

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

WEBROOT INC. and OPEN TEXT, INC.,

Plaintiffs,

v.

SOPHOS LTD.,

Defendant.

C.A. No. 6:22-cv-00240-ADA-DTG

JURY TRIAL DEMANDED

DEFENDANT SOPHOS LTD.'S PRELIMINARY INVALIDITY CONTENTIONS

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Pursuant to the Parties' Proposed Scheduling Order,¹ Defendant Sophos, Ltd. ("Sophos") hereby provides its Preliminary Invalidity Contentions.

I. INTRODUCTION

On July 12, 2022, Plaintiffs Webroot, Inc. ("Webroot") and Open Text, Inc. ("Open Text") (collectively, "Plaintiffs") served their Preliminary Infringement Contentions with the following Asserted Claims:

- U.S. Patent No. 8,418,250 ("250 patent"): Claims 1-30
- U.S. Patent No. 8,726,389 ("389 patent"): Claims 1-14, 30
- U.S. Patent No. 9,578,045 ("045 patent"): Claims 1-7
- U.S. Patent No. 10,257,224 ("224 patent"): Claims 1-19
- U.S. Patent No. 10,284,591 ("591 patent"): Claims 1, 3-6, 9, 11-14, 17
- U.S. Patent No. 10,599,844 ("844 patent"): Claims 1-20
- U.S. Patent No. 9,413,721 ("721 patent"): Claims 1, 8, 9, 14

(collectively, the "Asserted Patents" and the "Asserted Claims"). Sophos contends that the Asserted Claims cover subject matter not eligible for patenting under 35 U.S.C. § 101, and that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 102, 103, and/or 112.²

These Preliminary Invalidity Contentions address the claims identified in Plaintiffs' Preliminary Infringement Contentions. Sophos reserves the right to modify, amend, or supplement these Preliminary Invalidity Contentions to the extent the Court permits Plaintiffs to amend,

¹ See September 2, 2022 Email from M. Siegmund to Court re Webroot, Inc. et al v. Multiple Defendants – Case Nos. 6-22-cv-00239 to 00243 and -00342 (hereinafter, the "Parties' Proposed Scheduling Order").

² Sophos applies the versions of Sections 102, 103, and 112 in effect prior to the effective date of the America Invents Act ("AIA") for the '250, '389, and '721 patents, and the versions of Sections 102, 103, and 112 in effect after the effective date of the AIA for the '045, '224, '591, and '844 patents.

supplement, or otherwise modify their Preliminary Infringement Contentions, including by modifying the patents and/or claims asserted.

In addition, Plaintiffs' Preliminary Infringement Contentions are entirely deficient, and fail to provide allegations as to how the Accused Products infringe each and every claim limitation; rather, they simply parrot the claim language and then cite various documents—and in many circumstances, point to no evidence at all. Similarly, they fail to disclose the priority date they allege each pre-AIA patent is entitled to; they simply state “[e]ach asserted claim is asserted to have the priority data identified on the face of the corresponding patent-in-suit.” Plaintiffs' Preliminary Infringement Contentions, 4. Plaintiffs therefore have prejudiced Sophos's ability to understand, for purposes of preparing these Preliminary Invalidity Contentions, what Plaintiffs allege to be the scope of the Asserted Claims and the scope of the prior art. Sophos reserves the right to amend these Preliminary Invalidity Contentions if and when Plaintiffs provide proper infringement contentions as to each Asserted Claim.

A. Priority Date

These Preliminary Invalidity Contentions are based on the earliest priority dates as identified by Plaintiffs in their Preliminary Infringement Contentions. In their Preliminary Infringement Contentions, Plaintiffs did not produce any documents evidencing conception and reduction to practice, despite its requirement to do so under the Court's Standing Order Governing Proceedings (OGP) v. 4.1—Patent Cases, Appendix A. Nothing in these Preliminary Invalidity Contentions shall be understood as an agreement that any Asserted Patent is entitled to claim priority to the dates identified by Plaintiffs, or to any continuation-in-part, provisional, or foreign priority document. Sophos reserves the right to amend these Preliminary Invalidity Contentions and identify additional prior art references if Plaintiffs are permitted by the Court to later assert an

earlier priority date, or are permitted by the Court to later produce documents purporting to evidence earlier conception and reduction to practice.

Any reference to an “asserted priority date” in these Preliminary Invalidity Contentions refers to the priority dates identified in Plaintiffs’ Preliminary Infringement Contentions. Reference to a “priority date” or an “asserted priority date” should not be construed to mean that Sophos agrees that any of the Asserted Patents are in fact entitled to such priority date, or that Plaintiffs have provided proper notice as to their contentions for a priority date.³ To the extent Plaintiffs allege that any prior art relied on in these Preliminary Invalidity Contentions does not actually qualify as prior art to an Asserted Patent, Sophos reserves the right to rebut those allegations (e.g., by demonstrating an earlier critical date for the challenged prior art and/or a later priority date for a particular Asserted Patent and/or Asserted Claim).⁴ Likewise, to the extent Plaintiffs successfully establish an invention date before any of the prior art references relied on by Sophos, then those references serve as evidence of objective indicia of obviousness, particularly, contemporaneous invention by others.

B. Claim Construction

Claim construction has not yet begun. As of the date these invalidity contentions are served, the parties are scheduled to exchange claim terms for construction on September 20, 2022 and the *Markman* hearing is scheduled for January 11, 2023. *See* Parties’ Proposed Scheduling Order. Sophos’s Preliminary Invalidity Contentions are based on (1) Defendant’s present

³ Sophos reserves the right to rely on additional documents, evidence, and expert testimony, including without limitation the documents cited in Plaintiffs’ Preliminary Infringement Contentions, in the event that Plaintiffs fail to establish that any Asserted Claim of any Asserted Patent is entitled to its asserted priority date.

⁴ Sophos reserve the right to rely on additional documents and evidence to rebut any efforts by Plaintiffs to allege any reference was not publicly available or otherwise available as prior art.

understanding of the Asserted Claims, and (2) the claim constructions Plaintiffs appear to be using based on their Preliminary Infringement Contentions, all without regard to whether Sophos agrees with Plaintiffs' apparent or expressed claim constructions. Sophos reserves the right to supplement or otherwise amend these Preliminary Invalidity Contentions in response to the Court's Claim Construction Order and any other court-ordered clarifications on claim constructions, any report from any expert witness for Plaintiffs regarding the scope of the claims, any briefing filed by Plaintiffs relating to the scope of the claims, and any position taken by Plaintiffs concerning claim scope, infringement, or invalidity.

Sophos takes no position on any matter of claim construction in these Preliminary Invalidity Contentions, including whether any particular claim element should be construed according to 35 U.S.C. § 112, ¶ 6. If Sophos's disclosures herein are consistent with any explicit, apparent, or implied claim constructions in Plaintiffs' Preliminary Infringement Contentions, no inference is intended and no inference should be drawn that Sophos agrees with any of Plaintiffs' claim constructions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding and/or applying the cited prior art. In addition, to the extent that these Preliminary Invalidity Contentions rely on or otherwise embody a particular order in which the steps of method claims are performed, Sophos does not necessarily propose that the method claims must be limited to such order, although Sophos may later propose limitation to such an order.

Nothing herein should be read to suggest that Sophos agrees that any particular claim term is sufficiently definite, enabled, or supported by the written description to meet the requirements of 35 U.S.C. § 112. Likewise, nothing herein should be read to suggest that Sophos agrees that the preamble of any claim is or is not limiting.

Because any positions taken in these disclosures are based on the claim scope apparently asserted by Plaintiffs in their Preliminary Infringement Contentions, with which Sophos may disagree, Sophos may take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, positions expressed or implied in these Preliminary Invalidity Contentions.

Prior art not included in these Preliminary Invalidity Contentions, whether or not now known to Sophos, might become relevant depending on the claim constructions proposed by Sophos and/or the Court's claim construction rulings. Sophos reserves all rights to supplement or modify the positions and information in these Preliminary Invalidity Contentions, including, without limitation, the prior art and grounds of invalidity set forth herein, after the Court has construed any term of the Asserted Claims.

C. Ongoing Discovery and Supplementation

Sophos bases these Preliminary Invalidity Contentions on its current knowledge and understanding of the Asserted Patents, Plaintiffs' Preliminary Infringement Contentions, and other facts and information available as of the date of these contentions. Sophos's investigation into prior art—including prior art identified in these disclosures, third-party prior art (including system art and related evidence), documents, and knowledgeable witnesses—is ongoing. Furthermore, pursuant to the Parties' Proposed Scheduling Order, discovery does not begin until April 18 or June 15, 2023. Sophos anticipates seeking and obtaining discovery, including third-party discovery, that further evidences and supports the invalidity of the Asserted Claims. Thus, Sophos expects to present additional information and evidence in support of its Preliminary Invalidity Contentions, and to revise, amend, and/or supplement these Preliminary Invalidity Contentions accordingly in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and applicable orders.

Furthermore, Sophos is investigating and pursuing information from additional sources of discovery that may bear on prior art and other invalidity bases, and may serve discovery requests on those sources if necessary. Sophos reserves the right to revise, amend, and/or supplement these Preliminary Invalidity Contentions with any relevant information obtained from those additional sources.

Sophos further reserves the right to rely on statements or admissions from those owing a duty of candor, such as named inventors, prosecution counsel, and others involved in the prosecution of the patent applications or related applications, concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the following: the respective prosecution histories of the Asserted Patents and related patent applications; any deposition testimony of the named inventors; and the papers filed and any evidence submitted by Plaintiffs in connection with this litigation.

Sophos reserves the right to modify and/or supplement these Preliminary Invalidity Contentions with an explanation of why the Asserted Claims are invalid under pre-AIA 35 U.S.C. § 102(f)-(g), in the event Sophos obtains additional evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed or that the claimed subject matter was invented by others. Should Sophos obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived or the name of the person(s) that invented such subject matter and the circumstances of such invention.

Prior art not identified in this disclosure, whether known or not known to Sophos, may become relevant, including prior art concerning the state of the art at the time of invention, as well as simultaneous or near-simultaneous independent invention by others. For instance, Sophos is

currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Sophos. To the extent that such an issue arises, Sophos reserves the right to identify other references that would disclose, practice, or render obvious the allegedly missing limitation(s) of the disclosed subject matter.

D. Prior Art Identification and Citations Thereto

In these Preliminary Invalidity Contentions, Sophos identifies specific portions of prior art references that disclose the elements of the Asserted Claims. While Sophos has identified exemplary prior art references for each element, it does not necessarily identify every disclosure of the same element in each prior art reference. A person of ordinary skill in the art would read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field and would rely upon other information including other publications and general scientific or engineering knowledge. Sophos therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and prior art products and expert testimony to provide context and to aid understanding and interpretation of the identified portions of the prior art.

Sophos also reserves the right to rely upon (1) other portions of the cited prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references; (2) admissions relating to prior art in the Asserted Patents or related patents, the prosecution history of the Asserted Patents or related patents, or other admissions obtained during discovery; (3) U.S., international, or foreign counterparts of any patents or patent applications identified in Sophos's Preliminary Invalidity Contentions; and (4) any prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person

of ordinary skill in the art used during any reexamination, *inter partes* review, post-grant review, or any other proceeding at the Patent Office involving the Asserted Patents. Where a prior art reference includes citations to other references, those other references are considered incorporated by reference for context.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Sophos's anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

Where Sophos identifies in the claim charts a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the specification and prosecution history in addition to the figure itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

E. No Patentable Weight

Sophos reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, non-functional descriptive material, and certain preamble language, are entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

* * *

Nothing herein should be read to suggest that Sophos agrees that any particular claim term is sufficiently definite, enabled, or supported by the written description to meet the requirements of 35 U.S.C. § 112. In addition, nothing herein admits in any way that any of the accused products

or services infringe any of the Asserted Claims. Sophos reserves the right to amend and supplement these Preliminary Invalidity Contentions, including in response to any amendments to, and revisions of, Plaintiffs' Preliminary Infringement Contentions or application of the Asserted Claims. Sophos further reserves the right to supplement its corresponding document production should it later find additional, responsive documents.

II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

Sophos contends that the Asserted Claims are invalid as anticipated by the prior art under 35 U.S.C. § 102 and/or as obvious in view of the prior art, the knowledge of a person having ordinary skill in the art, and/or objective indicia of obviousness under 35 U.S.C. § 103.

The obviousness combinations of references provided in Sophos's invalidity claim charts under 35 U.S.C. § 103 are exemplary and are not intended to be exhaustive. In particular, Sophos is currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Claims are not disclosed in the art identified by Sophos as anticipatory. To the extent an issue arises with any such limitation, Sophos will identify other obviousness combinations and/or other references that would have made obvious the addition of the allegedly missing limitation to the disclosed device, system, or method of operation.

Pursuant to the Order Governing Proceedings, discovery does not begin until April 18 or June 15, 2023. Sophos's prior art investigation and third-party discovery is therefore not yet complete. Sophos reserves the right to present additional items of prior art under 35 U.S.C. § 102 and/or 35 U.S.C. § 103 located during the course of discovery or further investigation. For example, Sophos expects to issue subpoenas to third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art. These third parties include without limitation the authors, inventors, or assignees of the references listed in these disclosures. In addition, Sophos reserves the right to

assert invalidity under other subsections of 35 U.S.C. § 102 to the extent that discovery or further investigation yield information forming the basis for such invalidity.

A patentee bears the burden of production with respect to evidence of secondary considerations of non-obviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Preliminary Invalidity Contentions, Plaintiffs have not identified any evidence of secondary considerations, nor do Plaintiffs offer any evidence or explanation to support their allegations. As shown in these Preliminary Invalidity Contentions, other companies and individuals described, built, and/or patented the exact same concepts in the Asserted Patents before Plaintiffs ever did—often many years before. Even where others’ invention(s) occurred around the same time as the Asserted Patents, such simultaneous invention demonstrates the obviousness of the Asserted Patents.

Potentially relevant evidence includes any prior art reference cited herein that was publicly known or available before or around the alleged inventions claimed in the Asserted Patents. This also includes any prior art asserted in these Preliminary Invalidity Contentions that Plaintiffs are able to pre-date based on its asserted priority dates by proving, *inter alia*, corroborated conception and diligent reduction to practice.

Sophos reserves all rights to further respond to any secondary considerations of non-obviousness raised by Plaintiffs, including by updating, modifying, and/or adding to these Preliminary Invalidity Contentions. Sophos is not aware of any unexpected results (none are mentioned in the Asserted Patents or their file histories), long-felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the Asserted Patents.

A. State of the Art

The subject matter of the Asserted Claims was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. To describe the state of the art at the time of the alleged inventions, in addition to the references listed on the face of the Asserted Patents and those references listed in Section B and charted in Exhibits 250-A, 250-B, 389-A, 389-B, 045-A, 045-B, 224-A, 224-B, 591-A, 591-B, 844-A, 844-B, 721-A, and 721-B, Sophos may rely on at least the references listed below and any admitted prior art discussed in the Asserted Patents and file histories:

1. U.S. Patent No. 8,418,250

- U.S. Patent No. 7,487,543 to Arnold et al. (“Arnold ’543”)
- U.S. Patent No. 7,996,905 to Arnold et al. (“Arnold ’905”)
- U.S. Patent Pub. No. 2004/0123145 to Baffes et al. (“Baffes”)
- Bolton, *Aladdin Esafe Enterprise v3.0* (“Bolton”)
- U.S. Patent Pub. No. 2006/0293777 to Breitgand et al. (“Breitgand”)
- Cai et al., *Collaborative Internet Worm Containment* (“Cai”)
- U.S. Patent No. 7,080,000 to Cambridge (“Cambridge”)
- Chuvakin, *Security Even Analysis through Correlation* (“Chuvakin”)
- Conry-Murray, *Product Focus: Behavior-Blocking Stops Unknown Malicious Code* (“Conry-Murray”)
- Using Management Center for Cisco Security Agents 4.0 User Guide (“CSA”)
- Coretrace ECM 3000 System (“Coretrace”)
- U.S. Patent No. 7,434,261 to Costea et al. (“Costea”)
- Distributed Intrusions Detection System (“DIDS”)
- U.S. Patent No. 7,613,930 to Dotan (“Dotan”)
- Sophos Endpoint Security (“Endpoint Security”)

- U.S. Patent Pub. No. 2002/0078381 to Farley et al. (“Farley”)
- Finjan software, SurfinGuard Pro 5.7 (“Finjan”)
- Forrest et al., *Computer Immunology* (“Forrest 1”)
- Forrest et al., *A Sense of Self for Unix Processes* (“Forrest 2”)
- U.S. Patent No. 7,290,266 to Gladstone et al. (“Gladstone ’266”)
- U.S. Patent No. 7,594,267 to Gladstone et al. (“Gladstone ’267”)
- U.S. Patent Pub. No. 2004/0111632 to Halperin (“Halperin”)
- U.S. Patent Pub. No. 2004/0039968 to Hatonen et al. (“Hatonen”)
- U.S. Patent Pub. No. 2004/0143753 to Hernacki (“Hernacki”)
- Higgins, SANDBOX the HACKERS – They’re spreading viruses and stealth code. One way to stop them: block, or “sandbox,” the culprits (“Higgins”)
- U.S. Patent Pub. No. 2005/0038818 to Hooks (“Hooks”)
- Inoue et al., Anomaly Intrusion Detection in Dynamic Execution Environments, In: Proc. of the 2002 Workshop on New Security Paradigms (NSPW), pp. 52-60 (2002) (“Inoue”)
- U.S. Patent Pub. No. 2003/0172166 to Judge et al. (“Judge”)
- U.S. Patent No. 6,973,577 to Kouznetsov (“Kouznetsov”)
- U.S. Patent Pub. No. 2005/0210035 to Kester (“Kester”)
- U.S. Patent No. 7,594,272 to Kennedy et al. (“Kennedy”)
- U.S. Patent No. 7,934,103 to Kidron (“Kidron”)
- U.S. Patent No. 7,356,843 to Kingsford (“Kingsford”)
- U.S. Patent No. 7,694,150 to Kirby (“Kirby”)
- U.S. Patent No. 7,424,609 to Kwan (“Kwan”)
- U.S. Patent No. 7,152,164 to Loukas (“Loukas”)
- U.S. Patent No. 7,069,480 to Lovy (“Lovy”)
- U.S. Patent No. 7,900,194 to Mankins (“Mankins”)

- Nance, *Server-Based Java Security Products Help Guard Your Enterprise Flank* (“Nance”)
- Cisco, NetRanger (“NetRanger”)
- U.S. Patent Pub. No. 2005/0132205 to Palliyil (“Palliyil”)
- PR Newswire, Finjan Software and F-Secure to Deliver Proactive Content Security For Corporate PCs in New Era of Malicious Code (“PR Newswire”)
- PrevX Pro 2005 (“PrevX Pro”)
- R. Rivest, RCF 1321, The MD5 Message-Digest Algorithm, April 1992 (“RFC 1321”)
- U.S. Patent No. 7,913,303 to Rouland et al. (“Rouland”)
- Sandbox Security, Secure4U (“Sandbox Security”)
- U.S. Patent No. 7,603,711 to Scheidell (“Scheidell”)
- Webroot Spy Sweeper Enterprise (“Spy Sweeper”)
- U.S. Patent No. 8,516,583 to Thomas et al. (“Thomas”)
- U.S. Patent No. 9,104,871 to Tuvell et al. (“Tuvell”)
- U.S. Patent No. 7,093,239 to van der Made (“van der Made”)
- U.S. Patent No. 8,458,797 to Yu et al. (“Yu”)

2. **U.S. Patent No. 8,726,389**

- U.S. Patent Pub. No. 2004/0123145 to Baffes et al. (“Baffes”)
- Berk et al., *Designing a Framework for Active Worm Detection on Global Networks* (“Berk”)
- U.S. Patent Pub. No. 2006/0293777 to Breitgand et al. (“Breitgand”)
- Cai et al., *Collaborative Internet Worm Containment* (“Cai”)
- U.S. Patent No. 7,080,000 to Cambridge (“Cambridge”)
- Chuvakin, *Security Even Analysis through Correlation* (“Chuvakin”)
- Using Management Center for Cisco Security Agents 4.0 User Guide (“CSA”)

- Coretrace ECM 3000 System (“Coretrace”)
- U.S. Patent No. 7,434,261 to Costea et al. (“Costea”)
- Dagon et al., *HoneyStat: LocalWorm Detection Using Honeypots* (“Dagon”)
- Distributed Intrusions Detection System (“DIDS”)
- U.S. Patent No. 7,613,930 to Dotan (“Dotan”)
- Sophos Endpoint Security (“Endpoint Security”)
- U.S. Patent Pub. No. 2002/0078381 to Farley et al. (“Farley”)
- Forrest et al., Computer Immunology (“Forrest 1”)
- Forrest et al., A Sense of Self for Unix Processes (“Forrest 2”)
- U.S. Patent No. 7,290,266 to Gladstone et al. (“Gladstone ’266”)
- U.S. Patent No. 7,594,267 to Gladstone et al. (“Gladstone ’267”)
- GuardedNet, *neuSECURE 3.0, the first SIM Delivering Value Across the Enterprise* (Wayback Machine) (“GuardedNet”)
- U.S. Patent Pub. No. 2004/0111632 to Halperin (“Halperin”)
- U.S. Patent Pub. No. 2004/0039968 to Hatonen et al. (“Hatonen”)
- U.S. Patent Pub. No. 2004/0143753 to Hernacki (“Hernacki”)
- U.S. Patent Pub. No. 2005/0038818 to Hooks (“Hooks”)
- Inoue et al., Anomaly Intrusion Detection in Dynamic Execution Environments, In: Proc. of the 2002 Workshop on New Security Paradigms (NSPW), pp. 52-60 (2002) (“Inoue”)
- U.S. Patent Pub. No. 2005/0210035 to Kester (“Kester”)
- U.S. Patent No. 7,594,272 to Kennedy et al. (“Kennedy”)
- U.S. Patent No. 7,934,103 to Kidron (“Kidron”)
- King, *Security Management: Making Sense of Events* (“King”)
- U.S. Patent No. 7,356,843 to Kingsford (“Kingsford”)
- U.S. Patent No. 7,694,150 to Kirby (“Kirby”)

- U.S. Patent No. 6,973,577 to Kouznetsov (“Kouznetsov”)
- U.S. Patent Pub. No. 2003/0172166 to Judge et al. (“Judge”)
- Leung, *Advanced technologies aim to protect network assets* (“Leung”)
- U.S. Patent No. 7,565,550 to Liang et al. (“Liang”)
- U.S. Patent No. 7,152,164 to Loukas (“Loukas”)
- U.S. Patent No. 7,069,480 to Lovy (“Lovy”)
- U.S. Patent No. 7,900,194 to Mankins (“Mankins”)
- Cisco, NetRanger (“NetRanger”)
- Okena, A New Approach To Intrusion Detection: Intrusion Prevention OR StormWatch Intrusion Prevention for Servers and Desktops (Wayback Machine) (“Okena”)
- Open Systems, *Security Threat Manager* (Wayback Machine) (“Open Systems”)
- U.S. Patent Pub. No. 2005/0132205 to Palliyil et al. (“Palliyil”)
- PrevX Pro 2005 (“PrevX Pro”)
- R. Rivest, RCF 1321, The MD5 Message-Digest Algorithm, April 1992 (“RFC 1321”)
- U.S. Patent No. 7,913,303 to Rouland et al. (“Rouland”)
- U.S. Patent No. 7,603,711 to Scheidell (“Scheidell”)
- U.S. Patent No. 8,516,583 to Thomas et al. (“Thomas”)
- U.S. Patent No. 9,104,871 to Tuvell et al. (“Tuvell”)
- U.S. Patent No. 7,093,239 to van der Made (“van der Made”)
- U.S. Patent No. 7,634,806 to Zinda et al. (“Zinda”)

3. U.S. Patent Nos. 9,578,045 and 10,257,224

- U.S. Patent Pub. No. 2006/0224930 to Bantz et al. (“Bantz”)
- U.S. Patent Pub. No. 2003/0046582 to Black et al. (“Black”)
- U.S. Patent Pub. No. 2006/0265746 to Farley et al. (“Farley”)

- Ficco et al., *A Generic Intrusion Detection and Diagnose System Based on Complex Event Processing* (“Ficco”)
- U.S. Patent Pub. No. 2011/0173699 to Figlin et al. (“Figlin”)
- U.S. Patent No. 8,839,422 to Ghosh et al. (“Ghosh”)
- U.S. Patent Pub. No. 2007/0150957 to Hartrell et al. (“Hartrell”)
- U.S. Patent Pub. No. 2006/007028 to Heimerdinger et al. (“Heimerdinger”)
- U.S. Patent Pub. No. 2008/0229419 to Holstov et al. (“Holstov”)
- HP ArcSight
- U.S. Patent No. 8,661,062 to Jamail et al. (“Jamail”)
- U.S. Patent Pub. No. 2009/0328210 to Khachaturov et al. (“Khachaturov”)
- U.S. Patent Pub. No. 2008/0184058 to McDermott et al. (“McDermott”)
- U.S. Patent Pub. No. 2009/0044024 to Oberheide et al. (“Oberheide”)
- OpenService Nerve Center
- Porras et al., *EMERALD: Event Monitoring Enabling Responses to Anomalous Live Disturbances* (“Porras 1”)
- U.S. Patent Pub. No. 2005/0251860 to Saurabh et al. (“Saurabh”)
- U.S. Patent Pub. No. 2004/0244160 Stamos et al. (“Stamos”)
- U.S. Patent Pub. No. 2013/0055399 to Zaitsev (“Zaitsev”)
- Aggregation and Correlation, 2001 (“Debar”)
- A Context-Based Detection, 2012 (“Giura”)
- Correlating Intrusion Detection Events, 2005 (“Johnson”)
- Decentralized Event Correlation, 2002 (“Krugel”)
- Insider Threat Detection, 2010 (“Myers”)
- U.S. Patent No. 6,321,338 to Porras et al. (“Porras 2”)
- U.S. Patent No. 6,704,874 to Porras et al. (“Porras 3”)

- U.S. Patent No. 6,088,804 to Hill et al. (“Hill”)
- VenusIDS: An Active Database Component for Intrusion Detection”, University of Texas at Austin, June 1999, by Lane B. Warshaw, Lance Obermey, Daniel P. Miranker and Sara P. Matzner
- Jansen, Wayne, Peter Mell, Tom Karygiannis, and Don Marks. Applying Mobile Agents to Intrusion Detection and Response. NISTIR 6416. Gaithersburg, MD: U. S. Department of Commerce, 1999

4. U.S. Patent No. 10,284,591

- U.S. Patent No. 8,943,592 to Mirski et al. (“Mirski”)
- U.S. Patent Pub. No. 2012/0047579 to Ishiyama (“Ishiyama”)
- U.S. Patent Pub. No. 2013/0047255 to Dalcher (“Dalcher 1”)
- U.S. Patent Pub. No. 2006/0288342 to Hatlelid et al. (“Hatlelid”)
- U.S. Patent Pub. No. 2004/0158729 to Szor (“Szor”)
- U.S. Patent Pub. No. 2015/0089645 to Vandergeest (“Vandergeest”)
- U.S. Patent Pub. No. 2014/0325650 to Pavlyushchik (“Pavlyushchik 1”)
- U.S. Patent No. 9,411,953 to Kane (“Kane”)
- U.S. Patent Pub. No. 2016/0300060 to Pike et al. (“Pike”)
- U.S. Patent Pub. No. 2008/0052468 to Speirs et al. (“Speirs”)
- U.S. Patent Pub. No. 2013/0276110 to Dalcher (“Dalcher 2”)
- KR 20110036426
- U.S. Patent Pub. No. 2013/0275981 to Dalcher (“Dalcher 3”)
- U.S. Patent Pub. No. 2010/0169973 to Hong et al. (“Hong”)
- KR 20100089245 to Seok et al. (“Seok”)
- U.S. Patent Pub. No. 2013/0227680 to Pavlyushchik (“Pavlyushchik 2”)
- U.S. Patent No. 7,971,255 to Ke et al. (“Ke”)
- U.S. Patent No, 6,412,071 to Hollander et al. (“Hollander”)

- Jacobson, *Detecting Code Reuse Attacks Using Dyninst Components* (“Jacobson”)
- Hua, *Efficient Context-Sensitive Intrusion Detection Based on State Transition Table* (“Hua”)
- Cowan et al., *Stackguard: Automatic Adaptive Detection and Prevention of Buffer-Overflow Attacks* (“Cowan”)
- Baratloo et al., *Transparent Run-Time Defense Against Stack-Smashing Attacks* (“Baratloo”)

5. U.S. Patent No. 10,599,844

- JP 2012027710 to Mori et al. (“Mori”)
- U.S. Patent Pub. No. 2006/0026675 to Cai et al. (“Cai 675”)
- U.S. Patent Pub. No. 2017/0098074 to Okano et al. (“Okano”)
- U.S. Patent No. 8,161,548 to Wan (“Wan”)
- Cortes et al., *Support-Vector Networks* (“Cortes”)
- U.S. Patent Pub. No. 2015/0213376 to Ideses et al. (“Ideses”)
- U.S. Patent No. 8,023,974 to Diao et al. (“Diao”)
- U.S. Patent No. 9,189,750 to Narsky (“Narsky”)
- U.S. Patent Pub. No. 2014/0090064 to Pistoia et al. (“Pistoia”)
- U.S. Patent Pub. No. 2010/0150448 to Lecerf et al. (“Lecerf”)
- U.S. Patent Pub. No. 2003/0065926 to Schultz et al. (“Shultz”)
- Lai, *A Feature Selection for Malicious Detection* (“Lai”)
- Sahs, *A Machine Learning Approach to Android Malware Detection* (“Sahs”)
- Balram, “Static Malware Analysis Using Machine Learning Algorithms on APT1 Dataset with String and PE Header Features” (“Balram”)
- Liangboonprakong, *Classification of Malware Families Based on N-grams Sequential Pattern Features* (“Liangboonprakong”)
- Arnold, *Automatically Generated Win32 Heuristic Virus Detection* (“Arnold”)
- Abou-Assaleh, *N-gram-based Detection of New Malicious Code* (“Abou-Assaleh”)

- Raman, *Selecting Features to Classify Malware* (“Raman”)
- Tian, *An Integrated Malware Detection and Classification System*, (“Tian Thesis”)
- U.S. Patent Pub. No. 2011/0145920 to Mahaffey et al. (“Maheffey”)
- Vinod, *Towards the Detection of Android Malware Using Ensemble Features* (“Vinod”)
- Leder, *Classification and detection of metamorphic malware using value set analysis* (“Leder”)
- U.S. Patent Pub. No. 2015/0213365A1 to Ideses et al. (“Ideses 365”)
- U.S. Patent No. 10,277,617 to Yang et al. (“Yang 617”)
- CN103473506A to Yang et al. (“Yang 506”)
- Tesauro, *Neural networks for computer virus recognition* (“Tesauro”)
- Doumas, *Design of a neural network for recognition and classification of computer viruses* (“Doumas”)
- CN103106365A to Lai et al. (“Lai 365”)
- U.S. Patent No. 10,169,579 to Xu et al. (“Xu”)
- Ravula, *Classification of Malware using Reverse Engineering and Data Mining Techniques* (“Ravula”)
- Jeong, *Malware Detection on Byte Streams of PDF Files Using Convolutional Neural Networks* (“Jeong”)
- CN102142068A to Li et al. (“Li”)
- U.S. Patent Pub. No. 2012/0151586A1 to Hentunen (“Hentunen”)
- Lam, *A Learning Approach to Spam Detection based on Social Networks* (“Lam”)
- U.S. Patent Pub. No. 2011/0041179A1 to Stahlberg (“Stahlbreg”)
- U.S. Patent No. 7,519,998 to Cai et al. (“Cai 998”)
- Usukhbayar, *A Static Malware Detection System Using Data Mining Methods* (“Usukhbayar”)
- Song, *Hierarchical Online Problem Classification for IT Support Services* (“Song”)

- Runwal, Graph Technique For Metamorphic Virus Detection, (“Runwal”)
- Faruki, AndroSimilar: robust statistical feature signature for Android malware detection (“Faruki”)

6. **U.S. Patent No. 9,413,721**

- U.S. Patent No. 8,429,180 to Sobel et al. (“Sobel”)
- U.S. Patent Pub. No. 2006/0075504 to Lui (“Lui”)
- U.S. Patent No. 8,646,038 to Blumfield et al. (“Blumfield”)
- U.S. Patent No. 10,262,136 to Kailash et al. (“Kailash”)
- U.S. Patent No. 8,220,050 to Sarathy (“Sarathy”)
- U.S. Patent Pub. No. 2010/0031361 to Shukla (“Shukla”)
- U.S. Patent Pub. No. 2005/0223001 to Kester et al. (“Kester”)
- U.S. Patent Pub. No. 2008/0086773 to Tuvell et al. (“Tuvell”)
- U.S. Patent Pub. No. 2013/0091570 to Mccorkendale et al. (“Mccorkendale”)
- U.S. Patent Pub. No. 2008/0010368 to Hubbard et al. (“Hubbard”)
- U.S. Patent Pub. No. 2005/0262560 to Gassoway (“Gassoway”)
- U.S. Patent Pub. No. 2011/0321160 to Mohandas et al. (“Mohandas”)
- U.S. Patent Pub. No. 2003/0177394 to Dozortsev (“Dozortsev”)
- U.S. Patent Pub. No. 2007/0162975 to Overton et al. (“Overton”)
- U.S. Patent Pub. No. 2013/0247179 to Scott et al. (“Scott”)
- U.S. Patent No. 7,743,419 to Chandran et al. (“Chandran”)
- U.S. Patent No. 9,117,075 to Mashevsky et al. (“Mashevsky”)
- Gartner, *Magic Quadrant for Secure Web Gateway* (“Gartner”)
- Szor, *The Art of Computer Virus Research and Defense* (“Szor Book”)
- Marchetti, *Peer-to-peer Architecture for Collaborative Intrusion and Malware Detection on a Large Scale* (“Marchetti”)

- Colajanni, *Collaborative architecture for malware detection and analysis* (“Colajanni”)
- Bhattacharyya, *MET: An Experimental System for Malicious Email Tracking* (“Bhattacharyya”)
- Apel, *Towards Early Warning Systems – Challenges, Technologies and Architecture* (“Apel”)
- Royal, *PolyUnpack: Automating the Hidden-Code Extraction of Unpack-Executing Malware* (“Royal”)
- Zheng, *An AIS-based Cloud Security Model* (“Zheng”)
- Oberheide, *CloudAV: N-Version Antivirus in the Network Cloud* (“Oberheide”)
- Xin, *Research on the Anti-virus System of Military Network based on Cloud Security* (“Xin”)
- U.S. Patent No. 8,607,066 to Kailash et al. (“Kailash 1”)
- U.S. Patent No. 8,286,239 to Sutton (“Sutton”)
- U.S. Patent No. 10,262,136 to Kailash et al. (“Kailash 2”)
- U.S. Patent No. 7,055,008 to Niles et al. (“Niles”)
- U.S. Patent No. 8,881,283 to Tuvell et al. (“Tuvell 2”)
- U.S. Patent No. 6,772,346 to Chess et al. (“Chess”)
- U.S. Patent Pub. No. 2007/0022315 to Comegys (“Comegys”)
- N Del Grosso, *It's Time to Rethink your Corporate Malware Strategy* (“N Del Grosso”)
- Abraham et al., *D-SCIDS: Distributed soft computing intrusion detection system* (“Abraham”)
- Scanlan et al., *Intrusion Detection by Intelligent analysis of data across multiple gateways in real-time* (“Scanlan”)
- Jiang, *A Malware Sample Capturing and Tracking System* (“Jiang”)
- Kumar, *A Network Based Approach to Malware Detection in Large IT Infrastructures* (“Kumar”)
- Dai, *Behavior-Based Malware Detection on Mobile Phone* (“Dai”)

B. Identification of Prior Art

Sophos identifies the following prior art now known to Sophos that anticipates or renders obvious one or more of the Asserted Claims. Each of the following patents, publications, systems, and products is prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA) or § 102(a) (post-AIA), as applicable. Sophos's reliance on each prior art reference identified throughout these Preliminary Invalidity Contentions includes the reference itself, anything incorporated by the reference, and any testimony by those with knowledge of the reference, such as named authors and inventors. On information and belief, each listed document or item became prior art at least as early as the dates specified.

To the extent any limitation of any of the Asserted Claims is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), with any other claim limitation, and to the extent at least one claim chart in Exhibits 250-A, 250-B, 389-A, 389-B, 045-A, 045-B, 224-A, 224-B, 591-A, 591-B, 844-A, 844-B, 721-A, and 721-B identifies any prior art reference as disclosing or teaching such similarly construed claim limitation, such identified prior art reference and Sophos's contentions with respect to same, are incorporated by reference. Priority dates identified for the prior art references are based on information currently available to Sophos, and Sophos will amend this disclosure to the extent additional information becomes available.

To the extent that they are prior art, Sophos reserves the right to rely upon (1) foreign or international counterparts of the U.S. Patents identified in Sophos's Preliminary Invalidity Contentions, (2) U.S. counterparts of foreign or international patents and patent applications identified in Sophos's Preliminary Invalidity Contentions, and (3) U.S., international, and foreign patents and patent applications corresponding to articles and publications identified in Sophos's Preliminary Invalidity Contentions.

The prior art identified below is exemplary; the claimed features are similarly described or disclosed in additional prior art. Thus, Sophos reserves the right to rely on other evidence of the prior art beyond the example references identified, including the prior art identified in Section II.A.

The primary references identified below, and as further described in Exhibits 250-A, 389-A, 045-A, 224-A, 591-A, 844-A, and 721-A, each discloses, either expressly or inherently, every element of the Asserted Claims, thereby anticipating those claims. To the extent Plaintiffs contend that any primary reference does not anticipate the Asserted Claims, it would have been obvious to combine or modify the primary references with concepts from other prior art, as explained herein and in Exhibits 250-B, 389-B, 045-B, 224-B, 591-B, 844-B, and 721-B.

In particular, for each limitation of the Asserted Claims that Plaintiffs contend is not met by a particular primary reference, Sophos contends that the limitation (and claim as a whole) is obvious based on a combination of that particular primary reference with (1) any other primary reference disclosing that limitation, (2) any admitted prior art, as explained in the background of each patent or discussed in the file history, (3) any reference identified in Exhibits 250-B, 389-B, 045-B, 224-B, 591-B, 844-B, and 721-B as disclosing that limitation, and/or (4) the knowledge of a person of ordinary skill in the art and/or any of the references and concepts discussed herein regarding the relevant background and state of the art. The specific combinations of prior art that Sophos contends render the Asserted Claims obvious are readily determinable as described herein, which is the most efficient manner of identifying the combinations in light of the fact that Plaintiffs have asserted 107 claims across 7 patents. Sophos's obviousness grounds for each dependent claim incorporate the obviousness grounds for the claim(s) from which the dependent claim depends in addition to any obviousness grounds identified in the charts for the dependent claim.

Sophos does not yet have the benefit of Plaintiffs' positions on the prior art, including what (if any) elements it contends are missing in each prior art reference, whether Plaintiffs agree that a reference is in fact prior art, and whether Plaintiffs agree that a person of ordinary skill in the art would be motivated to combine specific references. Sophos reserves the right to supplement these obviousness positions (including identifying additional prior art combinations and the associated reasons to combine) as discovery in the case progresses, including expert discovery.

1. U.S. Patent No. 8,418,250

a) Prior Art Patents / Patent Publications

- U.S. Patent No. 7,487,543 to Arnold et al. ("Arnold '543")
- U.S. Patent Pub. No. 2002/0078381 to Farley et al. ("Farley")
- U.S. Patent Pub. No. 2004/0111632 to Halperin ("Halperin")
- U.S. Patent Pub. No. 2004/0039968 to Hatonen et al. ("Hatonen")
- U.S. Patent Pub. No. 2004/0143753 to Hernacki ("Hernacki")
- U.S. Patent Pub. No. 2005/0038818 to Hooks ("Hooks")
- U.S. Patent Pub. No. 2005/0210035 to Kester ("Kester")
- U.S. Patent No. 7,934,103 to Kidron ("Kidron")
- U.S. Patent No. 7,356,843 to Kingsford ("Kingsford")
- U.S. Patent No. 7,694,150 to Kirby ("Kirby")
- U.S. Patent No. 6,973,577 to Kouznetsov ("Kouznetsov")
- U.S. Patent No. 7,152,164 to Loukas ("Loukas")
- U.S. Patent No. 7,900,194 to Mankins ("Mankins")
- U.S. Patent Pub. No. 2005/0132205 to Palliyil ("Palliyil")
- U.S. Patent No. 7,093,239 to van der Made ("van der Made")
- U.S. Patent No. 8,458,797 to Yu et al. ("Yu")

b) Prior Art Publications

- Inoue et al., Anomaly Intrusion Detection in Dynamic Execution Environments, In: Proc. of the 2002 Workshop on New Security Paradigms (NSPW), pp. 52-60 (2002) (“Inoue”)

c) Prior Art Systems

Sophos identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the patent-in-suit. Sophos reserves the right to rely on the below systems themselves as prior art, as well as any of the references describing these systems individually or in any combination, as well as testimony from any inventor or developer of these systems. Sophos will supplement this list as discovery progresses.

- Okena StormWatch
- Aladdin Esafe
- TrendMicro InterScan AppletTrap
- TrendMicro InterScan VirusWall
- Finjan SurfinGate 4.0
- Finjan SurfinGuard Pro
- Finjan SurfinShield
- eSafe Protect Enterprise
- F-Secure Policy Manager

- Tiny Software
- NetShield System
- neuSECURE
- Coretrace
- DIDS
- Endpoint Security
- NetRanger
- PrevX Pro
- Spy Sweeper

d) Prior Invention Under § 102(g)

For any of the prior art that Sophos has identified, Sophos may argue that the authors or inventors of that prior art invented the subject matter claimed in the '250 patent prior to the priority date of the '250 patent. Discovery has not started and Sophos will supplement as discovery progresses.

e) Obviousness and Secondary References

Sophos identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.D:

- U.S. Patent No. 7,996,905 to Arnold et al. (“Arnold ’905”)
- Berk et al., *Designing a Framework for Active Worm Detection on Global Networks* (“Berk”)
- U.S. Patent No. 7,080,000 to Cambridge (“Cambridge”)

- Conry-Murray, *Product Focus: Behavior-Blocking Stops Unknown Malicious Code* (“Conry-Murray”)
- U.S. Patent No. 7,434,261 to Costea et al. (“Costea”)
- Using Management Center for Cisco Security Agents 4.0 User Guide (“CSA”)
- U.S. Patent No. 7,613,930 to Dotan (“Dotan”)
- Forrest et al., *Computer Immunology* (“Forrest 1”)
- Forrest et al., *A Sense of Self for Unix Processes* (“Forrest 2”)
- U.S. Patent No. 7,290,266 to Gladstone et al. (“Gladstone ’266”)
- U.S. Patent No. 7,594,267 to Gladstone et al. (“Gladstone ’267”)
- U.S. Patent No. 7,069,480 to Lovy (“Lovy”)
- Nance, *Server-Based Java Security Products Help Guard Your Enterprise Flank* (“Nance”)
- Okena, *A New Approach To Intrusion Detection: Intrusion Prevention OR StormWatch Intrusion Prevention for Servers and Desktops* (Wayback Machine) (“Okena”)
- R. Rivest, RCF 1321, *The MD5 Message-Digest Algorithm*, April 1992 (“RFC 1321”)
- U.S. Patent No. 7,603,711 to Scheidell (“Scheidell”)
- U.S. Patent No. 8,516,583 to Thomas et al. (“Thomas”)
- U.S. Patent No. 9,104,871 to Tuvell et al. (“Tuvell”)

2. U.S. Patent No. 8,726,389

a) Prior Art Patents / Patent Publications

- U.S. Patent No. 7,487,543 to Arnold et al. (“Arnold ’543”)
- U.S. Patent No. 7,080,000 to Cambridge (“Cambridge”)
- U.S. Patent No. 7,434,261 to Costea et al. (“Costea”)
- U.S. Patent Pub. No. 2002/0078381 to Farley et al. (“Farley”)
- U.S. Patent Pub. No. 2004/0111632 to Halperin (“Halperin”)

- U.S. Patent Pub. No. 2004/0039968 to Hatonen et al. (“Hatonen”)
- U.S. Patent Pub. No. 2004/0143753 to Hernacki (“Hernacki”)
- U.S. Patent Pub. No. 2005/0038818 to Hooks (“Hooks”)
- U.S. Patent Pub. No. 2005/0210035 to Kester (“Kester”)
- U.S. Patent No. 7,934,103 to Kidron (“Kidron”)
- U.S. Patent No. 7,356,843 to Kingsford (“Kingsford”)
- U.S. Patent No. 7,694,150 to Kirby (“Kirby”)
- U.S. Patent No. 6,973,577 to Kouznetsov (“Kouznetsov”)
- U.S. Patent No. 7,152,164 to Loukas (“Loukas”)
- U.S. Patent Pub. No. 2005/0132205 to Palliyil et al. (“Palliyil”)
- U.S. Patent No. 7,603,711 to Scheidell (“Scheidell”)
- U.S. Patent No. 8,516,583 to Thomas et al. (“Thomas”)
- U.S. Patent No. 9,104,871 to Tuvell et al. (“Tuvell”)
- U.S. Patent No. 7,093,239 to van der Made (“van der Made”)

b) Prior Art Publications

- Inoue et al., Anomaly Intrusion Detection in Dynamic Execution Environments, In: Proc. of the 2002 Workshop on New Security Paradigms (NSPW), pp. 52-60 (2002) (“Inoue”)

c) Prior Art Systems

Sophos identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of this patent. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the patent-

in-suit. Sophos reserves the right to rely on the below systems themselves as prior art, as well as any of the references describing these systems individually or in any combination, as well as testimony from any inventor or developer of these systems. Sophos will supplement this list as discovery progresses.

- Okena StormWatch
- Aladdin Esafe
- TrendMicro InterScan AppletTrap
- TrendMicro InterScan VirusWall
- Finjan SurfinGate 4.0
- Finjan SurfinGuard Pro
- Finjan SurfinShield
- eSafe Protect Enterprise
- F-Secure Policy Manager
- Tiny Software
- NetShield System
- neuSECURE
- Coretrace
- DIDS
- Endpoint Security
- NetRanger
- PrevX Pro
- Spy Sweeper

d) Prior Invention Under § 102(g)

For any of the prior art that Sophos has identified, Sophos may argue that the authors or inventors of that prior art invented the subject matter claimed in the '389 patent prior to the priority date of the '389 patent. Discovery is has not started and Sophos will supplement as discovery progresses.

e) Obviousness and Secondary References

Sophos identifies each of the references listed above as primary references that render this patent anticipated, or at least obvious in view of the knowledge of a person of ordinary skill in the art. In addition, these primary references may be combined with each other or with the secondary references listed below to render this patent obvious under 35 U.S.C. § 103. One of ordinary skill in the art would be motivated to combine these references as explained in Section II.D:

- U.S. Patent No. 7,996,905 to Arnold et al. (“Arnold '905”)
- Berk et al., *Designing a Framework for Active Worm Detection on Global Networks* (“Berk”)
- Conry-Murray, *Product Focus: Behavior-Blocking Stops Unknown Malicious Code* (“Conry-Murray”)
- Using Management Center for Cisco Security Agents 4.0 User Guide (“CSA”)
- Dagon et al., *HoneyStat: LocalWorm Detection Using Honeypots* (“Dagon”)
- U.S. Patent No. 7,613,930 to Dotan (“Dotan”)
- Forrest et al., *Computer Immunology* (“Forrest 1”)
- Forrest et al., *A Sense of Self for Unix Processes* (“Forrest 2”)
- U.S. Patent No. 7,290,266 to Gladstone et al. (“Gladstone '266”)
- U.S. Patent No. 7,594,267 to Gladstone et al. (“Gladstone '267”)
- U.S. Patent No. 7,069,480 to Lovy (“Lovy”)
- Nance, *Server-Based Java Security Products Help Guard Your Enterprise Flank* (“Nance”)

7. U.S. Patent No. 9,413,721

Step One. The claims are directed towards an abstract idea, e.g., receiving, analyzing, and storing information. The claims recite receiving, comparing, storing, and providing information. Courts have repeatedly found such claims as directed to an abstract idea. *See, e.g., Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016) (finding as abstract, claims directed to a process of “collecting information, analyzing it, and displaying certain results”); *FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089 (Fed. Cir. 2016) (finding as abstract, claims directed to collecting and analyzing information to detect misuse).

Step Two. The claims recite the abstract idea tied to general purpose hardware. The specification does not purport to rely on new or novel hardware. ’721 patent, 23:26-24:15. Thus, the claims do not contain an inventive concept as they simply recite the abstract idea. “[A] claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention significantly more than that ineligible concept.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018); *see also Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019) (“The abstract idea itself cannot supply the inventive concept, no matter how groundbreaking the advance.”).

V. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to the Parties’ Proposed Scheduling Order, Defendant has produced all prior art referenced in its Preliminary Invalidity Contentions. *See* documents with the prefix “SOPHOS-PA-” produced herewith. Defendant will promptly produce any documents uncovered during discovery, including through third-party subpoenas.

Dated: September 13, 2022

Respectfully submitted,

/s/ J. Stephen Ravel

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Certificate of Service

I hereby certify that on September 13, 2022, the foregoing document has been served by electronic mail on all counsel of record.

/s/ Jason Perlman
Jason Perlman

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