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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
61/931,772	01/27/2014	Marco Giuliani	6890-106-PROV

CONFIRMATION NO. 1298

POWER OF ATTORNEY NOTICE



22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

Date Mailed: 12/08/2014

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/01/2014.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/ctuazon/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
61/931,772	01/27/2014	Marco Giuliani	04584.0117USP1

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

CONFIRMATION NO. 1298
POA ACCEPTANCE LETTER



Date Mailed: 12/08/2014

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/01/2014.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

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NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	61/931,772
Filing Date	January 27, 2014
First Named Inventor	Marco Giuliani
Title	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS
Art Unit	Not assigned
Examiner Name	Not assigned
Attorney Docket Number	04584.0117USP1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Andrew T. Pouzeshi/	Date (Optional)	
Name	Andrew T. Pouzeshi	Registration Number	67672
Title (if Applicant is a juristic entity)	Attorney for Applicant		
Applicant Name (if Applicant is a juristic entity)	Webroot Inc.		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

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Application Number

Filing Date

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23552

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I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

WEBROOT INC.



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

May 12, 2014

Name

Ryan Howe

Title

Associate General Counsel

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



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Electronic Acknowledgement Receipt

EFS ID:	20823442
Application Number:	61931772
International Application Number:	
Confirmation Number:	1298
Title of Invention:	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS
First Named Inventor/Applicant Name:	Marco Giuliani
Customer Number:	22442
Filer:	Andrew T. Pouzeshi/Jacquelyn Slate
Filer Authorized By:	Andrew T. Pouzeshi
Attorney Docket Number:	6890-106-PROV
Receipt Date:	01-DEC-2014
Filing Date:	27-JAN-2014
Time Stamp:	11:40:13
Application Type:	Provisional

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	2014_12_01_POA_04584_0117 USP1.PDF	372364 6adbc562f013614a9a672191ea62bbdeac557be0	no	2

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
61/931,772	01/27/2014		130	6890-106-PROV		

CONFIRMATION NO. 1298

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

FILING RECEIPT



Date Mailed: 02/05/2014

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Marco Giuliani, Bastia Umbra (PG), ITALY;
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Applicant(s)

Webroot Inc., Broomfield, CO

Power of Attorney:

Bradley Knepper--44189

If Required, Foreign Filing License Granted: 02/03/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/931,772**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

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SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS

FIELD

Methods and systems to prevent software exploits from installing malicious software into a computer system are provided.

SUMMARY

A custom DLL is loaded into the memory space of every monitored process. This component intercepts the following operating system APIs: NtAllocateVirtualMemory, NtProtectVirtualMemory, NtCreateProcess, NtCreateProcessEX, LdrLoadDll.

When unidentified code tries to allocate/mark a new executable page of memory which is not related to any valid process module, the custom component monitors these newly allocated memory regions and prevents any attempted execution of NtCreateProcess/NtCreateProcessEX/LdrLoadDll APIs.

DETAILED DESCRIPTION

Introduction

Embodiments of the present disclosure provide a SafeSide anti-exploit technology. This technology is to prevent exploit code from being executed. The main idea behind the technology is to monitor process control flow in order to detect any suspicious behavior. Unlike other technologies, SafeSide doesn't try to prevent that an exploit starts its own code, but rather it prevents that the exploit execute its shellcode. That is, suppose that the exploit was able to hijack the normal code flow execution of the process toward a zone of memory where the exploit code stands. The exploit may try to launch e.g. a new process by invoking the CreateProcess API. By analyzing the characteristics of the memory space where the function was called, SafeSide can determine whether an exploit attempted to execute its own code or if it's the normal behavior of the application code.

The action of calling a system API like "CreateProcess", from a low level perspective, involves the presence of a particular set of assembly instruction, such as CALL, inside the process memory. Once the CALL instruction is reached, the code flow

of the program starts to follow a chain of functions which will lead to the lowest level user mode function, NtCreateProcess, before transitioning to Kernel Mode. In order to reach the goal of starting a new process, the complete execution stack starting from the shellcode down to NtCreateProcess has to be executed.

The solution is to hook the lowest level user mode function (NtCreateProcess) and then walking up the call stack until the first function of the chain is reached. Once reached, the address from where the call sequence has started is located and the characteristics of that particular memory region is retrieved via VirtualQuery system API. Generally, a non-malicious call always starts from a range of pages marked as MEM_IMAGE which is a zone of memory containing module execution code.

Cache

SafeSide cache is a component of the technology, and is implemented as a linked list of nodes. A new node *may be added* any time the system services routines NtAllocateVirtualMemory or NtProtectVirtualMemory are invoked. SafeSide intercepts routines call using Microsoft Detours hooking library.

Each node entry stores specific data about a memory region monitored, and it has the following structure:

```
typedef struct _MEM_CACHE_ENTRY {  
  
    BOOL used;  
  
    DWORD tickTime;        // node time stamp  
    DWORD address;         // starting address  
    DWORD size;            // size of address space  
    DWORD oldProtection;   // memory protection before ...  
    DWORD newProtection;   // memory protection after ...  
  
} MEM_CACHE_ENTRY, *PMEM_CACHE_ENTRY;
```

NtAllocateVirtualMemory

This routine is invoked in order to reserve, commit, or both, a region of pages within the user-mode virtual address space of the process. A new node is created if the memory is allocated as PAGE_EXECUTE_READWRITE in a non MEM_IMAGE region.

NtProtectVirtualMemory

This routine is invoked in order to change the protection on a region of committed pages of the virtual address space of the process. A new node is created if the memory protection of a non MEM_IMAGE region is changed to PAGE_EXECUTE_READWRITE.

Monitored Functions

The following functions are hooked and monitored:

- NtCreateProcess
- NtCreateProcessEx
- LdrLoadDll

These functions are the most common used by any exploit which attempts to start a new process or to load a malicious DLL into the process memory. Anytime one of these functions is invoked, a stack walk is made through the call chain (as explained in the introduction) in order to get the address from where the call has started from.

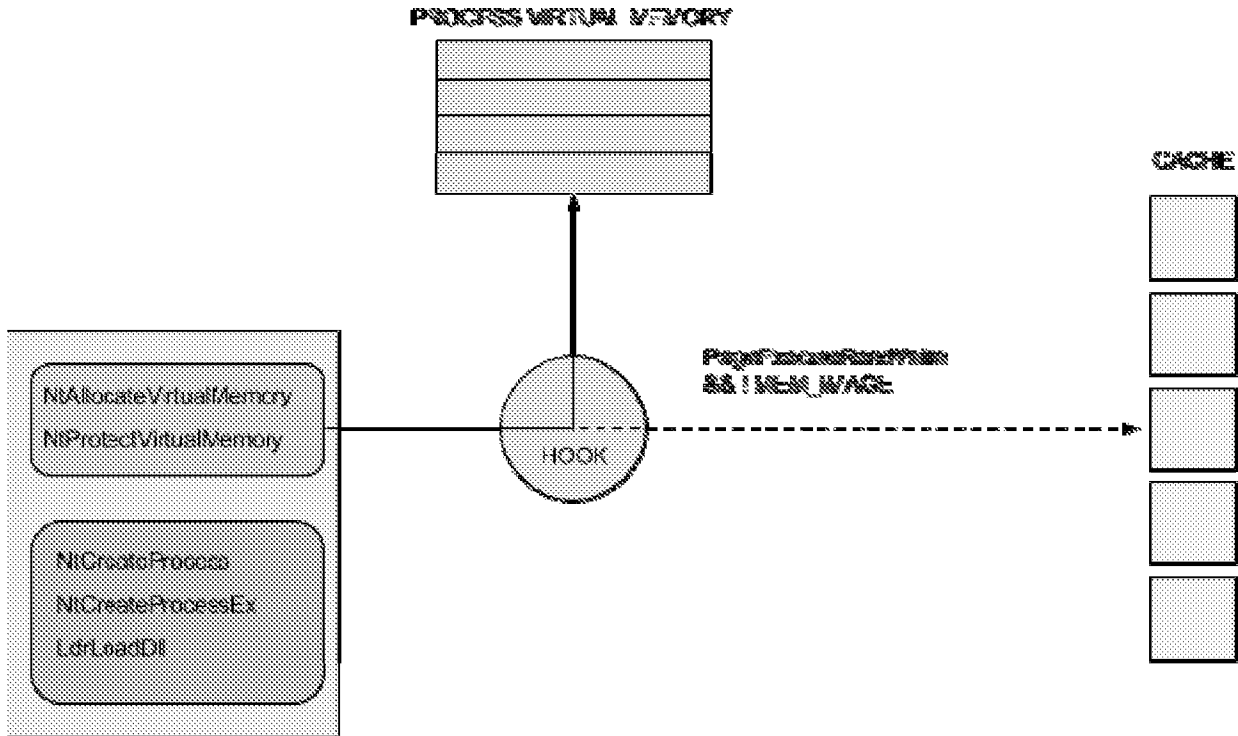


Fig. 1 - SafeSide hooking logic

Stack Walk

Each time one of the functions listed before is invoked, the first step is to get the value of the EBP register. EBP contains the address of the stack frame for the called function. On 32bit processes the stack frame has the following structure:

```
typedef struct _STACK_ENTRY {
    _STACK_ENTRY* precFp;
    DWORD         retAddr;
} STACK_ENTRY, *PSTACK_ENTRY;
```

The `precFp` is a pointer to the previous `STACK_ENTRY` structure of the callee function. The `retAddr` is the address where the control flow must continue after the called function has completed.

The unique concept is to go back through the `stack_entry` chain until the initial caller's stack frame is reached.

A list of conditions must be satisfied for each stack entry found during the stack walk:

- both, `precFp` and `retAddr`, must be valid accessible addresses (verified via system APIs `VirtualQuery()` and `TestVirtualMemoryAccess()`).
- if these addresses are valid, then the previous 10 bytes before the `retAddr` address are parsed, searching for a `CALL` assembly instruction. Every time a `CALL` instruction is executed, a new stack frame is created and the return address is always set with the value of the address of the instruction following the `CALL` opcode.

The address's first call address is the one present in the last valid stack entry.

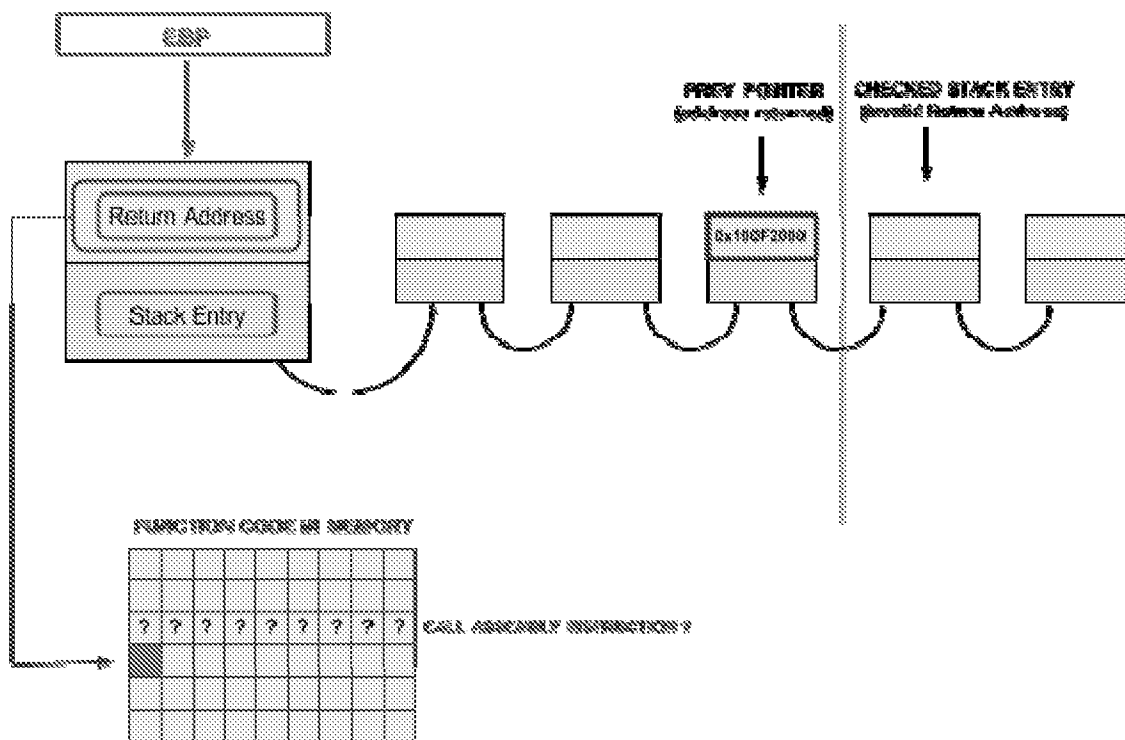


Fig. 2 - Stack Walk flow chart

Address Control

Once the address of the first caller function is reached, the following checks are made:

1. If the address is relative to a memory region which is not marked as executable (flags PAGE_EXECUTE, PAGE_EXECUTE_READ, PAGE_EXECUTE_READWRITE or PAGE_EXECUTE_WRITECOPY), then the call is suspicious. This check is almost like to the Data Execution Prevention (DEP) feature.
2. If the address is found in a cache entry, then the call is suspicious. Every entry present in the cache structure represents a part of memory that has been recently allocated with the flag EXECUTE, thus a potential piece of memory that could host malicious code. If SafeSide intercepts a call to NtCreateProcess /

NtCreateProcessEx / LdrLoadDll from one of such entries, it automatically marks this behavior as suspicious and potentially malicious

3. If the page region was allocated as executable AND the address is not in any cache entry, then the address is suspicious. The reason is that the cache monitors all memory allocations, and if the address is not in cache it means that the exploit was able to allocate memory bypassing the NtVirtualAllocateMemory API (for instance by directly calling the kernel functions through SYSENTER/INT 2E).

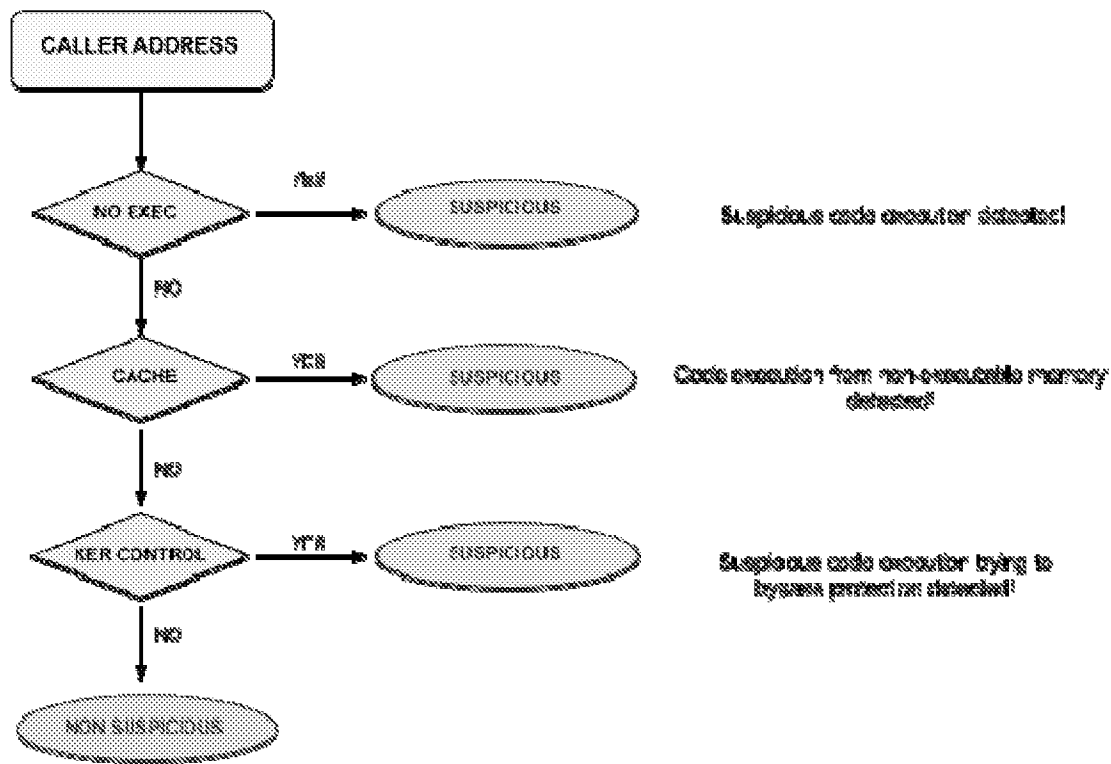


Fig. 3 - SafeSide security checks

What is claimed is:

1. A method for detecting and blocking software exploits, comprising:
 - monitoring a memory space of a process;
 - detecting an attempt by unidentifiable code to allocate a new executable page of memory;
 - monitoring the allocated new executable page of memory;
 - determining an address of a first caller function;
 - marking behavior as suspicious if at least one of: 1) the address of the first caller is from a region that is not marked as executable; 2) the address of the first caller is found in a cache entry; or 3) the page of memory was allocated as executable and the address of the first caller is not found in any cache entry.

ABSTRACT

This system is designed to protect, using a generic approach, any process executed by the operating system from being exploited through source code vulnerabilities. The system hooks specific system APIs to correctly profile execution behavior, specifically looking for attempts from unknown code in memory to allocate chunks of memory for code execution and execute new processes/load deferred code from there.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6890-106-PROV
		Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Marco		Giuliani		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Bastia Umbra (PG)	Country of Residence i	IT		
Mailing Address of Inventor:					
Address 1	Via Santa Elisabetta 21/C				
Address 2					
City	Bastia Umbra (PG)	State/Province			
Postal Code	06083	Country i	IT		
Inventor 2					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Marco		Bizzarri		
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Sassoferrato (AN)	Country of Residence i	IT		
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Address 2					
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Legal Name					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6890-106-PROV
		Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		

Prefix	Given Name	Middle Name	Family Name	Suffix
	Benedetto		Voltattorni	
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service				
City	S. Benedetto del Tronto (AP)	Country of Residence i	IT	

Mailing Address of Inventor:				
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Address 2				
City	S. Benedetto del Tronto (AP)	State/Province		
Postal Code	63074	Country i	IT	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	22442		
Email Address	srlaw@sheridanross.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		
Attorney Docket Number	6890-106-PROV	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	0	Suggested Figure for Publication (if any)	

Filing By Reference :

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For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country i

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6890-106-PROV
		Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.											
<table border="1"> <tr> <td>Please Select One:</td> <td>☒ Customer Number</td> <td>☐ US Patent Practitioner</td> <td>☐ Limited Recognition (37 CFR 11.9)</td> </tr> <tr> <td>Customer Number</td> <td colspan="3">22442</td> </tr> </table>				Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)	Customer Number	22442		
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Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the application number blank.

Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).			
Remove			
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6890-106-PROV
	Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

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Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6890-106-PROV
		Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		

Applicant 1				Remove	
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.					
Clear					
☒ Assignee		☐ Legal Representative under 35 U.S.C. 117		☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.			☐ Person who shows sufficient proprietary interest		
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:					
Name of the Deceased or Legally Incapacitated Inventor :					
If the Applicant is an Organization check here. ☒					
Organization Name		Webroot Inc.			
Mailing Address Information:					
Address 1		385 Interlocken Crescent, Suite 800			
Address 2					
City		Broomfield	State/Province		CO
Country i	US	Postal Code		80021	
Phone Number		Fax Number			
Email Address					
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Assignee 1	
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.	
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If the Assignee or Non-Applicant Assignee is an Organization check here. ☐	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6890-106-PROV
		Application Number	
Title of Invention	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS		

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		State/Province	
Country i		Postal Code	
Phone Number		Fax Number	
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Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Bradley M. Knepper/		Date (YYYY-MM-DD)	2014-01-27
First Name	Bradley	Last Name	Knepper	Registration Number
				44189

Additional Signature may be generated within this form by selecting the Add button.

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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Electronic Patent Application Fee Transmittal

Application Number:

Filing Date:

Title of Invention:

SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS

First Named Inventor/Applicant Name:

Marco Giuliani

Filer:

Bradley M. Knepper/Leslie Roberts

Attorney Docket Number:

6890-106-PROV

Filed as Small Entity

Provisional Filing Fees

Description

Fee Code

Quantity

Amount

**Sub-Total in
USD(\$)**

Basic Filing:

Provisional Application Filing Fee

2005

1

130

130

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Post-Allowance-and-Post-Issuance:

Extension-of-Time:

Trend Micro, Inc.
EX1007-26

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				130

Electronic Acknowledgement Receipt

EFS ID:	18028703
Application Number:	61931772
International Application Number:	
Confirmation Number:	1298
Title of Invention:	SYSTEM FOR DETECTING AND BLOCKING SOFTWARE EXPLOITS
First Named Inventor/Applicant Name:	Marco Giuliani
Customer Number:	22442
Filer:	Bradley M. Knepper/Leslie Roberts
Filer Authorized By:	Bradley M. Knepper
Attorney Docket Number:	6890-106-PROV
Receipt Date:	27-JAN-2014
Filing Date:	
Time Stamp:	12:17:55
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
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Payment was successfully received in RAM	\$ 130
RAM confirmation Number	10864
Deposit Account	191970
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PATENT_APPLICATION.pdf	204121	yes	9
			bbecfe13d7b95191243424e31270326db3c016f3		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	7	
	Claims		8	8	
	Abstract		9	9	
Warnings:					
Information:					
2	Application Data Sheet	ADS.pdf	1565726	no	7
			4b4bded42045e33fcb587c3f70ee9e5a81a9746c		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30104	no	2
			df5dae86601a9999083e43d771584858a19968ce		
Warnings:					
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Total Files Size (in bytes):			1799951		

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