NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

REMBRANDT PATENT INNOVATIONS, LLC,
REMBRANDT SECURE COMPUTING, LP,
Plaintiffs-Appellants

v.

APPLE, INC.,
Defendant-Appellee

2016-2324

Appeal from the United States District Court for the Northern District of California in Nos. 3:14-cv-05093-WHA, 3:14-cv-05094-WHA, Judge William H. Alsup.

Decided: November 22, 2017

J. MICHAEL JAKES, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, argued for plaintiffs-appellants. Also represented by EDWARD ROBERT YOCHES; JACOB ADAM SCHROEDER, Palo Alto, CA.

MARK S. DAVIES, Orrick, Herrington & Sutcliffe LLP, Washington, DC, argued for defendant-appellee. Also represented by MELANIE L. BOSTWICK, KATHERINE M. KOPP, AMISHA R. PATEL; CHRISTOPHER JAMES GASPAR,

ANDREW LICHTENBERG, Milbank, Tweed, Hadley & McCloy LLP, New York, NY; MARK C. SCARSI, Los Angeles, CA.

Before PROST, *Chief Judge,* CHEN, and HUGHES, *Circuit Judges.*

CHEN, *Circuit Judge.*

Plaintiffs (collectively, Rembrandt) sued Apple, Inc. (Apple) for infringement of U.S. Patent No. 6,185,678 (the '678 patent). The district court construed certain terms in the '678 patent's claims and granted Apple's motion for summary judgment of noninfringement. Rembrandt appeals the district court's claim construction and noninfringement rulings. We *affirm*.

BACKGROUND

I. The '678 Patent

The '678 patent describes techniques for securely initializing, or "bootstrapping," a computer system. '678 patent col. 1 ll. 23–25. The asserted claims recite systems and methods for verifying the integrity of a computer's boot components and recovering at least one boot component that is found to be corrupted. Verification involves a "chain of integrity checks," executed by certain hardware and a computer's Basic Input Output System (BIOS), to determine whether boot components have been corrupted. *Id.* col. 6 ll. 6–24. Recovery involves the replacement of any corrupted boot components. Apple's noninfringement arguments hinge on whether the claimed recovery step must be performed automatically without human intervention, as Apple argues, or whether there is no such requirement, as Rembrandt argues.

Figure 2a depicts the functional steps and components used in a preferred embodiment of the claimed invention:

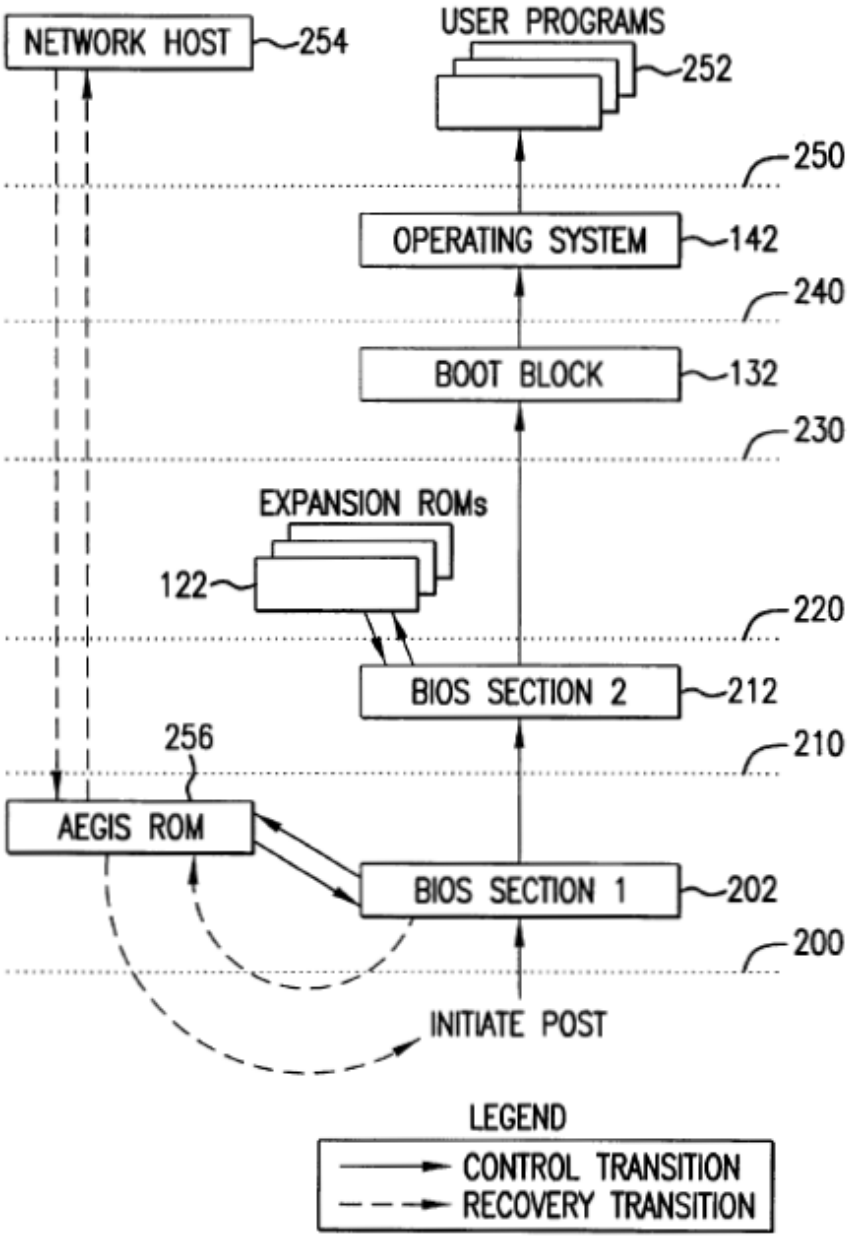

FIG. 2a

In Figure 2a, verification begins when a computer is powered on and executes a "Power on Self Test" (POST) at functional layer 200, which tests the computer's processor and initiates other tests controlled by the BIOS. *Id.* col. 7 l. 61 – col. 8 l. 11. Components at layer 200 are "assumed to be valid." *Id.* col. 8 ll. 48–49. Control is subsequently passed from one functional layer to the next, but only after each layer cryptographically verifies the integrity of components in the next layer. Once initialized, each layer adds correspondingly higher levels of capability to the system. Verification of all boot layers ensures the system's integrity before control is passed to the computer's operating system.

Recovery takes place only if verification detects an integrity failure. "Once an integrity failure is detected, the invention uses a secure protocol to inform a trusted repository that a failure has occurred and to obtain a valid replacement component." *Id.* col. 4 ll. 49–51. As depicted in Figure 2a, the claimed "trusted repository" may be implemented via the "AEGIS ROM" component for "secure recovery of any integrity failures found during the initial bootstrap." *Id.* col. 10 ll. 47–67.

The specification describes the '678 patent's invention as "relat[ing] to an architecture for initializing a computer system and more particularly to a secure bootstrap process and automated recovery procedure." '678 patent col. 1 ll. 23–25. According to the specification, the invention achieves a reduction in the total cost of owning a personal computer by "automatically detecting and repairing integrity failures," without requiring a user to call technical support staff or suffer any machine downtime. *Id.* col. 4 ll. 60–65.

Rembrandt asserted claims 1, 3, 4, and 7 of the '678 patent. Independent claim 1 recites:

> An architecture for initializing a computer system comprising:

a processor;

an expansion bus coupled to said processor;

a memory coupled to said expansion bus, said memory storing a system BIOS for execution by said processor upon power up of the computer system;

a plurality of boot components coupled to said expansion bus and accessed by said processor when said system BIOS is executed;

a trusted repository coupled to said expansion bus; and

means for verifying the integrity of said boot components and said system BIOS wherein integrity failures are recovered through said trusted repository.

Id. col. 21 l. 39 – col. 22 l. 11.

Claim 3 depends from claim 1 and recites:

An architecture for initializing a computer system according to claim 1, wherein said trusted repository is a host computer communicating with said computer system through a communications interface coupled to said expansion bus.

Id. col. 22 ll. 15–19.

Independent claim 4 recites:

A method for initializing a computer system comprising the steps of:

(1) invoking a Power on Self Test (POST);

(2) verifying the integrity of a system BIOS;

(3) verifying the integrity of a boot component; and

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