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(54) Title: USAGE AUTHENTICATION VIA INTERCEPT AND CHALLENGE FOR NETWORK SERVICES

(57) Abstract: A security broker (SB) that provides network based authorization of secure VoIP services, triggered upon attempted user access. The security broker (SB) intercepts a SIP transaction during session setup to transmit a network based security challenge to a SIP application attempting to access (secure) IP based services. A network based security challenge is transmitted to a participating SIP application on both the origination and termination legs of a SIP transaction. The network based security challenge prompts a SIP application to return subscriber authorization/authentication credentials (e.g. a username/password combination). If credentials returned by the SIP application are valid, the security broker (SB) authorizes the network to permit session completion, and access to secure IP services is granted. Alternatively, if credentials returned by the VoIP application are invalid, the security broker (SB) terminates the corresponding session attempt, hence preventing unauthorized access to (secure) IP based services.

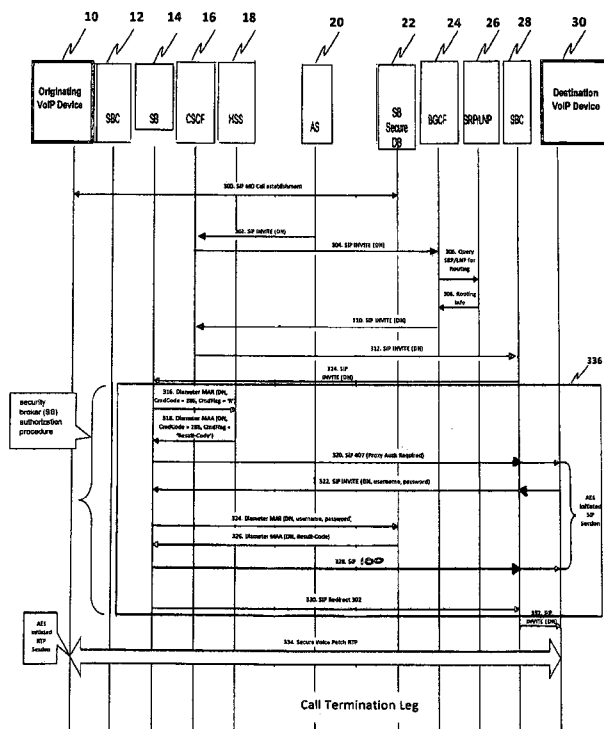


FIG. 3



UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/00208

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 17/30 (2012.01)

USPC - 726/2

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)

IPC (8) - G06F 17/30 (2012.01)

USPC - 726/2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 726/2-4,12,17,21 (See Keywords Below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Pub WEST (USPT, PGPB, JPAB, EPAB), Google Scholar

Search terms: security, authenticate, authorize, broker, agent, system, server, provider, intercept, interrupt, redirect, pause, halt, request, session, SIP, transaction, transmit, provide, send, challenge, credential, key, PIN, token, SIP application, SIP client, sip device.....

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0125892 A1 (TANIZAWA), 20 May 2010 (20.05.2010), entire document, especially Abstract; para [0012]-[0014], [0040]-[0045], [0075]-[0078], [0082]-[0084], [0115]-[0119]	1-6
Y	US 2008/0235511 A1 (O'BRIEN et al.), 25 September 2008 (25.09.2008), entire document, especially Abstract; para [0010]-[0012], [0032]-[0036], [0041]-[0044]	1-6
A	US 2011/0131414 A1 (CHENG et al.), 02 June 2011 (02.06.2011), entire document	1-6
A	US 2004/0225878 A1 (COSTA-REQUENA et al.), 11 November 2004 (11.11.2004), entire document	1-6

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

26 June 2012 (26.06.2012)

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