

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7140855

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	MANDIANT, INC.	10/08/2021
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	FIREEYE SECURITY HOLDINGS US LLC	
<b>Street Address:</b>	601 MCCARTHY BLVD.	
<b>City:</b>	MILPITAS	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	95035	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	17576558
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(202)842-7899	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>		
<b>Phone:</b>	703-456-8000	
<b>Email:</b>	vtevalt@cooley.com	
<b>Correspondent Name:</b>	COOLEY LLP	
<b>Address Line 1:</b>	1299 PENNSYLVANIA AVENUE	
<b>Address Line 2:</b>	SUITE 700, ATTN: PATENT GROUP	
<b>Address Line 4:</b>	WASHINGTON, D.C. 20004-2400	
<b>ATTORNEY DOCKET NUMBER:</b>	MSRB-006/02US 346136-2002	
<b>NAME OF SUBMITTER:</b>	XIANHUA KONG	
<b>SIGNATURE:</b>	/Xianhua Kong/	
<b>DATE SIGNED:</b>	01/26/2022	
<b>Total Attachments: 16</b>		
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page1.tif		
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page2.tif		
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page3.tif		
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page4.tif		
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page5.tif		

source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page6.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page7.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page8.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page9.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page10.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page11.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page12.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page13.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page14.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page15.tif  
source=FireEye Security Holdings US LLC - Patent Assignment - Closing (Executed) schedules removed#page16.tif

## **PATENT ASSIGNMENT**

THIS PATENT ASSIGNMENT (this “**Assignment**”), dated as of October 8, 2021 (“**Effective Date**”), is entered into by and between Mandiant, Inc. (f/k/a FireEye, Inc.), a Delaware corporation (“**Assignor**”), and FireEye Security Holdings US LLC, a Delaware limited liability company and wholly owned subsidiary of Magenta Buyer LLC (“**Assignee**”).

### **RECITALS**

A. Assignor is the sole owner of the patents and patent applications set forth on **Schedule A** attached hereto (the “**Listed Patents**”); and

B. Assignor and Assignee, as assignee of Polaris Buyer LLC, have entered into an Asset Purchase Agreement, dated as of May 29, 2021 (the “**Purchase Agreement**”), pursuant to which Assignor has agreed to assign, sell and transfer the Transferred Patents (as defined in the Purchase Agreement), including but not limited to each of the Listed Patents unto Assignee.

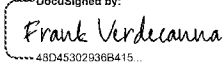
NOW, THEREFORE, for good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, subject to the terms of the Purchase Agreement, Assignor does hereby assign, sell and transfer unto Assignee, Assignor’s ownership of the Transferred Patents, including but not limited to the Listed Patents, including, without limitation, (i) any United States, international and foreign counterparts or equivalents of any of the foregoing, applications or certificates of invention based upon or covering any portion of any of the foregoing, (ii) any reissues, divisionals, renewals, extensions, provisionals, continuations, continuations-in-part, reexaminations, substitutions or revisions of any of the foregoing, (iii) any other patents, applications or extensions that claim priority to or through any of the foregoing, and (iv) the rights to enforce, and recover and retain any damages or obtain equitable relief for or collect license fees and/or royalties, for the past, ongoing, or future infringement, misappropriation, or use of any of the foregoing. Assignor does further consent to the recordation of this Assignment with any governmental agency.

*[Remainder of page intentionally left blank]*

**IN WITNESS WHEREOF**, this Assignment has been duly executed and delivered by a duly authorized representative of each of the parties as of the Effective Date.

**ASSIGNOR**

**MANDIANT, INC.**

By:  \_\_\_\_\_  
48D453029368415...

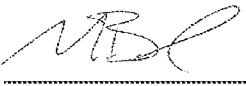
Name: Frank Verdecanna

Title: EVP and Chief Financial Officer

[Signature Page to Patent Assignment]

ASSIGNEE

FIREEYE SECURITY HOLDINGS US LLC

By:   
Name: Marc Bala  
Title: Secretary

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1354	Methods for Detecting File Altering Malware in VM Based Analysis	3/31/2015	Raymond Yang; Sai Vashisht; Sushant Paithane; Yasir Khalid	ISSUED	9483644	<a href="https://patents.google.com/patent/US9483644">https://patents.google.com/patent/US9483644</a>
P01-1355.02	Selective Virtualization for Security Threat Detection	3/25/2016	Michael Vincent; Sushant Paithane	ISSUED	10417031	<a href="https://patents.google.com/patent/US10417031">https://patents.google.com/patent/US10417031</a>
P01-1356	Detecting Malware Based on Reflection	4/23/2015	Abhishek Singh; Varun Jain	ISSUED	9594904	<a href="https://patents.google.com/patent/US9594904">https://patents.google.com/patent/US9594904</a>
P01-1358	System and Method for Malware Containment	2/11/2015	Ashar Aziz; Jayaraman Manni; Wei-Lung Lai	ISSUED	9197664	<a href="https://patents.google.com/patent/US9197664">https://patents.google.com/patent/US9197664</a>
P01-1360	System, Apparatus and Method for Automatically Verifying Exploits Within Suspect Objects and Highlighting the Display Information Associated with the Verified Exploits	2/11/2015	Ashar Aziz; Muhammad Amin; Osman Ismael; Zheng Bu	ISSUED	9306974	<a href="https://patents.google.com/patent/US9306974">https://patents.google.com/patent/US9306974</a>
P01-1361.02	Centralized Aggregation Technique for Detecting Lateral Movement of Advanced Persistent Threat Attacks in a Network	3/31/2016	Ashar Aziz	ISSUED	10454950	<a href="https://patents.google.com/patent/US10454950">https://patents.google.com/patent/US10454950</a>
P01-1362.02	Leveraging Behavior-based Rules for Malware Family Classification	12/11/2015	Abdul Salam; Farrukh Shahzad; Fahim Abbassi	ISSUED	10176321	<a href="https://patents.google.com/patent/US10176321">https://patents.google.com/patent/US10176321</a>
P01-1378	System and Method for Detecting Interpreter-based Exploit Attacks	9/29/2015	Sushant Paithane; Sai Vashisht	ISSUED	10033747	<a href="https://patents.google.com/patent/US10033747">https://patents.google.com/patent/US10033747</a>
P01-1379	Systems and Methods for Analyzing Malicious PDF Network Content	3/30/2015	Ashar Aziz; Stuart Gresley Staniford	ISSUED	9438622	<a href="https://patents.google.com/patent/US9438622">https://patents.google.com/patent/US9438622</a>
P01-1380	Systems and Methods for Malware Attack Prevention	11/24/2014	Jayaraman Manni; Wei-Lung Lai; Ashar Aziz	ISSUED	10165000	<a href="https://patents.google.com/patent/US10165000">https://patents.google.com/patent/US10165000</a>
P01-1381.02	Virtual System and Method with Threat Protection	6/30/2016	Udo Steinberg	ISSUED	10,395,029	<a href="https://patents.google.com/patent/US10395029">https://patents.google.com/patent/US10395029</a>
P01-1383	Cyber Attack Early Warning System	9/30/2015	Divyesh Mehra; Abhishek Singh	ISSUED	9825989	<a href="https://patents.google.com/patent/US9825989">https://patents.google.com/patent/US9825989</a>
P01-1386.02	System and Method for Protecting a Software Component Running in a Virtual Machine Through Virtual Interrupts by the Virtualization Layer	6/30/2016	Udo Steinberg	ISSUED	10726127	<a href="https://patents.google.com/patent/US10726127">https://patents.google.com/patent/US10726127</a>
P01-1387.02	System and Method for Protecting Memory Pages Associated with a Process Using a Virtualization Layer	6/30/2016	Udo Steinberg	ISSUED	10216927	<a href="https://patents.google.com/patent/US10216927">https://patents.google.com/patent/US10216927</a>
P01-1390	Electronic Message Analysis for Malware Detection	6/22/2015	Ashar Aziz; Henry Uyeno; Jayaraman Manni; Muhammad Amin; Stuart Gresley Staniford	ISSUED	10027690	<a href="https://patents.google.com/patent/US10027690">https://patents.google.com/patent/US10027690</a>
P01-1391	Malicious Content Analysis Using Simulated User Interaction Without User Involvement	7/20/2015	Emmanuel Thioux	ISSUED	9912698	<a href="https://patents.google.com/patent/US9912698">https://patents.google.com/patent/US9912698</a>
P01-1392	Detection and Classification of Exploit Kits	9/30/2015	Josh Gomez; Abhishek Singh	ISSUED	9825976	<a href="https://patents.google.com/patent/US9825976">https://patents.google.com/patent/US9825976</a>
P01-1393.02	Mobile Application Risk Analysis	6/30/2016	Raymond Wei; Zhang Lei Wang	ISSUED	10715542	<a href="https://patents.google.com/patent/US10715542">https://patents.google.com/patent/US10715542</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1400	System and Method for Multi-Application, Multi-Plugin Analysis for Use in Detecting a Malicious Attack	11/10/2015	Sushant Paithane; Sai Vashisht; Yasir Khalid; Alex Pilipenko; Muhammad Rizwan	ISSUED	10284575	<a href="https://patents.google.com/patent/US10284575">https://patents.google.com/patent/US10284575</a>
P01-1401	Malware analysis in accordance with an analysis plan	10/23/2015	Ali Mesdaq; Michael Vincent; Emmanuel Thioux; Abhishek Singh; Sai Vashisht	ISSUED	9910988	<a href="https://patents.google.com/patent/US9910988">https://patents.google.com/patent/US9910988</a>
P01-1402	System and Method for Classifying Malware Within Content Created During Analysis of a Specimen	10/23/2015	Michael Vincent; Ali Mesdaq; Emmanuel Thioux; Abhishek Singh; Sai Vashisht	ISSUED	10515214	<a href="https://patents.google.com/patent/US10515214">https://patents.google.com/patent/US10515214</a>
P01-1403	Detection of Credential Spearphishing Attacks Using Email Analysis	9/30/2015	Ali Mesdaq; Abhishek Singh; Varun Jain	ISSUED	10601865	<a href="https://patents.google.com/patent/US10601865">https://patents.google.com/patent/US10601865</a>
P01-1405	Method to Detect Application Execution Hijacking Using Memory Protection	9/30/2015	Amit Malik; Raghav Pande; Aakash Jain	ISSUED	10,210,329	<a href="https://patents.google.com/patent/US10210329">https://patents.google.com/patent/US10210329</a>
P01-1411.02	Exploit of Privileges Detection Framework	6/29/2016	Michael Vincent; Sai Vashisht; Jonas Pfoh	ISSUED	10565378	<a href="https://patents.google.com/patent/US10565378">https://patents.google.com/patent/US10565378</a>
P01-1413	Malicious Message Analysis System	12/30/2015	Abhishek Singh	ISSUED	10050998	<a href="https://patents.google.com/patent/US10050998">https://patents.google.com/patent/US10050998</a>
P01-1418.02	Cyber-Security Framework for Application of Virtual Features	6/29/2016	Shivani Deshpande; Yasir Khalid; Gregory Templeman	FILED	15/197,653	
P01-1424	Susceptible Environment Detection System	12/31/2015	Yasir Khalid; Shivani Deshpande	ISSUED	9824216	<a href="https://patents.google.com/patent/US9824216">https://patents.google.com/patent/US9824216</a>
P01-1425	Malware Detection System with Contextual Analysis	12/31/2015	Yasir Khalid; Alexander Otvagin; Sai Vashisht	ISSUED	10581874	<a href="https://patents.google.com/patent/US10581874">https://patents.google.com/patent/US10581874</a>
P01-1437	System and Method for Triggering Analysis of an Object for Malware in Response to Modification of that Object	12/30/2015	Vineet Kumar; Alexander Otvagin; Nikita Borodulin	ISSUED	10133866	<a href="https://patents.google.com/patent/US10133866">https://patents.google.com/patent/US10133866</a>
P01-1442	Detecting Delayed Activation Malware Using a Primary Controller and Plural Time Controllers	6/29/2016	Michael Vincent	ISSUED	10706149	<a href="https://patents.google.com/patent/US10706149">https://patents.google.com/patent/US10706149</a>
P01-1449	Technique for Implementing Memory Views Using a Layered Virtualization Architecture	9/6/2016	Osman Ismael; Udo Steinberg	ISSUED	10191861	<a href="https://patents.google.com/patent/US10191861">https://patents.google.com/patent/US10191861</a>
P01-1453	System and Method for Malware Containment	11/23/2015	Ashar Aziz; Jayaraman Manni; Wei-Lung Lai	ISSUED	10,068,091	<a href="https://patents.google.com/patent/US10068091">https://patents.google.com/patent/US10068091</a>
P01-1455.02	Enhanced Malware Detection for Generated Object	6/19/2017	Sushant Paithane; Sai Vashisht	ISSUED	10581879	<a href="https://patents.google.com/patent/US10581879">https://patents.google.com/patent/US10581879</a>
P01-1461	User Interface with Real-time Visual Playback Along with Synchronous Textual Analysis Log Display and Event/Time Index for Anomalous Behavior Detection in Applications	11/23/2015	Adrian Mettler; Ashar Aziz; Harnish Goradia; Noah Johnson; Osman Ismael	ISSUED	10019338	<a href="https://patents.google.com/patent/US10019338">https://patents.google.com/patent/US10019338</a>
P01-1462	Framework For Efficient Security Coverage Of Mobile Software Applications Using Machine Learning	10/12/2015	Osman Ismael; Dawn Song; Phung-Te Ha; Peter Gilbert; Hui Xue	ISSUED	9594905	<a href="https://patents.google.com/patent/US9594905">https://patents.google.com/patent/US9594905</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1463	Framework For Efficient Security Coverage Of Mobile Software Applications	11/2/2015	Ashar Aziz; Dawn Song; Osman Ismael; Noah Johnson; Prashanth Mohan; Hui Xue	ISSUED	9792196	<a href="https://patents.google.com/patent/US9792196">https://patents.google.com/patent/US9792196</a>
P01-1464	System, Apparatus and Method for Conducting on-the-fly Decryption of Encrypted Objects for Malware Detection	11/16/2015	Ali Islam	ISSUED	9560059	<a href="https://patents.google.com/patent/US9560059">https://patents.google.com/patent/US9560059</a>
P01-1465	Dynamically Remote Tuning of a Malware Content Detection System	12/28/2015	Darien Kindlund; Emmanuel Thioux; Michael Vincent; Sai Vashisht	ISSUED	10341363	<a href="https://patents.google.com/patent/US10341363">https://patents.google.com/patent/US10341363</a>
P01-1475	Micro-Virtualization Architecture for Threat-Aware Microvisor Deployment in a Node of a Network Environment	1/28/2016	Ashar Aziz; Osman Ismael	ISSUED	9946568	<a href="https://patents.google.com/patent/US9946568">https://patents.google.com/patent/US9946568</a>
P01-1476	System and Method for Network Behavior Detection	1/15/2016	James Bennett; Zheng Bu	ISSUED	10432649	<a href="https://patents.google.com/patent/US10432649">https://patents.google.com/patent/US10432649</a>
P01-1485	System and Methods for Advanced Malware Detection Placement of Transition Events	6/22/2016	Alex Pilipenko; Phung-Te Ha	ISSUED	10169585	<a href="https://patents.google.com/patent/US10169585">https://patents.google.com/patent/US10169585</a>
P01-1487.02	Ransomware Detection and Mitigation	7/24/2017	Anil Gupta; Japneet Singh	ISSUED	10503904	<a href="https://patents.google.com/patent/US10503904">https://patents.google.com/patent/US10503904</a>
P01-1490.02	Malware Detection Verification and Enhancement Using Detection Systems Located at the Network Periphery and Endpoint Devices	3/29/2017	Ashar Aziz; Osman Ismael	ISSUED	10893059	<a href="https://patents.google.com/patent/US10893059">https://patents.google.com/patent/US10893059</a>
P01-1491.02	Malware Detection Verification and Enhancement By Coordinating Endpoint and Malware Detection Systems	6/26/2017	Ashar Aziz; Osman Ismael	ISSUED	10462173	<a href="https://patents.google.com/patent/US10462173">https://patents.google.com/patent/US10462173</a>
P01-1502.02	Dynamic Adaptive Defense for Cyber-security Threats	4/1/2016	Fred Brott; Paul Smith; Thomas Bernard; David Scott	ISSUED	10129290	<a href="https://patents.google.com/patent/US10129290">https://patents.google.com/patent/US10129290</a>
P01-1520	Improving Detection Efficacy of Virtual Machine-Based Analysis With Application Specific Events	2/12/2016	Sai Vashisht; Sushant Paithane	ISSUED	9916440	<a href="https://patents.google.com/patent/US9916440">https://patents.google.com/patent/US9916440</a>
P01-1522	Fuzzy hash of behavioral results	3/21/2016	Ali Mesdaq; Paul Westin	ISSUED	9912691	<a href="https://patents.google.com/patent/US9912691">https://patents.google.com/patent/US9912691</a>
P01-1523	System, Apparatus and Method for Automatically Verifying Exploits Within Suspect Objects and Highlighting the Display Information Associated with the Verified Exploits	10/19/2016	Zheng Bu; Muhammad Amin; Ashar Aziz	ISSUED	10476909	<a href="https://patents.google.com/patent/US10476909">https://patents.google.com/patent/US10476909</a>
P01-1524	Hypervisor-based Selective Virtualization for Security Threat Detection	9/16/2019	Sushant Paithane; Michael Vincent	FILED	16/572537	
P01-1525	System and Method for Detecting Malicious Links in Electronic Messages	3/28/2016	Vinay Pidathala; Henry Uyeno	ISSUED	9888019	<a href="https://patents.google.com/patent/US9888019">https://patents.google.com/patent/US9888019</a>
P01-1528	Systems and methods for computer worm defense	4/4/2016	Ashar Aziz	ISSUED	9516057	<a href="https://patents.google.com/patent/US9516057">https://patents.google.com/patent/US9516057</a>
P01-1529	Electronic Device for Aggregation, Correlation and Consolidation of Analysis Attributes	4/11/2016	Jayaraman Manni; Michael Berrow; Philip Eun	ISSUED	9641546	<a href="https://patents.google.com/patent/US9641546">https://patents.google.com/patent/US9641546</a>



FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1530	System and Method to Detect Premium Attacks on Electronic Networks and Electronic Devices	6/28/2016	Alex Rivlin; Naveed Alam; Vinoth Duraisamy	ISSUED	10121000	<a href="https://patents.google.com/patent/US10121000">https://patents.google.com/patent/US10121000</a>
P01-1542	Advanced Malware Detection Using Similarity Analysis	9/29/2016	Jimmy Su	ISSUED	10491627	<a href="https://patents.google.com/patent/US10491627">https://patents.google.com/patent/US10491627</a>
P01-1543	System and Method for Detecting Malicious Traffic Using a Virtual Machine Environment	5/27/2016	Ashar Aziz	ISSUED	9661018	<a href="https://patents.google.com/patent/US9661018">https://patents.google.com/patent/US9661018</a>
P01-1544	File Extraction from Memory Dump for Malicious Content Analysis	5/27/2016	Osman Ismael; Muhammad Amin; Emmanuel Thieux	ISSUED	10198574	<a href="https://patents.google.com/patent/US10198574">https://patents.google.com/patent/US10198574</a>
P01-1546	Arrangement for Efficient Search and Retrieval of Indexes Used to Locate Captured Packets	7/20/2016	Randy Caldejon; Dennis Lee Edwards; Christopher Hayes Fauerbach	ISSUED	9876701	<a href="https://patents.google.com/patent/US9876701">https://patents.google.com/patent/US9876701</a>
P01-1571	System and Method for Managing Formation and Modification of a Cluster within a Malware Detection System	9/30/2016	Mumtaz Siddiqui	ISSUED	10,476,906	<a href="https://patents.google.com/patent/US10476906">https://patents.google.com/patent/US10476906</a>
P01-1572	System and Method for Managing Sensor Enrollment	9/30/2016	Mumtaz Siddiqui	ISSUED	10601863	<a href="https://patents.google.com/patent/US10601863">https://patents.google.com/patent/US10601863</a>
P01-1573	Cluster Configuration within a Scalable Malware Detection System	9/30/2016	Alexander Otvagin; Sakthi Subramanian; Kristis Krilovs; Diptesh Chatterjee; Prakhyath Rajanna	ISSUED	10785255	<a href="https://patents.google.com/patent/US10785255">https://patents.google.com/patent/US10785255</a>
P01-1574.02	Timeout Management Services in Scalable Malware Detection System	12/27/2016	Alexander Otvagin; Mumtaz Siddiqui	ISSUED	10671721	<a href="https://patents.google.com/patent/US10671721">https://patents.google.com/patent/US10671721</a>
P01-1575	Distributed Malware Detection System and Submission Workflow Thereof	9/30/2016	Alexander Otvagin	ISSUED	10616266	<a href="https://patents.google.com/patent/US10616266">https://patents.google.com/patent/US10616266</a>
P01-1590	System and Method of Detecting Delivery of Malware Based on Indicators of Compromise from Different Sources	6/6/2016	Alex Rivlin; Divyesh Mehra; Henry Uyeno; Vinay Pidathala	ISSUED	9609007	<a href="https://patents.google.com/patent/US9609007">https://patents.google.com/patent/US9609007</a>
P01-1591	Methods and System for Hiding Transition Events for Malware Detection	6/30/2016	Phung-Te Ha	ISSUED	10341365	<a href="https://patents.google.com/patent/US10341365">https://patents.google.com/patent/US10341365</a>
P01-1595.02	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	6/22/2016	Christopher Nelson Bailey; Bernd Constant; Juan Manuel Vela	ISSUED	10536484	<a href="https://patents.google.com/patent/US10536484">https://patents.google.com/patent/US10536484</a>
P01-1605	Cyber-Security System and Method for Weak Indicator Detection and Correlation to Generate Strong Indicators	6/29/2017	Sundar Jeyaraman; Ramu Ramaswamy	ISSUED	10601848	<a href="https://patents.google.com/patent/US10601848">https://patents.google.com/patent/US10601848</a>
P01-1606	Multi-Vector Detection and Analysis	12/27/2016	Sakthi Subramanian	ISSUED	10,523,609	<a href="https://patents.google.com/patent/US10523609">https://patents.google.com/patent/US10523609</a>
P01-1607.02	Enterprise Search	11/3/2017	Steven Ross; Ai Duong; Larry King; Jack Young	ISSUED	10795991	<a href="https://patents.google.com/patent/US10795991">https://patents.google.com/patent/US10795991</a>
P01-1608	Network Based Malware Detection	7/18/2016	Shrikishna Karandikar; Muhammad Amin; Shivani Deshpande; Yasir Khalid	ISSUED	9661009	<a href="https://patents.google.com/patent/US9661009">https://patents.google.com/patent/US9661009</a>

FireEye Docket No	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1610	Technique for Malware Detection Capability Comparison of Network Security Devices	11/22/2016	Yasir Khalid; Nadeem Shahbaz	ISSUED	10587647	<a href="https://patents.google.com/patent/US10587647">https://patents.google.com/patent/US10587647</a>
P01-1615	System and Method for Detecting Malicious Traffic Using a Virtual Machine Configured with a Select Software Environment	8/1/2016	Ashar Aziz	ISSUED	10567405	<a href="https://patents.google.com/patent/US10567405">https://patents.google.com/patent/US10567405</a>
P01-1616	Correlation and Consolidation of Analytic Data for Holistic View of a Malware Attack	8/2/2016	Sean Cunningham; Robert Dana; Joseph Nardone; Joseph Faber; Kevin Arunski	ISSUED	10033748	<a href="https://patents.google.com/patent/US10033748">https://patents.google.com/patent/US10033748</a>
P01-1632	Distributed Systems and Methods for Automatically Detecting Unknown Bot and Botnets	8/29/2016	Ali Islam; Todd Rosenberry; Atif Mushtaq; Ashar Aziz	ISSUED	10200384	<a href="https://patents.google.com/patent/US10200384">https://patents.google.com/patent/US10200384</a>
P01-1633	Modular architecture for analysis database	9/1/2016	Arsen Movsesyan; Vineet Kumar; Alexander Otvagin	ISSUED	9787706	<a href="https://patents.google.com/patent/US9787706">https://patents.google.com/patent/US9787706</a>
P01-1634	Detection of Phishing Attacks Using Similarity Analysis	3/24/2017	Rundong Liu	ISSUED	10904286	<a href="https://patents.google.com/patent/US10904286">https://patents.google.com/patent/US10904286</a>
P01-1635	Systems and methods for analyzing PDF documents	9/2/2016	Ashar Aziz; Stuart Gresley Staniford	ISSUED	9954890	<a href="https://patents.google.com/patent/US9954890">https://patents.google.com/patent/US9954890</a>
P01-1637.02	Cyber-Security System And Method For Detecting Escalation Of Privileges Within An Access Token	3/14/2019	Atul Kabra; Japneet Singh; Ratnesh Pandey	FILED	16/353984	
P01-1638	System and Method for the Programmatic Runtime Deobfuscation of Obfuscated Software Utilizing Virtual Machine Introspection and Manipulation of Virtual Machine Guest Memory Permissions	10/3/2016	Antony Saba; Robert Jung	ISSUED	10380343	<a href="https://patents.google.com/patent/US10380343">https://patents.google.com/patent/US10380343</a>
P01-1640.02	Ransomware File Modification Prevention Technique	6/29/2018	Yasir Khalid; Nadeem Shahbaz; Raghunath Konda	ISSUED	10893068	<a href="https://patents.google.com/patent/US10893068">https://patents.google.com/patent/US10893068</a>
P01-1641	System and method for detecting file altering behaviors pertaining to a malicious attack	10/31/2016	Raymond Yang; Sai Vashisht; Sushant Paithane; Yasir Khalid	ISSUED	9846776	<a href="https://patents.google.com/patent/US9846776">https://patents.google.com/patent/US9846776</a>
P01-1644.02	Adaptive Virtual machine Snapshot Update Framework for Malware Behavioral Analysis	6/19/2017	Sai Vashisht; Phung-Te Ha; Sushant Paithane; Sumer Deshpande	ISSUED	10552610	<a href="https://patents.google.com/patent/US10552610">https://patents.google.com/patent/US10552610</a>
P01-1645	Optimized Resource Allocation for Virtual Machines Within a Malware Content Detection System	11/14/2016	Osman Ismael	ISSUED	10469512	<a href="https://patents.google.com/patent/US10469512">https://patents.google.com/patent/US10469512</a>
P01-1651.02	Subscription-Based Malware Detection Architecture	3/29/2018	Mumtaz Siddiqui; Manju Radhakrishnan; Deepak Agarwal	FILED	15/940,352	
P01-1652	Efficient Access to Sparse Packets in Large Repositories of Stored Network Traffic	12/2/2016	Christopher Hayes Fauerbach; Dennis Lee Edwards	ISSUED	9674298	<a href="https://patents.google.com/patent/US9674298">https://patents.google.com/patent/US9674298</a>
P01-1653	Subscriber Based Protection System	12/5/2016	Ashar Aziz	ISSUED	9838411	<a href="https://patents.google.com/patent/US9838411">https://patents.google.com/patent/US9838411</a>
P01-1654	System and Method for Predicting and Mitigating Cybersecurity System Misconfigurations	3/29/2018	Wei Quan; Raghunath Konda	ISSUED	10826931	<a href="https://patents.google.com/patent/US10826931">https://patents.google.com/patent/US10826931</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1655	Method for Detecting Malware Within Network Content	12/12/2016	Ashar Aziz; Stuart Gresley Staniford; Muhammad Amin; Henry Uyeno; Samuel Yie	ISSUED	10282548	<a href="https://patents.google.com/patent/US10282548">https://patents.google.com/patent/US10282548</a>
P01-1656.02	Data Extraction System for Malware Analysis	6/19/2017	Sai Vashisht; Phung-Te Ha; Durvesh Ashok Raut; Sushant Patihane	ISSUED	10902119	<a href="https://patents.google.com/patent/US10902119">https://patents.google.com/patent/US10902119</a>
P01-1657	System and Method for Detecting Time-Bomb Malware	12/29/2016	PAITHANE SUSHANT; VINCENT MICHAEL; VASHISHT SAI; KINDLUND DARIEN	ISSUED	10083302	<a href="https://patents.google.com/patent/US10083302">https://patents.google.com/patent/US10083302</a>
P01-1658	System and Method for Bot Detection	4/17/2017	Ashar Aziz; Wei-Lung Lai; Jayaraman Manni	ISSUED	10587636	<a href="https://patents.google.com/patent/US10587636">https://patents.google.com/patent/US10587636</a>
P01-1661	System and method for detecting malicious activity based on at least one environmental property	2/6/2017	Darien Kindlund; Julia Wolf; James Bennett	ISSUED	9934381	<a href="https://patents.google.com/patent/US9934381">https://patents.google.com/patent/US9934381</a>
P01-1662	System and method for offloading packet processing and static analysis operations	3/6/2017	Madhusudan Challa; Masood Mehmood; Muhammad Amin; Ramaswamy Ramaswamy; Shrikrishna Karandikar	ISSUED	9787700	<a href="https://patents.google.com/patent/US9787700">https://patents.google.com/patent/US9787700</a>
P01-1663	System and Method for Signature Generation	3/6/2017	Ashar Aziz	ISSUED	10511614	<a href="https://patents.google.com/patent/US10511614">https://patents.google.com/patent/US10511614</a>
P01-1664	System and Method of Detecting Delivery of Malware Using Cross-Customer Data	3/27/2017	Alex Rivlin; Divyesh Mehra; Henry Uyeno; Vinay Pidathala	ISSUED	10027696	<a href="https://patents.google.com/patent/US10027696">https://patents.google.com/patent/US10027696</a>
P01-1665	System and Method for Preventing Malware Evasion	9/27/2017	Phung-Te Ha; Min Li	ISSUED	10747872	<a href="https://patents.google.com/patent/US10747872">https://patents.google.com/patent/US10747872</a>
P01-1667	Phishing Attack Detection	10/1/2017	Pavan Chitturi; Surya Rao	ISSUED	10805346	<a href="https://patents.google.com/patent/US10805346">https://patents.google.com/patent/US10805346</a>
P01-1669	Advanced Persistent Threat (APT) Detection Center	4/17/2017	Thoufique Haq; Jinjian Zhai; Vinay Pidathala	ISSUED	10735458	<a href="https://patents.google.com/patent/US10735458">https://patents.google.com/patent/US10735458</a>
P01-1670	Malicious Content Analysis with Multi-Version Application Support Within Single Operating Environment	4/17/2017	Yasir Khalid; Muhammad Amin; Emily Jing	ISSUED	10025927	<a href="https://patents.google.com/patent/US10025927">https://patents.google.com/patent/US10025927</a>
P01-1679	Classifying Sets of Malicious Indicators for Detecting Command and Control Communications Associated with Malware	4/24/2017	Ali Islam; Zheng Bu	ISSUED	10033753	<a href="https://patents.google.com/patent/US10033753">https://patents.google.com/patent/US10033753</a>
P01-1681	Correlation and Consolidation of Analytic Data for Holistic View of a Malware Attack	5/1/2017	Jayaraman Manni; Michael Berrow; Philip Eun	ISSUED	10122746	<a href="https://patents.google.com/patent/US10122746">https://patents.google.com/patent/US10122746</a>
P01-1683	Analytics-Based Security Monitoring System and Method	5/12/2017	Justin Neumann	ISSUED	10104102	<a href="https://patents.google.com/patent/US10104102">https://patents.google.com/patent/US10104102</a>
P01-1690	System, Device and Method for Detecting a Malicious Attack Based on Direct Communications Between Remotely Hosted Virtual Machines and Malicious Web Servers	5/19/2017	Shrikrishna Karandikar; Muhammad Amin; Shivani Deshpande; Yasir Khalid	ISSUED	9838408	<a href="https://patents.google.com/patent/US9838408">https://patents.google.com/patent/US9838408</a>
P01-1692.02	Subscription-Based Malware Detection	3/29/2018	Mumtaz Siddiqui; Manju Radhakrishnan	ISSUED	10791138	<a href="https://patents.google.com/patent/US10791138">https://patents.google.com/patent/US10791138</a>
P01-1693.02	Attribute-Controlled Malware Detection	3/29/2018	Mumtaz Siddiqui; Manju Radhakrishnan; Deepak Agarwal	ISSUED	10798112	<a href="https://patents.google.com/patent/US10798112">https://patents.google.com/patent/US10798112</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1696	Multistage System and Method for Analyzing Obfuscated Content for Malware	6/26/2017	Amit Malik; Shivani Deshpande; Wei Zheng; Abhishek Singh	ISSUED	10657251	<a href="https://patents.google.com/patent/US10657251">https://patents.google.com/patent/US10657251</a>
P01-1699	Framework for Classifying an Object as Malicious with Machine Learning for Deploying Updated Predictive Models	6/26/2017	Abhishek Singh; Ali Mesdaq; Anirban Das; Varun Jain	ISSUED	10366231	<a href="https://patents.google.com/patent/US10366231">https://patents.google.com/patent/US10366231</a>
P01-1701	Dynamic Adaptive Defense for Cyber-security Threats	4/28/2017	Fred Brott; Paul Smith; Thomas Bernard; David Scott	ISSUED	10505972	<a href="https://patents.google.com/patent/US10505972">https://patents.google.com/patent/US10505972</a>
P01-1703.02	Platform and Method for Enhanced Cyber-Attack Detection and Response Employing a Global Data Store	12/17/2018	Sai Vashisht; Alexander Otvagin	FILED	16/222194	
P01-1707	Systems, Apparatus and Method for Reconfiguring Virtual Machines	8/14/2017	Osman Ismael	ISSUED	11075945	<a href="https://patents.google.com/patent/US11075945">https://patents.google.com/patent/US11075945</a>
P01-1710	System and Method for Run-time Object Classification	8/28/2017	Zheng Bu; Vinay Pidathala; Ashar Aziz	ISSUED	10467411	<a href="https://patents.google.com/patent/US10467411">https://patents.google.com/patent/US10467411</a>
P01-1711	Multi-level Control for Enhanced Resource Management and Object Evaluation Management	9/29/2017	Manju Radhakrishnan; Alexander Otvagin; Mumtaz Siddiqui	ISSUED	10554507	<a href="https://patents.google.com/patent/US10554507">https://patents.google.com/patent/US10554507</a>
P01-1712	System and Method for Enforcing Compliance with Subscription Requirements for Cyber-Attack Detection Service	9/29/2017	Manju Radhakrishnan; Mumtaz Siddiqui	ISSUED	10848397	<a href="https://patents.google.com/patent/US10848397">https://patents.google.com/patent/US10848397</a>
P01-1720	System and Method for Offloading Packet Processing and Static Analysis Operations	10/9/2017	Madhusudan Challa; Masood Mehmood; Muhammad Amin; Ramaswamy Ramaswamy; Shrikrishna Karandikar	ISSUED	10454953	<a href="https://patents.google.com/patent/US10454953">https://patents.google.com/patent/US10454953</a>
P01-1721.02	Phishing Website Detection using Deep Convolutional Neural Network	6/8/2018	Bala Rajagopalan; Rahul Mohandas; Santhosh Ramachandran; Vamsi Kumar Kurva	ISSUED	10834128	<a href="https://patents.google.com/patent/US10834128">https://patents.google.com/patent/US10834128</a>
P01-1725	Security Cloud Service Framework for Hardening in the Field Code of Mobile Software Applications	11/17/2017	Ashar Aziz; Osman Ismael	ISSUED	10,181,029	<a href="https://patents.google.com/patent/US10181029">https://patents.google.com/patent/US10181029</a>
P01-1726	Intelligent Context Aware User Interaction for Malware Detection	12/4/2017	Sai Vashisht; Sushant Paithane; Yasir Khalid	ISSUED	10798121	<a href="https://patents.google.com/patent/US10798121">https://patents.google.com/patent/US10798121</a>
P01-1727	Cyber Attack Early Warning System	11/17/2017	Divyesh Mehra; Abhishek Singh	ISSUED	10873597	<a href="https://patents.google.com/patent/US10873597">https://patents.google.com/patent/US10873597</a>
P01-1728	Susceptible Environment Detection System	11/17/2017	Yasir Khalid; Shivani Deshpande	ISSUED	10445502	<a href="https://patents.google.com/patent/US10445502">https://patents.google.com/patent/US10445502</a>
P01-1729	Framework For Efficient Security Coverage Of Mobile Software Applications	10/16/2017	Ashar Aziz; Osman Ismael; Hui Xue; Dawn Song; Noah Johnson; Prashanth Mohan	ISSUED	10296437	<a href="https://patents.google.com/patent/US10296437">https://patents.google.com/patent/US10296437</a>
P01-1733	System and Methods for Computer Worm Defense	12/4/2017	Ashar Aziz	ISSUED	10097573	<a href="https://patents.google.com/patent/US10097573">https://patents.google.com/patent/US10097573</a>
P01-1735.02	Platform and Method for Performing Cybersecurity Analyses Employing an Intelligence Hub with a Modular Architecture	12/17/2018	Sai Vashisht; Alexander Otvagin	FILED	16/223107	
P01-1736.02	Platform and Method for Retroactive Reclassification	12/17/2018	Alexander Otvagin; Sai Vashisht	FILED	16/222,501	

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
	Employing a Cybersecurity-Based Global Data Store					
P01-1737	System and Method for Automatically Generating Malware Detection Rule Recommendations	3/30/2018	Victor Fang; Wei Quan; Richard Lai; Robert Venal; Benjamin Chang	ISSUED	11003773	<a href="https://patents.google.com/patent/US11003773">https://patents.google.com/patent/US11003773</a>
P01-1739.02	System and Method for Automatically Prioritizing Rules for Cyber-Threat Detection and Mitigation	3/14/2019	Chinmoy Dey; Christopher Glyer; Paul Schottland	FILED	16/353988	
P01-1741.02	Multi-vector Malware Detection Data Sharing System for Improved Detection	3/14/2019	Sai Vashisht; Sushant Paithane	FILED	16/353982	
P01-1747.02	Methods and Apparatus for Cyberattack Detection via Endpoint Source Key Exchange	9/23/2019	Christopher Glyer; Andrew Davis; Seth Summersett	FILED	16/578,986	
P01-1749	System And Method For Distributed Cluster Configuration Monitoring And Management	6/28/2018	Alexey Yakymovych; Alexander Otvagin	FILED	16/022644	
P01-1750	Intelligent System for Mitigating Cybersecurity Risk by Analyzing Domain Name System Traffic	9/28/2018	Ralph Casey; Ken Bagnall; John Jensen	FILED	16/146,211	
P01-1791	System And Method For Detecting Repetitive Cybersecurity Attacks Constituting An Email Campaign	6/27/2018	Jijo Xavier; Robert Venal	ISSUED	11075930	<a href="https://patents.google.com/patent/US11075930">https://patents.google.com/patent/US11075930</a>
P01-1796	Post-intrusion detection of Cyber-Attacks During Lateral Movement Within Enterprise Networks	6/29/2018	Sundar Jeyaraman; Ramu Ramaswamy	ISSUED	10855700	<a href="https://patents.google.com/patent/US10855700">https://patents.google.com/patent/US10855700</a>
P01-1798.02	System and Method for Improved End-to-End Cyber-security Machine Learning and Deployment	7/30/2018	Sai Vashisht; Victor Fang; Rahul Khul	FILED	16/049,687	
P01-1799	System and Method for Mitigating Cyberattacks Against Processor Operability by a Guest Process	9/13/2018	Min Li; Phung-Te Ha	FILED	16/130,944	
P01-1802	System and Method for Virtual Analysis of Network Data	3/5/2018	Ashar Aziz; Osman Ismael; Ramesh Radhakrishnan	ISSUED	10623434	<a href="https://patents.google.com/patent/US10623434">https://patents.google.com/patent/US10623434</a>
P01-1804	Malicious Content Analysis Using Simulated User Interaction Without User Involvement	3/5/2018	Emmanuel Thioux	ISSUED	10848521	<a href="https://patents.google.com/patent/US10848521">https://patents.google.com/patent/US10848521</a>
P01-1805	System and Method for Detecting Malicious Links in Electronic Messages	2/5/2018	Vinay Pidathala; Henry Uyeno	ISSUED	10505956	<a href="https://patents.google.com/patent/US10505956">https://patents.google.com/patent/US10505956</a>
P01-1806	Dynamically Adaptive Framework and Method for Classifying Malware Using Intelligent Static, Emulation and Dynamic Analyses	3/5/2018	Ali Mesdaq; Michael Vincent; Emmanuel Thioux; Abhishek Singh; Sai Vashisht	ISSUED	10713362	<a href="https://patents.google.com/patent/US10713362">https://patents.google.com/patent/US10713362</a>
P01-1807	Fuzzy Hash of Behavioral Results	3/5/2018	Ali Mesdaq; Paul Westin	ISSUED	10218740	<a href="https://patents.google.com/patent/US10218740">https://patents.google.com/patent/US10218740</a>
P01-1808	Improving Detection Efficacy of Virtual Machine-Based Analysis With Application Specific Events	3/12/2018	Sai Vashisht; Sushant Paithane	ISSUED	10534906	<a href="https://patents.google.com/patent/US10534906">https://patents.google.com/patent/US10534906</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-1809	Verification of Trusted Threat-Aware Microvisor	6/18/2018	Hendrik Tews; Osman Ismael	FILED	16/011,495	
P01-1812	System and Method for Selectively Processing Content After Identification and Removal of Malicious Content	12/21/2018	Zain Gardezi	FILED	16/231089	
P01-1816.02	System and Method for Detecting Cyberattacks Impersonating Legitimate Sources	12/23/2019	Zain Gardezi; Mohsin Saeed; Hassan Ahmad; Fahim Abbassi; Farrukh Shahzad	FILED	16/725674	
P01-1845	System and method for detecting malicious activity based on at least one environmental property	4/2/2018	Darien Kindlund; Julia Wolf; James Bennett	ISSUED	10467414	<a href="https://patents.google.com/patent/US10467414">https://patents.google.com/patent/US10467414</a>
P01-1848	Micro-Virtualization Architecture for Threat-Aware Microvisor Deployment in a Node of a Network Environment	4/16/2018	Ashar Aziz; Osman Ismael	ISSUED	10740456	<a href="https://patents.google.com/patent/US10740456">https://patents.google.com/patent/US10740456</a>
P01-1849	Microvisor-Based Malware Detection Appliance Architecture	4/2/2018	Osman Ismael	ISSUED	10528726	<a href="https://patents.google.com/patent/US10528726">https://patents.google.com/patent/US10528726</a>
P01-1854	Electronic Message Analysis for Malware Detection	7/16/2018	Ashar Aziz; Henry Uyeno; Jayaraman Manni; Muhammad Amin; Stuart Gresley Staniford	ISSUED	10757120	<a href="https://patents.google.com/patent/US10757120">https://patents.google.com/patent/US10757120</a>
P01-1855	Malicious Content Analysis with Multi-Version Application Support Within Single Operating Environment	7/16/2018	Yasir Khalid; Muhammad Amin; Emily Jing	FILED	16/036,873	
P01-1856	Interactive Infection Visualization for Improved Exploit Detection and Signature Generation for Malware and Malware Families	7/16/2018	Anil Gupta; Hirendra Rathor; Kaushal Dalal	ISSUED	10868818	<a href="https://patents.google.com/patent/US10868818">https://patents.google.com/patent/US10868818</a>
P01-1857	System and Method of Detecting Delivery of Malware Using Cross-Customer Data	7/16/2018	Alex Rivlin; Divyesh Mehra; Henry Uyeno; Vinay Pidathala	ISSUED	10404725	<a href="https://patents.google.com/patent/US10404725">https://patents.google.com/patent/US10404725</a>
P01-1859	System and Method for Bootkit Detection	9/27/2018	Andrew Davis; Fred House; Ryan Fisher	FILED	16/144,781	
P01-1864	Malicious Message Analysis System	8/13/2018	Abhishek Singh	ISSUED	10581898	<a href="https://patents.google.com/patent/US10581898">https://patents.google.com/patent/US10581898</a>
P01-1868	System and Method for Scanning Remote Services to Locate Stored Objects with Malware	12/21/2018	Sai Vashisht	FILED	16/231074	
P01-1869.02	System and Method for Retrieval and Analysis of Operational Data From Customer, Cloud-Hosted Virtual Resources	8/30/2019	Sai Vashisht; Rahul Khul; Sumer Deshpande; Sushant Patthane	FILED	16/557512	
P01-1870.02	Automated System for Triage of Customer Issues	12/24/2019	Sai Vashisht; Rahul Khul	FILED	16/726723	
P01-1880	System and Method for Detecting Time-Bomb Malware	9/24/2018	Sushant Patthane; Michael Vincent; Sai Vashisht; Darien Kindlund	ISSUED	10335738	<a href="https://patents.google.com/patent/US10335738">https://patents.google.com/patent/US10335738</a>
P01-1881	Intrusion Prevention and Remedy System	9/24/2018	Hatem Eyada	ISSUED	10757134	<a href="https://patents.google.com/patent/US10757134">https://patents.google.com/patent/US10757134</a>
P01-1883	User Interface with Real-Time Visual Playback Along with Synchronous Textual Analysis Log Display and Event/Time	7/9/2018	Adrian Mettler; Ashar Aziz; Harnish Goradia; Noah Johnson; Osman Ismael	ISSUED	10929266	<a href="https://patents.google.com/patent/US10929266">https://patents.google.com/patent/US10929266</a>

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
	Index for Anomalous Behavior Detection in Applications					
P01-1886	Classifying Sets of Malicious Indicators for Detecting Command and Control Communications Associated with Malware	7/23/2018	Ali Islam; Zheng Bu	ISSUED	10637880	<a href="https://patents.google.com/patent/US10637880">https://patents.google.com/patent/US10637880</a>
P01-1887	System and Method for Detecting Interpreter-based Exploit Attacks	7/23/2018	Sushant Paithane; Sai Vashisht	ISSUED	10887328	<a href="https://patents.google.com/patent/US10887328">https://patents.google.com/patent/US10887328</a>
P01-1888	System and method for verifying a cyberthreat	7/23/2018	Sean Cunningham; Robert Dana; Joseph Nardone; Joseph Faber; Kevin Arunski	ISSUED	10701091	<a href="https://patents.google.com/patent/US10701091">https://patents.google.com/patent/US10701091</a>
P01-1900	Correlation and Consolidation of Analytic Data for Holistic View of a Malware Attack	11/5/2018	Jayaraman Manni; Michael Berrow; Philip Eun	ISSUED	10812513	<a href="https://patents.google.com/patent/US10812513">https://patents.google.com/patent/US10812513</a>
P01-1901	Dynamic Adaptive Defense for Cyber-security Threats	11/9/2018	Fred Brott; Paul Smith; Thomas Bernard; David Scott	ISSUED	10616265	<a href="https://patents.google.com/patent/US10616265">https://patents.google.com/patent/US10616265</a>
P01-1908	System and Method for Supporting Cross-Platform Data Verification	6/28/2019	Robert Beard; Robin Caron	FILED	16/457573	
P01-1909.02	Seamless Endpoint Rule Update Mechanism	2/20/2020	Robin Caron; Robert Beard; Neeraj Kulkarni	FILED	16/796541	
P01-1910.02	System to Detect and Protect Against Cybersecurity Attacks on Servers	8/30/2019	Sai Vashisht; Ishan Sharma	FILED	16/557483	
P01-1920	System and Method for Triggering Analysis of an Object for Malware in Response to Modification of that Object	11/16/2018	Vineet Kumar; Alexander Otvagin; Nikita Borodulin	ISSUED	10872151	<a href="https://patents.google.com/patent/US10872151">https://patents.google.com/patent/US10872151</a>
P01-1921	Analytics-Based Security Monitoring System and Method	10/15/2018	Justin Neumann	ISSUED	10728263	<a href="https://patents.google.com/patent/US10728263">https://patents.google.com/patent/US10728263</a>
P01-1922	Late Load Technique for Deploying a Virtualization Layer Underneath a Running Operating System	10/15/2018	Neeraj Kulkarni; Udo Steinberg	FILED	16/160,923	
P01-1926	Exploit Detection System	12/3/2018	Anil Gupta; Harinath Ramchetty; Japneet Singh	ISSUED	10666686	<a href="https://patents.google.com/patent/US10666686">https://patents.google.com/patent/US10666686</a>
P01-1931.02	Method, Apparatus, and Computer-Readable Medium for Encoding Repetition and Definition Level Values for Semi-Structured Data	5/25/2016	Sattam Alsubaiee; Vinayak Borkar	ISSUED	10,866,940	<a href="https://patents.google.com/patent/US10866940">https://patents.google.com/patent/US10866940</a>
P01-1943	Dynamic Guest Image Creation and Rollback	3/25/2019	Harnish Goradia	ISSUED	11,068,587	<a href="https://patents.google.com/patent/US11068587">https://patents.google.com/patent/US11068587</a>
P01-1947	Method to Detect Application Execution Hijacking Using Memory Protection	2/15/2019	Amit Malik; Raghav Pande; Aakash Jain	FILED	16/277907	
P01-1949	System and Method for Identifying and Mitigating Cyberattacks through Malicious Position-Independent Code Execution	9/27/2019	Steve Davis	FILED	16/586794	
P01-1951.02	System and Method for Enhanced Malware Analysis of Electronic	9/29/2020	Sai Vashisht; Alexander Otvagin	FILED	17/037544	

FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
	Messages Based on Dynamic Rendering					
P01-1971	System and Method for Multi-Application, Multi-Plugin Analysis for Use in Detecting a Malicious Attack	5/6/2019	Sushant Paithane; Sai Vashisht; Yasir Khalid; Alex Pilipenko; Muhammad Rizwan	ISSUED	10834107	<a href="https://patents.google.com/patent/US10834107">https://patents.google.com/patent/US10834107</a>
P01-1972	System And Method For Threat Detection And Identification	5/6/2019	Ashar Aziz; Jayaraman Manni; Wei-Lung Lai	ISSUED	11082435	<a href="https://patents.google.com/patent/US11082435">https://patents.google.com/patent/US11082435</a>
P01-1976.02	System and Method for Circumventing Evasive Code for Cyberthreat Detection	12/23/2020	Sai Vashisht; Sushant Paithane; Imtiyaz Yunus Pathan	FILED	17/133379	
P01-1978	Framework for Classifying an Object as Malicious with Machine Learning for Deploying Updated Predictive Models	7/29/2019	Abhishek Singh; Ali Mesdaq; Anirban Das; Varun Jain	ISSUED	10902117	<a href="https://patents.google.com/patent/US10902117">https://patents.google.com/patent/US10902117</a>
P01-1979	Dynamically Remote Tuning of a Malware Content Detection System	7/1/2019	Darien Kindlund; Emmanuel Thioux; Michael Vincent; Sai Vashisht	FILED	16/459536	
P01-1980	System and Method of Detecting Delivery of Malware Using Cross-Customer Data	8/30/2019	Alex Rivlin; Divyesh Mehra; Henry Uyeno; Vinay Pidathala	ISSUED	11019081	<a href="https://patents.google.com/patent/US11019081">https://patents.google.com/patent/US11019081</a>
P01-1985.02	Run-Time Configurable Cybersecurity System	12/23/2020	Sai Vashisht; Sagar Khangan	FILED	17/133397	
P01-1991.02	Subscription and Key Management System	12/23/2020	Sai Vashisht; Sumer Deshpande	FILED	17/133411	
P01-2005	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	12/18/2019	Christopher Nelson Bailey; Bernd Constant; Juan Manuel Vela	ISSUED	10986134	<a href="https://patents.google.com/patent/US10986134">https://patents.google.com/patent/US10986134</a>
P01-2006	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	12/18/2019	Christopher Nelson Bailey; Bernd Constant; Juan Manuel Vela	ISSUED	11063985	<a href="https://patents.google.com/patent/US11063985">https://patents.google.com/patent/US11063985</a>
P01-2011	System, Apparatus and Method for Automatically Verifying Exploits Within Suspect Objects and Highlighting the Display Information Associated with the Verified Exploits	11/8/2019	Zheng Bu; Muhammad Amin; Ashar Aziz	ISSUED	11089057	<a href="https://patents.google.com/patent/US11089057">https://patents.google.com/patent/US11089057</a>
P01-2012	System and method for offloading packet processing and static analysis operations	3/6/2017	Madhusudan Challa; Masood Mehmood; Muhammad Amin; Ramaswamy Ramaswamy; Shrikishna Karandikar	ISSUED	11082436	<a href="https://patents.google.com/patent/US11082436">https://patents.google.com/patent/US11082436</a>
P01-2016	Malware Detection Verification and Enhancement By Coordinating Endpoint and Malware Detection Systems	10/28/2019	Ashar Aziz; Osman Ismael	FILED	16/666335	
P01-2023	System and Method for Detecting Malicious Traffic Using a Virtual Machine Configured with a Select Software Environment	2/14/2020	Ashar Aziz	FILED	16/791933	
P01-2025.02	Automated Enforcement of Security Policies in Cloud and Hybrid Infrastructure Environments	1/23/2018	Lisun Kung; Jose Renato Santos; Sarowar Golam Sikder	ISSUED	10721275	<a href="https://patents.google.com/patent/US10721275">https://patents.google.com/patent/US10721275</a>



FireEye Docket No.	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #	Google Patents
P01-2028	Distributed Malware Detection System and Submission Workflow Thereof	4/6/2020	Alexander Otvagin	FILED	16/840,584	
P01-2029	Dynamic Adaptive Defense for Cyber-security Threats	4/6/2020	Fred Brott; Paul Smith; Thomas Bernard; David Scott	FILED	16/841,383	
P01-2055	Automated Enforcement of Security Policies in Cloud and Hybrid Infrastructure Environment	6/22/2020	Lisun Kung; Jose Renato Santos; Sarowar Golam Sikder	FILED	16/908,681	
P01-2059	Technique for Verifying Exploit/Malware at Malware Detection Appliance Through Correlation with Endpoints	11/2/2020	Ashar Aziz; Osman Ismael	FILED	17/087,550	
P01-2062	Detecting Delayed Activation Malware Using a Run-time monitoring Agent and Time-Dilation Logic	10/26/2020	Michael Vincent	FILED	17/080,786	
P01-2063	Enterprise Search	10/5/2020	Steven Ross; Ai Duong; Larry King; Jack Young	FILED	17/063,618	
P01-2066	Subscription-Based Malware Detection	9/28/2020	Mumtaz Siddiqui; Manju Radhakrishnan	FILED	17/035,538	
P01-2067	Attribute-Controlled Malware Detection	3/29/2018	Mumtaz Siddiqui; Manju Radhakrishnan; Deepak Agarwal	FILED	17/063,648	
P01-2072	Malware Detection Verification and Enhancement Using Detection Systems Located at the Network Periphery and Endpoint Devices	1/11/2021	Ashar Aziz; Osman Ismael	FILED	17/146,417	
P01-2073	Detection of Phishing Attacks Using Similarity Analysis	1/25/2021	Rundong Liu	FILED	17/157,968	
P01-2081	System And Method For Detecting Repetitive Cybersecurity Attacks Constituting An Email Campaign	7/26/2021	Jijo Xavier; Robert Venal	FILED	17/385,835	

## INTERNATIONAL

IP Right: IP Right ID	Country Code	Title	Filing Date	All Inventors	Prosecution Status	Appl./Pat. #
P01-1017.03EP	EP	Electronic Message Analysis for Malware Detection	2/23/2012	Ashar Aziz; Henry Uyeno; Jayaraman Manni; Muhammad Amin; Stuart Gresley Staniford	FILED	12774315.1
P01-1017.04JP	JP	Electronic Message Analysis for Malware Detection	2/23/2012	Ashar Aziz; Henry Uyeno; Jayaraman Manni; Stuart Gresley Staniford; Muhammad Amin	ISSUED	6013455
P01-1018.04JP	JP	Systems and Methods for Detecting Malicious PDF Network Content	1/19/2012	Ashar Aziz; Osman Ismael	ISSUED	5878560
P01-1035.03EP	EP	Optimized Resource Allocation for Virtual Machines Within a Malware Content Detection System	11/10/2015	Osman Ismael	FILED	13884161.4
P01-1035.04JP	JP	Optimized Resource Allocation for Virtual Machines Within a Malware Content Detection System	6/28/2013	Osman Ismael	ISSUED	6419787

IP Right: IP Right ID	Country Code	Title	Filing Date	All Inventors	Prosecution Status	App/Pat. #
P01-1039.05JP	JP	System, Apparatus and Method for Automatically Verifying Exploits Within Suspect Objects and Highlighting the Display Information Associated with the Verified Exploits	12/23/2014	Ashar Aziz; Zheng Bu; Muhammad Amin; Osman Ismael	ISSUED	6441957
P01-1086.03	EP	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.04	DE	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.05	FR	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.06	GB	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.07	IE	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.08	NL	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1086.09	IT	System and Method for Detecting Time-Bomb Malware	6/23/2014	Darien Kindlund; Sushant Paithane; Sai Vashisht; Michael Vincent	ISSUED	3014513
P01-1502.03	EP	Dynamic Adaptive Defense for Cyber-security Threats	10/2/2014	Fred Brott; Paul Smith	FILED	14850557.1
P01-1595.04	EP	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	6/22/2016	BAILEY Christopher Nelson; CONSTANT Bernd; VELA Juan Manuel	ISSUED	3311301
P01-1595.05	DE	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	6/22/2016	BAILEY Christopher Nelson; CONSTANT Bernd; VELA Juan Manuel	ISSUED	3311301
P01-1595.06	FR	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	6/22/2016	BAILEY Christopher Nelson; CONSTANT Bernd; VELA Juan Manuel	ISSUED	3311301
P01-1595.07	GB	Methods and Apparatus for Graphical User Interface Environment for Creating Threat Response Courses of Action for Computer Networks	6/22/2016	BAILEY Christopher Nelson; CONSTANT Bernd; VELA Juan Manuel	ISSUED	3311301
P01-1605.03	EP	Cyber-Security System and Method for Weak Indicator Detection and Correlation to Generate Strong Indicators	6/29/2018	Sundar Jeyaraman; Ramu Ramaswamy	FILED	18750547.4
P01-1882	EP	Electronic Message Analysis for Malware Detection	12/11/2017	Ashar Aziz; Henry Uyeno; Jayaraman Manni; Muhammad Amin; Stuart Gresley Staniford	FILED	17206478.4