UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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AKAMAI TECHNOLOGIES, INC.,
Petitioner,

v.

LIMELIGHT NETWORKS, INC.,
Patent Owner.
_____

Case IPR2016-01011
Patent 7,715,324 B2

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Before GREGG I. ANDERSON, JENNIFER MEYER CHAGNON, and
GARTH D. BAER, *Administrative Patent Judges*.

ANDERSON, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Akamai Technologies, Inc. ("Petitioner") filed a Petition ("Pet.,"
Paper 2) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review
of claims 1, 2, 4, 5, 6, 7, 8, 10, and 11 ("the challenged claims") of U.S.
Patent No. 7,715,324 B2 ("the '324 patent," Ex. 1001), filed November 24,
2009.[1] The Petition is supported by the Declaration of Dr. Mark E. Crovella
("Crovella Declaration," Ex. 1002). Limelight Networks, Inc. ("Patent
Owner") filed a Preliminary Response ("Prelim. Resp.," Paper 6). The
Preliminary Response is supported by the Declaration of Dr. Kevin C.
Almeroth ("Almeroth Declaration," Ex. 2001).

We have jurisdiction under 35 U.S.C. § 314(a), which requires
demonstration of a reasonable likelihood that Petitioner would prevail with
respect to at least one challenged claim. We institute an *inter partes* review
of claims 1, 2, 4, 5, 6, 7, 8, 10, and 11. The Board has not made a final
determination of the patentability of any claim.

A. *Related Proceedings*

Petitioner notes the '324 patent is involved in co-pending litigation
captioned *Limelight Networks, Inc. v. XO Communications, LLC*, No. 3:15-
cv-00720 (E.D. Va. Nov. 30, 2015) ("District Court Lawsuit," Ex. 1003
(Complaint in District Court Lawsuit)). Pet. 66. Petitioner also advises us

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[1] The cover page of the '324 patent alleges it is a "[c]ontinuation of
application No. 12/572,981, filed on Oct. 2, 2009, which is a continuation-
in-part of application No. PCT/US2009/038361, filed on Mar. 26, 2009."
Ex. 1001 at [63]. Patentee claims the benefit of the March 26, 2009, filing
date of Australian application 200920183. *Id.* at [30]. Petitioner appears to
rely on the November 24, 2009, filing date as the effective filing date. *See*
Pet. 2. Patent Owner does not assert a position at this time.

that the District Court Lawsuit also involves U.S. Patent No. 8,683,002 B2 ("the '002 patent") filed January 2, 2013. *Id.* Petitioner filed a petition for *inter partes* review of the '002 patent, *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, IPR2016-01001. *Id.*

B. The '324 Patent (Ex. 1001)

The '324 patent discloses a system using a standard protocol to enable two or more nodes of a network to interoperate. Ex. 1001, 2:10–11. "The protocol attributes specified in the standard protocol are conditionally adapted to the circumstances, use, and/or operating conditions of the interoperation of the nodes." *Id.* at 2:11–14. Generally, the '324 patent describes different embodiments of a system for delivery of content (described below) or conducting transactions over a network. *Id.* at 2:20–21, 2:51–52.

In one embodiment, the '324 patent modifies the performance of a transport layer protocol in response to a request for content. Ex. 1001, 3:13–15. A "content distribution server includes a modified TCP protocol stack which adjusts timing, pacing, and buffer allocation associated with a connection in response to requests from an application-layer data source." *Id.* at 3:27–30. Figure 1 of the '324 patent is reproduced below.
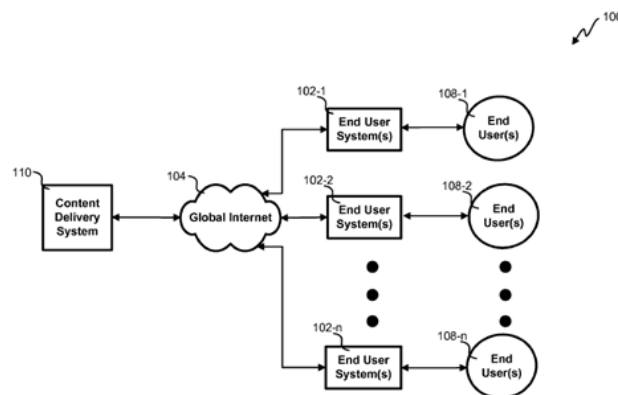

FIG. 1

Figure 1 is a block diagram of the content delivery system. *Id.* at 4:55–56.
End users 108-1, -2, and through -n use their respective clients 102 to
download and view content objects from global Internet 104 from one or
more servers of content delivery system 110. *Id.* at 5:37–44. The invention
of the '324 patent is not restricted to specific communication pairs and
"could communicate between any pair of nodes on a network, including
between pairs of clients or between pairs of servers, and yet other
embodiments could communicate among more than two nodes, such as in a
broadcast or multicast implementation." *Id.* at 5:44–50.

Another embodiment of the invention is illustrated in Figure 2A,
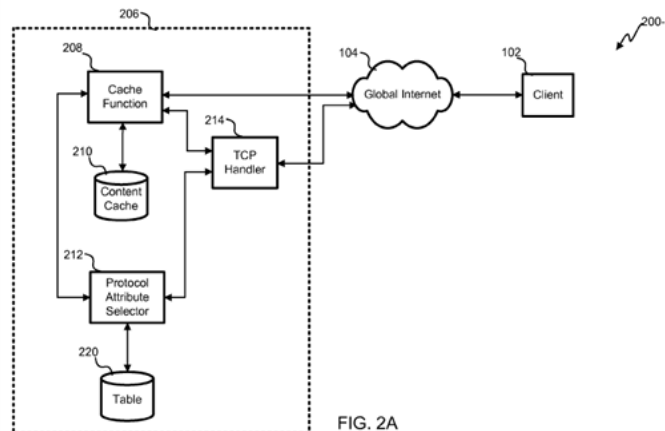which is reproduced below.

FIG. 2A

Figure 2A is a block diagram of a content download pair that sends content
from server 206 to client 102. Ex. 1001, 4:57–59. In this embodiment,
the '324 patent describes "interoperation of two nodes 102, 206 on the
Internet communicating using TCP, one node being a client 102 that
requests information, such as web page content, multimedia, or software
downloads, and the second node being a server 206 that provides
information in response to a request." *Id.* at 5:54–59. "[S]erver 206

conditionally adapts the attributes of the TCP protocol for each TCP connection established by a client 102." *Id.* at 6:12–14.

> [T]he protocol attribute selector 212 of the server 206 compares the alphanumeric URL string provided by the client 102 in its information request to a table 220 containing partial or whole URLs and identifies the most specific match from left to right that it can find in the table 220.

Id. at 8:16–21. An exemplary "Table Mapping to TCP attribute sets" (*id.* at 15:15–25), is reproduced below.

Table Mapping to TCP attribute sets		
Partial URL	TCP Attribute Set	
http://customer1.webserving.com/folderA/	attr1 = yes, attr3 = 25, attr4 = low	
http://customer1.webserving.com/folderB/	attn = no, attr2 = 1, attr4 = high	20
fastnet.com	attr3 = 50, attr6 = fast	
http://customer2.webserving.com/		
http://customer3.webserving.com/	attr1 = yes, attr3 = 25, attr4 = low	

The table depicted is "a simplified table, the sole Table shows mappings from whole and/or partial URLs into TCP attribute sets comprising specific protocols attributes (identified as "attr1", "attr2", "attr3", etc.) to be used and the appropriate value or setting for that use of that attribute." *Id.* at 15:6–11. The simplified table ("example") also illustrates that a "host name may be sufficient for a matching entry." *Id.* at 15:34–35.

In general, each content request includes information about a source address of the end user computer and an identifier corresponding to the requested content. Ex. 1001, 18:45–48. From this starting point, server 206 can obtain additional information to modify the transport layer parameters of the TCP connection. *Id.* at 18:33–35.

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