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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR SECURE SOFTWARE UPDATE

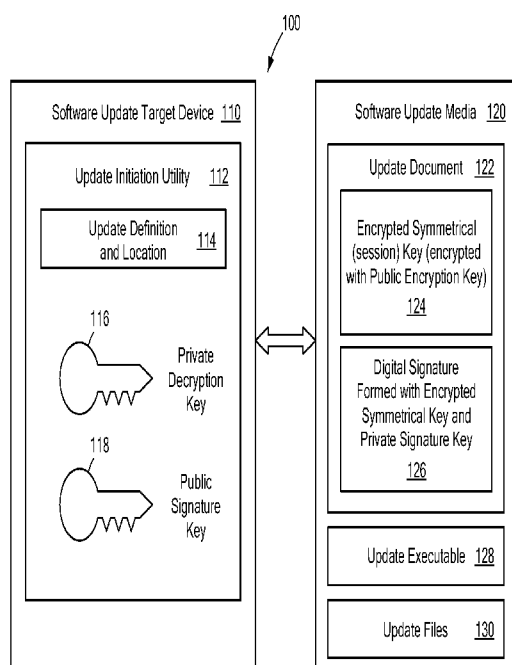


FIG. 1

(57) Abstract: A secure software update provides an update utility with an update definition, a private encryption key and a public signature key to a target device. A software update package is prepared on portable media that includes an executable update program, a checksum for the program that is encrypted with a symmetrical key, an encrypted symmetrical key that is encrypted with a public encryption key and a digital signature prepared with a private signature key. The update process authenticates the digital signature, decrypts the symmetrical key using the private encryption key, and decrypts the checksum using the symmetrical key. A new checksum is generated for the executable update program and compared to the decrypted checksum. If inconsistencies are detected during the update process, the process is terminated. Otherwise, the software update can be installed with a relatively high degree of assurance against corruption, viruses and third party interference.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/24801

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 11/30 (2013.01)

USPC - 713/191

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 11/30 (2013.01)

USPC: 713/191

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 717/168 (keyword limited; terms below)Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase; Google Scholar; Google Patents; FreePatentsOnline. Search terms used: software-update update-utility software-update-utility
update-tool software-update-tool update-process install-update install-version install-revision revise-update software-revision software-
version update-process update-process-file update-data update-document update-m

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/0288890 A1 (WELLS) 13 December 2007 (13.12.2007) entire document, especially Abstract; para [0155], [0187], [0188], [0203], [0212], [0214], [0217], [0221], [0246], [0247]	1 - 28
Y	US 7,502,946 B2 (PERKINS et al.) 10 March 2009 (10.03.2009) entire document, especially Abstract; col 3, ln 42-63; col 4, ln 37-67; col 6, ln 6-23, 34-43; col 7, ln 19-27; col 11, ln 20 to col 12, ln 4; col 13, ln 7-34; col 14, ln 55 to col 15, ln 28, 65 to col 16, ln 29	1 - 28
Y	US 7,809,955 B2 (COMLEKOGLU) 05 October 2010 (05.10.2010) entire document, especially Abstract; Fig.2; col 1, ln 45-57 (col 3, ln 59 to col 4, ln 54)	5, 20
Y	US 2007/0033393 A1 (GANESAN et al.) 08 February 2007, entire document, especially para [0276]	1, 8, 16, and 21
A	US 2006/0277539 A1 (AMARASINGHE et al.) 07 December 2006 (07.12.2006) entire document	1 - 28
A	US 2005/0198490 A1 (JAGANATHAN et al.) 08 September 2005 (08.09.2005) entire document	1 - 28
A	US 2004/0259633 A1 (GENTLES et al.) 23 December 2004 (23.12.2004) entire document	1 - 28
A	US 2002/0062451 A1 (SCHEIDT et al.) 23 May 2002 (23.05.2002) entire document	1 - 28

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"&" document member of the same patent family

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