported transactions” (230:66-231:24). <p>- The retailer’s auxiliary terminal (first computer system) to which the user’s portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction. (See, e.g., 231:49-232:11, 232:12-38).</p> <p>- <u>VDE Smart Objects</u>: VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems) (Fig. 74, 72B-72D). Ginter discloses the use of “smart objects” to locate and retrieve data from remote databases. (See, e.g., 37:3-17, 237:8-24; see Figs. 73-74). E.g.:</p> <ul style="list-style-type: none"> • “Research can be automatically managed using VDE. Smart objects can be, used to securely search out, pay for if necessary,

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		<p>and retrieve information from VDE enabled information resources on the information highway. Examples of such resources might include LEXIS, Westlaw, and other related legal databases. Once the information is retrieved, it may be securely embedded in the VDE content client container.” (273:57-64).</p> <p>- <u>Interactive N-Party Applications</u>: The interactive VDE-controlled games, teleconferencing and bulletin boards disclosed in Ginter provides multi-site interaction and thus retrieves data (both control data over the VDE network and data unique to the controlled content but still managed by VDE) from one or more other computer systems. (E.g., 14:9-14 (“VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.”)).</p>
125	accepting a first signal in response to a user input to activate the first control;	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device. For example, the user device may be a VDE display unit and the user might use some other input unit such as a keyboard or computer mouse to activate the control. There is no requirement that the first control and second control be independent in any way. For example, the two controls may be contained in the same object. Also, there is no requirement that the user input activating the first control not also activate the second control.</i></p> <p><u>See element 73, above.</u></p>
126	first performing, in response to the first signal, a first commercial service associated with the first control,	<p>- Ginter discloses a wide range of commercial services performed in response to a request of a user via activation of a control associated with that commercial service.</p> <p>- Every control mentioned in Ginter is associated with a commercial service and every commercial service is controlled by various controls. VDE itself is a commercial service, providing transaction management, control, security, auditing, and other related services. Many VDE controls are also associated with some third-party commercial service as well, such as the providers or distributors or clearinghouses of VDE-protected content, including independent financial services providers. (See Figs. 1-2, 77-87).</p> <p>- Ginter discloses methods and systems for providing myriad commercial services over one or more digital networks forming a</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>Virtual Distribution Environment (VDE). VDE is services-based (e.g., 73:46), objects-based, and controls-based. Ginter has more than 600 references to the word “service” (or variants) and identifies hundreds of different types of services, including services provided by VDE and services initiated externally to VDE. They include an unlimited range of on-line services such as Compuserve (e.g., 243:25, 279:47), legal research services such as LEXIS (272:50, 273:61), commercial database services, information delivery services, information clearinghouse services, credit-card, billing, and other financial services (including VISA, Mastercard and American Express services (229:8-13), audit services, certification services, CAD/CAM services, service-locator and information-locator services, software description list services, store-and-forward services, home banking services, advertising services, video production services, testing services, smart agent execution services, electronic negotiation services, VDE-control services including “services-based” VDE functions (e.g., 59:18, 70:65, 73:46, 87:6), and VDE system and infrastructure services, including network, channel, communication, database, backup, security, clearinghouse, object repository, and name services, etc. (E.g., 6:32, 25:43, 26:14, 27:16, 37:26, 40:64, 43:1, 44:60, 51:47, 52:48, 59:18, 70:65, 73:46, 87:6, 88:29-45, 91:27, 91:44, 94:7, 100:38, 115:65-116:48, 123:7-15, 126:8, 129:8, 132:41, 223:41, 229:7-13, 232:50, 239:38, 240:55, 241:4, 249:55, 252:39-60, 257:13-21, 264:43-45, 279:60, 280:3, 280:23, 314:44).</p> <p><u>See element 72, above.</u></p>
127	<p>wherein the first performing is accomplished under the control of the first business entity interacting with the user device;</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the first performing to be accomplished under control of business entities in addition to the first business entity.</i></p> <p>- Each VDE content creator, distributor, repository, clearinghouse, and financial service provider provides a commercial service (e.g., making content or credit available pursuant to VDE-specified and/or VDE-negotiated VDE controls at VDE-enforced prices). Ginter discloses that such commercial services may be performed under control of the business entity (e.g., the entity operating the VDE repository) that sent the control to the user. Ginter discloses that such commercial services may be performed under control of any of a wide range of such first business entities. Indeed, this is the core purpose of Ginter, to allow VDE participants to control the performance of VDE services, using VDE controls, and it applies to each of the seven user scenarios</p>

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		<p>identified above. (See generally 1:47-47:62).</p> <p>- Fig. 77 shows VDE User One communicating with both Client Administrator and Financial Clearinghouse, and Client Administrator communicating with Financial Clearinghouse. (See 253:24-31; see also Fig. 2). E.g.:</p> <ul style="list-style-type: none"> • “In this FIG. 2 example, information relating to content use is, as shown by arrow 114, reported to a financial clearinghouse 116. Based on this "reporting," the financial clearinghouse 116 may generate a bill and send it to the content user 112 over a "reports and payments" network 118. Arrow 120 shows the content user 112 providing payments for content usage to the financial clearinghouse 116. Based on the reports and payments it receives, the financial clearinghouse 116 may provide reports and/or payments to the distributor 106. The distributor 106 may, as shown by arrow 122, provide reports and/or payments to the content creator 102. The clearinghouse 116 may provide reports and payments directly to the creator 102. Reporting and/or payments may be done differently. For example, clearinghouse 116 may directly or through an agent, provide reports and/or payments to each of VDE content creators 102, and rights distributor 106, as well as reports to content user 112. <p>The distributor 106 and the content creator 102 may be the same person, or they may be different people. For example, a musical performing group may act as both content creator 102 and distributor 106 by creating and distributing its own musical recordings. As another example, a publishing house may act as a distributor 106 to distribute rights to use works created by an author content creator 102. Content creators 102 may use a distributor 106 to efficiently manage the financial end of content distribution.</p> <p>The "financial clearinghouse" 116 shown in FIG. 2 may also be a "VDE administrator." Financial clearinghouse 116 in its VDE administrator role sends "administrative" information to the VDE participants. This administrative information helps to keep the virtual distribution environment 100 operating properly. The "VDE administrator" and financial clearinghouse roles may be performed by different people or companies, and there can be more than one of each." (53:54-54:21).</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>- For example, Ginter discloses presenting the user with choices between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select. The user, of course, is free to choose, as recited in '506 claim 16, a control associated with a first business entity and then sometime later chose a control associated with a second business entity. (See, e.g., 236:60-237:6).</p> <p>- For example, either the entity controlling the New York repository or the entity controlling the Dallas repository qualifies as the second business entity, each of which interacts with the user device by sending it the user-requested information, in the New York and Dallas Web Servers example quoted above at claim element no. 70 ("Fig. 78 VDE Object Repository Description"). (280:43-281:2).</p> <p>- More generally, Ginter discloses that objects only virtually stored at a repository may be sent from the actual remote source directly to the user device, or alternatively sent to the repository. (See, e.g., 285:57-286:13).</p> <p>- For example, any business entity operating any of the VDE Object Repositories shown in Fig. 78 qualifies as this claim's second business entity. (See, e.g., 281:23-36, 287:1-7).</p> <p>- Figs. 79-87 illustrate the wide range of business entities that may be controlling a single user transaction. (See generally 299:56-317:20).</p> <p>- For example, in Fig. 79, User B may perform a commercial service associated with Creator A under control of whichever business entities User B chooses from the options noted in Fig. 79. (298:33-303:40).</p> <p>- In connection with its Fig. 79, Ginter discloses multiple VDE users be presented with two more choices of controls to select in order to access content from the same or different creators. And most of these choices involve multi-party transactions, both preceding the user's choosing particular controls and as a result of the user choosing to access or use the content under particular controls. More specifically, several of the business entities ((see shows User B communicating with Creator B, Distributor C and Distributor B, and Distributor C communicating with Creator B and Distributor B. User D and User E and User/Distributor A and Distributor B also communicate with multiple providers of objects whom communicate with each other. (298:33-309:33). E.g.:</p> <p>- User B has six different controls from which to choose in order to access and use content from Creator B. (see 305:24-41, 308:53-</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>309:33). These choices between controls are also choices between which business entities to include in a multi-party VDE transaction. And, several of these business entities have themselves transacted with each other, e.g., to create the controls, and will be part of the transaction chosen by the User B, such as Distributor A and Creator B (303:65-304:42), and Distributor C and Creator B, and Distributor B and Distributor C, and Distributor A and User/Distributor A (via User/Distributor B). (302:32-303:3).</p> <ul style="list-style-type: none"> - User/Distributor A can choose between Distributor A and Creator B, to access content provided by Creator B (304:66-305:23) (“In this example, user/distributor A may have a choice between paying a "rental" fee through a chain of handling passing through distributor A, and a fee based on the quantity of decryption through a chain of handling direct to creator B.”) If User/Distributor A chooses to activate the control provided by Distributor A, then User/Distributor A will collect usage information, and send that to Distributor A, who in turn will send payments to Creator B, all using VDE, thereby forming a multi-party transaction. (303:65-304:39). - User D can choose between Client Administrator or User/Distributor C. (306:65-307:16). - Distributor B can choose between Distributor C and Creator C. (306:5-26, Fig. 79). - For example, in Fig. 80, User B may perform a commercial service associated with Creator A (e.g., access Creator A’s content for a monthly fee) under the control of Creator A, and under control of Distributor A, and under control of User/Distributor A, and under control of User/Distributor B. (299:56-303:3). - For example, the second business entity can be the corporation 700 in Ginter Figs. 86 and 86A, or whatever business entity(ies) operates the other VDE appliances shown in Fig. 86/86A outside of corporation 700. (See 312:49-314:24). - Fig. 87 shows client users interacting with clearinghouse 116 (first business entity) and (via the client’s administrator 700) with content redistributor 106a (second business entity), and that the clearinghouse and content redistributor communicate with each other as well. (314:26-44). - For example, the second business entity can be VISA or MasterCard or any other “independent financial providers” referenced by Ginter for

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>“authorizing payments for use of products or services and auditing usage.” (254:7-15; see also 52:4-6, 264:37-48). A user activating a control for use of controlled content may automatically cause a payment transaction with such a financial provider. (301:44-60)</p> <p>- For example, the second business entity can be any business entity(ies) with which a VDE user negotiates, using the communication of VDE controls, with plural users’ selections of choices for terms for the agreement. (E.g., 19:16-57, 38:60-39:2, 247:10-42). Ginter discloses such negotiations involving electronic VDE communications between multiple commercial parties, as shown, e.g., in Figs. 2, 2A, 77-87. (253:22-317:20).</p> <p>- For example, the second business entity can be any business entity(ies) with whom user is communicating as part of a VDE-controlled “multi-site ‘real-time’ interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-16).</p> <p>- For example, the second business entity can be any business entity(ies) with which a “smart object” interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74).</p> <p>- In a VDE docking station embodiments, the first business entity may be the bank, retailer, or other business entity controlling the VDE terminal with which the user’s VDE appliance docks, while the second business entity may be any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71). More specifically, the retailer’s auxiliary terminal (first computer system) to which the user’s portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction. (See, e.g., 231:49-232:11, 232:12-38).</p> <p>- Where the VDE user’s device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first business entity can be whatever business entity controls the user’s VDE central processing unit (e.g., Fig. 70, item</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>600(1)), and the second business entity can be any business entity controlling any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p>
128	accepting a second signal in response to a user input to activate the second control;	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the second signal be sent or accepted near in time to the first signal. Thus, a user given two options might choose one on Monday, and a second on Wednesday, and meet this claim. Also, this claim does not require that the user input be to the user device. For example, the user device may be a VDE display unit and the user might use some other input unit such as a keyboard or computer mouse to activate the control.</i></p> <p>- <u>See elements 123 and 128, above.</u> Ginter discloses that an end user appliance is capable of responding to user inputs to activate objects and send requests or information in response to such activation.</p>
129	second performing, in response to the second signal, a second commercial service associated with the second control,	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the second performing be done near in time to the first performing.</i></p> <p>- <u>See elements 124, 126, and 128 above.</u> As explained there, Ginter discloses a wide range of commercial services performed in response to a request of a user via activation of a control associated with that commercial service. Each can be performed by a second business entity.</p> <p>- Each VDE content creator, distributor, repository, clearinghouse, and financial service provider provides a commercial service (e.g., making content or credit available pursuant to VDE-specified and/or VDE-negotiated VDE controls at VDE-enforced prices). And, each commercial service is associated with VDE controls controlling users' use of those services. Indeed, this is the core purpose of Ginter, to</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		allow VDE participants to control the performance of VDE services, using VDE controls, and it applies to each of the seven user scenarios identified above. (See generally 1:47-47:62).
130	wherein the second performing is accomplished under the control of a second business entity operating second computing resources and interacting with the user device;	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the second business entity. Nor does it prohibit the first computing resources being used as part of this second performing. Nor does it prohibit the second business entity from interacting with the user device via the first business entity. Nor does it prohibit the second performing to be accomplished under control of business entities in addition to the second business entity.</i></p> <p><u>See elements 88, 89, 124, 126 and 128, above.</u></p> <p>- Each VDE content creator, distributor, repository, clearinghouse, and financial service provider provides a commercial service (e.g., making content or credit available pursuant to VDE-specified and/or VDE-negotiated VDE controls at VDE-enforced prices). Ginter discloses that such commercial services may be performed under control of any of a wide range of second business entities. E.g.:</p> <ul style="list-style-type: none"> • “In this FIG. 2 example, information relating to content use is, as shown by arrow 114, reported to a financial clearinghouse 116. Based on this "reporting," the financial clearinghouse 116 may generate a bill and send it to the content user 112 over a "reports and payments" network 118. Arrow 120 shows the content user 112 providing payments for content usage to the financial clearinghouse 116. Based on the reports and payments it receives, the financial clearinghouse 116 may provide reports and/or payments to the distributor 106. The distributor 106 may, as shown by arrow 122, provide reports and/or payments to the content creator 102. The clearinghouse 116 may provide reports and payments directly to the creator 102. Reporting and/or payments may be done differently. For example, clearinghouse 116 may directly or through an agent, provide reports and/or payments to each of VDE content creators 102, and rights distributor 106, as well as reports to content user 112. <p>The distributor 106 and the content creator 102 may be the same person, or they may be different people. For example, a musical performing group may act as both content creator 102 and distributor 106 by creating and distributing its own musical</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>recordings. As another example, a publishing house may act as a distributor 106 to distribute rights to use works created by an author content creator 102. Content creators 102 may use a distributor 106 to efficiently manage the financial end of content distribution.</p> <p>The "financial clearinghouse" 116 shown in FIG. 2 may also be a "VDE administrator." Financial clearinghouse 116 in its VDE administrator role sends "administrative" information to the VDE participants. This administrative information helps to keep the virtual distribution environment 100 operating properly. The "VDE administrator" and financial clearinghouse roles may be performed by different people or companies, and there can be more than one of each." (53:54-54:21).</p> <p>- For example, Ginter discloses presenting the user with choices between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select. The user, of course, is free to choose, as recited in '506 claim 16, a control associated with a first business entity and then sometime later chose a control associated with a second business entity. (See, e.g., 236:60-237:6).</p> <p>- For example, either the entity controlling the New York repository or the entity controlling the Dallas repository qualifies as the second business entity, each of which interacts with the user device by sending it the user-requested information, in the New York and Dallas Web Servers example quoted above at claim element no. 70 ("Fig. 78 VDE Object Repository Description"). (280:43-281:2).</p> <p>- More generally, Ginter discloses that objects only virtually stored at a repository may be sent from the actual remote source directly to the user device, or alternatively sent to the repository. (See, e.g., 285:57-286:13).</p> <p>- For example, any business entity operating any of the VDE Object Repositories shown in Fig. 78 qualifies as this claim's second business entity. (See, e.g., 281:23-36, 287:1-7).</p> <p>- Fig. 87 shows client users interacting with clearinghouse 116 (first business entity) and (via the client's administrator 700) with content redistributor 106a (second business entity), and that the clearinghouse and content redistributor communicate with each other as well.</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>(314:26-44).</p> <ul style="list-style-type: none"> - In connection with its Fig. 79, Ginter discloses multiple VDE users be presented with two more choices of controls to select in order to access content from the same or different creators. And most of these choices involve multi-party transactions, both preceding the user's choosing particular controls and as a result of the user choosing to access or use the content under particular controls. More specifically, several of the business entities ((see shows User B communicating with Creator B, Distributor C and Distributor B, and Distributor C communicating with Creator B and Distributor B. User D and User E and User/Distributor A and Distributor B also communicate with multiple providers of objects whom communicate with each other. (298:33-309:33). - User B has six different controls from which to choose in order to access and use content from Creator B. (see 305:24-41, 308:53-309:33). These choices between controls are also choices between which business entities to include in a multi-party VDE transaction. And, several of these business entities have themselves transacted with each other, e.g., to create the controls, and will be part of the transaction chosen by the User B, such as Distributor A and Creator B (303:65-304:42), and Distributor C and Creator B, and Distributor B and Distributor C, and Distributor A and User/Distributor A (via User/Distributor B). (302:32-303:3). - User/Distributor A can choose between Distributor A and Creator B, to access content provided by Creator B (304:66-305:23) ("In this example, user/distributor A may have a choice between paying a "rental" fee through a chain of handling passing through distributor A, and a fee based on the quantity of decryption through a chain of handling direct to creator B.") If User/Distributor A chooses to activate the control provided by Distributor A, then User/Distributor A will collect usage information, and send that to Distributor A, who in turn will send payments to Creator B, all using VDE, thereby forming a multi-party transaction. (303:65-304:39). - User D can choose between Client Administrator or User/Distributor C. (306:65-307:16). - Fig. 77 shows VDE User One communicating with both Client Administrator and Financial Clearinghouse, and Client Administrator communicating with Financial Clearinghouse. (See 253:24-31). - For example, the second business entity can be the corporation 700 in

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>Ginter Figs. 86 and 86A, or whatever business entity(ies) operates the other VDE appliances shown in Fig. 86/86A outside of corporation 700. (See 312:49-314:24).</p> <p>- For example, the second business entity can be VISA or MasterCard or any other “independent financial providers” referenced by Ginter for “authorizing payments for use of products or services and auditing usage.” (254:7-15; see also 52:4-6, 264:37-48). A user activating a control for use of controlled content may automatically cause a payment transaction with such a financial provider. (301:44-60)</p> <p>- For example, the second business entity can be any business entity(ies) with which a VDE user negotiates, using the communication of VDE controls, with plural users’ selections of choices for terms for the agreement. (E.g., 19:16-57, 38:60-39:2, 247:10-42). Ginter discloses such negotiations involving electronic VDE communications between multiple commercial parties, as shown, e.g., in Figs. 2, 2A, 77-87. (253:22-317:20).</p> <p>- For example, the second business entity can be any business entity(ies) with whom user is communicating as part of a VDE-controlled “multi-site ‘real-time’ interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-16).</p> <p>- For example, the second business entity can be any business entity(ies) with which a “smart object” interacts on behalf of the end user. (E.g., 273:57-64, Fig. 74).</p> <p>- In a VDE docking station embodiments, the first business entity may be the bank, retailer, or other business entity controlling the VDE terminal with which the user’s VDE appliance docks, while the second business entity may be any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-40:4, 226:45-235:7; Fig. 71). More specifically, the retailer’s auxiliary terminal (first computer system) to which the user’s portable device docks, itself can communicate on-line, in real time, with a commercial</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>establishment (second computer system) to authorize the transaction. (See, e.g., 231:49-232:11, 232:12-38).</p> <p>- Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first business entity can be whatever business entity controls the user's VDE central processing unit (e.g., Fig. 70, item 600(1)), and the second business entity can be any business entity controlling any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p>
131	associating an object identity with information entries and attributes,	<p><i><u>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</u></i></p> <p><i><u>See element 74, above.</u></i></p>
132	wherein the object identity represents a networked object;	<p><i><u>See element 75, above.</u></i></p>
133	storing said information entries and said attributes in a virtual information store; and	<p><i><u>See element 76, above.</u></i></p>
134	assigning a unique	<p><i><u>See element 77, above.</u></i></p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
	network address to said object identity.	
135	17. The method of claim 16, further comprising: exchanging information between the first and second business entities in order to complete a transaction in response to one or more of the signals.	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit this exchange of information being a part of the first performing or second performing step. Nor does it prohibit the user device being part of one of the business entities. This claim does not require that the exchanging of information between the first and second business entities be a direct exchange; i.e., it may be indirect using one or more intermediaries. Nor does it require that the exchange be a two-way exchange.</i></p> <p><u>See element 137, below.</u></p> <p>- Ginter discloses that users can perform VDE-managed transactions involving user communications with two business entities, and communications between those two entities, in order to complete a transaction.</p> <p>- For example, Ginter discloses transactions that are multi-party, multi-site VDE-controlled transactions such as:</p> <ul style="list-style-type: none"> • “teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-16). <p>- For example, Ginter discloses three-way communications among a user, a repository, and a financial services provider. E.g.:</p> <ul style="list-style-type: none"> • “SPU 500 may also perform secure data management processes including governing usage of, auditing of, and where appropriate, payment for VDE objects 300 (through the use of prepayments, credits, real-time electronic debits from bank accounts and/or VDE node currency token deposit accounts).” (61:30-36). <p>- For example, Ginter discloses presenting the user with choices between different sources of content, and then after that selection leads to the selected remote source, that source provides the user with a selection of objects to select. The user, of course, is free to choose, as recited in ‘506 claim 16, a control associated with a first business entity and then sometime later chose a control associated with a second</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>business entity:</p> <ul style="list-style-type: none"> • “Other important “pop-up” user interface 686 functions include dialogs which enable flexible browsing through libraries of properties or objects available for licensing or purchase, either from locally stored VDE protected objects and/or from one or more various, remotely located content providers. Such function may be provided either while the user's computer is connected to a remote distributor's or clearinghouse's electronic appliance 600, or by activating an electronic connection to a remote source after a choice (such as a property, a resource location, or a class of objects or resources is selected). A browsing interface can allow this electronic connection to be made automatically upon a user selection of an item, or the connection itself can be explicitly activated by the user. See FIG. 72D for an example of such a “browsing” dialog.” (236:60-237:6). <p>- Ginter discloses that some of the user-selected content may be stored locally (236:63) e.g., in VDE storage device 600(2) (Fig. 70), operated by the user's own business entity, while other user-selected content may be stored at a VDE repository or other second business entity's VDE node. (236:64-65). In this situation, the second business entity necessarily communicates information to the first (user's) business entity when interacting with the user's device.</p> <p>- Ginter discloses for example that a user may receive user-requested information directly from New York or Dallas Web Servers (second business entities) or those entities may relay the information to the Boston database (first business entity) which in turn interacts with the user. (280:43-281:2).</p> <p>- More generally, Ginter discloses that objects only virtually stored at a repository may be sent from the actual remote source directly to the user device, or alternatively sent to the repository and then sent to the user. (285:57-286:13).</p> <p>- For example, any of business entities operating any of the VDE Object Repositories shown in Fig. 78 may relay information to a user and/or to another repository who transmits it to a user. E.g.:</p> <ul style="list-style-type: none"> • “An example of one possible repository arrangement 3300 is shown in FIG. 78. In this example, a repository 3302 is connected to a network 3304 that allows authors 3306A,

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>3306B, 3306C, and 3306D; a publisher 3308; and one or more end users 3310 to communicate with the repository 3302 and with each other. A second network 3312 allows the publisher 3308, authors 3306E and 33069 an editor 3314, and a librarian 3316 to communicate with each other and with a local repository 3318. The publisher 3308 is also directly connected to author 3306E. In this example, the authors 3306 and publisher 3308 connect to the repository 3302 in order to place their content into an environment in which end users 3310 will be able to gain access to a broad selection of content from a common location.” (281:23-36; see also 287:1-7 (“what other clearinghouses may be used by the end user in the course of interacting with content obtained from the repository,...”)).</p> <p>- For example, the independent financial service provider may communicate with the VDE repository (254:7-15; see also 52:4-6, 264:37-48) or a user activating a control for use of controlled content may automatically cause a payment transaction with such a financial provider. (301:44-60).</p> <p>- In Ginter’s disclosed VDE agreement negotiation scenarios, the multiple parties communicate their respective controls among each other, such that different business entities exchange information to permit a user to complete such a negotiation transaction. (E.g., 19:16-57, 38:60-39:2, 247:10-42; see, e.g., Figs. 2, 2A, 77-87 (253:22-317:20)).</p> <p>- For example, the different business entities contacted by a “smart object” on behalf of the end user communicate information (e.g., the smart object itself) between them. (E.g., 273:57-64, Fig. 74).</p> <p>- In a VDE docking station embodiments, the first business entity may be the bank, retailer, or other business entity controlling the VDE terminal with which the user’s VDE appliance docks, while the second business entity may be any third-party financial service provider, or VDE repository or clearinghouse, or VDE content creator or distributor with which the retailer/bank and/or user must interact in order to perform merchant, banking, and on-line financial transactions, including two-way communications, including menu-driven (231:10-11) communications with business organizations concerning a transaction, and may during the same session communicate with a VDE administrator (232:12-38) to allow the transaction to proceed. (39:17-</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>40:4, 226:45-235:7; Fig. 71).</p> <p>- More specifically, the retailer's auxiliary terminal (first computer system) to which the user's portable device docks, itself can communicate on-line, in real time, with a commercial establishment (second computer system) to authorize the transaction. E.g.:</p> <ul style="list-style-type: none"> • “In a retail establishment, the auxiliary terminal host 2608 might take the form of a portable device presented to the user, for example at the end of a meal. The user might place his portable appliance 2600 into a smart card receptacle such as a PCMCIA slot, and then enter whatever additional information that might appropriately describe the transaction as well as satisfying whatever electronic appliance 600 identification procedure(s) required. The transaction, given the availability of sufficient credit, would be approved, and transaction related information would then be communicated back from the auxiliary terminal directly into the portable appliance 2600. This would be a highly convenient mode of credit usage and record management. The portable device auxiliary terminal might be "on-line," that is electronically communicating back to a commercial establishment and/or third party information collection point through the use of cellular, satellite, radio frequency, or other communications means. The auxiliary terminal might, after a check by a commercial party in response to receipt of certain identification information at the collection point, communicate back to the auxiliary terminal whether or not to accept the portable appliance 2600 based on other information, such as a bad credit record or a stolen portable appliance 2600. Such a portable auxiliary terminal would also be very useful at other commercial establishments; for example at gasoline stations, rental car return areas, street and stadium vendors, bars, and other commercial establishments where efficiency would be optimized by allowing clerks and other personnel to consummate transactions at points other than traditional cash register locations.” (231:49-232:11). <p>- The portable appliance may communicate with a VDE administrator during the same session to get approval for the transaction. (232:12-38).</p> <p>- Where the VDE user's device is a VDE display unit (e.g., Fig. 70, item 600(3)), then the first business entity can be whatever business entity controls the user's VDE central processing unit (e.g., Fig. 70, item</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>600(1)), and the second business entity can be any business entity controlling any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications to perform a transaction or obtain a commercial service. (See 38:6-19; see also 224:46-62).</p> <p>- Similarly, where the user device is a corporate workstation (222:40-47), then the first computer system can be the VDE server connected to that workstation over a network, and the second computer system can be any other VDE unit (e.g., of a content creator, distributor, repository, clearinghouse, financial service provider, VDE administrator, etc.) with which VDE user communications (via the VDE server) to perform a transaction or obtain a commercial service. (222:21-223:43; Fig. 8).</p>
136	<p>18. The method of claim 16, wherein a three-way transaction is achieved between the first computing resources, the second computing resources and the user device.</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit this transaction consisting of the first performing step and/or second performing step. Nor does it prohibit the user device being part of the first computer resources and/or the second computing resources. This claim does not require that the transaction be achieved directly between the recited resources and device; i.e., it may be indirect using one or more intermediaries. Nor does it require a two-way exchange between the first computing resources and second computing resources.</i></p> <p align="center"><u>Three-Way Transactions</u></p> <p>- Each VDE content creator, distributor, repository, clearinghouse, and financial service provider provides a commercial service (e.g., making content or credit available pursuant to VDE-specified and/or VDE-negotiated VDE controls at VDE-enforced prices). Ginter discloses using VDE to engage in a wide range of three-way and n-way transactions among these VDE commercial service providers, including the transaction of using VDE to negotiate and form VDE-enforced electronic agreements among three or more parties. (E.g., 2:56-61, 6:28-34, 8:17-21, 9:37-40, 16:13-20, 19:9-15, 45:23-57, 157:28-36, 248:38-40, 249:46-49, 279:18-21, 292:65-293:18). E.g.:</p> <ul style="list-style-type: none"> • “VDE agreements may define the electronic commerce relationship of two or more parties of a value chain, but such agreements may, at times, not directly obligate or otherwise directly involve other VDE value chain participants. For example, an electronic agreement between a content creator and a distributor may establish both the price to the distributor for a creator's content (such as for a property distributed in a VDE

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>container object) and the number of copies of this object that this distributor may distribute to end-users over a given period of time. In a second agreement, a value chain end-user may be involved in a three party agreement in which the end-user agrees to certain requirements for using the distributed product such as accepting distributor charges for content use and agreeing to observe the copyright rights of the creator. A third agreement might exist between the distributor and a financial clearinghouse that allows the distributor to employ the clearinghouse's credit for payment for the product if the end-user has a separate (fourth) agreement directly with the clearinghouse extending credit to the end-user. A fifth, evolving agreement may develop between all value chain participants as content control information passes along its chain of handling. This evolving agreement can establish the rights of all parties to content usage information, including, for example, the nature of information to be received by each party and the pathway of handling of content usage information and related procedures. A sixth agreement in this example, may involve all parties to the agreement and establishes certain general assumptions, such as security techniques and degree of trustedness (for example, commercial integrity of the system may require each VDE installation secure subsystem to electronically warrant that their VDE node meets certain interoperability requirements). In the above example, these six agreements could comprise agreements of an extended agreement for this commercial value chain instance.” (45:23-57).</p> <ul style="list-style-type: none"> • “the use of VDE, electronic commerce can function in the same way as traditional commerce--that is commercial relationships regarding products and services can be shaped through the negotiation of one or more agreements between a variety of parties.” (2:56-61). • “VDE allows electronic arrangements to be created involving two or more parties. These agreements can themselves comprise a collection of agreements between participants in a commercial value chain and/or a data security chain model for handling, auditing, reporting, and payment.” (8:17-21). • “VDE also securely supports the payment of money owed (including money owed for content and/or appliance usage) by one or more parties to one or more other parties, in the form

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>of electronic credit and/or currency.” (9:37-40).</p> <ul style="list-style-type: none"> • “VDE ... can be configured to meet the diverse requirements of a network of interrelated participants that may include content creators, content distributors, client administrators, end users, and/or clearinghouses and/or other content usage information users. These parties may constitute a network of participants involved in simple to complex electronic content dissemination, usage control, usage reporting, and/or usage payment.” (16:13-20). • “These capabilities may constitute one or more "proposed" electronic agreements (and/or agreement functions available for selection and/or use with parameter data) that manage the use and/or the consequences of use of such content and which can enact the terms and conditions of agreements involving multiple parties and their various rights and obligations.” (19:9-15). • “VDE is a secure system for regulating electronic conduct and commerce. Regulation is ensured by control information put in place by one or more parties. These parties may include content providers, electronic hardware manufacturers, financial service providers, or electronic "infrastructure" companies such as cable or telecommunications companies.” (6:28-34). • “user might be given the choice of a variety of meter/billing methods, such as: payment by VISA or MasterCard; choosing between billing based upon the quantity of material retrieved from an information database, based on the time of use, and/or both. The user might be offered a discount on time and/or quantity billing if he is willing to allow certain details concerning his retrieval of content to be provided to third parties (e.g., for demographic purposes).” (157:28-36). • “FIG. 76A shows a single negotiation process 3172 that takes any number of PERCs 808 (e.g., supplied by different parties) as inputs to the negotiation.” (248:38-40). • “In "trusted negotiator" negotiations, all parties provide their demands and preferences to a "trusted" negotiator and agree to be bound by her decision. This is similar to binding arbitration in today's society.” (249:46-49).

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<ul style="list-style-type: none"> • “supporting a public repository into which other parties can deposit their products for redistribution to customers (normally by making electronic copies for distribution to a customer in response to a request).” (279:18-21). • “The VDE content control architecture allows content control information (such as control information for governing content usage) to be shaped to conform to VDE control information requirements of multiple parties. Formulating such multiple party content control information normally involves securely deriving control information from control information securely contributed by parties who play a role in a content handling and control model (e.g. content creator(s), provider(s), user(s), clearinghouse(s), etc.). Multiple party control information may be necessary in order to combine multiple pieces of independently managed VDE content into a single VDE container object (particularly if such independently managed content pieces have differing, for example conflicting, content control information). Such secure combination of VDE managed pieces of content will frequently require VDE's ability to securely derive content control information which accommodates the control information requirements, including any combinatorial rules, of the respective VDE managed pieces of content and reflects an acceptable agreement between such plural control information sets.” (292:65-293:18). <p>- Any VDE content user, creator, or distributor engages in multi-faceted and at least two-way and two-party transactions (e.g., Fig. 35) both when creating multi-party VDE controls protecting content (e.g., Figs. 5, 30-31) and also requesting to “consume” VDE-protected objects (e.g., Figs. 5, 30-31), as when registering for an object (Fig. 43), or opening an object (Fig. 49), or reading an object (Fig. 50), or accessing an object (Fig. 54)—all of which activate multiple VDE-controlled controls and transactions such as a “meter method,” “billing method,” and “budget method” (e.g., Figs. 3, 45-48). These transactions often involve three or more separate parties (and their separate computing systems), and communications over each of three or more legs of a communication web (e.g., a user of content communicates with two different sources of content, and those two sources communicate with each other) as part of a transaction. (E.g., Figs. 41a-41d, 72B-72D, 77, 79, 87).</p> <p>- Figs. 41a-41d depict multiple methods (transactional applications) at</p>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
		<p>different VDE nodes communicating among each other via requests, responses, replies, etc. to perform various transactions concerning the distribution and consuming of content and tracking and payment therefor. (168:61-172:54). Ginter discloses that each of the multiple parties may communicate with each of the others, directly or via an intermediary. E.g.:</p> <ul style="list-style-type: none"> • “FIG. 41c shows the extension the control mechanism described in FIGS. 41a-41b to three nodes (600A, 600B, 600C). Each request-response pair operates in the manner as described for FIG. 41b, with several pairs linked together to form a chain of control and handling between several VDE nodes 600A, 600B, 600C. This mechanism may be used to extend the chain of handling and control to an arbitrary number of VDE nodes using any configuration of nodes. For example, VDE node 600C might communicate directly to VDE node 600A and communicate directly to VDE 600B, which in turn communicates with VDE node 600A. Alternately, VDE node 600C might communicate directly with VDE node 600A, VDE node 600A may communicate with VDE node 600B, and VDE node 600B may communicate with VDE node 600C.” (169:57-170:4). <p>- VDE smart objects permit multi-party transactions involving a user device and at least two remote VDE sites (computer systems) (E.g., Figs. 72B-72D, 74).</p> <p>- The interactive VDE-controlled games, teleconferencing and bulletin board services disclosed in Ginter provide multi-site interaction and thus retrieves data from one or more other computer systems (both control data over the VDE network and data unique to the controlled content but still managed by VDE). E.g.:</p> <p>- “VDE may also be used, for example, for multi-site "real-time" interaction such as teleconferencing, interactive games, or on-line bulletin boards, where restrictions on, and/or auditing of, the use of all or portions of communicated information is enforced.” (14:9-14).</p> <p><u>See also element 78, above</u> (under “Other VDE Multi-Party Transactions”).</p>
137	19. The method of claim 16, wherein a	<u>See elements 88, 89, and 137, above.</u>

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El. #	Claim	U.S. Patent No. 5,910,987 to Ginter <i>et al.</i>
	plurality of computing resources are used, each on a separate corporate network, and each operated by one of a plurality of different business entities.	

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
139	1. A method for providing a service over a digital network, the method comprising:	<p><u>POPP:</u> Popp discloses a method for providing a service over a digital network:</p> <p align="center">“Method and apparatus for managing internet transactions”</p> <p>(Popp, Title)¹</p> <p>“An object-oriented approach provides the ability to develop and manage Internet transactions. Local applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration. Some or all of a Web page can be generated dynamically using input received in a returned page, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system). When the Web page definition is rendered, the information contained in template(s), declaration file(s), and object(s) are used to generate standard definitions. State information is maintained across transactions. Using state information, virtual applications, sessions, transactions, and pages can be implemented. Self-contained modules, or components, provide the ability to share implementations and create multi-content documents. Event objects can be used to assist in event handling management.”</p> <p>(Id., Abstract)</p> <p>“This invention relates to the development and management of transactions on the Internet.”</p> <p>(Id., Col. 1, lines 7-8)</p> <p>“An Internet client accesses a computer on the network via an Internet provider. An Internet provider is an organization that provides a client (e.g., an individual or other organization) with access to the Internet (via analog telephone line or Integrated Services Digital Network line, for example).”</p> <p>(Id., Col. 1, lines 11-16)</p>
140	sending first display information	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being part of the first computer system. This claim does not require that the display information be sent directly</i></p>

¹ Emphases added throughout.

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references												
	<p>from a first computer system to a user device,</p>	<p><i>from the first computer system to the user device; i.e., it may be sent indirectly via some other system or device. The claim does not require that the "display information" be displayed by the user device.²</i></p> <p><u>POPP:</u> Popp discloses sending first display information from a first computer system to a user device.</p> <p>"FIG. 3B provides Web pages that are generated using application 320 and displayed at a client workstation such as clients 302-308."</p> <p>(Popp, Col. 9, lines 10-12)</p> <p>"Referring to FIG. 3B, the Automobile Shopper application provides an example of the use of dynamic pages."</p> <p>(Id., Col. 9, lines 27-28)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p align="center">Welcome</p> <table border="0" style="width: 100%; text-align: center;"> <tr> <td>Models</td> <td>Price</td> <td>Type</td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td colspan="3">Sort by: <input type="text"/></td> </tr> <tr> <td colspan="3"><input type="button" value="Display cars"/></td> </tr> </table> <p style="text-align: right; margin-right: 20px;">332</p> </div> <p>(Id., Fig. 3B)</p>	Models	Price	Type	<input type="text"/>	<input type="text"/>	<input type="text"/>	Sort by: <input type="text"/>			<input type="button" value="Display cars"/>		
Models	Price	Type												
<input type="text"/>	<input type="text"/>	<input type="text"/>												
Sort by: <input type="text"/>														
<input type="button" value="Display cars"/>														
141	wherein the	<p><i><u>Claim Construction Note (Broadly Construed):</u> The claim does not</i></p>												

² Where appropriate, Requester has included in this Appendix notes on claim construction that Requester believes are consistent with the broadest reasonable interpretation standard afforded claims during reexamination. The cited prior art either anticipates or renders obvious each claim (*see* specific SNQs in Section IV of the Request), even if the claims are read more narrowly than Requester has proposed. Requester does not admit that any interpretations of any of the claims or constructions of claim terms that may be set forth herein would also be proper in the Litigations or in other court proceedings that do not apply the "broadest reasonable interpretation" standard applied during reexamination. See MPEP § 2258.I.G.

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	<p>first display information includes a control associated with a commercial service;</p>	<p><i>require that the control itself be displayed. The control may be associated with more than one commercial service. The "commercial service" recited in this claim element need not be a commercial service listed in a later step (element 149) of this claim.</i></p> <p><u>POPP:</u> Popp discloses that the first display information includes a control associated with a commercial service.</p> <p>“Welcome’ page 332 provides input areas that allow the shopper to identify model, price and type of the car(s) in which the shopper has some interest.”</p> <p>(Popp, Col. 9, lines 29-31)</p> <div> <p>The diagram shows a rectangular box representing a 'Welcome' page. At the top center is the word 'Welcome'. Below it are three input fields labeled 'Models', 'Price', and 'Type', each enclosed in a dashed-line rectangle. Below these three fields is a 'Sort by:' label followed by a dashed-line input field. At the bottom of the box is a 'Display cars' label enclosed in a dashed-line rectangle. A line points from the number '332' to the right side of the box.</p> </div> <p>(<i>Id.</i>, Fig. 3B)</p>
<p>142</p>	<p>accepting a first signal in response to a user input to activate the control;</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device.</i></p> <p><u>POPP:</u> Popp discloses accepting a first signal in response to a user input to activate the control.</p> <p>“After specifying the characteristics, the shopper submits the page. In response, the shopper expects a page that displays those cars that meet the criteria specified by the shopper in "Welcome" page 332. The response page is based on the particular input provided by the shopper.</p> <p>HTTP Server 314 receives the "Welcome" page. The</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references												
		<p>"Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.</p> <p>Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper."</p> <p>(Popp, Col. 9, lines 31-47)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p align="center">Welcome 332</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; border: 1px dashed black; padding: 5px;">Models</td> <td style="text-align: center; border: 1px dashed black; padding: 5px;">Price</td> <td style="text-align: center; border: 1px dashed black; padding: 5px;">Type</td> </tr> <tr> <td style="text-align: center; border: 1px dashed black; height: 40px;"></td> <td style="text-align: center; border: 1px dashed black; height: 40px;"></td> <td style="text-align: center; border: 1px dashed black; height: 40px;"></td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 5px;">Sort by: </td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 5px;">Display cars</td> </tr> </table> </div> <p>(<i>Id.</i>, Fig. 3B)</p>	Models	Price	Type				Sort by: 			Display cars		
Models	Price	Type												
Sort by: 														
Display cars														
143	<p>associating an object identity with information entries and attributes,</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require any relationship between any of its "associating," "storing" and "assigning" steps, on the one hand, and the remaining steps in the claim, on the other hand.</i></p> <p>POPP: Popp discloses associating object identities (e.g., app_name, with or without rcv_form or send_form) with information entries and attributes (e.g., "user-specified characteristics," objects associated with a web page.)</p> <p>"Further, HTTP server 206 can initiate a program identified in the URL. In the preferred embodiment, the URL specifies CGIMessenger 210 to service the client request. CGIMessenger 210 uses the Common Gateway Interface (CGI) protocol, for</p>												

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>example. CGIMessenger 210 can execute on the HTTP server 206 or another server connected to HTTP server 206, for example. The following provides an example of a URL:</p> <p align="center">http://www.next.com/cgi_bin/cgimessenger/app_name/rcv_form/send_form</p> <p>The above example is for illustration only. Any URL format can be used with the present invention. The URL in the above example has multiple parts. The first part, "http:" specifies the protocol to be used. Other examples of protocol include "ftp:", "gopher:" and "wais". The next part specifies the Internet domain name of the server. In this case, the Internet domain name of the HTTP server is "www.next.com". The next part, "/cgi_bin/cgi_messenger" specifies the path and filename of the desired resource. The resource can be a file, form, or program, for example. In this case, the resource is a common gateway interface program that is used to route requests to applications. The application that processes the client request is specified in the URL with the "app_name" specification. The names of the receiving form (e.g., the form containing the client request) and the sending form (e.g., a reply to the client request) can be included in the URL.</p> <p>(Popp, Col. 6, line 52 – Col. 7, line 12)</p> <p>“The application name identifies the application that services the client request. If an application is specified, CGIMessenger 210 transmits the client request and corresponding information transmitted from HTTP Server 206 to application 214. Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example.</p> <p>(Id., Col. 7, lines 24-35)</p> <p>“Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper.</p> <p>Objects associated with the next page are initiated. Custom logic associated with the next page is executed to build a select statement to retrieve data from an external data source (e.g., database server 318). To fetch the data from the external data source, the application builds a qualifier object, for example. A data source object acts as an interface to the database. A data source object has fetch, insert,</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>update, and delete operational capabilities.”</p> <p>(Popp., Col. 9, lines 45-55)</p> <p>“Preferably, the objects in an object tree are instantiated based on pre-defined object classes. Object classes are defined to manipulate and generate HTML elements in an HTML document. The name of the object class can mirror the names of the corresponding HTML element to provide an easy association between the two.”</p> <p>(Popp, Col. 12, lines 1-6)</p> <p><u>ROSE:</u></p> <p>Rose teaches a system for uniquely naming objects, and having these uniquely named objects associated with identifying characteristics having specific values (information entries and attributes).</p> <p>“Each type of object (termed an object type) has a name, a syntax, and an encoding. The name is represented uniquely as an OBJECT IDENTIFIER. An OBJECT IDENTIFIER is an administratively assigned name. The administrative policies used for assigning names are discussed later in this memo.”</p> <p>(Rose, Pg. 4)</p> <p>“The syntax for an object type defines the abstract data structure corresponding to that object type. For example, the structure of a given object type might be an INTEGER or OCTET STRING. Although in general, we should permit any ASN.1 construct to be available for use in defining the syntax of an object type, this memo purposely restricts the ASN.1 constructs which may be used. These restrictions are made solely for the sake of simplicity.”</p> <p>(Id.)</p> <p>“The encoding of an object type is simply how instances of that object type are represented using the object's type syntax.”</p> <p>(Id.)</p> <p>Rose's object type itself has various attributes, which themselves each have values (information entries). Some examples of these are the “access” and “status” attributes that form part of the object type.</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>The attribute, "Access," for example may have values of "read-only, read-write, write-only, or not accessible." These values, when entered as an attribute for a given object, constitute "information entries."</p> <p>"An object type definition consists of five fields:</p> <p>OBJECT:</p> <p>-----</p> <p>A textual name, termed the OBJECT DESCRIPTOR, for the object type, along with its corresponding OBJECT IDENTIFIER.</p> <p>Syntax:</p> <p>The abstract syntax for the object type. This must resolve to an instance of the ASN.1 type ObjectSyntax (defined below).</p> <p>Definition:</p> <p>A textual description of the semantics of the object type. Implementations should ensure that their instance of the object fulfills this definition since this MIB is intended for use in multi-vendor environments. As such it is vital that objects have consistent meaning across all machines.</p> <p>Access:</p> <p>One of read-only, read-write, write-only, or not-accessible.</p> <p>Status:</p> <p>One of mandatory, optional, or obsolete."</p> <p><i>(Id., Pg. 10)</i></p> <p>"An object type is a definition of a kind of managed object; it is declarative in nature. In contrast, an object instance is an instantiation of an object type which has been bound to a value."</p> <p><i>(Id., Pgs. 10-11)</i></p> <p><u>MCCLOGHRIE 1213:</u> McCloghrie 1213 discloses means for associating an object identity</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>with information entries and attributes. In the specification below, an object identifier unambiguously identifies a resource that is also associated with additional information entries and attributes (e.g., a particular integer value represents the uptime of a particular computer system).</p> <pre> sysObjectID OBJECT-TYPE SYNTAX OBJECT IDENTIFIER ACCESS read-only STATUS mandatory DESCRIPTION "The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining 'what kind of box' is being managed. For example, if vendor 'Flintstones, Inc.' was assigned the subtree 1.3.6.1.4.1.4242, it could assign the identifier 1.3.6.1.4.1.4242.1.1 to its 'Fred Router'." ::= { system 2 } </pre> <p>(McCloghrie 1213, Pg. 14, ¶ 6)</p> <pre> sysUpTime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre> <p>(Id.)</p> <pre> sysContact OBJECT-TYPE SYNTAX DisplayString (SIZE (0..255)) ACCESS read-write STATUS mandatory DESCRIPTION "The textual identification of the contact person for this managed node, together with information on how to contact this person." ::= { system 4 } </pre> <p>(Id.)</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
144	wherein the object identity represents a networked object;	<p><u>POPP:</u> Popp discloses object identities that represent networked objects:</p> <p>“Further, an internal application is able to access an external data source to store the application's data. State information can be retained to allow the internal application to allow the application to maintain open sessions with multiple users capable of processing multiple transactions in any order.”</p> <p>(Popp, Col. 8, lines 26–31)</p> <p>“Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources.”</p> <p>(Id., Col. 8, lines 53–55)</p> <p>“HTTP Server 314 receives the "Welcome" page. The "Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.”</p> <p>(Id., Col. 9, lines 37-44)</p> <p>“The application sends the qualifier object and fetches all the data from the database. An array of data is returned from the fetch operation. For example, the array contains all of the models of cars that are within the price range and type specifications provided by the shopper in the "Welcome" page. Using the data retrieved from database server 318, the application along with the objects associated with the next Web page generate the definition for Web page 334.”</p> <p>(Id., Col. 9, lines 56–63)</p> <p><u>ROSE:</u> Rose teaches an object descriptor or name (object identity) representing a networked object:</p> <p>“Each type of object (termed an object type) has a name, a syntax, and an encoding. The name is represented uniquely as</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p align="center">an OBJECT IDENTIFIER. An OBJECT IDENTIFIER is an administratively assigned name.</p> <p>(Rose, Pg. 4)</p> <p>“A collection of object types is defined in the MIB. Each such subject type is uniquely named by its OBJECT IDENTIFIER and also has a textual name, which is its OBJECT DESCRIPTOR.”</p> <p>(<i>Id.</i>, Pg. 11)</p> <p><u>MCCLOGHRIE 1213:</u> McCloghrie 1213 teaches that the object identity (e.g., object identifier) represents a networked object.</p> <p>In particular, McCloghrie 1213 teaches that “each object has a name...[that] is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object.”</p> <p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>(McCloghrie 1213, Pg. 10, ¶ 4)³</p> <p><i>Thus, the object identity (object identifier) disclosed in McCloghrie 1213 represents a networked object.</i></p>
145	storing said information entries and said attributes in a virtual information store;	<p><u>POPP:</u> Popp discloses using a database to store information about an object(s).</p> <p>“Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same</p>

³ Highlighting added throughout.

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		<p>server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p>(Popp, Col. 7, lines 31-35)</p> <p>“The application can make use of object technology to generate client responses. For example, the elements of a Web page definition are objectified. Instances of definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources. A special type of control referred to as a repetition control allows a group to be activated multiple times. Each activation of a group of definitional elements generates one occurrence of a repeating portion of the Web page.”</p> <p>(<i>Id.</i>, Col. 8, lines 49-59)</p> <p>Custom logic associated with the next page is executed to build a select statement to retrieve data from an external data source (e.g., database server 318). <u>To fetch the data from the external data source, the application builds a qualifier object, for example. A data source object acts as an interface to the database.</u> A data source object has fetch, insert, update, and delete operational capabilities.</p> <p>The application sends the qualifier object and fetches all the data from the database. An array of data is returned from the fetch operation. For example, the array contains all of the models of cars that are within the price range and type specifications provided by the shopper in the "Welcome" page.”</p> <p>(<i>Id.</i>, Col. 9, lines 48-61)</p> <p><i>Thus, Popp implicitly or inherently discloses that the information regarding the various objects would be stored in a virtual information store, so that they can be accessed in response to a user request. Alternatively, using a database as an information store for information regarding the various objects would have been obvious to one of ordinary skill in the art.</i></p> <p><u>ROSE:</u></p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>Rose discloses a virtual information store through which managed objects may be accessed, which includes object types (information entries) and specific instantiations of those object types (attributes).</p> <p>“Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using Abstract Syntax Notation One (ASN.1) [1].”</p> <p>(Rose, Pg. 4)</p> <p>“Each type of object (termed an object type) has a name, a syntax, and an encoding. The name is represented uniquely as an OBJECT IDENTIFIER. An OBJECT IDENTIFIER is an administratively assigned name. The administrative policies used for assigning names are discussed later in this memo.”</p> <p>(Id.)</p> <p>“The syntax for an object type defines the abstract data structure corresponding to that object type. For example, the structure of a given object type might be an INTEGER or OCTET STRING. Although in general, we should permit any ASN.1 construct to be available for use in defining the syntax of an object type, this memo purposely restricts the ASN.1 constructs which may be used. These restrictions are made solely for the sake of simplicity.”</p> <p>(Id.)</p> <p>“The encoding of an object type is simply how instances of that object type are represented using the object's type syntax.”</p> <p>(Id.)</p> <p>“An object type is a definition of a kind of managed object; it is declarative in nature. In contrast, an object instance is an instantiation of an object type which has been bound to a value.”</p> <p>(Id., Pgs. 10-11)</p> <p><u>MCCLOGHRIE 1213:</u> McCloghrie 1213 discloses a virtual information store for storing</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>information entries and attributes.</p> <p>As McCloghrie 1213 explains, “[m]anaged objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using Abstract Syntax Notation One (ASN.1).”</p> <p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>(McCloghrie 1213, Pg. 10, ¶ 4)</p> <p>Information entries and attributes are stored in the MIB. For example, in the specification below, the object identifier {system 7} is associated with information entries and attributes (e.g., a particular integer value representing the set of services primarily offered by the entity). This integer value is “contained in” a virtual information store described in McCloghrie 1213.</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<pre> sysServices OBJECT-TYPE SYNTAX INTEGER (0..127) ACCESS read-only STATUS mandatory DESCRIPTION "A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., IP gateways) 4 end-to-end (e.g., IP hosts) 7 applications (e.g., mail relays) For systems including OSI protocols, layers 5 and 6 may also be counted." ::= { system 7 } </pre> <p>(Id., Pg. 15, ¶ 6)</p> <p>In the specification below, the object identifier {system 3} is associated with information entries and attributes (e.g., a particular integer value representing the uptime of a particular computer system). This integer value is "contained in" a virtual information store described in McCloghrie 1213.</p> <pre> sysUpTime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre> <p>(Id., Pg. 14, ¶ 6)</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
146	assigning a unique network address to said object identity;	<p>POPP: Popp discloses assigning a unique network address (e.g., a URL from the URL addressing scheme) to an object identity.</p> <p>“An addressing scheme is employed to identify Internet resources (e.g., HTTP server, file or program). This addressing scheme is called Uniform Resource Locator (URL). A URL contains the protocol to use when accessing the server (e.g., HTTP), the Internet domain name of the site on which the server is running, the port number of the server, and the location of the resource in the file structure of the server.”</p> <p>(Popp, Col. 1, lines 61-67)</p> <p>Popp discloses assigning a unique network address (e.g., an URL including the object identity) to an object identity:</p> <p>“Further, HTTP server 206 can initiate a program identified in the URL. In the preferred embodiment, the URL specifies CGIMessenger 210 to service the client request. CGIMessenger 210 uses the Common Gateway Interface (CGI) protocol, for example. CGIMessenger 210 can execute on the HTTP server 206 or another server connected to HTTP server 206, for example. The following provides an example of a URL:</p> <p align="center">http://www.next.com/cgi_bin/cgimessenger/app_name/rcv_form/send_form</p> <p>The above example is for illustration only. Any URL format can be used with the present invention. The URL in the above example has multiple parts. The first part, "http:" specifies the protocol to be used. Other examples of protocol include "ftp:", "gopher:" and "wais". The next part specifies the Internet domain name of the server. In this case, the Internet domain name of the HTTP server is "www.next.com". The next part, "/cgi_bin/cgi_messenger" specifies the path and filename of the desired resource. The resource can be a file, form, or program, for example. In this case, the resource is a common gateway interface program that is used to route requests to applications. The application that processes the client request is specified in the URL with the "app_name" specification. The names of the receiving form (e.g., the form containing the client request) and the sending form (e.g., a reply to the client request) can be included in the URL.”</p> <p>(<i>Id.</i>, Col. 6, line 52–Col. 7, line 12)</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p><i>Additionally, or alternatively, in order to access a given object on the network, that object would necessarily have a unique address, so that it could be accessed over the network in response to a given user input.</i></p> <p><u>ROSE:</u> Rose teaches a unique object identifier for the object, which may be associated using the object's syntax with the object's network address. The combination of this unique identifier and the object's network address provides a unique network address for a specific object:</p> <p>“Each type of object (termed an object type) has a name, a syntax, and an encoding. The name is represented uniquely as an OBJECT IDENTIFIER. An OBJECT IDENTIFIER is an administratively assigned name.”</p> <p>(Rose, Pg. 4)</p> <p>“3.1. Names</p> <p>Names are used to identify managed objects. This memo specifies names which are hierarchical in nature. The OBJECT IDENTIFIER concept is used to model this notion. An OBJECT IDENTIFIER can be used for purposes other than naming managed object types; for example, each international standard has an OBJECT IDENTIFIER assigned to it for the purposes of identification. In short, OBJECT IDENTIFIERS are a means for identifying some object, regardless of the semantics associated with the object (e.g., a network object, a standards document, etc.)</p> <p>An OBJECT IDENTIFIER is a sequence of integers which traverse a global tree. The tree consists of a root connected to a number of labeled nodes via edges. Each node may, in turn, have children of its own which are labeled. In this case, we may term the node a subtree. This process may continue to an arbitrary level of depth.”</p> <p>(Id., Pgs. 4-5)</p> <p>“A collection of object types is defined in the MIB. Each such subject type is uniquely named by its OBJECT IDENTIFIER and also has a textual name, which is its OBJECT</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p align="center">DESCRIPTOR.”</p> <p>(Id., Pg. 11)</p> <p>Rose discloses several ways that object instances, stored in a MIB, are assigned a network address.</p> <p>“3.2. Syntax Syntax is used to define the structure corresponding to object types. ASN.1 constructs are used to define this structure, although the full generality of ASN.1 is not permitted. ...</p> <p>3.2.3. Defined Types In addition, new application-wide types may be defined, so long as they resolve into an IMPLICITly [sic] defined ASN.1 primitive type, list, table, or some other application-wide type. Initially, few application-wide types are defined. Future memos will no doubt define others once a consensus is reached.</p> <p>3.2.3.1. NetworkAddress This CHOICE represents an address from one of possibly several protocol families. Currently, only one protocol family, the Internet family, is present in this CHOICE.</p> <p>3.2.3.2. IpAddress This application-wide type represents a 32-bit internet address. It is represented as an OCTET STRING of length 4, in network byte-order.”</p> <p>(Id., Pgs. 7-8)</p> <p>For example, Rose discloses the object types “atNet Address,” “atEntry”, and “atTable,” which are assigned network addresses.</p> <p>An object type may be defined in the MIB such that an instance of that object type represents an aggregation of information also represented by instances of some number of "subordinate" object types. For example, suppose the following object types are defined in the MIB:</p> <p align="center">.</p> <p>OBJECT: ----- atNetAddress { atEntry 3 } Syntax: NetworkAddress</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>Definition: The network address corresponding to the media-dependent physical address.</p> <p>Access: read-write.</p> <p>Status: mandatory.</p> <p>Then, a fourth object type might also be defined in the MIB:</p> <p>OBJECT: ----- atEntry { atTable 1 }</p> <p>Syntax: AtEntry ::= SEQUENCE { atIndex INTEGER, atPhysAddress OCTET STRING, atNetAddress NetworkAddress }</p> <p>Definition: An entry in the address translation table.</p> <p>Access: read-write.</p> <p>Status: mandatory.</p> <p>Each instance of this object type comprises information represented by instances of the former three object types. An object type defined in this way is called a list.</p> <p>Similarly, tables can be formed by aggregations of a list type. For example, a fifth object type might also be defined in the MIB:</p> <p>OBJECT: ----- atTable { at 1 }</p> <p>Syntax: SEQUENCE OF AtEntry</p> <p>Definition: The address translation table.</p> <p>Access: read-write.</p> <p>Status: mandatory.</p> <p>such that each instance of the atTable object comprises information represented by the set of</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>atEntry object types that collectively constitute a given atTable object instance, that is, a given address translation table.</p> <p>Consider how one might refer to a simple object within a table. Continuing with the previous example, one might name the object type</p> <p align="center">{ atPhysAddress }</p> <p>and specify, using a protocol-specific mechanism, the object instance</p> <p align="center">{ atNetAddress } = { internet "10.0.0.52" }</p> <p>This pairing of object type and object instance would refer to all instances of atPhysAddress which are part of any entry in some address translation table for which the associated atNetAddress value is { internet "10.0.0.52" }. To continue with this example, consider how one might refer to an aggregate object (list) within a table. Naming the object type { atEntry } and specifying, using a protocol-specific mechanism, the object instance</p> <p align="center">{ atNetAddress } = { internet "10.0.0.52" }</p> <p>refers to all instances of entries in the table for which the associated atNetAddress value is { internet "10.0.0.52" }.</p> <p align="center"><i>(Id.</i>, pgs. 11-13.)</p> <p><u>MCCLOGHRIE 1213 [alone, or in further view of MILLER]:⁴</u> McCloghrie 1213 discloses assigning a unique network address to an object identity (object identifier).</p> <p>McCloghrie 1213 discloses assigning unique network addresses to object identities. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.</p>

⁴ Additional references are permitted by MPEP 2131.01 to explain meaning or show inherency of an element in a cited reference. Here, Miller explains the meaning of "index" in McCloghrie 1213 and shows that the appending of IP addresses to object identifiers is inherent in McCloghrie 1213.

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<pre> -- the IP address table -- The IP address table contains this entity's IP addressing -- information. ipAddrTable OBJECT-TYPE SYNTAX SEQUENCE OF IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The table of addressing information relevant to this entity's IP addresses." ::= { ip 20 } ipAddrEntry OBJECT-TYPE SYNTAX IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The addressing information for one of this entity's IP addresses." INDEX { ipAdEntAddr } ::= { ipAddrTable 1 } IpAddrEntry ::= SEQUENCE { ipAdEntAddr IpAddress, ipAdEntIfIndex INTEGER, ipAdEntNetMask IpAddress, ipAdEntBcastAddr INTEGER, ipAdEntReasmMaxSize INTEGER (0..65535) } ipAdEntAddr OBJECT-TYPE SYNTAX IpAddress ACCESS read-only STATUS mandatory DESCRIPTION "The IP address to which this entry's addressing information pertains." ::= { ipAddrEntry 1 } </pre> <p>(McCloghrie 1213, Pg. 31, ¶ 6)</p> <p>The object type "ipAddrEntry," described as "[t]he addressing information for one of this entity's IP addresses," uses "ipAdEntAddr" as an index, which in turn is described as "[t]he IP address to which this entry's addressing information pertains." <i>Id.</i> In this situation, a unique network address is assigned to the object identity.</p> <p>Mark A. Miller, <i>Managing Internetworks with SNMP (1993)</i>, explains that in SNMP (the subject of RFC 1213), using an IP address as an index requires appending it to an object identifier.</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>Miller can be used to explain the meaning of “index” in RFC 1213 and to show that the appending of IP addresses to object identifiers is inherent in RFC 1213. In particular, Miller provides a contemporaneous description of appending an IP address to an object identifier to access an object in the table “ipAddrTable”:</p> <p>BcastAddr (4), shown in Figure 4-4a. Next, the destination route is added as a suffix, that is, a.b.c.d. (More on IP addresses and dotted decimal notation in Section 5.3.) The variable name for ipAdEntBcastAddr associated with IP Address a.b.c.d would therefore be [1.3.6.1.2.1.4.20.1.4.a.b.c.d].</p> <p>(Miller, Pg. 138)</p> <p>McCloghrie 1213 also discloses another similar example. The table called ipRouteTable serves as an entity’s IP routing table, The table contains an ipRouteEntry, which is indexed by ipRouteDest. Like ipAdEntAddr in the prior example, ipRouteDest has an IP address value, specifically, “the destination IP address of this route.” And, as in the example above, the IP address is used as an index into a table.</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<pre> -- the IP routing table -- The IP routing table contains an entry for each route -- presently known to this entity. ipRouteTable OBJECT-TYPE SYNTAX SEQUENCE OF IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "This entity's IP Routing table." ::= { ip 21 } ipRouteEntry OBJECT-TYPE SYNTAX IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "A route to a particular destination." INDEX { ipRouteDest } ::= { ipRouteTable 1 } IpRouteEntry ::= SEQUENCE { ipRouteDest IpAddress, ipRouteIfIndex INTEGER, ipRouteMetric1 INTEGER, ipRouteMetric2 INTEGER, ipRouteMetric3 INTEGER, ipRouteMetric4 INTEGER, ipRouteNextHop IpAddress, ipRouteType INTEGER, ipRouteProto INTEGER, ipRouteAge INTEGER, ipRouteMask IpAddress, ipRouteMetric5 INTEGER, </pre>

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Bl. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<pre> ipRouteInfo OBJECT IDENTIFIER } ipRouteDest OBJECT-TYPE SYNTAX IpAddress ACCESS read-write STATUS mandatory DESCRIPTION "The destination IP address of this route. An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table- access mechanisms defined by the network management protocol in use." ::= { ipRouteEntry 1 } </pre> <p>(McCloghrie 1213, Pgs. 33-34, ¶ 6)</p> <p><u>MCCLOGHRIE 1447:</u> McCloghrie 1447 discloses assigning a unique network address to an object identity (object identifier).</p> <p>Although McCloghrie 1213 fully discloses this element, McCloghrie 1447 (Party MIB for SNMPv2) provides even more invalidating examples, and therefore can be combined with McCloghrie 1213, providing an additional ground for rendering the claim obvious, as the example below explains.</p> <p>McCloghrie 1447 discloses initialPartyID objects, whose values are object identifiers. As the excerpt below explains, initialPartyID corresponds to a branch (a subtree) of a hierarchical tree.</p> <pre> -- Definition of Initial Party and Context Identifiers -- When devices are installed, they need to be configured -- with an initial set of SNMPv2 parties and contexts. The -- configuration of SNMPv2 parties and contexts requires (among -- other things) the assignment of several OBJECT IDENTIFIERS. -- Any local network administration can obtain the delegated -- authority necessary to assign its own OBJECT IDENTIFIERS. -- However, to provide for those administrations who have not -- obtained the necessary authority, this document allocates a -- branch of the naming tree for use with the following -- conventions. initialPartyId OBJECT IDENTIFIER ::= { partyAdmin 3 } initialContextId OBJECT IDENTIFIER ::= { partyAdmin 4 } </pre> <p>(McCloghrie 1447, Pg. 8, ¶ 2)</p> <p>The initialPartyID object is used in conjunction with the IP address of the</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>configured device, represented below as a.b.c.d (an IP address).</p> <pre>-- Party Identifiers for use as initial SNMPv2 parties -- at IP address a.b.c.d -- Note that for all OBJECT IDENTIFIERS assigned under -- initialPartyId, the four sub-identifiers immediately -- following initialPartyId represent the four octets of -- an IP address. Initial party identifiers for other address -- families are assigned under a different OBJECT IDENTIFIER, -- as defined elsewhere.</pre> <p>(<i>Id.</i>, Pg. 9, ¶ 2) (highlighting added)</p> <p>For instance, in the example below, a party-based security profile corresponds to an object at the a.b.c.d.1 node of the a.b.c.d subtree. Just as in figure 6B in the patent, the dotted decimal string associated with each object includes the IP address of the parent node plus an extra integer appended on the right of the IP address.</p> <pre>-- a noAuth/noPriv party which executes at the agent -- partyIdentity = { initialPartyId a.b.c.d.1 } -- partyIndex = 1 -- partyTDomain = snmpUDPDomain -- partyTAddress = a.b.c.d, 161 -- partyLocal = true (in agent's database) -- partyAuthProtocol = noAuth -- partyAuthClock = 0 -- partyAuthPrivate = ''H (the empty string) -- partyAuthPublic = ''H (the empty string) -- partyAuthLifetime = 0 -- partyPrivProtocol = noPriv -- partyPrivPrivate = ''H (the empty string) -- partyPrivPublic = ''H (the empty string)</pre> <p>(<i>Id.</i>, Pg. 10, ¶ 2)</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
147	initiating, in response to the first signal, communication between the user device and a second computer system;	<p><i>Claim Construction Note (Broadly Construed): This claim element does not require that the user device communicate directly with the second computer system, but rather encompasses the user device communicating with the second computer system indirectly via other devices or systems (including through the first computer system).</i></p> <p>POPP: Popp discloses initiating, in response to the first signal, communication between the user device and a second computer system.</p> <p>Popp discloses that the various steps disclosed may operate on different computer systems and/or using different servers, including resources that are external to the network.</p> <p>“To retrieve a file on the Internet, a client must search for the file, make a connection to the computer on which the file is stored, and download the file. Each of these steps may involve a separate application and access to multiple, dissimilar computer systems. The World Wide Web (WWW) was developed to provide a simpler, more uniform means for accessing information on the Internet.”</p> <p>(Popp, Col. 1, lines 19-25)</p> <p>“After specifying the characteristics, the shopper submits the page. In response, the shopper expects a page that displays those cars that meet the criteria specified by the shopper in "Welcome" page 332. The response page is based on the particular input provided by the shopper.</p> <p>HTTP Server 314 receives the "Welcome" page. The "Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.</p> <p>Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to</p>

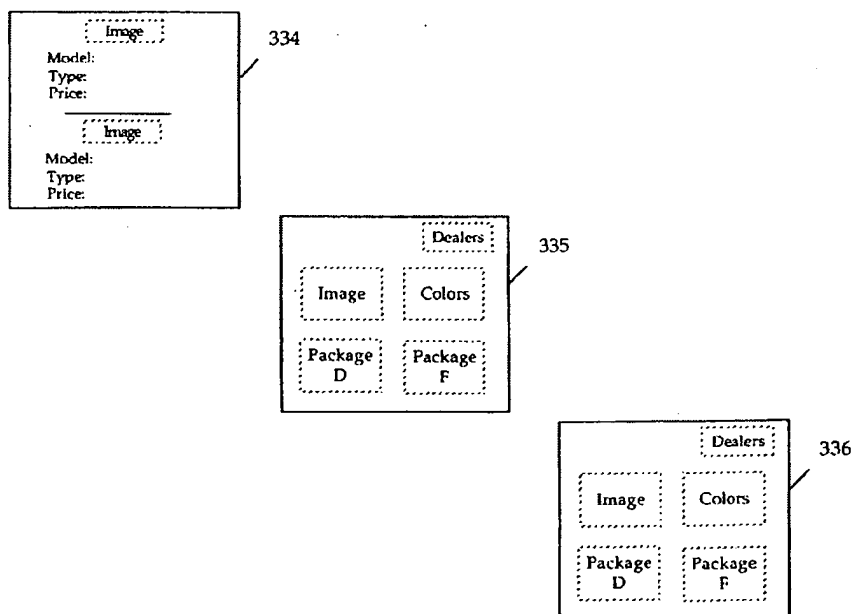
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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>determine the next page to be sent to the shopper.”</p> <p>(Id., Col. 9, lines 31-47)</p> <p>“Some or all of a form can be generated based on input received in a receive form, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system).”</p> <p>(Id., Col. 3, lines 36-40)</p> <p>“Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example. Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p>(Id., Col. 7, lines 28-35)</p> <p><i>Thus, Popp explicitly or inherently discloses user communication with a second computer system.</i></p>
148	using the second computer system for sending second display information to the user device,	<p><i>Claim Construction Note (Broadly Construed): The claim does not require that the “display information” be displayed by the user device. The claim does not require that the second computer system send the display information directly to the user device; it may be sent via other devices or system systems (including, e.g., the first computer system).</i></p> <p><u>POPP:</u> Popp discloses using the second computer system for sending second display information to the user device.</p> <p>“Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper.”</p> <p>(Popp, Col. 9, lines 31-47)</p> <p>“The application sends the qualifier object and fetches all the data from the database. An array of data is returned from the fetch operation. For example, the array contains all of the models of cars that are within the price range and type specifications</p>

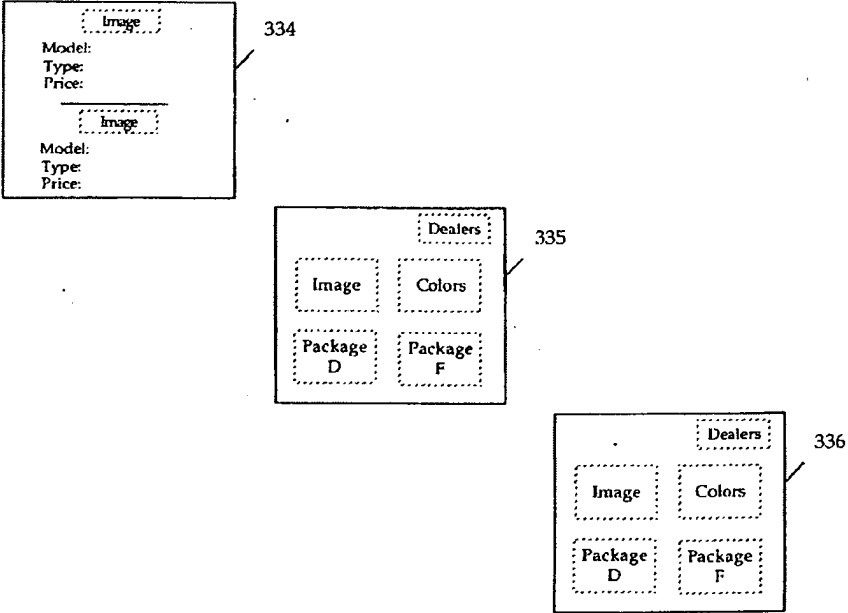
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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>provided by the shopper in the "Welcome" page. Using the data retrieved from database server 318, the application along with the objects associated with the next Web page generate the definition for Web page 334.</p> <p>Web page 334 contains a repeating portion that is comprised of an image, model data, type information, pricing.”</p> <p>(<i>Id.</i>, Col. 9, lines 56-65)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> </div> <p>(<i>Id.</i>, Fig. 3B)</p>
149	wherein the second display information includes a list of at least one commercial service;	<p><i>Claim Construction Note (Broadly Construed):</i> The claim language “a list of at least one commercial service” encompasses any information directly or indirectly indicating even a single commercial service. This claim does not require that the list itself be displayed. The “commercial service” recited in this claim element need not be the commercial service recited earlier in this claim (element 141).</p> <p>POPP: Popp discloses that the second display information includes a list of at least one commercial service (e.g., a list of car options to select, and/or a list of car dealers).</p> <p>“The application sends the qualifier object and fetches all the data from the database. An array of data is returned from the fetch operation. For example, the array contains all of the models of cars that are within the price range and type specifications provided by the shopper in the "Welcome" page. Using the data retrieved from database server 318, the application along with the objects associated with the next Web page generate the</p>

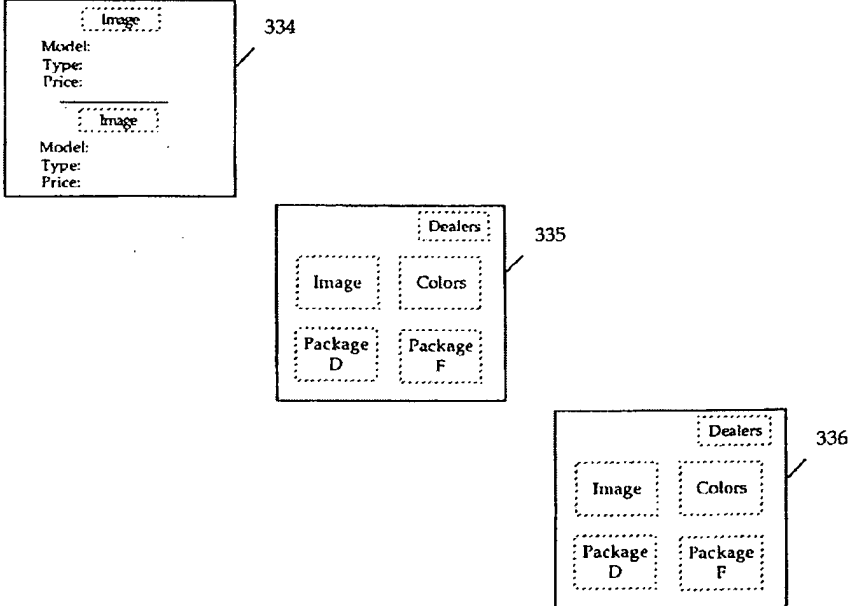
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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>definition for Web page 334.</p> <p>Web page 334 contains a repeating portion that is comprised of an image, model data, type information, pricing.”</p> <p>(Popp, Col. 9, lines 56-65)</p> <p>“A shopper selects an option package (e.g., "Package D" or "Package F"), select a color for the car, or ask for a screen that contains a list of dealers that have the selected car in stock. For example, if the shopper selects a color for the car, the custom logic associated with page 335 determines that the same page definition can be used to generate a response page. An image of the car in the color selected by the shopper can be inserted into the page definition and sent to the shopper's workstation. The browser executing on the shopper's workstation displays Web page 336.”</p> <p>(<i>Id.</i>, Col. 10, lines 19-28.)</p>  <p>(<i>Id.</i>, Fig. 3B.)</p>
150	accepting a second signal in response to a user input to	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device.</i></p> <p>POPP: Popp discloses accepting a second signal in response to a user input</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	select a commercial service from the list; and	<p>to select a commercial service from the list (e.g., searching for a particular type of car or for a list of car dealers).</p> <p>“A shopper selects an option package (e.g., "Package D" or "Package F"), select a color for the car, or ask for a screen that contains a list of dealers that have the selected car in stock. For example, if the shopper selects a color for the car, the custom logic associated with page 335 determines that the same page definition can be used to generate a response page. An image of the car in the color selected by the shopper can be inserted into the page definition and sent to the shopper's workstation. The browser executing on the shopper's workstation displays Web page 336.”</p> <p>(Popp, Col. 10, lines 19-28.)</p>  <p>(<i>Id.</i>, Fig. 3B.)</p>
151	completing a commercial transaction relating to the selected commercial service.	<p><i>Claim Construction Note (Broadly Construed):</i> The claim does not require this completing of a commercial transaction to involve the user of the user device.</p> <p>POPP: Popp discloses completing a commercial transaction relating to the commercial service.</p>

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El.#	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>“A shopper selects an option package (e.g., "Package D" or "Package F"), select a color for the car, or ask for a screen that contains a list of dealers that have the selected car in stock. For example, if the shopper selects a color for the car, the custom logic associated with page 335 determines that the same page definition can be used to generate a response page. An image of the car in the color selected by the shopper can be inserted into the page definition and sent to the shopper's workstation. The browser executing on the shopper's workstation displays Web page 336.”</p> <p>(Popp, Col. 10, lines 19-28.)</p>  <p>The diagram illustrates three web page layouts. 334: A vertical layout with a dashed box labeled 'Image' at the top, followed by the text 'Model:', 'Type:', and 'Price:'. Below this is another dashed box labeled 'Image', followed by 'Model:', 'Type:', and 'Price:'. 335: A grid layout with a dashed box labeled 'Dealers' at the top right. Below it are two columns: the left column contains 'Image' and 'Package D'; the right column contains 'Colors' and 'Package F'. 336: A grid layout similar to 335, but with a dashed box labeled 'Image' in the top left position, and 'Dealers' at the top right. The bottom row contains 'Package D' and 'Package F'.</p> <p>(<i>Id.</i>, Fig. 3B.)</p> <p><i>While Popp does not specifically show a screen where the transaction is completed, one of ordinary skill in the art would understand that completing a commercial transaction is inherent in performing a commercial transaction, such as those disclosed above. Additionally, Popp clearly discloses completing such transactions and storing information regarding such completed transactions:</i></p> <p>“A transaction is started by a client action. It ends when a response is received by a client. A request is the client action that initiates a transaction, for example. An HTML representation</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>of a page is one example of a response that ends the transaction, for example.”</p> <p><i>(Id., Col. 26, lines 31-33)</i></p> <p>“The session identification (ID) identifies the client's session. A transaction identification (ID) specifies the last transaction completed for the client for an existing session.”</p> <p><i>(Id., Col. 27, lines 5-7)</i></p> <p><i>Therefore, Popp explicitly or inherently discloses completing a commercial transaction relating to the commercial service.</i></p>
152	2. The method of claim 1, wherein the second computer system includes an object router.	<p><u>POPP:</u> Popp discloses that the second computer system includes an object router (e.g., a resource that identifies a path to an object on the network).</p> <p>“A browser executing on the user's workstation receives a Web page from the Internet and sends a response containing user input via the Internet. The present invention can be used to generate Web pages in response to the user input. Thus, a user can access an application located anywhere relative to the application server by using any local workstation hardware and software platform.”</p> <p><i>(Popp, Col. 3, lines 59-65)</i></p> <p>“HTTP server 206 can service the client request by, for example, retrieving a return form or file (specified by a URL contained in the HTML document) and transmitting it to client 202 via WWW 204.”</p> <p><i>(Id., Col. 6, lines 49-52)</i></p> <p>“Any URL format can be used with the present invention. The URL in the above example has multiple parts. The first part, "http:" specifies the protocol to be used. Other examples of protocol include "ftp:", "gopher:" and "wais". The next part specifies the Internet domain name of the server. In this case, the Internet domain name of the HTTP server is "www.next.com". The next part, "/cgi_bin/cgi_messenger" specifies the path and filename of the desired resource. The</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p align="center">resource can be a file, form, or program, for example.”</p> <p align="center"><i>(Id.</i>, Col. 6, line 63 – Col. 7, line 5)</p> <p>“The application can make use of object technology to generate client responses. For example, the elements of a Web page definition are objectified. Instances of definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources. A special type of control referred to as a repetition control allows a group to be activated multiple times. Each activation of a group of definitional elements generates one occurrence of a repeating portion of the Web page.”</p> <p align="center"><i>(Id.</i>, Col. 8, lines 49-59)</p> <p align="center"><i>Thus, Popp explicitly or inherently discloses that the second computer system includes an object router.</i></p>
153	3. The method of claim 1, wherein the second computer system includes a virtual information store.	<p><u>POPP:</u> Popp discloses that the second computer system includes a virtual information store.</p> <p>“Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p align="center">(Popp, Col. 7, lines 31-35)</p> <p>“The application can make use of object technology to generate client responses. For example, the elements of a Web page definition are objectified. Instances of definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources. A special type of control referred to as a repetition control allows a group to be activated multiple times. Each activation of a group of definitional elements generates one occurrence of a repeating portion of the</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>Web page.”</p> <p>(Id., Col. 8, lines 49-59)</p> <p>Custom logic associated with the next page is executed to build a select statement to retrieve data from an external data source (e.g., database server 318). To fetch the data from the external data source, the application builds a qualifier object, for example. A data source object acts as an interface to the database. A data source object has fetch, insert, update, and delete operational capabilities.</p> <p>(Id., Col. 9, lines 48-55)</p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford further teaches storing product information (entries and attributes) in a virtual information “store”. Payne/Gifford discloses the use of an associative array (i.e., a TCL associative array, which stores the signature hash) to store information entries and attributes in a <u>virtual information store associated with a payment computer (second computer system):</u></p> <p>“The payment computer is programmed to receive the payment message, to cause an access message to be created to enable the user to access the product, and to record a purchase transaction record in the settlement database.”</p> <p>(Payne, Col. 3, lines 47-51)</p> <p>“Payment computer 16 also has access to a shopping cart database 21 in which a “shopping cart” of products that a user wishes to purchase can be maintained as the user shops prior to actual purchase of the contents of the shopping cart.”</p> <p>(Id., Col. 5, lines 11-15)</p> <p>The value_array contains the necessary name-value pairs to handle paymen</p> <pre> set value_array(domain) ...domain... (a domain is a security c of the thing purchased, it is also used to detect duplic purchases, so it should be unique to separately buyable set value_array(desc) ...item description... set value_array(amt) ...monetary amount... set value_array(cc) ...currency code... (OPTIONAL, but US i set value_array(expire) ...seconds of access... (OPTIONAL, defa is 30 days at the moment) set value_array(url) ...URL of the thing bought... (In the shopping cart case, this should be the URL of the relevant catalog page) </pre>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p><i>(Id.</i>, Appendix E, Pg. 6, Exh. Pg. 130.)</p> <p>In particular, in the example TCL code immediately above, the set value_array(desc) instruction stores the “item description” in the associative array “value_array” using the attribute “desc.” A TCL associative array is an information store (i.e., the array stores data, such as the item description, in a table, which is indexed by the attribute “desc.”) The “set” instruction adds the information entries and attributes to the associative array. Therefore, Payne/Gifford discloses storing information entries and attributes <u>in a virtual information store associated with a payment computer.</u></p> <p>Encoding access in URLs</p> <p>An access URL looks like this:</p> <pre>http://merchant.foo.com/@hash:field1=value1& field2=value2/real-url</pre> <p>In any of the field values, the following characters are escaped: '+', '&', '=', ' ', and anything less than 0x20.</p> <p>The URL fields encode the details of the access:</p> <p>Expire (expire) This fields specifies the expiration time for the access, in seconds since January 1, 1970 UTC.</p> <p>IP Address (ip) specifies the ip address from which the request must come</p> <p>Signature (hash) The signature (hash) is computed as the MD5 hash of {key, fieldstring}, where fieldstring is everything after the colon. The key is a secret key shared between Open Market and the merchant. The ipaddr is the IP address of the client attempting access and domain is the access domain. The signature prevents user tampering of the access URL.</p> <p>The effect is to grant access to a specified domain, from a specified client IP address, for an (optional) period of time.</p> <p>If desired, any additional information can be encoded in an access URL.</p> <p>User ID (id) The unique ID of the buyer, from the field principal_id of the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p>User Name (name) The print name of the buyer, from the field principal_name from the principal table in the payment database. This field will be included in an access URL if the name value pair id=? was in the payment URL.</p> <p><i>(Id.</i>, Appendix E, Pg. 9, Exh. Pg. 136)</p> <p>It is suggested that each object have a unique</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>name. This name could be stored in the object in some representations, or stored in a database accessible to the server, for example. Any references within that object should be parsed in the context of the official name. In the presence of a directory service, the official name will normally be the registered name of the object. However, a name in any scheme will do, so long as it is completely specified.</p> <p><i>(Id.</i>, Appendix D, Pg. 5, Exh. Pg. 106)</p> <p>“The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers.”</p> <p>(519 Application, Pg. 6, line 21 – Pg. 7, line 3) (similarly, see Gifford, Col. 3, lines 15-21)</p> <p>“A digital advertisement includes a product description and a price. In digital advertisement database 65 prices and descriptions may be stored separately, and one price may apply to many product descriptions.”</p> <p>(Id., Pg. 10, line 23 – Pg. 11, line 2) <i>(similarly, see Gifford, Col. 4, lines 53-56)</i></p> <p>Further, Payne/’519 Application/Gifford discloses a similar virtual information store(s) on the payment computer, for storing information about accounts and purchases:</p> <p>“... each payment computer [has] an account database 73, a settlement database 74, an authorized address database 75, a sender credential database 76, a financial system interface 77, and a real-time authorization interface 78. The interfaces 77 and 78 may be implemented by a single communications line.”</p> <p>(Id., Pg. 19, lines 19-24) <i>(similarly, see Gifford, Col. 8, lines 2-7)</i></p> <p>The account database, for example, has information entries and attributes regarding a user’s account, such as spending limits and amount spent, as well as identifiers for the account and its location, even if outside the network:</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>“Account database 73 maintains temporal spending amounts, such as the amount spent in the current day, and also maintains temporal spending limits. The account database may also maintain a translation between principal identifiers and external account identifiers. Settlement database 74 records committed payment orders along with any authorization information for the orders that was obtained from interface 78.”</p> <p><i>(Id., Pg. 20, lines 5-12) (similarly, see Gifford, Col. 8, lines 13-20)</i></p>
154	4. The method of claim 1, wherein the second computer system includes a value-added network switch.	<p><u>POPP:</u> Popp discloses that the second computer system includes a value-added network switch (e.g., a web page that responds to a user control by switching to an application to handle a user request).</p> <p>“A browser executing on the user's workstation receives a Web page from the Internet and sends a response containing user input via the Internet. The present invention can be used to generate Web pages in response to the user input. Thus, a user can access an application located anywhere relative to the application server by using any local workstation hardware and software platform.”</p> <p><i>(Popp, Col. 3, lines 59-65)</i></p> <p>“The present invention provides tools to implement an application that can be accessed via the WWW. Further, the present invention provides tools to manage the interaction between a WWW client and the internal application. FIG. 3A provides a block overview of an internal application that is accessed via the Internet.”</p> <p><i>(Id., Col. 8, lines 3-8.)</i></p> <p>“Requests submitted by clients 302, 304, 306, and 308 to HTTP server 314 are transmitted to HTTP server 314 via WWW 310. HTTP server 314 runs in the corporate network 312. A client request is forwarded to application server 316 via HTTP server 314. Application server 316 runs one or more internal applications.</p> <p>The present invention accommodates the needs of an internal application. For example, using the present invention an internal application can provide a dynamic user interface that can</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>respond to user input. Further, an internal application is able to access an external data source to store the application's data. State information can be retained to allow the internal application to allow the application to maintain open sessions with multiple users capable of processing multiple transactions in any order."</p> <p><i>(Id., Col. 8, lines 17-31)</i></p>
155	5. The method of claim 1, wherein the second computer system includes a legacy database.	<p>POPP: Popp discloses that the second computer includes a legacy database.</p> <p>"Requests submitted by clients 302, 304, 306, and 308 to HTTP server 314 are transmitted to HTTP server 314 via WWW 310. HTTP server 314 runs in the corporate network 312. A client request is forwarded to application server 316 via HTTP server 314. Application server 316 runs one or more internal applications.</p> <p>The present invention accommodates the needs of an internal application. For example, using the present invention an internal application can provide a dynamic user interface that can respond to user input. Further, an internal application is able to access an external data source to store the application's data. State information can be retained to allow the internal application to allow the application to maintain open sessions with multiple users capable of processing multiple transactions in any order."</p> <p><i>(Popp, Col. 8, lines 17-31)</i></p> <p>"Preferably, an interface such as NeXT's Enterprise Objects Framework is used to interface with an external database source. Use of enterprise objects as an interface with a database is more fully described in U.S. patent applications entitled Method of Mapping Objects to Multiple Tables in a Relational Database (Ser. No. 08/353,522), Method for Providing Stand-in Objects (Ser. No. 08/353,523), Dynamic Object Communication Protocol (Ser. No. 08/353,524), and Method for Associating Data Containing Objects With User Interface Objects (Ser. No. 08/353,525), filed on Dec. 7, 1994, assigned to the assignee of the present invention and incorporated herein by reference."</p> <p><i>(Id., Col. 21, lines 43-54)</i></p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p><i>Popp therefore discloses using internal applications for accessing external databases, which implicitly or inherently would include existing databases, or “legacy databases.”</i></p> <p><i>See, e.g., Exh. 2, April 2, 2007 Office Action, Exh. Pg. 150 (“Popp teaches invoking/switching to one of internal applications for accessing external databases It would have been obvious to one skilled in the art that [prior art reference] would have been used to access any conventional databases, e.g., legacy database.”)</i></p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford teaches using an “existing financial system network” with information about existing accounts, which inherently would involve the use of existing, or “legacy” databases containing such information.</p> <p>“For wide acceptance the retail mechanism will need to be a logical evolution of existing credit-card, debit-card, and Automated Clearing House facilities, while for acceptance the wholesale mechanism will need to be an evolved version of corporate electronic funds transfer.”</p> <p>(‘519 Application, Pg. 2, lines 8-13) (similarly, see Gifford, Col. 1, lines 36-40)</p> <p>“The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment”</p> <p>(Id., Pg. 2, lines 18-20) (similarly, see Gifford, Col. 1, lines 45-48)</p> <p>“Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing financial instruments for payment.”</p> <p>(Id., Pg. 2, line 23 – Pg. 3, line 2) (similarly, see Gifford, Col. 1, lines 50-53)</p> <p>“A further object of the invention is to allow users in an untrusted network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p><i>(Id., Pg. 5, lines 12-15) (similarly, see Gifford, Col. 2, lines 46-49)</i></p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p><i>(Id., Pg. 8, lines 3-5) (similarly, see Gifford, Col. 3, lines 46-48)</i></p> <p><i>Alternatively, in view of Payne’s disclosure of using his system with existing financial networks, it would have been obvious to one skilled in the art that Payne’s invention would have been used to access any conventional databases, e.g., a “legacy” database.</i></p> <p><i>See, e.g., Exh. 2, April 2, 2007 Office Action, Exh. Pg. 150, above.</i></p>
156	6. The method of claim 1, wherein the control includes a web page control.	<p><u>POPP:</u> Popp discloses a control that includes a web page control.</p> <p>“The components of the WWW include browser software, network links, and servers. The browser software, or browser, is a graphical interface (i.e., front-end) that simplifies access to the Internet. A browser allows a client to communicate a request without having to learn a complicated command syntax. A browser typically provides a graphical user interface (GUI) for displaying information and receiving input. Examples of browsers currently available include Mosaic, Netscape, and Cello.”</p> <p>(Popp, Col. 1, lines 26-34)</p> <p>“A browser executing on the user’s workstation receives a Web page from the Internet and sends a response containing user input via the Internet. The present invention can be used to generate Web pages in response to the user input. Thus, a user can access an application located anywhere relative to the application server by using any local workstation hardware and software platform.”</p> <p>(Id., Col. 3, lines 59-65)</p> <p>“Object instances associated with definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources.”</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>(<i>Id.</i>, Col. 4, lines 14-18)</p> <p>“FIG. 3B provides Web pages that are generated using application 320 and displayed at a client workstation such as clients 302-308.”</p> <p>(<i>Id.</i>, Col. 9, lines 10-12)</p> <p>“‘Welcome’ page 332 provides input areas that allow the shopper to identify model, price and type of the car(s) in which the shopper has some interest.”</p> <p>(<i>Id.</i>, Col. 9, lines 29-31)</p> <div> <p>The diagram shows a rectangular box representing a web page. At the top center is the text 'Welcome'. Below it are three columns of input fields, each with a dashed border. The first column is labeled 'Models', the second 'Price', and the third 'Type'. Below these three fields is a 'Sort by:' label followed by a dashed rectangular input field. At the bottom center of the box is a dashed rectangular button labeled 'Display cars'. A line from the number '332' on the right points to the box.</p> </div> <p>(<i>Id.</i>, Fig. 3B)</p> <p>“A shopper selects an option package (e.g., “Package D” or “Package F”), select a color for the car, or ask for a screen that contains a list of dealers that have the selected car in stock. For example, if the shopper selects a color for the car, the custom logic associated with page 335 determines that the same page definition can be used to generate a response page. An image of the car in the color selected by the shopper can be inserted into the page definition and sent to the shopper's workstation. The browser executing on the shopper's workstation displays Web page 336.”</p> <p>(<i>Id.</i>, Col. 10, lines 19-28.)</p>

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		<p>(<i>Id.</i>, Fig. 3B.)</p>
157	<p>7. The method of claim 1, wherein the first computer system is in a first corporate network and wherein the second computer system is in a second corporate network.</p>	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the two corporate networks be operated by separate corporations.</i></p> <p>POPP: Popp implicitly or inherently discloses that the first computer system is in a first corporate network and wherein the second computer system is in a second corporate network</p> <p>Popp discloses that the various steps disclosed may operate on different computer systems and/or using different servers, including resources that are external to the network.</p> <p>“To retrieve a file on the Internet, a client must search for the file, make a connection to the computer on which the file is stored, and download the file. Each of these steps may involve a separate application and access to multiple, dissimilar computer systems. The World Wide Web (WWW) was developed to provide a simpler, more uniform means for accessing information on the Internet.”</p> <p>(Popp, Col. 1, lines 19-25)</p> <p>“Some or all of a form can be generated based on input received in a receive form, generated at runtime, or retrieved</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>from an external data source (e.g., database or electronic mail system).”</p> <p><i>(Id.</i>, Col. 3, lines 36-40)</p> <p>“Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example. Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p><i>(Id.</i>, Col. 7, lines 28-35)</p> <p><i>Thus, Popp inherently or at least implicitly discloses performing commercial services using resources on separate corporate networks.</i></p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford teaches using different corporate networks for the merchant computer (first computer system) and payment computer (second computer system):</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p><i>(Payne, Col. 4, lines 35-45)</i></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p><i>(‘519 Application, Pg. 1, lines 19-22) (similarly, see Gifford, Col. 1, lines 20-24)</i></p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>“Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing financial instruments for payment.”</p> <p><i>(Id., Pg. 2, line 23 – Pg. 3, line 2) (similarly, see Gifford, Col. 1, lines 50-53)</i></p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p><i>(Id., Pg. 3, lines 11-14) (similarly, see Gifford, Col. 1, lines 63-66)</i></p> <p>“In existing credit card payment systems, a credit card's issuing bank takes on the fraud risk associated with misuse of the card when a merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments.”</p> <p><i>(Id., Pg. 4, lines 8-23) (similarly, see Gifford, Col. 2, lines 16-32)</i></p>
158	8. The method of claim 7, wherein the first corporate network is operated by a first business entity and wherein the	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the first business entity or the second business entity.</i></p> <p><u>POPP:</u> Popp implicitly or inherently discloses that the first corporate network is operated by a first business entity and wherein the second corporate network is operated by a second business entity.</p> <p>Popp discloses that the various steps disclosed may operate on</p>

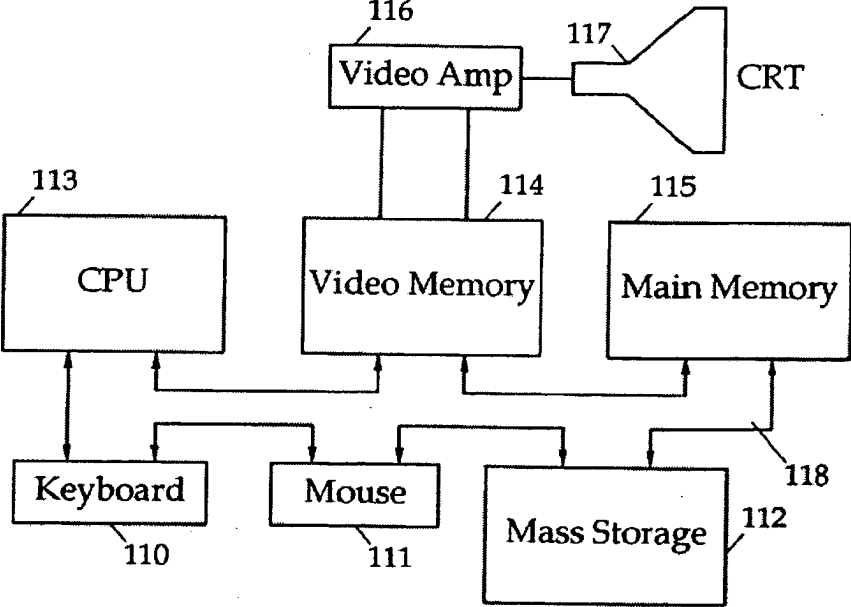
APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	<p>second corporate network is operated by a second business entity.</p>	<p>different computer systems and/or using different servers, including resources that are external to the network.</p> <p>“To retrieve a file on the Internet, a client must search for the file, make a connection to the computer on which the file is stored, and download the file. Each of these steps may involve a separate application and access to multiple, dissimilar computer systems. The World Wide Web (WWW) was developed to provide a simpler, more uniform means for accessing information on the Internet.”</p> <p>(Popp, Col. 1, lines 19-25)</p> <p>“Some or all of a form can be generated based on input received in a receive form, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system).”</p> <p>(Id., Col. 3, lines 36-40)</p> <p>“Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example. Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p>(Id., Col. 7, lines 28-35)</p> <p><i>Thus, Popp inherently or at least implicitly discloses performing commercial services using resources on separate corporate networks operated by separate business entities.</i></p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford teaches having a merchant (first business entity) avoid risk by allowing for a purchase transaction to be pre-approved or otherwise verified by the corporate entity making the payment (second business entity) to the merchant:</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p><u>Payne/'519 Application/Gifford</u></p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p>(’519 Application, Pg. 1, lines 19-22) (<i>similarly, see Gifford, Col. 1, lines 20-24</i>)</p> <p>“In existing credit card payment systems, a credit card's issuing bank takes on the fraud risk associated with misuse of the card when a merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments.”</p> <p>(<i>Id.</i>, Pg. 4, lines 8-23) (<i>similarly, see Gifford, Col. 2, lines 16-32</i>)</p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(<i>Id.</i>, Pg. 3, lines 11-14) (<i>similarly, see Gifford, Col. 1, lines 63-66</i>)</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
159	9. The method of claim 1, wherein the second computer system includes a legacy computing system.	<p>POPP: Popp discloses that the second computer system includes a legacy computing system.</p> <p>Popp discloses using existing “general purpose computers” for his invention.</p> <p>“FIG. 1 provides an example of a general purpose computer to be used with the present invention.”</p> <p>(Popp, Col. 5, lines 11-12)</p> <p>“The present invention can be implemented on a general purpose computer such as illustrated in FIG. 1.”</p> <p>(<i>Id.</i>, Col. 5, lines 56-57)</p> <p>“The computer system described above is for purposes of example only. The present invention may be implemented in any type of computer system or programming or processing environment. When a general purpose computer system such as the one described executes the processes and process flows described herein, it is a means for developing and managing Internet transactions.”</p> <p>(<i>Id.</i>, Col. 6, lines 25-31)</p> 

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p><i>(Id.</i>, Fig. 1)</p> <p>Additionally, Popp states that his invention can be used with “existing client browsers.”</p> <p>“Thus, existing client browsers that support the standard HTML can be used to display HTML documents using the present invention.”</p> <p><i>(Id.</i>, Col. 15, lines 52-54)</p> <p><i>Further, given Popp’s disclosure of external databases, it is implicit that existing (legacy) computing systems would be used.</i></p> <p><i>See, e.g.</i>, Exh. 2, April 2, 2007 Office Action, Exh. Pg. 250 (“[Prior art reference] teaches invoking/switching to one of internal applications for accessing external databases It would have been obvious to one skilled in the art that [prior art reference] would have been used to access any conventional databases, e.g., legacy database.”)</p> <p><u>PAYNE/GIFFORD:</u></p> <p>Payne/Gifford teaches using an “existing financial system network” with information about existing accounts, which explicitly or inherently would involve the use of a “legacy” computing system.</p> <p>“For wide acceptance the retail mechanism will need to be a logical evolution of existing credit-card, debit-card, and Automated Clearing House facilities, while for acceptance the wholesale mechanism will need to be an evolved version of corporate electronic funds transfer.”</p> <p>(‘519 Application, Pg. 2, lines 8-13) (similarly, see Gifford, Col. 1, lines 36-40)</p> <p>“The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment”</p> <p><i>(Id.</i>, Pg. 2, lines 18-20) (similarly, see Gifford, Col. 1, lines 45-48)</p> <p>“Accordingly, therefore, it is a primary objective of this invention to provide a user interactive network sales system in which the user can freely use any merchant of choice and utilize existing</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>financial instruments for payment.”</p> <p><i>(Id.</i>, Pg. 2, line 23 – Pg. 3, line 2) <i>(similarly, see Gifford, Col. 1, lines 50-53)</i></p> <p>“A further object of the invention is to allow users in an untrusted network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p> <p><i>(Id.</i>, Pg. 5, lines 12-15) <i>(similarly, see Gifford, Col. 2, lines 46-49)</i></p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p><i>(Id.</i>, Pg. 8, lines 3-5) <i>(similarly, see Gifford, Col. 3, lines 46-48)</i></p> <p><i>Alternatively, in view of [Payne’s/Gifford’s] disclosure of using his system with existing financial networks, it would have been obvious to one skilled in the art that Payne’s invention would have been used to access any conventional computing systems, e.g., “legacy” computing systems.</i></p> <p><i>See, e.g., Exh. 2, April 2, 2007 Office Action, Exh. Pg. 250, above.</i></p>
160	10. The method of claim 1, wherein the user device includes a web browser.	<p><u>POPP:</u> Popp discloses that the user device includes a web browser.</p> <p>“The components of the WWW include browser software, network links, and servers. The browser software, or browser, is a graphical interface (i.e., front-end) that simplifies access to the Internet. A browser allows a client to communicate a request without having to learn a complicated command syntax. A browser typically provides a graphical user interface (GUI) for displaying information and receiving input. Examples of browsers currently available include Mosaic, Netscape, and Cello.”</p> <p>(Popp, Col. 1, lines 26-34)</p> <p>“A browser executing on the user’s workstation receives a Web page from the Internet and sends a response containing user input via the Internet. The present invention can be used to generate Web pages in response to the user input. Thus, a user can access an application located anywhere relative to the</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>application server by using any local workstation hardware and software platform.”</p> <p>(<i>Id.</i>, Col. 3, lines 59-65)</p> <p>“All or some portion of the Web page is dynamically generated. Classes of object are associated with elements that defined a Web page (e.g., HTML elements). By objectifying Web pages it is possible to gain the advantages of object-oriented programming with Web pages. These advantages include rapid application development through object reuse, transparent distribution, simplified maintenance, and scalability. These advantages can be achieved using the common interface provided by Web browsers.</p> <p>Object instances associated with definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with definitional elements to facilitate the flow of information to and from external data sources.”</p> <p>(<i>Id.</i>, Col. 4, lines 5-18)</p> <p>“FIG. 3B provides Web pages that are generated using application 320 and displayed at a client workstation such as clients 302-308.”</p> <p>(<i>Id.</i>, Col. 9, lines 10-12)</p> <p>“‘Welcome’ page 332 provides input areas that allow the shopper to identify model, price and type of the car(s) in which the shopper has some interest.”</p> <p>(<i>Id.</i>, Col. 9, lines 29-31)</p>

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Bl. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<div style="border: 1px solid black; padding: 10px; margin: 0 auto; width: fit-content;"> <p align="center">Welcome</p> <p>Models Price Type</p> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px dashed black; width: 60px; height: 60px;"></div> <div style="border: 1px dashed black; width: 60px; height: 60px;"></div> <div style="border: 1px dashed black; width: 60px; height: 60px;"></div> </div> <p align="center">Sort by: </p> <p align="center">Display cars</p> </div> <p align="right" style="margin-right: 20px;">332</p> <p>(<i>Id.</i>, Fig. 3B)</p>
161	11. The method of claim 10, wherein the display information includes web page content.	<p>POPP: Popp discloses that the display information includes web page content.</p> <p>“The components of the WWW include browser software, network links, and servers. The browser software, or browser, is a graphical interface (i.e., front-end) that simplifies access to the Internet. A browser allows a client to communicate a request without having to learn a complicated command syntax. A browser typically provides a graphical user interface (GUI) for displaying information and receiving input. Examples of browsers currently available include Mosaic, Netscape, and Cello.”</p> <p>(Popp, Col. 1, lines 26-34)</p> <p>“All or some portion of the Web page is dynamically generated. Classes of object are associated with elements that defined a Web page (e.g., HTML elements). By objectifying Web pages it is possible to gain the advantages of object-oriented programming with Web pages. These advantages include rapid application development through object reuse, transparent distribution, simplified maintenance, and scalability. These advantages can be achieved using the common interface provided by Web browsers.</p> <p>Object instances associated with definitional elements are instantiated during execution to manage their respective portions of the Web page. Control objects are associated with</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>definitional elements to facilitate the flow of information to and from external data sources.”</p> <p><i>(Id., Col. 4, lines 5-18)</i></p> <p>“The contents of the Web page can contain data retrieved from an external data source (e.g., such as database server 318), or state information maintained by the application. Custom logic and declarations can be associated with each Web page.”</p> <p><i>(Id., Col. 8, lines 44-48)</i></p> <p>“FIG. 3B provides Web pages that are generated using application 320 and displayed at a client workstation such as clients 302-308.”</p> <p><i>(Id., Col. 9, lines 10-12)</i></p> <p>“‘Welcome’ page 332 provides input areas that allow the shopper to identify model, price and type of the car(s) in which the shopper has some interest.”</p> <p><i>(Id., Col. 9, lines 29-31)</i></p> <div> <p>The diagram shows a rectangular box representing a web page. At the top center is the text 'Welcome'. Below it are three columns of input fields, each with a dashed border. The first column is labeled 'Models', the second 'Price', and the third 'Type'. Below these three columns is a 'Sort by:' label followed by a dashed rectangular input field. At the bottom center is a dashed rectangular button labeled 'Display cars'. A line from the number '332' on the right points to the top right corner of the box.</p> </div> <p><i>(Id., Fig. 3B)</i></p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>(Id.)</p>
162	12. The method of claim 1, wherein the list of at least one commercial service includes a payment service.	<p><u>POPP:</u></p> <p><u>See element 139, above.</u></p> <p>Popp discloses providing at least one commercial service. (See discussion of Claim 1, above.) It would have been obvious to one of ordinary skill in the art that such an invention could have been used to include a payment service.</p> <p><u>PAYNE/GIFFORD:</u></p> <p>Payne/Gifford teaches sending display information including providing an option of opening an account for payment, or making a payment using such an account (payment service):</p> <p>“If it does not match, the payment computer sends a document to the buyer computer indicating that access to the network payment system is denied (step 43). Otherwise, the payment computer sends a payment confirmation document to the buyer computer, the payment confirmation document including an "open" link and a "continue" link (step 44).</p> <p>An example of a confirmation document is shown in FIG. 6. The confirmation document asks the user to click on a "continue" button if the user already has an account with the payment</p>

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El.#	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>computer, or to click on an "open" button if the user does not already have an account and wishes to open one.”</p> <p>(Payne, Col. 6, lines 1-14)</p> <p>“If the user clicks on the "open" button (step 46), the buyer computer sends payment URL C to the payment computer (step 48), payment URL C being similar to payment URL A but also indicating that the user does not yet have an account. The payment computer creates a new account document (step 50) and sends it to the buyer computer (step 52). An example of a new account document is shown in FIG. 7. When the user receives the new account document he enters the new account name, an account password, a credit card number, the credit card expiration date, and security information such as the maiden name of the user's mother (step 54), and presses a "submit" button (not shown in FIG. 7). The buyer computer sends the new account information to the payment computer (step 56), which enters the new account in the settlement database (step 58).”</p> <p>(<i>Id.</i>, Col. 6, lines 15-30)</p> <p>“If the user clicks on the "continue" button (step 60), the buyer computer sends payment URL B to the payment computer (step 62), payment URL B being similar to payment URL A but also indicating that the user already has an account. The payment computer then instructs the buyer computer to provide the account name and password (steps 64 and 66), and the buyer computer prompts the user for this information by creating an account name prompt (example shown in FIG. 8) and a similar password prompt. The user enters the information (step 68) and the buyer computer sends the account name and password to the payment computer (step 70).”</p> <p>(<i>Id.</i>, Col. 6, lines 31-42)</p> <p>“The payment computer verifies whether the user name and password are correct (step 72). If they are not correct, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 74). Otherwise, the payment computer determines whether additional security is warranted, based on, e.g., whether the</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>payment amount exceeds a threshold (step 73). If additional security is warranted, the payment computer creates a challenge form document and sends it to the buyer computer (step 75). The user enters the security information (step 77), the buyer computer sends the security information to the payment computer (step 79), and the payment computer determines whether the security information is correct (step 81). If it is not correct, the payment computer sends a document to the buyer computer indicating that access to the network sales system is denied (step 83).</p> <p>If the security information is correct, or if additional security was not warranted, the payment computer checks the settlement database to determine whether the user has unexpired access to the domain identifier contained in the payment URL (step 82). If so, the payment computer sends to the buyer computer a document providing an option either to repurchase or to use the previously purchased access (step 84). An example of such a document is shown in FIG. 9. The user can respond to the recent purchase query document by choosing to access the previously purchased document (step 85) or to go ahead and buy the currently selected product (step 86).</p> <p>If the user chooses to access the previously purchased document, the buyer computer skips to step 92 (see below). If the user chooses to buy the currently selected product, the payment computer calculates an actual payment amount that may differ from the payment amount contained in the payment URL (step 87). For example, the purchase of a product in a certain domain may entitle the user to access other products in the domain for free or for a reduced price for a given period of time.</p> <p>The payment computer then verifies whether the user account has sufficient funds or credit (step 76). If not, the payment computer sends a document to the buyer computer indicating that the user account has insufficient funds (step 78). Otherwise, the payment computer creates an access URL (step 80) that includes a merchant computer identifier, a domain identifier, a product identifier, an indication of the end of the duration time for which access to the product is to be granted, the buyer network address, and an access URL authenticator that is a digital signature based on a cryptographic key. The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer. The payment computer then records the product</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>identifier, the domain, the user account, the merchant account, the end of duration time, and the actual payment amount in the settlement database (step 88).</p> <p>The payment computer then sends a redirect to access URL to the buyer computer (step 90), which sends the access URL to the merchant computer (step 92). The merchant computer verifies whether the access URL authenticator was created from the contents of the access URL using the cryptographic key (step 94). If not, the merchant computer sends a document to the buyer computer indicating that access to the product is denied (step 96).</p> <p>Otherwise, the merchant computer verifies whether the duration time for access to the product has expired (step 98). This is done because the buyer computer can request access to a purchased product repeatedly. If the duration time has expired, the merchant computer sends a document to the buyer computer indicating that the time has expired (step 100). Otherwise the merchant computer verifies that the buyer computer network address is the same as the buyer network address in the access URL (step 101), and if so, sends a fulfillment document to the buyer computer (step 102), which is displayed by the buyer computer (step 104)."</p> <p><i>(Id., Col. 6, line 43 – Col. 7, line 50)</i></p> <p><u>Payne/'519 Application/Gifford</u></p> <p>SUMMARY OF THE INVENTION</p> <p>The invention relates to a network sales system for enabling users to purchase products using a plurality of buyer computers that communicate over a network with a plurality of merchant computers. Each merchant computer has a database of digital advertisements. Each digital advertisement includes a price and a product abstract. Buyer computers request, display, and respond to digital advertisements from merchant computers. Users can purchase products with their buyer computers after they have specified an account to pay for the purchase. A network payment service is used to authorize the purchase before merchant fulfillment is performed.</p> <p><i>('519 Application, Pg. 6, line 20 – Pg. 7, lines 7) (similarly, see Gifford, Col. 3, lines 12-25)</i></p>

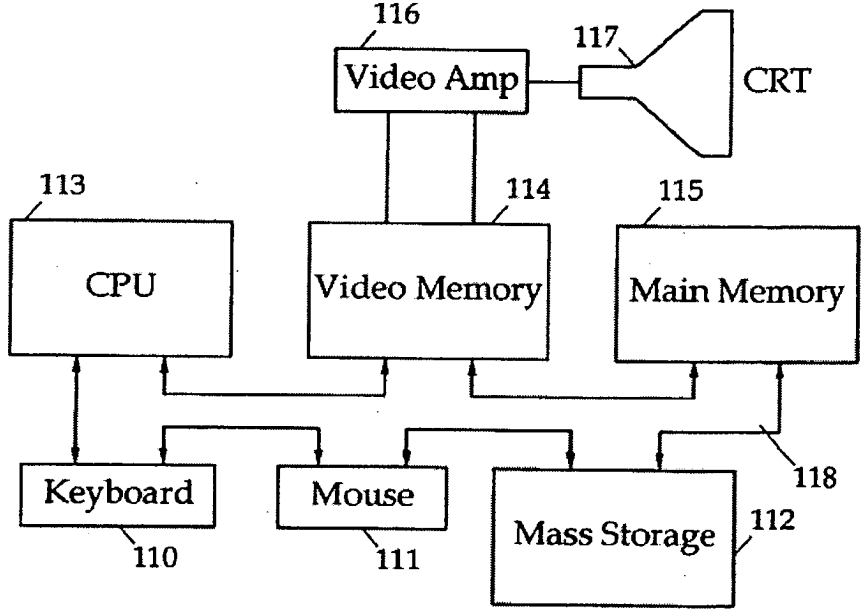
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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
163	13. The method of claim 12, wherein a user is provided with access to a payment electronic back office system.	<p><i>Claim Construction Note (Broadly Construed): As "back office" is a business label that does not provide any structural or functional limitation on the claimed method, this claim does not limit the method of claim 12. This claim does not preclude the user being provided access via an agent (e.g., "intelligent agent") of the user.</i></p> <p><u>POPP:</u></p> <p><u>See elements 155 and 159, above.</u></p> <p>Popp discloses using the system with external databases (see discussion of Claims 5 and 9, above. In view of this disclosure, it would have been obvious to one of ordinary skill in the art that Popp's system could be used with existing databases/computer systems associated with a payment electronic back office system.</p> <p><u>PAYNE/GIFFORD:</u></p> <p>Payne/Gifford teaches providing a user with access to a payment electronic back office system.</p> <p><i>Applicant describes a user being provided access to a payment electronic back office system as follows:</i></p> <p style="padding-left: 40px;"><i>Once Bank POSvc application 510 has been activated, user 100 will be able to connect to Bank services and utilize the application to perform banking transactions, thus accessing data from a host or data repository 575 in the Bank "Back Office."</i></p> <p><i>(506 Patent, Col. 7, lines 32-36)(emphasis added)</i></p> <p>Similarly, Payne/'519 Application/Gifford teaches that using the payment application, the user accesses data from an existing financial network that is used to perform payment services:</p> <p style="padding-left: 40px;">"The prior art network based sales systems are not designed to allow users to use their existing credit card and demand deposit accounts for payment . . ."</p> <p><i>(519 Application, Pg. 2, lines 18-20) (similarly, see Gifford, Col. 1, lines 45-48)</i></p> <p>"A further object of the invention is to allow users in an untrusted</p>

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El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>network environment to use conventional financial instruments without requiring modification to existing financial system networks.”</p> <p><i>(Id., Pg. 5, lines 12-15) (similarly, see Gifford, Col. 2, lines 46-49)</i></p> <p>“The payment system accomplishes settlement by sending messages into an existing financial system network.”</p> <p><i>(Id., Pg. 8, lines 3-5) (similarly, see Gifford, Col. 3, lines 46-48)</i></p>
164	14. An apparatus for providing a service over a digital network, the apparatus comprising:	<p><u>POPP:</u> Popp discloses an apparatus for providing a service over a digital network:</p> <p>Popp discloses using existing “general purpose computers” as an apparatus for his invention.</p> <p>“FIG. 1 provides an example of a general purpose computer to be used with the present invention.”</p> <p><i>(Popp, Col. 5, lines 11-12)</i></p> <p>“The present invention can be implemented on a general purpose computer such as illustrated in FIG. 1.”</p> <p><i>(Id., Col. 5, lines 56-57)</i></p> <p>“In the preferred embodiment of this invention, the CPU 113 is a 32-bit microprocessor manufactured by Motorola, such as the 680X0 processor or a microprocessor manufactured by Intel, such as the 80X86, or Pentium processor. However, any other suitable microprocessor or microcomputer may be utilized. Main memory 115 is comprised of dynamic random access memory (DRAM). Video memory 114 is a dual-ported video random access memory. One port of the video memory 114 is coupled to video amplifier 116. The video amplifier 116 is used to drive the cathode ray tube (CRT) raster monitor 117. Video amplifier 116 is well known in the art and may be implemented by any suitable means. This circuitry converts pixel DATA stored in video memory 114 to a raster signal suitable for use by monitor 117. Monitor 117 is a type of monitor suitable for displaying graphic images.</p> <p>The computer system described above is for purposes of example</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>only. The present invention may be implemented in any type of computer system or programming or processing environment. When a general purpose computer system such as the one described executes the processes and process flows described herein, it is a means for developing and managing Internet transactions."</p> <p>(<i>Id.</i>, Col. 6, lines 9-31)</p>  <p>(<i>Id.</i>, Fig. 1)</p> <p>The disclosed apparatus is used for providing service over a digital network.</p> <p>"Method and apparatus for managing internet transactions"</p> <p>(<i>Id.</i>, Title)⁵</p> <p>"An object-oriented approach provides the ability to develop and manage Internet transactions. Local applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration. Some or all of a Web page can be generated dynamically using input received in a returned page, generated at runtime, or retrieved from</p>

⁵ Emphases added throughout.

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>an external data source (e.g., database or electronic mail system). When the Web page definition is rendered, the information contained in template(s), declaration file(s), and object(s) are used to generate standard definitions. State information is maintained across transactions. Using state information, virtual applications, sessions, transactions, and pages can be implemented. Self-contained modules, or components, provide the ability to share implementations and create multi-content documents. Event objects can be used to assist in event handling management.”</p> <p>(Id., Abstract)</p> <p>“This invention relates to the development and management of transactions on the Internet.”</p> <p>(Id., Col. 1, lines 7-8)</p> <p>“An Internet client accesses a computer on the network via an Internet provider. An Internet provider is an organization that provides a client (e.g., an individual or other organization) with access to the Internet (via analog telephone line or Integrated Services Digital Network line, for example).”</p> <p>(Id., Col. 1, lines 11-16)</p>
165	a processor;	<p><u>POPP:</u> Popp discloses that the apparatus has a processor.</p> <p>“In the preferred embodiment of this invention, the CPU 113 is a 32-bit microprocessor manufactured by Motorola, such as the 680X0 processor or a microprocessor manufactured by Intel, such as the 80X86, or Pentium processor. However, any other suitable microprocessor or microcomputer may be utilized.</p> <p>(Popp, Col. 6, lines 9-14)</p>
166	a machine-readable storage device including one or more instructions executable by	<p><u>POPP:</u> Popp discloses that there is a machine-readable storage device including instructions executable by the processor for providing a commercial service over a digital network.</p> <p>Popp discloses using existing “general purpose computers” as an apparatus for his invention, which have machine-readable storage</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	<p>the processor for providing a commercial service over a digital network;</p>	<p>devices for executing instructions.</p> <p>“FIG. 1 provides an example of a general purpose computer to be used with the present invention.”</p> <p>(Popp, Col. 5, lines 11-12)</p> <p>“The present invention can be implemented on a general purpose computer such as illustrated in FIG. 1.”</p> <p>(Id., Col. 5, lines 56-57)</p> <p>“In the preferred embodiment of this invention, the CPU 113 is a 32-bit microprocessor manufactured by Motorola, such as the 680X0 processor or a microprocessor manufactured by Intel, such as the 80X86, or Pentium processor. However, any other suitable microprocessor or microcomputer may be utilized. Main memory 115 is comprised of dynamic random access memory (DRAM). Video memory 114 is a dual-ported video random access memory. One port of the video memory 114 is coupled to video amplifier 116. The video amplifier 116 is used to drive the cathode ray tube (CRT) raster monitor 117. Video amplifier 116 is well known in the art and may be implemented by any suitable means. This circuitry converts pixel DATA stored in video memory 114 to a raster signal suitable for use by monitor 117. Monitor 117 is a type of monitor suitable for displaying graphic images.</p> <p>The computer system described above is for purposes of example only. The present invention may be implemented in any type of computer system or programming or processing environment. When a general purpose computer system such as the one described executes the processes and process flows described herein, it is a means for developing and managing Internet transactions.”</p> <p>(Id., Col. 6, lines 9-31)</p> <p>These instructions provide a commercial service over a digital network.</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p align="center">“Method and apparatus for managing internet transactions”</p> <p>(Popp, Title)⁶</p> <p>“An object-oriented approach provides the ability to develop and manage Internet transactions. Local applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration. Some or all of a Web page can be generated dynamically using input received in a returned page, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system). When the Web page definition is rendered, the information contained in template(s), declaration file(s), and object(s) are used to generate standard definitions. State information is maintained across transactions. Using state information, virtual applications, sessions, transactions, and pages can be implemented. Self-contained modules, or components, provide the ability to share implementations and create multi-content documents. Event objects can be used to assist in event handling management.”</p> <p>(Id., Abstract)</p> <p>“This invention relates to the development and management of transactions on the Internet.”</p> <p>(Id., Col. 1, lines 7-8)</p> <p>“An Internet client accesses a computer on the network via an Internet provider. An Internet provider is an organization that provides a client (e.g., an individual or other organization) with access to the Internet (via analog telephone line or Integrated Services Digital Network line, for example).”</p> <p>(Id., Col. 1, lines 11-16)</p>
167	sending first display information from a first computer system to a	<u>See element 140, above.</u>

⁶ Emphases added throughout.

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	user device,	
168	wherein the first display information includes a control associated with a commercial service;	<u>See element 141, above.</u>
169	accepting a first signal in response to a user input to activate the control; and	<u>See element 142, above.</u>
170	initiating, in response to the first signal, communication between the user device and a second computer system,	<u>See element 147, above.</u>
171	wherein the second computer system acts to send second display information to the user device,	<u>See element 148, above.</u>
172	wherein the second display information	<u>See element 149, above.</u>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	includes a list of at least one commercial service;	
173	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list; and	<u>See element 150, above.</u>
174	to complete a commercial transaction relating to the selected commercial service;	<u>See element 151, above.</u>
175	associating an object identity with information entries and attributes,	<u>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</u> <u>See element 143, above.</u>
176	wherein the object identity represents a networked object;	<u>See element 144, above.</u>
177	storing said information entries and said attributes	<u>See element 145, above.</u>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	in a virtual information store; and	
178	assigning a unique network address to said object identity.	<u>See element 146, above.</u>
179	15. A machine-readable storage device including instructions executable by a processor for providing a commercial service over a digital network, the machine-readable storage device including one or more instructions for:	<p><u>POPP:</u> Popp discloses that there is a machine-readable storage device including instructions executable by the processor for providing a commercial service over a digital network.</p> <p>Popp discloses using existing “general purpose computers” as an apparatus for his invention, which have machine-readable storage devices for executing instructions.</p> <p>“FIG. 1 provides an example of a general purpose computer to be used with the present invention.”</p> <p>(Popp, Col. 5, lines 11-12)</p> <p>“The present invention can be implemented on a general purpose computer such as illustrated in FIG. 1.”</p> <p>(Id., Col. 5, lines 56-57)</p> <p>“In the preferred embodiment of this invention, the CPU 113 is a 32-bit microprocessor manufactured by Motorola, such as the 680X0 processor or a microprocessor manufactured by Intel, such as the 80X86, or Pentium processor. However, any other suitable microprocessor or microcomputer may be utilized. Main memory 115 is comprised of dynamic random access memory (DRAM). Video memory 114 is a dual-ported video random access memory. One port of the video memory 114 is coupled to video amplifier 116. The video amplifier 116 is used to drive the cathode ray tube (CRT) raster monitor 117. Video amplifier 116 is well known in the art and may be implemented by any suitable means. This circuitry converts pixel DATA stored in video memory 114 to a raster signal suitable for use by monitor 117. Monitor 117 is a type of</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>monitor suitable for displaying graphic images.</p> <p>The computer system described above is for purposes of example only. The present invention may be implemented in any type of computer system or programming or processing environment. When a general purpose computer system such as the one described executes the processes and process flows described herein, it is a means for developing and managing Internet transactions."</p> <p><i>(Id.</i>, Col. 6, lines 9-31)</p> <p>These instructions provide a service over a digital network:</p> <p align="center">"Method and apparatus for managing internet transactions"</p> <p><i>(Id.</i>, Title)⁷</p> <p>"An object-oriented approach provides the ability to develop and manage Internet transactions. Local applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration. Some or all of a Web page can be generated dynamically using input received in a returned page, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system). When the Web page definition is rendered, the information contained in template(s), declaration file(s), and object(s) are used to generate standard definitions. State information is maintained across transactions. Using state information, virtual applications, sessions, transactions, and pages can be implemented. Self-contained modules, or components, provide the ability to share implementations and create multi-content documents. Event objects can be used to assist in event handling management."</p> <p><i>(Id.</i>, Abstract)</p> <p align="center">"This invention relates to the development and management of transactions on the Internet."</p> <p><i>(Id.</i>, Col. 1, lines 7-8)</p> <p align="center">"An Internet client accesses a computer on the network via an</p>

⁷ Emphases added throughout.

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>Internet provider. An Internet provider is an organization that provides a client (e.g., an individual or other organization) with access to the Internet (via analog telephone line or Integrated Services Digital Network line, for example).”</p> <p><i>(Id., Col. 1, lines 11-16)</i></p>
180	sending first display information from a first computer system to a user device,	<u>See element 140, above.</u>
181	wherein the first display information includes a control associated with a commercial service;	<u>See element 141, above.</u>
182	accepting a first signal in response to a user input to activate the control;	<u>See element 142, above.</u>
183	initiating, in response to the first signal, communication between the user device and a second computer system,	<u>See element 147, above.</u>
184	wherein the	<u>See element 148, above.</u>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	second computer system acts to send second display information to the user device,	
185	wherein the second display information includes a list of at least one commercial service;	<u><i>See element 149, above.</i></u>
186	wherein the second computer system further acts to accept a second signal in response to a user input to select a commercial service from the list;	<u><i>See element 150, above.</i></u>
187	and to complete a commercial transaction relating to the selected commercial service;	<u><i>See element 151, above.</i></u>
188	associating an object identity with	<u><i>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</i></u>

APPENDIX C - POPP AND RELATED REFERENCES

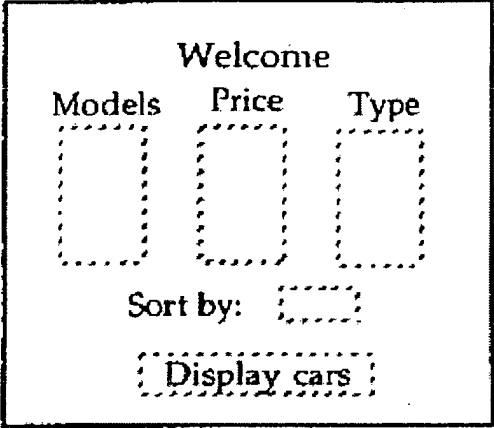
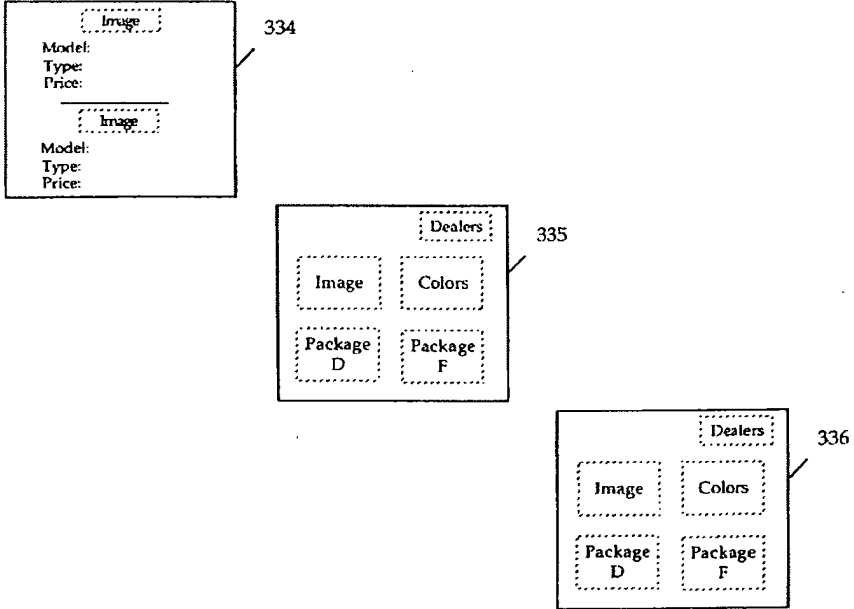
El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	information entries and attributes,	<u>See element 143, above.</u>
189	wherein the object identity represents a networked object;	<u>See element 144, above.</u>
190	storing said information entries and said attributes in a virtual information store; and	<u>See element 145, above.</u>
191	assigning a unique network address to said object identity.	<u>See element 146, above.</u>
192	16. A method for providing a commercial service over a digital network, the method comprising:	<p><u>POPP:</u> Popp discloses a method for providing a service over a digital network:</p> <p align="center">“Method and apparatus for managing internet transactions”</p> <p>(Popp, Title)⁸</p> <p>“An object-oriented approach provides the ability to develop and manage Internet transactions. Local applications can be accessed using any workstation connected to the Internet regardless of the workstation's configuration. Some or all of a Web page can be generated dynamically using input received in a returned page, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system). When the Web page definition is rendered, the information contained in template(s), declaration file(s), and object(s) are used to generate standard definitions. State</p>

⁸ Emphases added throughout.

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>information is maintained across transactions. Using state information, virtual applications, sessions, transactions, and pages can be implemented. Self-contained modules, or components, provide the ability to share implementations and create multi-content documents. Event objects can be used to assist in event handling management.”</p> <p>(Id., Abstract)</p> <p>“This invention relates to the development and management of transactions on the Internet.”</p> <p>(Id., Col. 1, lines 7-8)</p> <p>“An Internet client accesses a computer on the network via an Internet provider. An Internet provider is an organization that provides a client (e.g., an individual or other organization) with access to the Internet (via analog telephone line or Integrated Services Digital Network line, for example).”</p> <p>(Id., Col. 1, lines 11-16)</p>
193	using first computing resources operated by a first business entity to send first display information to a user device,	<p><i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the user device being part of the first computing resources. Thus, for example, the user may be the first business entity and may operate computing resources that include the user device.</i></p> <p>POPP: Popp discloses using first computing resources operated by a first business entity to send first display information to a user device.</p> <p>Popp discloses sending first display information from a first computer system to a user device.</p> <p>“FIG. 3B provides Web pages that are generated using application 320 and displayed at a client workstation such as clients 302-308.”</p> <p>(Popp, Col. 9, lines 10-12)</p> <p>“Referring to FIG. 3B, the Automobile Shopper application provides an example of the use of dynamic pages.”</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>(<i>Id.</i>, Col. 9, lines 27-28)</p>  <p>(<i>Id.</i>, Fig. 3B)</p>  <p>(<i>Id.</i>)</p>
194	wherein the first display information includes first and second controls;	<p>POPP: Popp discloses first display information that includes first and second controls.</p> <p>“Referring to FIG. 3B, the Automobile Shopper application provides an example of the use of dynamic pages.”</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>(Popp, Col. 9, lines 27-28)</p> <p>“After specifying the characteristics, the shopper submits the page. In response, the shopper expects a page that displays those cars that meet the criteria specified by the shopper in "Welcome" page 332. The response page is based on the particular input provided by the shopper.</p> <p>HTTP Server 314 receives the "Welcome" page. The "Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.</p> <p>Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper.”</p> <p>(Id., Col. 9, lines 31-47)</p> <p>“The application sends the qualifier object and fetches all the data from the database. An array of data is returned from the fetch operation. For example, the array contains all of the models of cars that are within the price range and type specifications provided by the shopper in the "Welcome" page. Using the data retrieved from database server 318, the application along with the objects associated with the next Web page generate the definition for Web page 334.</p> <p>Web page 334 contains a repeating portion that is comprised of an image, model data, type information, pricing.”</p> <p>(Id., Col. 9, lines 56-65)</p> <p>“A shopper selects an option package (e.g., "Package D" or "Package F"), select a color for the car, or ask for a screen that contains a list of dealers that have the selected car in stock. For example, if the shopper selects a color for the car, the custom logic associated with page 335 determines that the same page definition can be used to generate a response page. An image of the car in the color selected by the shopper can be</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>inserted into the page definition and sent to the shopper's workstation. The browser executing on the shopper's workstation displays Web page 336."</p> <p>(<i>Id.</i>, Col. 10, lines 19-28.)</p> <div> </div> <p>(<i>Id.</i>, Fig. 3B)</p> <div> </div> <p>(<i>Id.</i>)</p>
195	accepting a first signal in	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the user input be to the user device. There is no requirement</i></p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
	response to a user input to activate the first control;	<p><i>that the first control and second control be independent in any way. For example, the two controls may be contained in the same object. Also, there is no requirement that the user input activating the first control not also activate the second control.</i></p> <p><u><i>See element 142, above.</i></u></p>
196	first performing, in response to the first signal, a first commercial service associated with the first control,	<p><u>POPP:</u> Popp discloses performing, in response to the first signal, a first commercial service associated with the first control (e.g., finding a car with specific characteristics)</p> <p>“After specifying the characteristics, the shopper submits the page. In response, the shopper expects a page that displays those cars that meet the criteria specified by the shopper in "Welcome" page 332. The response page is based on the particular input provided by the shopper.</p> <p>HTTP Server 314 receives the "Welcome" page. The "Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.</p> <p>Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper.”</p> <p>(<i>Id.</i>, Col. 9, lines 31-47)</p>
197	wherein the first performing is accomplished under the control of the first business entity interacting	<p><u>Claim Construction Note (Broadly Construed):</u> <i>This claim does not prohibit the user device from being operated or owned by the first business entity. Nor does it prohibit the first performing to be accomplished under control of business entities in addition to the first business entity.</i></p> <p><u>POPP:</u> Popp discloses that the first performing is accomplished under the control of the first business entity interacting with the user device.</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	with the user device;	<p>“After specifying the characteristics, the shopper submits the page. In response, the shopper expects a page that displays those cars that meet the criteria specified by the shopper in "Welcome" page 332. The response page is based on the particular input provided by the shopper.</p> <p>HTTP Server 314 receives the "Welcome" page. The "Welcome" page contains a URL that specifies Automobile Shoppers application 320. HTTP Server 314 forks a CGI interface program 322 (e.g., CGIMessenger). CGI program 322 identifies the application specified in the URL. CGI program 322 passes the shopper's input contained in the "Welcome" page to the application 320 running on application server 316 via corporate network 312.</p> <p>Application 320 receives the user-specified characteristics. Custom logic associated with Welcome page 332 can be used to determine the next page to be sent to the shopper.”</p> <p><i>(Id., Col. 9, lines 31-47)</i></p>
198	accepting a second signal in response to a user input to activate the second control;	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the second signal be sent or accepted near in time to the first signal. Thus, a user given two options might choose one on Monday, and a second on Wednesday, and meet this claim. Also, this claim does not require that the user input be to the user device.</i></p> <p><u><i>See element 150, above.</i></u></p>
199	second performing, in response to the second signal, a second commercial service associated with the second control,	<p><i>Claim Construction Note (Broadly Construed): This claim does not require that the second performing be done near in time to the first performing.</i></p> <p><u><i>See element 150, above.</i></u></p>
200	wherein the	<p><i>Claim Construction Note (Broadly Construed): This claim does not</i></p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	<p>second performing is accomplished under the control of a second business entity operating second computing resources and interacting with the user device;</p>	<p><i>prohibit the user device from being operated or owned by the second business entity. Nor does it prohibit the first computing resources being used as part of this second performing. Nor does it prohibit the second business entity from interacting with the user device via the first business entity. Nor does it prohibit the second performing to be accomplished under control of business entities in addition to the second business entity.</i></p> <p><u>POPP:</u> Popp discloses that second performing is accomplished under the control of a second business entity operating second computing resources and interacting with the user device.</p> <p>Popp discloses that the various steps disclosed may operate on different computer systems and/or using different servers, including resources that are external to the network.</p> <p>“To retrieve a file on the Internet, a client must search for the file, make a connection to the computer on which the file is stored, and download the file. Each of these steps may involve a separate application and access to multiple, dissimilar computer systems. The World Wide Web (WWW) was developed to provide a simpler, more uniform means for accessing information on the Internet.”</p> <p>(Popp, Col. 1, lines 19-25)</p> <p>“Some or all of a form can be generated based on input received in a receive form, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system).”</p> <p>(Id., Col. 3, lines 36-40)</p> <p>“Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example. Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p>(Id., Col. 7, lines 28-35)</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<i>Thus, Popp inherently or at least implicitly discloses performing commercial services using resources that are controlled by a separate business entity.</i>
201	associating an object identity with information entries and attributes,	<i>Claim Construction Note (Broadly Construed): This and the following three claim elements are not tied to any other claim element in this claim.</i> <u>See element 143, above.</u>
202	wherein the object identity represents a networked object;	<u>See element 144, above.</u>
203	storing said information entries and said attributes in a virtual information store; and	<u>See element 145, above.</u>
204	assigning a unique network address to said object identity.	<u>See element 146, above.</u>
205	17. The method of claim 16, further comprising: exchanging information between the first and second business entities in	<i>Claim Construction Note (Broadly Construed): This claim does not prohibit the user device from being operated or owned by the second business entity. Nor does it prohibit the first computing resources being used as part of this second performing. Nor does it prohibit the second business entity from interacting with the user device via the first business entity. Nor does it prohibit the second performing to be accomplished under control of business entities in addition to the second business entity.</i> <u>POPP:</u> <u>See elements 192-204, above.</u>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
	<p>order to complete a transaction in response to one or more of the signals.</p>	<p>Popp discloses exchanging information between multiple computers (See discussion of Claim 16, above.) In view of this disclosure of exchanging information between multiple computers with differing systems, it would have been obvious to one of ordinary skill in the art that these systems might be owned by different business entities.</p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford further teaches exchanging information between the merchant computer (first business entity) and the payment computer (second business entity):</p> <p>“The user then requests purchase of an advertised product, and the buyer computer sends a purchase message to the merchant computer. The merchant computer constructs a payment order that it sends to the payment computer, which authorizes the purchase and sends an authorization message to the merchant computer. When the merchant computer receives the authorization message it sends the product to the buyer computer.”</p> <p>(Payne, Col. 1, lines 27-35)</p> <p>“The merchant computer then attempts to construct a payment order at 26 using the information it has gathered about the user. The buyer computer may have previously supplied certain credentials using fill out forms or other account identification means such as providing the network address of the buyer computer in the normal course of communication. If the merchant computer is able to construct a complete payment order at 26 the payment order is sent to a payment computer for authorization at 27. If a payment order can be constructed, processing continues at 28.”</p> <p>(‘519 Application, Pg. 14, lines 9-18) (similarly, see Gifford, Col. 6, lines 3-13)</p> <p>“In a variation, the merchant computer at 59 checks to ensure the payment order has not been previously used. This can be accomplished by checking with a payment computer or maintaining a merchant computer database of previously accepted payment orders. The unforgeable certificate created at step 56 does not need to include the user account information. This variation is useful if the user wishes to make purchases and remain anonymous to the merchant.”</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<i>(Id., Pg. 19, lines 7-14) (similarly, see Gifford, Col. 7, lines 56-63)</i>
206	18. The method of claim 16, wherein a three-way transaction is achieved between the first computing resources, the second computing resources and the user device.	<p><i><u>Claim Construction Note (Broadly Construed):</u> This claim does not prohibit this transaction consisting of the first performing step and/or second performing step. Nor does it prohibit the user device being part of the first computer resources and/or the second computing resources. This claim does not require that the transaction be achieved directly between the recited resources and device; i.e., it may be indirect using one or more intermediaries. Nor does it require a two-way exchange between the first computing resources and second computing resources.</i></p> <p><u>POPP:</u></p> <p><i><u>See elements 192-204, above.</u></i></p> <p>Popp discloses communication between/among a number of different computers. (See, e.g., discussion of Claim 16, above.) In view of Popp’s disclosure of exchanging information between multiple computers with differing systems, it would have been obvious to one of ordinary skill in the art that this transaction would or could be a three-way transaction.</p> <p><u>PAYNE/GIFFORD:</u></p> <p>Payne/Gifford further teaches an embodiment where there is a three-way transaction between the merchant computer (first computing resources), the payment computer (second computing resources) and the buyer computer (user device):</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<div> <pre> graph LR 12[12 buyer computer] --- 10[10 network] 10 --- 16[16 payment computer] 10 --- 14[14 merchant computer] </pre> </div> <p><i>(Id., Fig. 1)</i></p> <p>“The merchant computer then attempts to construct a payment order at 26 using the information it has gathered about the user. The buyer computer may have previously supplied certain credentials using fill out forms or other account identification means such as providing the network address of the buyer computer in the normal course of communication. If the merchant computer is able to construct a complete payment order at 26 the payment order is sent to a payment computer for authorization at 27. If a payment order can be constructed, processing continues at 28.”</p> <p>(‘519 Application, Pg. 14, lines 9-18) (similarly, see Gifford, Col. 6, lines 3-13)</p> <p>“In either case, the flowchart continues in Figure 6 where the payment computer checks the authorization of the payment order at 28. If the payment system authorizes the request, an authorization message at 29 is returned to the buyer computer, and the merchant computer checks at 30 that the authorization message came from the payment computer using the authenticator mechanism described below. Assuming that the authorization message is valid, the merchant computer performs fulfillment at 30, returning the purchased product in response at 31.”</p> <p><i>(Id., Pg. 16, lines 5-14) (similarly, see Gifford, Col. 6, lines 50-59)</i></p>
207	19. The method of claim 16, wherein a plurality of computing resources are used, each on	<p>POPP:</p> <p>Popp discloses that a plurality of computing resources are used, each on a separate corporate network, and each operated by one of a plurality of different business entities.</p> <p>Popp discloses that the various steps disclosed may operate on different computer systems and/or using different servers, including resources that are external to the network.</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
	<p>a separate corporate network, and each operated by one of a plurality of different business entities.</p>	<p>“To retrieve a file on the Internet, a client must search for the file, make a connection to the computer on which the file is stored, and download the file. Each of these steps may involve a separate application and access to multiple, dissimilar computer systems. The World Wide Web (WWW) was developed to provide a simpler, more uniform means for accessing information on the Internet.”</p> <p>(Popp, Col. 1, lines 19-25)</p> <p>“Some or all of a form can be generated based on input received in a receive form, generated at runtime, or retrieved from an external data source (e.g., database or electronic mail system).”</p> <p>(Id., Col. 3, lines 36-40)</p> <p>“Application 214 can execute on the same or different server as CGIMessenger 210 and/or HTTP Server 206, for example. Application 214 executes an interaction flow to satisfy the user request. Application 214 can access an external data source such as database 224. Database 224 can be resident on the same server as application 214. Alternatively, database 224 can be resident on a separate server (e.g., a separate database server).”</p> <p>(Id., Col. 7, lines 28-35)</p> <p><i>Thus, Popp inherently or at least implicitly discloses performing commercial services using resources on separate corporate networks operated by separate business entities.</i></p> <p><u><i>Also, see elements 192-204, above.</i></u></p> <p><i>Alternatively, in view of Popp’s disclosure of multiple computers (See, e.g., discussion of Claim 16, above) it would have been obvious to one of ordinary skill in the art that the commercial services provided by Popp could utilize resources on separate corporate networks operated be separate business entities.</i></p> <p><u>PAYNE/GIFFORD:</u> Payne/Gifford teaches having a merchant (first business entity with computing resources) avoid risk by allowing for a purchase</p>

APPENDIX C - POPP AND RELATED REFERENCES

El. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i> , and related references
		<p>transaction to be pre-approved or otherwise verified by the corporate entity making the payment (second business entity with its own computing resources) to the merchant:</p> <p>“With reference to FIG. 1, a network sales system in accordance with the present invention includes a buyer computer 12 operated by a user desiring to buy a product, a merchant computer 14, which may be operated by a merchant willing to sell products to the buyer or by a manager of the network sales system, a payment computer 16 typically operated by a manager of the network sales system, and a creation computer 20 typically operated by the merchant. The buyer, merchant, payment, and creation computers are all inter-connected by a computer network 10 such as the Internet.”</p> <p>(Payne, Col. 4, lines 35-45)</p> <p>“The access URL authenticator is a hash of other information in the access URL, the hash being defined by a key shared by the merchant and the operator of the payment computer.”</p> <p>(<i>Id.</i>, Col. 7, lines 24-27)</p> <p>The disclosure of “sharing” between a merchant and the operator of the payment computer further implicitly or inherently discloses that the merchant is not the operator of the payment computer, and thus that they are separate entities.</p> <p>“In addition, the shopping system will need to include easy-to-use facilities for a user to purchase desired products using a merchant independent payment method. In addition the network sales will need to allow new buyers and merchants to enter the market.”</p> <p>(‘519 Application, Pg. 1, lines 19-22) (<i>similarly, see Gifford, Col. 1, lines 20-24</i>)</p> <p>“An unavoidable property of public computer networks is that they are comprised of switching, transmission, and host computer components controlled by many individuals and organizations.”</p> <p>(<i>Id.</i>, Pg. 3, lines 11-14) (<i>similarly, see Gifford, Col. 1, lines 63-66</i>)</p> <p>“In existing credit card payment systems, a credit card’s issuing bank takes on the fraud risk associated with misuse of the card when a</p>

APPENDIX C - POPP AND RELATED REFERENCES

Bl. #	Claim	U.S. Patent No. 6,249,291 to Popp <i>et al.</i>, and related references
		<p>merchant follows established card acceptance protocols. Acceptance protocols can include verifying a card holder's signature on the back of their card and obtaining authorization for payments over a certain value. However, in network based commerce a merchant can not physically examine a purchaser's credit card, and thus the fraud risk may revert to the merchant in so-called "card not present" transactions. Many merchants can not qualify to take this risk because of their limited financial resources. Thus the invention is important to allow many merchants to participate in network based commerce.</p> <p>Other objects of the invention include utilizing existing financial instruments such as credit cards, debit cards, and demand deposit accounts for merchant payments.”</p> <p>(<i>Id.</i>, Pg. 4, lines 8-23) (similarly, see Gifford, Col. 2, lines 16-32)</p>



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THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	Art Unit:
Lakshmi Arunachalam)	Examiner
Serial No. 11/980,185)	
Filing Date: Oct. 30, 2007)	
Title: METHOD AND APPARATUS)	
FOR ENABLING REAL TIME)	
TRANSACTIONS ON A)	
NETWORK)	

NOTIFICATION OF RELATED INTER PARTES REEXAMINATION

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Honorable Commissioner:

This is a notification of a related request and assignment of Inter Partes Reexamination of patents in the same family as the present application.

This information could not have been presented earlier.

Respectfully Submitted

Clifford H. Kraft
Reg. No. 35,229
Attorney of Record

CORRESPONDENCE ADDRESS

CUSTOMER NO. 000074642

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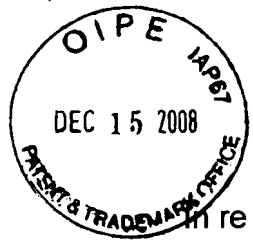
First Class Mailing Certificate: This paper is being filed by United States First Class Mail addressed to Commissioner for Patents, P.O. Box 1450, Alexandria VA. 22313-1450 with sufficient postage on:

Date: JAN. 7, 2009

Signature: Margareth Kraft

Name: Margareth Kraft

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	Art Unit:
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Lakshmi Arunachalam)	Examiner:
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Serial No. 11/980,185)	
)	
Filing Date: Oct. 30, 2007)	
)	
Title: METHOD AND APPARATUS)	
FOR ENABLING REAL TIME)	
TRANSACTIONS ON A)	
NETWORK)	
)	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Honorable Commissioner:

In accordance with 37 C.F.R. §1.97, please accept this Information Disclosure Statement and copies of any non-US patent art.

COMMENTS

It is believed that this disclosure complies with 37 C.F.R. §1.56 and 1.98 and M.P.E.P. §2000. THIS IS A DISCLOSURE OF A REEXAMINATION REQUEST MADE BY A THIRD PARTY ON ONE OF THE PARENT PATENTS FOR THE PRESENT CASE.

Respectfully submitted

Clifford Kraft

Clifford H. Kraft
Reg. No. 35,229
Attorney of Record

CORRESPONDENCE ADDRESS CUSTOMER NUMBER: 000074642

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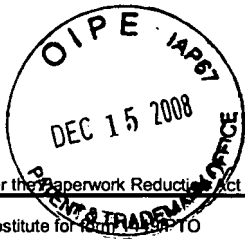
CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450 with sufficient postage.

On: DEC. 11, 2008

By: *Clifford Kraft*

Name: Clifford H. Kraft



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<p>Substitute for Form PTO</p> <h2 style="text-align: center; margin: 10px 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center; font-size: small;">(Use as many sheets as necessary)</p> <p>Sheet <u>1</u> of <u>1</u></p>	<p style="text-align: center; font-weight: bold; margin: 0;">Complete if Known</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Application Number</td> <td>11/980,185</td> </tr> <tr> <td>Filing Date</td> <td>Oct. 30, 2007</td> </tr> <tr> <td>First Named Inventor</td> <td>Lakshmi Arunachalam</td> </tr> <tr> <td>Art Unit</td> <td></td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Attorney Docket Number</td> <td></td> </tr> </table>	Application Number	11/980,185	Filing Date	Oct. 30, 2007	First Named Inventor	Lakshmi Arunachalam	Art Unit		Examiner Name		Attorney Docket Number	
Application Number	11/980,185												
Filing Date	Oct. 30, 2007												
First Named Inventor	Lakshmi Arunachalam												
Art Unit													
Examiner Name													
Attorney Docket Number													

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
		Request for Reexamination	11-28-2008			
		for Patent 5,778,178				

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Transferred 5/3/06

JAS
DR. LAKSHMI ARUNACHALAM
3106.Pool



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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/010,346	11/21/2008	5778178

CONFIRMATION NO. 2861
REEXAMINATION REQUEST
NOTICE

Michelle E. O'Brien
O'BRIEN JONES, PLLC
8200 Greensboro Drive, Suite 1020A
McLean, VA 22102

RECEIVED

DEC 04 2008



OC000000033408594

Date Mailed: 12/02/2008

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
LOS ANGELES

NOTICE OF REEXAMINATION REQUEST FILING DATE

(Third Party Requester)

Requester is hereby notified that the filing date of the request for reexamination is 11/21/2008, the date that the filing requirements of 37 CFR § 1.510 were received.

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

A copy of the Notice is being sent to the person identified by the requester as the patent owner. Further patent owner correspondence will be the latest attorney or agent of record in the patent file. (See 37 CFR 1.33). Any paper filed should include a reference to the present request for reexamination (by Reexamination Control Number).

cc: Patent Owner
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 Wilshire Blvd.
7th Floor
Los Angeles, CA 90025

/jcmcdougald/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/010,346	11/21/2008	5778178

CONFIRMATION NO. 2861

REEXAM ASSIGNMENT NOTICE

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 Wilshire Blvd.
7th Floor
Los Angeles, CA 90025



Date Mailed: 12/02/2008

RECEIVED
DEC 04 2008

~~BLAKELY SOKOLOFF TAYLOR & ZAFMAN~~
~~LOS ANGELES~~
NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3992. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

cc: Third Party Requester(if any)
Michelle E. O'Brien
O'BRIEN JONES, PLLC
8200 Greensboro Drive, Suite 1020A
McLean, VA 22102

/jcmcdougald/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

REQUEST FOR *EX PARTE* REEXAMINATION TRANSMITTAL FORM

TO:

**Mall Stop Ex Parte Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Attorney Docket No. 1035-8001.00000

Date: November 21, 2008

1. This is a request for *ex parte* reexamination pursuant to 37 CFR 1.510 of patent number 5,778,178 issued July 7, 1998.

The request is made by: patent owner. third party requester.

2. The name and address of the person requesting reexamination is:

Michelle E. O'Brien
O'Brien Jones, PLLC
8200 Greensboro Drive, Suite 1020A
McLean, VA 22102

3. a. Payment in the amount of \$2,520.00 is being made via the PTO's EFS system to cover the reexamination fee, 37 CFR 1.20(c)(i); or
- b. The Commissioner is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c) to Deposit Account No. 50-4126.
4. Any refund should be made by check or by credit to Deposit Account No. 50-4126. 37 CFR 1.26(c)
5. A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4)
6. A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
7. Reexamination of claims 1-16 is requested.
8. The attached detailed request includes at least the following items:
- a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1)
 - b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested. 37 CFR 1.510(b)(2)
9. It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c), on November 21, 2008. The name and address of the party served are:
- BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES CA 90025

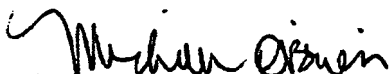
10. Correspondence Address: Direct all communication about the reexamination to:

**Michelle E. O'Brien
O'Brien Jones, PLLC
8200 Greensboro Drive, Suite 1020A
McLean, VA 22102**

CUSTOMER NUMBER: 68,540

11. The patent is currently the subject of the following concurrent proceedings:

- a. **Copending litigation styled: *Webxchange Inc. v. The Allstate Corporation, Allstate Insurance Company, Allstate Life Insurance Company, Allstate Financial Services LLC, and Allstate Financial LLC*, C.A. No. 08-131-JFF (D. Del).**
- b. **Copending litigation styled: *Webxchange Inc. v. Dell Inc.*, C.A. No. 08-132-JFF (D. Del).**
- c. **Copending litigation styled: *Webxchange Inc. v. FedEx Corporation, FedEx Kinko's Office & Print Services, Inc., and FedEx Corporate Services, Inc.*, C.A. No. 08-133-JFF (D. Del).**
- d. **Copending litigation styled: *Microsoft Corporation v. WebXchange Inc.*, CV 08-5149 (N.D. Cal).**



By: Michelle E. O'Brien

Reg. No. 46,203

202-292-4692

Date: November 21, 2008

For Patent Owner Requester

For Third Party Requester

Request for *Ex Parte* Reexamination
U.S. Patent No. 5,778,178
Attorney Docket No. 1035.8001-00000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re *Ex Parte* Reexamination of:)
U.S. Patent No.: 5,778,178) Control Number: Not Yet Assigned
Issue Date: July 7, 1998)
Application No. 08/700,726)
Filing Date: August 5, 1996)
Inventor: Lakshmi Arunachalam)
For: Method and Apparatus for)
Enabling Real-Time Bi-Directional)
Transactions on a Network)

Mail Stop *Ex Parte* REEXAM
Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR *EX PARTE* REEXAMINATION

Sir:

The undersigned third party Requestor respectfully requests *ex parte* reexamination under 35 U.S.C. §§ 302-307 and 37 C.F.R. § 1.510 of U.S. Patent No. 5,778,178 ("the '178 patent"), issued July 7, 1998 to Lakshmi Arunachalam. A copy of the '178 patent, having a one-sided, double column format, is attached to this Request.

I. THE PRIOR ART

The '178 patent issued from U.S. Patent Application No. 08/700,726 ("the '726 application"), filed on August 5, 1996. The '726 application claimed "the benefit under Title 35, United States Code, Section 112(c)" of U.S. Provisional Patent Application No.

60/006,634, filed November 13, 1995. The undersigned Requestor respectfully notes that there is no section 112(c) of Title 35 of the U.S.C., and that priority to an earlier-filed U.S. application would be properly claimed under 35 U.S.C. § 120. Moreover, it has not been determined whether the claims of the '178 patent are supported by the provisional application. However, even if the '178 patent properly claims priority to the provisional application (which the undersigned Requestor does not concede), the earliest possible effective filing date of the '178 patent is the filing date of the provisional application from which it failed to properly claim priority, i.e., November 13, 1995.

The undersigned Requestor requests reexamination of all of the claims of the '178 patent in view of the following references, which are also listed on the form PTO/SB/08 submitted herewith.

A. RFC 1213

Request For Comments 1213, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II" ("RFC 1213") (Exhibit A) is a request for comments published by the Simple Network Management Protocol ("SNMP") Working Group of the Internet Engineering Task Force ("IETF") in the United States in March 1991, more than four years before the earliest possible priority date of the '178 patent. See, e.g., U.S. Patent No. 5,367,635 at col 3, ll. 17-27 (filed August 29, 1991, describing RFC 1213 as a published document and providing instructions on how to obtain a copy) (Exhibit E); see also Marshall T. Rose, THE SIMPLE BOOK: AN INTRODUCTION TO INTERNET MANAGEMENT 14-15, 379-387 (2d ed. 1994) (describing RFC documents, including RFC 1213, as "available in both printed and electronic form" and providing instructions on how to obtain copies in either form) (Exhibit F); Posting of

Joyce K. Reynolds to comp.doc USENET group, *archived at* <http://tinyurl.com/53a95p> (Mar. 27, 1991 01:49:31 GMT) (announcing the availability of RFC 1213 to the group and providing instructions on how to download it) (Exhibit G). Therefore, RFC 1213 is prior art to the '178 patent under 35 U.S.C. § 102(b).

B. Relihan et al.

"Untangling the World-Wide Web" by Liam Relihan, Tony Cahill, and Michael G. Hinchey ("Relihan et al.") (Exhibit B) is an article published by the Association of Computing Machinery (ACM) in the Proceedings of the 12th Annual International Conference on Systems Documentation held in Alberta, Canada in October 1994. Because Relihan et al. was published in the United States (and abroad, since the ACM is an international organization) more than one year before the earliest possible effective date of the '178 patent, it is prior art to the '178 patent under 35 U.S.C. § 102(b).

C. RFC 1447

Request For Comments 1447, "Party MIB for version 2 of the Simple Network Management Protocol" ("RFC 1447") (Exhibit C) is a request for comments published by the SNMP Security Working Group of the Internet Engineering Task Force ("IETF") in this country in April 1993. See, e.g., Marshall T. Rose, THE SIMPLE BOOK: AN INTRODUCTION TO INTERNET MANAGEMENT at 388 (describing RFC documents, including RFC 1447, as "available in both printed and electronic form" and providing instructions on how to obtain copies in either form) (Exhibit F). Like RFC 1213, RFC 1447 is prior art to the '178 patent under 35 U.S.C. § 102(b).

D. Miller

Managing Internetworks with SNMP by Mark A. Miller ("Miller") (Exhibit D) was published by M&T Books in 1993. Because Miller was published in the United States more than one year before the earliest possible effective date of the '178 patent, it is prior art to the '178 patent under 35 U.S.C. § 102(b).

Copies of RFC 1213, Relihan et al., RFC 1447, and Miller are attached to this Request as Exhibits A, B, C, and D, respectively. Also attached are copies of the three documents noted above that support the publication and public availability of RFC 1213. These are attached as Exhibits E, F, and G, respectively.

II. STATEMENT OF SUBSTANTIAL NEW QUESTION OF PATENTABILITY

RFC 1213, Relihan et al., RFC 1447, and Miller raise substantial new questions of patentability with respect to all of claims 1-16 of the '178 patent because they teach elements and combinations absent from the art considered by the Office during the initial examination of the '178 patent. For example, RFC 1213 discloses a virtual information store for storing information entries and attributes associated with an object identity representing a networked object. RFC 1213 also discloses assigning a unique network address to an object identity, and discloses that the unique network address may be an IP address. Relihan et al. discloses the World Wide Web as one example of a network.

RFC 1213 also raises substantial new questions of patentability with respect to claims 2-5 and 10-13 of the '178 patent because the publication discloses elements of those claims nearly verbatim. Because RFC 1213 discloses the exact structure of at least claims 2-5 and 10-13, the Applicant ostensibly used material in RFC 1213 as

source material for drafting the '726 application. Therefore, a reasonable examiner would consider the teachings of RFC 1213 to be critically important in deciding whether or not these claims are patentable.

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by RFC 1213, as explained below and in great detail in the claim chart attached as Exhibit H, which maps each and every element recited in claims 1-5, 7-13, and 15-16 to corresponding features described in RFC 1213. The Office did not have this reference before it during the prosecution of the '178 patent. RFC 1213 also describes addresses used to uniquely identify and access objects from a virtual information store, a feature that the Applicant argued distinguished her invention over the prior art during prosecution of the '726 application.

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of RFC 1447, as explained below and in detail in the claim chart attached as Exhibit H, which maps each and every element recited in claims 1-5, 7-13, and 15-16 to corresponding features described in RFC 1213 and RFC 1447.

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 102(b) in view of RFC 1213 and Miller, as explained below and in the claim chart attached as Exhibit H, which maps each and every element recited in claims 1-5, 7-13, and 15-16 to corresponding features described in RFC 1213 (as explained by Miller). The Office did not have either reference before it during the prosecution of the '178 patent. M.P.E.P. § 2131.01 explains that even in an anticipation rejection, a secondary reference can be used to show the meaning of a term in a primary reference, or to show an inherent characteristic of the primary reference. Here, Miller (the secondary reference) explains

that in SNMP (the subject of the primary reference, RFC 1213), the way to use an IP address as an index is to append it to an object identifier. Miller is, therefore, relied on herein to explain the meaning of "index" in RFC 1213 and to show that the appending of IP addresses to object identifiers is inherent in RFC 1213.

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of RFC 1447 and further in view of Miller, as explained below and in detail in the claim chart attached as Exhibit H, which maps each and every element recited in claims 1-5, 7-13, and 15-16 to corresponding features described in RFC 1213 (as explained by Miller) and RFC 1447.

Claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 alone. Furthermore, claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view of Relihan et al. This request and the attached claim chart together explain these arguments and map every element of claims 6 and 14 to corresponding features disclosed in RFC 1213 and Relihan et al.

Claims 6 and 14 are likewise unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of RFC 1447. Furthermore, claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view RFC 1447 and further in view of Relihan et al. This request and the attached claim chart together explain these arguments and map every element of claims 6 and 14 to corresponding features disclosed in RFC 1213, RFC 1447, and Relihan et al.

Claims 6 and 14 are likewise unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of Miller. Furthermore, claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view of Miller and further in

view of Relihan et al. This request and the attached claim chart together explain these arguments and map every element of claims 6 and 14 to corresponding features disclosed in RFC 1213 (as explained by Miller) and Relihan et al.

Claims 6 and 14 are likewise unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of RFC 1447 and further in view of Miller. Furthermore, claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view of RFC 1447, Relihan et al., and Miller. This request and the attached claim chart together explain these arguments and map every element of claims 6 and 14 to corresponding features disclosed in RFC 1213 (as explained by Miller), RFC 1447, and Relihan et al.

III. COMPARISON OF THE '178 PATENT AND THE NETWORK MANAGEMENT FRAMEWORK OF RFC 1213

A. Networked Objects

Claims 1 and 9 of the '178 patent are drawn to an object router and a method for enabling object routing on a World Wide Web. ('178 patent, claims 1, 9.) Networked objects are associated with nodes on a network. ('178 patent, col. 8, ll. 13-18.)

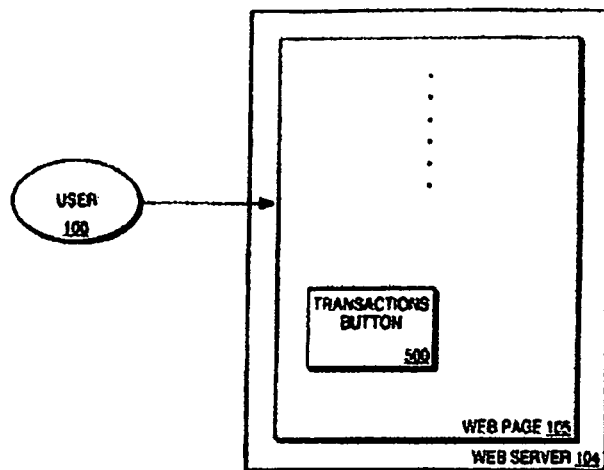


FIG. 5A

For example, in Figure 5A of the '178 patent, reproduced above, "Web server 104 is a node on the Internet, with an IP address. All networked object[s] associated with Web server 104 will therefore be assigned an Internet address based on the Web server 104's IP address." ('178 patent, Fig. 5A; col. 8, ll. 13-16.)

RFC 1213 discloses a protocol that is "used to manage nodes in the Internet community." (RFC 1213, p. 2, ¶ 2.) In particular, RFC 1213 describes a "network management framework" including "managed objects" with descriptions of "how managed objects...are defined," and "the protocol used to manage these objects." (RFC 1213, p. 3, ¶ 2.)

To represent a networked object, the '178 patent uses an object identity that specifies an object type. ('178 patent, claims 1, 3, 9, 11; col. 8, ll. 25-38.) Furthermore, the '178 patent explains that objects have a name, a syntax, and an encoding. ('178 patent, col. 8, ll. 25-26; claims 2, 10.) "The name is an administratively assigned object ID specifying an object type." ('178 patent, col. 8, ll. 26-27; claims 3, 11.) "The syntax of

an object type defines the abstract data structure corresponding to that object type.”

(’178 patent, col. 8, ll. 33-35; claims 5, 13.) “Encoding of objects defines how the object is represented by the object type syntax while being transmitted over the network.”

(’178 patent, col. 8, ll. 35-37.)

RFC 1213 describes managed objects having every one of these features nearly word for word, as shown in TABLE 1, below.

TABLE 1

	’178 Patent	RFC 1213
object identity	“[E]ach object...has a name, a syntax and an encoding. The name is an administratively assigned object ID specifying an object type. The object type together with the object instance serves to uniquely identify a specific instantiation of the object.” (’178 patent, col. 8, ll. 25-29; claims 4, 12.)	“[E]ach object has a name, a syntax and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object.” (RFC 1213, p. 10, ¶ 4.)
name	“The name is an administratively assigned object ID specifying an object type.” (’178 patent, col. 8, ll. 26-27; claims 3, 11.)	“The name is an object identifier, an administratively assigned name, which specifies an object type.” (RFC 1213, p. 10, ¶ 4.)
syntax	“The syntax of an object type defines the abstract data structure corresponding to that object type.” (’178 patent, col. 8, ll. 33-35; claims 5, 13.)	“The syntax of an object type defines the abstract data structure corresponding to that object type.” (RFC 1213, p. 10, ¶ 4.)
encoding	“Encoding of objects defines how the object is represented by the object type syntax while being transmitted over the network.” (’178 patent, col. 8, ll. 35-37.)	“The encoding of an object type is simply how that object type is represented using the object type’s syntax. Implicitly tied to the notion of an object type’s syntax and encoding is how the object type is represented when being transmitted on the network.” (RFC 1213, p. 10, ¶ 4.)

Thus, RFC 1213, which was published more than four years before the earliest possible effective date of the '178 patent, discloses object identities that represent networked objects, as recited, directly or indirectly, by all of the claims of the '178 patent. Furthermore, RFC 1213 discloses an object name, syntax, and encoding just as described and claimed in the '178 patent.

B. Virtual Information Store

The '178 patent discloses distributed on-line service information bases (DOLSIBs) of data associated with networked objects. ('178 patent, col. 7, l. 67 - col. 8,

I. 1.) According to the patent,

DOLSIBs are virtual information stores optimized for networking. All information entries and attributes in a DOLSIB virtual information store are associated with a networked object identity. The networked object identity identifies the information entries and attributes in the DOLSIB as individual networked objects....

('178 patent, col. 8, ll. 3-9.)

Likewise, RFC 1213 describes a management information base (MIB) containing data about managed objects. In particular, the reference explains that "[m]anaged objects are accessed via a virtual information store, termed the Management Information Base or MIB." (RFC 1213, p. 10, ¶ 4.) Information entries and attributes associated with object identities are stored in the virtual information store disclosed in the reference. For example, in the specification reproduced below, the object identifier "{system 3}" is associated with information entries and attributes, e.g., a particular integer value representing the uptime of a particular computer system.

Request for *Ex Parte* Reexamination
U.S. Patent No. 5,778,178
Attorney Docket No. 1035.8001-00000

```
sysUpTime OBJECT-TYPE
  SYNTAX TimeTicks
  ACCESS read-only
  STATUS mandatory
  DESCRIPTION
    "The time (in hundredths of a second) since the
    network management portion of the system was last
    re-initialized."
 ::= { system 3 }
```

(RFC 1213, p. 14, ¶ 6.) This integer value is "contained in" a virtual information store, or MIB, as described in RFC 1213.

As another example, in the specification reproduced below, the object identifier "{system 7}" is associated with information entries and attributes, e.g., a particular integer value representing the set of services primarily offered by the entity.

```
sysServices OBJECT-TYPE
  SYNTAX INTEGER (0..127)
  ACCESS read-only
  STATUS mandatory
  DESCRIPTION
    "A value which indicates the set of services that
    this entity primarily offers.

    The value is a sum. This sum initially takes the
    value zero. Then, for each layer, L, in the range
    1 through 7, that this node performs transactions
    for, 2 raised to (L - 1) is added to the sum. For
    example, a node which performs primarily routing
    functions would have a value of 4 (2^(3-1)). In
    contrast, a node which is a host offering
    application services would have a value of 72
    (2^(4-1) + 2^(7-1)). Note that in the context of
    the Internet suite of protocols, values should be
    calculated accordingly:

        layer  functionality
        1  physical (e.g., repeaters)
        2  datalink/subnetwork (e.g., bridges)
        3  internet (e.g., IP gateways)
        4  end-to-end (e.g., IP hosts)
        7  applications (e.g., mail relays)

    For systems including OSI protocols, layers 5 and
    6 may also be counted."
 ::= { system 7 }
```

(RFC 1213, p. 15, ¶ 6.) This integer value is "contained in" a virtual information store, or MIB, as described in RFC 1213.

Thus, both the '178 patent and RFC 1213 describe a "virtual information store" containing object identities and associated information entries and attributes.

C. Unique Network Addresses

The '178 patent describes "assigning a unique network address" to an object identity. ('178 patent, claims 1, 9.) "[E]ach networked object is assigned an Internet address. The Internet address is assigned based on the IP address of the node at which the networked object resides." ('178 patent, col. 8, ll. 9-12.)

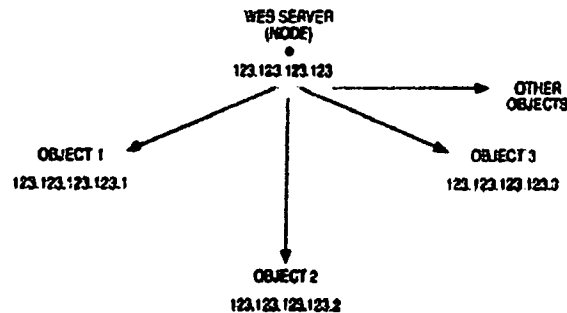


FIG. 6B

Figure 6B of the '178 patent, reproduced above, depicts "an example of this hierarchical addressing tree structure." ('178 patent, col. 8, ll. 22-24; Fig. 6B.) "Web server 104 is a node on the Internet, with an IP address. All networked object[s] associated with Web server 104 will therefore be assigned an Internet address based on the Web server 104's IP address. These networked objects thus 'branch' from the node, creating a hierarchical tree structure." ('178 patent,

col. 8, ll. 13-18; Fig. 5A.) The root of the tree described in Figure 6B of the patent is assigned the address 123.123.123.123. To identify Object 1, which branches from the root node, the addressing scheme of the '178 patent appends the number 1 to the root node address to assign 123.123.123.123.1 to the object. To identify Object 2, which branches from the root node, the addressing scheme of the '178 patent appends the number 2 to the root node address to assign 123.123.123.123.2 to the object. ('178 patent, Fig. 5A.)

Similarly, RFC 1213 describes a hierarchical scheme for assigning unique network addresses to object identifiers. For example, RFC 1213 discloses unique network addresses that comprise IP addresses. For instance, the reference discloses a table that uses an IP address assigned to an object identity as an index into the table.

Request for *Ex Parte* Reexamination
U.S. Patent No. 5,778,178
Attorney Docket No. 1035.8001-00000

```
-- the IP address table

-- The IP address table contains this entity's IP addressing
-- information.

ipAddrTable OBJECT-TYPE
    SYNTAX SEQUENCE OF IpAddrEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "The table of addressing information relevant to
        this entity's IP addresses."
    ::= { ip 20 }

ipAddrEntry OBJECT-TYPE
    SYNTAX IpAddrEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "The addressing information for one of this
        entity's IP addresses."
    INDEX { ipAdEntAddr }
    ::= { ipAddrTable 1 }

IpAddrEntry ::=
    SEQUENCE {
        ipAdEntAddr
            IpAddress,
        ipAdEntIFIndex
            INTEGER,
        ipAdEntNetMask
            IpAddress,
        ipAdEntBeastAddr
            INTEGER,
        ipAdEntReasmMaxSize
            INTEGER (0..65535)
    }

ipAdEntAddr OBJECT-TYPE
    SYNTAX IpAddress
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "The IP address to which this entry's addressing
        information pertains."
    ::= { ipAddrEntry 1 }
```

(RFC 1213, p. 31, ¶ 6.) The object type "ipAddrEntry," described as "[t]he addressing information for one of this entity's IP addresses," uses "ipAdEntAddr" as an index. In turn, "ipAdEntAddr" is described as "[t]he IP address to which this entry's addressing information pertains." (*Id.*) In this situation, a unique network address, comprising an IP address, is assigned to the object identity.

For example, the table named ipAddrTable contains an ipAdEntNetMask object for each IP address in the table. To access the ipAdEntNetMask object for the IP address 207.155.248.31, one would use the object identifier of the IP

address table (1.3.6.1.2.4.20), append "1" to reach the ipAddrEntry object, append "3" to reach the ipAdEntMask object, and further append the IP address "207.155.248.31." This process of appending integers leads to the complete object identifier for the ipAdEntNetMask object of interest, the dotted-decimal string 1.3.6.1.2.4.20.1.3.207.155.248.31.¹

Thus, like the '178 patent, RFC 1213 describes assigning a unique network address to object identities representing networked objects.

RFC 1447 (Party MIB for SNMPv2) similarly discloses assigning a unique network address to an object identity representing a networked object. RFC 1447 discloses initialPartyID objects, whose values are object identifiers. As the excerpt below explains, initialPartyID corresponds to a branch (a subtree) of a hierarchical tree.

```
-- Definition of Initial Party and Context Identifiers
-- When devices are installed, they need to be configured
-- with an initial set of SNMPv2 parties and contexts. The
-- configuration of SNMPv2 parties and contexts requires (among
-- other things) the assignment of several OBJECT IDENTIFIERS.
-- Any local network administration can obtain the delegated
-- authority necessary to assign its own OBJECT IDENTIFIERS.
-- However, to provide for those administrations who have not
-- obtained the necessary authority, this document allocates a
-- branch of the naming tree for use with the following
-- conventions.
initialPartyId OBJECT IDENTIFIER ::= { partyAdmin }
```

¹ Mark A. Miller, MANAGING INTERNETWORKS WITH SNMP 138-39 (1993), provides a contemporaneous description of appending an IP address to an object identifier to access an object in the table "ipAddrTable":

BcastAddr (4), shown in Figure 4-4a. Next, the destination route is added as a suffix, that is, a.b.c.d. (More on IP addresses and dotted decimal notation in Section 5.3.) The variable name for ipAdEntBcastAddr associated with IP Address a.b.c.d would therefore be (1.3.6.1.2.1.4.20.1.4.a.b.c.d).

The example from the Miller reference demonstrates how those of ordinary skill in the art would apply the teachings of the RFC.

Nevertheless, the claims of the '178 patent are also invalid under 35 U.S.C. 102(b) in view of RFC 1213 and Miller. See MPEP 2131.01 (allowing two-reference anticipation rejections where the second reference explains the meaning of a term in the first reference or shows an inherent characteristic of the first reference). Here, Miller explicitly teaches that the indexing function, for the ipAddrTable example, requires appending an IP address to the object identifier of the node of interest's object identifier.

(RFC 1447, p. 8, ¶ 2.) The initialPartyID object is used in conjunction with the IP address of the configured device, represented below as a.b.c.d (an IP address).

```
-- Party Identifiers for use as initial SNMPv2 parties
--   at IP address a.b.c.d

-- Note that for all OBJECT IDENTIFIERS assigned under
-- initialPartyId, the four sub-identifiers immediately
-- following initialPartyId represent the four octets of
-- an IP address. Initial party identifiers for other address
-- families are assigned under a different OBJECT IDENTIFIER,
-- as defined elsewhere.
```

(RFC 1447, p. 9, ¶ 2.) For instance, in the example below, a party-based security profile corresponds to an object at the a.b.c.d.1 node of the a.b.c.d subtree. Just as in figure 6B in the patent, the dotted decimal string associated with each object includes the IP address of the parent node plus an extra integer appended on the right of the IP address.

```
--   a noAuth/noPriv party which executes at the agent
-- partyIdentity      = { initialPartyId a b c d 1 }
-- partyIndex         = 1
-- partyTDomain       = snmpUDPDomain
-- partyTAddress       = a.b.c.d, 161
-- partyLocal         = true (in agent's database)
-- partyAuthProtocol  = noAuth
-- partyAuthClock     = 0
-- partyAuthPrivate   = ''H (the empty string)
-- partyAuthPublic    = ''H (the empty string)
-- partyAuthLifetime  = 0
-- partyPrivProtocol  = noPriv
-- partyPrivPrivate   = ''H (the empty string)
-- partyPrivPublic    = ''H (the empty string)
```

(RFC 1447, p. 10, ¶ 2.)

Both RFCs disclose SNMP examples meeting the unique network address claim elements. The differences between the two examples are minor. RFC 1213 discloses an example with the IP address appended on the right, while RFC 1447 discloses an

example with an extra integer on the right of the IP address, like Figure 6 of the '178 patent.²

D. Application Layer Object Routing

The claims of the '178 patent are drawn to an object router and a method for enabling object routing on a World Wide Web. ('178 patent, claims 1, 9.) The system of the '178 patent provides "multi-protocol object routing." ('178 patent, col. 7, ll. 58-60.) The '178 patent explains that "[t]he present invention is implemented to function as a routing switch within the 'application layer' of the OSI model." ('178 patent, col. 4, ll. 51-53.)

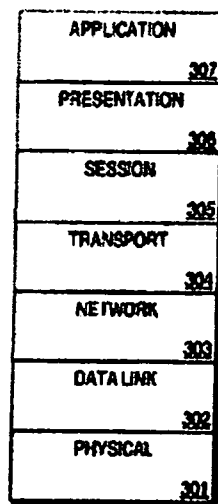


FIG. 3

Figure 3 of the '178 patent, reproduced above, "illustrates the Open Systems Interconnection (OSI) reference model. OSI Model 300 is an international standard that

² Under their broadest reasonable interpretation, the claims of the '178 patent do not require any particular ordering of the IP address relative to other integers within the dotted-decimal strings. Either example invalidates the claims of the '178 patent.

provides a common basis for the coordination of standards development, for the purpose of systems interconnection." ('178 patent, col. 4, ll. 47-51; Fig. 3.) According to the patent, "[a]pplication layer 307 provides a means for application programs to access the OSI environment. As described above, the present invention is implemented to function as a routing switch in application layer 307. Application layer routing creates an open channel for the management and selective flow of data from remote databases on a network." ('178 patent, col. 5, ll. 10-16.)

Like the '178 patent, RFC 1213 describes routing performed at the application layer of the OSI reference model. For example, the reference discloses objects as a primary part of this "network management framework." In particular, the framework includes "managed objects" with descriptions of "how managed objects contained in the MIB are defined," and "the protocol used to manage these objects."

As such, the current network management framework for TCP/IP- based internets consists of: Structure and Identification of Management Information for TCP/IP-based internets, RFC 1155 [12], which describes how managed objects contained in the MIB are defined; Management Information Base for Network Management of TCP/IP-based internets: MIB-II, this memo, which describes the managed objects contained in the MIB (and supercedes RFC 1156 [13]); and, the Simple Network Management Protocol, RFC 1098 [5], which defines the protocol used to manage these objects.

(RFC 1213, p. 3, ¶ 2.) Managed objects are "accessed via a virtual information store." To access an object via the virtual information store, the object's identifier is used. (RFC 1213, p. 10, ¶ 4.) The process of using the object identifier to locate an object, set data associated with an object, or get data associated with an object constitutes object routing. Since the object identifier is stored in the virtual information store (here, a MIB), and since the system described in RFC 1213 is a software application, the MIB and the object routing process operate at the application layer.

Thus, both the '178 patent and RFC 1213 describe object routing at the application layer of the OSI model.

IV. DETAILED APPLICATION OF THE CITED PRIOR ART TO THE CLAIMS

The detailed claim chart attached as Exhibit H maps each and every element recited in claims 1-16 to corresponding features in RFC 1213, RFC 1447, and Relihan et al.

A. Claims 1-5, 7-13, and 15-16 Are Anticipated by RFC 1213

At least claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by RFC 1213. The detailed claim chart attached as Exhibit H maps each and every element recited in these claims to corresponding features described in RFC 1213. The Office did not consider this reference during the prosecution of the '178 patent.

B. Claims 1-5, 7-13, and 15-16 Are Anticipated by RFC 1213 in view of Miller

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 102(b) in view of RFC 1213 and Miller. Multiple-reference anticipation rejections are permitted by MPEP § 2131.01 in situations such as this one, for example to explain meaning or show inherency. Miller explains the meaning of "index" in RFC 1213 and shows that the appending of IP addresses to object identifiers is inherent in RFC 1213. The detailed claim chart attached as Exhibit H maps each and every element recited in these claims to corresponding features described in RFC 1213 (in view of Miller). The Office did not consider either reference during the prosecution of the '178 patent.

C. Claims 1-5, 7-13, and 15-16 Are Obvious Over RFC 1213 in view of RFC 1447

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view of RFC 1447. Combining teachings from the two RFCs would have been obvious to one of ordinary skill in the art, since both are RFCs related to SNMP, both share a common author, and both were made available from the same RFC repositories. Although RFC 1213 anticipates these claims alone, RFC 1213 in combination with RFC 1447 provides more examples that assign unique network addresses to object identities representing networked objects, and thus renders those claims unpatentable for this additional reason.

D. Claims 1-5, 7-13, and 15-16 Are Obvious Over RFC 1213 in view of RFC 1447 and further In view of Miller

Claims 1-5, 7-13, and 15-16 are unpatentable under 35 U.S.C. § 103(a) over RFC 1213 in view of RFC 1447 and further in view of Miller. As explained above, Miller serves to explain the meaning of "index" in RFC 1213 and shows that appending IP addresses to object identifiers is inherent in RFC 1213. Also, as explained above, RFC 1447 simply provides additional examples that assign unique network addresses to object identities representing networked objects. All of these references are about SNMP, so one of ordinary skill would have been motivated to view them together in this manner.

E. Claims 6 and 14 Are Obvious Over RFC 1213

Claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) as being obvious variations of the teachings of RFC 1213. Claims 6 and 14 depend from independent claims 1 and 9, respectively, and recite utilizing a unique network address to identify

and route an object identity on the World Wide Web. The detailed claim chart attached as Exhibit H maps each and every element recited in these claims to corresponding features described in RFC 1213.

RFC 1213 describes a "simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community." (RFC 1213, p. 2, ¶ 1.) Moreover, RFC 1213 discloses utilizing a unique network address to identify and route an object identity on a network. Such unique network addresses may also comprise IP addresses, as is the case with the IP address table. (RFC 1213, p. 31, ¶ 6).

Thus, RFC 1213 discloses utilizing a unique network address to identify and route an object identity on a network. The only element of claims 6 and 14 that is not explicitly described in RFC 1213 is the "World Wide Web." However, as detailed below, such a modification of RFC 1213 would have been obvious to one skilled in the art.

When the '178 patent was filed, the World Wide Web was well-known, as the '178 patent itself admits. "With the Internet and the World Wide Web ('the Web') evolving rapidly as a viable consumer medium for electronic commerce, new on-line services are emerging to fill the needs of on-line users. An Internet user today can browse on the Web via the use of a Web browser." ('178 patent, col. 1, ll. 19-23.) Furthermore, Figures 1A and 1B of the '178 patent, both labeled "PRIOR ART," depict a prior art web browser 102 and a prior art web server 104. Thus, the written description and drawings of the '178 patent admit that the use of the World Wide Web was well-known at least as of the time the '726 application was filed.

Moreover, the written description of the '178 patent explains that the invention uses "conventional Web browsers" and "can use any Web browser, without

modifications to the Web browser." ('178 patent, col. 3, ll. 34-39.) The Court of Appeals for the Federal Circuit has recently held that the use of the term "conventional" in the written description to modify a term such as "Web browsers" "denotes a reference to web browsers in existence at the time of the alleged invention...." *Muniauction, Inc. v. Thomson Corp.*, 2008 WL 2717689 at *5 (Fed. Cir. July 14, 2008). Thus, the 178 patent itself shows that the use of the World Wide Web was well-known at the time of its filing. Accordingly, modifying RFC 1213 to apply to the World Wide Web represents a combination of well known prior art elements that would have been routine to an ordinarily skilled artisan. This combination of known prior art elements is remarkably similar to the adaptation of a prior art online auction software to incorporate web browser functionality recently considered by the Federal Circuit in *Muniauction, Inc. v. Thomson Corp.*, 2008 WL 2717689 at *5 (Fed. Cir. July 14, 2008). In that case, the court held that "adapting existing electronic processes to incorporate modern internet and web browser technology" was "obvious as a matter of law." Similarly, the modification of RFC 1213, which explicitly describes TCP/IP internets, IP addresses, and the Internet, to incorporate well-known Web functionality, constitutes a *prima facie* case of obviousness.

F. Claims 6 and 14 Are Obvious Over RFC 1213 in view of Relihan et al.

Claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) as being obvious over RFC 1213 in view of Relihan et al. Claims 6 and 14 depend from independent claims 1 and 9, respectively, and recite utilizing a unique network address to identify and route an object identity on the World Wide Web. The detailed claim chart attached

as Exhibit H maps each and every element recited in these claims to corresponding features described in RFC 1213 and Relihan et al., as explained further below.

RFC 1213 describes a "simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community." (RFC 1213, p. 2, ¶ 1.) Moreover, RFC 1213 discloses utilizing unique network address to identify and route an object identity on a network. Such unique network addresses may also comprise IP addresses, as is the case with the IP address table. RFC 1213, p. 31, ¶ 6.

Thus, RFC 1213 discloses every element of claims 6 and 14 except the explicit disclosure of the World Wide Web. Relihan et al. teaches that the World Wide Web was a well-known type of network at the time the invention was made. "[R]ecent years have seen an increase in sophisticated and user-friendly Internet information systems. These include the...hypertext-based World-Wide Web." (Relihan et al., p. 17, col. 1.) Relihan et al. also discloses the well-known need for the "control of resources and maintenance of referential integrity" on the World Wide Web. (*Id.*, p. 21, col. 1.)

Inasmuch as RFC 1213 and Relihan et al. are drawn to management and control of distributed resources on a network, it would have been obvious to one of ordinary skill to apply the management protocols for TCP/IP-based internets of RFC 1213 to the World Wide Web, as disclosed by Relihan et al. Indeed, Relihan et al. teaches that "the developers of the W3 [World Wide Web] would benefit from research carried out into various other kinds of distributed systems such as...managed networks," citing to a reference book about Simple Network Management Protocol (SNMP), the topic of RFC 1213. (Relihan et al., p. 21, col. 2; p. 24, col. 2.) Thus, one skilled in the art at the time

would have seen the benefits of applying the network management framework of RFC 1213 to the World Wide Web.

As explained above, RFC 1213 discloses every element of claims 6 and 14 except for the explicit use of the World Wide Web. Relihan et al. discloses the use of the World Wide Web to manage networked resources and explains that other kinds of distributed database systems and managed networks (e.g., the SNMP systems of RFC 1213) would be a beneficial addition to resource control on the World Wide Web. Therefore, it would have been obvious to a skilled artisan to apply the teachings of RFC 1213 to route object identities on the World Wide Web, rendering claims 6 and 14 obvious.

G. Claims 6 and 14 Are Also Obvious Over RFC 1213 in view of other combinations of references

Additionally, claims 6 and 14 are unpatentable under 35 U.S.C. § 103(a) as being obvious over the following combinations of references:

- (1) RFC 1213 and RFC 1447;
- (2) RFC 1213, RFC 1447, and Relihan et al.;
- (3) RFC 1213 and Miller;
- (4) RFC 1213, Miller, Relihan et al.;
- (5) RFC 1213, RFC 1447, and Miller; and
- (6) RFC 1213, RFC 1447, Miller, and Relihan et al.

Combinations based on RFC 1447 and Miller are relevant for claims 6 and 14 because those claims depend from claims 1 and 9, which are invalid under combinations based on RFC 1447 and Miller, as explained above. Also, for the same

reasons presented above in the context of claims 1-5, 7-13, and 15-16, one of ordinary skill in the art would have been motivated to make these combinations. RFC 1213, RFC 1447, and Miller are all about SNMP, while Relihan suggests applying SNMP techniques to the Web.

V. RFC 1213 DESCRIBES FEATURES THAT THE APPLICANT PREVIOUSLY ARGUED DISTINGUISHED HER INVENTION

During prosecution of the '178 patent, the Applicant explained that "the object identity represents a networked object where the address for each networked object essentially establishes the individual object as an 'IP-reachable' or accessible node on the Internet. This Internet address is used to uniquely identify and access the object from the virtual information store." (Prosecution history of '726 application, 10/29/97 Amendment, pp. 6-7.) Distinguishing the reference cited by the Office, the Applicant argued that "[t]his type of an 'object' is significantly different from an HTML page that is accessed via a URL." (Prosecution history of '726 application, 10/29/97 Amendment, p. 7.)

Like the Applicant's claimed invention, RFC 1213 also describes object identities that represent networked objects. As explained above, in RFC 1213, "each object has a name, a syntax and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object." (RFC 1213, p. 10, ¶ 4.) RFC 1213 also discloses IP addresses used to uniquely identify and access objects from a virtual information store. (RFC 1213, p. 31, ¶ 6.)

EXHIBIT H

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<p>1. An object router on a World Wide Web, said object router comprising:</p>	<p>RFC 1213 discloses an object router. For example, the reference describes "a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet."</p> <p>1. Abstract</p> <p>This memo defines the second version of the Management Information Base (MIB-II) for use with network management protocols in TCP/IP-based internets. In particular, together with its companion memos which describe the structure of management information (RFC 1155) along with the network management protocol (RFC 1157) for TCP/IP-based internets, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community.</p> <p>RFC 1213, p. 2, ¶ 1. The reference discloses objects as a primary part of this "network management framework." In particular, the framework includes "managed objects" with descriptions of "how managed objects contained in the MIB are defined," and "the protocol used to manage these objects."</p> <p>As such, the current network management framework for TCP/IP-based internets consists of: Structure and Identification of Management Information for TCP/IP-based internets, RFC 1155 [12], which describes how managed objects contained in the MIB are defined; Management Information Base for Network Management of TCP/IP-based internets: MIB-II, this memo, which describes the managed objects contained in the MIB (and supercedes RFC 1156 [13]); and, the Simple Network Management Protocol, RFC 1098 [5], which defines the protocol used to manage these objects.</p> <p>RFC 1213, p. 3, ¶ 2. The reference explains that objects are routed on a network. For example, the reference explains that "each object has a name, a syntax, and an encoding" and that "[t]he encoding of an object type is simply how that object type is represented using the object type's syntax. Implicitly tied to the notion of an object type's syntax and encoding is how the object type is represented when being transmitted on the network."</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>The syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose. However, the SMI [12] purposely restricts the ASN.1 constructs which may be used. These restrictions are explicitly made for simplicity.</p> <p>The encoding of an object type is simply how that object type is represented using the object type's syntax. Implicitly tied to the notion of an object type's syntax and encoding is how the object type is represented when being transmitted on the network.</p> <p>RFC 1213, p. 10, ¶ 4. The managed objects are "accessed via a virtual information store." To access an object via the virtual information store, the object's identifier is used. See, e.g., RFC 1213, p. 14, ¶ 6. The process of using the object identifier to locate an object, set data associated with an object, or get data associated with an object constitutes object routing. Routing is described in the patent's specification as "selectively controlling the flow of data." '178 patent at 5:12-16. Here, the flow of data is necessarily selectively controlled, for instance, when setting a value associated with a particular object. The object identifiers disclosed in RFC 1213 are used to route the new value (an object itself) to the particular object. Without object routing, the new value would not have a way to find the particular object.</p> <p>If the term "a World Wide Web," which appears only in the preamble, is limiting and, if when read as broadly as is reasonable, the term is not interpreted to include a network as described in RFC 1213, then RFC 1213 renders the claim obvious in view of Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994. The World Wide Web was a well-known type of network at the time the invention was made.</p> <p>"[R]ecent years have seen an increase in sophisticated and user-friendly Internet information systems. These include the...hypertext-based World-Wide Web." Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of</p>
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Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>Computing Machinery, 1994, p. 17, col. 1. Also well-known was the need on the World Wide Web for the "control of resources and maintenance of referential integrity" on the World Wide Web. <i>Id.</i>, p. 21, col. 1. Indeed, the authors of this article suggested that "the developers of the W3 [World Wide Web] would benefit from research carried out into various other kinds of distributed systems such as...managed networks," citing to a reference book about Simple Network Management Protocol (SNMP), the topic of RFC 1213. <i>Id.</i>, p. 21, col. 2; p. 24, col. 2. Thus, it would have been obvious to a skilled artisan to apply the teachings of RFC 1213 to the World Wide Web.</p>
<p>means for associating an object identity with information entries and attributes, wherein the object identity represents a networked object;</p>	<p>RFC 1213 discloses means for associating an object identity with information entries and attributes. In the specification below, an object identifier {system 3} is associated with information entries and attributes (e.g., a particular integer value representing the uptime of a particular computer system).</p> <pre> sysObjTime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre>
	<p>RFC 1213, p. 14, ¶ 6. As another example, in the specification below, an object identifier {system 4} is associated with information entries and attributes (e.g., a particular string value representing the name of a contact person for the particular managed node).</p> <pre> sysContact OBJECT-TYPE SYNTAX DisplayString (SIZE (0..255)) ACCESS read-write STATUS mandatory DESCRIPTION "The textual identification of the contact person for this managed node, together with information on how to contact this person." ::= { system 4 } </pre> <p>RFC 1213, p. 14, ¶ 6. Furthermore, the object identity (object identifier) represents a networked object. In particular, the reference teaches that "each object has a name...[that] is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<p>instance serves to uniquely identify a specific instantiation of the object."</p>	<p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p>
<p>means for storing said information entries and said attributes in a virtual information store; and</p>	<p>RFC 1213, p. 10, ¶ 4. Thus, the object identity (object identifier) disclosed in the reference represents a networked object.</p> <p>RFC 1213 discloses a virtual information store for storing information entries and attributes. As the reference explains, "[m]anaged objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using Abstract Syntax Notation One (ASN.1)." 4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4. Information entries and attributes are stored in the MIB disclosed in the reference. For example, in the specification below, the object identifier {system 7} is associated with information entries and attributes (e.g., a particular integer value representing the set of services primarily offered by the entity). This integer value is "contained in" a virtual information store described in RFC 1213.</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre> sysServices OBJECT-TYPE SYNTAX INTEGER (0..127) ACCESS read-only STATUS mandatory DESCRIPTION "A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero, then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., IP gateways) 4 end-to-end (e.g., IP hosts) 7 applications (e.g., mail relays) For systems including OSI protocols, layers 5 and 6 may also be counted." ::= { system 7 } </pre> <p>RFC 1213, p. 15, ¶ 6. In the specification below, the object identifier {system 3} is associated with information entries and attributes (e.g., a particular integer value representing the uptime of a particular computer system). This integer value is "contained in" a virtual information store described in RFC 1213.</p> <pre> sysUptime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre>
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Exhibit H - Claim chart

U.S. Patent No. 5,778,178	RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991
means for assigning a unique network address to said object identity.	RFC 1213, p. 14, ¶ 6. RFC 1213 discloses assigning a unique network address to an object identity (object identifier). RFC 1213 discloses assigning unique network addresses to object identities. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<pre> -- the IP address table -- The IP address table contains this entity's IP addressing -- information. ipAddrTable OBJECT-TYPE SYNTAX SEQUENCE OF IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The table of addressing information relevant to this entity's IP addresses." ::= { ip 20 } ipAddrEntry OBJECT-TYPE SYNTAX IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The addressing information for one of this entity's IP addresses." INDEX { ipAddrAddr } ::= { ipAddrTable 1 } IpAddrEntry ::= SEQUENCE { ipAddrAddr IpAddress, ipAddrIfIndex INTEGER, ipAddrNetMask IpAddress, ipAddrBroadcastAddr INTEGER, ipAddrResemMaxSize INTEGER (0..65535) } ipAddrAddr OBJECT-TYPE SYNTAX IpAddress ACCESS read-only STATUS mandatory DESCRIPTION "The IP address to which this entry's addressing information pertains." ::= { ipAddrEntry 1 } </pre>	
<p>RFC 1213, p. 31, ¶ 6. The object type "ipAddrEntry," described as "[t]he addressing information for one of</p>	

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>this entity's IP addresses," uses "ipAdEntAddr" as an index, which in turn is described as "[t]he IP address to which this entry's addressing information pertains." <i>Id.</i> In this situation, a unique network address is assigned to the object identity.</p> <p>Mark A. Miller, <i>Managing Internetworks with SNMP</i> (1993), explains that in SNMP (the subject of RFC 1213), using an IP address as an index requires appending it to an object identifier. Miller can be used to explain the meaning of "index" in RFC 1213 and to show that the appending of IP addresses to object identifiers is inherent in RFC 1213. In particular, Miller provides a contemporaneous description of appending an IP address to an object identifier to access an object in the table "ipAddrTable":</p> <p style="padding-left: 40px;">BcastAddr (4), shown in Figure 4-4a. Next, the destination route is added as a suffix, that is, a.b.c.d. (More on IP addresses and dotted decimal notation in Section 5.3.) The variable name for ipAdEntBcastAddr associated with IP Address a.b.c.d would therefore be {3.6.1.2.1.4.20.1.4.a.b.c.d}.</p> <p>Miller at 138.</p> <p>The RFC 1213 reference also discloses another similar example. The table called ipRouteTable serves as an entity's IP routing table. The table contains an ipRouteEntry, which is indexed by ipRouteDest. Like ipAdEntAddr in the prior example, ipRouteDest has an IP address value, specifically, "the destination IP address of this route." And, as in the example above, the IP address is used as an index into a table.</p>
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Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<pre>-- the IP routing table -- The IP routing table contains an entry for each route -- presently known to this entity. ipRouteTable OBJECT-TYPE SYNTAX SEQUENCE OF IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "This entity's IP Routing table." ::= { ip 21 } ipRouteEntry OBJECT-TYPE SYNTAX IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "A route to a particular destination." INDEX { ipRouteDest } ::= { ipRouteTable 1 } IpRouteEntry ::= SEQUENCE { ipRouteDest IpAddress, ipRouteIfIndex INTEGER, ipRouteMetric1 INTEGER, ipRouteMetric2 INTEGER, ipRouteMetric3 INTEGER, ipRouteMetric4 INTEGER, ipRouteNextHop IpAddress, ipRouteType INTEGER, ipRouteProto INTEGER, ipRouteAge INTEGER, ipRouteMask IpAddress, ipRouteMetric5 INTEGER,</pre>	

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre> ipRouteInfo OBJECT IDENTIFIER) ipRouteDest OBJECT-TYPE SYNTAX IpAddress ACCESS read-write STATUS mandatory DESCRIPTION "The destination IP address of this route. An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table- access mechanisms defined by the network management protocol in use." ::= (ipRouteEntry 1) </pre> <p>RFC 1213, p. 33-34, ¶ 6.</p> <p>Although RFC 1213 anticipates this claim, RFC 1447 (Party MIB for SNMPv2) provides even more invalidating examples, and therefore can be combined with RFC 1213 to render the claim obvious, as the example below explains.</p> <p>RFC 1447 discloses initialPartyID objects, whose values are object identifiers. As the excerpt below explains, initialPartyID corresponds to a branch (a subtree) of a hierarchical tree.</p>
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Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre> -- Definition of Initial Party and Context Identifiers -- When devices are installed, they need to be configured -- with an initial set of SNMPv2 parties and contexts. The -- configuration of SNMPv2 parties and contexts requires (among -- other things) the assignment of several OBJECT IDENTIFIERS. -- Any local network administration can obtain the delegated -- authority necessary to assign its own OBJECT IDENTIFIERS. -- However, to provide for those administrations who have not -- obtained the necessary authority, this document allocates a -- branch of the naming tree for use with the following -- conventions. initialPartyId OBJECT IDENTIFIER ::= { partyAdmin 3 } initialContextId OBJECT IDENTIFIER ::= { partyAdmin 4 } </pre> <p>RFC 1447. p. 8, ¶ 2. The initialPartyID object is used in conjunction with the IP address of the configured device, represented below as a.b.c.d (an IP address).</p> <pre> -- Party Identifiers for use as initial SNMPv2 parties -- -- at IP address a.b.c.d -- Note that for all OBJECT IDENTIFIERS assigned under -- initialPartyId, the four sub-identifiers immediately -- following initialPartyId represent the four octets of -- an IP address. Initial party identifiers for other address -- families are assigned under a different OBJECT IDENTIFIER, -- as defined elsewhere. </pre> <p>RFC 1447, p. 9, ¶ 2. For instance, in the example below, a party-based security profile corresponds to an object at the a.b.c.d.1 node of the a.b.c.d subtree. Just as in figure 6B in the patent, the dotted decimal string associated with each object includes the IP address of the parent node plus an extra integer appended on the right of the IP address.</p>
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Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre>-- a noAuth/noPriv party which executes at the agent -- partyIdentity = { initialPartyId a b c d l } -- partyIndex = 1 -- partyDomain = smgOPFDomain -- partyTAddress = a.b.c.d, 161 -- partyLocal = true (in agent's database) -- partyAuthProtocol = noAuth -- partyAuthClock = 0 -- partyAuthPrivate = 'H (the empty string) -- partyAuthPublic = 'H (the empty string) -- partyAuthLifetime = 0 -- partyPrivProtocol = noPriv -- partyPrivPrivate = 'H (the empty string) -- partyPrivPublic = 'H (the empty string)</pre> <p>RFC 1447, p. 10, ¶ 2.</p>
<p>2. The object router in claim 1 wherein said means for associating said object identity with said information entries and said attributes in said virtual information store further includes means for associating a name, a syntax and an encoding for said object identity.</p>	<p>RFC 1213 includes means for associating a name, a syntax and an encoding for an object identity (object identifier). Indeed, the reference explains exactly that "each object has a name, a syntax, and an encoding." RFC 1213, p. 10, ¶ 4.</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>3. The object router in claim 2 wherein said name of said object identity specifies an object</p>	<p>RFC 1213 discloses that a name of an object identity (object identifier) specifies an object type. In fact, the reference explains exactly that "each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type."</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p> <p>type.</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>4. The object router in claim 3 wherein said object type and an object instance uniquely identify an instantiation of said object type.</p>	<p>RFC 1213 discloses that a an object type and an object instance uniquely identify an instantiation of an object type. Remarkably, the reference discloses precisely that "each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of an object."</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>5. The object router in claim 4 wherein said syntax defines a data structure for said object type.</p>	<p>RFC 1213 discloses that a syntax defines a data structure for the object type. The reference explains precisely that "[t]he syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose."</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>The syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose. However, the SMI [12] purposely restricts the ASN.1 constructs which may be used. These restrictions are explicitly made for simplicity.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>6. The object router in claim 1 further comprising means for utilizing said unique network address to identify and route said object identity on the World Wide Web.</p>	<p>Claim 6 is obvious under 35 U.S.C. § 103 position over RFC 1213 in view of Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994.</p> <p>RFC 1213 discloses means for utilizing said unique network address to identify and route said object identity on a network. As noted above for the "assigning a unique network address" limitation of claim 1 and below for claim 7, RFC 1213 discloses that "said unique network address" can comprise IP addresses.</p> <p>Relihan et al. discloses that the World Wide Web was a well-known type of network at the time the invention was made. "[R]ecent years have seen an increase in sophisticated and user-friendly Internet information systems. These include the...hypertext-based World-Wide Web." Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994, p. 17, col. 1. Relihan et al. also discloses the well-known need for "control of resources and maintenance of referential integrity" on the World Wide Web. <i>Id.</i>, p. 21, col. 1. Indeed, Relihan et al. teaches that "the developers of the W3 [World Wide Web] would benefit from research carried out into various other kinds of distributed systems such as...managed networks," citing to a reference book about Simple Network Management Protocol (SNMP), the topic of RFC 1213. <i>Id.</i>, p. 21, col. 2; p. 24, col. 2. Thus, it would have been obvious to a skilled artisan to apply the teachings of RFC 1213 to route object identities on the World Wide Web.</p>
<p>7. The object router in claim 1 further comprising means for utilizing said unique network address to identify and route said object identity on the Internet. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.</p>	<p>RFC 1213 discloses means for utilizing said unique network address to identify and route said object identity on the Internet. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.</p>

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<p>the Internet.</p>	<pre> -- the IP address table -- The IP address table contains this entity's IP addressing -- information. ipAddrTable OBJECT-TYPE SYNTAX SEQUENCE OF IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The table of addressing information relevant to this entity's IP addresses." ::= { ip 20 } ipAddrEntry OBJECT-TYPE SYNTAX IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The addressing information for one of this entity's IP addresses." INDEX { ipAddrAddr } ::= { ipAddrTable 1 } IpAddrEntry ::= SEQUENCE { ipAddrAddr IpAddress, ipAddrEntIfIndex INTEGER, ipAddrEntNetMask IpAddress, ipAddrEntBroadcastAddr INTEGER, ipAddrEntReasonMaxSize INTEGER (0..65535) } ipAddrEntAddr OBJECT-TYPE SYNTAX IpAddress ACCESS read-only STATUS mandatory DESCRIPTION "The IP address to which this entry's addressing information pertains." ::= { ipAddrEntry 1 } </pre>
<p>RFC 1213, p. 31, ¶ 6. The object type "ipAddrEntry," described as "[t]he addressing information for one of</p>	

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>[the ipAddrTable] entity's IP addresses," uses "ipAddrEntAddr" as an index, which in turn is described as "[t]he IP address to which this entry's addressing information pertains." <i>Id.</i> In this situation, a unique IP address is assigned to the object identity, and as an index into the table, it is used to identify and route the associated object identity.</p> <p>As shown below, the reference discloses its intended use on TCP/IP-based internets, and in particular, "the Internet."</p> <p>1. Abstract</p> <p>This memo defines the second version of the Management Information Base (MIB-II) for use with network management protocols in TCP/IP-based internets. In particular, together with its companion memos which describe the structure of management information (RFC 1155) along with the network management protocol (RFC 1157) for TCP/IP-based internets, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community.</p> <p>RFC 1213, p. 2, ¶ 1.</p>
<p>8. The object router in claim 1 further comprising the step of utilizing said unique network address of said object identity to perform Operations, Administration, Maintenance & Provisioning (OAM&P) functions.</p>	<p>RFC 1213 discloses several examples of utilizing said unique network address of said object identity to perform operations, administration, maintenance & provisioning (OAM&P) functions. For example, the reference explains that objects included in the MIB definitions are "needed to be essential for either fault or configuration management."</p> <p>(1) An object needed to be essential for either fault or configuration management.</p> <p>RFC 1213, p. 11, ¶ 5. Thus, fault management and configuration management are two examples of OAM&P functions provided by network management system described in RFC 1213. As another example of OAM&P functionality, the reference describes object types sysContact, sysName, sysLocation, and sysServices to "provide contact, administration, location, and service information regarding the managed node."</p>

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>3.4. The System Group</p> <p>Four new objects are added to this group:</p> <pre> sysContact sysName sysLocation sysServices </pre> <p>These provide contact, administrative, location, and service information regarding the managed node.</p> <p>RFC 1213, p. 5, ¶ 3.4. For example, the object type sysServices "indicates the set of services that this entity primarily offers" which may include physical functionality (e.g., repeaters), internet functionality (e.g., IP gateways), and applications (e.g., mail relays), among other things.</p> <pre> sysServices OBJECT-TYPE SYNTAX INTEGER (0..127) ACCESS read-only STATUS mandatory DESCRIPTION "A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., IP gateways) 4 end-to-end (e.g., IP hosts) 7 applications (e.g., mail relays) For systems including OSI protocols, layers 5 and 6 may also be counted." ::= { system 7 } </pre>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>RFC 1213, p. 15, ¶ 6. As yet another example, the reference further describes an IP group including fault management objects such as ipInAddrErrors, which counts "[t]he number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity."</p> <pre> ipInAddrErrors OBJECT-TYPE SYNTAX Counter ACCESS read-only STATUS mandatory DESCRIPTION "The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (e.g., 0.0.0.0) and addresses of unsupported Classes (e.g., Class E). For entities which are not IP Gateways and therefore do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address." ::= { ip 5 } </pre> <p>RFC 1213, p. 27, ¶ 6. The IP group also includes performance management objects such as ipRouteAge, which is "[t]he number of seconds since this route was last updated or otherwise determined to be correct."</p> <pre> ipRouteAge OBJECT-TYPE SYNTAX INTEGER ACCESS read-write STATUS mandatory DESCRIPTION "The number of seconds since this route was last updated or otherwise determined to be correct. Note that no semantics of 'too old' can be implied except through knowledge of the routing protocol by which the route was learned." ::= { ipRouteEntry 10 } </pre> <p>RFC 1213, p. 37, ¶ 6. Therefore, performance management is yet another example of OAM&P functions performed by the network management system described in RFC 1213.</p>
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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<p>9. A method for enabling object routing on a World Wide Web, said method for enabling object routing comprising the steps of:</p>	<p>RFC 1213 discloses an object router. For example, the reference describes "a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet."</p> <p>1. Abstract</p> <p>This memo defines the second version of the Management Information Base (MIB-II) for use with network management protocols in TCP/IP-based internets. In particular, together with its companion memos which describe the structure of management information (RFC 1155) along with the network management protocol (RFC 1157) for TCP/IP-based internets, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community.</p> <p>RFC 1213, p. 2, ¶ 1. The reference discloses objects as a primary part of this "network management framework." In particular, the framework includes "managed objects" with descriptions of "how managed objects contained in the MIB are defined," and "the protocol used to manage these objects."</p> <p>As such, the current network management framework for TCP/IP-based internets consists of: Structure and Identification of Management Information for TCP/IP-based internets, RFC 1155 (12), which describes how managed objects contained in the MIB are defined; Management Information Base for Network Management of TCP/IP-based internets: MIB-II, this memo, which describes the managed objects contained in the MIB (and supercedes RFC 1156 (13)); and, the Simple Network Management Protocol, RFC 1098 (5), which defines the protocol used to manage these objects.</p> <p>RFC 1213, p. 3, ¶ 2. The reference explains that objects are routed on a network. For example, the reference explains that "each object has a name, a syntax, and an encoding" and that "[t]he encoding of an object type is simply how that object type is represented using the object type's syntax. Implicitly tied to the notion of an object type's syntax and encoding is how the object type is represented when being transmitted on the network."</p>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>The syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose. However, the SMI [12] purposefully restricts the ASN.1 constructs which may be used. These restrictions are explicitly made for simplicity.</p> <p>The encoding of an object type is simply how that object type is represented using the object type's syntax. Implicitly tied to the notion of an object type's syntax and encoding is how the object type is represented when being transmitted on the network.</p> <p>RFC 1213, p. 10, ¶ 4. The managed objects are "accessed via a virtual information store." To access an object via the virtual information store, the object's identifier is used. See, e.g., RFC 1213, p. 14, ¶ 6. The process of using the object identifier to locate an object, set data associated with an object, or get data associated with an object constitutes object routing. Routing is described in the patent's specification as "selectively controlling the flow of data." '178 patent at 5:12-16. Here, the flow of data is necessarily selectively controlled, for instance, when setting a value associated with a particular object. The object identifiers disclosed in RFC 1213 are used to route the new value (an object itself) to the particular object. Without object routing, the new value would not have a way to find the particular object.</p> <p>If the term "a World Wide Web," which appears only in the preamble, is limiting and, if when read as broadly as is reasonable, the term is not interpreted to include a network as described in RFC 1213, then RFC 1213 renders the claim obvious in view of Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994. The World Wide Web was a well-known type of network at the time the invention was made.</p> <p>"[R]ecent years have seen an increase in sophisticated and user-friendly Internet information systems. These include the...hypertext-based World-Wide Web." Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of</p>

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	<p>Computing Machinery, 1994, p. 17, col. 1. Also well-known was the need on the World Wide Web for the "control of resources and maintenance of referential integrity" on the World Wide Web. <i>Id.</i>, p. 21, col. 1. Indeed, the authors of this article suggested that "the developers of the W3 [World Wide Web] would benefit from research carried out into various other kinds of distributed systems such as...managed networks," citing to a reference book about Simple Network Management Protocol (SNMP), the topic of RFC 1213. <i>Id.</i>, p. 21, col. 2; p. 24, col. 2. Thus, it would have been obvious to a skilled artisan to apply the teachings of RFC 1213 to the World Wide Web.</p>
<p>associating an object identity with information entries and attributes, wherein the object identity represents a networked object;</p>	<p>RFC 1213 discloses means for associating an object identity with information entries and attributes. In the specification below, an object identifier {system 3} is associated with information entries and attributes (e.g., a particular integer value representing the uptime of a particular computer system).</p> <pre> sysObjTime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre> <p>RFC 1213, p. 14, ¶ 6. As another example, in the specification below, an object identifier {system 4} is associated with information entries and attributes (e.g., a particular string value representing the name of a contact person for the particular managed node).</p> <pre> sysContact OBJECT-TYPE SYNTAX DisplayString (SIZE (0..255)) ACCESS read-write STATUS mandatory DESCRIPTION "The textual identification of the contact person for this managed node, together with information on how to contact this person." ::= { system 4 } </pre>
	<p>RFC 1213, p. 14, ¶ 6. Furthermore, the object identity (object identifier) represents a networked object. In particular, the reference teaches that "each object has a name...[that] is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object</p>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>instance serves to uniquely identify a specific instantiation of the object.”</p> <p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4. Thus, the object identity (object identifier) disclosed in the reference represents a networked object.</p>
<p>storing said information entries and said attributes in a virtual information store; and</p>	<p>RFC 1213 discloses a virtual information store for storing information entries and attributes. As the reference explains, “[m]anaged objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using Abstract Syntax Notation One (ASN.1).”</p> <p>4. Objects</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4. Information entries and attributes are stored in the MIB disclosed in the reference. For example, in the specification below, the object identifier {system 7} is associated with information entries and attributes (e.g., a particular integer value representing the set of services primarily offered by the entity). This integer value is “contained in” a virtual information store described in RFC 1213.</p>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<pre> sysServices OBJECT-TYPE SYNTAX INTEGER (0..127) ACCESS read-only STATUS mandatory DESCRIPTION "A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., IP gateways) 4 end-to-end (e.g., IP hosts) 7 applications (e.g., mail relays) For systems including OSI protocols, layers 5 and 6 may also be counted." ::= { system 7 } </pre> <p>RFC 1213, p. 15, ¶ 6. In the specification below, the object identifier {system 3} is associated with information entries and attributes (e.g., a particular integer value representing the uptime of a particular computer system). This integer value is "contained in" a virtual information store described in RFC 1213.</p> <pre> sysUpTime OBJECT-TYPE SYNTAX TimeTicks ACCESS read-only STATUS mandatory DESCRIPTION "The time (in hundredths of a second) since the network management portion of the system was last re-initialized." ::= { system 3 } </pre>

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	RFC 1213, p. 14, ¶ 6.
assigning a unique network address to said object identity.	RFC 1213 discloses assigning a unique network address to an object identity (object identifier). RFC 1213 discloses assigning unique network addresses to object identities. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre> -- the IP address table -- The IP address table contains this entity's IP addressing -- information. ipAddrTable OBJECT-TYPE SYNTAX SEQUENCE OF IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The table of addressing information relevant to this entity's IP addresses." ::= { ip 20 } ipAddrEntry OBJECT-TYPE SYNTAX IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The addressing information for one of this entity's IP addresses." INDEX { ipAddrAddr } ::= { ipAddrTable 1 } IpAddrEntry ::= SEQUENCE { ipAddrAddr IpAddress, ipAddrIfIndex INTEGER, ipAddrNetMask IpAddress, ipAddrEcastAddr INTEGER, ipAddrReasmMaxSize INTEGER {0..65535} } ipAddrAddr OBJECT-TYPE SYNTAX IpAddress ACCESS read-only STATUS mandatory DESCRIPTION "The IP address to which this entry's addressing information pertains." ::= { ipAddrEntry 1 } </pre> <p>RFC 1213, p. 31, ¶ 6. The object type "ipAddrEntry," described as "[t]he addressing information for one of</p>
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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>this entity's IP addresses." uses "ipAdEntAddr" as an index, which in turn is described as "[t]he IP address to which this entry's addressing information pertains." <i>Id.</i> In this situation, a unique network address is assigned to the object identity.</p> <p>Mark A. Miller, Managing Internetworks with SNMP (1993), explains that in SNMP (the subject of RFC 1213), using an IP address as an index requires appending it to an object identifier. Miller can be used to explain the meaning of "index" in RFC 1213 and to show that the appending of IP addresses to object identifiers is inherent in RFC 1213. In particular, Miller provides a contemporaneous description of appending an IP address to an object identifier to access an object in the table "ipAddrTable":</p> <p style="padding-left: 40px;">BcastAddr (4), shown in Figure 4-4a. Next, the destination route is added as a suffix, that is, a.b.c.d. (More on IP addresses and dotted decimal notation in Section 5.3.) The variable name for ipAdEntBcastAddr associated with IP Address a.b.c.d would therefore be (1.3.6.1.2.1.4.20.1.4.a.b.c.d).</p> <p>Miller at 138.</p> <p>The RFC 1213 reference also discloses another similar example. The table called ipRouteTable serves as an entity's IP routing table. The table contains an ipRouteEntry, which is indexed by ipRouteDest. Like ipAdEntAddr in the prior example, ipRouteDest has an IP address value, specifically, "the destination IP address of this route." And, as in the example above, the IP address is used as an index into a table.</p>
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Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<pre> -- the IP routing table -- The IP routing table contains an entry for each route -- Presently known to this entity. ipRouteTable OBJECT-TYPE SYNTAX SEQUENCE OF IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "This entity's IP Routing table." ::= { ip 21 } ipRouteEntry OBJECT-TYPE SYNTAX IpRouteEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "A route to a particular destination." INDEX { ipRouteDest } ::= { ipRouteTable 1 } IpRouteEntry ::= SEQUENCE { ipRouteDest IpAddress, ipRouteIfIndex INTEGER, ipRouteMetric1 INTEGER, ipRouteMetric2 INTEGER, ipRouteMetric3 INTEGER, ipRouteMetric4 INTEGER, ipRouteNextHop IpAddress, ipRouteType INTEGER, ipRouteProto INTEGER, ipRouteAge INTEGER, ipRouteTask IpAddress, ipRouteMetric5 INTEGER, </pre>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<pre> ipRouteInfo OBJECT IDENTIFIER) ipRouteDest OBJECT-TYPE SYNTAX IpAddress ACCESS read-write STATUS mandatory DESCRIPTION "The destination IP address of this route. An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table- access mechanisms defined by the network management protocol in use." ::= (ipRouteEntry 1) </pre> <p>RFC 1213, p. 33-34, ¶ 6.</p> <p>Although RFC 1213 anticipates this claim, RFC 1447 (Party MIB for SNMPv2) provides even more invalidating examples, and therefore can be combined with RFC 1213 to render the claim obvious, as the example below explains.</p> <p>RFC 1447 discloses initialPartyID objects, whose values are object identifiers. As the excerpt below explains, initialPartyID corresponds to a branch (a subtree) of a hierarchical tree.</p>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre>-- Definition of Initial Party and Context Identifiers -- -- When devices are installed, they need to be configured -- with an initial set of SNMPv2 parties and contexts. The -- configuration of SNMPv2 parties and contexts requires (among -- other things) the assignment of several OBJECT IDENTIFIERS. -- Any local network administration can obtain the delegated -- authority necessary to assign its own OBJECT IDENTIFIERS. -- However, to provide for those administrations who have not -- obtained the necessary authority, this document allocates a -- branch of the naming tree for use with the following -- conventions. initialPartyId OBJECT IDENTIFIER ::= { partyAdmin 3 } initialContextId OBJECT IDENTIFIER ::= { partyAdmin 4 }</pre> <p>RFC 1447, p. 8, ¶2. The initialPartyID object is used in conjunction with the IP address of the configured device, represented below as a.b.c.d (an IP address).</p> <pre>-- Party Identifiers for use as initial SNMPv2 parties -- -- at IP address a.b.c.d -- -- Note that for all OBJECT IDENTIFIERS assigned under -- initialPartyId, the four sub-identifiers immediately -- following initialPartyId represent the four octets of -- an IP address. Initial party identifiers for other address -- families are assigned under a different OBJECT IDENTIFIER, -- as defined elsewhere.</pre> <p>RFC 1447, p. 9, ¶2. For instance, in the example below, a party-based security profile corresponds to an object at the a.b.c.d.1 node of the a.b.c.d subtree. Just as in figure 6B in the patent, the dotted decimal string associated with each object includes the IP address of the parent node plus an extra integer appended on the right of the IP address.</p>
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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <pre>-- a noAuth/noPriv party which executes at the agent -- partyIdentity = { initialPartyId a b c d l } -- partyIndex = 1 -- partyDomain = snmpODPDdomain -- partyAddress = a.b.c.d, 161 -- partyLocal = true (in agent's database) -- noAuth -- partyAuthProtocol = 0 -- partyAuthClock = 'H (the empty string); -- partyAuthPrivate = 'H (the empty string); -- partyAuthPublic = 'H (the empty string); -- partyAuthLifetime = 0 -- partyPrivProtocol = noPriv -- partyPrivPrivate = 'H (the empty string); -- partyPrivPublic = 'H (the empty string);</pre> <p>RFC 1447, p. 10, ¶ 2.</p>
<p>10. The method in claim 9 wherein said step of associating said object identity with said information entries and said attributes in said virtual information store further includes the step of associating a name, a syntax and an encoding for said object identity.</p>	<p>RFC 1213 includes means for associating a name, a syntax and an encoding for an object identity (object identifier). Indeed, the reference explains exactly that "each object has a name, a syntax, and an encoding." RFC 1213, p. 10, ¶ 4.</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [8] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>11. The method in claim 10 wherein said name associated with said object identity specifies an object type.</p>	<p>RFC 1213 discloses that a name of an object identity (object identifier) specifies an object type. In fact, the reference explains exactly that "each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type."</p>

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<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [9] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>12. The method in claim 11 wherein said object type and an object instance uniquely identify an instantiation of said object type.</p>	<p>RFC 1213 discloses that an object type and an object instance uniquely identify an instantiation of an object type. Remarkably, the reference discloses precisely that "each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of an object."</p> <p>Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) [9] defined in the SMI. In particular, each object has a name, a syntax, and an encoding. The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the OBJECT DESCRIPTOR, to also refer to the object type.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>13. The method in claim 12 wherein said syntax defines a data structure for said object type.</p>	<p>RFC 1213 discloses that a syntax defines a data structure for the object type. The reference explains precisely that "[t]he syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose."</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>The syntax of an object type defines the abstract data structure corresponding to that object type. The ASN.1 language is used for this purpose. However, the SMI [12] purposely restricts the ASN.1 constructs which may be used. These restrictions are explicitly made for simplicity.</p> <p>RFC 1213, p. 10, ¶ 4.</p>
<p>14. The method in claim 9 further comprising the step of utilizing said unique network address to identify and route said object identity on the World Wide Web.</p>	<p>Claim 6 is obvious under 35 U.S.C. § 103 position over RFC 1213 in view of Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994.</p> <p>RFC 1213 discloses means for utilizing said unique network address to identify and route said object identity on a network. As noted above for the "assigning a unique network address" limitation of claim 1 and below for claim 7, RFC 1213 discloses that "said unique network address" can comprise IP addresses.</p> <p>Relihan et al. discloses that the World Wide Web was a well-known type of network at the time the invention was made. "[R]ecent years have seen an increase in sophisticated and user-friendly Internet information systems. These include the...hypertext-based World-Wide Web." Relihan et al., <i>Untangling the World-Wide Web</i>, Assoc. of Computing Machinery, 1994, p. 17, col. 1. Relihan et al. also discloses the well-known need for "control of resources and maintenance of referential integrity" on the World Wide Web. <i>Id.</i>, p. 21, col. 1. Indeed, Relihan et al. teaches that "the developers of the W3 [World Wide Web] would benefit from research carried out into various other kinds of distributed systems such as...managed networks," citing to a reference book about Simple Network Management Protocol (SNMP), the topic of RFC 1213. <i>Id.</i>, p. 21, col. 2; p. 24, col. 2. Thus, it would have been obvious to a skilled artisan to apply the teachings of RFC 1213 to route object identities on the World Wide Web.</p>
<p>15. The method in claim 9 further comprising the step of utilizing said unique network address to identify and route said object identity on the</p>	<p>RFC 1213 discloses means for utilizing said unique network address to identify and route said object identity on the Internet. For instance, the reference describes a table that uses an IP address assigned to an object identity as an index into the table.</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
<p>Internet.</p>	<pre>-- the IP address table -- The IP address table contains this entity's IP addressing -- information. ipAddrTable OBJECT-TYPE SYNTAX SEQUENCE OF IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The table of addressing information relevant to this entity's IP addresses." ::= { ip 20 } ipAddrEntry OBJECT-TYPE SYNTAX IpAddrEntry ACCESS not-accessible STATUS mandatory DESCRIPTION "The addressing information for one of this entity's IP addresses." INDEX { ipAddr } ::= { ipAddrTable 1 } IpAddrEntry ::= SEQUENCE { ipAddr, ipAddrIndex INTEGER, ipAddrNetMask IpAddress, ipAddrBroadcastAddr INTEGER, ipAddrReasonMaxSize INTEGER (0..65535) } ipAddrEntry OBJECT-TYPE SYNTAX IpAddress ACCESS read-only STATUS mandatory DESCRIPTION "The IP address to which this entry's addressing information pertains." ::= { ipAddrEntry 1 }</pre>
<p>RFC 1213, p. 31, ¶ 6. The object type "ipAddrEntry," described as "[t]he addressing information for one of</p>	

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>[the ipAddrTable] entity's IP addresses," uses "ipAdEntAddr" as an index, which in turn is described as "[t]he IP address to which this entry's addressing information pertains." <i>Id.</i> In this situation, a unique IP address is assigned to the object identity, and as an index into the table, it is used to identify and route the associated object identity.</p> <p>As shown below, the reference discloses its intended use on TCP/IP-based internets, and in particular, "the Internet."</p> <p>1. Abstract</p> <p>This memo defines the second version of the Management Information Base (MIB-II) for use with network management protocols in TCP/IP-based internets. In particular, together with its companion memos which describe the structure of management information (RFC 1155) along with the network management protocol (RFC 1157) for TCP/IP-based internets, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular the Internet community.</p> <p>RFC 1213, p. 2, ¶ 1.</p>
<p>16. The method in claim 9 further comprising the step of utilizing said unique network address of said object identity to perform Operations, Administration, Maintenance & Provisioning (OAM&P) functions.</p>	<p>RFC 1213 discloses several examples of utilizing said unique network address of said object identity to perform operations, administration, maintenance & provisioning (OAM&P) functions. For example, the reference explains that objects included in the MIB definitions are "needed to be essential for either fault or configuration management."</p> <p>(1) An object needed to be essential for either fault or configuration management.</p> <p>RFC 1213, p. 11, ¶ 5. Thus, fault management and configuration management are two examples of OAM&P functions provided by network management system described in RFC 1213. As another example of OAM&P functionality, the reference describes object types sysContact, sysName, sysLocation, and sysServices to "provide contact, administration, location, and service information regarding the managed node."</p>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p>
	<p>3.4. The System Group</p> <p>Four new objects are added to this group:</p> <pre> sysContact sysName sysLocation sysServices </pre> <p>These provide contact, administrative, location, and service information regarding the managed node.</p> <p>RFC 1213, p. 5, ¶ 3.4. For example, the object type sysServices "indicates the set of services that this entity primarily offers" which may include physical functionality (e.g., repeaters), internet functionality (e.g., IP gateways), and applications (e.g., mail relays), among other things.</p> <pre> sysServices OBJECT-TYPE SYNTAX INTEGER (0..127) ACCESS read-only STATUS mandatory DESCRIPTION "A value which indicates the set of services that this entity primarily offers. The value is a sum. This sum initially takes the value zero. Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., IP gateways) 4 end-to-end (e.g., IP hosts) 7 applications (e.g., mail relays) For systems including OSI protocols, layers 5 and 6 may also be counted." ::= { system 7 } </pre>

Exhibit H - Claim chart

<p>U.S. Patent No. 5,778,178</p>	<p>RFC 1213 - Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991</p> <p>RFC 1213, p. 15, ¶ 6. As yet another example, the reference further describes an IP group including fault management objects such as ipInAddrErrors, which counts "[t]he number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity."</p> <pre> ipInAddrErrors OBJECT-TYPE SYNTAX Counter ACCESS read-only STATUS mandatory DESCRIPTION "The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (e.g., 0.0.0.0) and addresses of unsupported Classes (e.g., Class E). For entities which are not IP Gateways and therefore do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address." ::= { ip 5 } </pre> <p>RFC 1213, p. 27, ¶ 6. The IP group also includes performance management objects such as ipRouteAge, which is "[t]he number of seconds since this route was last updated or otherwise determined to be correct."</p> <pre> ipRouteAge OBJECT-TYPE SYNTAX INTEGER ACCESS read-write STATUS mandatory DESCRIPTION "The number of seconds since this route was last updated or otherwise determined to be correct. Note that no semantics of 'too old' can be implied except through knowledge of the routing protocol by which the route was learned." ::= { ipRouteEntry 10 } </pre> <p>RFC 1213, p. 37, ¶ 6. Therefore, performance management is yet another example of OAM&P functions performed by the network management system described in RFC 1213.</p>
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re <i>Ex Parte</i> Reexamination of:)	
U.S. Patent No.: 5,778,178)	Control Number: Not Yet Assigned
Issue Date: July 7, 1998)	
Application No. 08/700,726)	
Filing Date: August 5, 1996)	
Inventor: Lakshmi Arunachalam)	
For: Method and Apparatus for)	
Enabling Real-Time Bi-Directional)	
Transactions on a Network)	

Mail Stop *Ex Parte* REEXAM
Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir.

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.510(a)

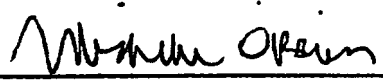
Pursuant to 37 C.F.R. § 1.510(a), Requester brings to the attention of the Examiner the documents listed on the attached Form SB-08. This Information Disclosure Statement is being filed concurrently with the above-identified Request for Reexamination.

Copies of the non-patent documents are attached with this submission.

If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 50-4126.

Respectfully submitted,

O'BRIEN JONES, PLLC

By: 
Michelle E. O'Brien
Reg. No. 46,203

Date: November 21, 2008

IDS Form PTO/SB/08: Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY REQUESTER <i>(Use as many sheets as necessary)</i>			Complete if Known			
			<i>In re Reexamination of</i>		U.S. Patent No. 5,778,178	
			<i>Issue Date</i>		July 7, 1998	
			<i>Reexamination Control No.</i>		To Be Assigned	
			<i>First Named Inventor</i>		Lakshmi Arunachalam	
			<i>Art Unit</i>		To Be Assigned	
<i>Examiner Name</i>		To Be Assigned				
<i>Attorney Docket Number</i>		1035.8001-00000				
Sheet	1	of	1			

U.S. PATENTS AND PUBLISHED U.S. PATENT APPLICATIONS						
Examiner Initials	Cite No.	Document Number		Issue or Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code (if known)				
	1	5,367,635		11-22-1994	Bauer et al.	

Note: Submission of copies of U.S. Patents and published U.S. Patent Applications is not required.

FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No.	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Translation
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NONPATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Translation ^a
	2	KEITH MCCLOGHRIE and MARSHALL T. ROSE, Request For Comments 1213, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II," published by the Simple Network Management Protocol (SNMP) Working Group (March 1991).	
	3	LIAM RELIHAN, TONY CAHILL, and MICHAEL G. HINCHEY, "Untangling the World-Wide Web," Proceedings of the 12th Annual International Conference on Systems Documentation, pp. 17-24, published by the Association of Computing Machinery (October 1994).	
	4	K. MCCLOUGHRIE and J. GALVIN, Request For Comments 1447, "Party MIB for version 2 of the Simple Network Management Protocol," published by the SNMP Security Working Group (April 1993).	
	5	MARK A. MILLER, MANAGING INTERNETWORKS WITH SNMP 138-39 (1993).	
	6	MARSHALL T. ROSE, THE SIMPLE BOOK: AN INTRODUCTION TO INTERNET MANAGEMENT 14-15, 379-387 (2d ed. 1994)	
	7	Posting of Joyce K. Reynolds to comp.doc USENET group, http://linvurl.com/53a95p (Mar. 27, 1991 01:49:31 GMT)	

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IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	Art Unit:
Lakshmi Arunachalam)	Examiner
Serial No. 11/980,185)	
Filing Date: Oct. 30, 2007)	
Title: METHOD AND APPARATUS)	
FOR ENABLING REAL TIME)	
TRANSACTIONS ON A)	
NETWORK)	

INFORMATION DISCLOSURE STATEMENT

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Honorable Commissioner:

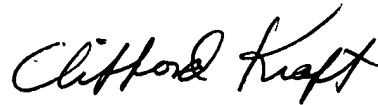
In accordance with 37 C.F.R. §1.97, please accept this Information Disclosure Statement and copies of any non-US patent art.

COMMENTS

It is believed that this disclosure complies with 37 C.F.R. §1.56 and 1.98 and M.P.E.P. §2000. This disclosure statement should not be construed as a representation that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(a) exists. A copy of each non-US patent reference is being supplied. Some references may contain marks; no significance should be attached to these.

It should be noted that these references were supplied in ongoing litigation concerning parent patents of the current case by defendants in that case, namely Allstate, Dell and Federal Express. This litigation has already been reported to the examiner in a prior information disclosure. The applicant apologizes if there are any duplicates reported. The applicant also does not admit that any of these references are necessarily prior art since some of the dates on some of the references may be after the filing date or priority date of the applicant. The references are being supplied for completeness.

Respectfully submitted



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Attorney of Record

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Application Number	11/980,185
Filing Date	10-30-2007
First Named Inventor	L. ARUNACHALM
Art Unit	
Examiner Name	
Attorney Docket Number	

Sheet 1 of 20

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 6473740	10-27-02	COLKRICK et al	
		US- 6490567	12-3-02	GREGORY	
		US- 6574607	6-3-03	CARTER et al	
		US- 6678664	1-13-04	GANESAN	
		US- 6714962	3-30-04	HELLAND	
		US- 6856974	2-15-05	GANESAN et al	
		US- 6948663	9-20-05	GANESAN et al	
		US- 7080651	7-18-06	CRAWFORD	
		US- 7120602	10-10-06	KITCHEN et al	
		US- 7175074	2-13-07	MEJIAS et al	
		US- 7213003	5-1-07	KIGHT et al	
		US- 7251656	7-31-07	KEOWN et al	
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		US- 7366696	4-29-08	GANESAN et al	
		US- 7383226	6-3-08	KIGHT et al	
		US- 7392223	6-24-08	GANESAN et al	
		US- 7395319	7-1-08	HARRIS et al	
		US- 5475819			

FOREIGN PATENT DOCUMENTS

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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

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		Application Number	10/980,185
		Filing Date	10-30-2007
		First Named Inventor	ARUN CAJALM
		Art Unit	
		Examiner Name	
		Attorney Docket Number	
Sheet	2	of	10

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-5,475,819	12-12-1995	MILLER et al	
		US-5,859,978	1-12-1999	SONDERGGER et al	
		US-5,404,523	4-4-1995	DELLA FERA	
		US-5,708,780	1-13-1998	LEVERGOOD et al	
		US-5,715,214	2-3-1998	PAYNE et al	
		US-6,249,291	6-19-2001	POPP et al	
		US-6,125,352	9-26-2000	FRANKLIN et al	
		US-5,347,632	9-13-1994	FILEPP et al	
		US-5,870,724	2-9-1999	LAWLOR	
		US-6,092,053	7-18-2000	BOESCH et al	
		US-5,475,819	12-12-1995	MILLER et al	Dup
		US-5,432,937	7-11-95	TEVANIAN et al	
		US-5,873,093	2-16-99	WILLIAMSON et al	
		US-5,826,085	10-20-98	BENNETT et al	
		US-5,664,111	9-2-97	NAHAN et al	
		US-5,892,821	7-6-99	TURNER	
		US-5,574,939	5-19-98	HERZ et al	
		US-5,745,681	4-28-98	LEVINE et al	
		US-5,742,762	4-21-98	SHOLL et al	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)			

Examiner Signature	Date Considered	
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Substitute for form 1449/PTO <h2 style="text-align: center; margin: 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center; font-size: small;">(Use as many sheets as necessary)</p>	<h3 style="text-align: center; margin: 0;">Complete if Known</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>10/980,185</td> </tr> <tr> <td>Filing Date</td> <td>10-30-07</td> </tr> <tr> <td>First Named Inventor</td> <td>ARUNACHALM</td> </tr> <tr> <td>Art Unit</td> <td></td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Attorney Docket Number</td> <td></td> </tr> </table>	Application Number	10/980,185	Filing Date	10-30-07	First Named Inventor	ARUNACHALM	Art Unit		Examiner Name		Attorney Docket Number	
Application Number	10/980,185												
Filing Date	10-30-07												
First Named Inventor	ARUNACHALM												
Art Unit													
Examiner Name													
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Sheet <u>3</u> of <u>10</u>													

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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		US-5604905	2-18-97	TEVAVAN et al	
		US- 5708780		LEYER	DUP
		US-5472771	8-15-95	FILETT et al	
		US-5491800	2-13-96	GOLDSMITH et al	
		US-5757917	5-26-98	ROSE et al	
		US-5239662	8-24-93	DANIELSON et al	
		US-5613148	3-18-97	BEZVNER et al	
		US-5557780	9-17-96	EDWARDS et al	
		US-5444192	8-22-95	SHETYE et al	
		US-5519868	5-21-96	ALIEN et al	
		US- 5577	11-19-96		
		US-5577251	11-19-96	HAMILTON et al	
		US-5828666	10-27-98	FOCSANEANU et al	
		US-5329589	7-12-94	FRASER et al	
		US-5715444	2-3-98	DANISH et al	
		US-5878141	3-2-99	DALY et al	
		US-5710887	1-20-98	CHELLIAH et al	
		US-5285383	2-8-94	LINDSEY et al	
		US-5671279	9-23-97	ELGAYAL	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

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STATEMENT BY APPLICANT**

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Sheet 4 of 10**Complete if Known**

Application Number	11/980,185
Filing Date	10-30-07
First Named Inventor	ARUNCHA LM
Art Unit	
Examiner Name	
Attorney Docket Number	

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-5537464	7-16-96	LEWIS et al	
		US-5873093	2-16-99	WILLIAMSON et al	
		US-5446896	8-29-95	HEGARTY et al	
		US-5148474	9-15-92	HARALAMBPOULOS et al.	
		US-4829372	5-9-89	MCCALLEE et al	
		US-5706442	1-6-98	ANDERSON et al	
		US-5960411	9-28-99	HARTMAN et al	
		US-5539909	7-23-96	TANAKA et al	
		US-5758327	5-26-98	GARDNER et al	
		US-5231566	7-27-93	BLUTINGER et al	
		US-4984155	1-8-91	GEIER et al	
		US-5845265	12-1-98	WOOLSTON	
		US-5910987	6-8-99	GINTER et al	
		US-5794234	8-11-98	CHURCH et al	
		US-5517645	5-14-96	STUTZ et al	
		US-5297249	3-22-94	BERNSTEIN et al	
		US-5724424	3-3-98	GIFFORD	
		US-5452433	9-14-95	NIHART et al	
		US-5455903	10-3-95	JOLISSANT et al	

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Sheet 5 of 10**Complete if Known**

Application Number	11/980,185
Filing Date	10-30-07
First Named Inventor	ARUNHALM
Art Unit	
Examiner Name	
Attorney Docket Number	

U. S. PATENT DOCUMENTS					
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		Number-Kind Code ² (if known)			
		US-5428792	6-27-95	CANNER et al	
		US-5677708	10-14-97	MATTHEW III	
		US-5809483	9-15-98	BROKA et al	
		US-5890137	3-30-99	KOREEDA	
		US-5592378	1-7-97	CAMERON et al	
		US-4851988	7-25-89	TROTTER et al	
		US-5329619	7-12-94	PAGE et al	
		US-5383113	1-7-95	KIGHT et al	
		US-5414812	5-9-95	FILIP et al	
		US-5434974	7-18-95	LOUCKS et al	
		US-5742768	4-21-98	GENNARD	
		US-5758072	5-26-98	FILEPP et al	
		US-5780780	7-14-98	AHMED	
		US-5812779	9-22-98	CISCON et al	
		US-5859978	1-12-99	SONDERREGER et al	
		US-5870473	2-9-99	BOESCH et al	
		US-5873072	2-16-99	KIGHT et al	
		US-5848403	3-2-99	DEFRANCESCO et al	
		US-5889957	3-30-99	RATNER et al	

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Sheet 6 of 10**Complete if Known**

Application Number	111980185
Filing Date	10-30-07
First Named Inventor	ARUNESH ALM
Art Unit	
Examiner Name	
Attorney Docket Number	

U. S. PATENT DOCUMENTS

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		Number-Kind Code ² (if known)			
		US-5895454	4-20-99	HARRINGTON	
		US-5901228	5-4-99	CRAWFORD	
		US-5931967	8-2-99	SHIMIZU et al	
		US-5946509	9-21-99	KENNER	
		US-6003085	12-14-99	RATNER et al	
		US-6014666	1-11-00	HELLAND et al	
		US-6049819	4-11-00	BUCKLE et al	
		US-6055567	4-25-00	GANESAN et al	
		US-6092053	7-18-00	BOESCH et al	
		US-6094673	7-25-00	DILIP et al	
		US-6101527	8-8-00	LEJELME et al	
		US-6125352	9-26-00	FRANKLIN et al	
		US-6134594	10-17-00	HELLAND et al	
		US-6192250	2-20-00	BUSKENS et al	
		US-6295522	9-25-01	BOESCH	
		US-6327577	12-4-01	GARRISON et al	
		US-6334116	12-25-01	GANESAN et al	
		US-6363362	4-26-02	BURFIELD et al	
		US-6453426	9-17-02	GAMACHE et al	

FOREIGN PATENT DOCUMENTS

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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Application Number</td> <td>11/980,185</td> </tr> <tr> <td>Filing Date</td> <td>10-30-07</td> </tr> <tr> <td>First Named Inventor</td> <td>ARUNACHALM</td> </tr> <tr> <td>Art Unit</td> <td></td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Attorney Docket Number</td> <td></td> </tr> </table>	Application Number	11/980,185	Filing Date	10-30-07	First Named Inventor	ARUNACHALM	Art Unit		Examiner Name		Attorney Docket Number	
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Filing Date	10-30-07												
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Sheet <u>7</u> of <u>10</u>													

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 6473791	10-29-02	AL-GHOLEIN et al	
		US- 6553427	4-22-03	CHANG et al	
		US- 6625581	9-23-03	PERKOWSKI	
		US- 6678696	1-13-04	HELLAND et al	
		US- 6850996	2-1-05	WAGNER	
		US- 6932268	8-23-05	MCCOY et al	
		US- 7076784	7-11-06	RUSSELL et al	
		US- 7107244	9-12-06	KIGHT et al	
		US- 7146338	12-5-06	KIGHT et al	
		US- 7177846	2-13-07	MOENICKHAM et al	
		US- 7240031	7-3-07	KIGHT et al	
		US- 7296004	11-13-07	GARRISON et al	
		US- 7302411	11-27-07	GANESAN et al	
		US- 7334128	2-19-08	GANESAN et al	
		US- 7366697	4-29-08	KITCHEN et al	
		US- 7389514	6-17-08	RUSSELL et al	
		US- 7395243	7-1-08	ZIEGLER et al	
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Sheet 8 of 10**Complete if Known**

Application Number	11/980,185
Filing Date	10-30-07
First Named Inventor	ARDNA CHALM
Art Unit	
Examiner Name	
Attorney Docket Number	

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		US 5408619	4-18-95	ORAN	
		US 5428792	6-27-95	CONNOR et al	
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		US 5537467	7-16-96	LEWIS et al	
		US 5560005	9-24-96	HOOVER et al	
		US 5712913	1-27-98	CHAUM	
		US 5757917	5-26-98	ROSE et al	
		US 5771354	6-23-98	CRAWFORD	
		US 5781631	7-14-98	CHAUM	
		US 5826241	10-20-98	STEIN et al	
		US 5856974	1-5-99	GERVAIS et al	
		US 5864866	1-26-99	HENCKEL et al	
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		US 5890161	3-30-99	HELLAND et al	
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		US- 5909492	6-1-99	PAYNE et al	
		US- 5913061	6-15-99	GUPTA et al	
		US- 5956400	9-21-99	CHAMU et al	
		US- 5958004	9-28-99	HELLAND et al	
		US- 6014651	1-11-00	CRAWFORD et al	
		US- 6049785	4-11-00	GIFFORD	
		US- 6055514	4-25-00	WREN	
		US- 6073237	6-6-00	ELLISON	
		US- 6101482	8-8-00	DI ANGELO et al	
		US- 6125185	9-26-00	BOESCH	
		US- 6128315	10-3-00	TAKEUCHI	
		US- 6185609	2-6-01	RANGARAJAN et al	
		US- 6205433	3-26-01	BOESCH et al	
		US- 6212634	4-3-01	GBER et al	
		US- 6289322	9-11-01	KITCHEN et al	
		US- 6301601	10-9-01	HELLAND et al	
		US- 6327579	10-4-01	CRAWFORD	
		US- 6360262	3-19-02	SUENTHNER et al	
		US- 6411943	6-25-02	CRAWFORD	

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IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	Art Unit:
)	
Lakshmi Arunachalam)	Examiner
)	
Serial No. 11/980,185)	
)	
Filing Date: Oct. 30, 2007)	
)	
Title: METHOD AND APPARATUS)	
FOR ENABLING REAL TIME)	
TRANSACTIONS ON A)	
NETWORK)	
)	

INFORMATION DISCLOSURE STATEMENT

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Honorable Commissioner:

In accordance with 37 C.F.R. §1.97, please accept this Information Disclosure Statement and copies of any non-US patent art.

COMMENTS

It is believed that this disclosure complies with 37 C.F.R. §1.56 and 1.98 and M.P.E.P. §2000. This disclosure statement should not be construed as a representation that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(a) exists. A copy of each non-US patent reference is being supplied. Some references may contain marks; no significance should be attached to these.



Respectfully submitted

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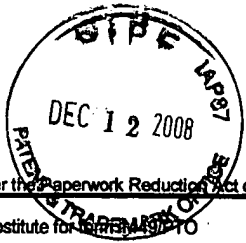
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>	Complete if Known	
	Application Number	11/980,185
	Filing Date	OCT. 30, 2007
	First Named Inventor	Lakshmi Arunachalam
	Art Unit	
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Sheet 1 of 1	Attorney Docket Number	

U. S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
	①	US-	5,637,635	11-22-1994	BAUER et al.	
		US-				
		US-				
		US-				
		US-				
		US-				
	②	US-	POSTING OF JOYCE REYNOLDS TO COMP. DOC USENET (MAR 27, 1991)			
		US-				
		US-				
		US-				
		US-				
	③	US-	SAMPLE BOOK: AN INTRO TO INTERNET MANAGEMENT PP. 14-15, PP. 379-387 (2ND ED 1994)			
		US-				
		US-				
		US-				
	④	US-	MANAGING INTERNETWORKS WITH SNMP MILLER PP. 138-139 (1993)			
		US-				
		US-				
	⑤	US-	"UNTANGLING THE WORLD WIDE WEB" RELIHAN, CATHL, HINCHAY (10-1994)			
		US-				

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	⑥		RFC 1155		05-1990	Network Working Group		
	⑦		RFC 1157		05-1990	Network Working Group		
	⑧		RFC 1213		03-1991	Network Working Group		
	⑨		RFC 1447		04-1993	Network Working Group		
	⑩		RFC 1156		05-1990	Network Working Group		

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Network Working Group
Request for Comments: 1155
Obsoletes: RFC 1065

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May 1990

Structure and Identification of Management Information
for TCP/IP-based Internets

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1. Status of this Memo

This RFC is a re-release of RFC 1065, with a changed "Status of this Memo", plus a few minor typographical corrections. The technical

content of the document is unchanged from RFC 1065.

This memo provides the common definitions for the structure and identification of management information for TCP/IP-based internets. In particular, together with its companion memos which describe the management information base along with the network management protocol, these documents provide a simple, workable architecture and system for managing TCP/IP-based internets and in particular, the Internet.

This memo specifies a Standard Protocol for the Internet community. Its status is "Recommended". TCP/IP implementations in the Internet which are network manageable are expected to adopt and implement this specification.

The Internet Activities Board recommends that all IP and TCP implementations be network manageable. This implies implementation of the Internet MIB (RFC-1156) and at least one of the two recommended management protocols SNMP (RFC-1157) or CMOT (RFC-1095). It should be noted that, at this time, SNMP is a full Internet standard and CMOT is a draft standard. See also the Host and Gateway Requirements RFCs for more specific information on the applicability of this standard.

Please refer to the latest edition of the "IAB Official Protocol Standards" RFC for current information on the state and status of standard Internet protocols.

Distribution of this memo is unlimited.

2. Introduction

This memo describes the common structures and identification scheme for the definition of management information used in managing TCP/IP-based internets. Included are descriptions of an object information model for network management along with a set of generic types used to describe management information. Formal descriptions of the structure are given using Abstract Syntax Notation One (ASN.1) [1].

This memo is largely concerned with organizational concerns and administrative policy: it neither specifies the objects which are managed, nor the protocols used to manage those objects. These concerns are addressed by two companion memos: one describing the Management Information Base (MIB) [2], and the other describing the Simple Network Management Protocol (SNMP) [3].

This memo is based in part on the work of the Internet Engineering

Task Force, particularly the working note titled "Structure and Identification of Management Information for the Internet" [4]. This memo uses a skeletal structure derived from that note, but differs in one very significant way: that note focuses entirely on the use of OSI-style network management. As such, it is not suitable for use with SNMP.

This memo attempts to achieve two goals: simplicity and extensibility. Both are motivated by a common concern: although the management of TCP/IP-based internets has been a topic of study for some time, the authors do not feel that the depth and breadth of such understanding is complete. More bluntly, we feel that previous experiences, while giving the community insight, are hardly conclusive. By fostering a simple SMI, the minimal number of constraints are imposed on future potential approaches; further, by fostering an extensible SMI, the maximal number of potential approaches are available for experimentation.

It is believed that this memo and its two companions comply with the guidelines set forth in RFC 1052, "IAB Recommendations for the Development of Internet Network Management Standards" [5] and RFC 1109, "Report of the Second Ad Hoc Network Management Review Group" [6]. In particular, we feel that this memo, along with the memo describing the management information base, provide a solid basis for network management of the Internet.

3. Structure and Identification of Management Information

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using Abstract Syntax Notation One (ASN.1) [1].

Each type of object (termed an object type) has a name, a syntax, and an encoding. The name is represented uniquely as an OBJECT IDENTIFIER. An OBJECT IDENTIFIER is an administratively assigned name. The administrative policies used for assigning names are discussed later in this memo.

The syntax for an object type defines the abstract data structure corresponding to that object type. For example, the structure of a given object type might be an INTEGER or OCTET STRING. Although in general, we should permit any ASN.1 construct to be available for use in defining the syntax of an object type, this memo purposely restricts the ASN.1 constructs which may be used. These restrictions are made solely for the sake of simplicity.

The encoding of an object type is simply how instances of that object type are represented using the object's type syntax. Implicitly tied to the notion of an object's syntax and encoding is how the object is represented when being transmitted on the network. This memo specifies the use of the basic encoding rules of ASN.1 [7].

It is beyond the scope of this memo to define either the MIB used for network management or the network management protocol. As mentioned earlier, these tasks are left to companion memos. This memo attempts to minimize the restrictions placed upon its companions so as to maximize generality. However, in some cases, restrictions have been made (e.g., the syntax which may be used when defining object types in the MIB) in order to encourage a particular style of management. Future editions of this memo may remove these restrictions.

3.1. Names

Names are used to identify managed objects. This memo specifies names which are hierarchical in nature. The OBJECT IDENTIFIER concept is used to model this notion. An OBJECT IDENTIFIER can be used for purposes other than naming managed object types; for example, each international standard has an OBJECT IDENTIFIER assigned to it for the purposes of identification. In short, OBJECT IDENTIFIERS are a means for identifying some object, regardless of the semantics associated with the object (e.g., a network object, a standards document, etc.)

An OBJECT IDENTIFIER is a sequence of integers which traverse a

global tree. The tree consists of a root connected to a number of labeled nodes via edges. Each node may, in turn, have children of its own which are labeled. In this case, we may term the node a subtree. This process may continue to an arbitrary level of depth. Central to the notion of the OBJECT IDENTIFIER is the understanding that administrative control of the meanings assigned to the nodes may be delegated as one traverses the tree. A label is a pairing of a brief textual description and an integer.

The root node itself is unlabeled, but has at least three children directly under it: one node is administered by the International Organization for Standardization, with label iso(1); another is administered by the International Telegraph and Telephone Consultative Committee, with label ccitt(0); and the third is jointly administered by the ISO and the CCITT, joint-iso-ccitt(2).

Under the iso(1) node, the ISO has designated one subtree for use by other (inter)national organizations, org(3). Of the children nodes present, two have been assigned to the U.S. National Institutes of Standards and Technology. One of these subtrees has been transferred by the NIST to the U.S. Department of Defense, dod(6).

As of this writing, the DoD has not indicated how it will manage its subtree of OBJECT IDENTIFIERS. This memo assumes that DoD will allocate a node to the Internet community, to be administered by the Internet Activities Board (IAB) as follows:

```
internet    OBJECT IDENTIFIER ::= { iso org(3) dod(6) 1 }
```

That is, the Internet subtree of OBJECT IDENTIFIERS starts with the prefix:

```
1.3.6.1.
```

This memo, as a standard approved by the IAB, now specifies the policy under which this subtree of OBJECT IDENTIFIERS is administered. Initially, four nodes are present:

```
directory    OBJECT IDENTIFIER ::= { internet 1 }
mgmt         OBJECT IDENTIFIER ::= { internet 2 }
experimental OBJECT IDENTIFIER ::= { internet 3 }
private      OBJECT IDENTIFIER ::= { internet 4 }
```

3.1.1. Directory

The directory(1) subtree is reserved for use with a future memo that discusses how the OSI Directory may be used in the Internet.

3.1.2. Mgmt

The mgmt(2) subtree is used to identify objects which are defined in IAB-approved documents. Administration of the mgmt(2) subtree is delegated by the IAB to the Internet Assigned Numbers Authority for the Internet. As RFCs which define new versions of the Internet-standard Management Information Base are approved, they are assigned an OBJECT IDENTIFIER by the Internet Assigned Numbers Authority for identifying the objects defined by that memo.

For example, the RFC which defines the initial Internet standard MIB would be assigned management document number 1. This RFC would use the OBJECT IDENTIFIER

```
{ mgmt 1 }
```

or

```
1.3.6.1.2.1
```

in defining the Internet-standard MIB.

The generation of new versions of the Internet-standard MIB is a rigorous process. Section 5 of this memo describes the rules used when a new version is defined.

3.1.3. Experimental

The experimental(3) subtree is used to identify objects used in Internet experiments. Administration of the experimental(3) subtree is delegated by the IAB to the Internet Assigned Numbers Authority of the Internet.

For example, an experimenter might received number 17, and would have available the OBJECT IDENTIFIER

```
{ experimental 17 }
```

or

```
1.3.6.1.3.17
```

for use.

As a part of the assignment process, the Internet Assigned Numbers Authority may make requirements as to how that subtree is used.

3.1.4. Private

The private(4) subtree is used to identify objects defined unilaterally. Administration of the private(4) subtree is delegated by the IAB to the Internet Assigned Numbers Authority for the Internet. Initially, this subtree has at least one child:

```
enterprises OBJECT IDENTIFIER ::= { private 1 }
```

The enterprises(1) subtree is used, among other things, to permit parties providing networking subsystems to register models of their products.

Upon receiving a subtree, the enterprise may, for example, define new MIB objects in this subtree. In addition, it is strongly recommended that the enterprise will also register its networking subsystems under this subtree, in order to provide an unambiguous identification mechanism for use in management protocols. For example, if the "Flintstones, Inc." enterprise produced networking subsystems, then they could request a node under the enterprises subtree from the Internet Assigned Numbers Authority. Such a node might be numbered:

```
1.3.6.1.4.1.42
```

The "Flintstones, Inc." enterprise might then register their "Fred Router" under the name of:

```
1.3.6.1.4.1.42.1.1
```

3.2. Syntax

Syntax is used to define the structure corresponding to object types. ASN.1 constructs are used to define this structure, although the full generality of ASN.1 is not permitted.

The ASN.1 type ObjectSyntax defines the different syntaxes which may be used in defining an object type.

3.2.1. Primitive Types

Only the ASN.1 primitive types INTEGER, OCTET STRING, OBJECT IDENTIFIER, and NULL are permitted. These are sometimes referred to as non-aggregate types.

3.2.1.1. Guidelines for Enumerated INTEGERS

If an enumerated INTEGER is listed as an object type, then a named-number having the value 0 shall not be present in the list of

enumerations. Use of this value is prohibited.

3.2.2. Constructor Types

The ASN.1 constructor type SEQUENCE is permitted, providing that it is used to generate either lists or tables.

For lists, the syntax takes the form:

```
SEQUENCE { <type1>, ..., <typeN> }
```

where each <type> resolves to one of the ASN.1 primitive types listed above. Further, these ASN.1 types are always present (the DEFAULT and OPTIONAL clauses do not appear in the SEQUENCE definition).

For tables, the syntax takes the form:

```
SEQUENCE OF <entry>
```

where <entry> resolves to a list constructor.

Lists and tables are sometimes referred to as aggregate types.

3.2.3. Defined Types

In addition, new application-wide types may be defined, so long as they resolve into an IMPLICITLY defined ASN.1 primitive type, list, table, or some other application-wide type. Initially, few application-wide types are defined. Future memos will no doubt define others once a consensus is reached.

3.2.3.1. NetworkAddress

This CHOICE represents an address from one of possibly several protocol families. Currently, only one protocol family, the Internet family, is present in this CHOICE.

3.2.3.2. IPAddress

This application-wide type represents a 32-bit internet address. It is represented as an OCTET STRING of length 4, in network byte-order.

When this ASN.1 type is encoded using the ASN.1 basic encoding rules, only the primitive encoding form shall be used.

3.2.3.3. Counter

This application-wide type represents a non-negative integer which

monotonically increases until it reaches a maximum value, when it wraps around and starts increasing again from zero. This memo specifies a maximum value of $2^{32}-1$ (4294967295 decimal) for counters.

3.2.3.4. Gauge

This application-wide type represents a non-negative integer, which may increase or decrease, but which latches at a maximum value. This memo specifies a maximum value of $2^{32}-1$ (4294967295 decimal) for gauges.

3.2.3.5. TimeTicks

This application-wide type represents a non-negative integer which counts the time in hundredths of a second since some epoch. When object types are defined in the MIB which use this ASN.1 type, the description of the object type identifies the reference epoch.

3.2.3.6. Opaque

This application-wide type supports the capability to pass arbitrary ASN.1 syntax. A value is encoded using the ASN.1 basic rules into a string of octets. This, in turn, is encoded as an OCTET STRING, in effect "double-wrapping" the original ASN.1 value.

Note that a conforming implementation need only be able to accept and recognize opaquely-encoded data. It need not be able to unwrap the data and then interpret its contents.

Further note that by use of the ASN.1 EXTERNAL type, encodings other than ASN.1 may be used in opaquely-encoded data.

3.3. Encodings

Once an instance of an object type has been identified, its value may be transmitted by applying the basic encoding rules of ASN.1 to the syntax for the object type.

4. Managed Objects

Although it is not the purpose of this memo to define objects in the MIB, this memo specifies a format to be used by other memos which define these objects.

An object type definition consists of five fields:

OBJECT:

A textual name, termed the OBJECT DESCRIPTOR, for the object type, along with its corresponding OBJECT IDENTIFIER.

Syntax:

The abstract syntax for the object type. This must resolve to an instance of the ASN.1 type ObjectSyntax (defined below).

Definition:

A textual description of the semantics of the object type. Implementations should ensure that their instance of the object fulfills this definition since this MIB is intended for use in multi-vendor environments. As such it is vital that objects have consistent meaning across all machines.

Access:

One of read-only, read-write, write-only, or not-accessible.

Status:

One of mandatory, optional, or obsolete.

Future memos may also specify other fields for the objects which they define.

4.1. Guidelines for Object Names

No object type in the Internet-Standard MIB shall use a sub-identifier of 0 in its name. This value is reserved for use with future extensions.

Each OBJECT DESCRIPTOR corresponding to an object type in the internet-standard MIB shall be a unique, but mnemonic, printable string. This promotes a common language for humans to use when discussing the MIB and also facilitates simple table mappings for user interfaces.

4.2. Object Types and Instances

An object type is a definition of a kind of managed object; it is

declarative in nature. In contrast, an object instance is an instantiation of an object type which has been bound to a value. For example, the notion of an entry in a routing table might be defined in the MIB. Such a notion corresponds to an object type; individual entries in a particular routing table which exist at some time are object instances of that object type.

A collection of object types is defined in the MIB. Each such object type is uniquely named by its OBJECT IDENTIFIER and also has a textual name, which is its OBJECT DESCRIPTOR. The means whereby object instances are referenced is not defined in the MIB. Reference to object instances is achieved by a protocol-specific mechanism: it is the responsibility of each management protocol adhering to the SMI to define this mechanism.

An object type may be defined in the MIB such that an instance of that object type represents an aggregation of information also represented by instances of some number of "subordinate" object types. For example, suppose the following object types are defined in the MIB:

OBJECT:

atIndex { atEntry 1 }

Syntax:

INTEGER

Definition:

The interface number for the physical address.

Access:

read-write.

Status:

mandatory.

OBJECT:

atPhysAddress { atEntry 2 }

Syntax:

OCTET STRING

Definition:

The media-dependent physical address.

Access:
 read-write.

Status:
 mandatory.

OBJECT:

 atNetAddress { atEntry 3 }

Syntax:
 NetworkAddress

Definition:
 The network address corresponding to the media-dependent physical
 address.

Access:
 read-write.

Status:
 mandatory.

Then, a fourth object type might also be defined in the MIB:

OBJECT:

 atEntry { atTable 1 }

Syntax:

 AtEntry ::= SEQUENCE {
 atIndex
 INTEGER,
 atPhysAddress
 OCTET STRING,
 atNetAddress
 NetworkAddress
 }

Definition:
 An entry in the address translation table.

Access:
 read-write.

Status:
mandatory.

Each instance of this object type comprises information represented by instances of the former three object types. An object type defined in this way is called a list.

Similarly, tables can be formed by aggregations of a list type. For example, a fifth object type might also be defined in the MIB:

```
OBJECT:
-----
  atTable { at 1 }
```

Syntax:
SEQUENCE OF AtEntry

Definition:
The address translation table.

Access:
read-write.

Status:
mandatory.

such that each instance of the atTable object comprises information represented by the set of atEntry object types that collectively constitute a given atTable object instance, that is, a given address translation table.

Consider how one might refer to a simple object within a table. Continuing with the previous example, one might name the object type

```
{ atPhysAddress }
```

and specify, using a protocol-specific mechanism, the object instance

```
{ atNetAddress } = { internet "10.0.0.52" }
```

This pairing of object type and object instance would refer to all instances of atPhysAddress which are part of any entry in some address translation table for which the associated atNetAddress value is { internet "10.0.0.52" }.

To continue with this example, consider how one might refer to an aggregate object (list) within a table. Naming the object type