Paper No. 9 Entered: March 16, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC., Petitioner,

v.

HEWLETT PACKARD ENTERPRISE COMPANY, Patent Owner.

Case IPR2017-01933 Patent 8,478,799 B2

Before BRYAN F. MOORE, MICHAEL J. FITZPATRICK, and DAVID C. McKONE, *Administrative Patent Judges*.

MOORE, Administrative Patent Judge.

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



I. INTRODUCTION

Cisco Systems, Inc. ("Petitioner" or "Cisco") filed a Petition requesting an *inter partes* review of claims 1–22 and 26–36 of U.S. Patent No. 8,478,799 B2 (Ex. 1001, "the '799 patent"). Paper 1 ("Pet."). Hewlett Packard Enterprise Company ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). With our authorization (Paper 7), Petitioner filed a Reply (Paper 8). We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted "unless... there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." After considering the Petition, the Preliminary Response, and associated evidence, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing unpatentability of at least one of the challenged claims. Thus, we do not authorize institution of an *inter partes* review of claims 1–22 and 26–36 of the '799 patent.

A. Related Proceedings

Petitioner indicates that the '799 patent is the subject of proceedings, including *SimpliVity Corp. v. Springpath Inc.*, No. 4-15-cv-13345-TSH (D. Mass 2016) ("Springpath Litigation"). Pet. 2. The '799 patent was also the subject of two prior *inter partes* review proceedings—IPR2016-01779 and IPR2016-01780 ("Springpath IPRs")—both filed by Springpath, Inc. ("Springpath").

B. The '799 Patent (Ex. 1001)

The '799 Patent discloses computer file system data structures and methods and apparatus for naming and storing files. *See* Ex. 1101, 1:4–6. Figure 1 of the '799 Patent is reproduced below:



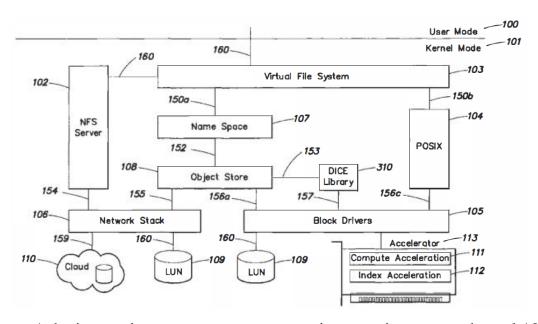


Figure 1 depicts various storage components in operating system kernel 101. See Ex. 1101, 10:25–26. POSIX® file system 104, Network File System ("NFS") 102, and a new file system composed of namespace file system 107 are stacked on top of lightweight object file system 108 connected to virtual file system ("VFS") 103. See id. at 10:30–38, 63–65. The new file system works alongside other file systems in kernel 101, and many file systems typically work in parallel. See id. at 10:38–39, 46–47. VFS 103 is used to abstract out common features of the file systems and provide a consistent user interface 160 to user 100. See id. at 10:33–39. "File systems normally sit on top of a block storage abstraction, implemented by block drivers 105. The block storage may be on a Logical Unit Number LUN storage device 109, or it may be on a remote LUN." *Id.* at 10:40–44. Object file system or object store 108 creates an object container that may sit on top of a raw LUN, a partition on a disk, or a large file. See id. at 10:59–61. Object store 108 may reference containers via network stack 106. See id. at 10:61–63. NFS 102 sits on top of network stack 106, and network stack 106 is connected to LUN 109 and Cloud 110. See id. at 10:63-67.



Read, Write Delete Provisioning Xaction Ops Index Ops 1520 152b 152c Name Location H(q) 45 96 H(p) H(r) 132 (Allocation Map) Object Container Descriptor Objects Log Allocation

Figure 2 of the '799 Patent is reproduced below:

Figure 2 depicts object store 108 of Figure 1 and various components. *See* Ex. 1101, 5:4–6, 11:1–2. Object store 108 contains binary, opaque objects P 201, Q 202, and R 203. An object can be of varying size, and resides at some offset in object container 206. *See id.* at 11: 3–9. Each object has a name or fingerprint (e.g., H(q), H(p), H(r)) which is a cryptographic digest or hash of the object's entire content. *See id.* at 11:10–13. Index 204 keeps track of object names, object locations, and object references. *See id.* at 11:14–15. There is an index entry for every object in the system, each entry containing a fingerprint of the object's content, a reference count, physical locator (e.g., logical block number, reference to cloud object), and flags. *See id.* at 11:40–61. Object container 206 is a randomly addressable persistent storage abstraction, such as a raw LUN, a file, a partition on a disk, or a device across a Wide Area Network. *See id.* at 11:64–67.



Figure 4 of the '799 Patent is reproduced below:

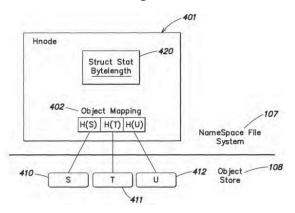


Figure 4 depicts a set of objects grouped together in an hnode. *See* Ex. 1101, 7:13–15, 12:51–52. Hnode 401 is a sequence of content, like a file that can be read, written, appended to, created, deleted, and truncated. *See id.* at 12:55–57. The data sequence is broken into discrete objects (e.g., S 401, T 411, U 412) where the names of each object are stored in mapping table 402, which records the fingerprints (e.g., H(S), H(T), H(U)) of each object. *See id.* at 12:63–66. Hnode 401 is an object itself. *See id.* at 13:8.

Figure 5 of the '799 Patent is reproduced below:

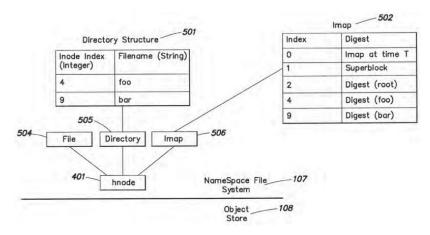


Figure 5 depicts an hnode specialized into files, directories, and imaps. *See* Ex. 1101, 6:16–18. Directory 505 is a mapping of inode numbers to file names. *See id.* at 13:31–33. Imap or inode map 502 translates inode



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