IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC., Petitioners

v.
ANCORA TECHNOLOGIES, INC.,
Patent Owner.

Case No. IPR2020-01184 U.S. Patent No. 6,411,941

DECLARATION OF EREZ ZADOK, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 6,411,941

TABLE OF CONTENTS

BAC	EKGROUND AND QUALIFICATIONS2				
MAT	ERIALS CONSIDERED				
LEV	EL OI	EL OF ORDINARY SKILL IN THE ART			
TECHNOLOGY BACKGROUND					
A.	Intro	oduction	13		
B.	Arch	nitecture of PCs	13		
C.	Executing Computer Programs				
D.	Soft	ware for PCs, BIOS, and BIOS Memory Areas	18		
E.	Unic	que vs. Pseudo-Unique Numbers and Keys	25		
	1.	The '941 Patent	25		
	2.	The Domain of Uniqueness	26		
	3.	Ensuring Uniqueness	27		
	4.	Pseudo Unique Number Schemes	30		
F.	Sym	metric vs. Public-Key Encryption Systems	33		
G.	Problems and Prior Art Solutions		35		
SUMMARY OF THE '941 PATENT			37		
A.	Summary of the Invention		37		
B.	Alle	ged Benefits Over Prior Art	46		
BRIEF SUMMARY OF THE '941 PATENT PROSECUTION HISTORY			48		
A.	First	Office Action	48		
	MATEURIAN LEVENTECT A. B. C. D. E. F. G. SUM A. BRITHIST	MATERIA LEVEL OF TECHNOR A. Intro B. Arch C. Exec D. Soft E. Unic 1. 2. 3. 4. F. Sym G. Prob SUMMAR A. Sum B. Alle BRIEF SU HISTORY	MATERIALS CONSIDERED		



	B.	Secon	nd Office Action	49
	C.	Third	Office Action	50
	D.	Notic	e of Allowance	51
VII.	CLA	IMS 1-	3 and 6-17 OF THE '941 PATENT	. 52
VIII.	CLA	ІМ СО	NSTRUCTION	. 52
IX.	LEG	AL ST	ANDARDS FOR OBVIOUSNESS	56
X.	THE PRIOR ART			
	A.	Hasel	pe	. 58
	B.	Shipn	nan	60
	C.	Schw	artz	63
	D.	Yee		66
XI.	WOU	JLD H	: CLAIMS 1-2 AND 6-17 OF THE '941 PATENT AVE BEEN OBVIOUS OVER THE COMBINATION ARTZ AND YEE	. 69
	A.	Claim	n 1	69
		1.	1.p: A method of restricting software operation within a license for use with a computer including an erasable, non-volatile memory area of a BIOS of the computer, and a volatile memory area; the method comprising the steps of:	. 69
		2.	1.a: selecting a program residing in the volatile memory,	74
		3.	1.b: using an agent to set up a verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record,	. 75
		4.	1.c: verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and	. 83



	5.	1.d: acting on the program according to the verification	. 84
B.	Clain	n 2	. 85
	1.	A method according to claim 1, further comprising the steps of: establishing a license authentication bureau	. 85
C.	Clain	16	. 86
	1.	A method according to claim 1 wherein selecting a program includes the steps of: establishing a licensed-software-program in the volatile memory of the computer wherein said licensed-software-program includes contents used to form the license-record.	. 87
D.	Clain	n 7	. 87
	1.	A method according to claim 6 wherein using an agent to set up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in a first non-volatile memory area of the computer; and	. 87
	2.	establishing at least one license-record location in the first nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.	. 87
E.	Clain	ı 8	. 87
	1.	A method according to claim 6 wherein establishing a license-record includes the steps of: forming a license-record by encrypting of the contents used to form a license-record with other predetermined data contents, using the key; and	. 88
	2.	establishing the encrypted license-record in one of the at least one established license-record locations.	. 88
F.	Claim 9		
	1.	A method according to claim 7 wherein verifying the program includes the steps of: encrypting the licensed-software-program's license-record contents from the	



		volatile memory area or decrypting the license-record in the erasable, non-volatile memory area of the BIOS, using the pseudo-unique key; and	. 89	
	2.	comparing the encrypted licenses-software-program's license-record contents with the encrypted license-record in the erasable, non-volatile memory area of the BIOS, or comparing the license-software-program's license-record contents with the decrypted license-record in erasable non-volatile memory area of the BIOS.	. 90	
G.	Claim 10			
	1.	A method according to claim 9 wherein acting on the program includes the step: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.	. 90	
H.	Clain	n 11	. 90	
	1.	A method according to claim 1 wherein the volatile memory is a RAM	. 91	
I.	Clain	Claim 12		
	1.	The method of claim 1, wherein a pseudo-unique key is stored in the non-volatile memory of the BIOS	. 91	
J.	Clain	n 13	. 92	
	1.	The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer		
K.	Clain	n 14	. 93	
	1.	The method according [to] claim 13, wherein the step of using the agent to set up the verification record, including the license record, includes encrypting a license record data in the program using at least the unique key	. 93	
T	Clain	15	03	



DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

