

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5469728

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the 1ST AND 2ND NAMED INVENTORS NAME previously recorded on Reel 045121 Frame 0132. Assignor(s) hereby confirms the ASSIGNMENT.
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ERIK JAN LOMAN	01/15/2019
LUTE EDWIN ENGELS	01/11/2018
ANDREW J. THOMAS	09/14/2017
KENNETH D. RAY	03/03/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SOPHOS LIMITED
<b>Street Address:</b>	THE PENTAGON, ABINGDON SCIENCE PARK
<b>City:</b>	ABINGDON
<b>State/Country:</b>	UNITED KINGDOM
<b>Postal Code:</b>	OX14 3YP
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15667847
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(781)644-6137
<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>	6179162658
<b>Email:</b>	PATENTS@STRATPAT.COM
<b>Correspondent Name:</b>	STRATEGIC PATENTS, PC
<b>Address Line 1:</b>	PO BOX 920629
<b>Address Line 4:</b>	NEEDHAM, MASSACHUSETTS 02492
<b>ATTORNEY DOCKET NUMBER:</b>	SPHS-0104-P01
<b>NAME OF SUBMITTER:</b>	ROBERT A. MAZZARESE
<b>SIGNATURE:</b>	/Robert Mazzaresse/
<b>DATE SIGNED:</b>	04/11/2019
<b>Total Attachments: 17</b>	
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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4853187

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ERIK LOMAN	09/12/2017
EDWIN ENGELS	09/12/2017
ANDREW J. THOMAS	09/14/2017
KENNETH D. RAY	03/03/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SOPHOS LIMITED
<b>Street Address:</b>	THE PENTAGON, ABINGDON SCIENCE PARK
<b>City:</b>	ABINGDON
<b>State/Country:</b>	UNITED KINGDOM
<b>Postal Code:</b>	OX14 3YP
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<b>Address Line 4:</b>	NEEDHAM, MASSACHUSETTS 02492
<b>ATTORNEY DOCKET NUMBER:</b>	SPHS-0104-P01
<b>NAME OF SUBMITTER:</b>	ROBERT A. MAZZARESE
<b>SIGNATURE:</b>	/Robert Mazzaresse/
<b>DATE SIGNED:</b>	03/06/2018
<b>Total Attachments: 16</b>	
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**United States Patent Application**  
**COMBINED DECLARATION AND ASSIGNMENT**

**Title of Invention:**

**MITIGATION OF RETURN-ORIENTED PROGRAMMING ATTACKS**

**DECLARATION**

As a below named and undersigned inventor, I hereby declare that:

(a) This declaration is directed to United States application or PCT international application number 15/667,847 filed on August 3, 2017.

(b) The above-identified application was made or authorized to be made by me.

(c) I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims, and I acknowledge the duty to disclose all information which is material to the patentability of this application as defined in 37 C.F.R. § 1.56 (attached hereto).

---

## ASSIGNMENT

WHEREAS, the below named and undersigned inventor(s) (hereinafter referred to singly and collectively as the "ASSIGNOR") has developed certain inventions ("Inventions") described in the above U.S. patent application, and has full right to convey his or her entire interest, both legal and equitable, in and to said Inventions free from all prior assignments, agreements, licenses, mortgages, security interests, or other encumbrances whatsoever; and

WHEREAS, Sophos Limited ("ASSIGNEE"), an entity organized and existing under the laws of the United Kingdom, and having a place of business at The Pentagon, Abingdon Science Park, Abingdon, OX14 3YP, United Kingdom is desirous of acquiring the entire right, title, and interest in and to the Inventions and any and all patents to be obtained therefore;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers unto the ASSIGNEE, its successors and assigns, the ASSIGNOR'S entire right, title and interest in and to the Inventions as described in the above application and all applications resulting therefrom, including any and all conversions, divisions, continuations, continuations-in-part, substitute applications, and reissues or extensions thereof; and all resulting patents in any jurisdiction worldwide; along with all rights of priority and rights to sue for past infringement;

AND the ASSIGNOR hereby authorizes and requests the issuing authority to issue any and all patents issuing from any of the forgoing to the ASSIGNEE or its successors and assigns;

AND the ASSIGNOR agrees that ASSIGNEE's counsel, Strategic Patents, P.C. having Patent Office 138064, shall hereinafter act on behalf of the ASSIGNEE with respect to the Inventions;

AND the ASSIGNOR further agrees, without any further payment or compensation by the ASSIGNEE or its successors and assigns, to communicate to the ASSIGNEE, its representatives or agents or its successors and assigns, any facts relating to the Patents including evidence for administrative or legal proceedings whenever requested; to testify in any administrative or legal proceedings, whenever requested; to execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and to generally do everything possible to aid the ASSIGNEE, its successors or assigns and nominees to secure, obtain, defend, and enforce proper patent protection for the Inventions in this or any foreign country.

The ASSIGNOR hereby authorizes the attorneys and agents associated with Patent Office 138064 to insert hereon any further information necessary or desirable for recordation of this document.

I accept and agree to the terms of the ASSIGNMENT above.

I hereby acknowledge that any willful false statement made in the DECLARATION above is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Full Legal Name of inventor: Erik Jan Loman

Residence: Hengelo, Netherlands

Signature:   
Erik Jan Loman

Date: 15-1-2019

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A *prima facie* case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

# **United States Patent Application**

## **COMBINED DECLARATION AND ASSIGNMENT**

**Title of Invention:**

**MITIGATION OF RETURN-ORIENTED PROGRAMMING ATTACKS**

### **DECLARATION**

As a below named and undersigned inventor, I hereby declare that:

(a) This declaration is directed to United States application or PCT international application number 15/667,847 filed on August 3, 2017.

(b) The above-identified application was made or authorized to be made by me.

(c) I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims, and I acknowledge the duty to disclose all information which is material to the patentability of this application as defined in 37 C.F.R. § 1.56 (attached hereto).



---

## ASSIGNMENT

WHEREAS, the below named and undersigned inventor(s) (hereinafter referred to singly and collectively as the "ASSIGNOR") has developed certain inventions ("Inventions") described in the above U.S. patent application, and has full right to convey his or her entire interest, both legal and equitable, in and to said Inventions free from all prior assignments, agreements, licenses, mortgages, security interests, or other encumbrances whatsoever; and

WHEREAS, Sophos Limited ("ASSIGNEE"), an entity organized and existing under the laws of the United Kingdom, and having a place of business at The Pentagon, Abingdon Science Park, Abingdon, OX14 3YP, United Kingdom is desirous of acquiring the entire right, title, and interest in and to the Inventions and any and all patents to be obtained therefore;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers unto the ASSIGNEE, its successors and assigns, the ASSIGNOR'S entire right, title and interest in and to the Inventions as described in the above application and all applications resulting therefrom, including any and all conversions, divisions, continuations, continuations-in-part, substitute applications, and reissues or extensions thereof; and all resulting patents in any jurisdiction worldwide; along with all rights of priority and rights to sue for past infringement;

AND the ASSIGNOR hereby authorizes and requests the issuing authority to issue any and all patents issuing from any of the forgoing to the ASSIGNEE or its successors and assigns;

AND the ASSIGNOR agrees that ASSIGNEE's counsel, Strategic Patents, P.C. having Patent Office 138064, shall hereinafter act on behalf of the ASSIGNEE with respect to the Inventions;

AND the ASSIGNOR further agrees, without any further payment or compensation by the ASSIGNEE or its successors and assigns, to communicate to the ASSIGNEE, its representatives or agents or its successors and assigns, any facts relating to the Patents including evidence for administrative or legal proceedings whenever requested; to testify in any administrative or legal proceedings, whenever requested; to execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and to generally do everything possible to aid the ASSIGNEE, its successors or assigns and nominees to secure, obtain, defend, and enforce proper patent protection for the Inventions in this or any foreign country.

The ASSIGNOR hereby authorizes the attorneys and agents associated with Patent Office 138064 to insert hereon any further information necessary or desirable for recordation of this document.

Attorney Docket No.: SPHS-0104-P01  
Serial No.: 15/667,847  
Filing Date: August 3, 2017

Page 3 of 4  
Combined Declaration and Assignment

I accept and agree to the terms of the ASSIGNMENT above.

I hereby acknowledge that any willful false statement made in the DECLARATION above is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Full Legal Name of inventor: Lute Edwin Engels  
Residence: Zuidwolde, Netherlands

Signature:

  
Lute Edwin Engels

Date:

11 - DEC - 2018

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- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is an obligation to assign the application.

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AND the Inventor further agrees, without any further payment or compensation by the ASSIGNEE or its successors and assigns, to communicate to the ASSIGNEE, its representatives or agents or its successors and assigns, any facts relating to the Inventions including evidence for interference purposes or for other legal proceedings whenever requested; to testify in any interference or other legal proceedings, whenever requested; to execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and to generally do everything possible to aid the ASSIGNEE, its successors or assigns and nominees to secure, obtain and enforce proper patent protection for the Inventions in this or any foreign country.

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Full Legal Name of inventor: Andrew J. Thomas  
Residence: Oxfordshire, United Kingdom

Signature: Andrew J. Thomas Date: 14/9/17  
Andrew J. Thomas

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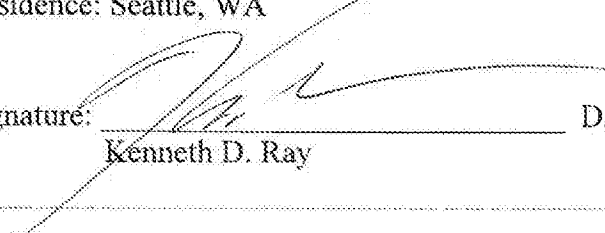
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Full Legal Name of inventor: Kenneth D. Ray  
Residence: Seattle, WA

Signature:

  
Kenneth D. Ray

Date:

3-3-18

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A *prima facie* case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.