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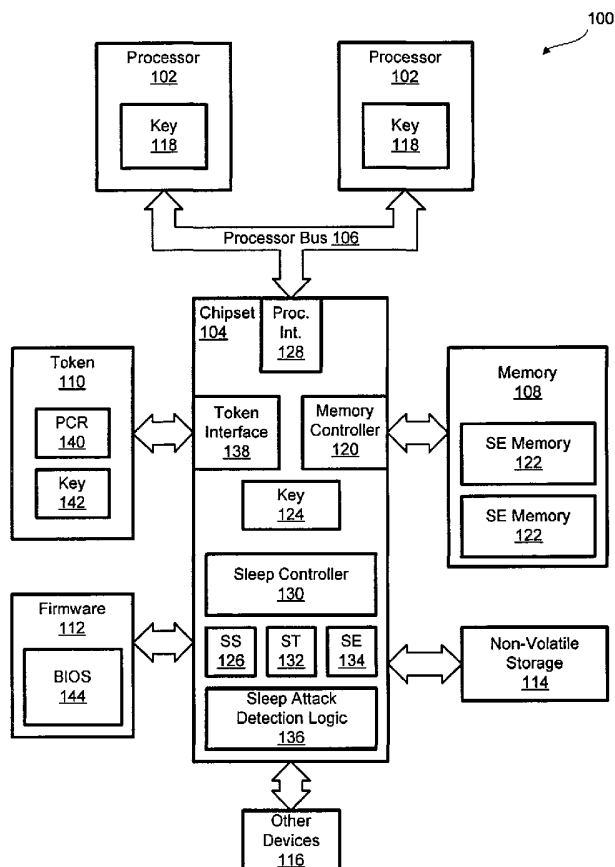
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[Continued on next page]

(54) Title: SLEEP ATTACK PROTECTION



(57) Abstract: Methods, apparatus and machine-readable medium are described that attempt to protect secrets from sleep attacks. In some embodiments, the secrets are encrypted and a security enhanced environment dismantled prior to entering a sleep state. Some embodiments further re-establish a security enhanced environment and decrypt the secrets in response to a wake event.

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INTERNATIONAL SEARCH REPORT

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>EP 1 271 277 A (REDSTRIKE B V) 2 January 2003 (2003-01-02) abstract paragraph '0013! paragraph '0019! paragraph '0024! paragraph '0026!</p> <p style="text-align: center;">--- -/-</p>	1-3, 9

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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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	EP 1 085 396 A (HEWLETT PACKARD CO) 21 March 2001 (2001-03-21)	1-3,5-9
Y	abstract paragraph '0036! paragraph '0041! paragraph '0046! - paragraph '0052! paragraph '0071! - paragraph '0077! paragraph '0082! paragraph '0086! paragraph '0090!	4,10,15, 20,27-29
A	US 6 275 933 B1 (ROLLINS RANDY ET AL) 14 August 2001 (2001-08-14)	1-29
Y	abstract column 1, line 12 -column 3, line 46 column 7, line 5 -column 10, line 21	4,10,15, 20,27-29
A	WO 01 63994 A (IRIDIAN TECHNOLOGIES INC) 30 August 2001 (2001-08-30) abstract page 7, line 5 - line 22	1-29
A	US 6 188 257 B1 (BUER MARK LEONARD) 13 February 2001 (2001-02-13) abstract column 1, line 22 - line 44	1-29
A	EP 0 965 902 A (NAT SEMICONDUCTOR CORP) 22 December 1999 (1999-12-22) abstract paragraph '0029! - paragraph '0033! paragraph '0039! - paragraph '0040! paragraph '0063! - paragraph '0065! paragraph '0088! - paragraph '0092! paragraph '0139! - paragraph '0140!	1-29

INTERNATIONAL SEARCH REPORT

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1271277	A	02-01-2003	EP 1271277 A2 WO 03001350 A2	02-01-2003 03-01-2003
EP 1085396	A	21-03-2001	EP 1085396 A1 WO 0127722 A1 JP 2003511783 T	21-03-2001 19-04-2001 25-03-2003
US 6275933	B1	14-08-2001	NONE	
WO 0163994	A	30-08-2001	AU 3985401 A WO 0163994 A2	03-09-2001 30-08-2001
US 6188257	B1	13-02-2001	NONE	
EP 0965902	A	22-12-1999	US 5533123 A EP 0965902 A2 DE 69519662 D1 DE 69519662 T2 EP 0715733 A1 WO 9600953 A2	02-07-1996 22-12-1999 25-01-2001 23-05-2001 12-06-1996 11-01-1996