

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AKAMAI TECHNOLOGIES, INC.,
Petitioner,

v.

LIMELIGHT NETWORKS, INC.,
Patent Owner.

Case IPR2017-00348
Patent 8,750,155 B2

Before JUSTIN T. ARBES, GREGG I. ANDERSON, and
JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

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

Petitioner Akamai Technologies, Inc. filed a Petition (Paper 3, “Pet.”) requesting *inter partes* review of claims 1, 8, and 13 of U.S. Patent No. 8,750,155 B2 (Ex. 1001, “the ’155 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner Limelight Networks, Inc. filed a Preliminary Response (Paper 8, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we have decided not to institute an *inter partes* review.

I. BACKGROUND

A. The ’155 Patent¹

The ’155 patent discloses “[t]echniques for modifying the performance of a transport layer protocol in response to a request for content.” Ex. 1001, col. 2, ll. 8–10. Standard protocols, such as Transmission Control Protocol (TCP), permit nodes to interoperate with each other in an Internet content delivery system. *Id.* at col. 1, ll. 16–44. “Standard protocols often employ the use of attributes, such as configurable parameters and selectable algorithms, to permit the protocol to operate effectively in various situations. For example, TCP controls message size, the rate at which messages are exchanged, and factors related to network congestion through the use of attributes” *Id.* at col. 1, ll. 45–54.

¹ In Case IPR2016-01011, Petitioner challenges certain claims of U.S. Patent No. 7,715,324 B2 (“the ’324 patent”). *See* Ex. 1007 (decision instituting an *inter partes* review on November 4, 2016). The ’155 and ’324 patents are continuations of U.S. Patent Application No. 12/572,981.

“A protocol can also be customized, which in general requires that each node have installed customized components to enable the custom protocol.”
Id. at col. 1, ll. 59–61.

Figure 2A of the '155 patent is reproduced below.

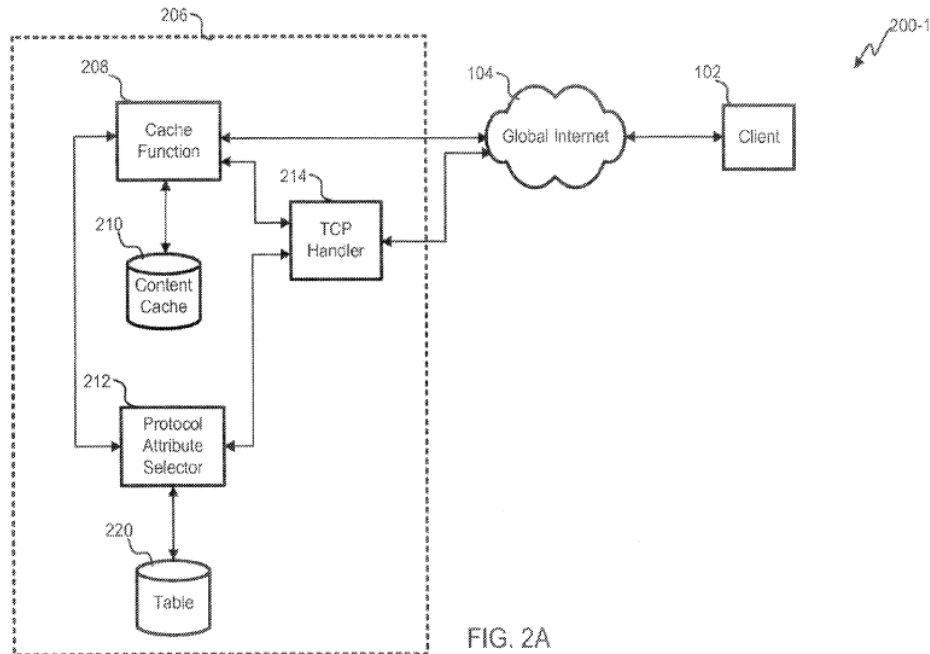


Figure 2A depicts an embodiment of the disclosed system where client 102 “requests information, such as web page content, multimedia, or software downloads,” and server 206 provides information in response to the request. *Id.* at col. 4, ll. 45–51. In doing so, server 206 uses the standard TCP protocol, but “conditionally adapts the attributes of the TCP protocol for each TCP connection established by a client 102,” such that “the protocol attributes vary . . . from one connection or session to another.” *Id.* at col. 5, ll. 4–13, 58–67, col. 13, ll. 21–35. Server 206 “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 col. 2, ll. 20–24, col. 16, l. 48–col. 17, l. 34, Fig. 7 (modified TCP protocol stack 700).

Each content request includes both “a source address of the end user computer and an identifier corresponding to the requested content” (e.g., an alphanumeric URL string), which server 206 can use to “obtain additional information from data store 220 with which to modify the transport layer parameters of the TCP connection.” *Id.* at col. 17, ll. 35–45. “[S]erver 206 bases the conditional adaptation of the attributes of the TCP protocol on the alphanumeric URL string provided by the client 102 in its information request.” *Id.* at col. 6, ll. 33–36. Specifically, “protocol attribute selector 212 of the server 206 compares the alphanumeric URL string . . . to a table 220 containing partial or whole URLs and identifies the most specific match” that it can find. *Id.* at col. 7, ll. 8–13, col. 13, ll. 61–65. The ’155 patent provides the following exemplary table in column 14:

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/fastnet.com	attr1 = no, attr2 = 1, attr4 = high
http://customer2.webserving.com/	attr3 = 50, attr6 = fast
http://customer3.webserving.com/	attr1 = yes, attr3 = 25, attr4 = low

The above table “shows mappings from whole and/or partial URLs into TCP attribute sets comprising specific protocol[] attributes (identified as ‘attr1,’ ‘attr2,’ ‘attr3,’ etc.) to be used and the appropriate value or setting for that use of that attribute.” *Id.* at col. 13, l. 65–col. 14, l. 3.

In addition to the alphanumeric URL string, server 206 can base the conditional adaptation of TCP protocol attributes on other pieces of information, such as, for example, “recent network performance

measurements,” “recent measures of utilization of a network,” or “recent measurements of performance or utilization of a server, group of servers, or server component(s) such as memory, processor, disk, bus, intersystem interface, and/or network interface.” *Id.* at col. 6, ll. 57–67, col. 7, ll. 29–65, col. 20, ll. 17–29.

B. Illustrative Claim

Claim 1 of the '155 patent recites:

1. A method for managing delivery of content in a system comprising a server and an end user computer, comprising:

establishing a first connection at the server for communicating with the end user computer;

receiving a request for content from the end user computer over the first connection, the request include a universal resource locator (URL);

determining one or more parameters relating to the performance of the first connection using information from the request, wherein the determined one or more parameters relate to utilization of available processing or memory capabilities of part or all of a system supporting the first connection;

determining one or more first values of attributes based on the URL and the one or more parameters;

modifying second values of attributes for the first connection at a transport layer to result in the determined one or more first values, the second values of the attributes for the first connection thereafter influencing utilization of the available processing or memory capabilities of the part or all of the system supporting the first connection;

changing, on a connection-specific basis, a connection protocol stack operator based upon the modified values of the attributes; and

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