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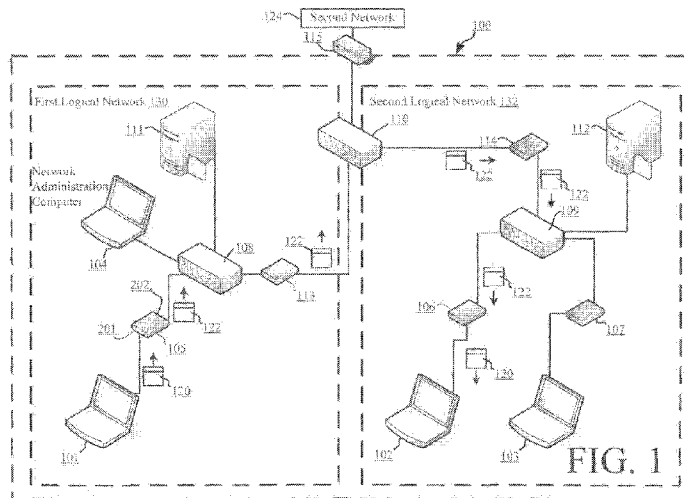
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(54) Title: SYSTEMS AND METHODS FOR IDENTIFYING, DETERRING AND/OR DELAYING ATTACKS TO A NETWORK USING SHADOW NETWORKING TECHNIQUES



(57) Abstract: Systems (100) and methods (2100) for identifying, deterring and/or delaying malicious attacks being waged on a Computer Network ("CN"). The methods involve implementing a Mission Plan ("MP") at a first Network Node ("NN"). MP (1900, 1902) specifies that: a first IDentity Parameter ("IDP") for a second NN has numerous possible values associated therewith; and at least two possible values are to be used in communications to and from the second NN in different timeslots of a time frame (2020-2026). At the first NN, a value for the first IDP, which is contained in a received packet, is compared with the possible values specified in MP to determine if the value is a "correct" value for a current timeslot. If it is determined that the value is not "correct" for the current timeslot, then the first NN performs actions to identify, deter or delay a possible malicious attack on CN.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L63/14 H04L29/06
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
H04L
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/333188 A1 (POLITOWICZ TIMOTHY J [US]) 30 December 2010 (2010-12-30) abstract figure 3 paragraph [0021] paragraph [0031] - paragraph [0032] paragraph [0037] paragraph [0041] - paragraph [0042] paragraph [0050] ----- -/--	1-10

Further documents are listed in the continuation of Box C.

See patent family annex.

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search 24 February 2014	Date of mailing of the international search report 03/03/2014
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Oliveira, Joel
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>Keith A. Repik: "DEFEATING ADVERSARY NETWORK INTELLIGENCE EFFORTS WITH ACTIVE CYBER DEFENSE TECHNIQUES", Degree of Master of Cyber Warfare, 1 June 2008 (2008-06-01), XP55004366, Retrieved from the Internet: URL:http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA488411&Location=U2&doc=GetTRDoc.pdf [retrieved on 2011-08-09] page 24, line 16 - line 22 page 25, line 8 page 32, line 16 - page 33, line 4 -----</p>	1-10
X	<p>US 7 010 604 B1 (MUNGER EDMUND COLBY [US] ET AL) 7 March 2006 (2006-03-07) figure 12a column 18, line 4 - column 22, line 59 -----</p>	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010333188	A1	30-12-2010	NONE
US 7010604	B1	07-03-2006	AT 441275 T 15-09-2009
			AT 492973 T 15-01-2011
			AU 761388 B2 05-06-2003
			AU 765914 B2 02-10-2003
			CA 2349519 A1 11-05-2000
			CA 2349520 A1 11-05-2000
			CA 2723504 A1 11-05-2000
			EP 1125414 A2 22-08-2001
			EP 1125419 A2 22-08-2001
			EP 2290904 A1 02-03-2011
			JP 4451566 B2 14-04-2010
			JP 4824108 B2 30-11-2011
			JP 5198617 B2 15-05-2013
			JP 2002529779 A 10-09-2002
			JP 2002529965 A 10-09-2002
			JP 2010063126 A 18-03-2010
			JP 2011193477 A 29-09-2011
			JP 2011223574 A 04-11-2011
			US 7010604 B1 07-03-2006
			US 2004003116 A1 01-01-2004
			US 2006123134 A1 08-06-2006
			US 2008034201 A1 07-02-2008
			US 2011191582 A1 04-08-2011
			US 2011238993 A1 29-09-2011
			US 2011307693 A1 15-12-2011
			US 2013067222 A1 14-03-2013
			US 2013091354 A1 11-04-2013
			US 2013219174 A1 22-08-2013
			WO 0027086 A2 11-05-2000
			WO 0027090 A2 11-05-2000