

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

TELEFONAKTIEBOLAGET LM ERICSSON,
Patent Owner.

IPR2022-00618
Patent 9,313,178 B2

Before GEORGIANNA W. BRADEN, NATHAN A. ENGELS,
and NORMAN H. BEAMER, *Administrative Patent Judges*.

BEAMER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

On February 25, 2022, Apple Inc. (“Petitioner”) filed a Petition (“Pet.”) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–20 of U.S. Patent No. 9,313,178 B2 (“the ’178 patent”). Paper 2. On July 8, 2022, Telefonaktiebolaget LM Ericsson (“Patent Owner”) filed a Preliminary Response (“Prelim. Resp.”). Paper 9.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and any 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 explained below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one challenged claim. Accordingly, we institute an *inter partes* review as to the challenged claims and grounds raised in the Petition.

II. BACKGROUND

A. *The ’178 Patent*

The ’178 patent, titled “Method And System For Secure Over-The-Top Live Video Delivery,” was filed on April 30, 2014, issued on April 12, 2016, and lists a related continuation application filed June 22, 2012, and related provisional application filed June 23, 2011.¹ Ex. 1001, codes (54), (22), (45), (63), (60).

¹ The effective priority date for the claims is not at issue here.

The '178 patent is directed to managing key rotation (use of a series of keys) and secure key distribution in “over-the-top” content delivery, which is the delivery of media content over the public Internet. Ex. 1001, code (57), 1:15–20. Key rotation is called for when live streaming content with long or indefinite durations, because the use of a single encryption key for the entire duration increases the probability that the key may be compromised. *Id.* at 1:23–26. As an example, MPEG video content is divided into segments of fixed duration, and the segments are encrypted with encryption keys. *Id.* at 2:53–64. Figure 1 is reproduced below.

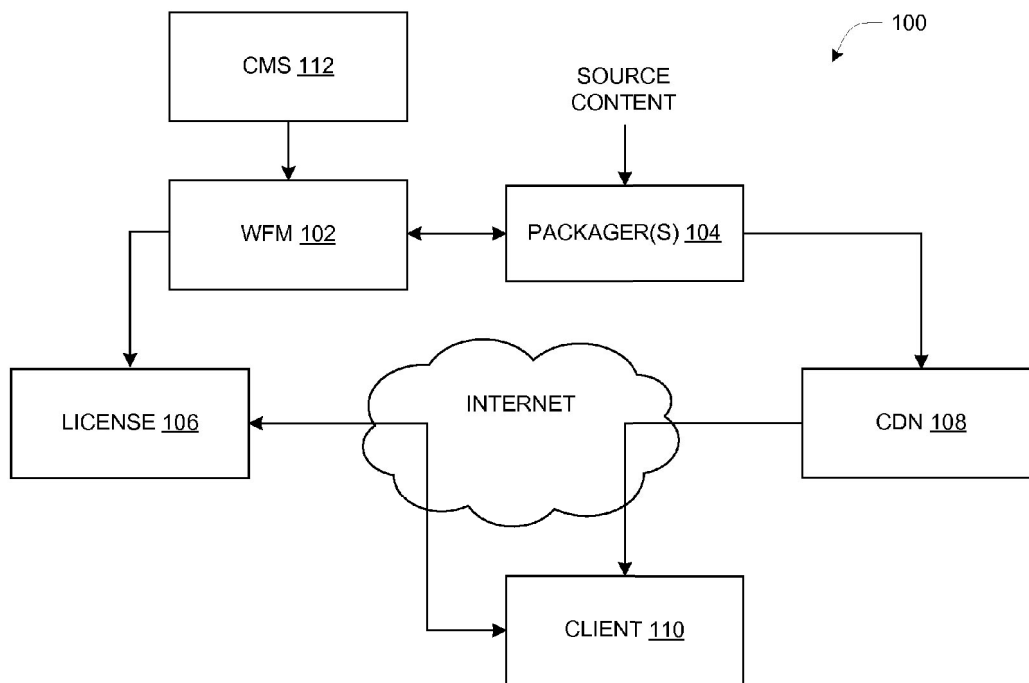


Fig. 1

Figure 1 is a block diagram of a content delivery system. Ex. 1001, 4:39. Content management system (CMS) 112 provides high-level control over

content ingestion, packaging and delivery. *Id.* at 5:15–17. Workflow manager (WFM) 102 performs more detailed control operations for preparation of live content, including generation of content encryption keys. *Id.* at 5:17–18, 5:21–25, 6:10–13, 6:29–32. License server 106 is responsible for storing encryption keys and providing them to the clients 110 for use during playback. *Id.* at 5:18–20. The license server registers client devices and verifies the right of each client device to view the content. *Id.* at 6:64–67. Packager(s) 104 receive source content from workflow manager (WFM) 102 and process the content for delivery to clients 110 via the content delivery network (CDN) 108. *Id.* at 5:11–13, 6:38–40. The packagers segment output files into fixed duration segments, and perform content encryption using a series of encryption keys. *Id.* at 5:13–15, 5:40–44, 6:2–7. In an exemplary embodiment, each encryption key has a preset expiration time, measured by relative wall clock time, segment numbers, or number of video key frames. *Id.* at 6:13–25. However, WFM 102 can push a new content encryption key to packager 104 ahead of time when the current content encryption key is deemed to be no longer secure (*e.g.*, if the content encryption key has been compromised). *Id.* at 7:17–20.

Figure 3 is reproduced below.

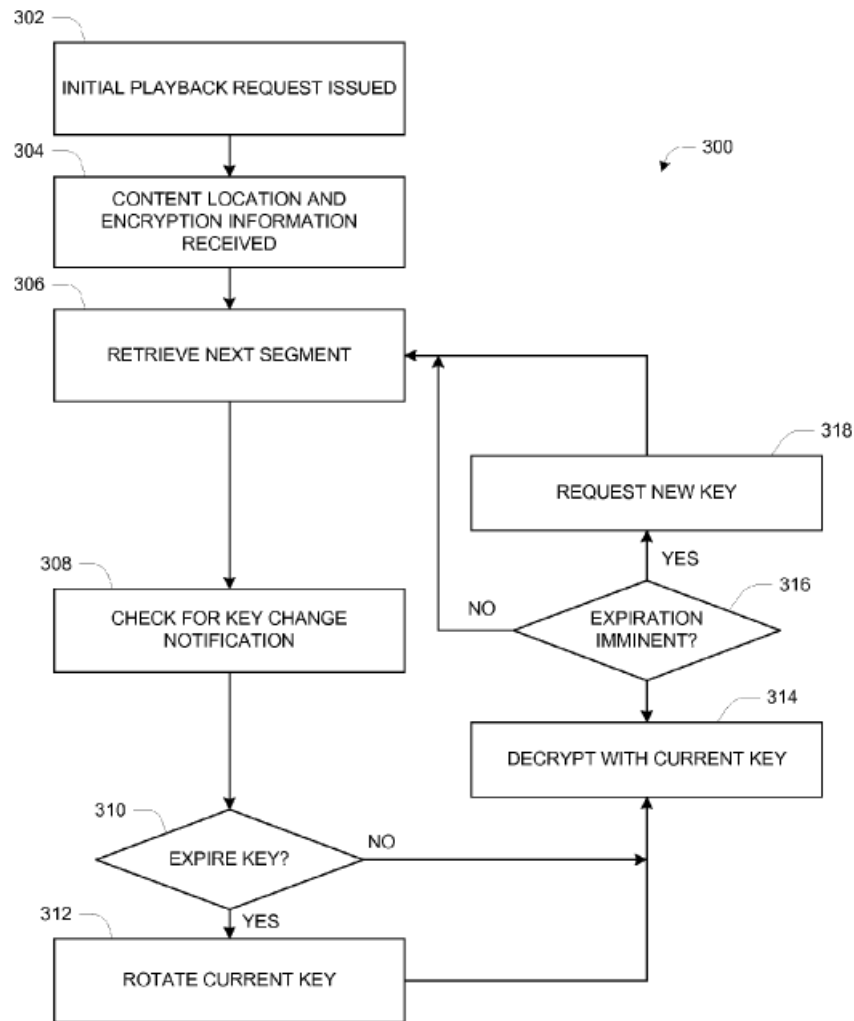


Fig. 3

Figure 3 is a flow diagram showing content downloading and decryption using content encryption key rotation. Ex. 1001, 4:42–43. After streaming information is requested by and received at client 110 in steps 302 and 304, successive segments are retrieved and decrypted in steps 306 and 314. *Id.* at 9:47–56, 10:25–38, 11:32–37. During that process, if an encryption key has expired, it is “rotated” — *i.e.*, it is replaced by the next key — in steps 310 and 312. *Id.* at 1:63–65, 11:3–12. Also during the process, at

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