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ACKNOWLEDGEMENT OF LOSS OF ENTITLEMENT TO ENTITY STATUS DISCOUNT

APPLICATION #	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET #	REQUEST ID
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	151126

The entity status change request below filed through Patent Center on 01/18/2024 has been accepted.

Certifications

APPLICANT CHANGING TO REGULAR UNDISCOUNTED FEE STATUS

Signature

I certify, in accordance with 37 CFR 1.4(d)(4), that I am one of the signatories making the entity status change.

Signature	Name	Registration #
/Hunter Malboeuf/	Hunter Malboeuf	79730

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APPLICATION NO.	ISSUE DATE	PATENT NO.
17/025,930	16-MAY-23	11652834

GOODWIN PROCTER LLP PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at https://patentcenter.uspto.gov

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit https://www.uspto.gov/electronicgrants

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	05/16/2023	11652834	BST-003C4	1001

51414 7590 04/26/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at https://patentcenter.uspto.gov/. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at https://certifiedcopycenter.uspto.gov/index.html. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 201 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PAIR WEB site http://pair.uspto.gov for additional inventors):

Philip John Steuart Gladstone, Carlisle, MA;
Alan Joseph Kirby, Hollis, NH;
John Matthew Truelove, Cambridge, MA;
David Feinzeig, Stoneham, MA;
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APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

BitSight Technologies, Inc., Boston, MA;

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

7590 04/18/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	
ART UNIT	PAPER NUMBER
2492	
NOTIFICATION DATE	DELIVERY MODE
04/18/2023	ELECTRONIC

NOTICE OF NON-COMPLIANT INFORMATION DISCLOSURE STATEMENT

An Information Disclosure Statement (IDS) filed 4.10.2023 in the above-identified application fails to meet the requirements of 37 CFR 1.97(d) for the reason(s) specified below. Accordingly, the IDS will be placed in the file, but the information referred to therein has not been considered.

The IDS is not compliant with 37 CFR 1.97(d) because:

☒ The IDS lacks a statement as specified in 37 CFR 1.97(e).

☐ The IDS lacks the fee set forth in 37 CFR 1.17(p).

☐ The IDS was filed after the issue fee was paid. Applicant may wish to consider filing a petition to withdraw the application from issue under 37 CFR 1.313(c) to have the IDS considered. See MPEP 1308.

N. Horne, for

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

Black Kite Ex. 1002, Page 5 of 344

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: O. Korsak

Submitted via Patent Center

INFORMATION DISCLOSURE STATEMENT (IDS)

The references listed on the enclosed Form PTO/SB/08 are submitted solely in compliance with the duty of candor. It is understood that this Information Disclosure Statement does not fall within the provisions of 37 C.F.R. §1.97. Nonetheless, entry and consideration are respectfully requested. Alternatively, entry of this paper into the file without consideration is respectfully requested.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Applicant hereby apprises the Examiner of the following patent applications, including the contents of the file wrappers, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-001	15/271,655 Published as: US 2018/0083999	SELF-PUBLISHED SECURITY RISK MANAGEMENT	September 21, 2016
BST-002	15/377,574 9,705,932	METHODS AND SYSTEMS FOR CREATING, DE-DUPLICATING, AND ACCESSING DATA USING AN OBJECT STORAGE SYSTEM	December 13, 2016
BST-003	14/021,585 9,438,615 Published as: US2015/0074579	SECURITY RISK MANAGEMENT	September 9, 2013
BST-003C1	15/216,955 10,326,786 Published as: US 2016/0330231	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	July 22, 2016
BST-003C2	15/239,063 10,341,370 Published as: US2017/0093901	SECURITY RISK MANAGEMENT	August 17, 2016

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-003C3	16/405,121 10,785,245 Published as: US2019/0260791	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	May 7, 2019
BST-004	13/240,572 10,805,331 Published as: US2016/0205126	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	September 22, 2011
BST-004C1	14/944,484 9,973,524 Published as: US2016/0323308	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	November 18, 2015
BST-004C2	17/069,151 Published as: US2021/0211454	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	October 13, 2020
BST-004C1CP	15/142,677 9,830,569 Published as: US2016/0239772	SECURITY ASSESSMENT USING SERVICE PROVIDER DIGITAL ASSET INFORMATION	April 29, 2016
BST-007	15/134,845 9,680,858	ANNOTATION PLATFORM FOR A SECURITY RISK SYSTEM	April 21, 2016
BST-008	15/044,952 11,182,720 Published as: US2017/0236077	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	February 16, 2016
BST-008C2	15/089,375	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES	April 1, 2016

Docket No.	U.S. Serial No.:	Title	Filing Date
	10,176,445 Published as: US2017/0236079	RESPONSIBLE FOR THEM	
BST-009DA	29/598,298 D835,631	COMPUTER DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DB	29/598,299 D818,475	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DC	29/599,622 D847169	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-009DD	29/599,620 D846,562	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-010	16/015,686 10,425,380 Published as: US2018/0375822	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	June 22, 2018
BST-010C1	16/543,075 10,554,619 Published as: US2019/0379632	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	August 16, 2019
BST-010C2	16/738,825 10,893,021 Published as: US2020/0153787	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 9, 2020
BST-010C3	17/146,064 Published as: US2021/0218702	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 11, 2021

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-011	15/918,286 10,257,219	CORRELATED RISK IN CYBERSECURITY	March 12, 2018
BST-011C1	16/292,956 10,594,723 Published as: US2019/0297106	CORRELATED RISK IN CYBERSECURITY	March 5, 2019
BST-011C2	16/795,056 10,931,705 Published as: US2020/0195681	CORRELATED RISK IN CYBERSECURITY	February 19, 2020
BST-011C3	17/179,630 Published as US2021/0176269	CORRELATED RISK IN CYBERSECURITY	February 19, 2021
BST-012	16/170,680 10,521,583	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	October 25, 2018
BST-012C1	16/688647 10,776,483 Published as: US2020/0134174	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	November 19, 2019
BST-012C2	17/000,135 11,126,723 Published as: US2021/0004457	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 21, 2020
BST-012C3	17/401,683 Published as: US2021/0374243	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 13, 2021

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-013	15/954,921 10,812,520 Published as: US2019/0319979	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	April 17, 2018
BST-013C1	17/014,495 Published as: US2020/0404017	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	September 8, 2020
BST-014	16/549,764 Published as: US2021/0058421	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	August 23, 2019
BST-014C1	16/787650 10,749,893	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	February 11, 2020
BST-015	16/583,991 10,848,382	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	September 26, 2019
BST-015C1	17/085,550 11,329,878 Published as: US2021/0099347	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	October 30, 2020
BST-016D	29/666,942 D892,135	COMPUTER DISPLAY WITH GRAPHICAL USER INTERFACE	October 17, 2018
BST-017	16/360,641 11,200,323 Published as: US2020/0125734	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	March 21, 2019

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-017C1	17/523166 Published as: US2022/0121753	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	November 10, 2021
BST-018	16/514,771 10,726,136	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 17, 2019
BST-018C1	16/922,673 11,030,325 Published as: US2021/0019424	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 7, 2020
BST-018C2	17/307,577 Published as: US2021/0211454	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	May 4, 2021
BST-019D	29/677306 D905702	COMPUTER DISPLAY SCREEN WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE	January 18, 2019
BST-020	16/775,840 10,791,140	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	January 29, 2020
BST-020C1	17/018,587 11,050,779	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	September 11, 2020
BST-021	16/779,437 10,893,067	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	January 31, 2020

Docket No.	U.S. Serial No.:	Title	Filing Date
	Published as: US2021/0243221		
BST-021D1	17/132,512 Published as: US2021/0243221	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	December 23, 2020
BST-021D1C1	18/158,594	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	January 24, 2023
BST-022	17/119,822 11,122,073	SYSTEMS AND METHODS FOR CYBERSECURITY RISK MITIGATION AND MANAGEMENT	December 11, 2020
BST-022D	29/815,855	COMPUTER DISPLAY WITH A GRAPHICAL USER INTERFACE FOR CYBERSECURITY RISK MANAGEMENT	November 17, 2021
BST-022D1	17/392,521 Published as US 2022/0191232	SYSTEMS AND METHODS FOR CYBERSECURITY RISK MITIGATION AND MANAGEMENT	August 3, 2021
BST-023	16/802,232 10,764,298	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	February 26, 2020
BST-023C1	16/942,452 11,265,330 Published as: US2021/0266324	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	July 29, 2020
BST-023DA	29/725724	COMPUTER DISPLAY WITH RISK VECTORS GRAPHICAL USER INTERFACE	February 26, 2020

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-023DB	29/736,641 D937870	COMPUTER DISPLAY WITH PEER ANALYTICS GRAPHICAL USER INTERFACE	June 2, 2020
BST-024	17/039,675 11,032,244 Published as: US2021/0099428	SYSTEMS AND METHODS FOR DETERMINING ASSET IMPORTANCE IN SECURITY RISK MANAGEMENT	September 30, 2020
BST-024C1	17/320,997 Published as US 2021/0344647	SYSTEMS AND METHODS FOR DETERMINING ASSET IMPORTANCE IN SECURITY RISK MANAGEMENT	May 14, 2021
BST-026	16/884,607 11,023,585	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	May 27, 2020
BST-026C1	17/236,594 Published as: US2021/0374246	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	April 21, 2021
BST-029	17/710,168 Published as: US2022/0318400	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY RISK IN A WORK FROM HOME ENVIRONMENT	March 31, 2022
BST-030	17/945,337	SYSTEMS AND METHODS FOR PRECOMPUTATION OF DIGITAL ASSET INVENTORIES	September 15, 2022
BST-032	17/856,217 Published as: US2023/0004655	SYSTEMS AND METHODS FOR ACCELERATING CYBERSECURITY ASSESSMENTS	July 1, 2022
BST-034	18/162,154	SYSTEMS AND METHODS FOR ASSESSMENT OF CYBER RESILIENCE	January 31, 2023

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Dated: April 10, 2023

Respectfully submitted,

Electronic signature: /Hunter Malboeuf/
Hunter Malboeuf
Registration No.: 79,730
GOODWIN PROCTER LLP
100 Northern Avenue
IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210
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Agent For Applicant

PTO/SB/08a (07-09)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	US-8,370,938	02-05-2013	Daswani et al.	
	A2	US-8,683,584	03-25-2014	Daswani et al.	
	A3	US-8,898,776	11-25-2014	Molnar et al.	
	A4	US-9,323,930	04-26-2016	Satish, Sourabh	
	A5	US-9,432,383	08-30-2016	Johns et al.	
	A6	US-9,548,988	01-17-2017	Roundy et al.	
	A7	US-10,084,817	09-25-2018	Saher et al.	
	A8	US-10,242,180	03-26-2019	Haefner et al.	
	A9	US-2012/0254993-A1	10-04-2012	Sallam, Ahmed Said	
	A10	US-2012/0255021-A1	10-04-2012	Sallam, Ahmed Said	
	A11	US-2014/0137254-A1	05-15-2014	OU et al.	
	A12	US-2016/0104071-A1	04-14-2016	Brueckner, Sven A.	
	A13	US-2018/0332076-A1	11-15-2018	CALLAHAN et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08b (07-09)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	2	of	2	Attorney Docket Number	BST-003C4

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

PART B–FEE(S) TRANSMITTAL

Complete and send this form, together with the applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By fax, send to: (571) 273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

GOODWIN PROCTER LLP
100 Northern Avenue
IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

TITLE OF INVENTION: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

APPLN: TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480.00	$0.00	$0.00	$480.00	04/10/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
O. Korsak	2492	726-023000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363)

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Goodwin Procter LLP
2.
3.

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: BitSight Technologies, Inc.

(B) RESIDENCE: (CITY and STATE or COUNTRY): Boston, Massachusetts

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees Submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment (*Please first reapply any previously paid fee shown above*):

☒ Electronic Payment ~~via EFS-Web~~ ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge ~~the required fee(s),~~ any deficiency, or credit any overpayment to Deposit Account No. 07-1700

5. Change of Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29. NOTE: Absent a valid Certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27. NOTE: If the application was previously under micro entity status, checking this box will be taken as a notification of loss of entitlement to micro entity status.

☒ Applicant changing to regular undiscounted fee status. NOTE: Checking this box will be taken as a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Hunter Malboeuf/ Date April 10, 2023

Typed or printed name Hunter Malboeuf Registration No. 79,730

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/025,930	04/10/2023 10:34:26 AM ET	BST-003C4

Title of Invention

METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1001	FILED BY	Anna Beaulieu
PATENT CENTER #	61891032	AUTHORIZED BY	Hunter Malboeuf
CUSTOMER #	51414	FILING DATE	09/18/2020
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Philip John Steuart Gladstone

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 1146	E202340A39495305	Anna Beaulieu

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
			TOTAL AMOUNT:	$1,200.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for 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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/025,930	**04/10/2023 10:34:26 AM ET**	**BST-003C4**

Title of Invention

METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

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CONFIRMATION #	1001	FILED BY	Anna Beaulieu
PATENT CENTER #	61891032	FILING DATE	09/18/2020
CUSTOMER #	51414	FIRST NAMED INVENTOR	Philip John Steuart Gladstone
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Hunter Malboeuf

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
BST-003C4 - ISSFEE.pdf	1	Issue Fee Payment (PTO-85B)	36 KB
BST-003C4 - DOC IDS.pdf	12	Information Disclosure Statement (IDS) Form (SB08)	90 KB

Warning: This is not a USPTO supplied IDS fillable form. Data in the form cannot be automatically loaded to other USPTO systems.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)

BST-003C4 - ISSFEE.pdf	BB6EE87EC6263754BF22D13C5319F20C61FAB4772F65F39D72F612252E13D781B7567C3224800868AE399ACB5BEB903AB050937495310BC5D86B73949AEAAE0E
BST-003C4 - DOC IDS.pdf	0D86DAEE7E145386CDD1BDA606D20EC649BAD285D4E644C3F7DDB680E1B5401A9239F37B4244BE6461C6F88750113C5C72467BF2165140F8C3086294FBA42F5A

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New International Application Filed with the USPTO as a Receiving Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 02/09/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	

ART UNIT	PAPER NUMBER
2492	

NOTIFICATION DATE	DELIVERY MODE
02/09/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com
US-PatentBos@goodwinlaw.com

Response to Rule 312 Communication	Application No.	Applicant(s)	
	17/025,930	Gladstone et al.	
	Examiner	Art Unit	AIA (FITF) Status
	OLEG KORSAK	2492	Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☑ The amendment filed on 02 February 2023 under 37 CFR 1.312 has been considered, and has been:

a) ☑ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

f) ☐ not entered because the supplemental or corrected Application Data sheet (ADS)

☐ was not accompanied by a petition to accept an unintentionally delayed claim under 37 CFR 1.55 or 27 CFR 1.78;

☐ did not identify the information being changed in accordance with 37 CFR 1.76(c)(2);

☐ was not properly signed in accordance with 37 CFR 1.76(e) (or 37 CFR 1.33(b) for applications filed prior to September 16, 2012).

/OLEG KORSAK/
Primary Examiner, Art Unit 2492

OK TO ENTER: /O.K/ 02/04/2023

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 Confirmation No.: 1001

Filed: September 18, 2020 Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS Examiner: O. Korsak

Submitted via Patent Center

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

In response to the Notice to File Corrected Application Papers mailed January 13, 2023, Applicant respectfully submits the following amendments.

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: O. Korsak

Submitted via Patent Center

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

In response to the Notice to File Corrected Application Papers mailed January 13, 2023, Applicant respectfully submits the following amendments.

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

AMENDMENTS TO THE SPECIFICATION

Please replace the last paragraph on page 30, lines 27-31, with the following:

In some implementations, one or more of the approved selections 924a-c may not be enabled until the user approves one or more portions of data associated with a record. For example, the approver may need to view and approve data in the user interface 1100, shown in Figure 11, prior to approving the record in the virtual Autonomous System numbers section 916.

Please replace the second to last paragraph on page 46, lines 17-28, with the following:

A computer program (also known as a program, software, software application, script, executable logic, or code) can be written in any form of programming language, including compiled or interpreted languages, or declarative or procedural languages, and it can be deployed in any form, including as a standalone program or as a module, component, subroutine, or other unit suitable for use in a computing environment. A computer program does not necessarily correspond to a file in a file system. A program can be stored in a portion of a file that holds other programs or data (e.g., one or more scripts stored in a markup language document), in a single file dedicated to the program in question, or in multiple coordinated files (e.g., files that store one or more modules, sub programs, or portions of code). A computer program can be deployed to be executed on one computer or on multiple computers that are located at one site or distributed across multiple sites and interconnected by a communication network.

REMARKS

The Specification has been amended to provide legible text for selected paragraphs as requested in the Notice to File Corrected Application Papers mailed January 13, 2023. No new matter is added.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 07-1700, under Order No. BST-003C4 from which the undersigned is authorized to draw.

Dated: February 2, 2023

Respectfully submitted,

Electronic signature: /Hunter Malboeuf/
Hunter Malboeuf
Registration No.: 79,730
GOODWIN PROCTER LLP
100 Northern Avenue
IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210
(617) 570-1000
Agent For Applicant

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/025,930	**02/02/2023 09:45:58 AM ET**	**BST-003C4**

Title of Invention

METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1001	FILED BY	Anna Beaulieu
PATENT CENTER #	61531878	FILING DATE	09/18/2020
CUSTOMER #	51414	FIRST NAMED INVENTOR	Philip John Steuart Gladstone
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Hunter Malboeuf

Documents

TOTAL DOCUMENTS: 4

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
NOTICE.pdf		3	Post Allowance Communication - Incoming	106 KB
RNCAP.pdf		3	-	24 KB
RNCAP-N427.pdf	(1-1)	1	Post Allowance Communication - Incoming	15 KB
RNCAP-SPEC.pdf	(2-2)	1	Specification	16 KB
RNCAP-REM.pdf	(3-3)	1	Applicant Arguments/Remarks Made in an Amendment	15 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
NOTICE.pdf	B3321C46F8276F3920F1F85097C795B3E05EBB029DDDAF1826 D3FBBA27E0F00496C7C0E5B782C370CDFF5DACF05A1F2C45 2F065B8D4DCC10589707829423535 3
RNCAP.pdf	A5FCB0397F7EBE47725C2834F30EF8155B2D1AC600DA86112 7CF5B1EE556FCA55A3BC5A8B3C8BF41E05767D6415DEC38A AF0C846F3DE8E23BB0D40DBDA84A6EF
RNCAP-N427.pdf	ECCAE0DFE2752ADAE945D30ABA3B5149C75D39AFD30B802 C396F6BE22654C1AE53CCE78BF45D6E601CB6DF03015AE518 FB3BE80C68F128047CC97EAC6F5FFAE7
RNCAP-SPEC.pdf	A050897EC1765651CE049CB566159D8CA42C71B15D5072D1C 97ECF65F7B879E9F57A29683228A1A14DC848BC49CCD65951 A61FA6CF9EE21906683DDD1AC7BC1E
RNCAP-REM.pdf	6C4130B40DAAEA2FC5940D9099442301072ECFC980771487D 2C03052905 1ABB65D9729DAA2EBA175FFDAA35C5031F5033A BDAA689FB7267AB0F1F7CDAD82C43A

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for 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 NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 01/13/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	

ART UNIT	PAPER NUMBER
2492	

NOTIFICATION DATE	DELIVERY MODE
01/13/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com
US-PatentBos@goodwinlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 17025930
Applicant : Gladstone
Filing Date : 09/18/2020
Date Mailed : 01/13/2023

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/June Hope/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 17025930

IDENTIFICATION OF APPLICATION DEFICIENCIES IN APPLICATION FILED ON OR AFTER SEPTEMBER 16, 2012

[X] Applicant must provide legible text for the following item(s).

- [X] Specification filed 09/18/2020, page(s) 30 (last paragraph) and page 46 (2nd from last paragraph).
- [ ] Claims filed , claim(s) .
- [ ] Other: .

[ ] Applicant must provide missing information on the following page(s) of the specification by amending the specification to add the missing text. No new matter may be added.
Page/line no(s).

[ ] The specification refers to one or more applications by attorney docket number and does not show the U.S. application number(s). Applicant must supply the U.S. application number in place of each attorney docket number.
Page/line no(s).

[ ] Applicant must provide an Abstract of the Disclosure.

[ ] The Application Data Sheet (ADS dated) does not supply the inventor's city and/or does not supply the inventor's U.S. state and/or does not supply the inventor's country. Applicant must submit a signed, in accordance with 37 CFR 1.76(e) and 1.33(b), application data sheet that corrects this deficiency. To be in compliance with 37 CFR 1.76, the corrected application data sheet must identify the information being changed by using underlining for additions and strikethroughs or brackets for deletions.

[ ] Other:

The response to this notice should contain only amended papers, as the waiver of 37 CFR 1.312 is limited to corrections of documents specifically requested in the notice.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 01/13/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	

ART UNIT	PAPER NUMBER
2492	

NOTIFICATION DATE	DELIVERY MODE
01/13/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com
US-PatentBos@goodwinlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 17025930
Applicant : Gladstone
Filing Date : 09/18/2020
Date Mailed : 01/13/2023

NOTICE TO FILE CORRECTED APPLICATION PAPERS

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See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/June Hope/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 17025930

IDENTIFICATION OF APPLICATION DEFICIENCIES IN APPLICATION FILED ON OR AFTER SEPTEMBER 16, 2012

[X] Applicant must provide legible text for the following item(s).

- [X] Specification filed 09/18/2020, page(s) 30 (last paragraph) and page 46 (2nd from last paragraph).
- [ ] Claims filed , claim(s) .
- [ ] Other: .

[ ] Applicant must provide missing information on the following page(s) of the specification by amending the specification to add the missing text. No new matter may be added.
Page/line no(s).

[ ] The specification refers to one or more applications by attorney docket number and does not show the U.S. application number(s). Applicant must supply the U.S. application number in place of each attorney docket number.
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[ ] Other:

The response to this notice should contain only amended papers, as the waiver of 37 CFR 1.312 is limited to corrections of documents specifically requested in the notice.

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NOTICE OF ALLOWANCE AND FEE(S) DUE

51414 7590 01/09/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER
KORSAK, OLEG

ART UNIT	PAPER NUMBER
2492	

DATE MAILED: 01/09/2023

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

TITLE OF INVENTION: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0.00	$0.00	$480	04/10/2023

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

51414 7590 01/09/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

TITLE OF INVENTION: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0.00	$0.00	$480	04/10/2023

EXAMINER	ART UNIT	CLASS-SUBCLASS
KORSAK, OLEG	2492	726-023000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Black Kite Ex. 1002, Page 38 of 344

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 01/09/2023

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	
ART UNIT	**PAPER NUMBER**
2492	

DATE MAILED: 01/09/2023

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Black Kite Ex. 1002, Page 39 of 344

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 30 minutes to complete, including gathering, preparing, and submitting the completed application 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 17/025,930	Applicant(s) Gladstone et al.	
	Examiner OLEG KORSAK	Art Unit 2492	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 12/06/22.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 21-42 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 12/06/22.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/OLEG KORSAK/
Primary Examiner, Art Unit 2492

DETAILED ACTION

This action is in response to amendment filed December 06, 2022.

By this amendment, claims 21-42 are presented for further consideration.

New IDS has been submitted on December 06, 2022 and considered by Examiner.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Terminal Disclaimer

The terminal disclaimer filed on **November 22, 2022** disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of **US Patent No 9,438,615** has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

Applicant's arguments with regards to claims 21-42 have been fully considered, and they are persuasive in view of amended claimed based on limitations of claims indicated as allowable. Claims 21-42 were DP rejected over US Patent No 9,438,615, and applicant filed a terminal disclaimer to overcome DP over of US Patent No 9,438,615. Therefore, all the previous pending rejections are withdrawn and the record is clear.

According to MPEP 1302.14 (I): "In most cases, the examiner's actions and the applicant's replies make evident the reasons for allowance, satisfying the "record as a whole" proviso of the rule. This is particularly true when applicant fully complies with 37 CFR 1.111 (b) and (c) and 37 CFR 1.133(b). Thus, where the examiner's actions clearly point out the reasons for rejection and the applicant's reply explicitly presents reasons why claims are patentable over

the reference, the reasons for allowance are in all probability evident from the record and no statement should be necessary."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Allowable Subject Matter

Claims 21-42 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLEG KORSAK whose telephone number is (571)270-1938. The examiner can normally be reached on Monday-Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571)272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OLEG KORSAK/

Primary Examiner, Art Unit 2492

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	**Art Unit**
	OLEG KORSAK	2492

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/29/2022	12/19/2022							
	1	-	-							
	2	-	-							
	3	-	-							
	4	-	-							
	5	-	-							
	6	-	-							
	7	-	-							
	8	-	-							
	9	-	-							
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	11	-	-							
	12	-	-							
	13	-	-							
	14	-	-							
	15	-	-							
	16	-	-							
	17	-	-							
	18	-	-							
	19	-	-							
	20	-	-							
1	21	✓	=							
2	22	✓	=							
3	23	✓	=							
4	24	✓	=							
5	25	✓	=							
6	26	✓	=							
7	27	✓	=							
8	28	✓	=							
9	29	✓	=							
10	30	✓	=							
11	31	✓	=							
12	32	✓	=							
13	33	✓	=							
14	34	✓	=							
15	35	✓	=							
16	36	✓	=							
17	37	✓	=							
18	38	✓	=							
19	39	✓	=							
20	40	✓	=							
21	41	✓	=							
22	42	✓	=							

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	**Art Unit**
	OLEG KORSAK	2492

CPC								
Symbol							**Type**	**Version**
H04L	/	63	/	1425			F	2013-01-01
H04L	/	63	/	1433			I	2013-01-01
G06F	/	3	/	0484			I	2013-01-01
H04L	/	61	/	4511			I	2022-05-01
G06Q	/	30	/	0277			I	2013-01-01
G06Q	/	50	/	01			I	2013-01-01
H04L	/	63	/	1416			I	2013-01-01
H04L	/	63	/	1441			I	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	22	
/OLEG KORSAK/ Primary Examiner, Art Unit 2492	19 December 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20221219

Black Kite Ex. 1002, Page 46 of 344

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	**Art Unit**
	OLEG KORSAK	2492

INTERNATIONAL CLASSIFICATION					
CLAIMED					
H04L9/40	/	9	/	40	

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	22	
/OLEG KORSAK/ Primary Examiner, Art Unit 2492	19 December 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20221219

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	**Art Unit**
	OLEG KORSAK	2492

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10		19	8	28	17	37						
	2		11		20	9	29	18	38						
	3		12	1	21	10	30	19	39						
	4		13	2	22	11	31	20	40						
	5		14	3	23	12	32	21	41						
	6		15	4	24	13	33	22	42						
	7		16	5	25	14	34								
	8		17	6	26	15	35								
	9		18	7	27	16	36								

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	22	
/OLEG KORSAK/ Primary Examiner, Art Unit 2492	19 December 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20221219

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	Art Unit
	OLEG KORSAK	2492

CPC - Searched*		
Symbol	Date	Examiner
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	08/29/2022	OK
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	12/19/2022	OK

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	08/29/2022	OK
SEARCH limited by keywords	08/29/2022	OK
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	12/19/2022	OK
SEARCH limited by keywords	12/19/2022	OK

/OLEG KORSAK/ Primary Examiner, Art Unit 2492	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	Art Unit
	OLEG KORSAK	2492

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
H04L63	1425 1416 1433 1441	12/19/2022	OK
H04L61	14511	12/19/2022	OK
G06F3	0484	12/19/2022	OK
G06Q30	0277	12/19/2022	OK
G06Q50	01	12/19/2022	OK

/OLEG KORSAK/ Primary Examiner, Art Unit 2492	

/OLEG KORSAK/ 12/19/2022

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 Confirmation No.: 1001

Filed: September 18, 2020 Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS Examiner: O. Korsak

Submitted via EFS-Web

INFORMATION DISCLOSURE STATEMENT (IDS)

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the filing date of this application, OR more than three months after the date of entry of the national stage in the international application, AND after the mailing date of a first Office Action on the merits, but before the mailing date of any of a Final Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311 or an action that otherwise closes prosecution in this application (37 C.F.R. § 1.97(c)).

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith are copies of non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be

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construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Applicant hereby apprises the Examiner of the following patent applications, including the contents of the file wrappers, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

Docket No.	**U.S. Serial No.:**	**Title**	**Filing Date**
BST-001	15/271,655 Published as: US 2018/0083999	SELF-PUBLISHED SECURITY RISK MANAGEMENT	September 21, 2016
BST-002	15/377,574 9,705,932	METHODS AND SYSTEMS FOR CREATING, DE-DUPLICATING, AND ACCESSING DATA USING AN OBJECT STORAGE SYSTEM	December 13, 2016
BST-003	14/021,585 9,438,615 Published as: US 2015/0074579	SECURITY RISK MANAGEMENT	September 9, 2013
BST-003C1	15/216,955 Published as: US 2016/0330231	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	July 22, 2016
BST-003C2	15/239,063 Published as: US 2017/0093901	SECURITY RISK MANAGEMENT	August 17, 2016

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Docket No.	U.S. Serial No.:	Title	Filing Date
BST-003C3	16/405,121 Published as: US 2019/0260791	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	May 7, 2019
BST-004	13/240,572 Published as: US 2016/0205126	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	September 22, 2011
BST-004C1	14/944,484 9,973,524 Published as: US 2016/0323308	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	November 18, 2015
BST-004C1CP	15/142,677 9,830,569 Published as: US 2016/0239772	SECURITY ASSESSMENT USING SERVICE PROVIDER DIGITAL ASSET INFORMATION	April 29, 2016
BST-004C2	17/069,151 Published as: US 2021/0211454	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	October 13, 2020
BST-007	15/134,845 9,680,858	ANNOTATION PLATFORM FOR A SECURITY RISK SYSTEM	April 21, 2016
BST-008	15/044,952 Published as: US 2017/0236077	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	February 16, 2016
BST-008C2	15/089,375 10,176,445 Published as: US 2017/0236079	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	April 1, 2016

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Docket No.	U.S. Serial No.:	Title	Filing Date
BST-009DA	29/598,298 D835,631	COMPUTER DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DB	29/598,299 D818,475	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DC	29/599,622 D847169	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-009DD	29/599,620 D846,562	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-010	16/015,686 10,425,380	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	June 22, 2018
BST-010C1	16/543,075 10,554,619	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	August 16, 2019
BST-010C2	16/738,825 10,893,021	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 9, 2020
BST-010C3	17/146,064 Published as: US2021/0218702	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 11, 2021
BST-011	15/918,286 10,257,219	CORRELATED RISK IN CYBERSECURITY	March 12, 2018
BST-011C1	16/292,956 10,594,723	CORRELATED RISK IN CYBERSECURITY	March 5, 2019
BST-011C2	16/795,056 10,931,705	CORRELATED RISK IN CYBERSECURITY	February 19, 2020

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Docket No.	U.S. Serial No.:	Title	Filing Date
BST-011C3	17/179,630 Published as US2021/0176269	CORRELATED RISK IN CYBERSECURITY	February 19, 2021
BST-012	16/170,680 10,521,583	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	October 25, 2018
BST-012C1	16/688647 10,776,483	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	November 19, 2019
BST-012C2	17/000,135 11,126,723	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 21, 2020
BST-012C3	17/401,683 Published as US 2021/0374243	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 13, 2021
BST-013	15/954,921 10,812,520	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	April 17, 2018
BST-013C1	17/014,495 Published as: US2020/0404017	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	September 8, 2020
BST-014	16/549,764 Published as: US2021/0058421	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	August 23, 2019

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Docket No.	U.S. Serial No.:	Title	Filing Date
BST-014C1	16/787650 10,749,893	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	February 11, 2020
BST-015	16/583,991 10,848,382	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	September 26, 2019
BST-015C1	17/085,550 11,329,878 Published as: US2021/0099347	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	October 30, 2020
BST-016D	29/666,942 D892,135	COMPUTER DISPLAY WITH GRAPHICAL USER INTERFACE	October 17, 2018
BST-017	16/360,641 11,200,323	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	March 21, 2019
BST-017C1	17/523166 Published as US 2022/0121753	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	November 10, 2021
BST-018	16/514,771 10,726,136	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 17, 2019
BST-018C1	16/922,673 11,030,325	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 7, 2020
BST-018C2	17/307,577 Published as:	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR	May 4, 2021

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Docket No.	U.S. Serial No.:	Title	Filing Date
	US2021/0326449	ENTITIES	
BST-019D	29/677306 D905702	COMPUTER DISPLAY SCREEN WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE	January 18, 2019
BST-020	16/775,840 10,791,140	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	January 29, 2020
BST-020C1	17/018,587 11,050,779	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	September 11, 2020
BST-021	16/779,437 10,893,067 Published as: US2021/0243221	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	January 31, 2020
BST-021D1	17/132,512 Published as US 2021/0243221	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	December 23, 2020
BST-022	17/119,822 11,122,073	SYSTEMS AND METHODS FOR CYBERSECURITY RISK MITIGATION AND MANAGEMENT	December 11, 2020
BST-022D	29/815,855	COMPUTER DISPLAY WITH A GRAPHICAL USER INTERFACE FOR CYBERSECURITY RISK MANAGEMENT	November 17, 2021
BST-022D1	17/392,521 Published as US 2022/0191232	SYSTEMS AND METHODS FOR CYBERSECURITY RISK MITIGATION AND	August 3, 2021

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Docket No.	U.S. Serial No.:	Title	Filing Date
		MANAGEMENT	
BST-023	16/802,232 10,764,298	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	February 26, 2020
BST-023C1	16/942,452 11,265,330	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	July 29, 2020
BST-023DA	29/725724	COMPUTER DISPLAY WITH RISK VECTORS GRAPHICAL USER INTERFACE	February 26, 2020
BST-023DB	29/736,641 D937870	COMPUTER DISPLAY WITH PEER ANALYTICS GRAPHICAL USER INTERFACE	June 2, 2020
BST-024	17/039,675 11,032,244 Published as US 2021/0099428	SYSTEMS AND METHODS FOR DETERMINING ASSET IMPORTANCE IN SECURITY RISK MANAGEMENT	September 30, 2020
BST-024C1	17/320,997 Published as US 2021/0344647	SYSTEMS AND METHODS FOR DETERMINING ASSET IMPORTANCE IN SECURITY RISK MANAGEMENT	May 14, 2021
BST-026	16/884,607 11,023,585	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	May 27, 2020
BST-026C1	17/236,594 Published as US 2021/0374246	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	April 21, 2021
BST-029	17/710,168	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY RISK IN A WORK FROM HOME ENVIRONMENT	March 31, 2022

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Docket No.	U.S. Serial No.:	Title	Filing Date
BST-030	17/945,337	SYSTEMS AND METHODS FOR PRECOMPUTATION OF DIGITAL ASSET INVENTORIES	September 15, 2022
BST-032	17/856,217	SYSTEMS AND METHODS FOR ACCELERATING CYBERSECURITY ASSESSMENTS	July 1, 2022

/OLEG KORSAK/ 12/19/2022

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Please charge our Credit Card in the amount of $130.00 covering the fee set forth in 37 C.F.R. § 1.17(p). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1700, under Order No. BST-003C4.

Dated: December 6, 2022

Respectfully submitted,

Electronic signature: /Hunter Malboeuf/
Hunter Malboeuf
Registration No.: 79,730
GOODWIN PROCTER LLP
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	US-6,745,150	06-01-2004	Breiman	
	A2	US-6,785,732	08-31-2004	Bates et al.	
	A3	US-8,000,698	08-16-2011	Wolman et al.	
	A4	US-8,359,651	01-22-2013	Wu et al.	
	A5	US-8,505,094	08-06-2013	Xuewen et al.	
	A6	US-8,584,233	11-12-2013	Yang et al.	
	A7	US-8,601,575	12-03-2013	Mullarkey et al.	
	A8	US-8,752,183	06-10-2014	Heiderich et al.	
	A9	US-8,775,402	07-08-2014	Baskerville et al.	
	A10	US-8,806,646	08-12-2014	Daswani et al.	
	A11	US-8,949,988	02-03-2015	Adams et al.	
	A12	US-8,966,639	02-24-2015	Roytman et al.	
	A13	US-9,420,049	08-16-2016	Talmor et al.	
	A14	US-9,479,526	10-25-2016	Yang	
	A15	US-9,680,855	06-13-2017	Schultz et al.	
	A16	US-9,680,858	06-13-2017	Boyer et al.	
	A17	US-9,736,019	08-15-2017	Hardison et al.	
	A18	US-10,180,966	01-15-2019	Lang et al.	
	A19	US-10,210,329	02-19-2019	Malik et al.	

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/OLEG KORSAK/	Date Considered	12/19/2022

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Sheet 2 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
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	A20	US-10,540,374	01-21-2020	Singh et al.	
	A21	US-10,764,298	09-01-2020	Light et al.	
	A22	US-10,776,483	09-15-2020	Bagulho Monteiro Pereira	
	A23	US-10,796,260	10-06-2020	Brannon et al.	
	A24	US-10,896,394	01-19-2021	Brannon et al.	
	A25	US-10,909,488	02-02-2021	Hecht et al.	
	A26	US-11,126,723	09-21-2021	Bagulho Monteiro Pereira, Tiago	
	A27	US-11,379,773	07-05-2022	Vescio, Robert	
	A28	US-2003/0011601-A1	01-16-2003	Itoh et al.	
	A29	US-2003/0074248-A1	04-17-2003	Braud et al.	
	A30	US-2004/0088570-A1	05-06-2004	Roberts et al.	
	A31	US-2005/0065807-A1	03-24-2005	DeAngelis et al.	
	A32	US-2006/0271564-A1	11-30-2006	Meng Muntz et al.	
	A33	US-2007/0113282-A1	05-17-2007	Ross	
	A34	US-2007/0136622-A1	06-14-2007	Price et al.	
	A35	US-2008/0148408-A1	06-19-2008	Kao et al.	
	A36	US-2008/0175266-A1	07-24-2008	Alperovitch et al.	
	A37	US-2008/0270458-A1	10-30-2008	Gvelesiani	
	A38	US-2009/0064337-A1	03-05-2009	Chien	

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Art Unit	2492
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	A39	US-2009/0228830-A1	09-10-2009	Herz et al.	
	A40	US-2009/0276835-A1	11-05-2009	Jackson et al.	
	A41	US-2010/0024033-A1	01-28-2010	KANG et al.	
	A42	US-2010/0114634-A1	05-06-2010	Christiansen et al.	
	A43	US-2010/0309206-A1	12-09-2010	Xie et al.	
	A44	US-2011/0145168-A1	06-16-2011	Dirnstorfer et al.	
	A45	US-2011/0148880-A1	06-23-2011	De Peuter	
	A46	US-2011/0225085-A1	09-15-2011	TAKESHITA et al.	
	A47	US-2011/0249002-A1	10-13-2011	Duplessis et al.	
	A48	US-2011/0282997-A1	11-17-2011	Prince et al.	
	A49	US-2012/0008974-A1	01-12-2012	Kawai et al.	
	A50	US-2012/0036580-A1	02-09-2012	Gorny et al.	
	A51	US-2012/0059823-A1	03-08-2012	Barber et al.	
	A52	US-2012/0174219-A1	07-05-2012	Hernandez et al.	
	A53	US-2012/0221376-A1	08-30-2012	Austin	
	A54	US-2013/0055386-A1	02-28-2013	KIM et al.	
	A55	US-2013/0086687-A1	04-04-2013	Chess et al.	
	A56	US-2013/0212479-A1	08-15-2013	Willis et al.	
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Sheet 4 of 9

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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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	A58	US-2013/0263270-A1	10-03-2013	COTE et al.	
	A59	US-2013/0276056-A1	10-17-2013	EPSTEIN, JOE	
	A60	US-2013/0282406-A1	10-24-2013	Snyder et al.	
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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/OLEG KORSAK/	Date Considered	12/19/2022

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Sheet 5 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

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	A77	US-2016/0014081-A1	01-14-2016	Don, JR. et al.	
	A78	US-2016/0023639-A1	01-28-2016	CAJIGA et al.	
	A79	US-2016/0078382-A1	03-17-2016	Watkins et al.	
	A80	US-2016/0088015-A1	03-24-2016	Sivan et al.	
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	A82	US-2016/0212101-A1	07-21-2016	Reshadi et al.	
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	A84	US-2016/0344769-A1	11-24-2016	LI	
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	A86	US-2017/0104783-A1	04-13-2017	VANUNU et al.	
	A87	US-2017/0161253-A1	06-08-2017	Silver	
	A88	US-2017/0213292-A1	07-27-2017	Sweeney et al.	
	A89	US-2017/0221072-A1	08-03-2017	AthuluruTIrumala et al.	
	A90	US-2017/0223002-A1	08-03-2017	Sabin et al.	
	A91	US-2017/0264623-A1	09-14-2017	Ficarra et al.	
	A92	US-2017/0289109-A1	10-05-2017	CARAGEA, Radu	
	A93	US-2017/0324555-A1	11-09-2017	Wu et al.	
	A94	US-2018/0088968-A1	03-29-2018	Myhre et al.	
	A95	US-2018/0121659-A1	05-03-2018	Sawhney et al.	

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	A96	US-2018/0124091-A1	05-03-2018	Sweeney et al.	
	A97	US-2018/0146004-A1	05-24-2018	BELFIORE, JR. et al.	
	A98	US-2018/0191768-A1	07-05-2018	Broda et al.	
	A99	US-2018/0285414-A1	10-04-2018	Kondiles et al.	
	A100	US-2018/0349641-A1	12-06-2018	Barday et al.	
	A101	US-2019/0065545-A1	02-28-2019	Hazel et al.	
	A102	US-2019/0079869-A1	03-14-2019	Baldi et al.	
	A103	US-2019/0124091-A1	04-25-2019	UJIIE et al.	
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	A109	US-2019/0391707-A1	12-26-2019	Ristow et al.	
	A110	US-2020/0012794-A1	01-09-2020	Saldanha et al.	
	A111	US-2020/0065213-A1	02-27-2020	Poghosyan et al.	
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Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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	A115	US-2020/0125734-A1	04-23-2020	Light et al.	
	A116	US-2020/0183655-A1	06-11-2020	Barday et al.	
	A117	US-2020/0272763-A1	08-27-2020	Brannon et al.	
	A118	US-2020/0285737-A1	09-10-2020	KRAUS et al.	
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	A120	US-2020/0356695-A1	11-12-2020	Brannon et al.	
	A121	US-2021/0064746-A1	03-04-2021	KOIDE et al.	
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	A131	US-D894,939	09-01-2020	Braica	
	A132	US-D903,693	12-01-2020	Li et al.	
	A133	US-D905,712	12-22-2020	Li et al.	

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	A135	US-D918955	05-11-2021	Madden, Jr. et al.	
	A136	US-D920343	05-25-2021	Bowland	
	A137	US-D920353	05-25-2021	Boutros et al.	
	A138	US-D921031	06-01-2021	Tessier et al.	
	A139	US-D921662	06-08-2021	Giannino et al.	
	A140	US-D921674	06-08-2021	Kmak et al.	
	A141	US-D921677	06-08-2021	Kmak et al.	
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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	C1	Chernyshev, M. et al., "On 802.11 Access Point Locatability and Named Entity Recognition in Service Set Identifiers", IEEE Trans. on Info. and Sec., Vol. 11 No. 3 (March 2016).	
	C2	MCNAB, "Network Security Assessment," copyright 2004, 13 pages.	
	C3	Morningstar Direct, dated to 11/12/2020, morningstardirect.com [online]. Retrieved 02/26/2021 from internet URL:https://web.archive.org/web/20201112021943/https://www.morningstar.com/products/direct, (Year: 2020)	
	C4	Rees, L. P. et al., "Decision support for cybersecurity risk planning." Decision Support Systems 51.3 (2011): pp. 493-505.	
	C5	Santos, J. R. et al., "A framework for linking cybersecurity metrics to the modeling of macroeconomic interdependencies." Risk Analysis: An International Journal (2007) 27.5, pp. 1283 - 1297.	
	C6	Search Query Report from IP.com (performed 7/29/2022).	
	C7	Winship, C., "Models for sample selection bias", Annual review of sociology, 18(1) (August 1992), pp. 327-350.	

Examiner Signature	/OLEG KORSAK/	Date Considered	12/19/2022

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	42	(((("BitSight") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	(USPAT)	OR	ON	ON	2022/08/29 10:57 AM
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		"D604740" OR "D630645" OR "D652048" OR "D667022" OR "D682287" OR "D688260" OR "D691164" OR "D694252" OR "D694253" OR "D700616" OR "D730918" OR "D740847" OR "D740848" OR "D741351" OR "D746832" OR "D754690" OR "D754696" OR "D756371" OR "D756372" OR "D756392" OR "D759084" OR "D759689" OR "D760782" OR "D771695" OR "D772276" OR "D773507" OR "D775635" OR "D776136" OR "D776153" OR "D777177" OR "D778927" OR "D778928" OR "D779512" OR "D779514" OR "D779531" OR "D780770" OR "D785009" OR "D785010" OR "D785016" OR "D787530" OR "D788128" OR "D789947" OR "D789957" OR "D791153" OR "D791834" OR "D792427" OR "D795891" OR "D796523" OR "D801989" OR "D803237" OR "D804528" OR "D806735" OR "D806737" OR "D809523" OR "D812633" OR "D814483" OR "D815119" OR "D815148" OR					

		"D816105" OR "D816116" OR "D817970" OR "D817977" OR "D819687" OR "D880512").pn.					
L6	38	passive DNS query	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	ADJ	ON	ON	2022/08/29 11:01 AM
L7	32	L3 AND L6	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 11:01 AM
L8	0	L5 AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 11:01 AM
L9	1	L4 AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY,	OR	ON	ON	2022/08/29 11:02 AM

			CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L10	9	(L1 OR L2) AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 11:04 AM
L11	42	((("BitSight") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	(USPAT)	OR	ON	ON	2022/12/19 12:21 PM
L12	253	((("GLADSTONE") near3 ("Philip")) OR (("KIRBY") near3 ("Alan")) OR (("TRUELOVE") near3 ("John")) OR (("FEINZEIG") near3 ("David")) OR (("VENNA") near3 ("Nagarjuna")) OR (("BOYER") near3 ("Stephen"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2022/12/19 12:21 PM
L13	425415	(H04L63/1425 CPC Inventive (CPCI) H04L61/4511 Blank. G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441).CPC.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA,	OR	ON	ON	2022/12/19 12:21 PM

			VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L14	250	("10044750" OR "10079854" OR "10142364" OR "10185924" OR "10217071" OR "10230753" OR "10230764" OR "10235524" OR "10257219" OR "10305854" OR "10331502" OR "10339321" OR "10339484" OR "10348755" OR "10412083" OR "10469515" OR "10491619" OR "10491620" OR "10521583" OR "20010044798" OR "20020083077" OR "20020133365" OR "20020164983" OR "20030050862" OR "20030123424" OR "20030187967" OR "20040003284" OR "20040010709" OR "20040024859" OR "20040098375" OR "20040133561" OR "20040133689" OR "20040193907" OR "20040193918" OR "20040199791" OR "20040199792" OR "20040221296" OR "20040250122" OR "20040250134" OR "20050066195" OR "20050071450" OR "20050076245" OR "20050080720" OR "20050108415" OR "20050131830" OR "20050138413" OR "20050160002" OR "20050234767" OR "20050278726" OR "20060036335" OR "20060107226" OR "20060173992" OR "20060212925" OR "20060253581" OR "20070016948" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:21 PM

		"20070067845" OR "20070143851" OR "20070179955" OR "20070198275" OR "20070214151" OR "20070282730" OR "20080017526" OR "20080033775" OR "20080047018" OR "20080091834" OR "20080140495" OR "20080140728" OR "20080162931" OR "20080172382" OR "20080208995" OR "20080209565" OR "20080222287" OR "20080262895" OR "20090044272" OR "20090094265" OR "20090125427" OR "20090132861" OR "20090161629" OR "20090193054" OR "20090216700" OR "20090265787" OR "20090293128" OR "20090299802" OR "20090300768" OR "20090319420" OR "20090323632" OR "20090328063" OR "20100017880" OR "20100042605" OR "20100057582" OR "20100186088" OR "20100205042" OR "20100218256" OR "20100262444" OR "20100275263" OR "20100281124" OR "20100281151" OR "20110137704" OR "20110145576" OR "20110185403" OR "20110213742" OR "20110219455" OR "20110231395" OR "20110239300" OR "20110296519" OR "20120036263" OR "20120089745" OR "20120158725" OR "20120166458" OR "20120198558" OR "20120215892" OR "20120255027" OR "20120291129" OR					

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		"20160205126" OR "20160248797" OR "20160253500" OR "20160259945" OR "20160337387" OR "20160344801" OR "20160364496" OR "20160373485" OR "20170048267" OR "20170063901" OR "20170142148" OR "20170161409" OR "20170236078" OR "20170237764" OR "20170279843" OR "20170300911" OR "20170316324" OR "20170318045" OR "20170324766" OR "20170337487" OR "20180013716" OR "20180103043" OR "20180123934" OR "20180124110" OR "20180139180" OR "20180157468" OR "20180322584" OR "20180336348" OR "20180337938" OR "20180337941" OR "20180365519" OR "20180375896" OR "20190034845" OR "20190089711" OR "20190098025" OR "20190140925" OR "20190147378" OR "20190166152" OR "20190215331" OR "20190303574" OR "20190379632" OR "20190392252" OR "20200053127" OR "20200074084" OR "5867799" OR "6016475" OR "6792401" OR "7062572" OR "7100195" OR "7194769" OR "7290275" OR "7650570" OR "7747778" OR "7748038" OR "7827607" OR "7971252" OR "8370933" OR "8429630" OR					

		"8504556" OR "8621621" OR "8661146" OR "8677481" OR "8825662" OR "9053210" OR "9075990" OR "9241252" OR "9244899" OR "9294498" OR "9372994" OR "9373144" OR "9384206" OR "9401926" OR "9407658" OR "9424333" OR "9501647" OR "9560072" OR "9620079" OR "9641547" OR "9646110").pn.					
L15	67	("9954893" OR "D525264" OR "D525629" OR "D604740" OR "D630645" OR "D652048" OR "D667022" OR "D682287" OR "D688260" OR "D691164" OR "D694252" OR "D694253" OR "D700616" OR "D730918" OR "D740847" OR "D740848" OR "D741351" OR "D746832" OR "D754690" OR "D754696" OR "D756371" OR "D756372" OR "D756392" OR "D759084" OR "D759689" OR "D760782" OR "D771695" OR "D772276" OR "D773507" OR "D775635" OR "D776136" OR "D776153" OR "D777177" OR "D778927" OR "D778928" OR "D779512" OR "D779514" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:21 PM

		"D779531" OR "D780770" OR "D785009" OR "D785010" OR "D785016" OR "D787530" OR "D788128" OR "D789947" OR "D789957" OR "D791153" OR "D791834" OR "D792427" OR "D795891" OR "D796523" OR "D801989" OR "D803237" OR "D804528" OR "D806735" OR "D806737" OR "D809523" OR "D812633" OR "D814483" OR "D815119" OR "D815148" OR "D816105" OR "D816116" OR "D817970" OR "D817977" OR "D819687" OR "D880512").pn.					
L16	38	passive DNS query	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	ADJ	ON	ON	2022/12/19 12:21 PM
L17	33	L3 AND L6	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO,	OR	ON	ON	2022/12/19 12:21 PM

			RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L18	0	L5 AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/12/19 12:21 PM
L19	1	L4 AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/12/19 12:21 PM
L20	9	(L1 OR L2) AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/12/19 12:21 PM
L21	0	N3 AND N4	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY,	OR	ON	ON	2022/12/19 12:24 PM

			CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	13	(passive DNS query).CLM.	(US-PGPUB; USPAT)	ADJ	ON	ON	2022/12/19 12:21 PM
N2	104312	(H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441).CPC.	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:22 PM
N3	11	N1 AND N2	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:22 PM
N4	0	(authoritiative SAME host).CLM.	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:24 PM
N5	0	N3 AND N4	(US-PGPUB; USPAT)	OR	ON	ON	2022/12/19 12:25 PM

United States Patent and Trademark Office
Office of the Chief Financial Officer

Document Code:WFEE

User :Paula McCray-Stanley

Sale Accounting Date:12/12/2022

Sale Item Reference Number	Effective Date
17025930	11/06/2020

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I2022B0F33264394	2202	CLAIMS IN EXCESS OF 20	$50.00	Deposit Account

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: O. Korsak

Submitted via EFS-Web

INFORMATION DISCLOSURE STATEMENT (IDS)

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the filing date of this application, OR more than three months after the date of entry of the national stage in the international application, AND after the mailing date of a first Office Action on the merits, but before the mailing date of any of a Final Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311 or an action that otherwise closes prosecution in this application (37 C.F.R. § 1.97(c)).

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith are copies of non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be

construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Applicant hereby apprises the Examiner of the following patent applications, including the contents of the file wrappers, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

Docket No.	**U.S. Serial No.:**	**Title**	**Filing Date**
BST-001	15/271,655 Published as: US 2018/0083999	SELF-PUBLISHED SECURITY RISK MANAGEMENT	September 21, 2016
BST-002	15/377,574 9,705,932	METHODS AND SYSTEMS FOR CREATING, DE-DUPLICATING, AND ACCESSING DATA USING AN OBJECT STORAGE SYSTEM	December 13, 2016
BST-003	14/021,585 9,438,615 Published as: US 2015/0074579	SECURITY RISK MANAGEMENT	September 9, 2013
BST-003C1	15/216,955 Published as: US 2016/0330231	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	July 22, 2016
BST-003C2	15/239,063 Published as: US 2017/0093901	SECURITY RISK MANAGEMENT	August 17, 2016

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-003C3	16/405,121 Published as: US 2019/0260791	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	May 7, 2019
BST-004	13/240,572 Published as: US 2016/0205126	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	September 22, 2011
BST-004C1	14/944,484 9,973,524 Published as: US 2016/0323308	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	November 18, 2015
BST-004C1CP	15/142,677 9,830,569 Published as: US 2016/0239772	SECURITY ASSESSMENT USING SERVICE PROVIDER DIGITAL ASSET INFORMATION	April 29, 2016
BST-004C2	17/069,151 Published as: US 2021/0211454	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	October 13, 2020
BST-007	15/134,845 9,680,858	ANNOTATION PLATFORM FOR A SECURITY RISK SYSTEM	April 21, 2016
BST-008	15/044,952 Published as: US 2017/0236077	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	February 16, 2016
BST-008C2	15/089,375 10,176,445 Published as: US 2017/0236079	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	April 1, 2016

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-009DA	29/598,298 D835,631	COMPUTER DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DB	29/598,299 D818,475	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DC	29/599,622 D847169	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-009DD	29/599,620 D846,562	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-010	16/015,686 10,425,380	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	June 22, 2018
BST-010C1	16/543,075 10,554,619	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	August 16, 2019
BST-010C2	16/738,825 10,893,021	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 9, 2020
BST-010C3	17/146,064 Published as: US2021/0218702	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 11, 2021
BST-011	15/918,286 10,257,219	CORRELATED RISK IN CYBERSECURITY	March 12, 2018
BST-011C1	16/292,956 10,594,723	CORRELATED RISK IN CYBERSECURITY	March 5, 2019
BST-011C2	16/795,056 10,931,705	CORRELATED RISK IN CYBERSECURITY	February 19, 2020

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-011C3	17/179,630 Published as US2021/0176269	CORRELATED RISK IN CYBERSECURITY	February 19, 2021
BST-012	16/170,680 10,521,583	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	October 25, 2018
BST-012C1	16/688647 10,776,483	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	November 19, 2019
BST-012C2	17/000,135 11,126,723	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 21, 2020
BST-012C3	17/401,683 Published as US 2021/0374243	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 13, 2021
BST-013	15/954,921 10,812,520	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	April 17, 2018
BST-013C1	17/014,495 Published as: US2020/0404017	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	September 8, 2020
BST-014	16/549,764 Published as: US2021/0058421	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	August 23, 2019

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-014C1	16/787650 10,749,893	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	February 11, 2020
BST-015	16/583,991 10,848,382	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	September 26, 2019
BST-015C1	17/085,550 11,329,878 Published as: US2021/0099347	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	October 30, 2020
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BST-017	16/360,641 11,200,323	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	March 21, 2019
BST-017C1	17/523166 Published as US 2022/0121753	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	November 10, 2021
BST-018	16/514,771 10,726,136	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 17, 2019
BST-018C1	16/922,673 11,030,325	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 7, 2020
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	US2021/0326449	ENTITIES	
BST-019D	29/677306 D905702	COMPUTER DISPLAY SCREEN WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE	January 18, 2019
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BST-022	17/119,822 11,122,073	SYSTEMS AND METHODS FOR CYBERSECURITY RISK MITIGATION AND MANAGEMENT	December 11, 2020
BST-022D	29/815,855	COMPUTER DISPLAY WITH A GRAPHICAL USER INTERFACE FOR CYBERSECURITY RISK MANAGEMENT	November 17, 2021
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BST-023	16/802,232 10,764,298	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	February 26, 2020
BST-023C1	16/942,452 11,265,330	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	July 29, 2020
BST-023DA	29/725724	COMPUTER DISPLAY WITH RISK VECTORS GRAPHICAL USER INTERFACE	February 26, 2020
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BST-026	16/884,607 11,023,585	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	May 27, 2020
BST-026C1	17/236,594 Published as US 2021/0374246	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	April 21, 2021
BST-029	17/710,168	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY RISK IN A WORK FROM HOME ENVIRONMENT	March 31, 2022

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-030	17/945,337	SYSTEMS AND METHODS FOR PRECOMPUTATION OF DIGITAL ASSET INVENTORIES	September 15, 2022
BST-032	17/856,217	SYSTEMS AND METHODS FOR ACCELERATING CYBERSECURITY ASSESSMENTS	July 1, 2022

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Please charge our Credit Card in the amount of $130.00 covering the fee set forth in 37 C.F.R. § 1.17(p). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1700, under Order No. BST-003C4.

Dated: December 6, 2022

Respectfully submitted,

Electronic signature: /Hunter Malboeuf/
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Sheet 2 of 9

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Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

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First Named Inventor	Philip John Steuart Gladstone
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	A107	US-2019/0297106-A1	09-26-2019	Geil et al.	
	A108	US-2019/0362280-A1	11-28-2019	VESCIO, Robert	
	A109	US-2019/0391707-A1	12-26-2019	Ristow et al.	
	A110	US-2020/0012794-A1	01-09-2020	Saldanha et al.	
	A111	US-2020/0065213-A1	02-27-2020	Poghosyan et al.	
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	A113	US-2020/0097845-A1	03-26-2020	Shaikh et al.	
	A114	US-2020/0106798-A1	04-02-2020	Lin	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08a (07-09)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 7 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A115	US-2020/0125734-A1	04-23-2020	Light et al.	
	A116	US-2020/0183655-A1	06-11-2020	Barday et al.	
	A117	US-2020/0272763-A1	08-27-2020	Brannon et al.	
	A118	US-2020/0285737-A1	09-10-2020	KRAUS et al.	
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	A133	US-D905,712	12-22-2020	Li et al.	

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 8 of 9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A134	US-D908,139	01-19-2021	Hardy et al.	
	A135	US-D918955	05-11-2021	Madden, Jr. et al.	
	A136	US-D920343	05-25-2021	Bowland	
	A137	US-D920353	05-25-2021	Boutros et al.	
	A138	US-D921031	06-01-2021	Tessier et al.	
	A139	US-D921662	06-08-2021	Giannino et al.	
	A140	US-D921674	06-08-2021	Kmak et al.	
	A141	US-D921677	06-08-2021	Kmak et al.	
	A142	US-D922397	06-15-2021	Modi et al.	
	A143	US-D924909	07-13-2021	Nasu et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

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PTO/SB/08b (07-09)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	9	of	9

Complete if Known	
Application Number	17/025,930-Conf. #1001
Filing Date	September 18, 2020
First Named Inventor	Philip John Steuart Gladstone
Art Unit	2492
Examiner Name	O. Korsak
Attorney Docket Number	BST-003C4

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	C1	Chernyshev, M. et al., "On 802.11 Access Point Locatability and Named Entity Recognition in Service Set Identifiers", IEEE Trans. on Info. and Sec., Vol. 11 No. 3 (March 2016).	
	C2	MCNAB, "Network Security Assessment," copyright 2004, 13 pages.	
	C3	Morningstar Direct, dated to 11/12/2020, morningstardirect.com [online]. Retrieved 02/26/2021 from internet URL:https://web.archive.org/web/20201112021943/https://www.morningstar.com/products/direct, (Year: 2020)	
	C4	Rees, L. P. et al., "Decision support for cybersecurity risk planning." Decision Support Systems 51.3 (2011): pp. 493-505.	
	C5	Santos, J. R. et al., "A framework for linking cybersecurity metrics to the modeling of macroeconomic interdependencies." Risk Analysis: An International Journal (2007) 27.5, pp. 1283 - 1297.	
	C6	Search Query Report from IP.com (performed 7/29/2022).	
	C7	Winship, C., "Models for sample selection bias", Annual review of sociology, 18(1) (August 1992), pp. 327-350.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: O. Korsak

Submitted via EFS-Web

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION UNDER 37 C.F.R. § 1.111

INTRODUCTORY COMMENTS

In response to the Office Action dated September 6, 2022, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

AMENDMENTS TO THE CLAIMS

1-20. (Canceled)

21. (Previously presented) A computer-implemented method for mapping Internet Protocol (IP) addresses to an entity, the method comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

22. (Previously presented) The method of claim 21, wherein the first domain name is received from a user interface.

23. (Previously presented) The method of claim 21, wherein the list of the host names comprises names of at least a subset of the first name servers.

24. (Previously presented) The method of claim 21, wherein the attribute is a Classless Inter-Domain Routing block.

25. (Previously presented) The method of claim 21, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

26. (Previously presented) The method of claim 21, wherein the method is executed at least two separate instances to track a change over time in the IP addresses for the host names.

27. (Previously presented) The method of claim 26, further comprising:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

28. (Previously presented) The method of claim 21, further comprising:

identifying a shared hosting service based on the mapped IP addresses.

29. (Previously presented) The method of claim 21, further comprising:

determining a security rating for the entity based on the mapped IP address.

30. (Currently Amended) The method of claim 21, wherein the entity is a first entity, and wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for the first entity and a second entity ~~at least two entities~~.

31. (Currently Amended) The method of claim 30[[29]], further comprising:

determining a first security rating for the first entity ~~a first one of the at least two entities~~ and a second security rating for the second entity ~~a second one of the at least two entities~~, the first security rating and the second security rating being related.

32. (Previously presented) A computer-implemented system for mapping Internet Protocol (IP) addresses to an entity, the system comprising:

at least one memory storing computer-executable instructions; and

at least one processor for executing the instructions stored on the memory, wherein execution of the instructions programs the at least one processor to perform operations comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

33. (Previously presented) The system of claim 32, further comprising:

a user interface coupled to the processor, wherein the processor is configured to receive the first domain name for the entity from the user interface.

34. (Previously presented) The system of claim 32, wherein the list of the host names comprises names of at least a subset of the first name servers.

35. (Previously presented) The system of claim 32, wherein the attribute is a Classless Inter-Domain Routing block.

36. (Previously presented) The system of claim 32, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

37. (Previously presented) The system of claim 32, wherein the operations are executed at least two separate instances to track a change over time in the IP addresses for the host names.

38. (Previously presented) The system of claim 37, wherein the operations further comprise:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

39. (Previously presented) The system of claim 32, wherein the operations further comprise:

identifying a shared hosting service based on the mapped IP addresses.

40. (Previously presented) The system of claim 32, wherein the operations further comprise:

determining a security rating for the entity based on the mapped IP address.

41. (Currently Amended) The system of claim 32, wherein the entity is a first entity, and wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for the first entity and a second entity ~~at least two entities~~.

42. (Currently Amended) The system of claim 41[[32]], wherein the operations further comprise:

determining a first security rating for the first entity ~~a first one of the at least two entities~~ and a second security rating for the second entity ~~a second one of the at least two entities~~, the first security rating and the second security rating being related.

REMARKS

In response to the Office Action mailed September 6, 2022, Applicant respectfully requests reconsideration in view of the amendments and the following remarks.

Claims 21-42 were previously pending in this application. Claims 30, 31, 41, and 42 are amended herein without prejudice or disclaimer. As a result, claims 21-42 are pending for examination with claims 21 and 32 each being an independent claim. Support for the amendments to the claims can be found in at least Fig. 16 and the instant Specification at page 2, lines 28-29; page 4, lines 15-25; page 5, lines 15-22; page 11, lines 9-19; and page 43, line 3 to page 44, line 8. No new matter has been added.

Claim Rejections under 35 U.S.C. § 112

Claims 30 and 31 stand rejected under 35 U.S.C. 112(b), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or joint inventor, regards as the invention. Claims 30, 31, 41, and 42 have been amended without prejudice or disclaimer. Withdrawal of the rejections under 35 U.S.C. 112(b) and reconsideration of claims 30, 31, 41, and 42 is respectfully requested.

Double Patenting

Claims 21-42 are rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-100 of U.S. Patent No. 9,438,615 (the "'615 patent"). Without acquiescing to the merits of the rejection, Applicant has submitted an Electronic Terminal Disclaimer relative to the '615 patent, and has received a notification from the Office indicating that the Electronic Terminal Disclaimer has been approved. Accordingly, Applicant respectfully submits that the double patenting rejection is moot and requests that it be withdrawn.

Allowable Subject Matter

Claims 21-42 are indicated as allowable over prior art. Applicant acknowledges and appreciates the indication of allowable subject matter. Reconsideration of claims 21-42 is respectfully requested.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 07-1700, under Order No. BST-003C4 from which the undersigned is authorized to draw.

Dated: December 6, 2022

Respectfully submitted,

Electronic signature: /Hunter Malboeuf/
Hunter Malboeuf
Registration No.: 79,730
GOODWIN PROCTER LLP
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IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210
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Agent For Applicant

Electronic Patent Application Fee Transmittal

Application Number:	17025930
Filing Date:	18-Sep-2020
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Filer:	Hunter Christian Malboeuf/Anna Beaulieu
Attorney Docket Number:	BST-003C4

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	130	130
		Total in USD ($)		**130**

Electronic Acknowledgement Receipt

EFS ID:	47148785
Application Number:	17025930
International Application Number:	
Confirmation Number:	1001
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Customer Number:	51414
Filer:	Hunter Christian Malboeuf/Anna Beaulieu
Filer Authorized By:	Hunter Christian Malboeuf
Attorney Docket Number:	BST-003C4
Receipt Date:	06-DEC-2022
Filing Date:	18-SEP-2020
Time Stamp:	08:46:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$130
RAM confirmation Number	E2022B6946454707
Deposit Account	
Authorized User	

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	Chernyshev_On_80211_Access_Point_Locatability_and_Named.PDF	3140278 1ca4a29a37d3d54dff7255592a7bc848d573d4a2	no	10
Warnings:					
Information:					
2	Non Patent Literature	BST-015_-_BST-003C2_-_Network_Security_Assessment.pdf	1803210 8851b10c8673685c1ebb024df2d9d024cda8a0e7	no	13
Warnings:					
Information:					
3	Non Patent Literature	Morningstar.PDF	308390 293449c044ed841624a6d512a22df42caa7477a7	no	3
Warnings:					
Information:					
4	Non Patent Literature	REES.PDF	2017602 77c90cb60c87ce99df02a213fee0dba8d348c2b4	no	13
Warnings:					
Information:					
5	Non Patent Literature	Santos.PDF	1158404 bf61bec0fbb0a27773112ae224751fd9e02ed364	no	15
Warnings:					
Information:					
6	Non Patent Literature	Search_Query_Report_from_IPcom_729.PDF	223413 b19c47cc5637b400b7e25bcda395ca8640dedc48	no	4
Warnings:					
Information:					

7	Non Patent Literature	Winship__Models_for_sample_selection_bias.PDF	1542009 bf3552c5fa13d5355e45474cfaf1e6a31e23d743	no	24
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	239424 4eca6bb04a68e87298e305c5b50e085a516fe3d8	no	18
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9		RNFOA.pdf	43141 ba91a7e9127103ee721e4d4777871a893f9a6d24	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Request for Reconsideration-After Non-Final Rejection	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	7

Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	38119 c15316d0f531e915894f3eb4ec5920d018727aac	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	10513990	

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New Applications Under 35 U.S.C. 111

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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/025,930	Filing Date 09/18/2020	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	12/06/2022	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 21	= 1		x $50 =	50
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $240 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	50

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/PAULA D MCCRAY STANLEY/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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 12 minutes to complete, including gathering, preparing, and submitting the completed application 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	17025930
Filing Date	18-Sep-2020
First Named Inventor	Philip Gladstone
Attorney Docket Number	BST-003C4
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
BitSight Technologies, Inc.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

9438615

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○	I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

◉ Small Entity

○ Micro Entity

○ Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 79730

○ A sole inventor

○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

○ A joint inventor; all of whom are signing this request

Signature	/Hunter Malboeuf/
Name	Hunter Malboeuf

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	17025930
Filing Date:	18-Sep-2020
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Filer:	Hunter Christian Malboeuf/Anna Beaulieu
Attorney Docket Number:	BST-003C4

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**170**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 17025930

Filing Date: 18-Sep-2020

Applicant/Patent under Reexamination: Gladstone

Electronic Terminal Disclaimer filed on November 22, 2022

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	47070456
Application Number:	17025930
International Application Number:	
Confirmation Number:	1001
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Customer Number:	51414
Filer:	Hunter Christian Malboeuf/Anna Beaulieu
Filer Authorized By:	Hunter Christian Malboeuf
Attorney Docket Number:	BST-003C4
Receipt Date:	22-NOV-2022
Filing Date:	18-SEP-2020
Time Stamp:	10:23:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$170
RAM confirmation Number	E2022ALA23410035
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	41289 cba1ab22666298f552fdf88111ae80505b7eafc9	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	38105 d5cffb53c57f7b6cb0d7677072732493ab2f2ecf	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	79394		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

Courtesy Reminder for
Application Serial No: 17/025,930

Attorney Docket No: BST-003C4
Customer Number: 51414
Date of Electronic Notification: 09/06/2022

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

US-PatentBos@goodwinlaw.com
JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com

To view your correspondence online or update your email addresses, please visit us anytime at **https://ppair-my.uspto.gov/pair/PrivatePair.**
If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 09/06/2022

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
KORSAK, OLEG	

ART UNIT	PAPER NUMBER
2492	

NOTIFICATION DATE	DELIVERY MODE
09/06/2022	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com
US-PatentBos@goodwinlaw.com

Office Action Summary	Application No. 17/025,930	Applicant(s) Gladstone et al.	
	Examiner OLEG KORSAK	Art Unit 2492	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 09/18/20.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 21-42 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 21-42 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 09/18/20 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 09/18/20, 09/18/20.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to the application # 17/025,930 filed on September 18, 2020. By preliminary amendment Claims 21-42 are pending and are directed toward METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS.

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 30 and 31 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. Claims 30 and 31 have a limitation " at least two entities", however a single entity claimed in the parent claims 21 and 29. Examiner suggestion is to amend the parent claims by "one or more entities".

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21-42 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-100 of US patent No. 9438615. Although the

conflicting claims are not identical, they are not patentably distinct from each other because all elements of claims 21-42 of the instant application correspond to elements of claims 1-100 of US patent No. 9438615. The above claims of the present application would have been obvious over claims 1-100 of US patent No. 9438615 because each element of the claims of the present application is anticipated by the claims 1-100 of US patent No. 9438615 and as such are unpatentable for obviousness-type double patenting (*In re Goodman (CAFC) 29 USPQ2D 2010 (12/3/1993)*).

Allowable Subject Matter

Claims 21-42 are indicated as allowable over prior art.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

`Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLEG KORSAK whose telephone number is (571)270-1938. The examiner can normally be reached on 5:00 AM- 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OLEG KORSAK/

Primary Examiner, Art Unit 2492

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	Art Unit
	OLEG KORSAK	2492

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/29/2022								
	1	-								
	2	-								
	3	-								
	4	-								
	5	-								
	6	-								
	7	-								
	8	-								
	9	-								
	10	-								
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	34	✓								
	35	✓								
	36	✓								
	37	✓								
	38	✓								
	39	✓								
	40	✓								
	41	✓								
	42	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/025,930	Gladstone et al.
	Examiner	Art Unit
	OLEG KORSAK	2492

CPC - Searched*		
Symbol	Date	Examiner
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	08/29/2022	OK

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
H04L63/1425 H04L61/4511 G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441	08/29/2022	OK
SEARCH limited by keywords	08/29/2022	OK

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/OLEG KORSAK/ Primary Examiner, Art Unit 2492	

Bibliographic Data

Application No: 17/025,930

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /OLEG KORSAK/ Examiner's Signature | Initials

Title: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/18/2020	726	2492	BST-003C4
RULE			

APPLICANTS

BitSight Technologies, Inc., Boston, MA, UNITED STATES

INVENTORS

Philip John Steuart Gladstone, Carlisle, MA, UNITED STATES

Alan Joseph Kirby, Hollis, NH, UNITED STATES

John Matthew Truelove, Cambridge, MA, UNITED STATES

David Feinzeig, Stoneham, MA, UNITED STATES

Nagarjuna Venna, Waltham, MA, UNITED STATES

Stephen Boyer, Waltham, MA, UNITED STATES

CONTINUING DATA

This application is a CON of 16405121 05/07/2019 PAT 10785245

16405121 is a CON of 15216955 07/22/2016 PAT 10326786

15216955 is a CON of 14021585 09/09/2013 PAT 9438615

FOREIGN APPLICATIONS

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09/28/2020

**** SMALL ENTITY ****

STATE OR COUNTRY

UNITED STATES

ADDRESS

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

UNITED STATES

FILING FEE RECEIVED

$785

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	42	(((("BitSight") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	(USPAT)	OR	ON	ON	2022/08/29 10:57 AM
L2	251	((("GLADSTONE") near3 ("Philip")) OR (("KIRBY") near3 ("Alan")) OR (("TRUELOVE") near3 ("John")) OR (("FEINZEIG") near3 ("David")) OR (("VENNA") near3 ("Nagarjuna")) OR (("BOYER") near3 ("Stephen"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2022/08/29 10:57 AM
L3	399787	(H04L63/1425 CPC Inventive (CPCI) H04L61/4511 Blank. G06F3/0484 G06Q30/0277 G06Q50/01 H04L63/1416 H04L63/1433 H04L63/1441).CPC.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 10:58 AM
L4	250	("10044750" OR "10079854" OR "10142364" OR "10185924" OR "10217071" OR "10230753" OR "10230764" OR "10235524" OR "10257219" OR "10305854" OR "10331502" OR "10339321" OR "10339484" OR "10348755" OR "10412083" OR "10469515" OR "10491619" OR "10491620" OR "10521583" OR "20010044798" OR "20020083077" OR	(US-PGPUB; USPAT)	OR	ON	ON	2022/08/29 10:59 AM

		"20020133365" OR "20020164983" OR "20030050862" OR "20030123424" OR "20030187967" OR "20040003284" OR "20040010709" OR "20040024859" OR "20040098375" OR "20040133561" OR "20040133689" OR "20040193907" OR "20040193918" OR "20040199791" OR "20040199792" OR "20040221296" OR "20040250122" OR "20040250134" OR "20050066195" OR "20050071450" OR "20050076245" OR "20050080720" OR "20050108415" OR "20050131830" OR "20050138413" OR "20050160002" OR "20050234767" OR "20050278726" OR "20060036335" OR "20060107226" OR "20060173992" OR "20060212925" OR "20060253581" OR "20070016948" OR "20070067845" OR "20070143851" OR "20070179955" OR "20070198275" OR "20070214151" OR "20070282730" OR "20080017526" OR "20080033775" OR "20080047018" OR "20080091834" OR "20080140495" OR "20080140728" OR "20080162931" OR "20080172382" OR "20080208995" OR "20080209565" OR "20080222287" OR "20080262895" OR "20090044272" OR "20090094265" OR "20090125427" OR "20090132861" OR "20090161629" OR "20090193054" OR					

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L7	32	L3 AND L6	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 11:01 AM
L8	0	L5 AND L7	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/08/29 11:01 AM
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			CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
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PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	1	of	29

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	US-7,062,572	06-13-2006	Hampton	
	A2	US-8,621,621	12-31-2013	Burns et al.	
	A3	US-8,661,146	02-25-2014	Alex et al.	
	A4	US-8,825,662	09-02-2014	Kingman et al.	
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	A6	US-9,401,926	07-26-2016	Dubow et al.	
	A7	US-10,079,854	09-18-2018	Scott et al.	
	A8	US-10,217,071	02-26-2019	Mo et al.	
	A9	US-10,235,524	03-19-2019	Ford	
	A10	US-10,305,854	05-28-2019	Alizadeh-Shabdiz et al.	
	A11	US-10,412,083	09-10-2019	Zou et al.	
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	A15	US-10,521,583	12-31-2019	Bagulho Monteiro Pereira	
	A16	US-2002/0164983-A1	11-07-2002	Raviv et al.	
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	A18	US-2004/0098375-A1	05-20-2004	DeCarlo	
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	B1**	WO-2017/142694-A1	08-24-2017	Security Scorecard, Inc		
	B2**	WO-2019/023045-A1	01-31-2019	Securityscorecard, Inc		

Examiner Signature	/OLEG KORSAK/	Date Considered	08/27/2022

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Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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	A20	US-2007/0067845-A1	03-22-2007	Wiemer et al.	
	A21	US-2008/0208995-A1	08-28-2008	TAKAHASHI et al.	
	A22	US-2008/0222287-A1	09-11-2008	Bahl et al.	
	A23	US-2009/0216700-A1	08-27-2009	Bouchard et al.	
	A24	US-2010/0205042-A1	08-12-2010	Mun	
	A25	US-2010/0275263-A1	10-28-2010	Bennett et al.	
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	A34	US-2015/0381649-A1	12-31-2015	Schultz et al.	
	A35	US-2016/0119373-A1	04-28-2016	Fausto et al.	
	A36	US-2016/0162602-A1	06-09-2016	Bradish et al.	
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Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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	A39	US-2016/0253500-A1	09-01-2016	Alme et al.	
	A40	US-2016/0344801-A1	11-24-2016	Akkarawittayapoom	
	A41	US-2017/0063901-A1	03-02-2017	Muddu et al.	
	A42	US-2017/0161409-A1	06-08-2017	Martin	
	A43	US-2017/0279843-A1	09-28-2017	Schultz et al.	
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	A49	US-2019/0147378-A1	05-16-2019	Mo et al.	
	A50	US-2019/0379632-A1	12-12-2019	Dahlberg et al.	
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	A52	US-9,075,990	07-07-2015	Yang	
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First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
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	A58	US-2007/0179955-A1	08-02-2007	CROFT et al.	
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	A60	US-2008/0140728-A1	06-12-2008	Fraser et al.	
	A61	US-2009/0323632-A1	12-31-2009	Nix	
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	A76	US-2017/0300911-A1	10-19-2017	Alnajem	

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First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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Examiner Signature	/OLEG KORSAK/	Date Considered	08/27/2022

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
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Attorney Docket Number	BST-003C4

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Examiner Signature	/OLEG KORSAK/	Date Considered	08/27/2022

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	13	of	29

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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Art Unit	N/A
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Attorney Docket Number	BST-003C4

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Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

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Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
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Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned

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Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	C111**	Luo, Hui; Henry, Paul. A Secure Public Wireless LAN Access Technique That Supports Walk-Up Users. GLOBECOM '03. IEEE Global Telecommunications Conference. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber= 1258471 (Year: 2003)	

Examiner Signature	/OLEG KORSAK/	Date Considered	08/27/2022

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant's unique citation designation number (optional). [2] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: Not Yet Assigned | Confirmation No.: N/A

Filed: Concurrently Herewith | Art Unit: N/A

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: Not Yet Assigned

Filed via EFS-web

INFORMATION DISCLOSURE STATEMENT (IDS)

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted.

In accordance with 37 C.F.R. § 1.98(d)(1) and as noted by a double-asterisk next to the Cite No. on the attached PTO/SB/08, the references are not supplied because they were previously cited by or submitted to the Office in prior application numbers 16/405121 filed May 7, 2019, 15/216955 filed July 22, 2016, 14/021585 filed September 9, 2013, and 14/021585 filed September 9, 2013 and relied on in the above-identified application for an earlier effective filing date under 35 U.S.C. § 120.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Applicant hereby apprises the Examiner of the following patent application, including the contents of the file wrapper, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-001	15/271655 Published as: US2018/0083999	SELF-PUBLISHED SECURITY RISK MANAGEMENT	September 21, 2016
BST-002	15/377,574 9,705,932	METHODS AND SYSTEMS FOR CREATING, DE-DUPLICATING, AND ACCESSING DATA USING AN OBJECT STORAGE SYSTEM	December 13, 2016
BST-003	14/021,585 9,438,615 Published as: US2015/0074579	SECURITY RISK MANAGEMENT	September 9, 2013
BST-003C1	15/216,955 Published as: US2016/0330231	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	July 22, 2016
BST-003C2	15/239,063 Published as: US2017/0093901	SECURITY RISK MANAGEMENT	August 17, 2016
BST-003C3	16/405,121 Published as: US2019/0260791	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	May 7, 2019
BST-004	13/240,572 Published as: US2016/0205126	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	September 22, 2011
BST-004C1	14/944,484 9,973,524	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	November 18, 2015

/OLEG KORSAK/ 08/27/2022

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Docket No.	U.S. Serial No.:	Title	Filing Date
	Published as: US2016/0323308		
BST-004C1CP	15/142,677 9,830,569 Published as: US/2016/0239772	SECURITY ASSESSMENT USING SERVICE PROVIDER DIGITAL ASSET INFORMATION	April 29, 2016
BST-007	15/134,845 9,680,858	ANNOTATION PLATFORM FOR A SECURITY RISK SYSTEM	April 21, 2016
BST-008	15/044,952 Published as: US2017/0236077	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	February 16, 2016
BST-008C2	15/089,375 10,176,445 Published as: US2017/0236079	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	April 1, 2016
BST-009DA	29/598,298 D835,631	COMPUTER DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DB	29/598,299 D818,475	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DC	29/599,622	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-009DD	29/599,620	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-010	16/015,686	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	June 22, 2018

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-010C1	16/543,075	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	August 16, 2019
BST-010C2	16/738825	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 9, 2020
BST-011	15/918,286	CORRELATED RISK IN CYBERSECURITY	March 12, 2018
BST-011C1	16/292,956	CORRELATED RISK IN CYBERSECURITY	May 5, 2019
BST-011C2	16/795,056	CORRELATED RISK IN CYBERSECURITY	February 19, 2020
BST-012	16/170680	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	October 25, 2018
BST-012C1	16/688647	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	November 19, 2019
BST-012C2	17/000135	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 21, 2020
BST-013	15/954921	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	April 17, 2018
BST-014	16/549764	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	August 23, 2019
BST-014C1	16/787650	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK	February 11, 2020

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Docket No.	U.S. Serial No.:	Title	Filing Date
		COMMUNICATIONS OF USERS OR USER DEVICES	
BST-015	16/583,991	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	September 26, 2019
BST-016D	29/666942	COMPUTER DISPLAY WITH GRAPHICAL USER INTERFACE	October 17, 2018
BST-017	16/360,641	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	March 21, 2019
BST-018	16/514,771	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 17, 2019
BST-018C1	16/922,273	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 7, 2020
BST-019D	29/677306	COMPUTER DISPLAY WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE COMPUTER DISPLAY WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE	January 18, 2019
BST-020	16/775840	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	January 29, 2020
BST-020C1	17/018587	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	September 11, 2020

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-021	16/779,437	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	January 31, 2020
BST-023	16/802232	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	February 26, 2020
BST-023C1	16/942,452	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	July 29, 2020
BST-023DA	29/725724	COMPUTER DISPLAY WITH RISK VECTORS GRAPHICAL USER INTERFACE	February 26, 2020
BST-023DB	29/736,641	COMPUTER DISPLAY WITH PEER ANALYTICS GRAPHICAL USER INTERFACE	June 2, 2020
BST-026	16/884,607	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	May 27, 2020

Additionally, Applicant hereby apprises the Examiner of the following patents and patent applications, including the contents of the file wrappers, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

1. U.S.S.N. 15/271,655 (Attorney Docket No. BST-001), the Office Actions mailed 02/21/2017 and 08/18/2017;

2. U.S.S.N. 15/377,574 (Attorney Docket No. BST-002), now U.S. Patent No. 9,705,932, the Office Action mailed 03/02/2017 and the Notice of Allowance mailed 06/01/2017;

3. U.S.S.N. 14/021,585 (Attorney Docket No. BST-003), now U.S. Patent No. 9,438,615, the Office Action mailed 03/11/2016 and the Notice of Allowance mailed 08/09/2016;

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

4. U.S.S.N. 15/216,955 (Attorney Docket No. BST-003C1), now U.S. Patent No. 10,326,786, the Office Actions mailed 11/04/2016, 03/09/2017, 06/06/2017, 12/05/2017, and 08/29/2018, and the Notice of Allowance mailed 02/06/2019;

5. U.S.S.N. 15/239,063 (Attorney Docket No. BST-003C2), now U.S. Patent No. 10,341,370, the Office Action mailed 03/21/2018 and the Notice of Allowance mailed 01/14/2019;

6. U.S.S.N. 16/405,121 (Attorney Docket No. BST-003C3), the Office Actions mailed 08/01/2019 and 11/21/2019 and the Notices of Allowance mailed 05/22/2020 and 07/10/2020;

7. U.S.S.N. 13/240,572 (Attorney Docket No. BST-004), the Office Actions mailed 11/21/2013, 06/16/2014, 02/27/2015, 06/03/2015, 10/26/2015, 03/10/2016 02/13/2017; and the Notice of Allowance mailed 06/01/2020;

8. U.S.S.N. 14/944,484 (Attorney Docket No. BST-004C1), now U.S. Patent No. 9,973,524, the Office Actions mailed 03/11/2016, 07/05/2016, and 01/17/2017 and the Notice of Allowance mailed 10/20/2017;

9. U.S.S.N. 15/142,677 (Attorney Docket No. BST-004C1CP), now U.S. Patent No. 9,830,569, the Office Actions mailed 07/26/2016, and 04/24/2017 and the Notice of Allowance mailed 10/11/2017;

10. U.S.S.N. 15/134,845 (Attorney Docket No. BST-007), now U.S. Patent No. 9,680,858, the Office Actions mailed 07/19/2016 and 01/26/2017, and the Notices of Allowance mailed 04/27/2017 and 05/09/2017;

11. U.S.S.N. 15/044,952 (Attorney Docket No. BST-008), the Office Actions mailed 07/08/2019 and 02/21/2020;

12. U.S.S.N. 15/089,375 (Attorney Docket No. BST-008C2), now U.S. Patent No. 10,176,445, the Office Actions mailed 09/09/2016, 05/17/2017, and 11/17/2017 and the Notice of Allowance mailed 08/09/2018;

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13. U.S.S.N. 29/598,298 (Attorney Docket No. BST-009DA), now U.S. Patent No. D835,631, the Notice of Allowance mailed 08/15/2018;

14. U.S.S.N. 29/598,299 (Attorney Docket No. BST-009DB), now U.S. Patent No. D818,475, the Notice of Allowance mailed 01/02/2018;

15. U.S.S.N. 29/599,622 (Attorney Docket No. BST-009DC), now U.S. Patent No. D847,169, the Notice of Allowance mailed 12/11/2018;

16. U.S.S.N. 29/599,620 (Attorney Docket No. BST-009DD), now U.S. Patent No. D846,562, the Office Action mailed 05/03/2018, the Notice of Allowance mailed 11/27/2018;

17. U.S.S.N. 16/015,686 (Attorney Docket No. BST-010), now U.S. Patent No. 10,425,380, the Office Action mailed 11/16/2018 and the Notice of Allowance mailed 05/10/2019;

18. U.S.S.N. 16/543,075 (Attorney Docket No. BST-010C1), the Notice of Allowance mailed 09/25/2019;

19. U.S.S.N. 16/738,825 (Attorney Docket No. BST-010C2), the Office Actions mailed 07/08/2019 and 02/21/2020, and the Notice of Allowance mailed 09/09/2020;

20. U.S.S.N. 15/918,286 (Attorney Docket No. BST-011), now U.S. Patent No. 10,257,219, the Office Action mailed 08/07/2018 and the Notice of Allowance mailed 11/29/2018;

21. U.S.S.N. 16/292,956 (Attorney Docket No. BST-011C1), the Office Action mailed 07/10/2019 and the Notices of Allowance mailed 01/08/2020 and 01/27/2020;

22. U.S.S.N. 16/795,056 (Attorney Docket No. BST-011C2), the Office Action mailed 05/01/2020;

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

23. U.S.S.N. 16/170,680 (Attorney Docket No. BST-012), the Office Action mailed 03/26/2019; the Notices of Allowance mailed 10/29/2019 and 08/27/2019;

24. U.S.S.N. 16/688,647 (Attorney Docket No. BST-012C1), the Office Action mailed 01/29/2020; the Notice of Allowance mailed 05/12/2020;

25. U.S.S.N. 15/954,921 (Attorney Docket No. BST-013), the Office Actions mailed 09/04/2018, 01/03/2019, 08/19/2019, and 12/05/2019; Advisory Action mailed 03/03/2020, and the Notice of Allowance mailed 07/07/2020;

26. U.S.S.N. 16/787,650 (Attorney Docket No. BST-014C1), the Notice of Allowance mailed 04/07/2020;

27. U.S.S.N. 16/583,991 (Attorney Docket No. BST-015), the Office Action mailed 01/13/2020;

28. U.S.S.N. 29/666,942 (Attorney Docket No. BST-016D), the Notice of Allowance mailed 04/30/2020;

29. U.S.S.N. 16/360,641 (Attorney Docket No. BST-017), the Office Action mailed 08/07/2019 and 02/20/2020;

30. U.S.S.N. 16/514,771 (Attorney Docket No. BST-018), the Office Action mailed 12/04/2019; the Notice of Allowance mailed 03/18/2020;

31. U.S.S.N. 16/922,673 (Attorney Docket No. BST-018C1), the Office Action mailed 09/15/2020;

32. U.S.S.N. 29/677,306 (Attorney Docket No. BST-019D), the Notice of Allowance mailed on 08/20/2020;

33. U.S.S.N. 16/775,840 (Attorney Docket No. BST-020), the Notice of Allowance mailed on 05/19/2020;

34. U.S.S.N. 16/779,437 (Attorney Docket No. BST-021), the Notice of Allowance mailed 08/12/2020; and

08/27/2022

/OLEG KORSAK/

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K/

35. U.S.S.N. 16/802,232 (Attorney Docket No. BST-023), the Notice of Allowance mailed 04/24/2020.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 07-1700, under Order No. BST-003C4 from which the undersigned is authorized to draw.

Dated: September 18, 2020

Respectfully submitted,

Electronic signature: /Gozde Guckaya/
Gozde Guckaya
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Agent For Applicant

/OLEG KORSAK/ 08/27/2022

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UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4

CONFIRMATION NO. 1001

51414
GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

PUBLICATION NOTICE

OC00000122505701

Title:METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

Publication No.US-2021-0006581-A1
Publication Date:01/07/2021

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: Not Yet Assigned

Filed via EFS-web

THIRD PRELIMINARY AMENDMENT

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Electronic Acknowledgement Receipt

EFS ID:	41142964
Application Number:	17025930
International Application Number:	
Confirmation Number:	1001
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Customer Number:	51414
Filer:	Gozde Guckaya/Christina Andrews
Filer Authorized By:	Gozde Guckaya
Attorney Docket Number:	BST-003C4
Receipt Date:	17-NOV-2020
Filing Date:	18-SEP-2020
Time Stamp:	17:01:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		BST-003C4_PA.pdf	34692 6bf2dd35dc0f96105ef22232d2f79ea21cf6f35c	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	6	6
	Claims	2	5
	Preliminary Amendment	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	34692	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

REMARKS

This Third Preliminary Amendment is in response to the Notice of Non-Compliant Amendment mailed November 13, 2020.

Claims numbered 30 and 31 (following claim 40) have been renumbered in ascending numerical order to now be claims 41 and 42, respectively. Therefore, claims 21-42 are now presented in proper ascending numerical order.

Claims 39, 40, and 42 have been amended to correct typographical errors. No new matter is added by this amendment.

Applicant respectfully requests entry of this Preliminary Amendment prior to examination of the application. The Examiner is invited to contact Applicant's undersigned representative by telephone at the number listed to discuss any outstanding issues.

Dated: November 17, 2020

Respectfully submitted,

Electronic signature: /Gozde Guckaya/
Gozde Guckaya
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Agent For Applicant

AMENDMENTS TO THE CLAIMS

1-20. (Canceled)

21. (Previously presented) A computer-implemented method for mapping Internet Protocol (IP) addresses to an entity, the method comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

22. (Previously presented) The method of claim 21, wherein the first domain name is received from a user interface.

23. (Previously presented) The method of claim 21, wherein the list of the host names comprises names of at least a subset of the first name servers.

24. (Previously presented) The method of claim 21, wherein the attribute is a Classless Inter-Domain Routing block.

25. (Previously presented) The method of claim 21, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

26. (Previously presented) The method of claim 21, wherein the method is executed at least two separate instances to track a change over time in the IP addresses for the host names.

27. (Previously presented) The method of claim 26, further comprising:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

28. (Previously presented) The method of claim 21, further comprising:

identifying a shared hosting service based on the mapped IP addresses.

29. (Previously presented) The method of claim 21, further comprising:

determining a security rating for the entity based on the mapped IP address.

30. (Previously presented) The method of claim 21, wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for at least two entities.

31. (Previously presented) The method of claim 29, further comprising:

determining a first security rating for a first one of the at least two entities and a second security rating for a second one of the at least two entities, the first security rating and the second security rating being related.

32. (Previously presented) A computer-implemented system for mapping Internet Protocol (IP) addresses to an entity, the system comprising:

at least one memory storing computer-executable instructions; and

at least one processor for executing the instructions stored on the memory, wherein execution of the instructions programs the at least one processor to perform operations comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

33. (Previously presented) The system of claim 32, further comprising:

a user interface coupled to the processor, wherein the processor is configured to receive the first domain name for the entity from the user interface.

34. (Previously presented) The system of claim 32, wherein the list of the host names comprises names of at least a subset of the first name servers.

35. (Previously presented) The system of claim 32, wherein the attribute is a Classless Inter-Domain Routing block.

36. (Previously presented) The system of claim 32, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

37. (Previously presented) The system of claim 32, wherein the operations are executed at least two separate instances to track a change over time in the IP addresses for the host names.

38. (Previously presented) The system of claim 37, wherein the operations further comprise:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

39. (Currently amended) The system of claim 32, wherein the operations further ~~comprising~~ comprise:

identifying a shared hosting service based on the mapped IP addresses.

40. (Currently amended) The system of claim 32, wherein the operations further ~~comprising~~ comprise:

determining a security rating for the entity based on the mapped IP address.

[[30]]41. (Currently amended) The system of claim 32, wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for at least two entities.

[[31]]42. (Currently amended) The system of claim [[30]]32, wherein the operations further ~~comprising~~ comprise:

determining a first security rating for a first one of the at least two entities and a second security rating for a second one of the at least two entities, the first security rating and the second security rating being related.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/025,930	Filing Date 09/18/2020	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	11/17/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 22	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $240 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/EVA V GILLIS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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 12 minutes to complete, including gathering, preparing, and submitting the completed application 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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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/025,930	09/18/2020	Philip John Steuart Gladstone	BST-003C4	1001

51414 7590 11/13/2020

GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

EXAMINER	
ART UNIT	PAPER NUMBER
2492	

NOTIFICATION DATE	DELIVERY MODE
11/13/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JGoodwin@goodwinlaw.com
PSousa-Atwood@goodwinlaw.com
US-PatentBos@goodwinlaw.com

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 17/025,930	Applicant(s) Gladstone et al.
	Art Unit OPT	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 11/06/2020 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____ .
- ☐ 2. Abstract:
  - ☐ A.Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B.Other _____ .
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet", "New Sheet", or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required .
  - ☐ C. Other _____ .
- ☑ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☑ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☑ E. Other: Claims 30 and 31 should be 41 and 42 .
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.
2. Applicant is given **two months** from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:

   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /EVA V GILLIS/ Telephone No: (571)272-1577

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: 17/025,930 | Confirmation No.: 1001

Filed: September 18, 2020 | Art Unit: 2492

For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS | Examiner: Not Yet Assigned

Filed via EFS-web

SECOND PRELIMINARY AMENDMENT

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Electronic Patent Application Fee Transmittal

Application Number:	17025930
Filing Date:	18-Sep-2020
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Filer:	Gozde Guckaya/Christina Andrews
Attorney Docket Number:	BST-003C4

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	1	50	50
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**50**

Electronic Acknowledgement Receipt

EFS ID:	41055762
Application Number:	17025930
International Application Number:	
Confirmation Number:	1001
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Customer Number:	51414
Filer:	Gozde Guckaya/Christina Andrews
Filer Authorized By:	Gozde Guckaya
Attorney Docket Number:	BST-003C4
Receipt Date:	06-NOV-2020
Filing Date:	18-SEP-2020
Time Stamp:	12:48:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$50
RAM confirmation Number	E2020A6C48355069
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		BST-003C4_PreliminaryAmendment.pdf	33384 18edeab593d9b042c525bbca974c45e0556 3a68f	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	6	6
	Claims	2	5
	Preliminary Amendment	1	1

Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30671 150d3bd7079f911a4f05b8c21202f23ad850 1582	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64055		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

REMARKS

Claims 1-20 are cancelled. New claims 21-32 are added. Support for the claims can be found in at least Fig. 16 and the instant Specification at page 2, lines 28-29; page 4, lines 15-25; page 5, lines 15-22; page 11, lines 9-19; and page 43, line 3 to page 44, line 8. No new matter is added.

Applicant respectfully requests entry of this Preliminary Amendment prior to examination of the application. The Examiner is invited to contact Applicant's undersigned representative by telephone at the number listed to discuss any outstanding issues.

Dated: November 6, 2020

Respectfully submitted,

Electronic signature: /Gozde Guckaya/
Gozde Guckaya
Registration No.: 74,989
GOODWIN PROCTER LLP
100 Northern Avenue
IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210
(617) 305-6778
Agent For Applicant

AMENDMENTS TO THE CLAIMS

1-20. (Canceled)

21. (New) A computer-implemented method for mapping Internet Protocol (IP) addresses to an entity, the method comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

22. (New) The method of claim 21, wherein the first domain name is received from a user interface.

23. (New) The method of claim 21, wherein the list of the host names comprises names of at least a subset of the first name servers.

24. (New) The method of claim 21, wherein the attribute is a Classless Inter-Domain Routing block.

25. (New) The method of claim 21, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

26. (New) The method of claim 21, wherein the method is executed at least two separate instances to track a change over time in the IP addresses for the host names.

27. (New) The method of claim 26, further comprising:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

28. (New) The method of claim 21, further comprising:

identifying a shared hosting service based on the mapped IP addresses.

29. (New) The method of claim 21, further comprising:

determining a security rating for the entity based on the mapped IP address.

30. (New) The method of claim 21, wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for at least two entities.

31. (New) The method of claim 29, further comprising:

determining a first security rating for a first one of the at least two entities and a second security rating for a second one of the at least two entities, the first security rating and the second security rating being related.

32. (New) A computer-implemented system for mapping Internet Protocol (IP) addresses to an entity, the system comprising:

at least one memory storing computer-executable instructions; and

at least one processor for executing the instructions stored on the memory, wherein execution of the instructions programs the at least one processor to perform operations comprising:

receiving a first domain name for the entity;

sending, to a domain name system (DNS) server, a first passive DNS query to identify first name servers for the first domain name;

receiving, from the DNS server, a list of the first name servers for the first domain name;

sending, for each of the first name servers, a second passive DNS query to identify second domain names for which the first name server is authoritative;

receiving, for each of the first name servers, a list of the second domain names for which the first name server is authoritative;

sending, for each of the second domain names, a third passive DNS query to identify host names for the hosts of the second domain name and IP addresses for the host names;

receiving a list of the host names and the IP addresses for the host names; and

mapping each IP address to an attribute for the entity.

33. (New) The system of claim 32, further comprising:

a user interface coupled to the processor, wherein the processor is configured to receive the first domain name for the entity from the user interface.

34. (New) The system of claim 32, wherein the list of the host names comprises names of at least a subset of the first name servers.

35. (New) The system of claim 32, wherein the attribute is a Classless Inter-Domain Routing block.

36. (New) The system of claim 32, wherein receiving the first domain name for the entity comprises:

determining the first domain name for a website of the entity.

37. (New) The system of claim 32, wherein the operations are executed at least two separate instances to track a change over time in the IP addresses for the host names.

38. (New) The system of claim 37, wherein the operations further comprise:

automatically updating the mapping of IP addresses upon identifying the change in the IP addresses.

39. (New) The system of claim 32, wherein the operations further comprising:

identifying a shared hosting service based on the mapped IP addresses.

40. (New) The system of claim 32, wherein the operations further comprising:

determining a security rating for the entity based on the mapped IP address.

30. (New) The system of claim 32, wherein mapping each IP address to the attribute for the entity comprises:

determining that the IP address is mapped to attributes for at least two entities.

31. (New) The system of claim 30, wherein the operations further comprising:

determining a first security rating for a first one of the at least two entities and a second security rating for a second one of the at least two entities, the first security rating and the second security rating being related.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/025,930	Filing Date 09/18/2020	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	11/06/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 20	= 2		x $50 =	100
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $240 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	100

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/EVA V GILLIS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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 12 minutes to complete, including gathering, preparing, and submitting the completed application 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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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
17/025,930	09/18/2020	2491	785	BST-003C4	20	1

CONFIRMATION NO. 1001

51414
GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
100 NORTHERN AVENUE
BOSTON, MA 02210

FILING RECEIPT

OC000000120228116

Date Mailed: 09/29/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Philip John Steuart Gladstone, Carlisle, MA;
Alan Joseph Kirby, Hollis, NH;
John Matthew Truelove, Cambridge, MA;
David Feinzeig, Stoneham, MA;
Nagarjuna Venna, Waltham, MA;
Stephen Boyer, Waltham, MA;

Applicant(s)

BitSight Technologies, Inc., Boston, MA;

Power of Attorney: The patent practitioners associated with Customer Number 051414

Domestic Priority data as claimed by applicant

This application is a CON of 16/405,121 05/07/2019 PAT 10785245
which is a CON of 15/216,955 07/22/2016 PAT 10326786
which is a CON of 14/021,585 09/09/2013 PAT 9438615

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 09/28/2020
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/025,930**
Projected Publication Date: 01/07/2021
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

Preliminary Class

726

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative,

this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 17/025,930

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*	x 50 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*	x 230 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	785		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 29

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	BST-003C4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	US-7,062,572	06-13-2006	Hampton	
	A2	US-8,621,621	12-31-2013	Burns et al.	
	A3	US-8,661,146	02-25-2014	Alex et al.	
	A4	US-8,825,662	09-02-2014	Kingman et al.	
	A5	US-9,241,252	01-19-2016	Dua et al.	
	A6	US-9,401,926	07-26-2016	Dubow et al.	
	A7	US-10,079,854	09-18-2018	Scott et al.	
	A8	US-10,217,071	02-26-2019	Mo et al.	
	A9	US-10,235,524	03-19-2019	Ford	
	A10	US-10,305,854	05-28-2019	Alizadeh-Shabdiz et al.	
	A11	US-10,412,083	09-10-2019	Zou et al.	
	A12	US-10,469,515	11-05-2019	Helmsen et al.	
	A13	US-10,491,619	11-26-2019	Yampolskiy et al.	
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	A15	US-10,521,583	12-31-2019	Bagulho Monteiro Pereira	
	A16	US-2002/0164983-A1	11-07-2002	Raviv et al.	
	A17	US-2003/0187967-A1	10-02-2003	Walsh et al.	
	A18	US-2004/0098375-A1	05-20-2004	DeCarlo	
	A19	US-2005/0066195-A1	03-24-2005	Jones	

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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3] Number[4] Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	B1**	WO-2017/142694-A1	08-24-2017	Security Scorecard, Inc		
	B2**	WO-2019/023045-A1	01-31-2019	Securityscorecard, Inc		

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				First Named Inventor	Philip John Steuart Gladstone
				Art Unit	N/A
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Sheet	2	of	29	Attorney Docket Number	BST-003C4

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	A20	US-2007/0067845-A1	03-22-2007	Wiemer et al.	
	A21	US-2008/0208995-A1	08-28-2008	TAKAHASHI et al.	
	A22	US-2008/0222287-A1	09-11-2008	Bahl et al.	
	A23	US-2009/0216700-A1	08-27-2009	Bouchard et al.	
	A24	US-2010/0205042-A1	08-12-2010	Mun	
	A25	US-2010/0275263-A1	10-28-2010	Bennett et al.	
	A26	US-2011/0213742-A1	09-01-2011	LEMMOND et al.	
	A27	US-2012/0089745-A1	04-12-2012	Turakhia	
	A28	US-2013/0091574-A1	04-11-2013	Howes et al.	
	A29	US-2013/0142050-A1	06-06-2013	Luna	
	A30	US-2013/0173791-A1	07-04-2013	Longo	
	A31	US-2014/0304816-A1	10-09-2014	KLEIN et al.	
	A32	US-2014/0337633-A1	11-13-2014	Yang et al.	
	A33	US-2015/0081860-A1	03-19-2015	Kuehnel et al.	
	A34	US-2015/0381649-A1	12-31-2015	Schultz et al.	
	A35	US-2016/0119373-A1	04-28-2016	Fausto et al.	
	A36	US-2016/0162602-A1	06-09-2016	Bradish et al.	
	A37	US-2016/0173522-A1	06-16-2016	Yampolskiy et al.	
	A38	US-2016/0189301-A1	06-30-2016	Ng et al.	

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	A39	US-2016/0253500-A1	09-01-2016	Alme et al.	
	A40	US-2016/0344801-A1	11-24-2016	Akkarawittayapoom	
	A41	US-2017/0063901-A1	03-02-2017	Muddu et al.	
	A42	US-2017/0161409-A1	06-08-2017	Martin	
	A43	US-2017/0279843-A1	09-28-2017	Schultz et al.	
	A44	US-2017/0316324-A1	11-02-2017	Barrett et al.	
	A45	US-2017/0337487-A1	11-23-2017	Nock et al.	
	A46	US-2018/0013716-A1	01-11-2018	Connell et al.	
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	A50	US-2019/0379632-A1	12-12-2019	Dahlberg et al.	
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	A52	US-9,075,990	07-07-2015	Yang	
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	A58	US-2007/0179955-A1	08-02-2007	CROFT et al.	
	A59	US-2007/0214151-A1	09-13-2007	Thomas et al.	
	A60	US-2008/0140728-A1	06-12-2008	Fraser et al.	
	A61	US-2009/0323632-A1	12-31-2009	Nix	
	A62	US-2011/0219455-A1	09-08-2011	Bhagwan et al.	
	A63	US-2012/0198558-A1	08-02-2012	Liu et al.	
	A64	US-2013/0227078-A1	08-29-2013	WEI et al.	
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	A66	US-2014/0334336-A1	11-13-2014	Chen et al.	
	A67	US-2015/0033331-A1	01-29-2015	STERN et al.	
	A68	US-2015/0156084-A1	06-04-2015	KAMINSKY et al.	
	A69	US-2015/0264061-A1	09-17-2015	IBATULLIN et al.	
	A70	US-2015/0317672-A1	11-05-2015	Espinoza et al.	
	A71	US-2016/0036849-A1	02-04-2016	Zakian	
	A72	US-2016/0182537-A1	06-23-2016	Tatourian et al.	
	A73	US-2016/0191554-A1	06-30-2016	KAMINSKY	
	A74	US-2016/0364496-A1	12-15-2016	Li	
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Sheet	5	of	29	Attorney Docket Number	BST-003C4

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	A77	US-2017/0318045-A1	11-02-2017	JOHNS et al.	
	A78	US-2018/0123934-A1	05-03-2018	Gissing et al.	
	A79	US-2019/0089711-A1	03-21-2019	Faulkner	
	A80	US-2019/0098025-A1	03-28-2019	LIM	
	A81	US-2019/0215331-A1	07-11-2019	Anakata et al.	
	A82	US-2019/0303574-A1	10-03-2019	Lamay et al.	
	A83	US-D880,512	04-07-2020	Greenwald et al.	
	A84	US-5,867,799	02-02-1999	Lang et al	
	A85	US-6,016,475	01-18-2000	Miller et al	
	A86	US-6,792,401	09-14-2004	Nigro et al	
	A87	US-7,100,195	08-29-2006	Underwood	
	A88	US-7,194,769	03-20-2007	Lippmann et al	
	A89	US-7,290,275	10-30-2007	Baudoin et al	
	A90	US-7,650,570	01-19-2010	Torrens	
	A91	US-7,747,778	06-29-2010	King	
	A92	US-7,748,038	06-29-2010	Olivier et al.	
	A93	US-7,827,607	11-02-2010	Sobel et al.	
	A94	US-7,971,252	06-28-2011	Lippmann et al.	
	A95	US-8,370,933	02-05-2013	Buckler	

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				Art Unit	N/A
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				First Named Inventor	Philip John Steuart Gladstone
(Use as many sheets as necessary)				Art Unit	N/A
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Examiner Signature		Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Philip John Steuart Gladstone
(Use as many sheets as necessary)				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	22	of	29	Attorney Docket Number	BST-003C4

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	C41**	Edmonds, Robert, "ISC Passive DNS Architecture", Internet Systems Consortium, Inc., March 2012, 18 pages.	
	C42**	Equifax Inc. Stock Report, Standard & Poor's, June 6, 2009, 8 pages.	
	C43**	GILGUR, et al., "Percentile-Based Approach to Forecasting Workload Growth" Proceedings of CMG'15 Performance and Capacity International Conference by the Computer Measurement Group. No. 2015 (Year:2015), 16 pages.	
	C44**	GUNDERT, Levi, "Big Data in Security - Part III: Graph Analytics," accessed on the Internet at https://blogs.cisco.com/security/big-data-in-security-part-iii-graph-analytics; Cisco Blog, December 2013, 8 pages.	
	C45**	Hachem, Sara; Toninelli, Alessandra; Pathak, Animesh; Issany, Valerie. Policy-Based Access Control in Mobile Social Ecosystems. 2011 IEEE International Symposium on Policies for Distributed Systems and Networks (POLICY). Http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=5976796. 8 pages.	
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				Filing Date	Concurrently Herewith
				First Named Inventor	Philip John Steuart Gladstone
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	23	of	29	Attorney Docket Number	BST-003C4

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	C51**	Jin et al, "Identifying and tracking suspicious activities through IP gray space analysis", MineNet, June 12, 2007 (6 pages).	
	C52**	Johnson, Eric, et al., "Information Risk and the Evolution of the Security Rating Industry," March 24, 2009, 27 pages.	
	C53**	JOSLYN, et al., "Massive Scale Cyber Traffic Analysis: A Driver for Graph Database Research," Proceedings of the First International Workshop on Graph Data Management Experience and Systems (GRADES 2013), 6 pages.	
	C54**	KC CLAFFY, "Internet measurement and data analysis: topology, workload, performance and routing statistics," accessed on the Internet at http://www.caida.org/publications/papers/1999/Nae/Nae.html., NAE '99 workshop, 1999, 22 pages.	
	C55**	Li et al., "Finding the Linchpins of the Dark Web: a Study on Topologically Dedicated Hosts on Malicious Web Infrastructures", IEEE, 2013 (15 pages).	
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	C60**	Maltego XL, accessed on the Internet at https://www.paterva.com/web7/buy/maltego-clients/maltego-xl.php, 5 pages.	

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Sheet	24	of	29	Attorney Docket Number	BST-003C4

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Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Philip John Steuart Gladstone
Art Unit	N/A
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	C61**	MASSIMO CANDELA, "Real-time BGP Visualisation with BGPlay," accessed on the Internet at https://labs.ripe.net/Members/massimo_candela/real-time-bgp-visualisation-with-bgplay), Sept. 30, 2015, 8 pages.	
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	C66**	Netcraft, www.netcraft.com, date accessed September 28, 2016, 2 pages.	
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	C71**	PAIR transaction history and pending claims for USSN 14/021,585, as of April 29, 2016, 2 pages.	
	C72**	PAIR transaction history and pending claims for USSN 14/021,585, as of November 18, 2015, 6 pages.	
	C73**	PAIR transaction history of US application no. 13/240,572 and pending claims as of March 22, 2016, 10 pages.	
	C74**	PAIR transaction history of US application no. 13/240,572 as of October 7, 2015, application as filed and pending claims, 45 pages.	
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	C76**	PAIR transaction history of US application no. 14/021,585 as of October 7, 2015 and application as filed, 70 pages.	
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	C80**	PAIR transaction history, application as filed and pending claims for USSN 14/944,484 as of April 29, 2016, 4 pages.	

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Sheet	26	of	29	Attorney Docket Number	BST-003C4

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
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Art Unit	N/A
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	C83**	Provos et al., "The Ghost In the Browser Analysis of Web-based Malware", 2007 (9 pages).	
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	C99**	The Financial Institution Shared Assessments Program, Industry Positioning and Mapping Document, BITS, October 2007, 44 pages.	
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	C101**	Wikipedia, https://en.wikipedia.org/wiki/Crowdsourcing, date accessed September 28, 2016, 25 pages.	
	C102**	Williams, Leevar, et al., "An Interactive Attack Graph Cascade and Reachability Display," MIT Lincoln Laboratory, 17 pages.	
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Attorney Docket Number	BST-003C4

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	C111**	Luo, Hui; Henry, Paul. A Secure Public Wireless LAN Access Technique That Supports Walk-Up Users. GLOBECOM '03. IEEE Global Telecommunications Conference. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber= 1258471 (Year: 2003)	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

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.
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☐ 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
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Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

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Prefix	Given Name	Middle Name	Family Name	Suffix
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Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Waltham	State/Province	MA	Country of Residence	US

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	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

Mailing Address of Inventor:

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Address 2			
City	Wayland	**State/Province**	MA
Postal Code	01778	**Country** i	US

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Application Information:

Title of the Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS		
Attorney Docket Number	BST-003C4	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	16	**Suggested Figure for Publication (if any)**	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

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

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.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

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.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	051414		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16405121	2019-05-07

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16/405121	Continuation of	15/216955	2016-07-22	10326786	2019-06-18

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15/216955	Continuation of	14/021585	2013-09-09	9438615	2016-09-06

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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(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).

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Remove

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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is 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 State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

Applicant Information:

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.

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	BitSight Technologies, Inc.		
Mailing Address Information For Applicant:			
Address 1	111 Huntington Avenue		
Address 2	Suite 2010		
City	Boston	**State/Province**	MA
Country	US	Postal Code	02199
Phone Number		Fax Number	
Email Address			

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

Assignee Information including Non-Applicant Assignee Information:

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.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

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.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

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	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Gozde Guckaya/			Date (YYYY-MM-DD)	2020-09-18
First Name	Gozde	Last Name	Guckaya	Registration Number	74,989

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

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	BST-003C4
	Application Number	
Title of Invention	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	

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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

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.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Filer:	Gozde Guckaya/Christina Andrews
Attorney Docket Number:	BST-003C4

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**785**

Electronic Acknowledgement Receipt

EFS ID:	40601981
Application Number:	17025930
International Application Number:	
Confirmation Number:	1001
Title of Invention:	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
First Named Inventor/Applicant Name:	Philip John Steuart Gladstone
Customer Number:	51414
Filer:	Gozde Guckaya/Christina Andrews
Filer Authorized By:	Gozde Guckaya
Attorney Docket Number:	BST-003C4
Receipt Date:	18-SEP-2020
Filing Date:	
Time Stamp:	18:39:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$785
RAM confirmation Number	E20209HI39502106
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	BST-003C4_Utility.pdf	105884 c2c5c6bdab75ec12d3fef08538d3346c1623d93f	no	1
Warnings:					
Information:					
2	Power of Attorney	BST-003C4_POA.pdf	405117 03c7f992a1f93b3df873837f6a0670159883aad0	no	2
Warnings:					
Information:					
3	Oath or Declaration filed	BST-003C4_Declaration.pdf	699958 f28095666bfafc8708830b88ce948570ec2903d8	no	6
Warnings:					
Information:					
4		Specification_BST-003C4.pdf	22911845 c3ae53e28123b227c21ba4c605daf0009d2beb33	yes	50

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	47
Claims	48	49
Abstract	50	50

Warnings:					
Information:					
5	Drawings-only black and white line drawings	BST-003C4Drawings1.pdf	2105544 893eba0062a7eb1526d4bb169a1df323ca8e4386	no	16

Warnings:					
Information:					
6		BST-003C4_PA.pdf	26666 e3cc3860e5419d24d77b662e75e5f3e2bc52f5e4	yes	3

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Preliminary Amendment	1	1
Specification	2	2
Applicant Arguments/Remarks Made in an Amendment	3	3

Warnings:					
Information:					
7	Information Disclosure Statement (IDS) Form (SB08)	BST-003C4_IDS.pdf	117847 2dabba8a3a8aaf7db387b7863a8ec21a8d098865	no	10
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
8	Non Patent Literature	Seigneur.pdf	1877939 1a324db933b8e9bcd8a5648effded79fad75663b	no	11
Warnings:					
Information:					
9	Information Disclosure Statement (IDS) Form (SB08)	BST-003C4_SB08.pdf	351211 dad0a2aa36b9281c0698bd5e0a71b177cb6f5cec	no	29
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
10	Application Data Sheet	BST-003C4_ADS.pdf	1256332 379540f9f3a7419dcbbbe4bbaee3bce37ab87f1e	no	10
Warnings:					
Information:					

11	Fee Worksheet (SB06)	fee-info.pdf	35369 769a0278c0adacba264d0c2c079777ed0ce7b5d5	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	29893712	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: Not Yet Assigned	Confirmation No.: N/A
Filed: Concurrently Herewith	Art Unit: N/A
For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	Examiner: Not Yet Assigned

Filed via EFS-web

INFORMATION DISCLOSURE STATEMENT (IDS)

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted.

In accordance with 37 C.F.R. § 1.98(d)(1) and as noted by a double-asterisk next to the Cite No. on the attached PTO/SB/08, the references are not supplied because they were previously cited by or submitted to the Office in prior application numbers 16/405121 filed May 7, 2019, 15/216955 filed July 22, 2016, 14/021585 filed September 9, 2013, and 14/021585 filed September 9, 2013 and relied on in the above-identified application for an earlier effective filing date under 35 U.S.C. § 120.

Applicant hereby apprises the Examiner of the following patent application, including the contents of the file wrapper, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

Docket No.	**U.S. Serial No.:**	**Title**	**Filing Date**
BST-001	15/271655 Published as: US2018/0083999	SELF-PUBLISHED SECURITY RISK MANAGEMENT	September 21, 2016
BST-002	15/377,574 9,705,932	METHODS AND SYSTEMS FOR CREATING, DE-DUPLICATING, AND ACCESSING DATA USING AN OBJECT STORAGE SYSTEM	December 13, 2016
BST-003	14/021,585 9,438,615 Published as: US2015/0074579	SECURITY RISK MANAGEMENT	September 9, 2013
BST-003C1	15/216,955 Published as: US2016/0330231	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	July 22, 2016
BST-003C2	15/239,063 Published as: US2017/0093901	SECURITY RISK MANAGEMENT	August 17, 2016
BST-003C3	16/405,121 Published as: US2019/0260791	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	May 7, 2019
BST-004	13/240,572 Published as: US2016/0205126	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	September 22, 2011
BST-004C1	14/944,484 9,973,524	INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM	November 18, 2015

Docket No.	U.S. Serial No.:	Title	Filing Date
	Published as: US2016/0323308		
BST-004C1CP	15/142,677 9,830,569 Published as: US/2016/0239772	SECURITY ASSESSMENT USING SERVICE PROVIDER DIGITAL ASSET INFORMATION	April 29, 2016
BST-007	15/134,845 9,680,858	ANNOTATION PLATFORM FOR A SECURITY RISK SYSTEM	April 21, 2016
BST-008	15/044,952 Published as: US2017/0236077	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	February 16, 2016
BST-008C2	15/089,375 10,176,445 Published as: US2017/0236079	RELATIONSHIPS AMONG TECHNOLOGY ASSETS AND SERVICES AND THE ENTITIES RESPONSIBLE FOR THEM	April 1, 2016
BST-009DA	29/598,298 D835,631	COMPUTER DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DB	29/598,299 D818,475	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	March 24, 2017
BST-009DC	29/599,622	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-009DD	29/599,620	COMPUTER DISPLAY WITH SECURITY RATINGS GRAPHICAL USER INTERFACE	April 5, 2017
BST-010	16/015,686	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	June 22, 2018

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-010C1	16/543,075	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	August 16, 2019
BST-010C2	16/738825	METHODS FOR MAPPING IP ADDRESSES AND DOMAINS TO ORGANIZATIONS USING USER ACTIVITY DATA	January 9, 2020
BST-011	15/918,286	CORRELATED RISK IN CYBERSECURITY	March 12, 2018
BST-011C1	16/292,956	CORRELATED RISK IN CYBERSECURITY	May 5, 2019
BST-011C2	16/795,056	CORRELATED RISK IN CYBERSECURITY	February 19, 2020
BST-012	16/170680	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	October 25, 2018
BST-012C1	16/688647	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	November 19, 2019
BST-012C2	17/000135	SYSTEMS AND METHODS FOR REMOTE DETECTION OF SOFTWARE THROUGH BROWSER WEBINJECTS	August 21, 2020
BST-013	15/954921	SYSTEMS AND METHODS FOR EXTERNAL DETECTION OF MISCONFIGURED SYSTEMS	April 17, 2018
BST-014	16/549764	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK COMMUNICATIONS OF USERS OR USER DEVICES	August 23, 2019
BST-014C1	16/787650	SYSTEMS AND METHODS FOR INFERRING ENTITY RELATIONSHIPS VIA NETWORK	February 11, 2020

Docket No.	U.S. Serial No.:	Title	Filing Date
		COMMUNICATIONS OF USERS OR USER DEVICES	
BST-015	16/583,991	SYSTEMS AND METHODS FOR NETWORK ASSET DISCOVERY AND ASSOCIATION THEREOF WITH ENTITIES	September 26, 2019
BST-016D	29/666942	COMPUTER DISPLAY WITH GRAPHICAL USER INTERFACE	October 17, 2018
BST-017	16/360,641	SYSTEMS AND METHODS FOR FORECASTING CYBERSECURITY RATINGS BASED ON EVENT-RATE SCENARIOS	March 21, 2019
BST-018	16/514,771	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 17, 2019
BST-018C1	16/922,273	SYSTEMS AND METHODS FOR GENERATING SECURITY IMPROVEMENT PLANS FOR ENTITIES	July 7, 2020
BST-019D	29/677306	COMPUTER DISPLAY WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE COMPUTER DISPLAY WITH CORPORATE HIERARCHY GRAPHICAL USER INTERFACE	January 18, 2019
BST-020	16/775840	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	January 29, 2020
BST-020C1	17/018587	SYSTEMS AND METHODS FOR ASSESSING CYBERSECURITY STATE OF ENTITIES BASED ON COMPUTER NETWORK CHARACTERIZATION	September 11, 2020

Docket No.	U.S. Serial No.:	Title	Filing Date
BST-021	16/779,437	SYSTEMS AND METHODS FOR RAPIDLY GENERATING SECURITY RATINGS	January 31, 2020
BST-023	16/802232	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	February 26, 2020
BST-023C1	16/942,452	SYSTEMS AND METHODS FOR IMPROVING A SECURITY PROFILE OF AN ENTITY BASED ON PEER SECURITY PROFILES	July 29, 2020
BST-023DA	29/725724	COMPUTER DISPLAY WITH RISK VECTORS GRAPHICAL USER INTERFACE	February 26, 2020
BST-023DB	29/736,641	COMPUTER DISPLAY WITH PEER ANALYTICS GRAPHICAL USER INTERFACE	June 2, 2020
BST-026	16/884,607	SYSTEMS AND METHODS FOR MANAGING CYBERSECURITY ALERTS	May 27, 2020

Additionally, Applicant hereby apprises the Examiner of the following patents and patent applications, including the contents of the file wrappers, the claims, any Office Actions issued therein, and any Notices of Allowance issued therefor:

1. U.S.S.N. 15/271,655 (Attorney Docket No. BST-001), the Office Actions mailed 02/21/2017 and 08/18/2017;

2. U.S.S.N. 15/377,574 (Attorney Docket No. BST-002), now U.S. Patent No. 9,705,932, the Office Action mailed 03/02/2017 and the Notice of Allowance mailed 06/01/2017;

3. U.S.S.N. 14/021,585 (Attorney Docket No. BST-003), now U.S. Patent No. 9,438,615, the Office Action mailed 03/11/2016 and the Notice of Allowance mailed 08/09/2016;

4. U.S.S.N. 15/216,955 (Attorney Docket No. BST-003C1), now U.S. Patent No. 10,326,786, the Office Actions mailed 11/04/2016, 03/09/2017, 06/06/2017, 12/05/2017, and 08/29/2018, and the Notice of Allowance mailed 02/06/2019;

5. U.S.S.N. 15/239,063 (Attorney Docket No. BST-003C2), now U.S. Patent No. 10,341,370, the Office Action mailed 03/21/2018 and the Notice of Allowance mailed 01/14/2019;

6. U.S.S.N. 16/405,121 (Attorney Docket No. BST-003C3), the Office Actions mailed 08/01/2019 and 11/21/2019 and the Notices of Allowance mailed 05/22/2020 and 07/10/2020;

7. U.S.S.N. 13/240,572 (Attorney Docket No. BST-004), the Office Actions mailed 11/21/2013, 06/16/2014, 02/27/2015, 06/03/2015, 10/26/2015, 03/10/2016 02/13/2017; and the Notice of Allowance mailed 06/01/2020;

8. U.S.S.N. 14/944,484 (Attorney Docket No. BST-004C1), now U.S. Patent No. 9,973,524, the Office Actions mailed 03/11/2016, 07/05/2016, and 01/17/2017 and the Notice of Allowance mailed 10/20/2017;

9. U.S.S.N. 15/142,677 (Attorney Docket No. BST-004C1CP), now U.S. Patent No. 9,830,569, the Office Actions mailed 07/26/2016, and 04/24/2017 and the Notice of Allowance mailed 10/11/2017;

10. U.S.S.N. 15/134,845 (Attorney Docket No. BST-007), now U.S. Patent No. 9,680,858, the Office Actions mailed 07/19/2016 and 01/26/2017, and the Notices of Allowance mailed 04/27/2017 and 05/09/2017;

11. U.S.S.N. 15/044,952 (Attorney Docket No. BST-008), the Office Actions mailed 07/08/2019 and 02/21/2020;

12. U.S.S.N. 15/089,375 (Attorney Docket No. BST-008C2), now U.S. Patent No. 10,176,445, the Office Actions mailed 09/09/2016, 05/17/2017, and 11/17/2017 and the Notice of Allowance mailed 08/09/2018;

13. U.S.S.N. 29/598,298 (Attorney Docket No. BST-009DA), now U.S. Patent No. D835,631, the Notice of Allowance mailed 08/15/2018;

14. U.S.S.N. 29/598,299 (Attorney Docket No. BST-009DB), now U.S. Patent No. D818,475, the Notice of Allowance mailed 01/02/2018;

15. U.S.S.N. 29/599,622 (Attorney Docket No. BST-009DC), now U.S. Patent No. D847,169, the Notice of Allowance mailed 12/11/2018;

16. U.S.S.N. 29/599,620 (Attorney Docket No. BST-009DD), now U.S. Patent No. D846,562, the Office Action mailed 05/03/2018, the Notice of Allowance mailed 11/27/2018;

17. U.S.S.N. 16/015,686 (Attorney Docket No. BST-010), now U.S. Patent No. 10,425,380, the Office Action mailed 11/16/2018 and the Notice of Allowance mailed 05/10/2019;

18. U.S.S.N. 16/543,075 (Attorney Docket No. BST-010C1), the Notice of Allowance mailed 09/25/2019;

19. U.S.S.N. 16/738,825 (Attorney Docket No. BST-010C2), the Office Actions mailed 07/08/2019 and 02/21/2020, and the Notice of Allowance mailed 09/09/2020;

20. U.S.S.N. 15/918,286 (Attorney Docket No. BST-011), now U.S. Patent No. 10,257,219, the Office Action mailed 08/07/2018 and the Notice of Allowance mailed 11/29/2018;

21. U.S.S.N. 16/292,956 (Attorney Docket No. BST-011C1), the Office Action mailed 07/10/2019 and the Notices of Allowance mailed 01/08/2020 and 01/27/2020;

22. U.S.S.N. 16/795,056 (Attorney Docket No. BST-011C2), the Office Action mailed 05/01/2020;

23. U.S.S.N. 16/170,680 (Attorney Docket No. BST-012), the Office Action mailed 03/26/2019; the Notices of Allowance mailed 10/29/2019 and 08/27/2019;

24. U.S.S.N. 16/688,647 (Attorney Docket No. BST-012C1), the Office Action mailed 01/29/2020; the Notice of Allowance mailed 05/12/2020;

25. U.S.S.N. 15/954,921 (Attorney Docket No. BST-013), the Office Actions mailed 09/04/2018, 01/03/2019, 08/19/2019, and 12/05/2019; Advisory Action mailed 03/03/2020, and the Notice of Allowance mailed 07/07/2020;

26. U.S.S.N. 16/787,650 (Attorney Docket No. BST-014C1), the Notice of Allowance mailed 04/07/2020;

27. U.S.S.N. 16/583,991 (Attorney Docket No. BST-015), the Office Action mailed 01/13/2020;

28. U.S.S.N. 29/666,942 (Attorney Docket No. BST-016D), the Notice of Allowance mailed 04/30/2020;

29. U.S.S.N. 16/360,641 (Attorney Docket No. BST-017), the Office Action mailed 08/07/2019 and 02/20/2020;

30. U.S.S.N. 16/514,771 (Attorney Docket No. BST-018), the Office Action mailed 12/04/2019; the Notice of Allowance mailed 03/18/2020;

31. U.S.S.N. 16/922,673 (Attorney Docket No. BST-018C1), the Office Action mailed 09/15/2020;

32. U.S.S.N. 29/677,306 (Attorney Docket No. BST-019D), the Notice of Allowance mailed on 08/20/2020;

33. U.S.S.N. 16/775,840 (Attorney Docket No. BST-020), the Notice of Allowance mailed on 05/19/2020;

34. U.S.S.N. 16/779,437 (Attorney Docket No. BST-021), the Notice of Allowance mailed 08/12/2020; and

35. U.S.S.N. 16/802,232 (Attorney Docket No. BST-023), the Notice of Allowance mailed 04/24/2020.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 07-1700, under Order No. BST-003C4 from which the undersigned is authorized to draw.

Dated: September 18, 2020

Respectfully submitted,

Electronic signature: /Gozde Guckaya/
Gozde Guckaya
Registration No.: 74,989
GOODWIN PROCTER LLP
100 Northern Avenue
IP DOCKETING DEPT./7TH FL
Boston, Massachusetts 02210
(617) 305-6778
Agent For Applicant

PTO/AIA/15 (10-17)
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	BST-003C4
First Named Inventor	Philip John Steuart Gladstone
Title	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
Priority Mail Express® Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [ ] **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. [X] **Applicant asserts small entity status.** See 37 CFR 1.27
3. [ ] **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. [X] **Specification** [*Total Pages* 50]
   Both the claims and abstract must start on a new page.
   (See MPEP § 608.01(a) for information on the preferred arrangement)
5. [X] **Drawing(s)** (35 U.S.C. 113) [*Total Sheets* 16]
6. **Inventor's Oath or Declaration** [*Total Pages* 6]
   (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))
   a. [X] Newly executed (original or copy)
   b. [ ] A copy from a prior application (37 CFR 1.63(d))
7. [X] **Application Data Sheet** ** See note below.*
   See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R** in duplicate, large table, or Computer Program (*Appendix*)
   [ ] Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission** (*if applicable, items a. – c. are required*)
   a. [ ] Computer Readable Form (CRF)
   b. [ ] Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] Paper
   c. [ ] Statements verifying identity of above copies

ADDRESS TO:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ACCOMPANYING APPLICATION PAPERS

10. [ ] **Assignment Papers** (cover sheet & document(s))
    Name of Assignee
11. [ ] **37 CFR 3.73(c) Statement** (*when there is an assignee*) [X] **Power of Attorney**
12. [ ] **English Translation Document** (*if applicable*)
13. [X] **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    [X] Copies of citations attached
14. [X] **Preliminary Amendment**
15. [ ] **Return Receipt Postcard** (*MPEP § 503*) (*Should be specifically itemized*)
16. [ ] **Certified Copy of Priority Document(s)** (*if foreign priority is claimed*)
17. [ ] **Nonpublication Request** Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
18. [ ] **Other:**

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS

[X] The address associated with Customer Number: 051414 **OR** [ ] Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/Gozde Guckaya/	Date	September 18, 2020
Name (Print/Type)	Gozde Guckaya	Registration No. (Attorney/Agent)	74,989

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

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	Not yet assigned
Filing Date	Herewith
First Named Inventor	Philip John Steuart Gladstone
Title	METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS
Art Unit	Not yet assigned
Examiner Name	Not yet assigned
Attorney Docket Number	BST-003C4

SIGNATURE of Applicant or Patent Practitioner

Signature	/Gozde Guckaya/	Date (Optional)	September 18, 2020
Name	Gozde Guckaya	Registration Number	74,989
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

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.

☐ *Total of 1 forms are submitted.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

[X] I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 051414

OR

[ ] I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

[X] The address associated with the above-mentioned Customer Number

OR

[ ] The address associated with Customer Number:

OR

[ ] Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

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

BitSight Technologies, Inc.

[ ] Inventor or Joint Inventor (title not required below)

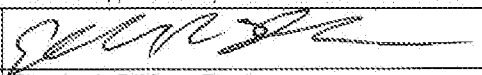
[ ] Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

[X] 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)	
Name	Elizabeth DiMare Fischer		
Title	General Counsel, BitSight Technologies, Inc.		

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.

[ ] Total of 1 forms are submitted.

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	SECURITY RISK MANAGEMENT

As the below named inventor, I hereby declare that:

This declaration is directed to: [X] The attached application, or

[ ] United States application or PCT international application number .....

filed on .....

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

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

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Philip John Steuart Gladstone Date (Optional): Sep-9-2013

Signature: Philip Gladstone

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Attorney Docket No.: 38879-0004001

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	SECURITY RISK MANAGEMENT

As the below named inventor, I hereby declare that:

This declaration is directed to:

[X] The attached application, or

[ ] United States application or PCT international application number _____

filed on _____

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

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

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Alan Joseph Kirby Date (Optional): Sept 9, 2013

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application 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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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	SECURITY RISK MANAGEMENT

As the below named inventor, I hereby declare that:

This declaration is directed to: [X] The attached application, or

[ ] United States application or PCT international application number .....

filed on .....

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

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

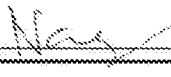
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2036 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Nagarjuna Venna Date (Optional): 7-9-13

Signature: 

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	SECURITY RISK MANAGEMENT

As the below named inventor, I hereby declare that:

This declaration is directed to:

[X] The attached application, or

[ ] United States application or PCT international application number .....

filed on .....

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

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

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Stephen Boyer Date (Optional): 09/09/13

Signature: .....

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LEGAL NAME OF INVENTOR

Inventor: John Matthew Truelove Date (Optional): 9/9/13

Signature: _____

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LEGAL NAME OF INVENTOR

Inventor: David Feinzeig Date (Optional): Sept 9 2013

Signature: David Feinzeig

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SECURITY RISK MANAGEMENT

This application is a continuation application and claims priority under 35 U.S.C. §120 to U.S. application 14/021,585, filed September 9, 2013, entitled "SECURITY RISK MANAGEMENT", which is hereby incorporated herein in its entirety by reference.

This application relates to United States patent application serial 13/240,572, filed on September 22, 2011, which is incorporated in its entirety here by this reference.

BACKGROUND

This description relates to security risk management.

Security risks faced by an entity, for example information security risks, often include security risks associated with other entities with which it communicates or collaborates. The first entity may evaluate the magnitude of the risks associated with the other entities to make decisions about its relationships with those other entities.

SUMMARY

The security risk management that we describe here may encompass one or more of the following (and other) aspects, features, and implementations, and combinations of them.

In general, in an aspect, traces are received of activities of an online user who is associated with an entity. By analysis of the traces a security state of the entity is inferred.

Implementations may include one or any combination of two or more of the following features. The traces indicate successful attacks on computer systems of the entity. Traces that represent a less satisfactory security state of the entity are differentiated from traces that represent a more satisfactory security state of the entity. The analysis includes a comparison of traces that originated in different contexts of the user's online activities.

The different contexts include different times. The traces that originated at one of the times reflect a user deletion relative to the traces that originated at an earlier time. The traces that originated at one of the times reflect a user deletion of malicious data or code relative to the traces at the earlier time.

The different contexts include a context the security of which is controlled by the entity and a context the security of which is at least partly uncontrolled by the entity. The

controlled context includes a computer system or device made accessible by the entity to the user, and the partly uncontrolled context includes a computer system or device owned by the user.

The traces include tracking of an identity of an online user between the two different contexts. The tracking includes cookies associated with advertising directed to the online user.

The traces include indications of security checks made with respect to communications associated with the user. The security checks include indications of whether email messages conform to DomainKeys Identified Mail (DKIM) standards or the email domains conform to the Sender Policy Framework (SPF).

In general, in an aspect, a map is generated between (a) technical assets that contribute to security characteristics of respective entities and (b) the identities of the entities that are associated with the respective technical assets. At least part of the generating of the map is done automatically. A user can be engaged to assist in the generating of the map by presenting to the user through a user interface (a) data about the technical assets of entities and (b) an interactive tool for associating the technical assets with the identities of the entities.

Implementations may include one or any combination of two or more of the following features. The technical assets include network-related information. The network-related information includes at least one of Internet Protocol addresses, blocks of Internet Protocol addresses, mail server configurations, domain names, social media handles, third-party data hosting, Internet service providers, Domain Name System (DNS) services, Autonomous System numbers, and Border Gateway Protocol (BGP) advertisements. The activity of generating the map includes online discovery of information about the technical assets. The information about the technical assets is discovered from an Internet Assigned Numbers Authority or a Regional Internet Registry (RIR). The information about the technical assets is discovered through passive DNS queries. Associations between domain names and network addresses are identified from the passive DNS queries. Changes are tracked over time in the network addresses that are associated with a given domain name.

The activity of identifying associations between domain names and network addresses from the passive DNS queries includes one or a combination of any two or more of

the following. A first domain name for an entity is received from the entities. A first passive DNS query is sent to identify first name servers for the first domain name. A list is received of the first name servers for the first domain. A second passive DNS query is sent, for each of the first name servers, to identify second domain names for which the name server is authoritative. A list is received, for each of the first name servers, of the second domain names for which the name server is authoritative. A third passive DNS query, for each of the second domain names, is sent to identify host names for the hosts of the second domain name and Internet Protocol addresses for the host names. A list is received of the host names and the Internet Protocol addresses for the host names. And each of the Internet Protocol addresses is mapped to an attribute for the entity.

Non-technical-asset information is presented to the user through the user interface. The non-technical-asset information includes information about the entities. The information about the entities includes at least one of descriptions of entities, industry classifications, and employee counts. The tool enables the user to assign a technical asset to an entity. External crowd-sourced services are invoked to aid in generating the map. A separate review and approval is done of entities proposed to be included in the map. The map is provided to an application for joining to event data or for scoring the security state of the entities. The part of the generating of the map that is done automatically includes at least one of collecting information about technical assets and about entities, associating technical assets with entities, and approving proposed portions of the map. Graphs of relationships among entities are generated based on their associations with technical assets. These and other aspects, features, and implementations, and combinations of them, may be expressed as apparatus, methods, methods of doing business, means or steps for performing functions, components, systems, program products, and in other ways.

The subject matter described in this specification can be implemented in particular embodiments so as to realize one or more of the following advantages. By understanding the nature and degree of security risks associated with other entities, an entity can evaluate, analyze, and reduce its own risk. In some implementations, analysis of traces of online activities of users may represent security policies or vulnerabilities of the entities that employ the users. In some implementations, analysis of traces of online activities may identify information associated with multiple entities more quickly, more accurately, and more

privately than gathering data directly from the multiple entities. In some implementations, a map of technical and non-technical assets for an entity may be used to determine a security rating for the entity. In some implementations, technical data may be retrieved and mapped to an entity in a manner not previously available. In some implementations, the security risks of an entity may be analyzed or determined without involvement of the entity.

In some implementations, the use of automation in a data mapping process or a data approval process may reduce the likelihood of error in the mapping process. In some implementations, the use of an automated or semi-automated analysis process may allow automated maintenance of an entity map and may reduce the likelihood of errors in the entity map because of outdated data. In some implementations, an automated maintenance process is automatically initiated upon identification of changes in entity data. In some implementations, the use of an automated or semi-automated analysis process allows mapping of data to entity attributes for a greater number of entities in a shorter period of time than a completely manual analysis process.

In some implementations, the use of passive Domain Name System (DNS) data may identify network services that are hosted on shared hosting services. In some implementations, the identification of network services that are hosted on shared hosting services may indicate that an Internet Protocol address should not be associated with a single entity but should be associated with multiple entities. In some implementations, when the same data is mapped to attributes for different entities, e.g., when a single Internet Protocol address is associated with multiple entities, the security ratings of the different entities are related, e.g., based on the security ratings of the other entities that have the same attribute data. In some implementations, the use of the same shared hosting service by multiple entities indicates a less satisfactory security posture and the security ratings of the multiple entities are lower than if each of the multiple entities used separate hosting services.

Other aspects, features, and advantages will be apparent from the description and the claims.

DESCRIPTION

Figures 1-5, 13, and 17 are block diagrams.

Figures 6-12 are examples of user interfaces.

Figures 14-16 are flow diagrams.

In the system and techniques that we describe here, an entity may obtain and use security analysis data from an analysis system to determine its own security risk or the security risk associated with a different entity with which the entity may communicate or have a relationship involving sensitive or confidential information. Sometimes we refer to an "entity" or "entities" in our discussion; we mean this phrase broadly to include, for example, individuals or businesses that communicate electronically with other individuals or businesses and have electronic data. The information security analysis data may be used by an entity to identify potential areas of improvement for its own security risk or to decide that sensitive information should not be provided to another entity that is associated with unacceptable security vulnerabilities. We sometimes refer to "information security risk" in our discussion; we mean this phrase broadly to include, for example, any kind of security risk that may be evaluated using the system and techniques that we describe here.

The analysis system may receive and analyze technical and non-technical data or assets to determine a security rating of an entity. We use the term security rating in its broadest sense to include, for example, any kind of absolute or relative ranking, listing, scoring, description, or classification, or any combination of them, of an entity with respect to characteristics of its security state. For example, the analysis system may identify an entity associated with the received data, map the received data to attributes for the entity, such as contact information and the number of employees employed by the entity, and determine a security rating for the entity using the mapped data.

Some examples of received data may include traces of online activity associated with an entity. For example, the analysis system may analyze logs of online activity of employees of an entity or one or more settings of servers that host data for the entity to determine a security rating for the entity.

The online activity and the settings include data that is publicly or commercially available. For example, the online activity may include public interactions of employees with social networking systems, publicly available information associated with cookies stored on a device operated by an employee, or publicly available security settings for a mail

server that hosts the entity's electronic mail. The publicly available data may be retrieved from a Domain Name Server or an industry intelligence company to name two examples.

Figure 1 is a block diagram of an example environment 100 for assigning a security rating and a confidence score to an entity. The environment 100 includes a server 102 that receives data from data sources 104. The data sources 104 include technical data sources 106 and non-technical data sources 108, described in more detail below. (We sometimes refer to technical data as technical assets and to non-technical data as non-technical assets.)

The server 102 acquires and analyzes data from the technical data sources 106 and the non-technical data sources 108 to identify data associated with entities. For example, the server 102 selects a subset of the data received from the data sources 104, identifies the entity associated with the subset of the data, and maps a relationship between the subset of the data and the identified entity.

The server 102 stores some of the received data in a database 110. For example, the server 102 stores entity names 112, security ratings 114 for the entities identified by the entity names 112, and confidence scores 116 in the database 110, where each of the confidence scores 116 corresponds with one of the security ratings 114.

The confidence scores 116 may represent the confidence of a corresponding security rating, from the security ratings 114. For example, each of the confidence scores 116 may represent the confidence of the server 102 in the corresponding security rating. The server 102 may use any appropriate algorithm to determine the security ratings 114 and the corresponding confidence scores 116 or other values that represent a security rating of an entity.

An entity may use one of the security ratings 114 and the corresponding one of the confidence scores 116 to determine its own security rating or the security rating of another entity with which the entity may communicate. For example, if the entity has a poor security rating, the entity may determine steps necessary to improve its own security rating and the security of its data. The entity may improve its security to reduce the likelihood of a malicious third party gaining access to its data or creating spoofed data that is attributed to the entity or an employee of the entity.

In some examples, an entity may determine whether or not to communicate with another entity based on the other entity's security rating. Sometimes in our discussion we

refer to the entity that is being rated as the "target entity" and the entity that is using the rating as the "at-risk entity". For example, if the target entity has a low security rating, the at-risk entity may determine that there is a greater likelihood that documents sent to the target entity may be accessed by a user who is not authorized to access the documents compared to documents sent to a different target entity that has a higher security rating.

The at-risk entity may compare the security ratings of two competitive target entities to determine the difference between the security ratings of the competitors and with which of the competitors the entity should communicate or engage in a transaction, based on the security ratings. For example, the at-risk entity may require a third party audit and select one of the two competitors for the audit based on the security ratings of the competitors, potentially in addition to other factors such as price, recommendations, etc.

In some implementations, the server 102 includes the database 110. For example, the database 110 is stored in a memory included in the server 102. In some implementations, the database 110 is stored in a memory on a device separate from the server 102. For example, a first computer may include the server 102 and a second, different computer may include the memory that stores the database 110. In some implementations, the database 110 may be distributed across multiple computers. For example, a portion of the database 110 may be stored on memory devices that are included in multiple computers.

In some implementations, the server 102 stores data received from the data sources 104 in memory. For example, the server 102 may store data received from the data sources 104 in the database 110 or in another database.

In some implementations, the security rating for an entity is associated with the security of electronic data of the entity. In some implementations, the security rating for an entity is associated with the security of electronic and non-electronic data of the entity.

Figure 2 is an example of an environment 200 that assigns a security rating and a confidence score to an entity. For example, during time T_0 the server 102 identifies an entity 218 (or the entity is identified by a user of the server), "Sample Entity," for which the server 102 will determine a security rating and a corresponding confidence score.

The server 102 may identify a target entity that is not currently assigned a security rating or an entity that was assigned a previous security rating. The server 102 may identify an entity that was assigned a previous security rating based on new or updated data for the

entity or based on a request for an updated security rating, e.g., from an at-risk entity. In the example shown in Figure 2, the server 102 has identified an entity that is not currently assigned a security rating.

During time T_1, the server 102 receives data from the data sources 104, including data for the identified entity. For example, the server 102 identifies a subset of the received data that is associated with the identified entity. The subset of the received data may be associated with the identified entity based on each of the distinct portions of the subset including the name of the identified entity, e.g., "Sample Entity," or a name or word associated with the identified entity, e.g., the name of a subsidiary, an acronym for the identified entity, or a stock symbol of the identified entity, among others.

The duration of the time period T_1 may be any length of time. For example, the time period T_1 may have a duration of seconds, minutes, or days. As other examples, the time period T_1 may be months or years long. Note that, although the time periods shown in Figure 2 do not overlap, in some cases they can overlap for a given target entity and are likely to overlap for the application of the system to multiple target entities.

The server 102, during time T_2, maps the subset of the received data that is associated with the identified entity to attributes 220 for the identified entity. For example, when the server 102 determines that the identified entity currently employs sixty-three employees, the server may assign the value of sixty-three to an "employees" attribute of the identified entity in the database. In some examples, the server 102 may determine one or more industries for the identified entity, such as "Computer Networking." The industries may represent the type of products and/or services offered by the identified entity. Standard industry codes can be used for this purpose.

The duration of the time period T_2 may be any length of time. For example, the time period T_2 may have a duration of seconds, minutes, or days. As other examples, the time period T_2 may be months or years long.

In some implementations, as the server 102 receives portions of the subset of data, if the server determines that each of the portions is associated with the identified entity, the server 102 maps the received portions to the attributes 220 for the identified entity. For example, the server 102 may automatically map data to an "employees" attribute based on received data and then automatically map data to an "industry" attribute.

In some examples, the server 102 may update one or more of the attributes 220 as the server 102 receives additional data associated with the identified entity. For example, the server 102 may determine that the identified entity sells "computer networking products" and then determine that the identified entity also offers "computer networking services." The server 102 may associate the industry "computer networking products" with the identified entity first based on the data that indicates that the identified entity sells computer network products, then associate the industry "computer networking services" with the identified entity based on the data that indicates that the identified entity also offers computer networking services.

Based on the data mapped to the attributes 220 for the identified entity, the server 102 determines one or more scores 222 for the identified entity during time period T_3. For example, the server 102 determines a security rating and a corresponding confidence score for the identified entity "Sample Entity."

The server 102 may use some or all of the attributes 220 for the identified entity when determining the score 222 for the identified entity. For example, the server 102 may use an industry assigned to the identified entity as one factor to determine the security rating of the identified entity.

In some examples, the server 102 may determine weights for the attributes 220 where the weights represent the influence of the corresponding attribute on the security rating. For example, the number of employees employed by an entity may be assigned a greater weight than the industries of the products or services offered by the entity.

In some implementations, the weights may vary based on the values of the attributes. For example, when an entity has few employees, a weight corresponding to the number of employees may be smaller than if the entity had a greater number of employees.

The server 102 may provide the security rating and the corresponding confidence score of the identified entity to one or more other entities. For example, an at-risk entity may request the security rating and the corresponding confidence score for the identified target entity as part of a security analysis process for the identified target entity by the at-risk entity.

In some implementations, as mentioned earlier, one or more of the time periods T_0, T_1, T_2, and T_3 may overlap. For example, the server 102 may request data from the data sources 104, receive some of the requested data during time T_1, identify the entity 218 during

time T_0, and then receive more of the requested data during time T_1. In some examples, the server 102 may map some of the requested data to the identified entity during time T_2 and while continuing to receive data from the data sources during time T_1. In some examples, the server 102 may determine the scores 222 for the identified entity during time T_3 while continuing to receive data from the data sources 104 during time T_1 and mapping the received data to the identified entity during time T_2.

In some implementations, the server 102 may identify the entity 218 based on a request for a security rating for the entity 218 from a third party. In some implementations, the server 102 may identify the entity 218 automatically. For example, the server 102 may determine that the server 102 has received more than a predetermined threshold quantity of data for the entity 218 and that the server 102 should analyze the data to determine the scores 222. In some implementations, an operator of the server 102 may identify the entity 218. For example, the operator may provide the server 102 with a list of entities for which the server 102 should determine the scores 222. In some examples, the list of entities may include a predetermined list of entities, such as Fortune 500 or Fortune 1000 companies.

Figure 3 is a block diagram of an example environment 300 of data sources for an analysis system 302. For example, the data sources may include technical and non-technical data sources. After the analysis system 302 receives data from one or more of the data sources, the analysis system 302 may perform an automatic analysis process 304, a manual analysis process 306, or a semi-automatic analysis process using the received data, or a combination of any two or more of those.

Non-technical data may be used manually to disambiguate between entities and determine relationships between entities. Non-technical data may be received automatically from public and commercial data sources.

The automatic analysis process 304 may include the analysis system 302 automatically identifying data associated with an entity based on data received from the data sources, without input or intervention from an operator, e.g., an operator of the analysis system 302. We sometimes refer to such an operator as a mapper. In some examples, the automatic analysis process 304 may include collecting data from the data sources and approving proposed portions of a mapping between data received from the data sources and attributes of an entity.

The manual analysis process 306 may include presentation of data to an operator of the analysis system 302, e.g., a computer executing the analysis system 302, where the operator maps associations between the received data and one or more entities.

The semi-automatic analysis process may include a combination of the automatic analysis process 304 and the manual analysis process 306. For example, the automatic analysis process 304 may map some of the received data to an entity and present information associated with the mapping to an operator for approval. In addition, the operator may acquire and review received data, and manually map data to a target entity.

The environment 300 includes an Internet Assigned Numbers Authority 308 (IANA) as one of the technical data sources. The analysis system 302 may request data from the Internet Assigned Numbers Authority 308 to determine an Internet Protocol (IP) address range 310 associated with an entity. For example, the analysis system 302 may determine a domain name for a website of an entity and provide the domain name to a Domain Name Server 316. In response the analysis system 302 may receive the Internet Protocol address of the website from the Domain Name Server 316, e.g., the Internet Protocol address assigned to the domain name, and provide the Internet Protocol address to the Internet Assigned Numbers Authority 308. The Internet Assigned Numbers Authority 308 may then provide the analysis system 302 with an Internet Protocol address range that includes the Internet Protocol address that was provided to the Internet Assigned Numbers Authority 308.

Similarly, the analysis system 302 may query a Regional Internet Registry 312 for one or more Internet Protocol address ranges 314. For example, the analysis system 302 may provide an Internet Protocol address to the African Network Information Centre (AfriNIC), the American Registry for Internet Numbers (ARIN), the Asia-Pacific Network for Information Centre (APNIC), the Latin America and Caribbean Network Information Centre (LACNIC), or Réseaux IP Européens Network Coordination Centre (RIPE NCC) and receive the Internet Protocol address ranges 314 in response to the query.

The Internet Protocol address ranges 310 and the Internet Protocol address ranges 314 may include one or more Internet Protocol addresses. For example, when a single Internet Protocol address is assigned to a domain name, the Internet Protocol address ranges 310 or the Internet Protocol address ranges 314 may include only the single Internet Protocol address.

In some examples, one or both of the Internet Protocol address ranges 310 and 314 may include multiple ranges. For example, when the Internet Assigned Numbers Authority 308 or the Regional Internet Registry 312 receive multiple domain names, the Internet Protocol address ranges 310 or 314 may include multiple ranges of Internet Protocol address, where each range corresponds to at least one of the multiple domain names.

In some implementations, the Domain Name Server 316 may be an authoritative name server 318. For example, the authoritative name server 318 may be responsible for mapping Internet Protocol addresses to one or more particular domain names.

In some implementations, a passive Domain Name Server 330 may receive passive DNS queries from the analysis system 302. For example, the passive Domain Name Server 330 may be hosted on a different computer than the Domain Name Server 316. In some examples, the passive Domain Name Server 330 is hosted on the same computer or computers as the Domain Name Server 316.

The passive Domain Name Server 330 may include a cache of previous DNS queries and results for the previous DNS queries. In some examples, the passive Domain Name Server 330 may include historical data that indicates a specific date that an Internet Protocol address was associated with a specific domain name.

The analysis system 302 may query the passive Domain Name Server 330 to determine domain names that were associated with specific Internet Protocol addresses, the dates that the domain names were associated with the specific Internet Protocol addresses, and any changes in the Internet Protocol addresses that were assigned to a domain name. This may allow the analysis system 302 to determine other domain names that were associated with the same Internet Protocol addresses at the same time, and other Internet Protocol addresses associated with domain names, to name a few examples.

For example, the analysis system 302 may receive data from the passive Domain Name Server 330 that indicates whether or not a single Internet Protocol address is associated with multiple domain names. In some examples, the analysis system 302 may determine that a single server or group of servers host multiple websites when multiple domain names were associated with a single Internet Protocol address.

In some implementations, when a single server or group of servers host multiple websites, the entities associated with the websites hosted by a single server or group of servers may be assigned a lower security rating than if an entity had a dedicated server for its website. For example, when an entity uses a cloud based server to host the entity's website, the use of the cloud based server may indicate that the entity is more susceptible to information based attacks than if the entity used a server that only hosted the entity's website.

The analysis system 302 may receive social media data 320 from social media networks. For example, the analysis system 302 may monitor or subscribe to a social media network and store the social media data 320 in a memory, e.g., of a computer that executes the analysis system 302 or another computer. The analysis system 302 may identify one or more handles 322 in the social media data 320 that are associated with one or more entities. The analysis system 302 may use the handles 322 to identify data associated with the entities and determine one or more security attributes for the entities based on the social media data 320 as described in more detail below.

The analysis system 302 may receive trace information associated with a user device 324 that represents online activity of the user device 324. The trace information may be used by the analysis system 302 to determine one or more security policies of an entity or entities that employ an operator of the user device 324. For example, the analysis system 302 may receive a data about one or more cookies 326 stored in a memory of the user device 324, as described in more detail below, and determine that an entity allows employees to access confidential data using devices owned by the employees.

A mail server 328 may provide the analysis system 302 with information about one or more security settings for the email communications of an entity. For example, the analysis system 302 may determine whether the mail server 328 uses Sender Policy Framework (SPF) and/or DomainKeys Identified Mail (DKIM) for electronic mail communications.

In some implementations, when an entity does not use one or both of SPF and DKIM, the analysis system 302 assigns the entity a lower security rating than if the entity used one or both validation methods. For example, a first entity that uses both SPF and DKIM may have a higher security rating than a second entity that only uses SPF, assuming that all other attributes for the first and second entities are the same. In some examples, the analysis

system 302 may determine whether the mail server 328 uses one or more validation methods other than SPF or DKIM.

The environment 300 includes one or more news articles 332 as one of the sources of non-technical data. The news articles 332 may provide the analysis system 302 with contact information, one or more industry classifications, and an entity description. In some examples, the news articles 332 may provide the analysis system 302 with technical data, such as data about a recent security breach at an entity.

In some implementations, the news articles 332 may include information about corporate relationships between entities. For example, the news articles 332 may indicate that an entity may be purchased by another entity or is a subsidiary of another entity.

The analysis system 302 may use the corporate relationship information or data about a recent security breach when determining a security rating for an entity. For example, when an entity is a subsidiary of another entity with a low security rating, the entity may be assigned a lower security rating than if the entity was not a subsidiary of the other entity. In some examples, an entity is assigned a lower security rating based on a news article about a recent security breach compared to another entity that does not have a recent news article about any security breaches, assuming all other attributes of both entities are equal.

A stock ticker 334 for an entity may be used by the analysis system 302 to determine financial information about an entity or data associated with the stock ticker but not the entity name. For example, the analysis system 302 may identify data associated with the entity based on the entity's stock ticker that would not otherwise have been identified.

One or more corporate filings 336 may be used to determine data about an entity, such as one or more subsidiaries or affiliates of the entity, and/or contact information of the entity.

In some examples, the analysis system 302 may determine an aggregate security rating for an entity and the entity's subsidiaries based on a relationship between the entity and the entity's subsidiaries. For example, if the entity does not have any influence over the entity's subsidiaries, the analysis system 302 may determine that an aggregate security rating would not be representative of the relationship between the entity and the entity's subsidiaries. In some examples, when the entity and the entity's subsidiaries share one or more physical places of business, the analysis system 302 may determine that an aggregate

security rating for the entity and the entity's subsidiaries more accurately reflects the data security of the entity and the entity's subsidiaries.

The analysis system 302 may receive a number of employees 338 and contact information 340 for an entity. In some implementations, the analysis system 302 determines a security rating for an entity based on the number of employees 338 and/or the contact information 340. For example, the analysis system 302 may determine that the physical location of an entity is in an area of low crime and associate the entity with a higher security rating than if the entity was physically located in a location or locations of higher crime.

One or more industry classifications 342 for an entity may be used by the analysis system 302 to determine other entities that operate in the same field as the entity. For example, the analysis system 302 may use the industry classifications 342 and/or information about the other entities that operate in the same field when determining a security rating for the entity.

An entity description 344 may be received from a data source such as the entity's website, a news article, or a corporate filing, to name a few examples. The entity description 344 may be used by the analysis system 302 to provide a user with information about an entity. For example, an operator of the analysis system 302 may use the entity description 344 during the manual analysis process 306 to determine whether data identified as potentially associated with an entity is actually associated with the entity. In some examples, the operator may determine that received data is associated with a different industry classification or not related to the entity description 344 and should not be mapped to an attribute of an entity.

In some implementations, the Internet Assigned Numbers Authority 308, the Regional Internet Registry 312, the Domain Name Server 316, the social media data 320, the user device 324, the mail server 328, and the passive Domain Name Server 330 are all sources of technical data. For example, the sources of technical data include data about computer systems and/or computer activities associated with entities.

One or more of the sources of technical data may provide the analysis system 302 with trace data. For example, one of the sources of technical data, such as the social media data 320, may provide the analysis system 302 with data that represent online activities associated with an entity.

In some implementations, the trace data represent online activities but do not include the actual content of the online activities. For example, when a user posts data on a social media network, the analysis system 302 may receive information about the date and time of the post but not the actual content of the post.

In some implementations, the news articles 332, the stock ticker 334, the corporate filings 336, the number of employees 338, the contact information 340, the industry classification 342, and the entity description 344 are all sources of non-technical data.

In some implementations, a single source of data may provide the analysis system 302 with both technical and non-technical data. For example, the Regional Internet Registry 312 may provide the analysis system 302 with the Internet Protocol address ranges 314 and the contact information 340.

In some implementations, a single source of data may provide the analysis system 302 with multiple different types of data. For example, the corporate filings 336 may provide the analysis system 302 with the number of employees 338, the contact information 340, and one or more domain names.

In some implementations, the automatic analysis process 304 or the semi-automatic analysis process acquire Regional Internet Registry registration data, Autonomous System numbers, Internet Protocol address blocks, and Border Gateway Protocol advertisements in an automated fashion. For example, the automatic analysis process 304 or the semi-automatic analysis process may add Regional Internet Registry registration data, Autonomous System numbers, Internet Protocol address blocks, and Border Gateway Protocol advertisements to a mapping of data to entity attributes. In some examples, the automatic analysis process 304 or the semi-automatic analysis process includes a rule-based system that is used to determine which data to include in an entity map and which data to discard. In some examples, the semi-automatic analysis process may require human interaction for the mapping of the Regional Internet Registry registration data, Autonomous System numbers, Internet Protocol address blocks, and Border Gateway Protocol advertisements to one or more entity attributes.

In some implementations, the environment includes an Autonomous System assigned to an entity. For example, the analysis system 302 may identify an Autonomous System based on the Internet Protocol address ranges 310 or 314. The Autonomous System may

broadcast the Internet Protocol addresses that the Autonomous System owns, controls, or to which the Autonomous System has routes.

The analysis system 302 may infer relationships between entities based on the Autonomous System. For example, the analysis system 302 may identify a route between an Autonomous System and an Internet Protocol address for another Autonomous System and infer a relationship between the entity that controls the Autonomous System and another entity that controls the other Autonomous System.

In some examples, when a first Internet Protocol address and a second Internet Protocol address are both assigned to the same Autonomous System and are associated with a first domain and a second domain, respectively, the analysis system 302 may determine that there is a relationship between a first entity that controls the first domain and a second entity that controls the second domain. For example, the analysis system 302 may determine that both entities use a shared hosting service.

In some implementations, the analysis system 302 may use Border Gateway Protocol (BGP) data to determine the Internet Protocol addresses that an entity uses. For example, the analysis system 302 may receive a BGP advertisement that identifies an Internet Protocol address for an Autonomous System and indicates that the Internet Protocol address is currently in use by the entity. The analysis system 302 may use the Internet Protocol use data to determine which Internet Protocol addresses an entity is actively using and which Internet Protocol addresses assigned to the entity are not in use. The analysis system 302 may determine the security rating for the entity based on the Internet Protocol addresses the entity is using.

In some implementations, the analysis system 302 may update an entity mapping on a daily basis, or in some cases more or less frequently than daily. For example, the analysis system 302 may determine that some data associated with an entity changes at least every day and that the mapping for the entity should be updated accordingly. In some examples, BGP advertisements for a particular entity change on a daily basis and represent changes in entity data, e.g., technical data. For example, the analysis system 302 may receive a first BGP advertisement containing first data and later receive a second BGP advertisement that contains second data which indicates a change to the first data. The analysis system 302 may

use the changes in the entity mapping, such as the changes to the entity's BGP advertisements, when determining a security rating for the entity.

In some implementations, the automatic analysis process 304 or the semi-automatic analysis process may approve a mapping for an entity. For example, the automatic analysis process 304 may approve an entity mapping by comparing similar data obtained through two separate data sources, evaluating the data to determine a similarity score that represents the similarity of the data, and comparing the similarity score to a predetermined similarity threshold. For example, an Internet Protocol address block obtained from a Border Gateway Protocol advertisement may be compared to its corresponding Regional Internet Registry registration to determine the similarity between the Internet Protocol address blocks and any data associated with the Internet Protocol address blocks.

In some examples, when the similarity score is greater than the predetermined similarity threshold, the automatic analysis process 304 or the semi-automatic analysis process automatically approve the mapping of the Internet Protocol address blocks. In some examples, when the similarity score is not greater than the predetermined similarity threshold, the automatic analysis process 304 or the semi-automatic analysis process do not approve the mapping of the Internet Protocol address blocks.

Figure 4 is an example of an environment 400 identifying a removal of social media data from a social media network. During time T_0, a user device 402 sends a post C 404 to a social networking system 406. For example, the social networking system 406 places the post C 404 on a webpage associated with an operator of the user device 402 or provides the post C 404 to one or more users that receive content posted to the social networking system 406 by the operator of the user device 402.

A server 408, during time T_1, logs data associated with the post C 404. For example, the server 408 stores a record in a database 410 where the record indicates that the operator placed the post C 404 on the social networking system 406 at a specific time.

In some implementations, the database 410 includes a log 412 associated with the operator of the user device 402. For example, the database 410 includes a log for each employee of an entity. In some examples, the database 410 includes a log for each entity, where a single log includes records for the online activities of all employees employed by a

single entity. In some examples, the log 412 includes records for an entity and all of the entity's subsidiaries. In some implementations, the database 410 includes a single log 412.

The time period T_1 may occur immediately after the time period T_0. In some implementations, the time period T_1 occurs according to a schedule. For example, the server 408 may log the online activity of the user device 402 once a day at a predetermined time. In some examples, the server 408 logs multiple activities during the time period T_0. For example, when the server 408 logs the online activity of the user device 402 once a day the server 408 may identify multiple activities, such as social media posts, blog posts, and/or forum posts, and record all of the multiple activities in the database 410 during the time period T_1.

The operator of the user device 402, during time T_2, removes the post C 404 from the social networking system 406, and, during time T_3, the server 408 logs the removal of the post C 404 and analyzes the log 412. For example, the server 408 analyzes the social networking system 406 during time T_3 and determines that the post C 404 is no longer on the social networking system 406 and that the operator of the user device 402 likely removed the post C 404.

The server 408 may record the removal of the post C 404 to identify which posts or online activity included in the log 412 have changed. For example, when the server 408 determines that a large quantity of posts associated with the operator of the user device 402 have been removed from the social networking system 406, the server 408 may determine that the operator's social networking account may have been compromised.

The server 408 may determine, based on the social media accounts of employees employed by an entity, a security rating of the entity. For example, the security rating of the entity may be lower when the server 408 determines that a social media account of an employee of the entity was compromised than if the server 408 determined that no social media accounts for employees of the entity were compromised.

In some implementations, the server 408 monitors the social media accounts of employees of an entity that make statements on behalf of the entity. For example, the server 408 may monitor the social media accounts of public relations employees. In some examples, when the user posts information online on behalf of the entity and a social media

account of the user is compromised, the server 408 may determine that the entity has a lower security rating than if the user's social media account was not compromised.

In some examples, when the server 408 determines that the post C 404 is substantially identical to the post B, the server 408 determines that the operator of the user device 402 may have posted the same content to the social networking system 406 on accident and determine based on the removal of the post C 404 that the likelihood that operator's social networking account was compromised is low.

In some implementations, the server 408 monitors one or more webpages of an entity. The server 408 may determine whether changes to the webpages were made maliciously or otherwise indicate a potential security vulnerability of the entity. Upon determining that a change to a webpage of the entity indicates a potential security vulnerability of the entity, the server 408 may assign the entity a lower security rating than the entity may have otherwise been assigned.

In some implementations, one or more of the time periods T_0, T_1, T_2, and T_3 may overlap. For example, the server 408 may log a post B in the database 410 while the user device 402 provides the post C 404 to the social networking system 406. In some examples, the user device 402 may remove the post C 404 from the social networking system 406 while the server 408 logs the post C 404 and/or while the server 408 analyzes the log 412. In some examples, the server 408 may log the post C 404 while the server 408 is analyzing data previously recorded in the log 412.

The duration of the time periods T_0, T_1, T_2, and T_3 may be any length of time. For example, the time period T_1 may have a duration of seconds, minutes, or days. As other examples, the time period T_1 may be months or years long.

Figure 5 is a block diagram of an example environment 500 of an analysis system 502 receiving traces of activities of an online user who is associated with an entity. For example, a cookie tracking system 504 may provide a user device 506 and an entity device 508 with cookies 510 and 512, respectively, and may record information about the cookies 510 and 512 in one or more logs 514. In some examples, the logs 514 may include an IP address of the user device 506 when the user device accesses content, such as an advertisement or a website.

The analysis system 502 may receive a portion of the logs 514, such as data indicating that the user device 506 accessed a particular website from a first IP address, e.g., based on a cookie associated with an advertisement, and that the user device 506 accessed the same particular website from a second IP address. In some implementations, the data does not include any identification information of the particular user device.

The analysis system 502 may determine that either the first IP address or the second IP address are associated with an entity, e.g., based on an assignment of a block of IP address including the first or second IP address to the entity, that the other IP address is not associated with the entity, and that the entity has a "bring your own device" policy that allows employees of the entity to access an entity network 516 with their own devices, e.g., the user device 506.

In some implementations, the analysis system 502 determines that the entity device 508 is a portable device, e.g., a laptop or a tablet, by identifying a first IP address associated with the cookies 512 that is also associated with an entity and a second IP address associated with the cookies 512 that is not associated with the entity. In some implementations, the analysis system 502 is unable to differentiate between a "bring your own device" such as the user device 506 and the entity device 508 when an operator of the entity device 508 may connect the entity device 508 to a network other than the entity network 516.

The analysis system 502 may use network policy information of an entity to determine a security rating for the entity. For example, the analysis system 502 may use a determination whether the entity has a "bring your own device" policy or allows employees to bring the entity device 508 home when calculating a security rating for the entity.

In some implementations, the analysis system 502 may determine whether the user device 506 or the entity device 508 are not fully secure, e.g., based on potentially malicious activities of the user device 506 or the entity device 508, and about which the operator of the device likely does not know. For example, the analysis system 502 may determine that the user device 506 was recently infected with malware and that the entity is not enforcing sufficient security policies on devices that can access the entity network 516, and assign the entity a lower security rating.

In some implementations, the analysis system 502 uses the logs 514 to determine whether an entity enforces the use of a virtual private network (VPN) on a device when the

device requests access to the entity's resources. For example, the analysis system 502 may determine whether the user device 506 and/or the entity device 508 have an always on or nearly always on VPN policy for access to the entity's resources and determine the entity's security rating accordingly. In some examples, when the analysis system 502 determines that the user device 506 or the entity device 508 have an always on or nearly always on VPN policy, the analysis system 502 assigns the entity a higher security rating than if the entity did not enforce the always on or nearly always on VPN policy.

In some implementations, the analysis system 502 receives information from a Domain Name Server 518 or a passive Domain Name Server that indicates whether a mail server that hosts an entity's electronic mail enforces one or more email validation methods. For example, the analysis system 502 may query the Domain Name Server 518 or a passive Domain Name Server to determine whether email sent from the mail server includes malicious mail, e.g., spam, whether an email with a sender address that includes a domain of the entity complies with a Sender Policy Framework 520, e.g., is sent from an authorized computer, and whether an email includes a signature that complies with DomainKeys Identified Mail 522.

The analysis system 502 may determine a security rating for an entity based on the validation methods used by the mail servers of the entity. For example, when the entity uses one or more non-duplicative validation methods, the entity may be assigned a higher security rating.

Figure 6 is an example of a user interface 600 for creating a backlog request that indicates an entity that requires a mapping of data to attributes of the entity. For example, an employee of an entity analysis company may enter an entity name 602, and a uniform resource locator 604 to request that an analysis system determine a mapping of data to attributes of the entity. The analysis system may use the mapped data when determining a security rating for the entity. The entity name 602 and uniform resource locator 604 may be a best guess by a requestor regarding the legal name of the entity and the domain name of the entity's website.

The user interface 600 includes a requested by field 606 and a priority field 608 that indicate a requested completion date and priority ranking, respectively. For example, a request system may automatically populate the requested by field 606, e.g., with a date a

predetermined time in the future, such as one month, and the priority field 608, e.g., with a medium priority. The requestor that is interacting with the user interface 600 may adjust either the requested by field 606 or the priority field 608 based on the requirements of the request. For example, a high priority backlog request with the same requested by date as a medium or low priority backlog request would receive a higher priority, e.g., would be worked on first, compared to the medium or low priority backlog request.

A state field 610 may indicate the current state of the backlog request. For example, the state field 610 may indicate that the backlog request is currently being entered into the analysis system and has not been actively worked on, e.g., based on a "pending" state. A "mapping in progress" state may indicate that an analysis system is mapping data to attributes for the entity with an automatic, semi-automatic, or manual mapping process.

A customer name field 612 may indicate the name of the customer that has requested a security rating of the entity. For example, the customer may be another entity or the entity analysis company, e.g., when the entity analysis company determines the security ratings of one or more entities prior to a request from a customer.

A requestor field 614, an assigned to field 616, and an approver field 618 may be automatically populated by the request system. For example, the requestor field 614 may include the name or email address of the employee interacting with the user interface 600. The employee may adjust the information in the requestor field 614, for example, when the employee is preparing the backlog request on behalf of another employee of the entity analysis company.

The user interface 600 includes a comments field 620 that allows the requestor to include one or more comments with a backlog request. For example, the requestor may include additional information about the entity in the comments field 620 and/or other information associated with the backlog request.

Figure 7 is an example of a user interface 700 for viewing a list 702 of backlog requests. For example, an employee of the entity analysis company may interact with the user interface 700 to identify one or more backlog requests and the state of the backlog requests.

The list 702 of backlog requests may include information for each of the backlog requests, such as some of the information included in the user interface 600. In some

implementations, the list 702 includes a backlog initiation date that indicates the date a requestor created the backlog request. In some implementations, the list 702 includes a last updated date that indicates the most recent date for which the state of the backlog request changed. For example, the last updated date for a pending backlog request would be the date on which the backlog request was created. In some examples, when an analysis system begins to map data to attributes for an entity identified in a backlog request and the state of the backlog request changes from "pending" to "mapping in progress," the last updated date would indicate the date the mapping process began.

The user interface 700 allows an employee of the entity analysis company to sort the list 702 of backlog requests, e.g., by a "state" or an "assigned to" field, to search for backlog requests associated with a particular search string, and to view all backlog requests according to a state filter 704, using an assigned to filter 706, or using an approver filter 708. For example, a first employee that maps data to the attributes of an entity may use the assigned to filter 706 to identify all of the backlog requests assigned to the first employee. In some examples, a second employee that approves the data mapping to the attributes of an entity after the mapping process is completed may use the approver filter 708 to identify all of the backlog requests that are waiting for approval and are assigned to the second employee.

The user interface 700 includes an add backlog option 710 that upon selection presents the user interface 600 and a clear filters option 712 that upon selection removes selection of all of the filters 704, 706, and 708, e.g., by setting the filters to the "all" selection, and that removes any filters associated with search strings.

An unapproved items option 714 upon selection allows the employee of the entity analysis company to view all backlog requests in the list 702 that have not been approved. In some implementations, selection of the unapproved items option 714 presents backlog requests that are not approved, are not duplicate requests, and are not unmappable in the list 702. For example, a backlog request that is unmappable may be a backlog request for an entity for which the analysis system does not have enough data to complete a map for the attributes of the entity. For example, the analysis system may have a predetermined threshold, e.g., a minimum requirement, for the quantity of attributes that require data for a backlog request to be mappable. In some examples, when the mapping process is semi-automatic or manual, a first person that is performing the mapping process, e.g., assigned to

the mapping process, or a second person that is performing the approval process may determine that there is insufficient data for an entity and indicate that the associated backlog request is unmappable.

Figure 8 is an example of a user interface 800 for updating a backlog for an entity. For example, an employee of an entity analysis company may interact with the user interface 800 to map data to attributes of the entity, e.g., by selecting a start mapping option 802, to approve the map of data to attributes of the entity, e.g., by selecting a start approval option, and/or to view comments associated with the backlog.

For example, when a state 804 of the backlog request is "pending," the top right portion of the user interface 800 includes the start mapping option 802 that upon selection presents a user with another user interface, e.g., a user interface 900 shown in Figure 9, that allows the user to map data to attributes of the entity associated with the backlog request.

After the user has begun the mapping process, the state 804 of the backlog request may change to "mapping in process" and the user interface elements in the user interface 800 may change. For example, the start mapping option 802 may change to a continue mapping option.

In some examples, once the mapping process has begun, the user interface 800 may include a finalize entity option and a reject backlog option. For example, user selection of the finalize entity option may move the backlog request toward the approval process, e.g., by changing the state 804 of the backlog request to "finalize entity." In some examples, the finalize entity option may not be active until a predetermined threshold of attributes for the entity have been mapped to data

In some implementations, once the mapping process has begun, the user interface 800 includes a reject backlog option. A user may select the reject backlog option to indicate that the analysis system has insufficient data for the mapping process or to otherwise indicate that the backlog request cannot be completed.

When the state 804 of the backlog request is "finalize entity," the user interface 800 may include a submit for approval option instead of or in addition to the start mapping option 802 and the finalize entity option. Selection of the submit for approval option may change the state 804 of the backlog request to "waiting for approval" and indicate that the employee has completed the mapping process.

In some implementations, when the state of a backlog is "waiting for approval" and a second employee selects a backlog request, e.g., in the user interface 700, the user interface 800 includes a start approval option in the upper right corner, e.g., instead of the start mapping option 802. The analysis system may include user verification to ensure that only an authorized approver may select the start approval option, e.g., based on the credentials of the second employee and/or a verification that the second employee is the employee identified by the approver field.

Upon selection of the start approval option, the state of the backlog request may change to "approval in progress" and the user interface 800 may include a finish approval option and a reject option. Selection of the finish approval option may change the state of the backlog request to "approved," indicating that the data mapped to the attributes of the entity is as accurate as possible and that the analysis system may use the mapped data to determine a security rating and a corresponding confidence level for the entity.

In some implementations, once a backlog request is approved, the backlog request is removed from the list 702 shown in Figure 7. For example, the list 702 may include only backlog requests that are active and does not include backlog requests that have been approved.

In some implementations, when the list 702 includes backlog requests that have been approved, an employee of the entity analysis company may select a completed backlog request to view the user interface 800. In these implementations, the user interface 800 shown in Figure 8 includes a needs maintenance option in the upper right, e.g., instead of the start mapping option 802. Select of the needs maintenance option indicates that there may be new data available that can be mapped to attributes of the entity for which the backlog request was made or a decision was otherwise made to verify that the data mapped to the attributes of the entity is current.

In some implementations, the analysis system automatically identifies backlog requests that need maintenance. For example, the analysis system may perform maintenance on backlog requests according to a schedule, e.g., weekly, monthly, quarterly, semi-annually, annually, etc. The schedule may be particular to a specific backlog request, e.g., for the "Sample Entity," or for a group of backlog requests, e.g., that were all approved during a predetermined period of time, such as a particular week or month.

In some examples, the analysis system automatically determines that data is available for an updated mapping. For example, the analysis system may determine that particular data is available, e.g., based on a news article, and that the mapping of data to attributes of the entity should be updated. In some examples, the analysis system may determine that a predetermined threshold quantity of new data for the entity has been identified and that the mapping should be updated. The analysis system may use any appropriate algorithm to determine that the mapping for an entity should be updated.

Upon selection of the needs maintenance option or a determination by the analysis system that a backlog request requires maintenance, the state 804 of the backlog request may change to "pending" or "waiting for maintenance." For example, when the state changes to "pending," the backlog request may be processed in a manner similar to the initial processing of the backlog request.

In some examples, when the state of the backlog request changes to "waiting for maintenance" and the user interface 800 is presented to a user, the user interface 800 includes a start maintenance option, e.g., instead of the start mapping option 802. The indication that the backlog request is "waiting for maintenance" may assist a user in determining that some data was previously mapped to the attributes of the entity.

The analysis system may identify the data and/or entity attributes that have potentially changed when the employee works on the maintenance process. In some examples, the employee verifies that all of the data mapped to the attributes of the entity is current and has not changed since the previous mapping process.

Once the maintenance process is complete, the state 804 of the backlog request may change to "waiting for approval" and the analysis system may proceed through an approval process similar to the initial approval of a backlog request.

The user interface 800 includes a start time 806 and an end time 808. For example, the start time 806 indicates the time that the mapping process began and the end time 808 indicates when the backlog request was approved.

In some implementations, the list 702 shown in Figure 7 does not include a list of backlog requests that have been completed and the analysis system automatically identifies entities which require an update to the mapping between data and attributes for the entity. For example, once a backlog request is approved, the backlog request is removed from the

list 702. In these implementations, the analysis system determines when the mapping for an entity should be updated based on new data for the entity and/or a schedule.

Figure 9 is an example of a user interface 900 for mapping data to attributes of an entity. For example, an employee of an entity analysis company may interact with the user interface 900 during a mapping process, either the initial mapping process or a maintenance mapping process, and/or during an approval process.

The user interface 900 includes an entity name field 902 and a primary domain field 904. The entity name field 902 may represent the legal name of the entity the employee is mapping. For example, the employee may enter the name of the entity as included in corporate filings in the entity name field 902.

In some examples, the primary domain field 904 includes the uniform resource locator from the original backlog request, e.g., the uniform resource locator 604 shown in Figure 6. In some examples, the employee interacting with the user interface 900 selects another domain as the primary domain for the primary domain field 904. For example, the employee may determine that the entity has multiple domains, potentially associated with different products or services offered by the entity, and select the primary domain from the multiple domains for the entity.

The primary domain field 904 may include a selectable link for the primary domain. For example, the employee may view a webpage for the primary domain in a web page frame 906 or select the selectable link in the primary domain field 904 to open a new window with the webpage for the primary domain. The employee may view the webpage for the primary domain or another domain of the entity to identify data for the mapping of data to attributes of the entity.

For example, the employee may view webpages of the primary domain to determine one or more industries in which the entity offers products and/or services and enter the industries in an industry field 908. For example, the employee may select a search option to view a list of industries and select the determined industries for the entity in the list. The selection of the industries in the list may auto-populate the industry field 908 with the one or more selected industries.

The user interface 900 includes a logo field 910 for the entity. For example, the employee may enter a uniform resource address that identifies a location of the entity's logo,

e.g., on the primary domain. In some examples, the employee may store a copy of the logo in a database and enter a link to the location of the logo in the database in the logo field 910.

In some implementations, the user interface 900 presents a copy of the logo. For example, the user interface 900 may include a logo display field below the logo field 910 where the logo display field presents the copy of the logo.

The employee may view information from the primary domain or other resources to determine a description for an entity description field 912. The entity description field 912 may include a general summary of the products and/or services offered by the entity, when the entity was founded, major subsidiaries of the entity, and/or competitors of the entity, to name a few examples.

In some implementations, the user interface 900 includes a customer visible selection 914. The customer visible selection 914 indicates whether a customer of the entity analysis company may view information included in the user interface 900 about the entity. For example, when the customer visible selection 914 is selected, the customer may view at least a portion of the data included in the user interface 900, such as the entity name, the primary domain, the entity industries, the logo, and the entity description.

The user interface 900 includes sections for technical data about the entity, such as a virtual Autonomous System numbers section 916 and a mail server configuration section 918, and non-technical data, such as an entity employee counts section 920.

The virtual Autonomous System numbers section 916 allows an employee of the entity analysis company to map one or more Autonomous System numbers to the entity, e.g., to an Autonomous System numbers attribute of the entity. For example, the analysis system may automatically identify one or more Autonomous System numbers assigned to the entity or the user of the user interface 900 may manually enter one or more Autonomous Systems numbers in the virtual Autonomous System numbers section 916. In some examples, the employee may create a new record in the virtual Autonomous System numbers section 916, indicate the registrar that provided the Autonomous System numbers, e.g., a Regional Internet Registry, and the type of data entry, e.g., manual in this example.

The employee may select an edit option 922 for the new record to populate additional information for the record. For example, selection of the edit option 922 may present a user interface 1100 shown in Figure 11.

The mail server configuration section 918 may be populated automatically or manually with data received from a Domain Name Server, a passive Domain Name Server, or a mail server, as described in more detail above. For example, the analysis system may identify a mail server for the entity, whether the mail server uses one or more validation methods, such as Sender Policy Framework or DomainKeys Identified Mail, and a risk level associated with the mail server based on the validation methods used by the mail server.

The entity employee counts section 920 allows the employee of the entity analysis company to enter information about the number of employees who work for the entity. For example, the employee may enter the total number of employees of the entity and/or the number of employees that work for a separate division or group within the entity, such as information technology, human resources, marketing, research and development, hardware, software, small business, or home users, e.g., as separate records in the entity employee counts section 920.

When a user is approving a backlog request, e.g., during the "approval in progress" state, the user may review the data mapped to the attributes of the entity and approve or reject the mapped data. For example, the approver may verify the accuracy of the data in the virtual Autonomous System numbers section 916, the mail server configuration section 918, and the entity employee counts section 920 and indicate approval of the data with selection of one or more approved selections 924a-c. In some examples, each entry in the sections includes a separate approved selection that the user may select to approve the backlog request.

Upon selection of all the approved selections 924a-c, the user may select a main approved selection 926 and then save the backlog request to enable the finish approval option in the user interface 800, discussed in more detail above. For example, the main approved selection 926 may not be enabled until the user has approved all of the separate approved selections 924a-c in the user interface 900.

In some implementations, one or more of the approved selections 924a-c may not be enabled until the user approves one or more portions of data associated with a record. For example, the approver may need to view and approve data in the user interface 1100, shown in Figure 11, prior to approving the record in the virtual Autonomous System numbers section 916.

In some implementations, one or more portions of the approval process may be automated. For example, the analysis system may perform an automatic approval process for the entity employee counts section 920 and/or other data mapped to the attributes of the entity.

Figure 10 is an example of a user interface 1000 for viewing data for an entity. For example, when the analysis system includes data for a quantity of entities that have a name similar to the entity name in the entity name field 902, the user interface 1000 may present a list of results that include information for the entities that have the similar names.

The user interface 1000 includes a first entity name 1002 and details for the first entity name 1002, such as a first primary domain 1004 for the first entity, a first industry 1006, and a first entity description 1008, to name a few examples. The user interface also includes a second entity name 1010 and associated details for the second entity name 1010, such as a second primary domain 1012, a second industry 1014 for the second entity, and a second entity description 1016.

The user may select one of the entities from the user interface 1000 based on the details associated with the entity and enter the details in the user interface 900. For example, the user may determine that the second primary domain 1012 matches the primary domain in the primary domain field 904 and that the second entity name 1010 is for the current backlog request. The user may then enter the details in the user interface 900 manually or select an option to have the details data automatically entered into the user interface 900.

Figure 11 is an example of a user interface 1100 for changing a virtual Autonomous System number in the data mapping for an entity. For example, a user may interact with the user interface 1100 to add, edit, or remove one or more Classless Inter-Domain Routing entries for an entity mapping.

The user interface 1100 includes a Classless Inter-Domain Routing (CIDR) section 1102 for a user to add one or more CIDR records to a virtual Autonomous System number for an entity. For example, the user may enter data into a new CIDR record 1104 and select an add new CIDR option 1106 and the analysis system will add a new CIDR record to a list of records in the CIDR section 1102.

Each CIDR record 1108a-b includes an Internet Protocol address, a source, such as one of the Regional Internet Registries, a first registered date, a last updated date, and a

comment. For example, a user may view data for the entity, e.g., in another window, and manually create the CIDR record 1108a indicating that the source of the record is the American Registry for Internet Numbers (ARIN) based on the source of the viewed data.

In some examples, the user may select one of Regional Internet Registry options 1110a-b to automatically add one of the CIDR records 1108a-b to the user interface 1100. For example, the user may select an ARIN option 1110a or a Réseaux IP Européens Network Coordination Centre (RIPE) option 1110b to automatically receive data for one of the CIDR records 1108a-b as described in more detail with reference to a user interface 1200 shown in Figure 12.

During the approval process, a user of the user interface 1100 may select one or more approved selections after verifying the accuracy of the data entered in the user interface 1100. For example, the user may review the CIDR records 1108a-b and select the approved selection 1112 to approve the CIDR records 1108a-b. In some examples, the user may individually select an approved selection for each of the CIDR records 1108a-b instead of the approved selection 1112.

In some implementations, during the approval process, the user may select an approve all option 1114 or an un-approve all option 1116 after reviewing one or more of the CIDR records 1108a-b. For example, the user may determine that all of the CIDR records 1108a-b are accurate and select the approve all option 1114.

Selection of the approve all option 1114 presents information in the user interface 1100 indicating that the CIDR records 1108a-b are approved. For example, upon selection of the approve all option 1114, the approved selection for each of the CIDR records 1108a-b and the approved selection 1112 may include a check mark.

In some implementations, after each of the CIDR records 1108a-b are approved, a main approved selection 1118 is enabled, allowing the user to finalize the approval of the virtual Autonomous System number entry. The use of multiple approval options may ensure that a user does not approve a record in the CIDR section 1102 unintentionally.

Figure 12 is an example of a user interface 1200 for automatically retrieving Classless Inter-Domain Routing data from a Regional Internet Registry or an Internet Assigned Numbers Authority. For example, the user interface 1200 receives a search string in a search field 1202, and the analysis system provides the search string to one or more Regional

Internet Registries and presents received search results in a general results section 1204 of the user interface 1200.

A user may select one or more of the results presented in the general results section 1204 using one or more general selection options 1206a-c and select a fetch detailed results option 1208. Upon selection of the fetch detailed results option 1208, the analysis system retrieves details for the selected results, e.g., from memory of the analysis system or one or more of the Regional Internet Registries.

The user interface 1200 presents the detailed results in a detailed results section 1210 and includes information such as an address, a quantity of networks, and a quantity of points of contact. The user may request addition information for one of the records in the detailed results section 1210 and view the additional information for the record in a network section 1212 and a point of contact section 1214. In some implementations, the user interface 1200 presents the results of the search string query in the detailed results section 1210 instead of the general results section 1204.

The user may select one or more of the records in the detailed results section 1210 using detailed selection options 1216a-b and map the selected detailed results to an entity by selecting a save selected CIDRs option 1218. For example, selection of the save selected CIDRs option 1218 may create the CIDR record 1108b in the user interface 1100 shown in Figure 11.

In some implementations, the user interface 1200 receives data from a single Regional Internet Registry. For example, the user interface 1200 may be associated with a single predetermined Regional Internet Registry. In some examples, the user interface 1200 may include a Regional Internet Registry selection that allows a user to select the Regional Internet Registry that receives the search string the user enters in the search field 1202. In some implementations, the user interface 1200 presents results for multiple different Regional Internet Registries.

In some implementations, one or more of the detailed results may not include data for all of the fields in the network section 1212 and/or the point of contact section 1214. For example, a first Regional Internet Registry may include data for all of the fields in the network section 1212 and the point of contact section 1214 and a second Regional Internet Registry may include data for some of the fields in the network section 1212.

Figure 13 is a block diagram of an example database schema 1300 of entity attribute data. When a user creates a backlog request for an entity, a backlog object 1302 is created in a database and a record for the backlog object 1302 is created in an entity management log 1304. For example, the entity management log 1304 includes a record of all activities associated with the creation of a backlog object 1302 and the mapping of data to entity attributes.

The database schema 1300 includes an entity object 1306 that includes one or more attributes of the entity. For example, the entity object 1306 includes the entity name, the primary domain of the entity, and a unique identifier for the entity. In some examples, when a backlog object 1302 is created for an entity, an entity object 1306 is also created for the entity.

When a user maps data to the attributes of the entity, an employee count object 1308, one or more industry objects 1310, and a logo object 1312 may be created. For example, the employee count object 1308 may include fields for the total number of employees that work for the entity, a last updated date, and an approved Boolean value.

In some examples, the industry object 1310 may include the name of an industry associated with an entity, a last updated date, and an approved Boolean value. In some implementations, an entity object 1306 may be associated with multiple industry objects, for example, when an entity provides multiple different products or services. In some implementations, multiple entity objects 1306 may be associated with the same industry object 1310. For example, when multiple entities are competitors, the entity objects 1306 for the competitors may be associated with the same industry object 1310.

The logo object 1312 may include a uniform resource locator that identifies a location of the entity's logo and properties of the logo. For example, the logo object 1312 may include a height, a width, and a mime type for the logo.

An entity object 1306 may be associated with one or more mail server configuration objects 1314. For example, each of the mail server configuration objects 1314 may include data representing attributes of a mail server used by the entity. The mail server may be hosted by the entity or by a third party, e.g., as part of a cloud service. The mail server configuration object 1314 may include fields for one or more validation methods used by the mail server, such as Sender Policy Framework and DomainKeys Identified Mail. In some

examples, the mail server configuration object 1314 includes data representing a risk level of the mail server.

One or more Autonomous System number objects 1316 may be associated with the entity object 1306. For example, a user may associate an Autonomous System number object 1316 with the entity object 1306 by interacting with the user interface 900. The Autonomous System number object 1316 may include a name for the Autonomous System number and a registrar, such as one of the Regional Internet Registries.

Each of the Autonomous System number objects 1316 may be associated with one or more Classless Inter-Domain Routing (CIDR) objects 1318. For example, the CIDR object 1318 may include a block of Internet Protocol addresses that are assigned to the entity. In some examples, the CIDR object 1318 includes a source field, e.g., to identify a Regional Internet Registry, a handle, e.g., used by the Regional Internet Registry, and/or a comment, e.g., received from the Regional Internet Registry or a user who created the CIDR object 1318.

In some implementations, the Autonomous System number object 1316 may be associated with one or more auto fetch CIDR objects 1320. For example, when a user manual enters CIDR data, e.g., when the user manually creates the new CIDR record 1104 shown in Figure 11, the analysis system may create a CIDR object 1318, and when the analysis system provides the user with CIDR data, e.g., using the user interface 1200, or automatically creates a new CIDR record, the analysis system may create an auto fetch CIDR object 1320.

The auto fetch CIDR object 1320 may include a block of Internet Protocol addresses assigned to the entity, a source field, a handle, and one or more comments. For example, the comments may be comments received from the Regional Internet Registry, e.g., identified by the source field, or the user who interacted with the user interface 1200.

Each of the auto fetch CIDR objects 1320 is associated with an Internet registry object 1322. For example, the Internet registry object 1322 includes the name, handle, and address of the Regional Internet Registry identified in the source field of the auto fetch CIDR object 1320. In some examples, multiple different auto fetch CIDR objects 1320 may be associated with the same Internet registry object 1322, e.g., when each of the multiple different auto fetch CIDR objects 1320 have the same source.

The Internet registry object 1322 is associated with one or more Internet registry point of contact objects 1324. For example, each of the Internet registry point of contact objects 1324 includes a name for the point of contact, a description of the point of contact, e.g., the title of the point of contact, and contact information for the point of contact. The contact information may include the name of the company that employs the point of contact, the company's address, and a phone number and email address for the point of contact.

In some implementations, the database schema 1300 includes an imported data object 1326. For example, the imported data object 1326 may include data received from third parties, and/or data retrieved by the analysis system, e.g., from the data sources described with reference to Figure 3. The data sources may include sources of financial data, statistics about the entity, information about the assets of the entity, trace data, and corporate tree information, e.g., subsidiary and/or parent entities, to name a few examples.

The imported data object 1326 may be associated with an import settings object 1328 that includes settings associated with the imported data. For example, when the imported data is received from a third party, the import settings object 1328 may include credentials that allow the entity analysis company and the analysis system to access data from the third party. When the imported data includes data retrieved by the analysis system, the import settings object 1328 may include data indicating the frequency of data retrieval, the types of data retrieved by analysis system, and/or credentials for the analysis system to access data, to name a few examples.

In some implementations, at least some of the objects in the database schema 1300 include an approved Boolean value. For example, the value may indicate whether or not the data in the associated object has been approved.

In some implementations, when the approved Boolean value for an object is true and one of the fields for the object is changed, the approved Boolean value is automatically set as false. For example, the analysis system may automatically set the approved Boolean value for an industry as false when the associated industry name is changed.

In some implementations, all of the objects in the database schema 1300 include a last updated date.

In some implementations, one or more of the objects in the database schema 1300 include a start date and an end date. For example, the use of the start date and the end data

may allow representation of changes over time in the data mapped to an entity. For example, the entity object 1306 may have a first employee count object 1308, with a start date of "2011-01-01" and an end date of "2011-07-01" with an employee count value of ten, and a second employee count object 1308, with a start date of "2011-07-02," an end date of "2012-01-15," and an employee count value of twenty. In some examples, the industry object 1310, the logo 1312, the mail server configuration object 1314, the Autonomous System number object 1316, the Classless Inter-Domain Routing objects 1318, and the auto fetch CIDR 1320 include a start date and an end date.

In some implementations, when data is initially associated with an attribute of an entity the end date is set to a future date, e.g., two hundred years from the current date. When updated data is associated with the attribute, e.g., an employee count of twenty, the end date of the original object is updated and a new object is created for the updated data. For example, the analysis system may create the first employee count object with a start date of "2011-01-01," an end date of "3011-01-01," and an employee count value of ten. When the analysis system determines that the employee count for the entity is twenty, through either an automatic, semi-automatic, or manual process, the analysis system updates the end date of the first employee count object, e.g., to "2011-07-01," and creates the second employee count object with the updated data, such as an employee count of twenty, a start date of "2011-07-02," and an end date of "3011-07-02."

In some implementations, the start dates and end dates of similar objects for the same entity may overlap. For example, the end date of the first employee count object and the start date of the second employee count object may be the same date, e.g., "2011-07-01." In some examples, the end date of a first Classless Inter-Domain Routing object may be "2013-05-12," e.g., where the start date is "2012-01-01," and the start date of a second Classless Inter-Domain Routing object may be "2013-02-27," where both objects are associated with the same entity.

The use of the start date and the end date may allow the analysis system to record data history for an entity and use the data history when determining a security rating for the entity.

In some implementations, some of the objects in the database schema 1300 include automated maintenance data. For example, the automated maintenance data may include one

or more criteria that, when satisfied, indicate that the corresponding object should be updated or a new object of the same type should be created. For example, the maintenance criteria for an auto fetch CIDR object 1320 obtained from a Regional Internet Registry may be a date and/or a time, such as a last updated date, a start date, or a maintenance data that indicates when maintenance should be performed. The analysis system uses the maintenance criteria to determine when to periodically query the Regional Internet Registry to determine whether a unique handle or a range of Internet Protocol address for the auto fetch CIDR object 1320 have changed, and update the auto fetch CIDR object 1302 or create a new object accordingly.

Figure 14 is a flow diagram of a process 1400 for inferring a security state of an entity. For example, the process 1400 can be carried out by the analysis system 302 from the environment 300 shown in Figure 3.

Traces of activities of an online user who is associated with an entity are received (1402). For example, the analysis system may receive data that indirectly represent the activities of the online user. In some examples, the traces represent user interaction with a social media network, entity email communications, and/or content presented to the user, e.g., as indicated by cookies stored on a device operated by the user.

In some implementations, the traces of the activities maintain the privacy of the online user. For example, data may indicate that the online user made a post to a social media network but not include the content of the post.

In some implementations, the traces include tracking of an identity of the online user between two of the different contexts. For example, the traces may represent activity of the user at different times or on different devices. In some examples, the analysis system performs the tracking based on cookies associated with advertising directed to the user. For example, the analysis system may receive cookie tracking information from a third party and use the cookie tracking information to identify the different contexts of the identity of the online user.

In some implementations, the traces include indications of security checks made with respect to communications associated with the user. For example, the security checks may include indications of whether email messages conform to DomainKeys Identified Mail standards or email domains conform to Sender Policy Framework. In some examples, the

security checks include a determination of whether a mail server that provides electronic mail to the online user employs one or more validation methods.

A security state of the entity is inferred by analysis of the traces (1404). For example, the analysis system may determine whether the traces indicate that an account of the user may have been compromised, whether the entity allows employee devices to access confidential data, or security policies used by a mail server that provides electronic mail communications for the entity.

In some implementations, the traces indicate successful attacks on computer systems of the entity. For example, the traces may indicate that a social media account of the online user was compromised. In some examples, the traces may indicate that the online user is receiving malicious mail and that a domain identified as the origin of some of the malicious mail may have been compromised.

In some implementations, the analysis includes a comparison of traces that originated in different contexts of the user's online activities. For example, the comparison may be between traces associated with different times of online user activity where the different contexts include different times.

In some examples, the comparison is between traces where traces that originated at one of the times reflect a user deletion relative to the traces that originated at an earlier time. For example, a first set of traces may identify a post made by the online user and a second set of traces may indicate that the post was later deleted by the online user. The analysis system may determine, for example, that the traces that originated at one of the times reflect a user deletion of malicious data or code relative to the traces at the earlier time.

In some implementations, the different contexts include a context the security of which is controlled by the entity and a context the security of which is at least partly uncontrolled by the entity. For example, the controlled context may include a computer system or device made accessible by the entity to the user, e.g., an entity device, and the partly uncontrolled context may include a computer system or device owned by the user, e.g., a user device. The analysis system may determine that the entity device and the user device are operated by the same online user, for example, based on tracking information, such as cookies, stored on both devices. In some examples, the analysis system may determine that the security of the user device is not optimal, infer that the online user may take security risks

when operating the entity device, and that the security state of the entity is lower than if the online user did not take security risks.

In some examples, the controlled context and the partly uncontrolled context may include the same computer system or device. For example, the analysis system may identify an entity device or a user device that connects to an entity network and another network different than the entity network. The analysis system may identify the controlled context when the device connects to the entity network and the partly uncontrolled context when the device connects to the other network. In some examples, the analysis system identifies the controlled context and the partly uncontrolled context with cookie tracking data for a cookie stored on the computer system or device.

In some implementations, the process 1400 can include additional steps, fewer steps, or some of the steps can be divided into multiple steps. For example, the analysis system may distinguishing between traces that represent a less satisfactory security state of the entity and traces that represent a more satisfactory security state of the entity. In some examples, the analysis system distinguishes the traces prior to inferring the security state of the entity.

Figure 15 is a flow diagram of a process 1500 for enabling a user to assist in the generation of an entity map. For example, the process 1500 can be carried out by the analysis system 302 from the environment 300 shown in Figure 3.

A map is generated between (a) technical assets that contribute to security characteristics of respective entities and (b) the identities of the entities that are associated with the respective technical assets, at least part of the generating of the map being done automatically (1502). For example, the analysis system may determine one or more Internet Protocol addresses assigned to an entity and map the Internet Protocol addresses to a Classless Inter-Domain Routing section attribute of the entity.

In some implementations, the technical assets include network-related information. For example, the network-related information may include at least one of Internet Protocol addresses, blocks of Internet Protocol addresses, mail server configurations, domain names, social media handles, third-party data hosting, internet service providers, Domain Name System (DNS) services, Autonomous System numbers, and Border Gateway Protocol (BGP) advertisements.

In some implementations, the generation of the map includes online discovery of information about the technical assets. For example, the analysis system may query Domain Name Servers, one or more Regional Internet Registries, or an Internet Assigned Numbers Authority to determine some of the technical assets for the entity. In some examples, the information about the technical assets is discovered through passive DNS queries.

In some implementations, the analysis system may identify from the passive DNS queries associations between domain names and network addresses. For example, the analysis system may perform the process 1600, described below with reference to Figure 16, to determine associations between domain names and network addresses. In some examples, the network addresses include Internet Protocol addresses. In some implementations, an association between a domain name and a network address includes a network address that is assigned to a domain name. In some examples, an association between a domain name and a network address includes a domain name that maps to the network address.

A user is enabled to assist in the generating of the map by presenting to the user through a user interface (a) data about the technical assets of entities and (b) an interactive tool for associating the technical assets with the identities of the entities (1504). For example, the analysis system presents a user interface to the user to allow the user to map data representing technical assets of an entity to attributes of the entity. In some examples, the tool enables the user to assign a technical asset to an entity.

The order of steps in the process 1500 described above is illustrative only, and enabling the user to assist in the generation of the entity map can be performed in different orders. For example, the analysis system may enable the user may to assist in the generation of the map prior to the generation of the map. In some examples, the analysis system may generate the map while enabling the user to assist in the generation of the map.

In some implementations, the process 1500 can include additional steps, fewer steps, or some of the steps can be divided into multiple steps. For example, the analysis system may present to the user non-technical-asset information through the user interface. In some implementations, the non-technical-asset information includes information about the entities. In some examples, the non-technical-asset information about the entities includes at least one of descriptions of entities, industry classifications, and employee counts.

In some implementations, the process 1500 invokes external crowd-sourced services to aid in generating the map. For example, the analysis system may provide a portion of data for the technical assets to a crowd-sourced service and receive a map of the provided data to one or more of the entities. In some examples, the analysis system provides the portion of data to the crowd-sourced services such that each person who participates in the crowd-sourced service is able to view only a portion of the data associated with an entity.

In some implementations, the process 1500 enables a separate review and approval of entities proposed to be included in the map. For example, the analysis system may require a first user to map data to attributes of an entity, and a second user to review and approve the data map.

In some implementations, the process 1500 provides the map to an application for joining to event data or scoring the security state of the entities. For example, the analysis system may receive the map and determine a security rating and corresponding confidence score for an entity where the map includes data for the entity. In some examples, when the map includes a portion of the data for an entity, e.g., received from a crowd-sourced service or from different data sources, the analysis system receives the map and joins the map with data from the different data sources.

In some implementations, the process 1500 generates graphs of relationships among entities based on their associations with technical assets. For example, the analysis system may generate a graph that shows a relationship between two entities that use the same cloud service or web host. The analysis system may use the relationships among entities to determine security ratings for the different entities. For example, if a first entity's data that is hosted by the cloud service is compromised, then the security score of a second entity that uses the same cloud service may be lower than if the first entity's data was not compromised.

In some implementations, the process 1500 tracks changes over time in the network addresses that are associated with a given domain name. For example, the analysis system identifies changes in the network addresses that are associated with the given domain name and determines a security rating for the entity based on the changes.

In some implementations, the generation of the map that is done automatically includes at least one of collecting information about technical assets and about entities, associating technical assets with entities, and approving proposed portions of the map. For

example, the analysis system may automatically approve one or more portions of the map that a user manually generates.

In some examples, the analysis system may automatically retrieve data from one or more data sources and/or automatically associate retrieved data with an entity. For example, the analysis system may identify a range of Internet Protocol addresses assigned to the entity and map the identified Internet Protocol addresses to a Classless Inter-Domain Routing section attribute of the entity.

Figure 16 is a flow diagram of a process 1600 for mapping Internet Protocol addresses to an entity. For example, the process 1600 can be carried out by the analysis system 302 from the environment 300 shown in Figure 3.

A first domain name for an entity is received (1602). For example, the analysis system receives the first domain name from a user interface. The entity may be one of multiple entities. For example, the analysis system may perform the process 1600 for each entity in the multiple entities.

A first passive DNS query is sent to identify first name servers for the first domain name (1604). For example, the analysis system provides the first passive DNS query to a DNS server.

A list of the first name servers for the first domain is received (1606). For example, the DNS server determines the list of first name servers for the first domain and provides the list of first name servers for the first domain to the analysis system.

A second passive DNS query is sent, for each of the first name servers, to identify second domain names for which the name server is authoritative (1608). For example, the analysis system sends the second passive DNS queries to the DNS server.

A list is received, for each of the first name servers, of the second domain names for which the name server is authoritative (1610). For example, for each of the second passive DNS queries, the DNS server determines the list of second domain names for which the name server for the first domain is also authoritative.

A third passive DNS query is sent, for each of the second domain names, to identify host names for the hosts of the second domain name and Internet Protocol addresses for the host names (1612). For example, the analysis system sends the third passive DNS queries to the DNS server.

A list of the host names and the Internet Protocol addresses for the host names is received (1614). For example, for each of the third passive DNS queries, the DNS server identifies the host names for the second domain names and the Internet Protocol addresses assigned to the host names. In some implementations, the list of host names includes the names of the first name servers.

Each of the Internet Protocol addresses is mapped to an attribute for the entity (1616). For example, the analysis system automatically maps the Internet Protocol addresses to Classless Inter-Domain Routing block for the entity.

Figure 17 is a block diagram of an example computer system 1700. For example, referring to Figure 3, the analysis system 302 or a server forming a portion of the analysis system 302 could be an example of the system 1700 described here, as could a computer system used by any of the users who access resources of the environment 100, the environment 200, the environment 300, the environment 400, or the environment 500. The system 1700 includes a processor 1710, a memory 1720, a storage device 1730, and an input/output device 1740. Each of the components 1710, 1720, 1730, and 1740 can be interconnected, for example, using a system bus 1750. The processor 1710 is capable of processing instructions for execution within the system 1700. In some implementations, the processor 1710 is a single-threaded processor. In some implementations, the processor 1710 is a multi-threaded processor. In some implementations, the processor 1710 is a quantum computer. The processor 1710 is capable of processing instructions stored in the memory 1720 or on the storage device 1730. The processor 1710 may execute operations such as the steps described above in reference to the process 1400 (Figure 14), the process 1500 (Figure 15), or the process 1600 (Figure 16).

The memory 1720 stores information within the system 1700. In some implementations, the memory 1720 is a computer-readable medium. In some implementations, the memory 1720 is a volatile memory unit. In some implementations, the memory 1720 is a non-volatile memory unit.

The storage device 1730 is capable of providing mass storage for the system 1700. In some implementations, the storage device 1730 is a computer-readable medium. In various different implementations, the storage device 1730 can include, for example, a hard disk device, an optical disk device, a solid-date drive, a flash drive, magnetic tape, or some other

large capacity storage device. In some implementations, the storage device 1730 may be a cloud storage device, e.g., a logical storage device including multiple physical storage devices distributed on a network and accessed using a network. In some examples, the storage device may store long-term data, such as the log 412 in the database 410 (Figure 4), as well as the entity names 112 in the database 110 (Figure 1). The input/output device 1740 provides input/output operations for the system 1700. In some implementations, the input/output device 1740 can include one or more of a network interface devices, e.g., an Ethernet card, a serial communication device, e.g., an RS-232 port, and/or a wireless interface device, e.g., an 802.11 card, a 3G wireless modem, a 4G wireless modem, etc. A network interface device allows the system 1700 to communicate, for example, transmit and receive data such as data from the data sources 104 shown in Figure 1. In some implementations, the input/output device can include driver devices configured to receive input data and send output data to other input/output devices, e.g., keyboard, printer and display devices 1760. In some implementations, mobile computing devices, mobile communication devices, and other devices can be used.

A server (e.g., a server forming a portion of the analysis system 302 shown in Figure 3) can be realized by instructions that upon execution cause one or more processing devices to carry out the processes and functions described above, for example, storing the entity names 112 in the database 110 and assigning the entity names 112 corresponding security ratings 114 and confidence scores 116 (Figure 1). Such instructions can include, for example, interpreted instructions such as script instructions, or executable code, or other instructions stored in a computer readable medium. A server can be distributively implemented over a network, such as a server farm, or a set of widely distributed servers or can be implemented in a single virtual device that includes multiple distributed devices that operate in coordination with one another. For example, one of the devices can control the other devices, or the devices may operate under a set of coordinated rules or protocols, or the devices may be coordinated in another fashion. The coordinated operation of the multiple distributed devices presents the appearance of operating as a single device.

Although an example processing system has been described in Figure 17, implementations of the subject matter and the functional operations described above can be implemented in other types of digital electronic circuitry, or in computer software, firmware,

or hardware, including the structures disclosed in this specification and their structural equivalents, or in combinations of one or more of them. Implementations of the subject matter described in this specification, such as software for mapping data to entities and assigning security ratings and confidence scores to entities (Figures 1-5), can be implemented as one or more computer program products, i.e., one or more modules of computer program instructions encoded on a tangible program carrier, for example a computer-readable medium, for execution by, or to control the operation of, a processing system. The computer readable medium can be a machine readable storage device, a machine readable storage substrate, a memory device, a composition of matter effecting a machine readable propagated signal, or a combination of one or more of them.

The term "system" may encompass all apparatus, devices, and machines for processing data, including by way of example a programmable processor, a computer, or multiple processors or computers. A processing system can include, in addition to hardware, code that creates an execution environment for the computer program in question, e.g., code that constitutes processor firmware, a protocol stack, a database management system, an operating system, or a combination of one or more of them.

A computer program (also known as a program, software, software application, script, executable logic, or code) can be written in any form of programming language, including compiled or interpreted languages, or declarative or procedural languages, and it can be deployed in any form, including as a standalone program or as a module, component, subroutine, or other unit suitable for use in a computing environment. A computer program does not necessarily correspond to a file in a file system. A program can be stored in a portion of a file that holds other programs or data (e.g., one or more scripts stored in a markup language document), in a single file dedicated to the program in question, or in multiple coordinated files (e.g., files that store one or more modules, sub programs, or portions of code). A computer program can be deployed to be executed on one computer or on multiple computers that are located at one site or distributed across multiple sites and interconnected by a communication network.

Computer readable media suitable for storing computer program instructions and data include all forms of non-volatile or volatile memory, media and memory devices, including by way of example semiconductor memory devices, e.g., EPROM, EEPROM, and flash

memory devices; magnetic disks, e.g., internal hard disks or removable disks or magnetic tapes; magneto optical disks; and CD-ROM and DVD-ROM disks. The processor and the memory can be supplemented by, or incorporated in, special purpose logic circuitry. Sometimes a server (e.g., forming a portion of the analysis system 302) is a general purpose computer, and sometimes it is a custom-tailored special purpose electronic device, and sometimes it is a combination of these things.

Implementations can include a back end component, e.g., a data server, or a middleware component, e.g., an application server, or a front end component, e.g., a client computer having a graphical user interface or a Web browser through which a user can interact with an implementation of the subject matter described is this specification, or any combination of one or more such back end, middleware, or front end components. The components of the system can be interconnected by any form or medium of digital data communication, e.g., a communication network. Examples of communication networks include a local area network ("LAN") and a wide area network ("WAN"), e.g., the Internet.

Certain features that are described above in the context of separate implementations can also be implemented in combination in a single implementation. Conversely, features that are described in the context of a single implementation can be implemented in multiple implementations separately or in any sub-combinations.

The order in which operations are performed as described above can be altered. In certain circumstances, multitasking and parallel processing may be advantageous. The separation of system components in the implementations described above should not be understood as requiring such separation.

Other implementations are within the scope of the following claims.

For example, although we have described examples in which the information received and analyzed by the system is used for determining security characteristics of an entity, the results of the analysis provide useful information about the entity that could be used for a variety other purposes and in other ways.

CLAIMS

1. A method comprising:

receiving traces of activities of an online user who is associated with an entity; and

inferring by analysis of the traces a security state of the entity.

2. The method of claim 1 in which the traces indicate successful attacks on computer systems of the entity.

3. The method of claim 1 comprising distinguishing between traces that represent a less satisfactory security state of the entity and traces that represent a more satisfactory security state of the entity.

4. The method of claim 1 in which the analysis comprises a comparison of traces that originated in different contexts of the user's online activities.

5. The method of claim 4 in which the different contexts comprise different times.

6. The method of claim 5 in which the traces that originated at one of the times reflect a user deletion relative to the traces that originated at an earlier time.

7. The method of claim 6 in which the traces that originated at one of the times reflect a user deletion of malicious data or code relative to the traces at the earlier time.

8. The method of claim 4 in which the different contexts comprise a context the security of which is controlled by the entity and a context the security of which is at least partly uncontrolled by the entity.

9. The method of claim 8 in which the controlled context comprises a computer system or device made accessible by the entity to the user, and the partly uncontrolled context comprises a computer system or device owned by the user.

10. The method of claim 4 in which the traces comprise tracking of an identity of the online user between two of the different contexts.

11. The method of claim 10 in which the tracking comprises cookies associated with advertising directed to the online user.

12. The method of claim 1 in which the traces comprise indications of security checks made with respect to communications associated with the user.

13. The method of claim 12 in which the security checks comprise indications of whether email messages conform to DomainKeys Identified Mail standards or email domains conform to Sender Policy Framework.

14. The method of claim 1 in which the traces of activities comprise logs of online activities of employees of the entity.

15. The method of claim 1 in which the traces of activities comprise information associated with a user device that represents online activities.

16. The method of claim 15 in which the information associated with the user device comprises information about one or more cookies stored in a memory of the user device.

17. The method of claim 1 in which the traces of activities comprise information about social media activities.

18. The method of claim 1 in which the traces of activities comprise information about email communications.

19. The method of claim 1 in which the traces of activities comprise information about content presented to the online user.

20. The method of claim 1 in which the traces of activities comprise information about receipt by the online user of malicious mail and the compromise of a domain identified as an origin of the malicious mail.

ABSTRACT

Among other things, traces are received of activities of an online user who is associated with an entity. By analysis of the traces a security state of the entity is inferred. Also, a map is generated between (a) technical assets that contribute to security characteristics of respective entities and (b) the identities of the entities that are associated with the respective technical assets. At least part of the generating of the map is done automatically. A user can be engaged to assist in the generating of the map by presenting to the user through a user interface (a) data about the technical assets of entities and (b) an interactive tool for associating the technical assets with the identities of the entities.

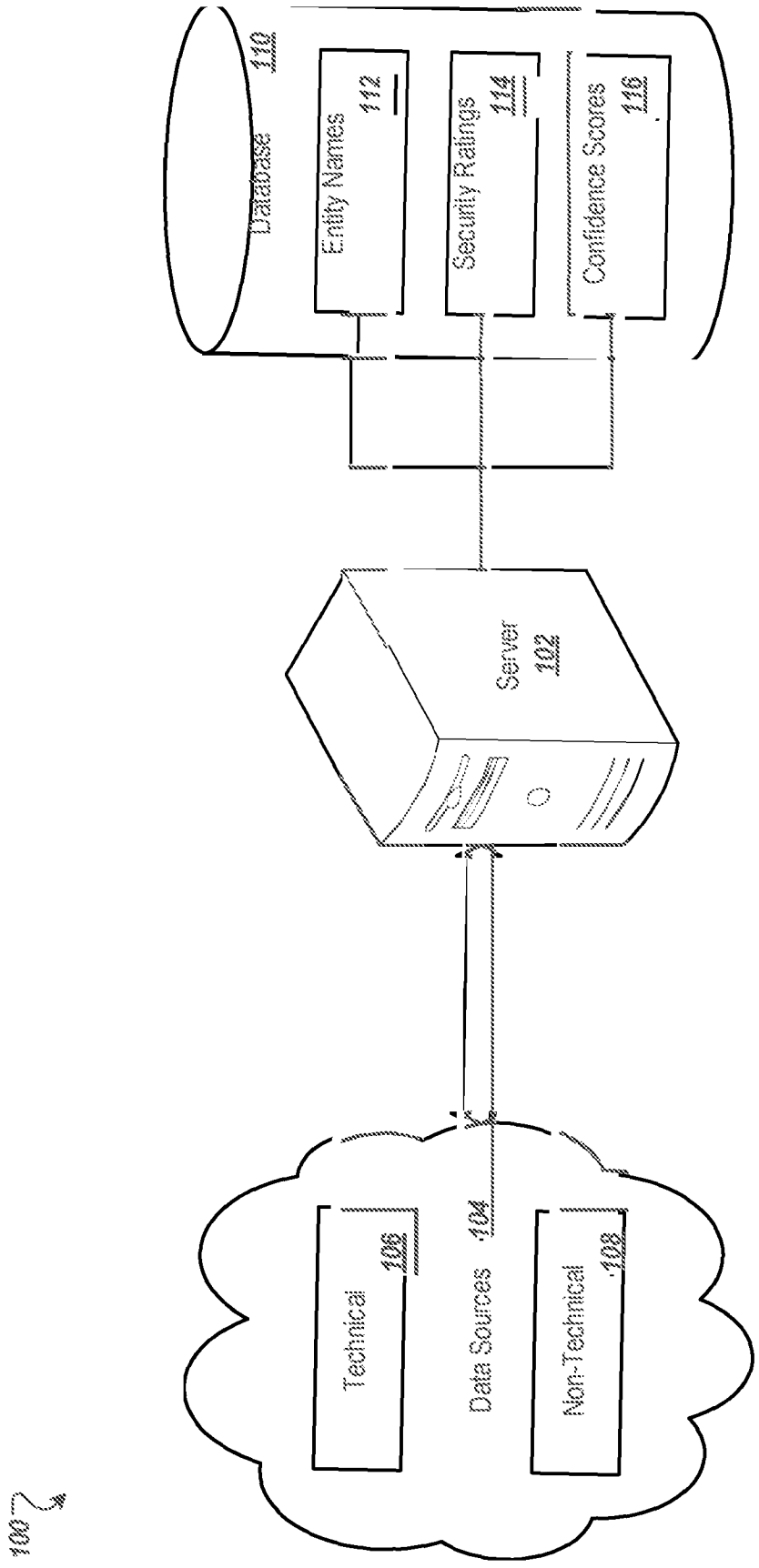

110
Database
112
Entity Names
114
Security Ratings
116
Confidence Scores
Server
102
104
Data Sources
106
Technical
108
Non-Technical
100

FIG. 1

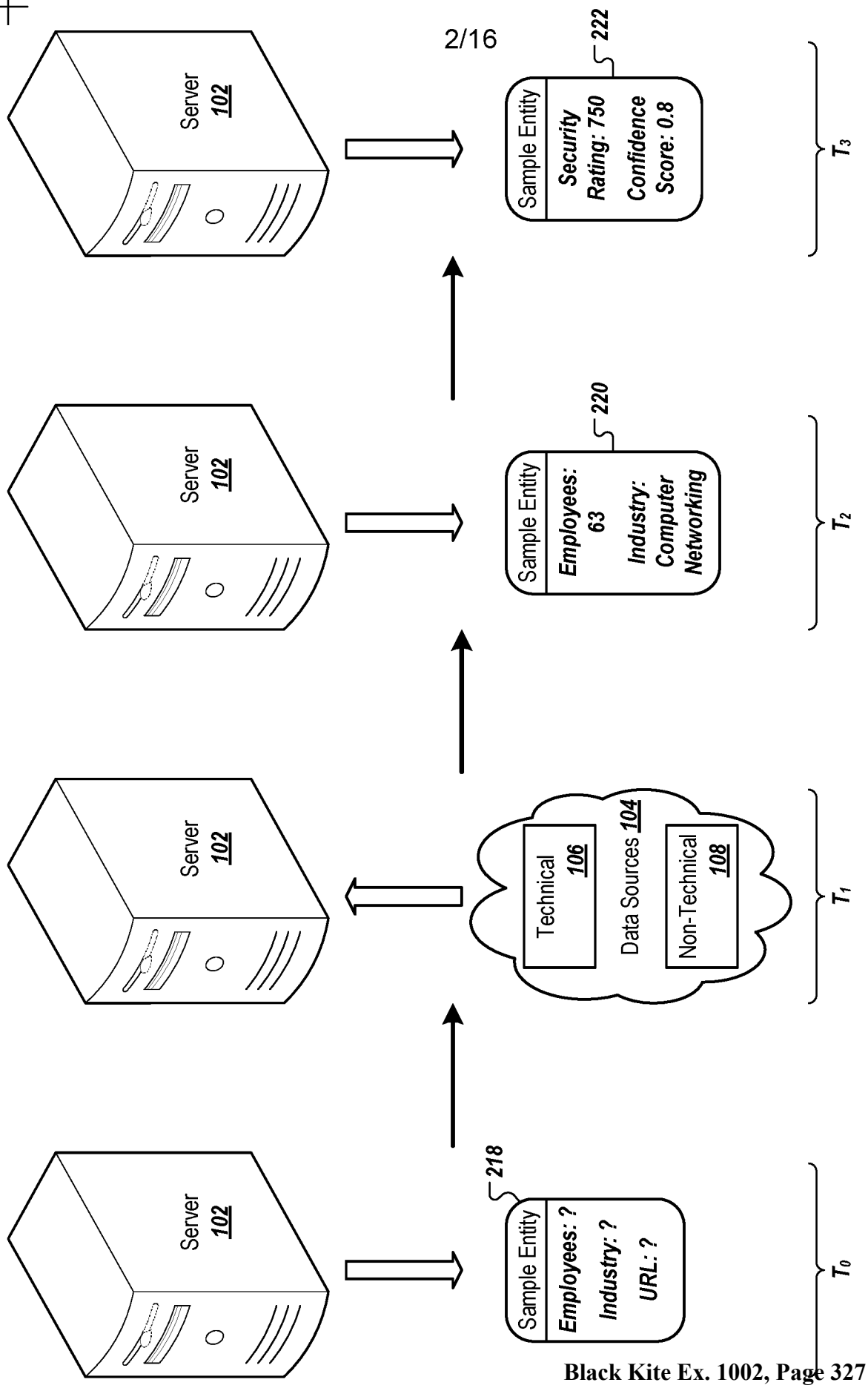

Server 102
Server 102
Server 102
Server 102
Technical 106
Data Sources 104
Non-Technical 108
Sample Entity
Employees: ?
Industry: ?
URL: ?
218
Sample Entity
Employees: 63
Industry: Computer Networking
220
Sample Entity
Security Rating: 750
Confidence Score: 0.8
222
T_0
T_1
T_2
T_3
200

FIG. 2

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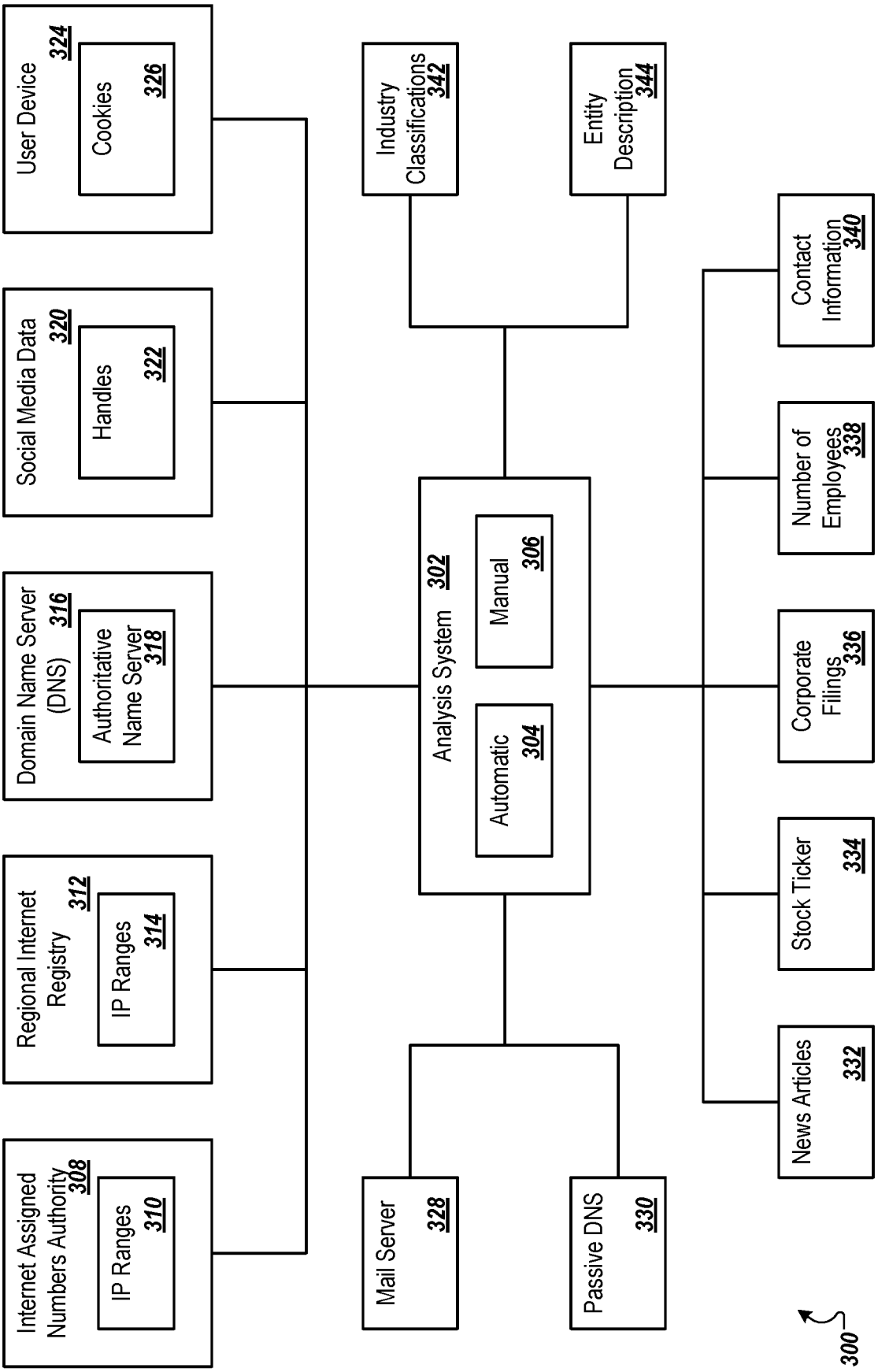

User Device 324
Cookies 326
Social Media Data 320
Handles 322
Domain Name Server (DNS) 316
Authoritative Name Server 318
Regional Internet Registry 312
IP Ranges 314
Internet Assigned Numbers Authority 308
IP Ranges 310
Industry Classifications 342
Entity Description 344
Analysis System 302
Manual 306
Automatic 304
Mail Server 328
Passive DNS 330
Contact Information 340
Number of Employees 338
Corporate Filings 336
Stock Ticker 334
News Articles 332
300

FIG. 3

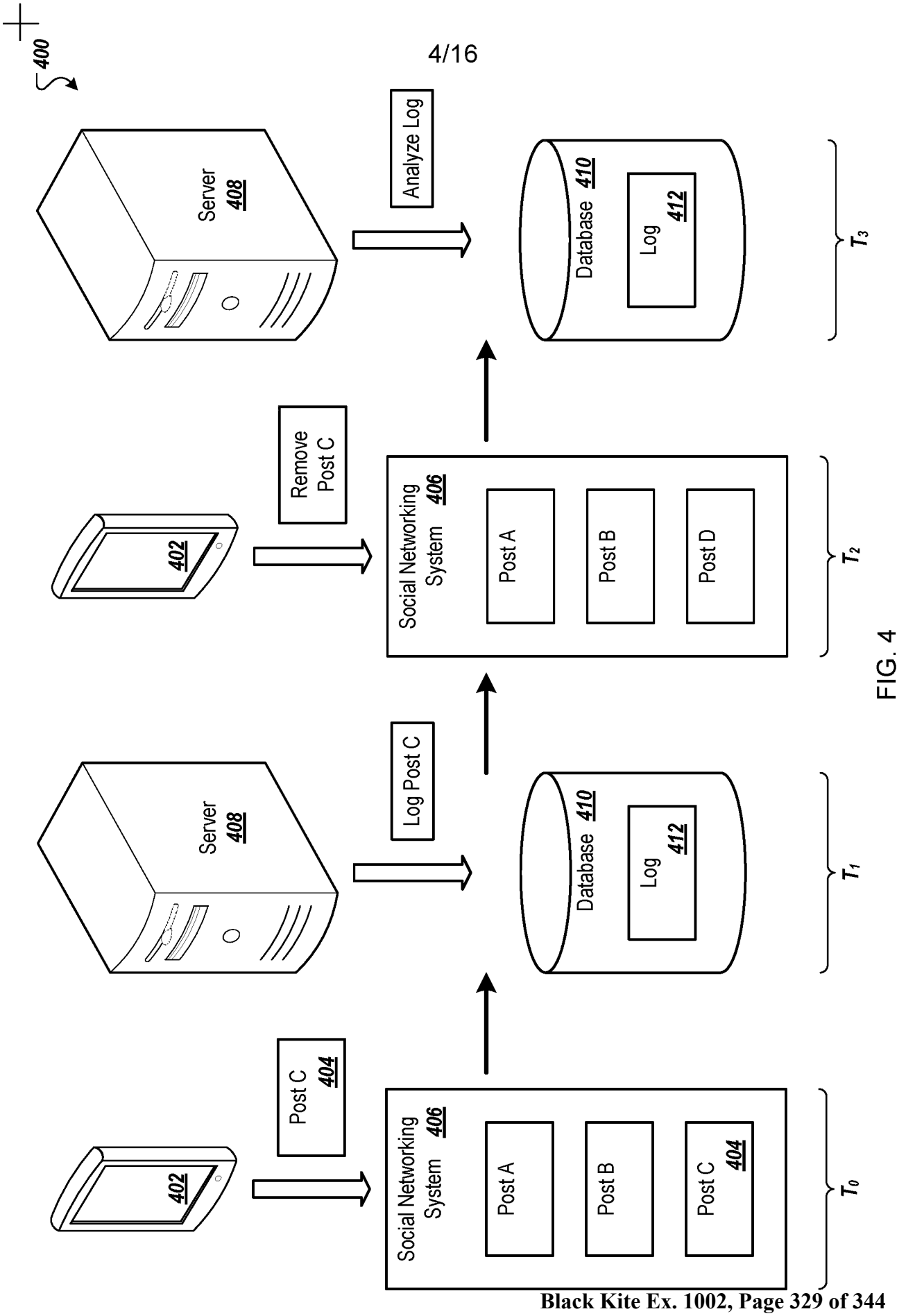

400
Server 408
Analyze Log
Database 410
Log 412
T_3
402
Remove Post C
Social Networking System 406
Post A
Post B
Post D
T_2
Server 408
Log Post C
Database 410
Log 412
T_1
402
Post C 404
Social Networking System 406
Post A
Post B
Post C 404
T_0

FIG. 4

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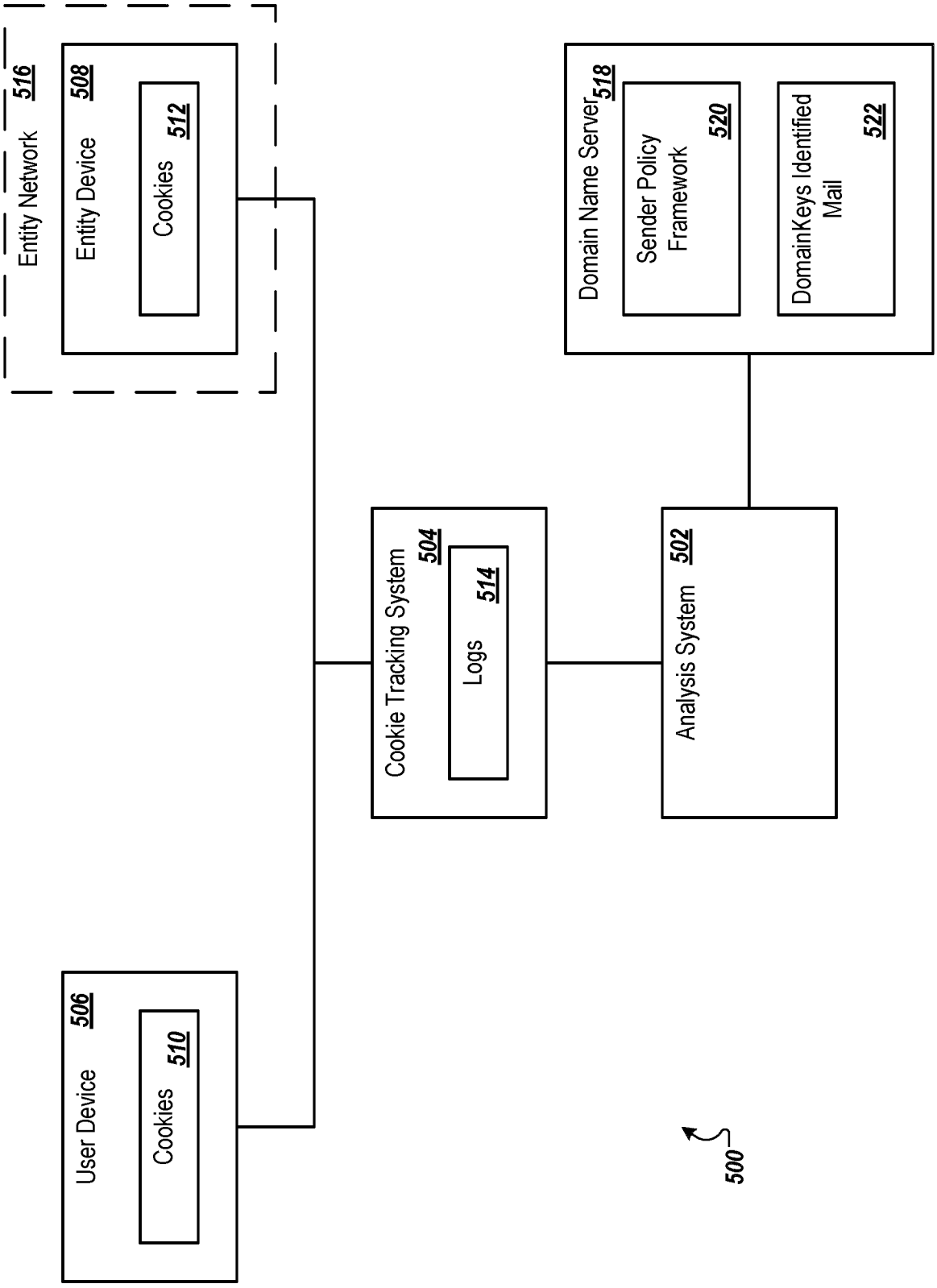

Entity Network 516
Entity Device 508
Cookies 512
Domain Name Server 518
Sender Policy Framework 520
DomainKeys Identified Mail 522
Cookie Tracking System 504
Logs 514
Analysis System 502
User Device 506
Cookies 510
500

FIG. 5

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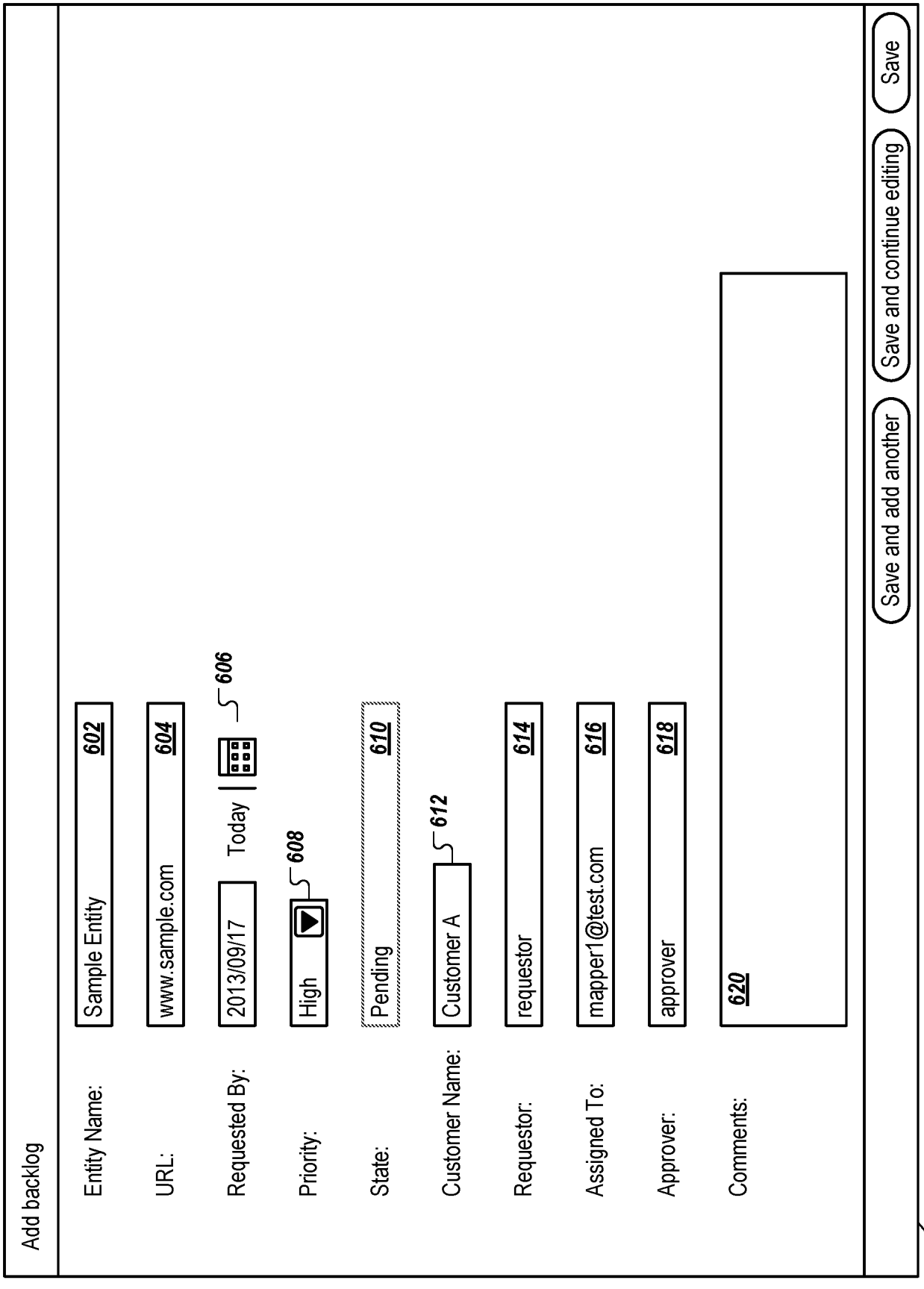

Add backlog
Entity Name:
Sample Entity
602
URL:
www.sample.com
604
Requested By:
2013/09/17
Today
606
Priority:
High
608
State:
Pending
610
Customer Name:
Customer A
612
Requestor:
requestor
614
Assigned To:
mapper1@test.com
616
Approver:
approver
618
Comments:
620
Save and add another
Save and continue editing
Save
600

FIG. 6

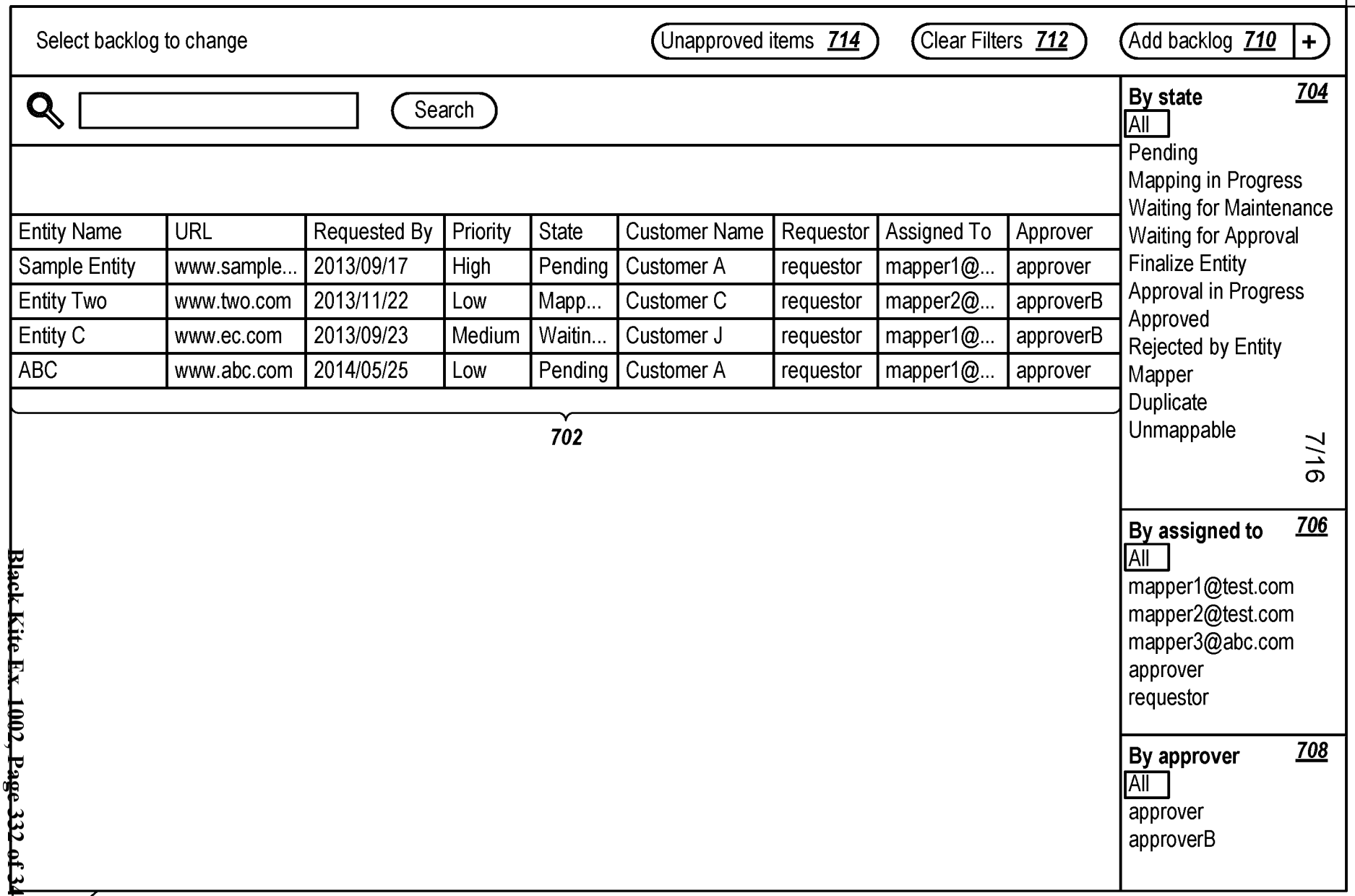


FIG. 7

Black Kite Ex. 1002, Page 332 of 344

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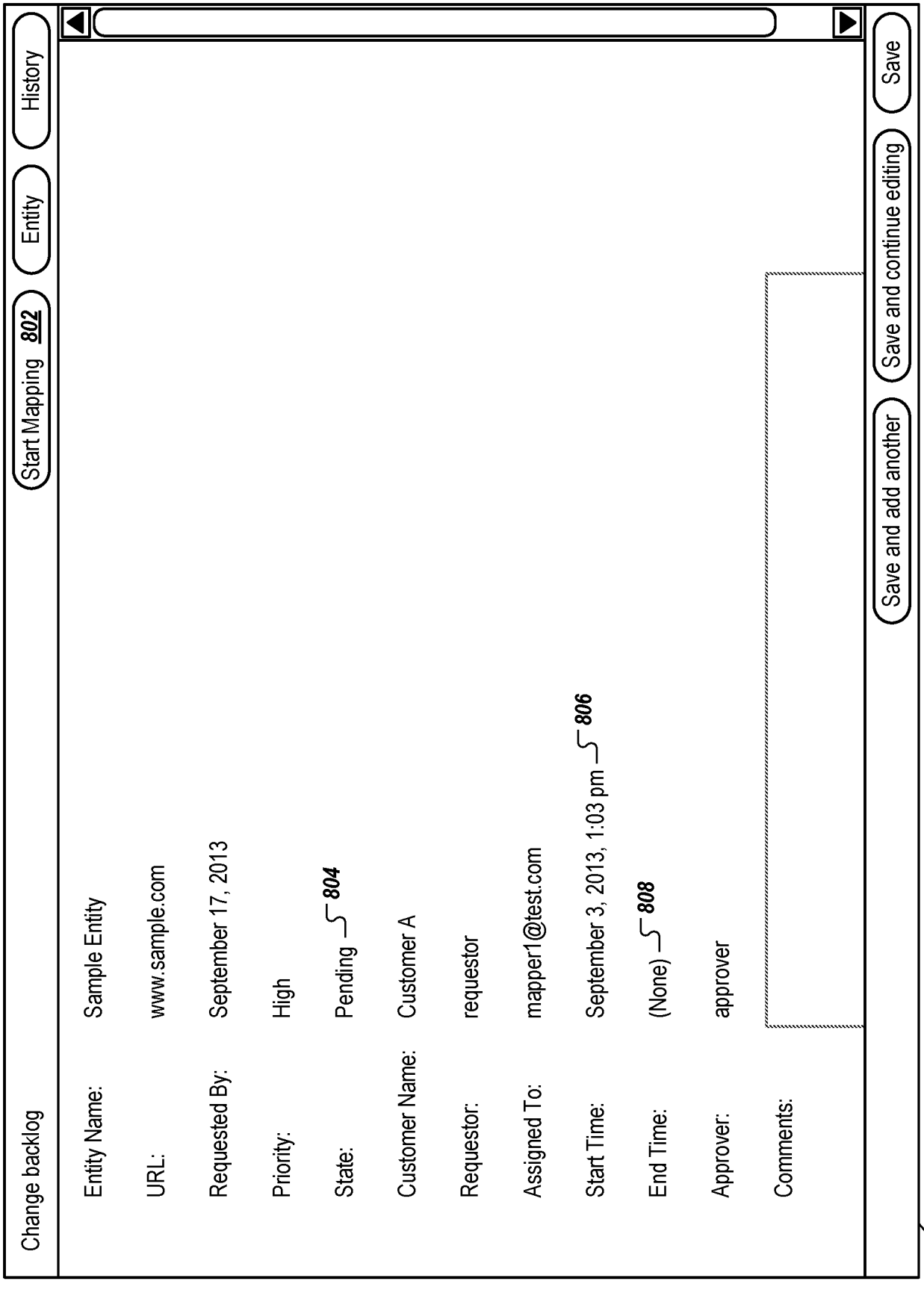

Change backlog
Start Mapping 802
Entity
History
Entity Name: Sample Entity
URL: www.sample.com
Requested By: September 17, 2013
Priority: High
State: Pending 804
Customer Name: Customer A
Requestor: requestor
Assigned To: mapper1@test.com
Start Time: September 3, 2013, 1:03 pm 806
End Time: (None) 808
Approver: approver
Comments:
Save and add another
Save and continue editing
Save
800

FIG. 8

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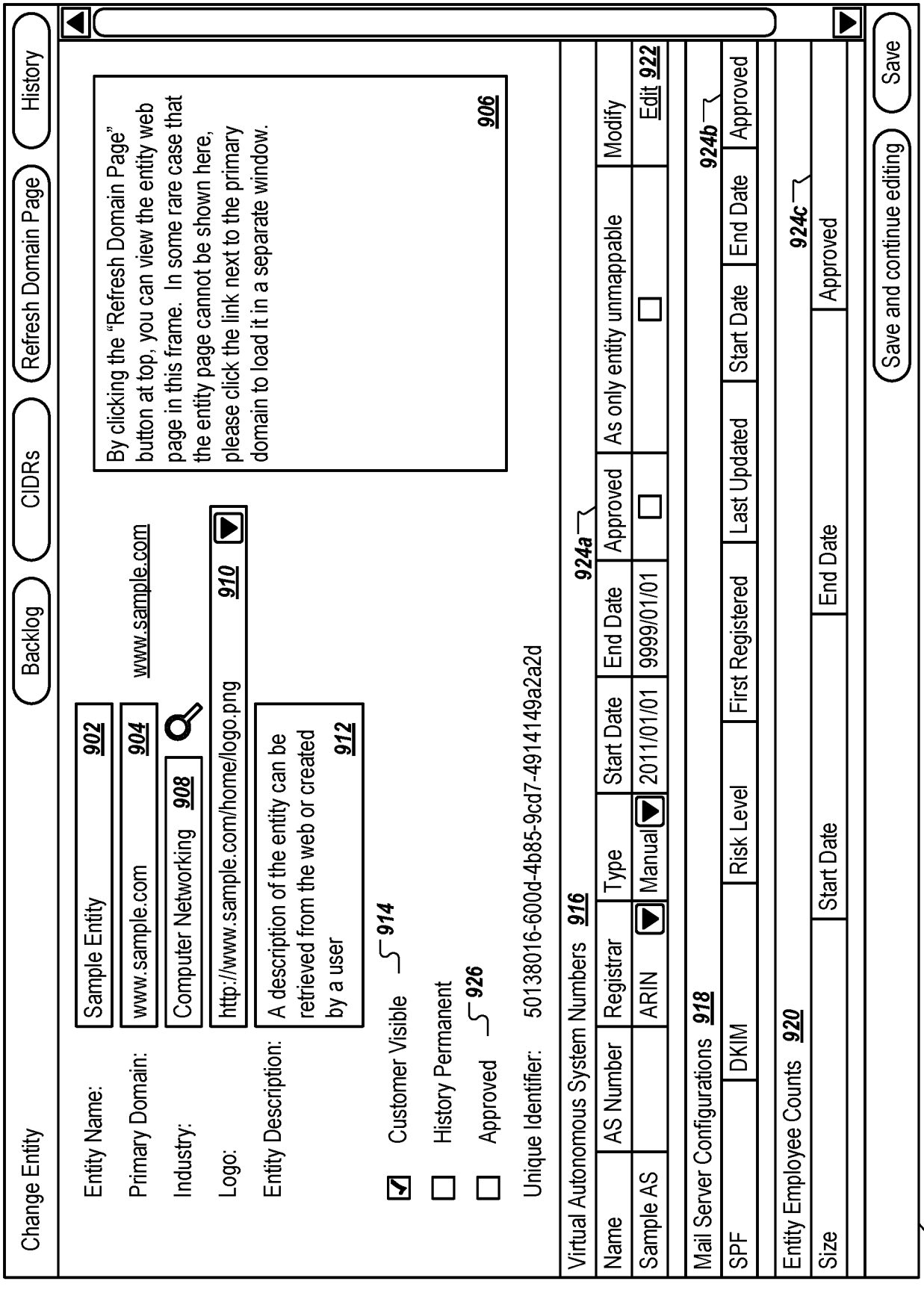

Change Entity
Backlog
CIDRs
Refresh Domain Page
History
Entity Name: Sample Entity 902
Primary Domain: www.sample.com 904
www.sample.com
Industry: Computer Networking 908
Logo: http://www.sample.com/home/logo.png 910
Entity Description: A description of the entity can be retrieved from the web or created by a user 912
By clicking the "Refresh Domain Page" button at top, you can view the entity web page in this frame. In some rare case that the entity page cannot be shown here, please click the link next to the primary domain to load it in a separate window. 906
Customer Visible 914
History Permanent
Approved 926
Unique Identifier: 50138016-600d-4b85-9cd7-4914149a2a2d
Virtual Autonomous System Numbers 916
924a
Name | AS Number | Registrar | Type | Start Date | End Date | Approved | As only entity unmappable | Modify
Sample AS | | ARIN | Manual | 2011/01/01 | 9999/01/01 | | | Edit 922
Mail Server Configurations 918
924b
SPF | DKIM | Risk Level | First Registered | Last Updated | Start Date | End Date | Approved
Entity Employee Counts 920
924c
Size | Start Date | End Date | Approved
Save and continue editing
Save
900

FIG. 9

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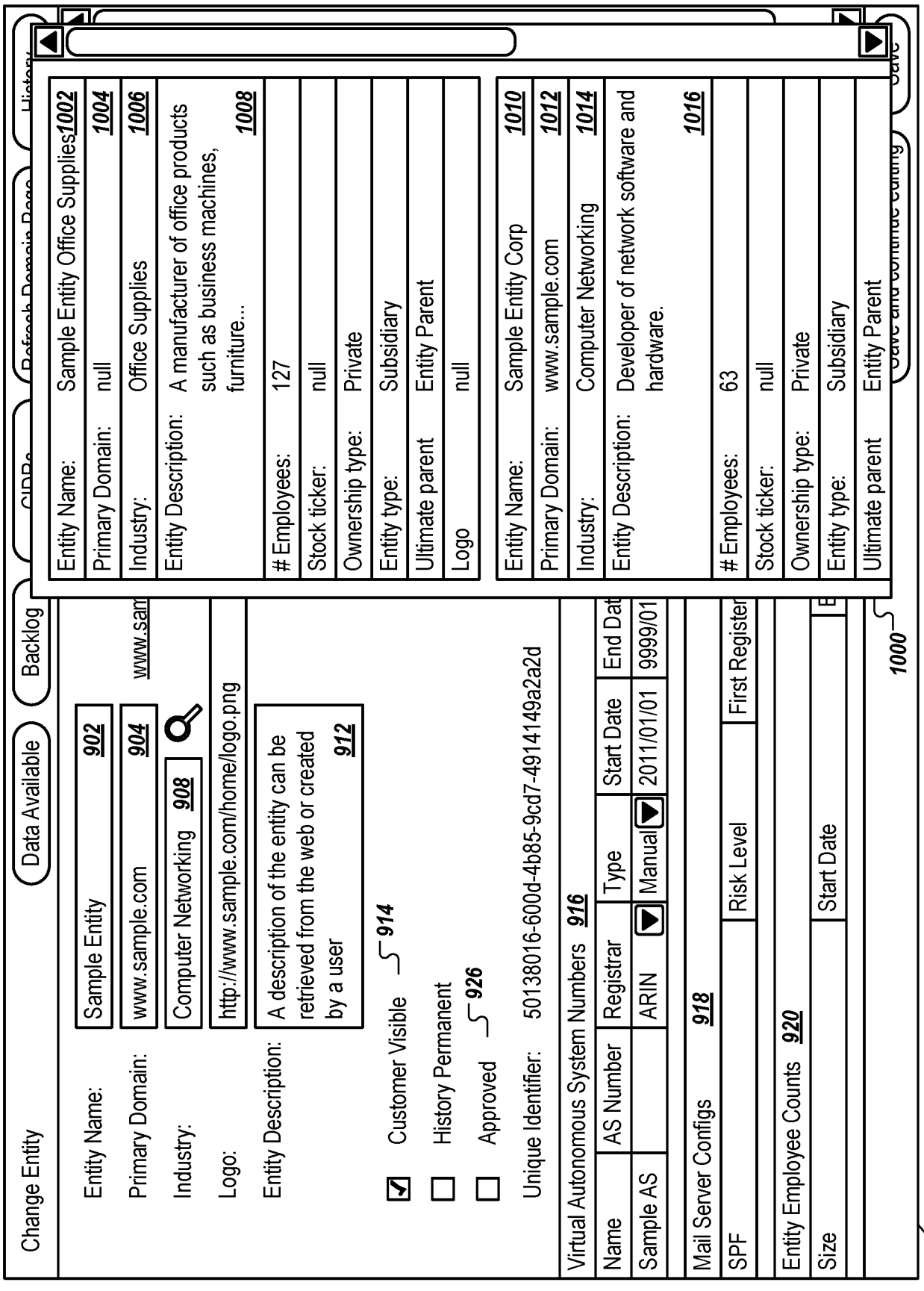

Change Entity
Data Available
Backlog
CIDRs
Refresh Domain Page
History
Entity Name: Sample Entity 902
Primary Domain: www.sample.com 904
www.sam
Industry: Computer Networking 908
Logo: http://www.sample.com/home/logo.png
Entity Description: A description of the entity can be retrieved from the web or created by a user 912
Customer Visible 914
History Permanent
Approved 926
Unique Identifier: 50138016-600d-4b85-9cd7-4914149a2a2d
Virtual Autonomous System Numbers 916
Name
AS Number
Registrar
Type
Start Date
End Dat
Sample AS
ARIN
Manual
2011/01/01
9999/01
Mail Server Configs 918
SPF
Risk Level
First Register
Entity Employee Counts 920
Size
Start Date
Entity Name: Sample Entity Office Supplies 1002
Primary Domain: null 1004
Industry: Office Supplies 1006
Entity Description: A manufacturer of office products such as business machines, furniture... 1008
Employees: 127
Stock ticker: null
Ownership type: Private
Entity type: Subsidiary
Ultimate parent Entity Parent
Logo null
Entity Name: Sample Entity Corp 1010
Primary Domain: www.sample.com 1012
Industry: Computer Networking 1014
Entity Description: Developer of network software and hardware. 1016
Employees: 63
Stock ticker: null
Ownership type: Private
Entity type: Subsidiary
Ultimate parent Entity Parent
Save and continue editing
Save
1000
900

FIG. 10

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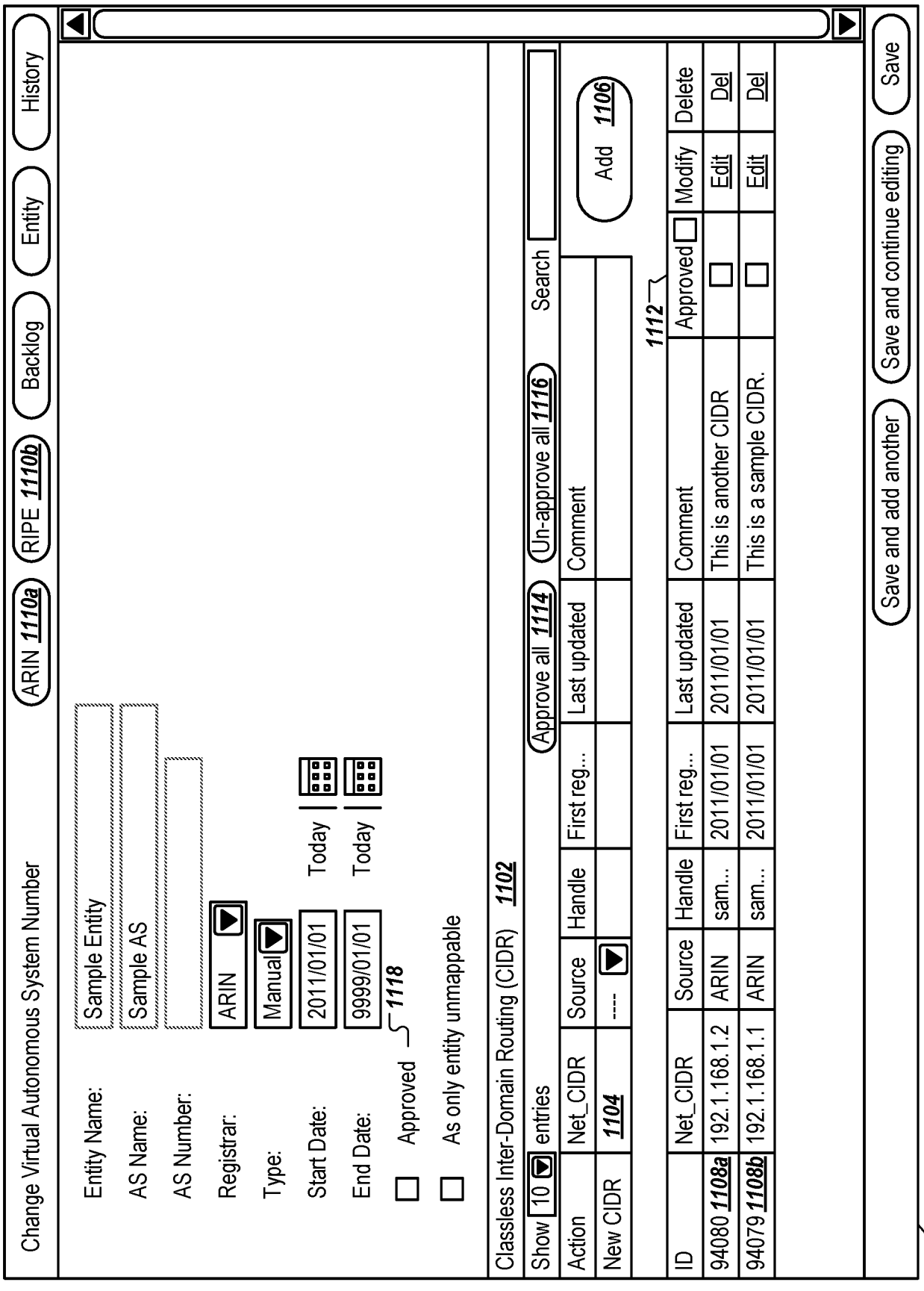

Change Virtual Autonomous System Number
ARIN 1110a
RIPE 1110b
Backlog
Entity
History
Entity Name:
Sample Entity
AS Name:
Sample AS
AS Number:
Registrar:
ARIN
Type:
Manual
Start Date:
2011/01/01
Today
End Date:
9999/01/01
Today
1118
Approved
As only entity unmappable
Classless Inter-Domain Routing (CIDR) 1102
Approve all 1114
Un-approve all 1116
Search
Show 10 entries
Add 1106
1112
Action
New CIDR
1104
Net_CIDR
Source
Handle
First reg...
Last updated
Comment
Approved
Modify
Delete
ID
94080 1108a
192.1.168.1.2
ARIN
sam...
2011/01/01
This is another CIDR
Edit
Del
94079 1108b
192.1.168.1.1
ARIN
sam...
2011/01/01
This is a sample CIDR.
Edit
Del
Save and add another
Save and continue editing
Save
1100

FIG. 11

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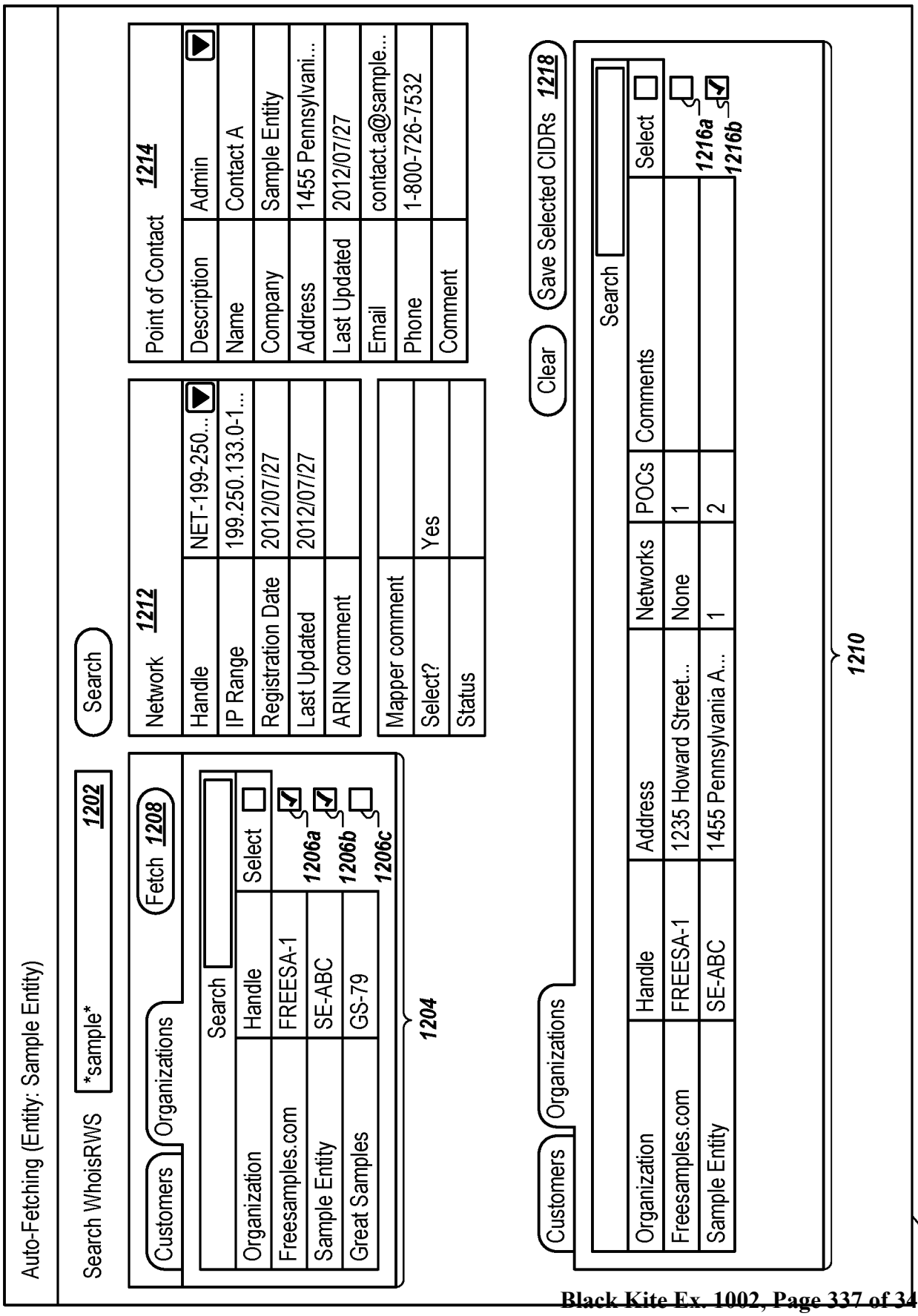

Auto-Fetching (Entity: Sample Entity)
Search WhoisRWS
sample
1202
Search
Customers
Organizations
Fetch 1208
Search
Organization
Handle
Select
Freesamples.com
FREESA-1
Sample Entity
SE-ABC
Great Samples
GS-79
1206a
1206b
1206c
1204
Network 1212
Handle
NET-199-250...
IP Range
199.250.133.0-1...
Registration Date
2012/07/27
Last Updated
2012/07/27
ARIN comment
Mapper comment
Select?
Yes
Status
Point of Contact 1214
Description
Admin
Name
Contact A
Company
Sample Entity
Address
1455 Pennsylvani...
Last Updated
2012/07/27
Email
contact.a@sample...
Phone
1-800-726-7532
Comment
Clear
Save Selected CIDRs 1218
Customers
Organizations
Search
Organization
Handle
Address
Networks
POCs
Comments
Select
Freesamples.com
FREESA-1
1235 Howard Street...
None
1
Sample Entity
SE-ABC
1455 Pennsylvania A...
1
2
1216a
1216b
1210
1200

FIG. 12

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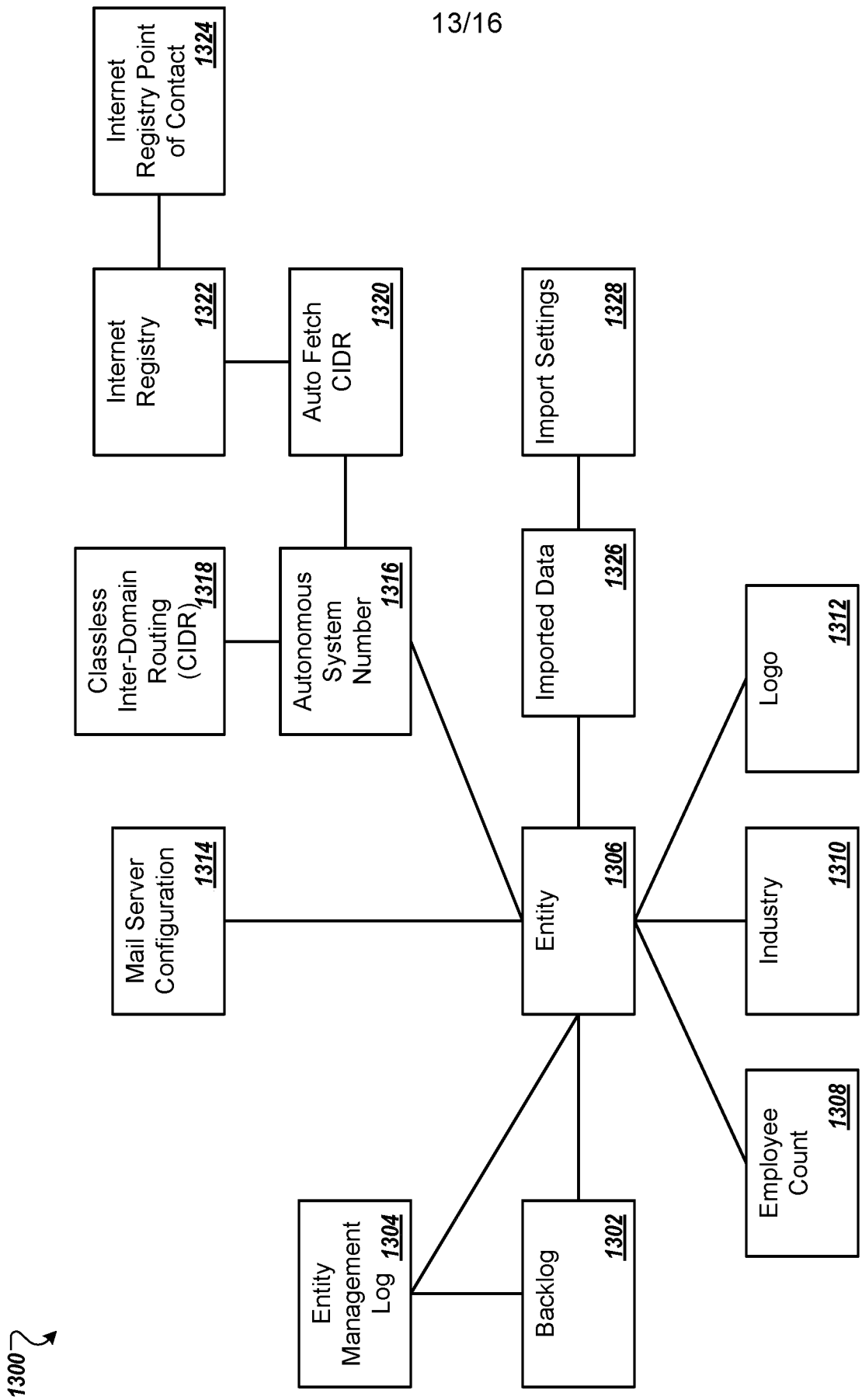

1300
Internet Registry Point of Contact 1324
Internet Registry 1322
Auto Fetch CIDR 1320
Import Settings 1328
Classless Inter-Domain Routing (CIDR) 1318
Autonomous System Number 1316
Imported Data 1326
Logo 1312
Mail Server Configuration 1314
Entity 1306
Industry 1310
Entity Management Log 1304
Backlog 1302
Employee Count 1308

FIG. 13

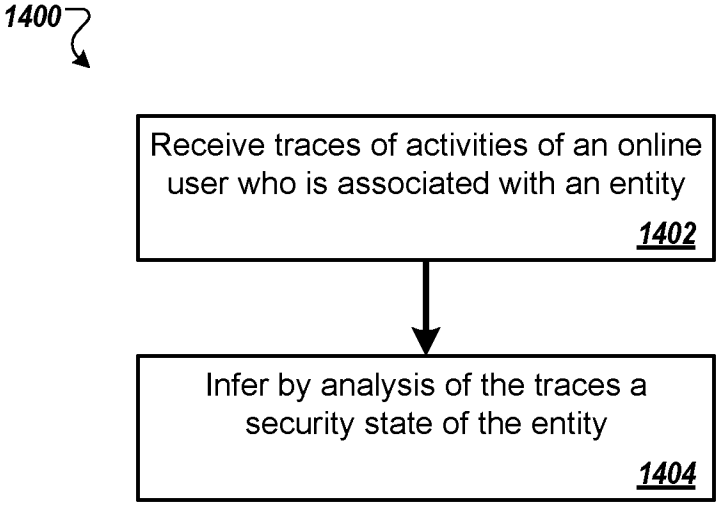

1400
Receive traces of activities of an online user who is associated with an entity
1402
Infer by analysis of the traces a security state of the entity
1404

FIG. 14

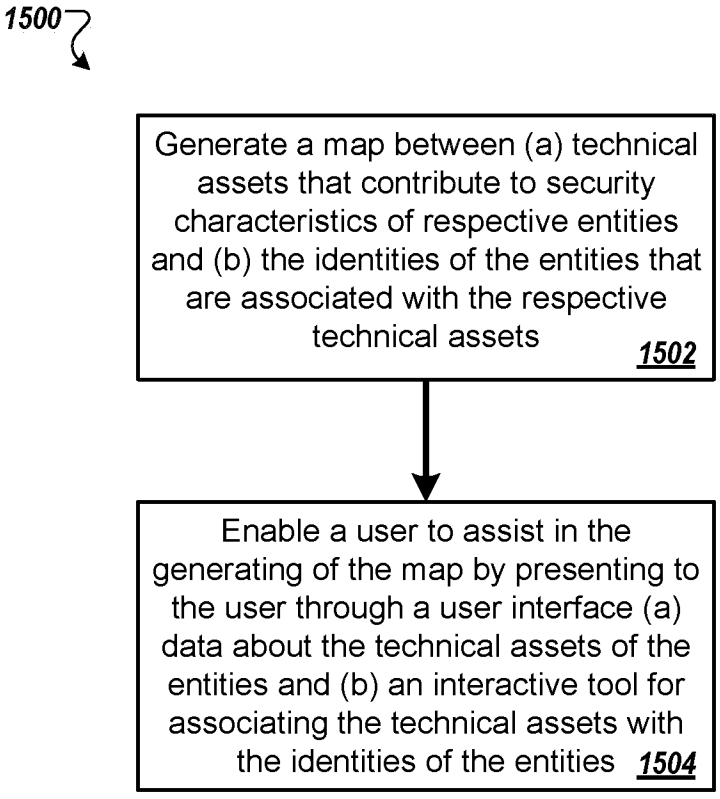

1500
Generate a map between (a) technical assets that contribute to security characteristics of respective entities and (b) the identities of the entities that are associated with the respective technical assets
1502
Enable a user to assist in the generating of the map by presenting to the user through a user interface (a) data about the technical assets of the entities and (b) an interactive tool for associating the technical assets with the identities of the entities
1504

FIG. 15

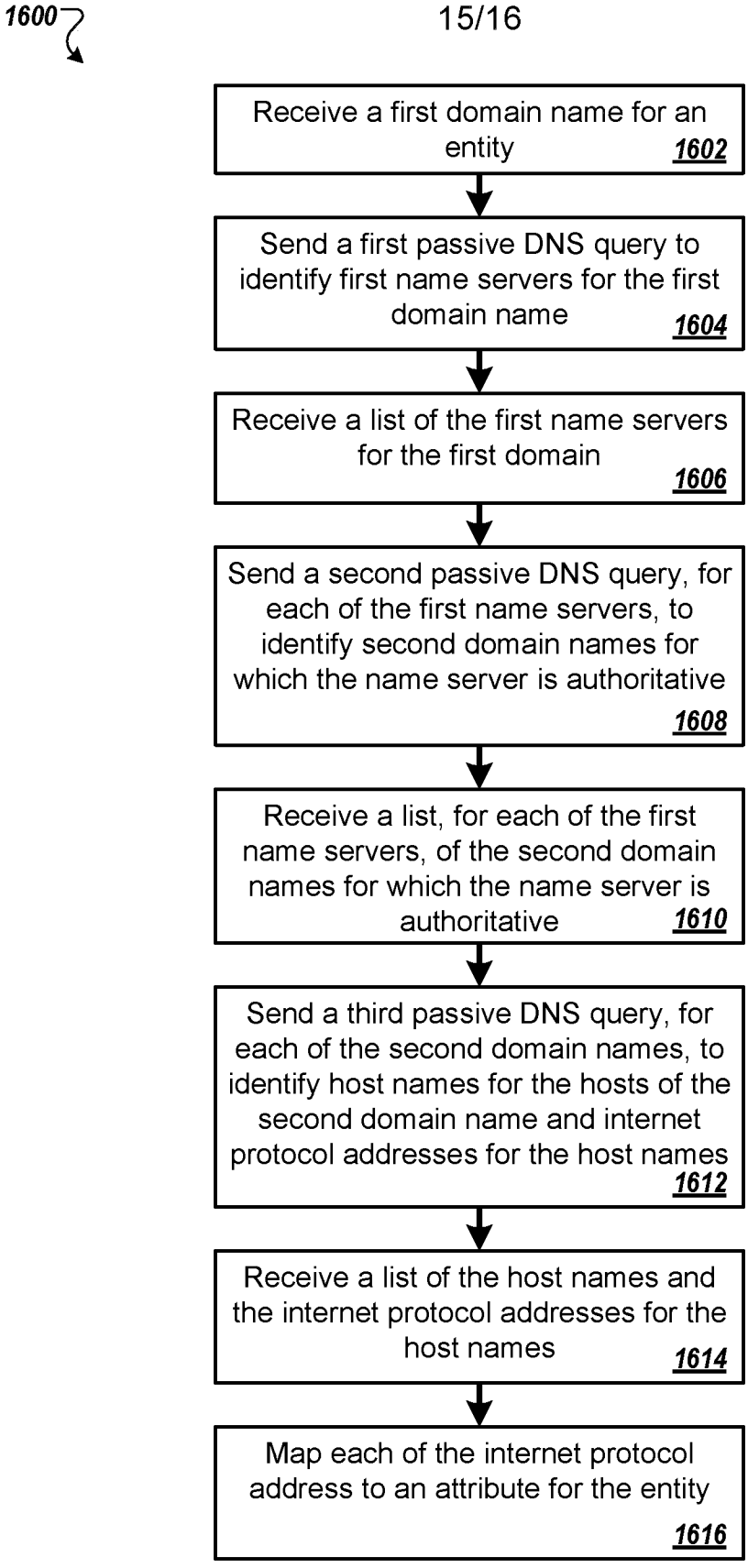

1600
15/16
Receive a first domain name for an entity 1602
Send a first passive DNS query to identify first name servers for the first domain name 1604
Receive a list of the first name servers for the first domain 1606
Send a second passive DNS query, for each of the first name servers, to identify second domain names for which the name server is authoritative 1608
Receive a list, for each of the first name servers, of the second domain names for which the name server is authoritative 1610
Send a third passive DNS query, for each of the second domain names, to identify host names for the hosts of the second domain name and internet protocol addresses for the host names 1612
Receive a list of the host names and the internet protocol addresses for the host names 1614
Map each of the internet protocol address to an attribute for the entity 1616

FIG. 16

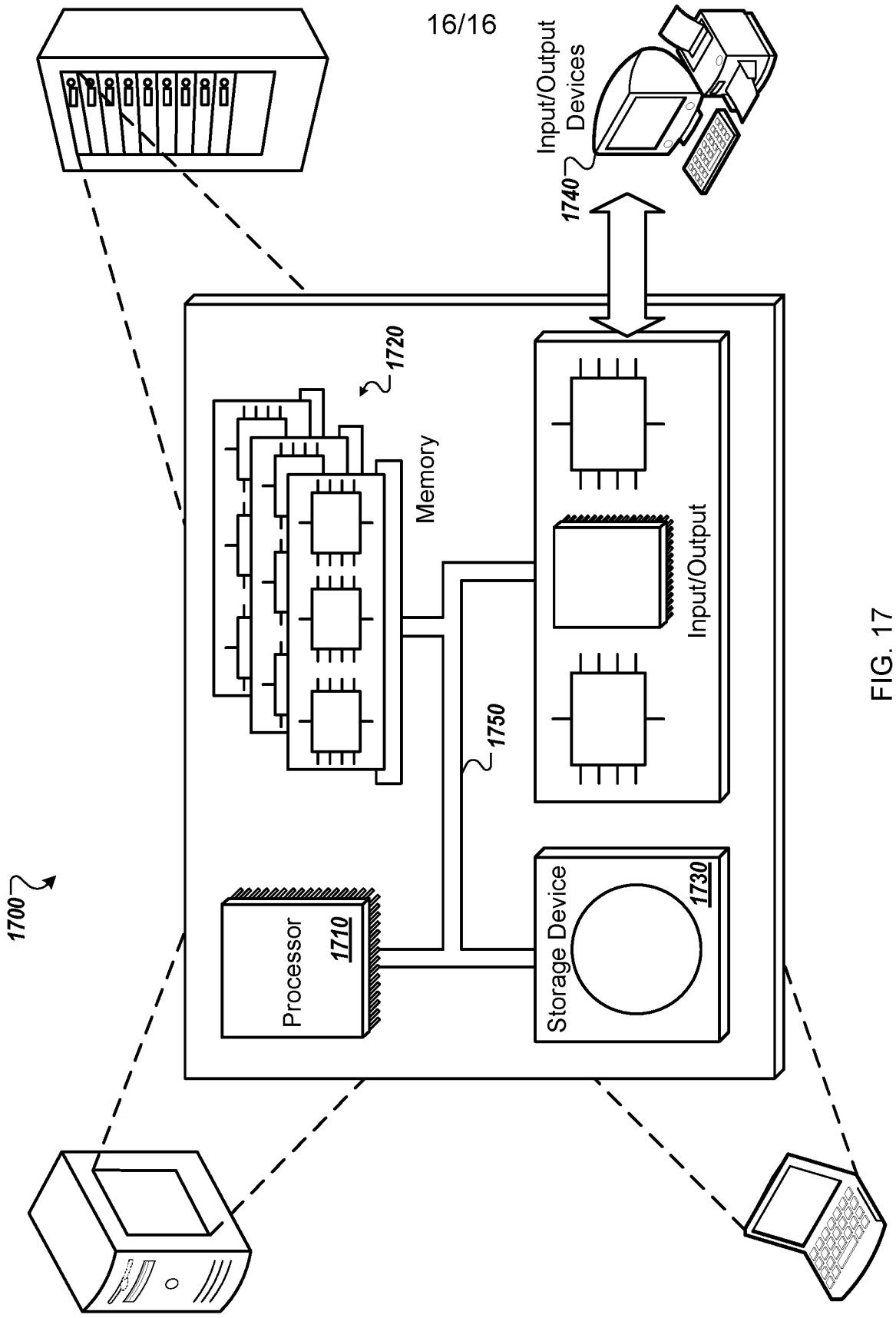

16/16
Input/Output Devices
1740
1720
Memory
Input/Output
1750
1700
Processor
1710
Storage Device
1730

FIG. 17

Docket No.: BST-003C4
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Philip John Steuart Gladstone et al.

Application No.: Not Yet Assigned	Confirmation No.: N/A
Filed: Concurrently Herewith	Art Unit: N/A
For: METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS	Examiner: Not Yet Assigned

Filed via EFS-web

PRELIMINARY AMENDMENT UNDER 37 C.F.R. § 1.115

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

Amendments to the Specification begin on page 2 of this paper.

Remarks/Arguments begin on page 3 of this paper.

AMENDMENTS TO THE SPECIFICATION

On page 1, please amend the Title of the Specification as follows:

~~SECURITY RISK MANAGEMENT~~

METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS

On page 1, please amend the paragraph above the heading "BACKGROUND," as shown below. No new matter is added thereby.

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation application of and claims priority under 35 U.S.C. § 120 to U.S. Patent Application No. 16/405,121, filed May 7, 2019 and titled "METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS" (under Attorney Docket No. BST-003C3), which is a continuation application of and claims priority to U.S. Patent Application No. 15/216,955, filed on July 22, 2016 and titled "METHODS FOR USING ORGANIZATIONAL BEHAVIOR FOR RISK RATINGS" (under Attorney Docket No. BST-003C1), which is a continuation application of and claims priority to U.S. Patent application No. 14/021,585, filed September 9, 2013, entitled "SECURITY RISK MANAGEMENT" (under Attorney Docket No. BST-003), the contents of each of which [[is]]are hereby incorporated herein in ~~its entirety~~ their entireties by reference.

This application relates to United States patent application serial no. 13/240,572, filed on September 22, 2011 and entitled "INFORMATION TECHNOLOGY SECURITY ASSESSMENT SYSTEM" (under Attorney Docket No. BST-004), which is incorporated in its entirety here by this reference.

REMARKS

The Specification has been amended to include a priority claim. No new matter is added.

Applicant respectfully requests entry of this Preliminary Amendment prior to examination of the application. The Examiner is invited to contact Applicant's undersigned representative by telephone at the number listed to discuss any outstanding issues.

Dated: September 18, 2020

Respectfully submitted,

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