

(12) **United States Patent**
Tso et al.

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(54) **SYSTEM FOR DYNAMICALLY
TRANSCODING DATA TRANSMITTED
BETWEEN COMPUTERS**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

5,461,488 A	*	10/1995	Witek	358/402
5,483,658 A	*	1/1996	Grube et al.	395/800
5,517,612 A		5/1996	Dwin et al.	395/166
5,543,920 A	*	8/1996	Collins et al.	356/402
5,544,320 A		8/1996	Konrad	395/200.09
5,555,192 A	*	9/1996	Grube et al.	364/514
5,568,550 A	*	10/1996	Ur	380/3
5,608,800 A	*	3/1997	Hoffmann et al.	380/25
5,673,322 A		9/1997	Pepe et al.	380/49
5,684,969 A		11/1997	Ishida	395/342
5,694,334 A	*	12/1997	Donahue et al.	709/247
5,701,451 A		12/1997	Rogers et al.	395/600
5,706,434 A		1/1998	Kremen et al.	395/200.09
5,724,556 A		3/1998	Souder et al.	395/500
5,727,159 A		3/1998	Kikinis	395/200.76
5,742,905 A		4/1998	Pepe et al.	455/461
5,745,678 A	*	4/1998	Herzberg et al.	713/200
5,754,763 A	*	5/1998	Bereiter	713/201
5,764,235 A		6/1998	Hunt et al.	345/428
5,768,510 A		6/1998	Gish	395/200.33
5,805,735 A		9/1998	Chen et al.	382/239
5,826,025 A	*	10/1998	Gramlich	395/200.47

(List continued on next page.)

OTHER PUBLICATIONS

Safranek et al, Method for Matching Compresses Video to ATM Networks, IEEE 1995.*

Assuncao et al, Congestion Control of Video Traffic with Transcoders, IEEE 1997.*

(List continued on next page.)

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Related U.S. Application Data

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(51) Int. Cl.⁷ **G06F 15/16**

(52) U.S. Cl. **709/246; 709/217; 358/402**

(58) Field of Search 395/200.47, 200.48, 395/200.49, 200.36, 200.59, 200.43, 186, 800; 707/1, 2, 6, 9, 13; 380/3, 25; 364/514; 356/402; 705/26; 709/217, 231, 204, 210-219, 240-249, 1, 226, 202, 224; 713/201; 348/722; 379/201; 358/402

(56) References Cited

U.S. PATENT DOCUMENTS

5,347,578 A * 9/1994 Duxbury 709/79
5,373,375 A 12/1994 Weldy 358/523

Primary Examiner—Mark H. Rinehart

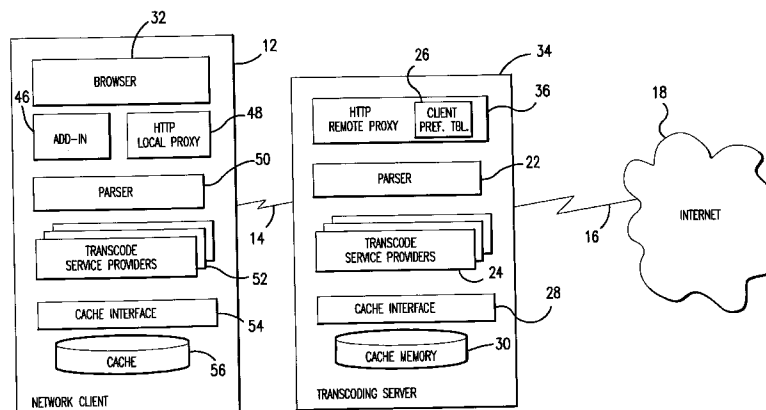
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(57) ABSTRACT

A system for dynamically transcoding data transmitted between computers is implemented in an apparatus for use in transmitting data between a network server and a network client over a communications link. The apparatus includes a parser coupled to a transcode service provider. The parser is configured to selectively invoke the transcode service provider in response to a predetermined selection criterion.

4 Claims, 9 Drawing Sheets



Akamai Ex. 1004

U.S. PATENT DOCUMENTS

5,832,208	A	*	11/1998	Chen et al.	713/201
5,835,087	A	*	11/1998	Herz et al.	345/327
5,835,718	A	*	11/1998	Blewett	395/200.48
5,835,896	A	*	11/1998	Fisher et al.	705/37
5,838,916	A	*	11/1998	Domenikos et al.	395/200.49
5,848,413	A	*	12/1998	Wolff	707/10
5,850,433	A	*	12/1998	Rondeau	379/201
5,862,325	A	*	1/1999	Reed et al.	395/200.31
5,870,543	A	*	2/1999	Ronning	395/186
5,880,792	A	*	3/1999	Ward et al.	348/722
5,889,943	A	*	3/1999	Ji et al.	713/201
5,897,622	A	*	4/1999	Blinn et al.	705/26
5,909,683	A	*	6/1999	Miginiac et al.	707/13
5,918,013	A	*	6/1999	Mighdoll et al.	709/217
5,983,004	A	*	11/1999	Shaw et al.	709/247
5,996,022	A	*	11/1999	Krueger et al.	709/247
6,151,618	A	*	11/2000	Wahbe et al.	709/1
6,158,903	A	*	12/2000	Schaeffer et al.	709/204
6,161,137	A	*	12/2000	Ogdon et al.	709/224
6,185,625	B1	*	2/2001	Tso et al.	709/247

OTHER PUBLICATIONS

PC Virus Alert, <http://byu.edu/csr/www/solutions/handouts/pevirus.html> 1995.*

Drejhammar. Computer Viruses, Trojans and Logical Bombs, <http://www.student.nada.kth.se/~d95-fdr/compvir.html>. 1996.*

Protecting Electronic Health Information. <http://www.nap.edu/readingroom/books/ptr52fe.html> 3/97.*

Fox et al, Reducing WWW latency and Bandwidth Requirements by Real Time Distillation 5/1996.*

Wu et al, An Efficient JPEG to MPEG-1 Transcoding Algorithm. IEEE 6/1996.*

Fox, Gribble, Chawathe and Brewer, Adapting to network and client variation using infrastructural proxies; lessons and perspectives, IEEE Personal Communications, vol. 5, Iss. 4, Aug. 1998, pp. 10-19.*

Zenel and Duchamp, "General purpose proxies: solved and unsolved problems," Sixth Workshop on Hot Topics in Operating Systems, May 1997, pp. 87-92.*

Fox et al., "Adapting to Network and Client Variability via On-Demand Dynamic Distillation," U of C at Berkeley, 9/1996.*

Armando Fox and Eric A. Brewer, "Reducing WWW Latency and Bandwidth Requirements by Real-Time Distillation," Fifth International World Wide Web Conference, May 6-10, 1996.

Armando Fox et al., Adapting to Network and Client Variability via On-Demand Dynamic Distillation, University of Cal. at Berkeley, Sep. 1996.

* cited by examiner

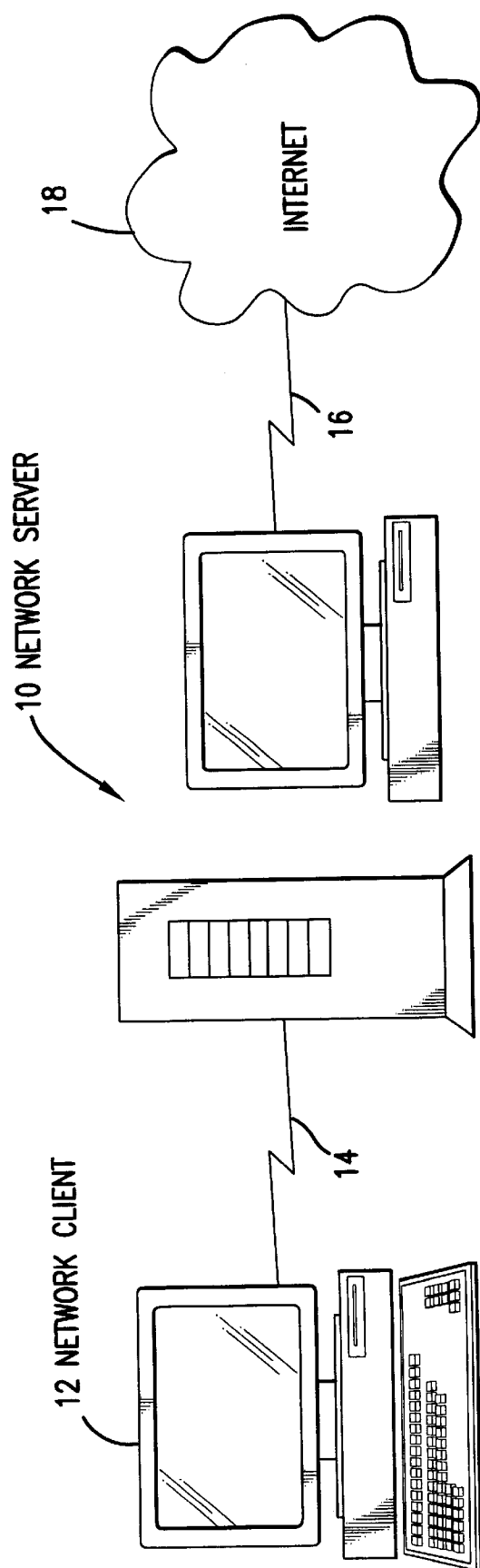


FIG. 1

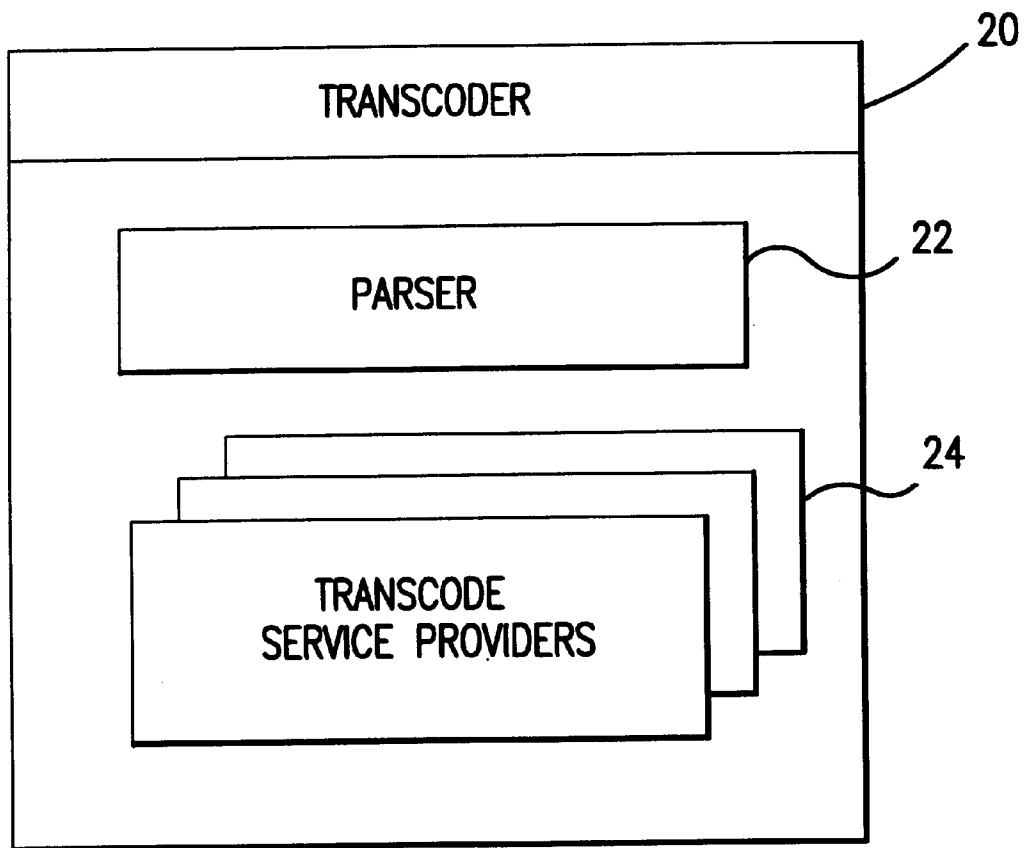


FIG.2

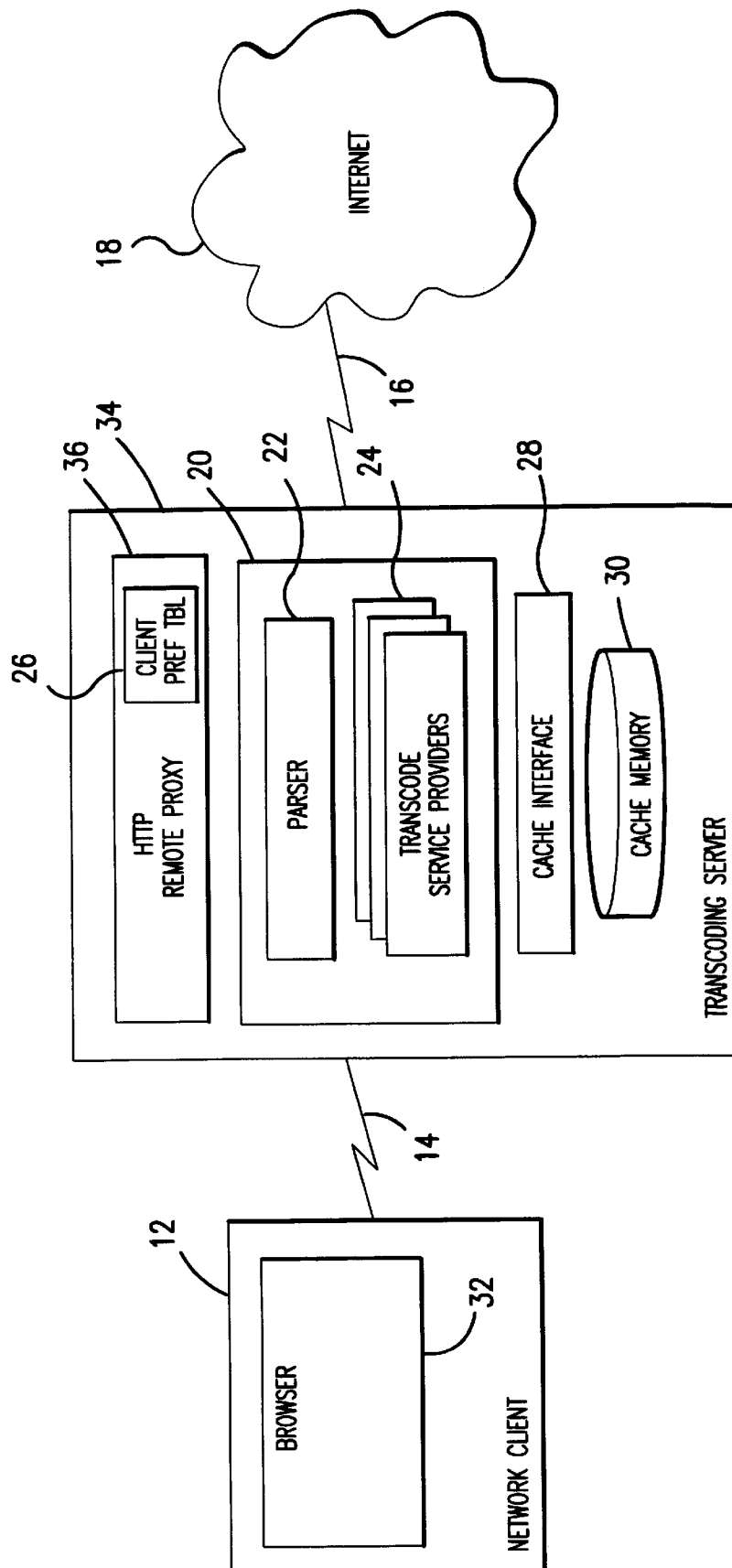


FIG.3

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