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Paper 10
Entered: September 27, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,
Petitioner,

v.

MPH TECHNOLOGIES OY,
Patent Owner.

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Case IPR2019-00819
Patent 7,620,810 B2

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Before KAMRAN JIVANI, JOHN D. HAMANN, and STACY B. MARGOLIES, *Administrative Patent Judges.*

HAMANN, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Apple Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 1–7 of U.S. Patent No. 7,620,810 B2 (Ex. 1001, "the '810 patent") pursuant to 35 U.S.C. § 311. MPH Technologies Oy ("Patent Owner") filed a Patent Owner Preliminary Response (Paper 8, "Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). An *inter partes* review may be instituted if "the information presented in the petition filed under section 311 and any response filed under section 313 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." 35 U.S.C. § 314(a). On April 24, 2018, the Supreme Court held that a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the Petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

Upon consideration of the Petition and the Preliminary Response, we determine that the information presented shows there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one challenged claim of the '810 patent. Accordingly, we institute *inter partes* review on all of the challenged claims based on all of the grounds identified in the Petition.

### *A. Related Matter*

The parties identify *MPH Techs. Oy v. Apple Inc.*, Case No. 5:18-cv-05935-PJH, in the U.S. District Court for the Northern District of California, as a matter that may affect or would be affected by a decision in this proceeding. Pet. 2–3; Paper 7, 1. The parties also identify, as a related

matter, *Apple Inc. v. MPH Techs. Oy*, IPR2019-00820 (PTAB), involving U.S. Patent No. 7,937,581, which claims the benefit of the '810 patent's filing date. Pet. 2–3; Paper 7, 1.

*B. The Challenged Patent (Ex. 1001)*

The '810 patent relates to "secur[ing] mobile connections in telecommunication networks." Ex. 1001, 1:13–14. In particular, the '810 patent describes reducing the handover latency and computational overhead for secure connections, such as those employing Internet Protocol ("IP") Security ("IPSec") with mobile terminals[1] (i.e., terminals that can move from one network to another). *Id.* at 1:13–15, 1:57–64, 4:10–31, 6:48–50, 7:28–42, 10:34–42.

IPSec comprises a set of rules defined by the Internet Engineering Task Force ("IETF") to "provide[] the capability to secure communications between arbitrary hosts," according to the '810 patent. *Id.* at 1:57–64, 2:3, 2:6–10. The '810 patent states that these rules describe, *inter alia*, providing "access control based on the distribution of cryptographic keys." *Id.* at 2:11–20. The '810 patent also describes the concept of a Security Association ("SA"), which according to the '810 patent is "a one-way relationship between a sender and a receiver that offers [negotiated] security services to the traffic carried on it." *Id.* at 2:21–24.

[1] The '810 patent discloses that "the term[s] mobility and mobile terminal do[] not only mean physical mobility, . . . [but also] mean[] moving from one network to another, which can be performed by a physically fixed terminal as well." Ex. 1001, 4:27–31.

The ’810 patent discloses that IPSec supports two modes of operation (i.e., transport mode and tunnel mode). *Id.* at 3:8–9. “Typically, transport mode is used for end-to-end communication between two hosts.” *Id.* at 3:10–13. “Tunnel mode . . . is generally used for sending messages through more than two components,” such as “when one or both ends of a SA is a security gateway, such as a firewall or a router that implements IPSec.” *Id.* at 3:16–21.

“IPSec is intended to work with static network topolog[ies],” according to the ’810 patent. *Id.* at 4:10–11. For example, IPSec can secure communications between hosts across a local area network (“LAN”), as well as across a private or public wide area network (“WAN”). *Id.* at 1:57–59. Figure 1, shown below, “illustrates an example of a telecommunication network to be used in the invention” of the ’810 patent. *Id.* at 8:40–41.

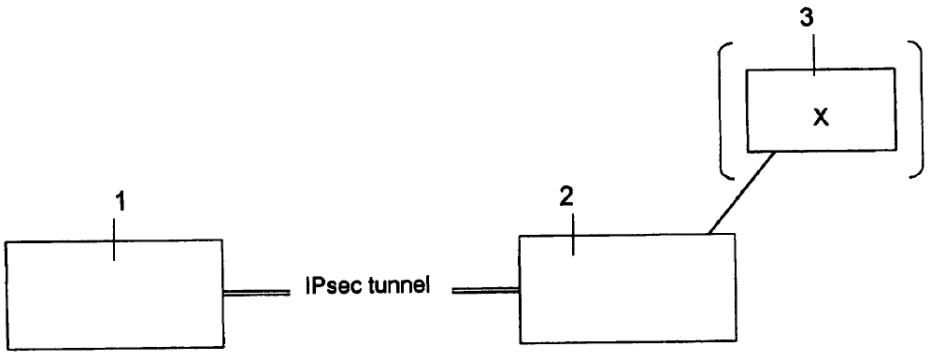


**FIG. 1**

Figure 1 depicts an example telecommunication network comprising “computer 1 . . . and computer 2[,] a destination computer, to which the secure messages are sent . . . by means of an IPSec tunnel established between computer 1 and computer 2.” *Id.* at 8:54–58. The ’810 patent adds: “Computer 2 [can] be a security gateway for a third computer 3. Then, the

messages sent from computer 2 to computer 3 are sent in plaintext." *Id.* at 8:53–60.

The '810 patent discloses that in forming an IPSec tunnel under IPSec's default automated key management protocol (i.e., the Internet Key Exchange ("IKE") protocol), "the tunnel endpoints are fixed and remain constant." *Id.* at 3:66–4:4, 4:12–17. The '810 patent adds: "If IPSec is used with a mobile host the IKE key exchange will have to be redone from every new[ly] visited network. This is problematic, because IKE key exchanges involve computationally expensive" calculations and require exchanging numerous messages between the endpoints, leading to higher latency. *Id.* at 4:15–26.

To address these problems, the '810 patent discloses avoiding a full re-negotiation between the tunnel endpoints, when computer 1 moves networks. *E.g.*, *id.* at 9:33–44 (describing prior art requires a full re-negotiation), 9:63–66. More specifically, the '810 patent discloses initially establishing an IPSec tunnel between computer 1 (address A) and computer 2 (address X) using IKE, as in the prior art. *Id.* at 9:48–62, Fig. 5 (illustrating steps 1a–9a for setting up the tunnel); *compare id.* at Fig. 5, *with id.* at Fig. 4 (showing the same nine steps as the prior art solution); *see also id.* at 9:12–39 (describing the prior art IKE establishment of the tunnel).

The '810 patent discloses that, when computer 1 moves from address A to address B, computer 1 sends from its new address (address B) to computer 2 (address X) at the other end of the established IPSec tunnel, a request for computer 2 to register its new address. *Id.* at 9:63–10:2. According to the '810 patent, this request can be "encrypt[ed] and/or

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