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

WEBROOT, INC. and OPEN TEXT, INC., **Plaintiffs,** **v.** **CROWDSTRIKE, INC., and CROWDSTRIKE HOLDINGS, INC.,** **Defendants.**	**Case No. 6:22-cv-00241-ADA-DTG** **JURY TRIAL DEMANDED**
CROWDSTRIKE, INC., **Counterclaim-Plaintiff,** **v.** **WEBROOT, INC. and OPEN TEXT, INC.,** **Counterclaim-Defendants.**	

CROWDSTRIKE'S PRELIMINARY INVALIDITY CONTENTIONS

I. INTRODUCTION

Defendants CrowdStrike, Inc. and CrowdStrike Holdings, Inc. (collectively, "CrowdStrike") provide these Preliminary Invalidity Contentions to Plaintiffs Webroot, Inc. and Open Text, Inc. (collectively "Plaintiffs") for the following patents (collectively, "Asserted Patents" or "Patents-in-Suit") and claims (collectively, "Asserted Claims") identified as asserted in Plaintiffs' Disclosure of Preliminary Infringement Contentions served on July 12, 2022 ("Infringement Contentions"):

IPR2023-00657
Open Text Inc. EX-2019

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- U.S. Patent No. 8,418,250 ("the '250 Patent"), claims 1–30 ("the '250 Asserted Claims");
- U.S. Patent No. 8,726,389 ("the '389 Patent"), claims 1–14 and 30 ("the '389 Asserted Claims");
- U.S. Patent No. 9,578,045 ("the '045 Patent"), claims 1–4 and 7 ("the '045 Asserted Claims");
- U.S. Patent No. 10,257,224 ("the '224 Patent"), claims 1–4, 7, 8, 10–13, 16, and 17 ("the '224 Asserted Claims");
- U.S. Patent No. 10,284,591 ("the '591 Patent"), claims 1, 3, 4, 9, 11, 12, and 17 ("the '591 Asserted Claims"); and
- U.S. Patent No. 10,599,844 ("the '844 Patent"), claims 1–20 ("the '844 Asserted Claims").

CrowdStrike addresses the invalidity of the Asserted Claims and concludes with a description of its document production and identification of additional reservations and explanations.

II. PRIORITY DATE OF THE ASSERTED PATENTS AND CLAIMS

In their Infringement Contentions, Plaintiffs assert that the Asserted Patents are entitled to the following priority dates:

- '250 Patent: June 30, 2005;
- '389 Patent: June 30, 2005;
- '045 Patent: May 3, 2013;
- '224 Patent: May 3, 2013;
- '591 Patent: January 27, 2014;
- '844 Patent: May 12, 2015.

It is Plaintiffs' burden to show entitlement to the asserted priority dates, and CrowdStrike asserts that Plaintiffs have failed to meet that burden. For example, Plaintiffs have failed to show that any of the Asserted Claims are entitled to a priority date earlier than the filing of the

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applications that issued as the Asserted Patents. Plaintiffs have therefore not demonstrated that the Asserted Patents are entitled to the dates of the provisional applications. Nevertheless, CrowdStrike has focused on prior art that predates the priority dates alleged by Plaintiffs. CrowdStrike reserves the right to amend its invalidity contentions with additional prior art and/or with additional invalidity charts if Plaintiffs change their position and allege earlier or later priority dates, or if Plaintiffs do not meet their burden to prove the priority dates they assert. In addition, Plaintiffs have not provided any assertion or evidence that any Asserted Patent or Asserted Claim is entitled to a date of conception earlier than the claimed priority dates listed above. CrowdStrike therefore also reserves its right to amend its Invalidity Contentions if Plaintiffs are permitted to allege earlier dates of conception for the Asserted Patents.

III. PRIOR ART REFERENCES

CrowdStrike identifies the following prior art now known to CrowdStrike to anticipate the Asserted Claims under at least 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA, and/or to render the Asserted Claims obvious under 35 U.S.C. § 103, either alone or in combination. These prior art references also evidence the level of skill in the art and provide background information regarding the knowledge of a person of skill in the art. CrowdStrike reserves the right to rely on these references to that end.

CrowdStrike additionally incorporates by reference all prior art references cited on the face of the Asserted Patents, related patents, and all foreign counterparts. CrowdStrike further incorporates by reference all prior art references identified in the file histories of the same. CrowdStrike reserves the right to rely upon foreign counterparts of the U.S. Patents identified in these invalidity contentions, U.S. counterparts of foreign patents and foreign patent applications identified in these invalidity contentions, U.S. and foreign patents and patent applications corresponding to articles and publications identified in these invalidity contentions, and any

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systems, products, or prior inventions related to any references identified in these invalidity contentions.

In these invalidity contentions, including the exhibits, any citation to a printed publication or other reference describing a prior art system should also be construed to reference to the prior art system itself. Any citation to a prior art system should also be construed to reference all printed publications or other references describing that system.

CrowdStrike has identified systems and products that anticipate and/or render obvious the Asserted Claims. Many of the systems are associated with patents, patent publications, and other written references identified below, and many of the patent references identified below are currently and/or were originally assigned to companies that build products to detect malware, including but not limited to CrowdStrike, Cisco, CounterTack, HP, IBM, HP, McAfee, Microsoft, Forcepoint, Kaspersky, Sophos, and Trend Micro. CrowdStrike has endeavored to use publicly-available materials to explain how these prior art products anticipate and/or render obvious the Asserted Claims. However, discovery in this case has not yet opened, and so CrowdStrike has not had the opportunity to conduct third-party discovery from these (and other) sources. CrowdStrike reserves the right to conduct such discovery and supplement its invalidity contentions to include any additional prior art systems and products that render the Asserted Claims invalid, and to provide additional detail on how these systems and products render the Asserted Claims invalid. CrowdStrike may use physical samples, executable software, source code, testimony, and/or other sources as evidence of the relevant functionality of these prior art systems.

[redacted]

A. Prior Art Patents, Publications, and Systems

1. '250 and '389 Patents

System or Publication	Date of Filing or Publication	Effective Filing Date
Anderson, Computer Security Threat Monitoring and Surveillance	4/15/1980	
Anderson, Detecting Unusual Program Behavior Using the Statistical Component of the Next Generation Intrusion Detection Expert System (NIDES)	May-95	
AU2001262958 (Farley).pdf	4/27/2001	
Cloudmark SpamNet	6/24/1905	
CPM_Explorer_Admin-2.pdf	9/19/2005	
CPMAdminGuide.pdf	5/2/2005	
Denning, An Intrusion-Detection Model	1986	
Hedberg, Combating computer viruses.pdf	Summer 1996	
Inoue, Anomaly Intrusion.pdf	September 23-26, 2002	
Javitz, The NIDES Statistical Component	3/7/1994	
Rivest, rfc1321 MD5 Hashing Algorithm.pdf	April 1992	
Shieh, A Pattern-Orientated Intrusion-Detection Model and its Applications	1991	
Shieh, On a Pattern-Oriented Model for Intrusion Detection	Aug-97	
US20020078381A1 (Farley, IBM).pdf	4/27/2001	4/27/2000
US20020147923A1 (Dotan).pdf	1/4/2002	1/19/2001
US20030046582 (Black)	8/30/2001	
US20030172166A1 (Judge).pdf	3/8/2002	
US20040039968A1 (Hatonen, Nokia).pdf	6/6/2001	9/11/2000

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System or Publication	Date of Filing or Publication	Effective Filing Date
US20040111632A1 (Halperin).pdf	5/5/2003	5/6/2002
US20040123145A1 (Baffes, IBM).pdf	12/19/2002	
US20040143753A1 (Hernacki, Symantec)	1/21/2003	
US20040153644A1 (McCorkendale, Symantec Digital Immune System)	2/5/2003	
US20050038818A1 (Hooks, IBM)	8/11/2004	8/11/2003
US20050132205A1 (Palliyil, IBM)	12/12/2003	
US20050210035A1 (Kester).pdf	5/19/2005	
US20060101520A1 (Schumaker).pdf	11/7/2005	11/5/2004
US20060230289A1 (Fox, IBM).pdf	3/29/2005	
US20060293777A1 (Breitgand, IBM).pdf	6/7/2005	
US20070294768A1 (Moskovitch).pdf	1/29/2007	1/31/2006
US5440723 (Arnold, IBM).pdf	1/19/1993	
US6195587 (Hruska, Sophos)	4/28/1994	10/29/1993
US6842861 (Cox, Network Associates).pdf	3/24/2000	
US6880110 (Largman, Self Reporting Computers).pdf	5/21/2001	5/19/2000
US6973577B1 (Kouznetsov, McAfee)	5/26/2000	
US7069480 (Lovy).pdf	8/17/2004	3/28/2001
US7080000 (Cambridge, McAfee).pdf	7/23/2001	3/30/2001
US7089428 (Farley, ISS).pdf	4/27/2001	4/28/2000
US7093239 (van der Made, ISS).pdf	8/18/2000	7/17/2000
US7152164 (Loukas).pdf	11/26/2001	12/6/2000

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System or Publication	Date of Filing or Publication	Effective Filing Date
US7225343 (Honig).pdf	1/27/2003	1/25/2002
US7263616B1 (Brackett).pdf	9/22/2000	
US7356843 (Kingsford, Symantec).pdf	10/1/2003	
US7424609 (Kwan, Computer Associates Think)	7/9/2004	7/11/2003
US7434261 (Costea, Microsoft)	9/27/2004	
US7509680 (Sallam, Symantec)	9/1/2004	
US7565550 (Liang, Trend Micro)	10/9/2003	8/29/2003
US7594272 (Kennedy, Symantec)	10/5/2004	
US7603711 (Scheidell, Secnap)	10/30/2003	
US7627898 (Beck, Microsoft).pdf	11/23/2004	7/23/2004
US7634806 (Zinda, Microsoft)	5/30/2002	
US7694150 (Kirby, Cisco).pdf	6/22/2004	
US7865956 (Cambridge, McAfee).pdf	6/10/2005	3/30/2001
US7900194B1 (Mankins).pdf	3/23/2005	3/25/2004
US7913303 (Rouland, IBM)	3/27/2003	1/21/2003
US7934103 (Kidron, Computer Associates Think)	4/15/2003	4/17/2002
US7979889 (Gladstone, Cisco)	1/7/2005	
US8458797 (Yu, Trend Micro)	3/25/2004	
US8516583 (Thomas, Microsoft).pdf	3/31/2005	
US9104871 (Tuvell, Juniper).pdf	4/6/2007	4/6/2006
WO2005114949A1 (Gassoway).pdf	4/19/2004	

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2. '045 and '224 Patents

System or Publication	Date of Filing or Publication	Effective Filing Date
Anderson, Computer Security Threat Monitoring and Surveillance	4/15/1980	
Anderson, Detecting Unusual Program Behavior Using the Statistical Component of the Next Generation Intrusion Detection Expert System (NIDES)	May-95	
CounterTack Scout.pdf	3/10/2013	
Denning, An Intrusion-Detection Model	1986	
Goel, Forensix - A Robust, High-Performance Reconstruction System.pdf		
Goel, The Taser Intrusion Recovery System.pdf	October 23–26, 2005	
Hedberg, "Combating computer viruses: BM's new computer immune system"	Summer 1996	
HP ArcSight	August 2011	
King, Backtracking Intrusions.pdf (BackTracker)	February 2005	
Nerve Center	Nov. 2006	
Trend Micro Control Manager and Threat Management System	2012	
US20020078381A1 (Farley, IBM).pdf	4/27/2001	4/27/2000
US20020147923A1 (Dotan).pdf	1/4/2002	1/19/2001
US20020178374A1 (Swimmer).pdf	5/25/2001	
US20030046582 (Black)	8/30/2001	
US20040034800A1 (Singhal).pdf	8/8/2003	8/9/2002
US20040123145A1 (Baffes).pdf	12/19/2002	

[redacted]

System or Publication	Date of Filing or Publication	Effective Filing Date
US20040143753A1 (Hernacki).pdf	1/21/2003	
US20040153644A1 (McCorkendale).pdf	2/5/2003	
US20040205419A1 (Liang)	4/10/2003	
US20040255160A1 (Stamos).pdf	11/18/2003	1/23/2003
US20050044406A1 (Stute).pdf	3/28/2003	3/29/2002
US20050251860A1 (Saurabh).pdf	5/4/2004	
US20060070128A1 (Heimerdinger).pdf	12/20/2004	12/18/2003
US20060224930A1 (Bantz).pdf	3/31/2005	
US20060265746A1 (Farley).pdf	5/11/2006	4/27/2001
US20070016953A1 (Morris)	6/30/2006	6/30/2005
US20070150957A1 (Hartrell).pdf	12/28/2005	
US20080133812A1 (Kaiser).pdf	11/30/2006	
US20080184058A1 (McDermott).pdf	1/26/2007	
US20080229419A1 (Holostov).pdf	3/16/2007	
US20080263197A1 (Stephens).pdf	4/23/2007	
US20090044024A1 (Oberheide).pdf	8/5/2008	8/6/2007
US20090328210A1 (Khachaturov).pdf	6/30/2008	
US20100077481A1 (Polyakov).pdf	9/22/2008	
US20110083180A1 (Mashevsky).pdf	12/23/2009	10/1/2009
US20110173699A1 (Figlin).pdf	1/13/2010	
US20110321166A1 (Capalik).pdf	6/17/2011	6/24/2010

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System or Publication	Date of Filing or Publication	Effective Filing Date
US20130055339A1 (Apostolescu).pdf	8/29/2011	
US20130055399A1 (Zaitsev).pdf	8/29/2011	
US20130247190A1 (Spurlock).pdf	7/22/2008	
US5440723 (Arnold, IBM).pdf	1/19/1993	
US7080000 (Cambridge, McAfee).pdf	7/23/2001	3/30/2001
US7225343 (Honig).pdf	1/27/2003	1/25/2002
US7287278 (Liang, Trend Micro)	10/9/2003	8/29/2003
US7352280B1 (Rockwood).pdf	9/1/2005	
US7356843B1 (Kingsford, Symantec)	10/1/2003	
US7624448 (Coffman).pdf	3/4/2006	
US7739739 (Dettinger, Trend Micro)	7/9/2008	10/10/2002
US7913303 (Rouland, IBM)	3/27/2003	1/21/2003
US7979889 (Gladstone, Cisco)	1/7/2005	
US7996374B1 (Jones, Symantec)	3/28/2008	
US8042186B1 (Polyakov, Kaspersky)	4/28/2011	
US8056136B1 (Zaitsev, Kaspersky)	3/29/2011	11/1/2010
US8176527B1 (Njemanze, HP)	12/2/2002	
US8225407B1 (Thrower, Symantec)	8/21/2003	
US8239668 (Chen, Trend Micro).pdf	4/15/2009	
US8429746 (Capalik, CounterTack)	6/17/2006	5/22/2006
US8443449 (Fan, Trend Micro)	11/9/2009	

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System or Publication	Date of Filing or Publication	Effective Filing Date
US8656493 (Capalik, CounterTack)	2/5/2013	5/22/2006
US8661062B1 (Jamail, EMC)	9/28/2011	
US8789189 (Capalik, CounterTack)	6/17/2011	6/24/2010
US8839422 (Ghosh).pdf	6/30/2010	6/30/2009
US9043903 (Diehl, CrowdStrike)	6/8/2012	
US9117075 (Yeh, Trend Micro).pdf	11/22/2010	
US9292881 (Krasser, CrowdStrike)	6/29/2012	
US9866584 (Capalik, CounterTack)	11/14/2014	5/22/2006
US9954872 (Capalik, CounterTack)	8/11/2015	6/24/2010
Xie, A Spatiotemporal Event Correlation Approach to Computer Security.pdf	August 2005	

3. '591 Patent

System or Publication	Date of Filing or Publication	Effective Filing Date
Abou-Assaleh, N-gram-based Detection of New Malicious Code.pdf	2004	
Arnold, Automatically Generated Win32 Heuristic Virus Detection.pdf	September 2000	
Aswini, Towards the Detection of Android Malware using Ensemble Features.pdf	January 2014	
Baldangombo, A Static Malware Detection System Using Data Mining Methods.pdf	2013	
Cortes, Support-Vector Networks (1995).pdf	1995	
Demertzis, Evolving Computation Intelligence for Malware Detection.pdf	2014	
EP2182458A1 (Moskovitch).pdf	01/10/2009	
Firdausi, Analysis of Machine learning Techniques Used in Behavior-Based Malware Detection.pdf	2010	

[redacted]

System or Publication	Date of Filing or Publication	Effective Filing Date
Idres, Classification of malware_based on integrated static and dynamic features.pdf	2012	
Islam, Classification of Malware Based on String and Function Feature Selection.pdf	2010	
JP2012027710A (Mori).pdf	2/9/12	
Lai, A Feature Selection for Malicious Detection.pdf	2008	
Leder, Classification and Detection of Metamorphic Malware Using Value Set Analysis.pdf	2009	
Liangboonprakong, Classification of malware families.pdf	June 19-21, 2013	
Markel, Building a Machine Learning Classifier for Malware Detection	10/23/2014	
Masud, Data Mining Tools for Malware Detection.pdf	2011	
Menahem, Improving Malware Detection by Applying Multi-Inducer Ensemble_Science Direct.pdf	2009	
Raman, Selecting Features to Classify Malware.pdf	2012	
Tahan, Mal-ID Automatic malware detection using common segment analysis and meta-features.pdf	2012	
Tian, An Integrated Malware Detection and Classification System.pdf	August 2011	
US10268820 (Okano, NTT)	6/8/2015	6/11/2014
US10666676 (Hsu, Trend Micro)	8/18/2014	
US20030065926A1 (Matthew).pdf	7/30/2002	7/30/2001
US20030065926A1 (Schultz).pdf	7/30/2002	7/30/2001
US20040123145A1 (Baffes, IBM)	12/19/2002	
US20060026675A1 (Cai).pdf	7/28/2004	
US20060037080A1 (Maloof).pdf	8/12/2005	8/13/2004

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System or Publication	Date of Filing or Publication	Effective Filing Date
US20070240220A1 (Tuvell).pdf	4/6/2007	4/6/2006
US20090254992A1 (Schultz).pdf	12/18/2008	7/30/2001
US20100150448A1 (Lecerf).pdf	12/17/2008	
US20110145920A1 (Mahaffey, Lookout)	2/23/2011	8/25/2010
US20130198841A1 (Poulson, Cisco)	1/30/2012	
US20140090061A1 Avasarala.pdf	9/26/2013	9/26/2012
US20140090064A1 (Pistoia, IBM)	9/25/2012	
US20150096024A1 (Haq, FireEye)	9/30/2013	
US20150213376A1 (Ideses).pdf	1/29/2015	1/30/2014
US20160277423A1 (Apostolescu, ThreatTrack Security)	9/26/2013	9/26/2012
US20170098074A (Okano, NTT)	6/8/2015	6/11/2014
US7225343 (Honig).pdf	1/27/2003	1/25/2002
US7689531 (Diao, Trend Micro)	9/28/2005	
US7711673 (Diao, Trend Micro)	9/28/2005	
US7756535 (Diao, Trend Micro)	7/7/2006	
US7949771 (Chen, Trend Micro)	9/5/2007	
US8023974B1 (Diao, Trend Micro)	2/15/2007	
US8161548B1 (Wan, Trend Micro)	8/15/2005	
US8375450 (Oliver, Trend Micro)	10/5/2009	
US8495144 (Cheng, Trend Micro)	10/6/2004	
US8505094 (Xuewen, Trend Micro)	1/13/2010	

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System or Publication	Date of Filing or Publication	Effective Filing Date
US8554907 (Chen, Trend Micro)	2/15/2011	
US8560466 (Diao, Trend Micro)	2/26/2010	
US8584241 (Jenks).pdf	8/11/2010	
US8838992 (Zhu, Trend Micro)	4/28/2011	
US8850570B1 (Ramzan, Symantec)	6/30/2008	
US8935788 (Diao, Trend Micro)	10/15/2008	
US9189750B1 (Narsky).pdf	3/15/2013	
US9940459 (Saxe).pdf	5/19/2015	5/19/2014
WO2014107439A2 (Fawaz).pdf	12/30/2013	1/2/2013

4. '844 Patent

System or Publication	Date of Filing or Publication	Effective Filing Date
Abou-Assaleh, N-gram-based Detection of New Malicious Code	2004	
Arnold, Automatically Generated Win32 Heuristic Virus Detection	September 2000	
Aswini, Towards the Detection of Android Malware using Ensemble Features	January 2014	
Baldangombo, A Static Malware Detection System Using Data Mining Methods	2013	
Cortes, "Support-Vector Networks," Machine Learning 20, 273-197 (1995)	1995	
Demertzis, Evolving Computation Intelligence for Malware Detection	2014	
EP2182458A1 (Moskovitch)	01/10/2009	
Firdausi, Analysis of Machine learning Techniques Used in Behavior-Based Malware Detection	2010	
Idres, Classification of malware based on integrated static and dynamic features	2012	

[redacted]

System or Publication	Date of Filing or Publication	Effective Filing Date
Islam, Classification of Malware Based on String and Function Feature Selection	2010	
JP2012027710A (Mori)	2/9/12	
Lai, A Feature Selection for Malicious Detection	2008	
Leder, Classification and Detection of Metamorphic Malware Using Value Set Analysis	2009	
Liangboonprakong, Classification of malware families	June 19-21, 2013	
Markel, Building a Machine Learning Classifier for Malware Detection	10/23/2014	
Masud, Data Mining Tools for Malware Detection	2011	
Menahem, Improving Malware Detection by Applying Multi-Inducer Ensemble_Science Direct	2009	
Raman, Selecting Features to Classify Malware	2012	
Tahan, Mal-ID Automatic malware detection using common segment analysis and meta-features	2012	
Tian, An Integrated Malware Detection and Classification System	August 2011	
US10268820 (Okano, NTT)	6/8/2015	6/11/2014
US10666676 (Hsu, Trend Micro)	8/18/2014	
US20030065926A1 (Matthew)	7/30/2002	7/30/2001
US20030065926A1 (Schultz)	7/30/2002	7/30/2001
US20040123145A1 (Baffes, IBM)	12/19/2002	
US20060026675A1 (Cai)	7/28/2004	N/A
US20060037080A1 (Maloof)	8/12/2005	8/13/2004
US20070240220A1 (Tuvell)	4/6/2007	4/6/2006

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System or Publication	Date of Filing or Publication	Effective Filing Date
US20090254992A1 (Schultz)	12/18/2008	7/30/2001
US20100150448A1 (Lecerf)	12/17/2008	N/A
US20110145920A1 (Mahaffey, Lookout)	2/23/2011	8/25/2010
US20130198841A1 (Poulson, Cisco)	1/30/2012	N/A
US20140090061A1 Avasarala	9/26/2013	9/26/2012
US20140090064A1 (Pistoia, IBM)	9/25/2012	N/A
US20150096024A1 (Haq, FireEye)	9/30/2013	N/A
US20150213376A1 (Ideses)	1/29/2015	1/30/2014
US20160277423A1 (Apostolescu, ThreatTrack Security)	9/26/2013	9/26/2012
US20170098074A (Okano, NTT)	6/8/2015	6/11/2014
US7225343 (Honig)	1/27/2003	1/25/2002
US7689531 (Diao, Trend Micro)	9/28/2005	
US7711673 (Diao, Trend Micro)	9/28/2005	
US7756535 (Diao, Trend Micro)	7/7/2006	
US7949771 (Chen, Trend Micro)	9/5/2007	
US8023974B1 (Diao, Trend Micro)	2/15/2007	N/A
US8161548B1 (Wan, Trend Micro)	8/15/2005	N/A
US8375450 (Oliver, Trend Micro)	10/5/2009	
US8495144 (Cheng, Trend Micro)	10/6/2004	
US8505094 (Xuewen, Trend Micro)	1/13/2010	
US8554907 (Chen, Trend Micro)	2/15/2011	

[redacted]

System or Publication	Date of Filing or Publication	Effective Filing Date
US8560466 (Diao, Trend Micro)	2/26/2010	
US8584241 (Jenks)	8/11/2010	N/A
US8838992 (Zhu, Trend Micro)	4/28/2011	
US8850570B1 (Ramzan, Symantec)	6/30/2008	
US8935788 (Diao, Trend Micro)	10/15/2008	
US9189750B1 (Narsky)	3/15/2013	N/A
US9940459 (Saxe)	5/19/2015	5/19/2014
WO2014107439A2 (Fawaz)	12/30/2013	1/2/2013

CrowdStrike's investigation into prior art patents, publications, and systems is ongoing, and CrowdStrike reserves the right to identify and rely on additional patents, publications, or systems that CrowdStrike identifies through further investigation or discovery (which has not yet begun). CrowdStrike reserves the right to rely on prior art patents, publications, and systems identified by other defendants or third parties in other actions related to the Asserted Patents including prior art identified by Forcepoint LLC, Trend Micro, Inc., Sophos Ltd., and AO Kaspersky Lab.

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

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 250-A and 250-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the '250 Patent.

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 389-A and 389-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the '389 Patent.

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 045-A and 045-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the ’045 Patent.

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 224-A and 224-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the ’224 Patent.

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 591-A and 591-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the ’591 Patent.

At this time, CrowdStrike contends that at least each of the prior art references described and charted in Exhibits labeled 844-A and 844-B anticipates or renders obvious, either alone or in combination, one or more of the asserted claims of the ’844 Patent.

Additional prior art that has not been charted, but is still relevant to the invalidity of the Asserted Patents, including and without limitation as evidence of the state of the art at the alleged time of invention, has been included in CrowdStrike’s production of prior art. CrowdStrike reserves the right to amend these invalidity contentions to assert these references depending on the claim construction and infringement positions Plaintiffs may take as the case proceeds as well as CrowdStrike’s ongoing investigation. Moreover, CrowdStrike reserves the right to use these references in combination with other references to render the claims of the Assert Patents obvious in the event Plaintiffs take the position that certain claim limitations are missing from the references presented in CrowdStrike’s invalidity charts. CrowdStrike also reserves the right to rely on admitted prior art from the Asserted Patents in establishing obviousness of claims of those patents.

[redacted]

A. Anticipation Under 35 U.S.C. §102

CrowdStrike contends that the Asserted Claims of the Asserted Patents are invalid as anticipated under 35 U.S.C. § 102 in view of each of the prior art references in the "A" Exhibits, which identify specific examples of where each limitation of the Asserted Claims is found in the prior art references. The cited portions of prior art references identified in the claim charts are exemplary only and representative of the content and teaching of the prior art references, and should be understood in the context of the reference as a whole and as they would be understood by a person of ordinary skill in the art.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an Asserted Claims of the Asserted Patents, CrowdStrike reserves the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent to the art, or obvious to a person of ordinary skill in the art, even if CrowdStrike has not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

B. Obviousness Under 35 U.S.C. §103

As detailed further below, it would have been obvious to a person of skill in the art at the time of the alleged invention of the Asserted Claims of the Asserted Patents to combine the various references cited herein so as to disclose the asserted claims of the Asserted Patents. Each anticipatory prior art reference disclosed in the preceding section, either alone or in combination with other prior art, also renders the Asserted Claims of the Asserted Patents invalid as obvious, as demonstrated in the claim charts appended as the "B" Exhibits. To the extent any limitation is deemed absent from the prior art listed above and in the "A" and "B" Exhibits, these limitations would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art under 35 U.S.C. § 103.

[redacted]

The references identified above render one or more asserted claims of the Asserted Claims obvious when the references are read in combination with each other, and/or when read in view of the state of the art and knowledge of those skilled in the art. The references are also relevant to the state of the art at the time of the alleged invention. CrowdStrike may rely upon a subset of the above identified references or all of the references identified above, for purposes of obviousness depending on the Court's claim construction, positions taken by Plaintiffs during this litigation, and further investigation and discovery.

CrowdStrike intends to present expert evidence as well as intrinsic evidence demonstrating the motivation to combine the relied upon prior art references. This evidence will be presented in CrowdStrike's expert reports in accordance with the procedural deadlines in this case. CrowdStrike incorporates by reference its forthcoming expert reports and any testimony of its experts presented according to the Court's schedule. The motivation to combine or modify the above prior art is present, for example, in the references themselves, references cited on the face of the Patents-in-Suit, the knowledge, skill, or creativity of one of ordinary skill in the art, the prior art as a whole, and/or the nature of the problems allegedly addressed by the Patents-in-Suit.

To a person of ordinary skill in the art, the Asserted Claims represent solutions that would have been obvious to try, with predictable results. *See, e.g., KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1739–40 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). A person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases, a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id*. at 1742.

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A person of ordinary skill would have combined or modified the listed references using known methods to yield predictable results, common sense, known techniques in the same way, a simple substitution of one known, equivalent element for another to obtain predictable results, and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references above includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace, the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims, the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s), and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art. CrowdStrike may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by CrowdStrike address the same technical issues and suggest very similar solutions to those issues discussed in the Patents-in-Suit and generally known at the time of the alleged invention(s) claimed in the Asserted Claims. CrowdStrike reserves the right to supplement these Invalidity Contentions

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with additional charts for any of the references listed above, and/or common knowledge and state of the art.

1. Obviousness of ’250 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 250-A and 250-B, which include exemplary claim charts for the Asserted Claims of the ’250 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 250-A and/or 250-B are either directly related to or specifically address techniques for protecting computers and computer networks, including techniques for detecting malware on end-point computers in a computer system. A person of ordinary skill using common sense would have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 250-B and incorporates by reference the analysis therein.

2. Obviousness of ’389 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 389-A and 389-B, which include exemplary

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claim charts for the Asserted Claims of the ’389 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 389-A and/or 389-B are either directly related to or specifically address techniques for protecting computers and computer networks, including techniques for detecting malware on end-point computers in a computer system. A person of ordinary skill using common sense would have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 389-B and incorporates by reference the analysis therein.

3. Obviousness of ’045 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 045-A and 045-B, which include exemplary claim charts for the Asserted Claims of the ’045 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 045-A and/or 045-B are either directly related to or specifically address techniques for gathering and analyzing events that occur on a computer

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or computer system, including events that could be indicative of malware or other harmful objects computers and computer networks, and techniques for detecting and reporting malware on end-point computers in a computer system. A person of ordinary skill using common sense would have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 045-B and incorporates by reference the analysis therein.

4. Obviousness of ’224 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 224-A and 224-B, which include exemplary claim charts for the Asserted Claims of the ’224 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 224-A and/or 224-B are either directly related to or specifically address techniques for gathering and analyzing events that occur on a computer or computer system, including events that could be indicative of malware or other harmful objects in computers and computer networks, and techniques for detecting and reporting malware on end-point computers in a computer system. A person of ordinary skill using common sense would

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have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 224-B and incorporates by reference the analysis therein.

5. Obviousness of ’591 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 591-A and 591-B, which include exemplary claim charts for the Asserted Claims of the ’591 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 591-A and/or 591-B are either directly related to or specifically address techniques for detecting anomalies in processes running on a computer or computer system. A person of ordinary skill using common sense would have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified,

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predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 591-B and incorporates by reference the analysis therein.

6. Obviousness of ’844 Patent

Prior Art references rendering the Asserted Claims obvious, alone or in combination with other references, are included in Exhibits labeled 844-A and 844-B, which include exemplary claim charts for the Asserted Claims of the ’844 Patent showing where in each reference or combinations of references each Asserted Claim may be found, and an explanation of why the prior art renders the Asserted Claim obvious.

The prior art references identified in Exhibits 844-A and/or 844-B are either directly related to or specifically address techniques for gathering data, such as data about a computer object, and analyzing and classifying the gathered data using techniques such as machine learning. A person of ordinary skill using common sense would have deemed it obvious to combine these teachings because they are in the same field, and based on the nature of the problem to be solved. A person of ordinary skill would have also found it obvious to make such a predictable combination of prior art elements according to known methods as a result of applying known techniques to yield predictable results. Moreover, combining the teachings of the prior art would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. CrowdStrike further identifies why each limitation would have been obvious to a person of ordinary skill at the time of the alleged invention in Exhibit 844-B and incorporates by reference the analysis therein.

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V. INVALIDITY UNDER 35 U.S.C. § 112

Pursuant to the Order Governing Proceedings, CrowdStrike identifies below grounds of invalidity under 35 U.S.C. § 112.

A. Legal Background Regarding The Indefiniteness, Enablement, And Written Description Requirements

35 U.S.C. § 112 includes an enablement requirement: "The specification shall contain a written description . . . of the manner and process of making and using [the invention] in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." 35 U.S.C. § 112, ¶ 1. To satisfy the enablement requirement, the disclosure "must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997); *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). If a specification teaches away from a substantial portion of the claim or does not enable the full scope of the claim, there is no enablement. *AK Steel Corp. v. Sollac*, 344 F.3d 1234 (Fed. Cir. 2003); *see also MagSil Corp.*, 687 F.3d at 1383–84 (Fed. Cir. 2012).

35 U.S.C. § 112 further includes a written description requirement: "The specification shall contain a written description of the invention . . . . " 35 U.S.C. § 112, ¶ 1. "To satisfy the written description requirement, a patent applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." *ICU Medical Inc. v. Alaris Medical Systems, Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009) (internal quotation marks and citations omitted); *see also Synthes USA, LLC v. Spinal Kinetics, Inc.*, 734 F.3d 1332, 1340 (Fed. Cir. 2013). "The test [for written description support] requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill

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in the art. Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed." *Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

Section 112 also contains a "definiteness" requirement: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or joint inventor regards as the invention." 35 U.S.C. § 112, ¶ 2. Construing this provision, the Supreme Court has ruled that "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

B. Invalidity Grounds Under 35 U.S.C. § 112

Based on Plaintiffs' Infringement Contentions, and subject to the Preliminary Statement and Reservation of Rights set forth in these Contentions, CrowdStrike identifies grounds upon which it contends that the Asserted Claims are invalid for failure to meet the requirements of 35 U.S.C. §§ 112 ¶¶ 1, 2 and/or 4. Although its investigation continues, CrowdStrike believes that the Asserted Claims identified below are invalid for failure to comply with 35 U.S.C. § 112 for at least the following reasons: (1) the specifications of the Patents-in-Suit lack a written description of the alleged inventions of the Asserted Claims in full, clear, concise, and exact terms as required by 35 U.S.C. § 112 ¶ 1; and/or (2) the specifications of the Patents-in-Suit do not enable the Asserted Claims as required by 35 U.S.C. § 112 ¶ 1; and/or (3) one or more of the Asserted Claims fail to specify a further limitation of the subject matter claimed. CrowdStrike specifically reserves the right to amend and/or supplement these Invalidity Contentions based on a failure to comply with the requirements of 35 U.S.C. § 112, including, for example, based on supplementation or amendments to Plaintiffs' deficient Infringement Contentions.

[redacted]

The Asserted Claims fail to meet the written description requirement because the alleged inventions claimed therein are not sufficiently described in the specification of the Patents-in-Suit. Specifically, the Asserted Claims fail to meet the written description requirement for at least the terms identified below because, based on those terms, the specifications of the Patents-in-Suit do not adequately convey to those skilled in the art that the inventors had possession of the claimed subject matter as of the filing date. The Asserted Claims additionally fail to meet the enablement requirement because each specification of the Patents-in-Suit does not describe the manner and process of making and using the alleged inventions in the Asserted Claims to enable a person of skill in the art to make and use the full scope of the alleged invention without undue experimentation. Specifically, the Asserted Claims fail to meet the enablement requirement for at least the terms identified below because the specifications of the Patents-in-Suit do not describe the manner and process of making and using the alleged invention in the Asserted Claims. Based on CrowdStrike's present understanding of the Asserted Claims and Plaintiffs' apparent interpretation of these claims as reflected in its Infringement Contentions, the Asserted Claims may fail to satisfy the requirements of § 112, ¶ 2 because the precise scope of at least the phrases listed below (or terms contained therein) cannot be determined with reasonable certainty by a POSITA when reading the claims in light of the specification and prosecution history.

The Asserted Claims fail the requirements of 35 U.S.C. § 112 in view of at least the following claim terms and phrases. Where an independent claim is identified below, all dependent claims that depend from that independent claim suffer from the same failed requirement(s):

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
'250	1	"when the determining does not indicate that the computer object is malware,	Lack of Written Description, Lack of Enablement

[redacted]

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
		initially classifying the computer object as not malware"	
'250	1, 5, 13, 17	"similar objects"	Lack of Written Description, Lack of Enablement, Indefinite
'250	1, 13, 25	"information about the behaviour of the object"	Lack of Written Description, Lack of Enablement, Indefinite
'250	1, 13, 25	"automatically generating a mask" / "automatically generate a mask"	Lack of Written Description, Lack of Enablement, Indefinite
'250	1, 13, 25	"normal behaviour of the object"	Lack of Written Description, Lack of Enablement, Indefinite
'250	13	Entire claim	Indefinite
'250	3, 15	"relationships between the object and other objects"	Indefinite
'250	4, 16	"one other object to which said object is related"	Indefinite
'250	6, 18	"process-related objects"	Indefinite
'250	8, 20, 26	"wherein the key has at least one component that represents executable instructions contained within or constituted by the object"	Lack of Written Description, Lack of Enablement
'250	9, 21, 27	"wherein the key has at least one component that represents data about said object"	Lack of Written Description, Lack of Enablement

[redacted]

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
’250	11, 23, 29	“wherein the key has at least one component that represents the physical size of the object”	Lack of Written Description, Lack of Enablement
’250	13	“wherein the base computer is constructed and arranged to automatically generate a mask for an object that is initially classed not as malware”	Lack of Written Description, Lack of Enablement
’250	24	“A method according to claim 13”	Indefinite, Lack of Antecedent Basis
’250	25	“similar data”	Lack of Written Description, Lack of Enablement, Indefinite
’250	25	“reclassifying the object as malware”	Indefinite
’389	1	“similar computer objects”	Lack of Written Description, Lack of Enablement, Indefinite
’389	1	“relationships between the correlated data and the other objects or entities”	Indefinite
’389	1	“correlating, by the base computer, at least a portion of the data about the computer object received from the first remote computer to at least a portion of the data about the computer object received	Lack of Written Description, Lack of Enablement, Indefinite

[redacted]

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
		from the second remote computer"	
'389	6	"similar objects"	Indefinite
'389	7	"process-related objects"	Indefinite
'389	10	"wherein the key has at least one component that represents executable instructions contained within or constituted by the object"	Lack of Written Description, Lack of Enablement
'389	11	"wherein the key has at least one component that represents data about said object"	Lack of Written Description, Lack of Enablement
'389	13	"wherein the key has at least one component that represents the physical size of the object"	Lack of Written Description, Lack of Enablement
'045	1	"wherein the global perspective for one or more related events to the at least one event across a network"	Lack of Written Description, Lack of Enablement, Indefinite
'045	1	"generating an event line"	Lack of Written Description, Lack of Enablement
'045	7	"heuristically displaying information"	Lack of Written Description, Lack of Enablement, Indefinite

[redacted]

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
’224	1	“assembling an event line”	Lack of Written Description, Lack of Enablement
’224	10, 17	“generate an event line”	Lack of Written Description, Lack of Enablement
’224	1, 10, 17	“wherein the global perspective relates to one or more other events related to the event across a network”	Lack of Written Description, Lack of Enablement, Indefinite
’591	1, 9, 17	“stack walk processing”	Lack of Written Description, Lack of Enablement, Indefinite
’591	1, 9, 17	“during the executing of the stack walk processing before an address of an originating caller function is reached”	Lack of Written Description, Lack of Enablement, Indefinite
’591	1, 9, 17	“a base pointer is identified as being invalid”	Lack of Written Description, Lack of Enablement
’844	1, 10, 17	“wherein one or more features of the feature vector are selectively turned on or off”	Lack of Written Description; Lack of Enablement.
’844	1, 10, 17	“support vector processing”	Lack of Written Description; Lack of Enablement, Indefinite
’844	1, 10, 17	“unwanted executable files”	Lack of Written Description; Lack of Enablement, Indefinite

[redacted]

Patent	Asserted Claim(s)	Claim Term/Phrase	Invalidity Based on 35 U.S.C. § 112
'844	2, 11, 19	"wherein the extracting…further comprises classifying…and encoding…"	Lack of Written Description; Lack of Enablement
'844	3, 12	"features of the classifier"	Lack of Written Description; Lack of Enablement; Indefinite
'844	4, 14	"wherein analyzing…further comprises…"	Lack of Antecedent Basis.
'844	4, 13	Entire claim	Lack of Written Description; Lack of Enablement
'844	8	"wherein the plurality of static data points is extracted using a machine learning machine learning technique"	Lack of Written Description; Lack of Enablement

CrowdStrike reserves the right to modify, amend, or supplement its contentions relating to 35 U.S.C. § 112 as the case progresses including, in particular, in view of any additional claims asserted by Plaintiffs or in view of any claim construction rulings issued by the Court in this matter.

VI. INVALIDITY UNDER 35 U.S.C. § 101

To be patentable subject matter under § 101, a claim must be directed to one of four eligible subject matter categories: "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. "Claims that fall within one of the four subject matter categories may nevertheless be ineligible if they encompass laws of nature, physical phenomena, or abstract ideas." *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). The Supreme Court established a two-step test for deciding the subject matter eligibility of claims under § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). First, the claims must be analyzed to determine

whether they are drawn to one of the statutory exceptions. *Id.* Claims that invoke generic computer components instead of reciting specific improvements in computer capabilities are abstract under this first step. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016). Second, the elements of the claims must be viewed both individually and as an ordered combination to see if there is an "inventive concept." *Id.* The mere fact that a claim recites or implies that an abstract idea is implemented using a general-purpose computer does not supply an inventive concept necessary to satisfy § 101. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016); *Alice*, 134 S. Ct. at 2357–59.

All of the Asserted Claims are directed to ineligible subject matter under 35 U.S.C. § 101 and applicable case law authority.

A. '250 Patent

1. Identification Of Abstract Idea, Law Of Nature And/Or Natural Phenomenon

The Asserted Claims of the '250 Patent are not patent eligible under 35 U.S.C. § 101 because they are directed to abstract and well-known ideas that do not constitute patentable subject matter. The Asserted Claims are directed towards the abstract idea of data classification based on reference data points. Claim 1 is directed to receiving data about a "computer object" from remote sources, analyzing that data, and classifying an object based on the result or the application of a rule set. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) ("The advance [the claims] purport to make is a process of gathering and analyzing information of a specified content . . . and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea."); *SAP Am., Inc.*, 898 F.3d at 1167; *In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250 (holding that applying statistical techniques to data was an abstract idea).

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The first limitation of claim 1, which is representative of the independent claims, recites "at a base computer, receiving data about a computer object from each of plural remote computers," a generic data transfer step. *See SAP Am., Inc. v. Investpic, LLC,* 890 F.3d 1016 ("[C]laims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis'" are directed to abstract ideas"); *In re Bd. of Trustees of Leland Stanford Junior Univ.,* 99 F.3d at 1250. That the claim specifies the type of data received does not change that "receiving" data is an abstract idea. *See, e.g. In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250 (holding that applying statistical techniques to a particular set of genomic data was an abstract idea).

The second, third and fourth limitations relate to "determining" whether the received data is malware and "classifying" it accordingly. Similarly, the remaining limitations of claim 1 recite "generating a mask" or rule set for a computer object, and either "allowing" or "disallowing" a computer object to run based on whether it fits the rule set. These limitations describe generic computer techniques for data gathering, observation, and classification. *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (2016) (holding that patent was directed to an abstract idea because "[w]hile the claimed system and method certainly purport to accelerate the process . . . the speed increase comes from the capabilities of a general-purpose computer."); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.").

Nor do any of the dependent claims change the abstract character of the claimed invention. The dependent claims merely add details which do not transform the abstract character of claim 1 because they recite generic computer operations:

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- Describing the computer object data (claims 2, 10, 14, 22, 28)
- Identifying relationships between objects (claim 3, 15)
- Classifying an object as malware based on other objects' classification (claim 4, 16)
- Describing other objects (claim 5, 6, 17, 18)
- Sending data in the form of a key (claims 7-9, 11, 19-21, 23, 26, 27, 29)
- Comparing monitored behavior to a mask (claim 12)
- Rule modification (claim 24)
- Storing computer program instructions (claim 30)

2. Identification Of Each Claim Element Alleged To Be Well-Understood, Routine and/or Conventional, and Prior Art Supporting The Contention That Every Claim Element Is Well-Understood, Routine, and/or Conventional At The Time of the Alleged Invention

Each and every element of the Asserted Claims of the '250 Patent was well-understood, routine and conventional, as detailed in the §§ 102/103 prior art cited by Webroot's invalidity contentions. Accordingly, the Asserted Claims of the '250 patent do not contain an "inventive concept" sufficient to transform the claimed abstract ideas into a patent-eligible application. *Alice*, 573 U.S. at 221.

The limitations and elements of the independent '250 claims are each "conventional steps, specified at a high level of generality" that were all well known in the field. *See Ultramercial, Inc. v. Hulu,* LLC, 772 F.3d 709, 716 (Fed. Cir. 2014) ("Adding routine additional steps such as updating an activity log . . . comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an "inventive concept."). That the operations are performed on a computer or on computer data does not mean that the '250 Asserted Claims contain an inventive concept. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) (holding claims lacked an inventive concept because they "amount to no more than performing the abstract

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idea of parsing and comparing data with conventional computer components"). The '250 patent requires no specialized computational hardware and states that "the computers 2 may each be variously a personal computer, a server of any type, a PDA, mobile phone, an interactive television, or any other device capable of loading and operating computer objects." '250 patent at 7:59-63. Accordingly, as "[n]othing in the claims, understood in light of the specification, requires anything other than off-the-shelf, conventional computer . . . technology for gathering . . . desired information" and performing well known and routine analysis and operations, the claims of the '250 patent fail *Alice* Step Two. *Id.* at 1355.

The first limitation of claim 1 of the '250 patent, reciting "receiving data" about a computer object from remote computers was well-understood, routine, and conventional. It was well-known in the art to receive and analyze data from remote computers, including about computer objects and events associated with those objects. Receiving data is a basic, fundamental feature of computers and computer networks.

Further, the remaining limitations' recitation of comparing computer object data against a reference, and making a classification as a result was also well-understood, routine, and conventional. That these well-known concepts were applied to a particular data set – data regarding computer objects and events – is not a sufficient basis to find that there was an "inventive concept" under *Alice* Step 2. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 991 F.3d at 1250-51.

Further, none of the dependent claims contain an inventive concept. Each element within the dependent claims describes a practice that, at the time of the alleged invention, a person of ordinary skill would have understood to be routine and conventional. The elements recite generic characteristics of computer object data, data comparison and data format:

[redacted]

- Describing the computer object data (claims 2, 10, 14, 22, 28)
- Identifying relationships between objects (claim 3, 15)
- Classifying an object as malware based on other objects' classification (claim 4, 16)
- Describing other objects (claim 5, 6, 17, 18)
- Sending data in the form of a key (claims 7-9, 11, 19-21, 23, 26, 27, 29)
- Comparing monitored behavior to a mask (claim 12)
- Rule modification (claim 24)
- Storing computer program instructions (claim 30)

B. '389 Patent

1. Identification Of Abstract Idea, Law Of Nature And/Or Natural Phenomenon

The Asserted Claims of the '389 Patent are not patent eligible under 35 U.S.C. § 101 because they are directed to the abstract idea of analyzing and classifying data. Claim 1, the only asserted independent claim, is directed to receiving data about a "computer object" from two sources, storing that data, analyzing that data, and classifying an object based on the result.

The first two limitations of Claim 1 recite the generic data transfer steps of "at a base computer, receiving data about [a/the] computer object from a [first/second] remote computer …". *See SAP Am., Inc. v. Investpic, LLC,* 890 F.3d 1016 ("[C]laims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis'" are directed to abstract ideas"); *In re Bd. of Trustees of Leland Stanford Junior Univ.,* 99 F.3d at 1250. That the claim specifies the type of data received does not change that "receiving" data is an abstract idea. *See, e.g. In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250 (holding that applying statistical techniques to a particular set of genomic data was an abstract idea); *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016) (holding that patent was directed to the abstract

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idea of classifying and storing digital images in an organized manner). The fourth limitation, "correlating … at least a portion of the [received] data" is a data comparison technique, and the claims put no limits on what portion of the data is correlated, how the correlation is performed, what tools are used to perform the correlation, or what result is obtained from the correlation. *CardioNet, LLC v. InfoBionic, Inc.*, 816 F. App'x 471, 475 (Fed. Cir. 2020) (holding that method including "correlating" data was directed to abstract idea of "collecting, analyzing and displaying data"). Similarly, the fifth limitation, which recites "comparing" the correlated data with data about other objects is an abstract step, provides no information as to how the data is compared. Claim 1's final limitation, which is directed to "classifying … the computer object as malware on the basis of said comparison," simply recites the idea of classifying an object based on data and again provides no detail on how the classification is performed, nor recite any advance over traditional classification techniques, but rather uses generic computer techniques. *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (2016) (holding that patent was directed to an abstract idea because "the speed increase comes from the capabilities of a general-purpose computer."); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.").

Nor do any of the dependent claims change the abstract character of the claimed invention. The dependent claims merely add details which do not transform the abstract character of claim 1 because they recite generic data forms or mathematical computation or software functions:

- The results of the correlation are compared to data about "related" objects (claim 2)
- Analyzing multiple computer objects together (claim 3)

[redacted]

- "deducing" or "classifying" an object to be malware based on the results of the analysis of a related object (claims 4, 5)
- The "other objects" to which the data is compared are also present on the first or second computer or are related to the objects on the first and second computer (claim 6, 7)
- The received data includes one or more of a number of specific data points or is in a particular format such as a key (claims 8-13)
- generating a "mask," or threshold, and classifying the object as malware if it exceeds the threshold (claim 14)
- The data received from the first and second computers are "different" (claim 30)

2. Identification Of Each Claim Element Alleged To Be Well-Understood, Routine And/Or Conventional, And Prior Art Supporting The Contention That Every Claim Element Is Well-Understood, Routine, And/Or Conventional At The Time Of The Alleged Invention

Each and every element of the Asserted Claims of the '389 Patent was well-understood, routine and conventional, as detailed in the §§ 102/103 prior art cited by Webroot's invalidity contentions. Accordingly, the Asserted Claims of the '389 patent do not contain an "inventive concept" sufficient to transform the claimed abstract ideas into a patent-eligible application. *Alice*, 573 U.S. at 221.

The limitations and elements of the independent '389 claims are each "conventional steps, specified at a high level of generality" that were all well known in the field. *See Ultramercial, Inc. v. Hulu,* LLC, 772 F.3d 709, 716 (Fed. Cir. 2014) ("Adding routine additional steps such as updating an activity log . . . comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an "inventive concept."). That the operations are performed on a computer or on computer data does not mean that the '389 Asserted Claims contain

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an inventive concept. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) (holding claims lacked an inventive concept because they "amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components"). The '389 patent requires no specialized computational hardware and states that "the computers may each be variously a personal computer, a server of any type, a PDA, mobile phone, an interactive television, or any other device capable of loading and operating computer objects may be implemented using software." '389 patent at 7:64-8:1.

The first three limitations of claim 1 of the '389 patent, "receiving data about a computer object from a [first / second] remote computer . . . " and "storing … said data" were well-understood, routine, and conventional. It was well-known in the art to receive and store data from remote computers, including about computer objects and events associated with those objects. Receiving data and storing it is a basic, fundamental feature of computers and computer networks.

Further, "correlating … at least a portion" of the data and "comparing … the correlated data" is a centuries-old technique of data comparison and logic. That these well-known concepts were applied to a particular data set – data regarding computer objects and events – is not a sufficient basis to find that there was an "inventive concept" under *Alice* Step 2. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 991 F.3d at 1250-51.

Further, none of the dependent claims contain an inventive concept. Each element within the dependent claims describes a practice that, at the time of the alleged invention, a person of ordinary skill would have understood to be routine and conventional. The elements recite basic tools of statistical analysis and additional detail about the data points to which the method is applied.

- The results of the correlation are compared to data about "related" objects (claim 2)

[redacted]

- Analyzing multiple computer objects together (claim 3)
- "deducing" or "classifying" an object to be malware based on the results of the analysis of a related object (claims 4, 5)
- The "other objects" to which the data is compared are also present on the first or second computer or are related to the objects on the first and second computer (claim 6, 7)
- The received data includes one or more of a number of specific data points or is in a particular format such as a key (claims 8-13)
- generating a "mask," or threshold, and classifying the object as malware if it exceeds the threshold (claim 14)
- The data received from the first and second computers are "different" (claim 30)

C. '045 Patent

1. Identification Of Abstract Idea, Law Of Nature And/Or Natural Phenomenon

The Asserted Claims of the '045 Patent are not patent eligible under 35 U.S.C. § 101 because they are directed to abstract and well-known ideas that do not constitute patentable subject matter. *See Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 218 (2014). The Asserted Claims are directed towards the abstract idea of gathering, analyzing, and transmitting information. Claim 1, the only asserted independent claim, is directed to gathering and processing information; that the information may relate to computer events does not alter that the claim is directed to an abstract idea. *Elec. Power Grp., LLC* 830 F.3d at 1354 ("The advance [the claims] purport to make is a process of gathering and analyzing information of a specified content . . . and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea."); *SAP Am., Inc.*, 898 F.3d at 1167; *In re Bd. of Trustees of Leland Stanford Junior*

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Univ., 991 F.3d at 1250 (holding that applying statistical techniques to particular types of data was an abstract idea).

The first limitation of Claim 1 recites "gathering one or more events defining an action of a first object acting on a target…," which is simply information gathering. *See SAP Am., Inc.,* 890 F.3d at 1167 ("[C]laims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis'" are directed to abstract ideas"). That the claim specifies the type of data received does not change that "gathering" data is an abstract idea, especially where, as here, the claim does not explain how those events are gathered, or from where they are gathered. *Elec. Power Grp., LLC,* 830 F.3d at 1354 (holding that claims reciting "gathering … information of a specified content" were directed to an abstract idea).

The second and third limitations, "generating a contextual state for at least one of the one or more events by correlating the at least one event …" and "obtaining a global perspective" are simply forms of gathering and associating information. *CardioNet, LLC*, 816 F. App'x at 475 (holding that method including "correlating" data was directed to abstract idea of "collecting, analyzing and displaying data"). Data processing steps are abstract even when directed to processing a particular set of data. *Id.*; *Elec. Power Grp., LLC*, 830 F.3d at 1354 (holding that claims reciting "analyzing … information of a specified content" were directed to an abstract idea); *SAP Am., Inc.,* 890 F.3d 1016 ("[C]laims focused on 'collecting information'" are directed to abstract ideas"). That the limitation is directed to a certain type of data does not alter the section 101 analysis. *In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250.

The fourth and fifth limitations require only data assembly and transmission. *SAP Am., Inc.,* 890 F.3d 1016 ("[C]laims focused on 'collecting information'" are directed to abstract ideas"). Assembling data is also a function that a can be performed by humans with pen and paper,

which is "telltale sign of abstraction." *PersonalWeb Techs. LLC*, 8 F.4th at 1316; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d at 609 (holding that claim reciting "transmitting" data was directed to abstract idea").

Nor do any of the dependent claims change the abstract character of the claimed invention. The dependent claims merely add details which do not transform the abstract character of claim 1 because they recite generic informational functions that can be performed by any general-purpose computer:

- Obtaining data from a "community database" and transmitting data to a generic "end recipient" (claim 2)
- Obtaining and including in the "event line" an additional item of data (claim 3)
- Specifying that the event data includes specific data points (claim 4)
- Displaying data (claim 7)

2. Identification Of Each Claim Element Alleged To Be Well-Understood, Routine and/or Conventional, and Prior Art Supporting The Contention That Every Claim Element Is Well-Understood, Routine, and/or Conventional At The Time of the Alleged Invention

Each and every element of the Asserted Claims of the '045 Patent was well-understood, routine and conventional, as detailed in the §§ 102/103 prior art cited by Webroot's invalidity contentions. Accordingly, the Asserted Claims of the '045 patent do not contain an "inventive concept" sufficient to transform the claimed abstract ideas into a patent-eligible application. *Alice*, 573 U.S. at 221.

The limitations and elements of the independent '045 claims are each "conventional steps, specified at a high level of generality" that were all well known in the field. *See Ultramercial, Inc.,* 772 F.3d at 716 ("Adding routine additional steps such as updating an activity log . . . comprises only 'conventional steps, specified at a high level of generality,' which is insufficient

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to supply an "inventive concept."). That the operations may be performed on a computer or on computer data does not mean that the '045 Asserted Claims contain an inventive concept. *See Berkheimer*, 881 F.3d at 1369 (holding claims lacked an inventive concept because they "amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components"). The '045 patent requires no specialized computational hardware and states that "[t]he computing device may comprise a general purpose computer, such as but not limited to a laptop or desktop personal computer, a tablet computer, a smart phone, or other device capable of communications over a communication network and capable of presenting content to an associated user." '045 patent at 6:50-55.

The first three limitations of Claim 1 recite "gathering one or more events defining an action of a first object acting on a target …," "generating a contextual state for at least one of the one or more events by correlating the at least one event …," and "obtaining a global perspective for the least one event by obtaining information associated with one or more of the first object and the originating object …" This is generic information gathering, and contain no "inventive concept" under *Alice* Step 2. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 991 F.3d at 1250-51.

The fourth and fifth limitations recite "assembling an event line including details associated with the at least one event …" and "transmitting the assembled event line." Compiling and transmitting information is a generic function, well-known and conventional in the art.

Further, none of the dependent claims contain an inventive concept. Each element within the dependent claims describes a practice that, at the time of the alleged invention, a person of ordinary skill would have understood to be routine and conventional. The elements recite basic tools of data analysis, transmission, and display.

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- Obtaining data from a "community database" and transmitting data to a generic "end recipient" (claim 2)
- Obtaining and including in the "event line" an additional item of data (claim 3)
- Specifying that the event data includes specific data points (claim 4)
- Displaying data (claim 7)

D. '224 Patent

1. Identification Of Abstract Idea, Law Of Nature and/or Natural Phenomenon

The Asserted Claims of the '224 Patent are not patent eligible under 35 U.S.C. § 101 because they are directed to abstract and well-known ideas that do not constitute patentable subject matter. *See Alice Corp. Pty. V. CLS Bank Int'l*, 573 U.S. 208, 218 (2014). The Asserted Claims are directed towards the abstract idea of gathering, analyzing, and transmitting data. Claim 1 is directed to gathering and processing information; that the information may relate to computer data does not alter that the claim is directed to an abstract idea. *Elec. Power Grp., LLC* 830 F.3d at 1354 ("The advance [the claims] purport to make is a process of gathering and analyzing information of a specified content . . . and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea."); *SAP Am., Inc.*, 898 F.3d at 1167; *In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250 (holding that applying statistical techniques to particular types data was an abstract idea).

The first limitation of Claim 1, which is representative of the independent claims, recites "gathering an event defining an action of a first object acting on a target…" which is simply information gathering. *See SAP Am., Inc.,* 890 F.3d at 1167 ("[C]laims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis'" are directed to abstract ideas"). That the claim specifies the type of data received does not change that

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"gathering" data is an abstract idea, especially where, as here, the claim does not explain how those events are gathered, or from where they are gathered. *Elec. Power Grp., LLC,* 830 F.3d at 1354 (holding that claims reciting "gathering … information of a specified content" were directed to an abstract idea).

The second and third limitations, "generating contextual state information for the vent by correlating the event …" and "obtaining a global perspective" are forms of gathering and associating information. *CardioNet, LLC*, 816 F. App'x at 475 (holding that method including "correlating" data was directed to abstract idea of "collecting, analyzing and displaying data"). Data processing steps are abstract even when directed to processing a particular set of data. *Id.*; *Elec. Power Grp., LLC*, 830 F.3d at 1354 (holding that claims reciting "analyzing … information of a specified content" were directed to an abstract idea). That the limitation is directed to gathering specific data points does not change that the limitation is directed to an abstract idea. *In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d at 1250.

The fourth and fifth limitations require only data assembly and transmission. *SAP Am., Inc.,* 890 F.3d 1016 ("[C]laims focused on 'collecting information'" are directed to abstract ideas"). Assembling data is also a function that a can be performed by humans with pen and paper, which is "telltale sign of abstraction." *PersonalWeb Techs. LLC*, 8 F.4th at 1316; *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d at 609 (holding that claim reciting "transmitting" data was directed to abstract idea").

Nor do any of the dependent claims change the abstract character of the claimed invention. The dependent claims merely add details which do not transform the abstract character of the independent claims, because they recite generic software functions that can be performed by any general-purpose computer:

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- Obtaining data from a "community database" and transmitting data to a generic "end recipient" (claim 2)
- Obtaining and including in the "event line" an additional item of data (claim 3)
- Specifying that the event data includes specific data points (claim 4)
- Displaying data (claims 7, 16)
- Specifying the source/type of collected information (claims 2, 4, 8, 13)
- Description of generic computer hardware (claims 11, 12)

2. Identification Of Each Claim Element Alleged To Be Well-Understood, Routine and/or Conventional, and Prior Art Supporting The Contention That Every Claim Element Is Well-Understood, Routine, and/or Conventional At The Time of the Alleged Invention

Each and every element of the Asserted Claims of the '224 Patent was well-understood, routine and conventional, as detailed in the §§ 102/103 prior art cited by Webroot's invalidity contentions. Accordingly, the Asserted Claims of the '224 patent do not contain an "inventive concept" sufficient to transform the claimed abstract ideas into a patent-eligible application. *Alice*, 573 U.S. at 221.

The limitations and elements of the independent '224 claims are each "conventional steps, specified at a high level of generality" that were all well known in the field. *See Ultramercial, Inc.,* 772 F.3d at 716 ("Adding routine additional steps such as updating an activity log . . . comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an "inventive concept."). That the operations may be performed on a computer or on computer data does not mean that the '224 Asserted Claims contain an inventive concept. *See Berkheimer*, 881 F.3d at 1369 (holding claims lacked an inventive concept because they "amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components"). The '224 patent requires no specialized computational hardware and

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states that "[t]he computer device 204 may comprise a general purpose computer such as but not limited to a laptop or desktop personal computer 204B, a tablet computer, a smart phone 204A, or other device..." '224 patent at 6:55-62.

The first three limitations of Claim 1 recite "gathering an event defining an action of a first object acting on a target…" "generating contextual state information for the event by correlating the event …" and "obtaining a global perspective event based on the contextual state information, wherein the global perspective comprises information associated with one or more of the first object and the originating object…" This is generic information gathering, not an "inventive concept" under *Alice* Step 2. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 991 F.3d at 1250-51.

The last two limitations recite "generating an event line comprising information relating to the event…" and "transmitting the generated event line." Compiling and transmitting information is a generic function, well-known and conventional in the art.

Further, none of the dependent claims contain an inventive concept. Each element within the dependent claims describes a practice that, at the time of the alleged invention, a person of ordinary skill would have understood to be routine and conventional. The elements recite basic tools of data analysis, transmission, and display.

- Obtaining data from a "community database" and transmitting data to a generic "end recipient" (claim 2)
- Obtaining and including in the "event line" an additional item of data (claim 3)
- Specifying that the event data includes specific data points (claim 4)
- Displaying data (claims 7, 16)
- Specifying the source/type of collected information (claims 2, 4, 8, 13)

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- Description of generic computer hardware (claims 11, 12)

E. ’844 Patent

1. Identification Of Abstract Idea, Law Of Nature and/or Natural Phenomenon

The Asserted Claims of the ’844 Patent are not patent eligible under 35 U.S.C. § 101 because they are directed to abstract and well-known ideas that do not constitute patentable subject matter. *See Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 218 (2014). The Asserted Claims are directed to the abstract idea of mathematical classification using machine learning. Each of the claims of the ’844 patent are directed to an abstract idea and fail step one of the *Alice* test. The independent Asserted Claims are directed to extracting a non-specified set of “static data points,” constructing a “feature vector” using that extracted data using a classifier, and “evaluating the feature vector using support vector processing,” a mathematical technique. *See, e.g.*, *In re Bd. of Trustees of Leland Stanford Junior Univ.*, 991 F.3d 1245, 1250 (Fed. Cir. 2021) (holding that claims “directed to the use of mathematical calculations and statistical modeling” are patent ineligible under § 101); *Health Discovery Corp. v. Intel Corp.*, 577 F. Supp. 3d 570, 574 (W.D. Tex. 2021) (finding patent-ineligible claims “directed to performing feature ranking, selection, and reduction using an SVM”).

The first limitation of Claim 1, which is representative of the independent claims, recites “extracting a plurality of static data points from an executable file…” is a generic data processing step. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 99 F.3d at 1250; *SAP Am., Inc. v. Investpic, LLC,* 890 F.3d 1016.

The second and third limitations of Claim 1 recites “generating a feature vector from the plurality of static data points” and “evaluating the feature vector using support vector processing to determine whether the executable file is harmful.” A “feature vector” is a set of data and

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evaluating a feature vector is a statistical or mathematic operation. The claim does not restrict how to generate the "feature vector" or what data can be included, or restrict the "evaluating" step to any specific criteria other than to determine whether the file being analyzed is "harmful."

Accordingly, Claim 1 recites only a statistical or mathematical operation. Statistical methods or other mathematical calculations, even when applied in specific contexts and to specific types of data, are patent ineligible abstract ideas. *Parker v. Flook*, 437 U.S. 584, 595 (1978) ("[I]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1327 (Fed. Cir. 2020), cert. denied, 141 S. Ct. 2624, 209 L. Ed. 2d 752 (2021) (explaining that "limiting the abstract idea to a particular environment . . . does not make the claims any less abstract for the step 1 analysis.");

Nor do any of the dependent claims change the abstract character of the claimed invention. The dependent claims merely recite generic mathematical computation or software functions, such as:

- "classifying" or "encoding" data (claims 2, 11, 19)
- "setting features of the classifier" (claims 3, 12)
- placing data points into "categories" (claims 4, 13)
- "weighting" different data points (claims 5, 14)
- "preventing execution" of a file if its perceived danger exceeds a threshold value (claims 6, 15, 18, 20)
- Setting a threshold based on a "predetermined" range (claims 7, 16)
- Extracted data points "using a machine learning technique" (claim 8)
- "retrain[ing] the classifier" once results are obtained (claim 9)

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2. Identification Of Each Claim Element Alleged To Be Well-Understood, Routine and/or Conventional, and Prior Art Supporting The Contention That Every Claim Element Is Well-Understood, Routine, and/or Conventional At The Time of the Alleged Invention

Each and every element of the Asserted Claims of the '844 Patent is well-understood, routine and conventional, as detailed in the §§ 102/103 prior art cited by Webroot's invalidity contentions. Accordingly, the Asserted Claims of the '844 patent do not contain an "inventive concept" sufficient to transform the claimed abstract ideas into a patent-eligible application. *Alice*, 573 U.S. at 221. "Support vector processing" was not an inventive mathematic technique at the time of the alleged invention; rather, "support vector processing" dates back to at least an academic paper from 1995. Cortes, "Support-Vector Networks," Machine Learning, 20, 273-297 (1995). The patent admits that classifying executable files using statistical tools was well-known in the art, stating that "one skilled in the art will recognize that determination for predictive classification of executable files is not limited to threshold determinations. For example, any type of analytical, statistical or graphical analysis may be performed on data to classify an executable file/unknown executable file." '844 patent at 10:46-51; *see also id.* at 13:26-29. ("[A]s acknowledged above, determining a classification of an executable file may be based on any type of analytical, statistical or graphical analysis, or machine learning processing").

The limitations and elements of the independent '844 claims are each "conventional steps, specified at a high level of generality" regarding mathematical operations that were all well known in the field. *See Ultramercial, Inc.,* 772 F.3d at 716 ("Adding routine additional steps such as updating an activity log . . . comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an "inventive concept.").

That the operations are performed on a computer or on computer data does not mean that the '844 Asserted Claims contain an inventive concept. *See Berkheimer,* 881 F.3d at 1369 (holding

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claims lacked an inventive concept because they "amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components"). The '844 patent requires no specialized computational hardware and states that the method "may be implemented using software, hardware or a combination of software and hardware." '844 patent at 11:50-52.

The first limitation of claim 1 of the '844 patent, "extracting a plurality of static data points from an executable file . . ." was well-understood, routine, and conventional. It was well-known in the art to isolate and extract portions of computer files, including predefined character strings, whether or not the files were decrypted or unpacked. And as the specification explains, while the claim language is limited to the assessment of executable files, the "threat detection examples described herein can relate to any computer file." '844 patent at 3:38-39.

Further, "generating a feature vector from the plurality of static data points using a classifier . . . " was well-understood, routine, and conventional. The patent admits that the classification of feature vectors was well known and provided several examples, including using a support vector machine: "the learning classifier component may utilize an artificial neural network (ANN), a decision tree, association rules, inductive logic, a support vector machine, clustering analysis, and Bayesian networks, among other examples." '844 patent at 8:11-21 (emphasis added). The patent also admits that the classifier may use a number of well-known techniques to process and/or encode the data (e.g. n-grams, bag of words, and data binning). *Id.* at 8:22-48. That these well-known concepts were applied to a particular data set – executable files – is not a sufficient basis to find that there was an "inventive concept" under *Alice* Step 2. *See In re Bd. of Trustees of Leland Stanford Junior Univ.,* 991 F.3d at 1250-51.

"Evaluating the feature vector using support vector processing …" was also well-understood, routine, and conventional. The patent explains that the classifier provides feature

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vectors to "a support vector machine (SVM)" which is a technique that dates to at least 1995. '844 patent at 9:41-45. The patent also states that the SVM may use well known methods and techniques such as "linear SVM," a "hybrid approach . .. . combin[ing] two of more individual linear SVM classifier . . . using ensemble methods," "decisions tree[s]" "logical gradient boosting" and "Directed Acyclic Graph" SVMs. '844 patent at 9:45-67.

Further, none of the dependent claims contain an inventive concept. Each element within the dependent claims describes a practice that, at the time of the alleged invention, a person of ordinary skill would have understood to be routine and conventional. The elements recite basic tools of statistical analysis and long-used machine learning techniques.

- "classifying" or "encoding" data (claims 2, 11, 19)
- "setting features of the classifier" (claims 3, 12)
- placing data points into "categories" (claims 4, 13)
- "weighting" different data points (claims 5, 14)
- "preventing execution" of a file if its perceived danger exceeds a threshold value (claims 6, 15, 18, 20)
- Setting a threshold based on a "predetermined" range (claims 7, 16)
- Extracting data points "using a machine learning technique" (claim 8)
- "retrain[ing] the classifier" once results are obtained (claim 9)

VII. DOCUMENT PRODUCTION ACCOMPANYING PRELIMINARY INVALIDITY CONTENTIONS

CrowdStrike is producing and/or making available for inspection documents required under the OGP Scheduling Order, ECF No. 19, including all prior art referenced above and technical documents sufficient to show the operation of the accused products. Documents designated as HIGHLY CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY shall be

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maintained on an outside counsel eyes only basis pursuant to the Default Protective Order for Patent Cases until the Court enters a protective order in this action.

CrowdStrike refers also to the following documents and videos produced by Webroot that explain the operation of some aspects of the accused products. Exemplary materials include:

WBR_CSK000001-WBR_CSK000133

WBR_CSK000289-WBR_CSK000319

WBR_CSK000451-WBR_CSK000818

WBR_CSK000819

WBR_CSK001203-WBR_CSK001298

WBR_CSK001304-WBR_CSK001312

WBR_CSK001314-WBR_CSK001326

WBR_CSK001336

WBR_CSK001345-WBR_CSK001372

WBR_CSK001381-WBR_CSK001384

WBR_CSK001406-WBR_CSK001414.

VIII. OTHER RESERVATIONS AND EXPLANATIONS

These Preliminary Invalidity Contentions and accompanying document productions are preliminary and subject to further revision as follows. Nothing in these contentions constitutes an admission concerning the priority date, conception date, or date of reduction to practice of the Asserted Claims. CrowdStrike reserves the right to modify or supplement these Preliminary Invalidity Contentions, including in response to any positions taken or information disclosed regarding the priority date, conception date, or date of reduction to practice of the Asserted Claims.

Plaintiffs' Infringement Contentions are insufficient, and fail in many instances to identify how each Asserted Claim is allegedly met. Webroot also appears to be pursuing overly broad

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constructions of the Asserted Claims to piece together an infringement allegation where there is no infringement. These Preliminary Invalidity Contentions take into account Plaintiffs' apparent constructions, but are not in any way an admission that such apparent constructions are correct.

For prior art patents and prior art publications identified in these Preliminary Invalidity Contentions, CrowdStrike reserves the right to rely on the public use, offer for sale, sale, and/or actual products embodying the methods and systems described therein uncovered during discovery. CrowdStrike also reserves the right to rely on any related patents and patent applications, foreign patent counterparts and foreign patent applications of U.S. patents identified in these Preliminary Invalidity Contentions, and U.S. counterparts of foreign patents and foreign patent applications identified in these Preliminary Invalidity Contentions.

The Court has not yet construed any of the terms in the Asserted Patents. Accordingly, CrowdStrike's Preliminary Invalidity Contentions are based in part on CrowdStrike's present understanding of the Asserted Claims and Plaintiffs' apparent interpretation of these claims as reflected in its Infringement Contentions. By including prior art that anticipates or renders obvious claims based on Plaintiffs' apparent claim interpretations, CrowdStrike is not agreeing that Plaintiffs' claim interpretations are correct.

The accompanying invalidity claim charts provide examples of prior art that discloses, either expressly or inherently, every limitation of certain claims and/or teachings, suggestions and motivations through which a POSITA at the time of the alleged invention would have considered the limitations obvious in view of the state of the art at the time, the differences between the claimed invention and the state of the art, and the foreseeability from a technical perspective and/or marketing and/or natural and expected evolution of the art. Where CrowdStrike cites to a particular figure in a reference, the citation should be understood to encompass the caption and description

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of the figure and any text relating to the figure. Conversely, where CrowdStrike cites to particular text referring to a figure, the citation should be understood to include the figure as well. As discovery progresses and the scope and focus of the liability issues become clearer, CrowdStrike may rely on uncited portions of the prior art.

CrowdStrike reserves the right to revise its ultimate contentions concerning the invalidity of asserted the Asserted Claims, which may change depending on discovery taken in the case, the Court's construction of the Asserted Claims, any findings as to the priority date of the Asserted Claims, and/or positions that Plaintiffs or expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

CrowdStrike may rely on Plaintiffs' or any inventor's admissions concerning the scope of prior art relevant to the Asserted Patents; the patent prosecution histories for the Asserted Patents; any deposition testimony of the named inventors on the Asserted Patents; and the papers filed and any evidence submitted by Plaintiffs in connection with this litigation. For example, CrowdStrike reserves the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event that CrowdStrike obtains evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed in the Asserted Patents. Should CrowdStrike obtain such evidence, it will provide the name(s) of the person(s) from whom and the circumstances under which the claimed invention or any part of it was derived.

Prior art not included in this disclosure, whether known or not known to CrowdStrike, may become relevant. In particular, CrowdStrike is currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Patents are not disclosed in the prior art identified by CrowdStrike. To the extent such an issue arises, CrowdStrike reserves the right to identify other references that would render obvious the allegedly missing limitation(s) of the

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disclosed device or method. Further, because discovery has not yet opened and because CrowdStrike has not yet completed its search for or analysis of relevant prior art, CrowdStrike reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should CrowdStrike's further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure. Plaintiffs also have a duty to produce to Defendants all relevant documents from other proceedings involving the patents related to the asserted patents or their subject matter, including but not limited to all prior art invalidity contentions and expert reports on invalidity among other relevant items.

Additionally, because third-party discovery is not yet complete, CrowdStrike reserves the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity under 35 U.S.C. §§ 102(c), (d), or (f), to the extent that such discovery or investigation yields information forming the basis for such invalidity. For example, CrowdStrike expects to issue subpoenas to, and receive information from, third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art, including but not limited to system art. These third parties include, without limitation, the authors, inventors, vendors, or assignees of the references listed in these disclosures.

CrowdStrike further reserve the right to modify or add additional contentions in the event that Plaintiffs provide amended infringement contentions and to the extent the Court orders or allows Plaintiffs to amend their infringement contentions.

CrowdStrike incorporates in these Preliminary Invalidity Contentions, in full, all prior art references cited in the Asserted Patents and their prosecution histories.

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Subject to CrowdStrike's reservation of rights, CrowdStrike identifies each item of prior art that anticipates and/or renders obvious the Asserted Claims. The patents/applications, publications, and systems identified are also relevant to show the state of the art and reasons and motivations for making improvements, additions, and combinations.

CrowdStrike also contends that the Asserted Patents are invalid in view of public knowledge and uses and/or offers for sale or sales of products and services that are under 35 U.S.C. § 102(a) and/or 35 U.S.C. § 102(b) and/or prior inventions made in this country by other inventors who had not abandoned, suppressed, or concealed them under 35 U.S.C. § 102(g).

CrowdStrike also reserves the right to rely on any system, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed herein alone or in combination. CrowdStrike further reserves the right to rely on any other documents or references describing any such system, knowledge, or use.

Dated: September 13, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via electronic mail on September 13, 2022.

STEVEN CALLAHAN