

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORTINET, INC.,

Petitioner,

v.

CROGA INNOVATIONS LTD.,

Patent Owner.

Case IPR2025-00086

Patent 10,601,780

PATENT OWNER'S PRELIMINARY RESPONSE

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TABLE OF EXHIBITS

Exhibit No.	Description
2001	Declaration of Dr. Eric Cole in Support of Preliminary Response
2002	Curriculum Vitae of Dr. Eric Cole

I. INTRODUCTION

Patent Owner Croga Innovations Ltd. (“Patent Owner”) submits this preliminary response to Petitioner Fortinet, Inc. (“Petitioner”) Petition for *inter partes* review of U.S. Patent No. 10,601,780 (“the ’780 patent”).

The Board already correctly denied institution in IPR2024-01196, which involved the same patent and the same arguments Petitioner presents here. *Cisco Systems, Inc. v. Croga Innovations Ltd.*, IPR2024-01196, Paper 7 (PTAB Feb. 13, 2025) (hereinafter “Cisco Decision”). The Board should deny institution here for the same reasons. “Petitioner has not shown that the cited art teaches or suggest the internal firewall limitations of the claims of the ’780 patent. Thus, Petitioner has failed to establish that the cited art teaches or suggests all the limitations of any challenged claim.” *Id.* at 21.

II. CLAIM CONSTRUCTION

Under 37 C.F.R. § 42.104(b), Petitioner was required to “identify how the challenged claim is to be construed.” Here, Petitioner offers no express construction of any challenged claim term, stating only that “no claim term requires express construction.” Pet. 13. Although not

expressly stated, Petitioner appears to contend that the “ordinary and customary” meaning of each claim term applies. *Id.*

However as explained below, Petitioner’s mappings of the asserted art to the limitations *wherein an internal firewall is configured to separate the host system from the virtual system* (claim 1) and *separating the host system from the virtual system using an internal firewall* (claim 11) rely on implicit constructions of those terms without any support in the ’780 specification.

III. THE ’780 PATENT

The ’780 patent relates to a host computer system that supports a virtual guest system running thereon. EX1001 at 3:29-31. It discloses various techniques to allow “safe browsing without the risk of infection.” *Id.* at 3:6-8. According to the ’780 specification, this is done by implementing a host-based firewall that allows the host to communicate only with “predetermined trusted sites” on the Internet and a virtual guest system comprising “a browser program that is allowed to contact the internet freely via an internet access connection that is completely separate from the host computer connection.” *Id.* at 3:29-42. “The guest computer and the host computer communicate with each other by a

limited permissible internal host-based firewall.” *Id.* at 5:62-6:1. “Communications across this internal firewall between the guest system and the host system are limited to cut and paste of displayed documents or files, commands to print documents, and file transfer requested manually by the host.” *Id.* at 6:2-6. Because of this separation of the host and guest systems by the internal firewall, “the guest computer in the virtual machine has no access to the other computers on the network or even to the system assets or files of the host system itself, except to cut, paste, or print.” *Id.* at 6:22-27; EX2006 at ¶¶43-45.

Claim 1 of the ’780 patent recites three separate firewalls, each configured for specific functionality: (1) *a host-based firewall ... **configured to implement network isolation** between the computer system and the network*, (2) *a network firewall ... **configured to implement network isolation** between one or more untrusted network destinations and the networked computer system*, and (3) *an internal firewall ... **configured to separate** the host system from the virtual system*. EX1001 at 13:2-13. Thus, the claims themselves recite distinct firewalls configured to perform distinct functions, and expressly

distinguish firewalls *configured to implement network isolation* from a firewall *configured to separate the host system from the virtual system*.

IV. DELCO DOES NOT DISCLOSE AN INTERNAL FIREWALL CONFIGURED TO SEPARATE THE HOST SYSTEM FROM THE VIRTUAL SYSTEM

Just as the petitioner did in IPR2024-01196, Petitioner here presents two grounds of alleged unpatentability. Under each ground, Petitioner alleges that Exhibit 1005 (“Delco”) renders obvious *wherein an internal firewall is configured to separate the host system from the virtual system* (claim 1) and *separating the host system from the virtual system using an internal firewall* (claim 11) based on Delco’s disclosure of “packet filter 74.” Pet. 40-43, 70. Petitioner presents no independent arguments for the claim 11 limitation, relying entirely on its arguments as to claim 1. See Pet. 70.

Delco’s packet filter 74 is not *an internal firewall [that] is configured to separate the host system from the virtual system*. Pet. 40. As Petitioner and its expert¹ acknowledge, Delco’s packet filter 74 operates

¹ The testimony of Petitioner’s expert as to the “internal firewall” limitation should be given little weight as, apart from a single extended

to “filter out harmful packets from untrusted destinations such as the Internet.” Pet. 59; EX1005 at 2:26-59; EX1003 ¶¶ 131-135. To implement this packet filtering functionality, Delco discloses that packet filter 74 uses a set of policy rules based on the characteristics of the network traffic. EX1005 at 8:33-38. For example, packet filter 74 may consider source and destination addressing (e.g., IP address), the transmission protocol (e.g., HTTP or TCP), the direction of network traffic, packet size, keywords in the headers or payload of a packet, and other factors. *Id.* at 8:38-57; EX2006 at ¶¶ 51-54.

In contrast to Delco, the ’780 patent does not rely on an internal firewall to filter network traffic. Indeed, the ’780 patent discloses that the virtual guest system is “allowed to contact the Internet freely” and can “communicate without restriction with any site on the Internet.” EX1001

quotation in ¶ 91, it merely repeats verbatim the assertion in the Petition it purportedly supports. *Compare* Pet. at 39-42 *with* EX1003 at ¶¶ 90-96; *see Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper No. 9 at 15 (PTAB Aug. 24, 2022) (precedential).

at Abstract, 11:58-64. Network traffic passes through either the network firewall or the host-based firewall. EX1001 at 7:10-17, 7:49-62; EX2006 at ¶¶ 43-45. The '780 patent describes an internal firewall 15 that, instead of examining packets or filtering network traffic, “separates and restricts interaction between virtual system 13 and the trusted-host operating system 17.” EX1001 at 8:13-17; EX2006 at ¶ 46. It also describes, for example, interactions that are limited by the internal firewall to a defined set of permissible operations that access host resources (e.g., cut, copy, paste). *Id.* at 8:20-35; EX2006 at ¶¶ 46-47. Through the internal firewall, if the guest system is compromised, “the guest computer in the virtual machine has no access to... the system assets or files of the host system itself, except to cut, paste, or print.” EX1001 at 6:23-27; *see also id.* at 5:66-6:7; EX2006 at ¶ 48. Network isolation via packet filtering (e.g., Delco’s packet filter 74) does not *separate the host system from the virtual system* because it does not restrict access to host operating system resources. EX2006 at ¶¶ 46-49, 53-56.

The distinction between network isolation (e.g., packet filtering) and separating the host/virtual systems is also apparent in the claims of

the '780 patent. As, Petitioner acknowledges, the '780 patent describes three “distinct methods of isolation.” Pet. 6; EX1003 at ¶¶ 34-36. As recited in claim 1, for example, two of the claimed firewalls (the *host-based firewall* and the *network firewall*) are configured to implement **network isolation** and the third claimed firewall (the *internal firewall*) is configured to **separate the host system from the virtual system**. Based on the express language of the claims and the associated disclosures in the '780 patent, a firewall configured for network isolation is not the same as a firewall configured to separate a host system from a virtual system. EX2006 at ¶¶ 53-56. Delco's packet filter 74 is configured for network isolation and does not operate as *an internal firewall [that] is configured to separate the host system from the virtual system. Id.*

Petitioner makes two assertions as to how Delco's packet filter 74 is *configured to separate the host system from the virtual system*. Neither is supported. **First**, Petitioner contends that “each of Delco's virtual machines includes a packet filter 74 (‘internal firewall’) that filters packets passing between the virtual system and the host system” and “[b]y filtering packets between the virtual machine and the host system, the packet filter is ‘configured to separate the host system from the

virtual system in the computer system.” Pet. 40 (citing Ex. 1005, 7:4–18, Fig. 3). Thus, Petitioner implies that a component that filters packets is a firewall. But the ’780 patent does not recite an *internal firewall* configured to filter packets. Rather, as explained above, packet filtering (network isolation) is recited for two separate firewalls recited in claim 1, but not for the *internal firewall*, which is instead configured to *separate the host system from the virtual system*. As the Board explained in the Cisco Decision, “[t]o the extent that the quoted paragraph [EX1005, 7:14-18] addresses functioning of packet filter layer 74, it does so only in the last sentence of this paragraph.... There is no explanation as to how or why this sentence (or this paragraph or figure) teaches or suggests separating the host system from the virtual system as recited in the internal firewall limitations.” Cisco Decision at 14-15. As to Petitioner’s reference to packet filter layer 74 “perform[ing] the function of a firewall” by filtering packets (Pet. 41), the Board noted that the portion of Delco relied upon “relates to a background ‘typical use scenario’ of an ‘external firewall system’ and is not a disclosure of how the proposed invention’s alleged internal firewall (Delco’s packet filter 74), upon which Petitioner relies, actually functions.” *Id.* at 15. “[T]here is no explanation as to how

or why this passage from Delco relates to Delco's packet filter 74 or teaches or suggests separating the host system from the virtual system as recited in the internal firewall limitations." *Id.* at 15-16.

Second, Petitioner asserts that Delco's packet filter 74 is *configured to separate the host system from the virtual system* because it is "placed between the host operating system 42 and the guest operating systems 58." Pet. 42. Here, Petitioner suggests that a device, such as Delco's packet filter 74, is *configured to separate* the host/guest operating systems merely because it is located "between" them. But this ignores the disclosures in the '780 patent about how the internal firewall operates:

The guest is separated and completely isolated by an internal firewall from the host, and the guest cannot access any of the resources of the host computer, except that the guest can initiate cut, copy and paste operations..., and the guest can also request print operations. The host can transfer files to and from virtual data storage area accessible by the guest by manual operator action. No other interaction is permitted.

EX1001 at 3:42-49; *see also id.* at 8:20-35, 12:46-52. Thus, the '780 patent describes an internal firewall configured to limit access to host resources and limit operations initiated by the guest system. In contrast, Petitioner

identifies no disclosure in Delco even suggesting that packet filter 74 limits access to resources of the host operating system. EX2006 at ¶¶ 51-56. As the Board concluded, “[f]iltering packets from an external network from being transferred to the virtual system as disclosed by Delco (*see* Ex. 1005, code (57), 7:15–18, 10:28–32) does not separate the host system from the virtual system as recited in the internal firewall limitations.” Cisco Decision at 19.

Furthermore, as the Board explained in the Cisco Decision, “[p]acket filter 74 is positioned to protect Guest OS 58 from external network packets not from the host system or packets originating from the host system.” *Id.* at 16-17 (citing EX1005 at 6:25-28, 7:15-18, 10:28-32). Thus, the Board concluded that Petitioner’s argument that the position of packet filter 74 in Figure 3 supports its contention that packet filter 74 is an internal firewall “is **contradicted** by Delco.” *Id.* at 17 (emphasis added). “Packet filter 74 is a filter of packets from an external network and does not function to separate the host system from the virtual system.” *Id.*

For these reasons, Petitioner’s attempts to map Delco’s packet filter 74 to the claimed *internal firewall [that] is configured to separate the host*

system from the virtual system do not have a reasonable likelihood of success on the merits. Its challenges to claims 1 and 11 in Grounds 1 and 2 fail. Because each challenged dependent claim depends from one of independent claims 1 or 11, each of Petitioner's challenges to those claims fail as well.

Date: February 28, 2025

Respectfully submitted,

/Brett Cooper/

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CERTIFICATION REGARDING WORD COUNT

The undersigned hereby certifies that the word count in this Patent Owner Preliminary Response is 2,040 words, as counted by the word-processing program Microsoft Word that was used to generate this Patent Owner Preliminary Response, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, claim listing, and this certificate of word count. This Patent Owner Preliminary Response is in compliance with the 14,000-word limit set forth in 37 C.F.R. § 42.24(b)(1).

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

The undersigned hereby certifies that the above document was served on February 28, 2025, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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