AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Central District of California on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
8:13-cv-2192	11/12/2019	for the Central District of California

PLAINTIFF	DEFENDANT
TCT MOBILE (US) INC. AND HUIZHOU TCL MOBILE COMMUNICATION CO. LTD.	ANCORA TECHNOLOGIES, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above---entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1---Upon initiation of action, mail this copy to Director Copy 3---Upon termination of action, mail this copy to Director
Copy 2---Upon filing document adding patent(s), mail this copy to Director Copy 4---Case file copy

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Austin Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
1:20-CV-034-ADA	1/13/2020	Western District of Texas, Austin Division

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	LG Electronics, Inc. et al

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Jeannette J. Clack		January 13, 2020

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

ANCORA TECHNOLOGIES, INC., Plaintiff, v. LG ELECTRONICS INC. and LG ELECTRONICS U.S.A., INC., Defendants.	CIVIL ACTION NO. 6:19-CV-00384 JURY TRIAL DEMANDED
ANCORA TECHNOLOGIES, INC., Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC., Defendants.	CIVIL ACTION NO. 6:19-CV-00385 *CONSOLIDATED INTO CIVIL ACTION NO. 6:19-CV-00384* JURY TRIAL DEMANDED

ORDER

The Court, having reviewed and considered the Joint Stipulation to Transfer Venue to the Austin Division, does hereby **ORDER** that the above-captioned actions be **TRANSFERRED** to the Austin Division, but remain on the docket of United States District Judge Alan D. Albright.

SIGNED this 12th day of January, 2020.

Alan D. Albright
United States District Judge

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:19-cv-00384	10/25/2019	Western District of Texas - Waco Division

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	LG Electronics, Inc. et al

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941		See attached
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Jeannette J. Clack	Brianna Winter	10/25/2019

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court W/D of Texas - Waco Division on the following

☐ Trademarks or X Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:19-cv-384-ADA	6/21/2019	W/D of Texas - Waco Division

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	LG Electronics, Inc. and LG Electronics, U.S.A., Inc.

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,411,941		SEE ATTACHED
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Jeannette J. Clack	Jencha Damian	6/21/2019

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
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AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court W/D of Texas - Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:19-cv-385-ADA	6/21/2019	W/D of Texas - Waco Division

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941		SEE ATTACHED
2			
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Jeannette J. Clack	Jencka Damian	6/21/2019

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Washington on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:16-cv-01919	12/15/2016	Western District of Washington

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	HTC America, Inc. and HTC Corporation

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
WILLIAM MCCOOL	s/ Donna Jackson	12/16/2016

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Washington on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:16-cv-01919	12/15/2016	Western District of Washington

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	HTC America, Inc. and HTC Corporation

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
WILLIAM MCCOOL	s/ Donna Jackson	12/16/2016

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 3/04)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Central District of California on the following ☑ Patents or ☐ Trademarks:

DOCKET NO. CV10-10045	DATE FILED	U.S. DISTRICT COURT Central District of California, Northern, CA
PLAINTIFF C-11-6357-YGR ANCORA TECHNOLOGIES, INC., a Delaware Corporation		DEFENDANT APPLE, INC., a California Corporation

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6411941	6/25/2002	Ancora Technologies, Inc.
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FILED
10 DEC 29 PM 2:58
CLERK U.S. DISTRICT COURT
CENTRAL DIST. OF CALIF.
LOS ANGELES
BY:

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
[redacted] filed 4/21/16.

CLERK	(BY) DEPUTY CLERK	DATE
Susan Y. Soong	Clara Pierce	4/22/2016

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

ANCORA TECHNOLOGIES, INC. Plaintiff, v. APPLE, INC., Defendant.	Case No. 11-cv-06357-YGR
APPLE, INC. Counterclaimant, v. ANCORA TECHNOLOGIES, INC. Counterdefendant.	~~[PROPOSED]~~ **ORDER OF DISMISSAL**

On April 19, 2016, Plaintiff ANCORA TECHNOLOGIES, INC. and Defendant APPLE INC. announced to the Court that they have settled their respective claims for relief asserted in this cause. The Court, having considered this request, is of the opinion that their request for dismissal should be granted.

IT IS THEREFORE ORDERED that all claims for relief asserted against APPLE INC. by ANCORA TECHNOLOGIES, INC. herein are dismissed, with prejudice, and all counterclaims for relief against ANCORA TECHNOLOGIES, INC. by APPLE INC. are dismissed without prejudice; and

IT IS FURTHER ORDERED that all attorneys' fees, costs of court, and expenses shall be borne by each party incurring the same.

This Order terminates Docket Number 205.

Signed this 21st day of April, 2016.

Yvonne Gonzalez Rogers
U.S. District Court Judge

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of California on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
4:15-cv-03659	8/11/2015	Northern District of California

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	Apple, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6411941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
See attached Order of Dismissal e-filed 4/21/16.

CLERK	(BY) DEPUTY CLERK	DATE
Susan Y. Soong	Clara Pierce	4/22/2016

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

ANCORA TECHNOLOGIES, INC. Plaintiff, v. APPLE, INC., Defendant.	Case No. 15-cv-03659-YGR
APPLE, INC. Counterclaimant, v. ANCORA TECHNOLOGIES, INC. Counterdefendant.	**~~[PROPOSED]~~ ORDER OF DISMISSAL**

On April 19, 2016, Plaintiff ANCORA TECHNOLOGIES, INC. and Defendant APPLE INC. announced to the Court that they have settled their respective claims for relief asserted in this cause. The Court, having considered this request, is of the opinion that their request for dismissal should be granted.

IT IS THEREFORE ORDERED that all claims for relief asserted against APPLE INC. by ANCORA TECHNOLOGIES, INC. herein are dismissed, with prejudice, and all counterclaims for relief against ANCORA TECHNOLOGIES, INC. by APPLE INC. are dismissed without prejudice; and

IT IS FURTHER ORDERED that all attorneys' fees, costs of court, and expenses shall be borne by each party incurring the same.

Signed this 21st day of April, 2016.

Yvonne Gonzalez Rogers
U.S. District Court Judge

Trials@uspto.gov
571-272-7822

Paper 7
Entered: April 26, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

ANCORA TECHNOLOGIES INC.
Patent Owner

Case CBM2016-00023
Patent 6,411,941 B1

Before JONI Y. CHANG, MICHAEL W. KIM, and KEVIN W. CHERRY, *Administrative Patent Judges.*

CHANG, *Administrative Patent Judge.*

JUDGMENT
Termination of Proceeding
37 C.F.R. § 42.73

/

On April 25, 2016, Apple Inc. ("Apple") and Ancora Technologies Inc. ("Ancora") filed a joint motion to terminate the instant proceeding in view of the parties' agreement to settle their disputes. Paper 6. The parties also filed a true copy of their written settlement agreement made in connection with the termination of the instant proceeding (Ex. 1030), and a joint request to have their settlement agreement treated as confidential business information under 37 C.F.R. § 42.74(c). Paper 6, 3.

Generally, the Board expects that a covered business method patent review will terminate after the filing of a settlement agreement. *See, e.g., Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012). Here, in their joint motion to terminate, the parties represent that they agreed to settle their respective claims against each other in the settlement agreement executed by the parties. Paper 6, 1–2. The parties also indicate that they have resolved their disputes. *Id.* In particular, the district court proceedings[1] related to the instant proceeding have been dismissed. *Id.* at 2. The parties agreed to refrain, to the extent permitted by law, from further participation in this proceeding. *Id.* at 3.

Apple's petition was filed on January 8, 2016, but Ancora has not filed its patent owner preliminary response. Further, the Board has not decided whether to institute a covered business method patent review. Even if the Board institutes a review and commences a trial, Apple will no longer participate. That means even if a review is instituted, Apple will not file a reply to any patent owner response or an opposition to any motion to amend

[1] *Ancora Techs., Inc. v. Apple, Inc.*, No. 4:11-cv-6357 (N.D. Cal.), filed December 15, 2011, and *Ancora Techs., Inc. v. Apple, Inc.*, No. 4:15-cv-3659 (N.D. Cal.), filed August 11, 2015.

claims. Apple also will not be conducting any cross examination of Ancora's witnesses. In addition, Ancora may not have an opportunity to cross examine Apple's witness whose testimony is relied upon by Apple's petition.

As no trial has been instituted based on Apple's petition, the instant proceeding is in the preliminary proceeding stage.[2] Based on the particular facts of this case, it is appropriate to enter judgment.[3]

In consideration of the foregoing, it is:

ORDERED that the joint motion to terminate CBM2016-00023 is *granted*, and this proceeding hereby is terminated as to all parties including Apple and Ancora; and

FURTHER ORDERED that the parties' joint request to have their settlement agreement treated as business confidential information under 37 C.F.R. § 42.74(c) is *granted*.

---

[2] A preliminary proceeding begins with the filing of a petition for instituting a trial and ends with a written decision as to whether a trial will be instituted. 37 C.F.R. § 42.2.

[3] A judgment means a final written decision by the Board, or a termination of a proceeding. 37 C.F.R. § 42.2.

CBM2016-00023
Patent 6,411,941

PETITIONER:

David L. Fehrman
Richard S. J. Hung
Diek Van Nort
MORRISON & FOERSTER LLP
dfehrman@mofo.com
rhung@mofo.com
dvannort@mofo.com

PATENT OWNER:

John P. Rondini
John S. LeRoy
Mark A. Cantor
Marc Lorelli
Mark A. Jotanovic
BROOKS KUSHMAN P.C.
Ancc0112cbmr1@brookskushman.com

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

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☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
4:15-cv-03659	8/11/2015	Northern District of California

PLAINTIFF	DEFENDANT
Ancora Technologies, Inc.	Apple, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6411941	6/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
RICHARD W. WIEKING		8/12/2015

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 2/99)

TO: Mail Stop 8 Director of the U.S. Patent & Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	**REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK**

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of CA (Oakland) on the following X Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
CV 11-06357 YGR	12/15/2011	No. Dist., CA, 1301 Clay St., Ste. 400 South, Oakland, CA 94612
PLAINTIFF ANCORA TECHNOLOGIES		DEFENDANT APPLE INC

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6411941	06/25/2002	Ancora Technologies, Inc.
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In the above—entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
ORDER GRANTING SUMMARY JUDGMENT and FINAL JUDGMENT, ENTERED ON 04/29/2013

CLERK	(BY) DEPUTY CLERK	DATE
Richard W. Wieking	Jessie Mosley	May 1, 2013

Copy 1—Upon initiation of action, mail this copy to Commissioner Copy 3—Upon termination of action, mail this copy to Commissioner
Copy 2—Upon filing document adding patent(s), mail this copy to Commissioner Copy 4—Case file copy

AO 120 (Rev. 2/99)

TO: Mail Stop 8 Director of the U.S. Patent & Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court _____ on the following ☑ Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
CV 11-06357 YGR	12/15/2011	U.S. District Court, Northern District of California

PLAINTIFF	DEFENDANT
ANCORA TECHNOLOGIES	APPLE INC

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,411,941		***SEE COMPLAINT***
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In the above—entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Richard W. Wieking	Jessie Mosley	January 26, 2012

Copy 1—Upon initiation of action, mail this copy to Commissioner Copy 3—Upon termination of action, mail this copy to Commissioner
Copy 2—Upon filing document adding patent(s), mail this copy to Commissioner Copy 4—Case file copy

COPY

AO 120 (Rev. 3/04)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Central District of California on the following ☑ Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
SACV08-626 AG (ANx)	6/6/2008	Central District of California

PLAINTIFF	DEFENDANT
ANCORA TECHNOLOGIES, INC.	TOSHIBA AMERICA INFORMATION, SYSTEMS, INC., DELL, INC., HEWLETT-PACKARD COMPANY

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,411,941	6/25/2002	Ancora Technologies, Inc.
2			
3			
4			
5			

FILED
2008 JUN -6 AM 11:28
CLERK U.S. DIST. CT.
CENTRAL DIST. OF CALIF.
SANTA ANA

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
ORDER TRANFERRING CASE TO WESTERN DISTRICT OF WASHINGTON [161]

CLERK	(BY) DEPUTY CLERK	DATE
TERRY NAFISI	Ramona La Chapelle	4/25/2012

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 3/04)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Central District of California on the following ☑ Patents or ☐ Trademarks:

DOCKET NO. CV10-10045	DATE FILED	U.S. DISTRICT COURT Central District of California
PLAINTIFF ANCORA TECHNOLOGIES, INC., a Delaware Corporation		DEFENDANT APPLE, INC., a California Corporation

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6411941	6/25/2002	Ancora Technologies, Inc.
2			
3			
4			
5			

FILED
2010 DEC 29 PM 2:58
CLERK U.S. DISTRICT COURT
CENTRAL DIST. OF CALIF.
LOS ANGELES
BY: JP

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
TRANSFERRED TO NORTHERN DISTRICT OF CALIFORNIA PURSUANT TO ORDER[64]

CLERK	(BY) DEPUTY CLERK	DATE
TERRY NAFISI	R LA CHAPELLE	12/13/11

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 3/04)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Central District of California on the following ☑ Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
CV10-10045		Central District of California

PLAINTIFF	DEFENDANT
ANCORA TECHNOLOGIES, INC., a Delaware Corporation	APPLE, INC., a California Corporation

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6411941	6/25/2002	Ancora Technologies, Inc.
2			
3			
4			
5			

FILED
10 DEC 29 PM 2:58
CLERK U.S. DISTRICT COURT
CENTRAL DIST. OF CALIF.
LOS ANGELES
BY: JP

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

PART B - FEE(S) TRANSMITTAL

Complete and mail this form, together with applicable fee(s), to: **Box ISSUE FEE**
Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590 03/28/2002

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON, DC 200053955

Note: The certificate of mailing below can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,777	10/01/1998	MIKI MULLOR	~~REDVC4237.01~~	7068

TITLE OF INVENTION: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSE LIMITATION

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
19	nonprovisional	YES	$640	$0	$640	06/28/2002

EXAMINER	ART UNIT	CLASS-SUBCLASS
HEWITT II, CALVIN L	2161	705-059000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

XX "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) attached.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 VENABLE
2 Robert Kinberg
3 Jeffri A. Kaminski

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Beeple, Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Newport Beach, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) ☐ individual XX ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

☐ Issue Fee
☐ Publication Fee
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

XX A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
XX The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 22-0261 (enclose an extra copy of this form).

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) [signature] (Date) 4/22/02
Jeffri A. Kaminski 42709

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

04/24/2002 CV0222 00000132 09164777
01 FC:242 640.00 OP

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, United States Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington, D.C. 20231

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TRANSMIT THIS FORM WITH FEE(S)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Miki Mullor

Appl. No. 09/164,777

Confirmation No. 7068

Filed: October 1, 1998

For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSE LIMITATION

Allowed: March 28, 2002

Art Unit: 2161

Examiner: C. Hewitt II

Atty. Docket No. 39636-176166 (formerly REINC4237.01)

Customer No.

26694

PATENT TRADEMARK OFFICE

Submission Of Formal Drawings

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith are two (2) sheets of formal drawing containing Figures 1-2.

Respectfully submitted,

Date: 4/22/02

Jeffri A. Kaminski
Registration No. 42,709
VENABLE
P.O. Box 34385
Washington, D.C. 20043-9998

Telephone: (202) 962-4800
Telefax: (202) 962-8300

#357455v3

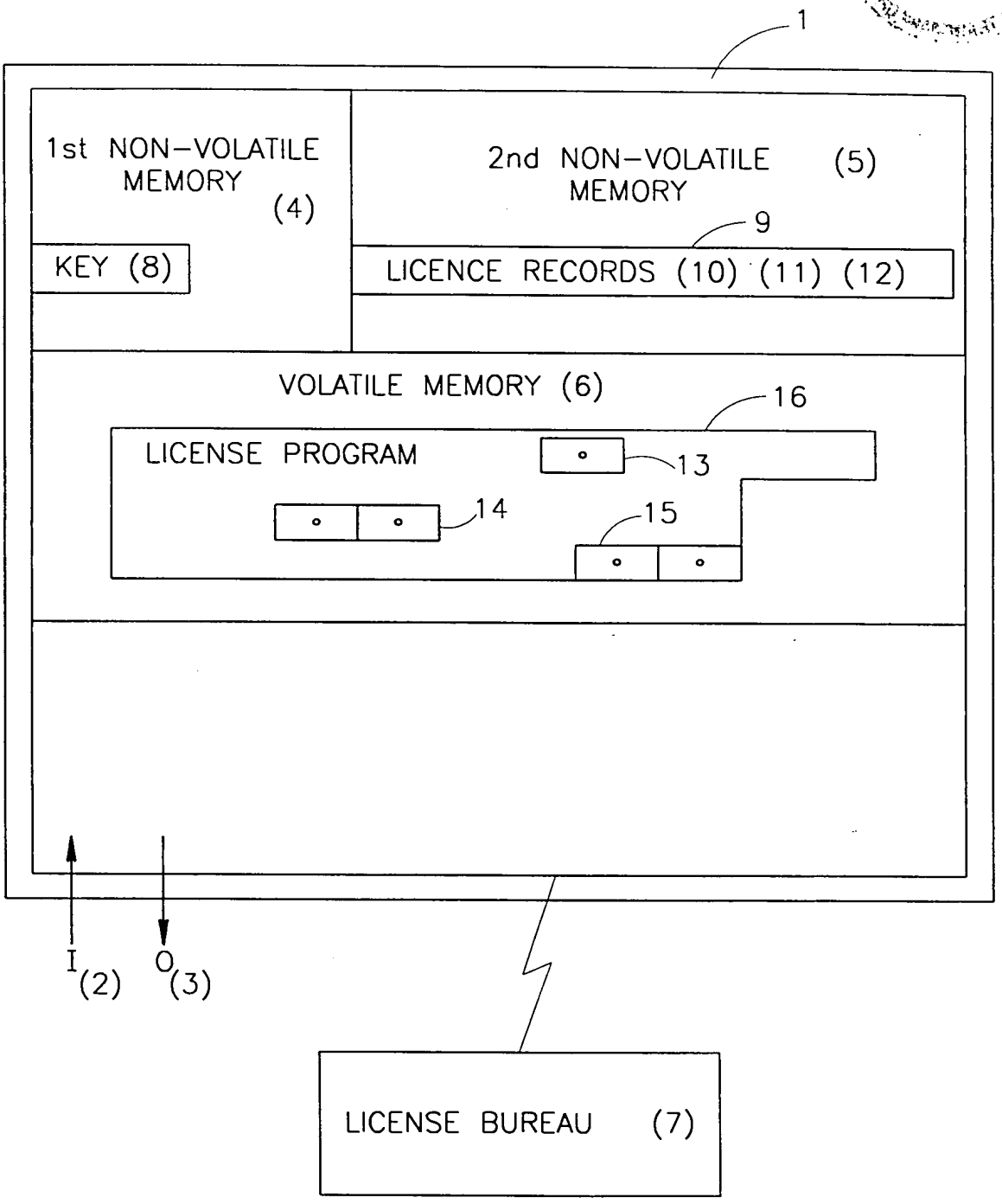

FIG.1

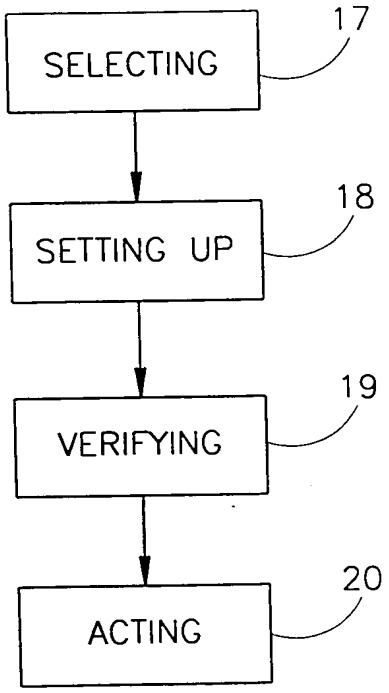

FIG.2

OIPE JC16 APR 22 2002 PATENT & TRADEMARK OFFICE

Please type a plus sign (+) inside this box → [+]

#15 5-20-02 BC

Revised PTO/SB/122 (10-00)
Attorney Docket No. 32014-141666
Approved for use through 10/31/2002. OMB 0651-0035
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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CHANGE OF CORRESPONDENCE ADDRESS
Application

Address to:
Assistant Commissioner for Patents
Washington, D.C. 20231

Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR
Group Art Unit	2161
Examiner Name	Calvin L. Hewitt II
Attorney Docket Number	**39636-176166 (REINC4237.01)**

Please change the Correspondence Address for the above-identified application to:

☒ Customer Number **26694** → *Place Customer Number Bar Code Label here*

Type Customer Number here

OR

☐ **Firm or Individual Name**	Venable, Baetjer, Howard & Civiletti, L.L.P.				
Address	P.O. Box 34385				
Address					
City	Washington	**State**	DC	**ZIP**	20043.9998
Country	**USA**				
Telephone	**202.962.4800**	**Fax**	**202.962.8300**		

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The New Attorney Docket Number is **39636-176166.**

I am the :

☐ Applicant.

☐ Assignee of record of the entire interest.
Certificate under 37 CFR 3.73(b) is enclosed.

☒ Attorney or agent of record.

☐ Registered practioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number

Typed or Printed Name	Robert Kinberg
Signature	for [signature] 42,705
Date	April 22, 2002

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 03/28/2002

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SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON, DC 200053955

EXAMINER	
HEWITT II, CALVIN L	
ART UNIT	**CLASS-SUBCLASS**
2161	705-059000

DATE MAILED: 03/28/2002

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,777	10/01/1998	MIKI MULLOR	REINC4237.01	7068

TITLE OF INVENTION: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSE LIMITATION

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
19	nonprovisional	YES	$640	$0	$640	06/28/2002

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

B. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (REV. 07-01) Approved for use through 01/31/2004.

PART B - FEE(S) TRANSMITTAL

Complete and mail this form, together with applicable fee(s), to:

Box ISSUE FEE
Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590 03/28/2002

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON, DC 200053955

Note: The certificate of mailing below can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,777	10/01/1998	MIKI MULLOR	REINC4237.01	7068

TITLE OF INVENTION: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSE LIMITATION

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
19	nonprovisional	YES	$640	$0	$640	06/28/2002

EXAMINER	ART UNIT	CLASS-SUBCLASS
HEWITT II, CALVIN L	2161	705-059000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) attached.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) ❑ individual ❑ corporation or other private group entity ❑ government

4a. The following fee(s) are enclosed:

❑ Issue Fee

❑ Publication Fee

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s):

❑ A check in the amount of the fee(s) is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____(enclose an extra copy of this form).

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) (Date)

NOTE; The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, United States Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington, D.C. 20231

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TRANSMIT THIS FORM WITH FEE(S)

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,777	10/01/1998	MIKI MULLOR	REINC4237.01	7068

7590 03/28/2002

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON, DC 200053955

EXAMINER	
HEWITT II, CALVIN L	
ART UNIT	**PAPER NUMBER**
2161	

DATE MAILED: 03/28/2002

Determination of Patent Term Extension under 35 U.S.C. 154 (b)
(application filed after June 7, 1995 but prior to May 29, 2000)

The patent term extension is 0 days. Any patent to issue from the above identified application will include an indication of the 0 day extension on the front page.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (http://pair.uspto.gov)

PTOL-85 (REV. 07-01) Approved for use through 01/31/2004.

Notice of Allowability	Application No.	Applicant(s)	
	09/164,777	MULLOR ET AL.	
	Examiner	Art Unit	
	Calvin L Hewitt II	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2-5-02.
2. ☒ The allowed claim(s) is/are 1-10,13 and 16-23.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
   (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

8. ☐ CORRECTED DRAWINGS must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No. ____.
   (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
   (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1☒ Notice of References Cited (PTO-892)
2☐ Notice of Informal Patent Application (PTO-152)
3☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
4☒ Interview Summary (PTO-413), Paper No. 14 .
5☒ Information Disclosure Statements (PTO-1449), Paper No. 11.
6☒ Examiner's Amendment/Comment
7☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
8☒ Examiner's Statement of Reasons for Allowance
9☐ Other

Hyung-Sub Sough
Primary Examiner

#14/D mr 2-22-07

Status of Claims

1. Claims 1-10, 13, and 16-23 have been examined.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jeffri Kaminski on 19 February 2002.

3. The application has been amended as follows:

In claim 1, line 2, replace "(BIOS)" with BIOS.

In claim 1, line 3, replace "... computer, _ and" with "... computer, and"

In claim 20, "using an agent to perform the following steps" has been inserted in line 6, as the second limitation after "loading the application..." and before "extracting license information...", detailing that the steps of

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"encrypting...", "storing...", and "subsequently verifying..." are performed by the agent. This **does not** apply, however, to the "acting..." limitation.

Reasons for Allowance

4. Claims 1-10, 13, and 16-19 have been allowed. The instant application teaches a method for restricting software use by storing a verification structure in a computer BIOS.

It is well known to those of ordinary skill in the art of software licensing to monitor the use of software using special code that enforces the preferences of the software provider (e.g. creator, distributor, or service provider), or provider and end-user, by restricting the manner in which an end-user can manipulate (e.g. print, save, redistribute, customize) the software. For example, Ginter et al. (US 5,892,900) implement their software distribution system by dynamically linking a verification structure, such as a PERC or permission record, to software content that dynamically control how the software, and its associated administrative data, may be distributed and used (column 155, lines 46-51). Misra et al. (US 6,189,146) disclose a method for licensing software that uses agents to manage software licenses, and stores the licenses in persistent non-volatile storage (column 12, lines 8-31). Neither reference teaches utilizing BIOS

as the non-volatile means for storing a licensed software verification structure. Ewertz et al. (US 5,479,639) teach the use of BIOS memory for storing licensing numbers. Hence, it appears initially, that to one of ordinary skill of the art, the combination of Ewertz et al. with either Ginter et al. and/or Misra et al., would render the present invention obvious. However, the key distinction between the present invention and the closest prior art, is that the Misra et al., and Ginter et al. systems and the Ewertz et al. system run at the operating system level and BIOS level, respectively. More specifically, the closest prior art systems, singly or collectively, do not teach licensed programs running at the OS level interacting with a program verification structure stored in the BIOS to verify the program using the verification structure and having a user act on the program according to the verification. Further, it is well known to those of ordinary skill of the art that a computer BIOS is not setup to manage a software license verification structure. The present invention overcomes this difficulty by using an agent to set up a verification structure in the erasable, non-volatile memory of the BIOS.

5. Claims 20-23 have been allowed. The instant application teaches a method for restricting software use by storing license information in a computer BIOS.

Ginter et al. (US 5,892,900) implement their software distribution system by encrypting (column/line 65/55-66/47) software control information (e.g. PERC) and linking control information, to software content that dynamically manages how the software, and its associated administrative data, may be distributed and used (column 155, lines 46-51). Misra et al. (US 6,189,146) disclose a method for licensing software that stores licenses in persistent non-volatile storage (column 12, lines 8-31). Neither reference teaches utilizing BIOS as the non-volatile means for storing licensing data. Ewertz et al. (US 5,479,639) teach the use of BIOS memory for storing licensing numbers. Hence, it appears initially, that to one of ordinary skill of the art, the combination of Ewertz et al. with either Ginter et al. and/or Misra et al., would render the present invention obvious. However, a key distinction between the present invention and the closest prior art, is that the Misra et al., and Ginter et al. systems and the Ewertz et al. system run at the operating system level and BIOS level, respectively. More specifically, the closest prior art systems, singly or collectively, do not teach extracting licensing information from a software program, encrypting the information and storing it in the BIOS. Further, it is well known to those of ordinary skill of the art that a computer BIOS is not setup to store license information. The present invention overcomes this difficulty by utilizing an agent to verify the application software program using the license information stored in the erasable, writable, non-volatile memory of the BIOS.

6. Any comments considered necessary by Applicant must be submitted no later that the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Infoworld magazine evaluates desktop management software
- Saito et al. disclose a method for automatic license monitoring

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 308-8057. The Examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

c/o Technology Center 2100

Washington, D.C. 20231

or faxed to:

(703) 746-7239 (for formal communications intended for entry),

(703) 746-7238 (for after-final communications),

or:

(703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Calvin Loyd Hewitt II

February 20, 2002

Hyung-Sub Sough
Primary Examiner

Notice of References Cited	Application/Control No. 09/164,777	Applicant(s)/Patent Under Reexamination MULLOR ET AL.	
	Examiner Calvin L Hewitt II	Art Unit 2161	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
	A	US-				
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification	
	N	JP-408286906-A	11-1996	Japan	Saito et al.	G06F	9/06
	O						
	P						
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Dornbusch et al., Destop management software: no need to adjust your set., Infoworld, v17, n37, p60
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Please type a plus sign (+) inside this box

PTO/SB/08A (08-00)
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,754,763		Bereiter	5/19/1998	
		5,758,068		Brandt et al.	5/26/1998	
		5,790,664		Coley et al.	8/4/1998	
		5,758,069		Olsen	5/26/1998	
		5,905,860		Olsen et al.	5/18/1999	
		5,390,297		Barber et al.	2/14/1995	
		6,173,446		Khan et al.	1/9/2001	
		4,903,296		Chandra et al.	2/20/1990	
		6,298,138		Gotoh et al.	10/2/2001	
		6,192,475		Wallance	2/20/2001	
		6,272,636		Neville et al.	8/7/2001	
		6,055,503		Horstmann	4/25/2000	
		6,073,256		Sesma	6/6/2000	
		6,006,190		Baena-Arnaiz et al.	12/21/1999	
		6,078,909		Knutson	6/20/2000	
		6,243,468		Pearce et al.	6/5/2001	
		6,189,146		Misra et al.	2/13/2001	
		5,671,412		Christiano	9/23/1997	
		5,826,011		Chou et al.	10/20/1998	
		6,023,763		Grumpstrup et al.	2/8/2000	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Te

Examiner Signature [signature] Date Considered 2/19/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

VENABLE ATTORNEYS AT LAW

Please type a plus sign (+) inside this box

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,226,747		Larsson et al.	5/1/2001	
		6,128,741		Goetz et al.	10/3/2000	
		4,924,378		Hershey et al.	5/8/1990	
		5,386,369		Christiano	1/31/1995	
		6,233,567		Cohen	5/15/2001	
		4,866,769		Karp	9/12/1989	
		6,021,438		Duvvoori et al.	2/1/2000	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	2/19/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

VENABLE ATTORNEYS AT LAW

Interview Summary	Application No.	Applicant(s)	
	09/164,777	MULLOR ET AL.	
	Examiner	Art Unit	
	Calvin L Hewitt II	2161	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Calvin L Hewitt II*. (3)_____.

(2) *Jeffri A. Kaminski*. (4)_____.

Date of Interview: *19 February 2002* .

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____ .

Claim(s) discussed: *1 and 20* .

Identification of prior art discussed: _____ .

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Claim 20 was amended to add the limitation of "an agent to perform the following steps"* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

i)☒ It is not necessary for applicant to provide a separate record of the substance of the interview(if box is checked).

Unless the paragraph above has been checked, THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case unless both applicant and examiner agree that the examiner will record same. Where the examiner agrees to record the substance of the interview, or when it is adequately recorded on the Form or in an attachment to the Form, the examiner should check the appropriate box at the bottom of the Form which informs the applicant that the submission of a separate record of the substance of the interview as a supplement to the Form is not required.

It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

WEST

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Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Terms	Documents
license and (non adj volatile adj memory)	7

Database:
US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: 813722.pn.

Refine Search

Recall Text | Clear

Search History

DATE: Tuesday, February 19, 2002 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L19	license and (non adj volatile adj memory)	7	L19
L18	(software adj meter$) and (non adj volatile adj memory)	3	L18
L17	(software adj meter$) and (non adj volatile adj storage)	0	L17
L16	l14 and remote	4	L16
L15	L14 and updat$ and remote	0	L15
L14	bios and agent	2956	L14
L13	L12 and agent	8	L13
L12	bios and meter$	232	L12
L11	bios and license	1	L11
L10	l7 and agent	0	L10
DB=USPT,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L9	l8 and (write adj10 bios)	3	L9
L8	L7 and agent	655	L8
L7	bios and license	829	L7
L6	license and (remote adj configuration)	5	L6
L5	l4 not bios	0	L5
L4	bios and license and (remote adj configuration)	0	L4
L3	L2 and license	1	L3
L2	updat$ adj bios	86	L2
L1	(bios adj version) and license and agent	2	L1

Scanned

END OF SEARCH HISTORY

#13/C
2-6-02
DW

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants	:	Miki MULLOR et al.	Customer No. *26694* 26694 PATENT TRADEMARK OFFICE
Appln. No.	:	09/164,777	
Filed	:	October 1, 1998	
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION	
Group Art Unit	:	2161	
Examiner	:	C. Hewitt	
Atty. Dkt.	:	39636-176166	

Assistant Commissioner for Patents
Washington, D.C. 22031

AMENDMENT

Sir:

Responsive to the Office Action dated January 15, 2002, please amend the application as follows:

IN THE CLAIMS:

Please cancel claims 11, 12, 14 and 15 without prejudice to their re-entry at a later date.

Please amended the claims as follows:

C1 12 16. (Amended) The method of Claim 1, wherein a pseudo-unique key is stored in the non-volatile memory of the BIOS.

C2 18 10. (Amended) A method for accessing an application software program using a

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pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

loading the application software program residing in a non-volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting license information in a second erasable, writable, non-volatile memory area of the BIOS of the computer;

subsequently verifying the application software program based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS; and

acting on the application software program based on the verification.

REMARKS

Claims 1-10, 13 and 16-23 are now pending in this application. Each of the pending claims is believed to define an invention which is novel and unobvious over the cited references. Favorable reconsideration of this case is respectfully requested.

Claims 16 and 20 have been amended to correct the informalities noted by the Examiner. Claims 11, 12, 14 and 15 have been canceled. In view of these amendments, it is respectfully submitted that all pending claims are now in all aspects in compliance with 35 U.S.C. 112, second paragraph. Therefore, the withdrawal of this rejection is respectfully requested.

Amendment
U.S. Application No.: 09/164,777

Claims 1-23 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Misra et al. in view of U.S. Patent No. 5,684,951 to Goldman et al. and U.S. Patent No. 5,479,639 Ewertz et al.

The cited references do not render the present invention obvious as they do not teach or suggest, among other things, storing a verification structure, such as a software license information, in the BIOS of a computer as is recited in the present claims.

Misra et al. is cited as the primary reference against the present claims. Misra relates to a system and method for enforcing software licenses. The system of Misra generates unique identifiers for servers and clients, col 12, lines 41-42. The client system ID 142 is a unique identifier for the client computer, col 12, lines 50-51. The client system IDs can be based on information collected from a computer's hardware and installed software. For example, hard disk volume numbers, registered software, video cards, and some microprocessors contain unique identifiers. This information can be combined to uniquely identify a particular PC. Thus, the client system ID of Misra, is similar to the pseudo-unique key recited in claims 1 and 20.

Misra also describes a license ID, which is a unique identifier assigned to a software license when the software license is issued to a client device, col. 11, lines 9-12. The license ID may be a digital certificate indicating the right to use the particular software at issue, col. 10, lines 60-67. The license ID of Misra is similar to the verification structure and license information recited in claims 1 and 20, respectively.

Misra fails to teach using the BIOS of a computer to store the license ID, as noted in Section 7, Page 6 of the Office Action. Ewertz is cited as supplementing Misra to teach this feature. However, the license information described in Ewertz has a different meaning and a different function from the license information described in Misra. Therefore, a combination of these references would not result in the claimed invention, as is discussed in detail below.

In Ewertz, a "software license number" is described as one type of identification information, col. 3, lines 20-22. This identification information may also include an Ethernet address or system serial numbers, col 3, lines 20-22. The identification information is a unique identification value stored in a non-writable, non-erasable area of the BIOS during manufacture. The identification information uniquely identifies a particular computer. Therefore, according to Ewertz a "software license number" is one of a type of static data structures identifying a specific computer and the static data structure is stored such that it cannot be modified. Accordingly, the software license number of Ewertz is simply identification for the operating system of a particular computer.

For example, col. 2, lines 47-49 of Ewertz disclose that the memory storing the identification information may be electronically locked to prevent erasure or modification of its contents once installed. Moreover, in teaching a preferred embodiment, col. 11, line 23 - col. 12, line 14 of Ewertz describe that several types of identification information must be retained for individual computer systems. One type of identification number, as mentioned above, is an Ethernet address. The Ethernet address is stored in a protected area 306 in static page 2 of the flash memory of Ewertz and cannot be erased or altered once the device is installed. Thus the identification number cannot be destroyed. Ewertz also teaches other computer system identification numbers, such as unique serial number, printed board assembly (PBA) numbers or operating system license numbers may be stored in the locked memory.

Consequently, Ewertz teaches storing identification information for the computer in a non-writable, non-erasable non-volatile memory. This identification information of Ewertz corresponds to the pseudo-unique key stored in the first non-erasable, non-volatile memory as recited in claims 1 and 20 and does not correspond to the license information recited in these claims. The identification information of Ewertz is a static data structure, like the system ID of

Misra, that uniquely identifies a computer and simply does not correspond the license ID of Misra or the license information of the present invention as defined by claims 1 and 20.

From the above discussion, it is clear that the "software license number" according to Ewertz is equivalent in definition and function to Misra's system ID. Therefore, even if Misra is combined with Ewertz, this combination does not result in the present invention. The proposed combination results in the system ID of Misra being stored in the BIOS, not the verification structure or license information being stored in the BIOS as is required by the present claims.

Furthermore, there is no suggestion or motivation to combine Misra and Ewertz in the manner suggested in the Office Action. BIOS is a configuration utility. Software license management applications, such as the one of the present invention, are operating system (OS) level programs. Therefore, BIOS programs and software licensing management applications do not ordinarily interact or communicate because when BIOS is running, the computer is in a configuration mode, hence OS is not running. Thus, BIOS and OS level programs are normally mutually exclusive.

Ewertz teaches that writing to the BIOS area is performed by the BIOS routines:

> "Referring to Fig. 8, processing logic for updating the flash memory device with configuration data, such as EISA information, is illustrated... The processing logic shown in Fig. 8 resides in the system BIOS of the preferred embodiment" Col 10, lines 20-28

Misra teaches a licensing system that is OS level based:

> "The license generator 26, license server 28 and intermediate server 32 are preferably implemented as computer servers, such as Windows NT servers that run Windows NT server operating systems from Microsoft corporation or UNIX-based servers" Col 5, lines 3-7

Thus, the systems described in Misra and Ewertz are an OS program and a BIOS program, respectively, that cannot run at the same time. Therefore, there is no teaching or suggestion to combine these programs. In fact such a combination would change the operation

of the programs, which is an indicia of non-obviousness, see MPEP Sec. 2141.03 and related case law.

Moreover, the present invention proceeds against conventional wisdom in the art. Using BIOS to store application data such as that stored in Misra's local cache for licenses is not obvious. The BIOS area is not considered a storage area for computer applications. An ordinary skilled artisan would not consider the BIOS as a storage medium to preserve application data for at least two reasons.

First, OS does not support this functionality and is not recognized as a hardware device like other peripherals. Every OS provides a set of application program interfaces (APIs) for applications to access storage devices such as hard drives, removable devices, etc. An ordinary person skilled in the art makes use of OS features to write date to storage mediums. There is no OS support whatsoever to write data to the system BIOS. Therefore, an ordinary person skilled in the art would not consider the BIOS as a possible storage medium. Furthermore, it is common that all peripheral devices in the PC are listed and recognized by the OS except for the BIOS. This supports the fact that the BIOS is not considered a peripheral device. Accordingly, an ordinary person skilled in the art would not consider the BIOS for any operation, including writing to the BIOS.

Second, no file system is associated with the BIOS. Every writable device connected to the PC is associated with an OS file system to arrange and manage data structures. An example for such a file system would be FAT, FAT32, NTFS, HPFS, etc. that suggests writing data to the writable device. No such file system is associated with the BIOS. This is further evidence that OS level application programmers would not consider the BIOS as a storage medium for license data.

Additionally, Misra teaches away from using the BIOS as a storage area by making a statement about client computers that do not have a persistent non-volatile area.

> "The license cache 136 is kept in persisted (non-volatile) storage. Clients that do not have persistent storage can be issued licenses as long as they can generate a unique client ID and can respond to the client platform challenge protocol" (Misra, Col. 12, lines 15-18)

Since all computers must have a BIOS, it is clear Misra teaches away from using the BIOS as a local storage area for licenses.

Goldman et al. do not supplement Misra and Ewertz to teach or suggest the present invention.

Thus, in view of the above discussion, it is clear that the cited references, taken alone or in any combination, do not fairly teach or suggest the present invention. Therefore the withdrawal of this rejection is respectfully requested. Favorable reconsideration of this case and early issuance of a Notice of Allowance is respectfully requested

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the foregoing, reconsideration and allowance of this application are believed in order, and such action is earnestly solicited.

Amendment
U.S. Application No.: 09/164,777

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

Respectfully submitted,

Robert Kinberg
Registration No. 26,924
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RK/JAK/lrh
#347353

Amendment
U.S. Appln. No.: 09/164,777

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claims 11, 12, 14 and 15 without prejudice to their re-entry at a later date.

Please amended the claims as follows:

16. (Amended) The method of Claim ~~22~~1, wherein ~~the~~ a pseudo-unique key ~~includes a pseudo unique key~~ is stored in the non-volatile memory of the BIOS.

20. (Amended) A method for accessing an application software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

loading ~~the~~ application software program residing in a non-volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting ~~—~~license information in a second erasable, writable, ~~non volatile~~non-volatile memory area of the BIOS of the computer;

subsequently verifying the application software program based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS; and

acting on the application software program based on the verification.

Revised PTO/SB/97 (08-00)
Attorney Docket No.
Approved for use through 10/31/2002. OMB 0651-0031
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Certificate of Transmission under 37 CFR 1.8

The undersigned certifies that the attached Amendment is being facsimile filed to the Examiner C. Hewitt (703) 746-7239) on February 5, 2002.

Signature

Jeffri Kaminski

Typed or printed name of person signing Certificate

Note: Each paper must have its own certificate of transmission, or this certificate must identify each submitted paper.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,777	10/01/1998	MIKI MULLOR	REINC4237.01	7068

7590 01/15/2002

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON, DC 200053955

EXAMINER
HEWITT II, CALVIN L

ART UNIT	PAPER NUMBER
2161	12

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/164,777	MULLOR ET AL.	
	Examiner	Art Unit	
	Calvin L Hewitt II	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Status of Claims

1. Claims 1-23 have been examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 11, 12, 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 11, 12 and 15 are rejected as flash memory is a type of EEPROM. Flash memory can be used as a computer BIOS. Therefore, a computer BIOS would not contain an EEPROM and/or ROM section.

Claim 16 is rejected because a key cannot be simultaneously "unique" and "pseudo-unique".

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites, "loading a software program residing in volatile memory area of the computer". This limitation would not be clear to one of ordinary skill as the software would have to be loaded a priori in order to reside in volatile memory.

Claim 21 is rejected because it depends from claim 20.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the
>
> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-23 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Misra et al., U.S. Patent No. 6,189,146, Goldman et al., U.S. Patent No. 5,684,951. and Ewertz et al., U.S. Patent No. 5,479,639.

Misra et al. teach a system and method for software licensing that comprises:

- selecting a program from volatile memory (figure 2)
- using data stored in various memory locations to implement the system (figure 2; column 5, lines 2-67)
- using an agent to set up a verification structure in computer memory where structure data includes a license record (column 4, lines 14-20 and 49-67; column 11, lines 45-59; column 12, lines 8-31)
- verifying and acting on the program according to the verification structure (e.g. software license) (column/line 13/65-14/53; column/line 14/54-17/40)
- a licensing authentication bureau in a two-way connection with a computer that handles requests for licenses (where license data includes computer identification and license record contents), encrypts a request for license (e.g. license) using computer identification, performs license validation and transfers a license to a computer (figures 1 and 3-8; column 6, lines 50-64; column 9,

- lines 40-50; column/line 11/60-12/27; column/line 13/65-14/52; column 15, lines 37-49)
- a license that contains predetermined information (column 10, lines 60-67; column 11, lines 1-24)
- storing a license record in non-volatile memory (column 12, lines 8-27)
- comparing licenses to determine validity and restricting the program's operations if a license is determined to be invalid (column 14, lines 30-51)
- encryption using an identification of a computer that is a unique key (column 15, lines 37-49)

Regarding the storage of encrypted licenses, Misra et al. teach licenses that are encrypted using a unique key as they are placed in storage (column 8, lines 35-52). Therefore, it would have been obvious to one of ordinary skill of the art to allow user nodes to store licenses in encrypted form for additional security. In addition, as Misra et al. implement their system using various computer system memory such as RAM (e.g. volatile), ROM (which houses a BIOS), portable and hard disk memory (column 5, lines 37-67) it would have been obvious to perform encryption processes using the appropriate memory given the characteristics of the target system (figures 1 and 2). Misra et al. also teach

encryption keys and programs ("agent") used in the license collation process that belong to various parties (column 8, lines 35-52; column 15, lines 37-54). Therefore, it would have been obvious to one of ordinary skill of the art to store these keys in non-volatile memory as these keys are used to securely communicate between and identify parties, as well as access encrypted data.

Misra et al., however, do not teach pseudo-unique keys nor constructing license records within a computer BIOS. Goldman et al. teach pseudo-unique keys (abstract) while, Ewertz et al. teach of expanding BIOS memory to store identification and/or configuration data such as software licenses (column 3, lines 15-40; column/line 11/3-12/14). Therefore, it would have been obvious for one of ordinary skill of the art to combine the teachings of Misra et al., Goldman et al. and Ewertz et al.. Recall, Ewertz et al. teach of expanding non-volatile memory (e.g. BIOS) ('639, column 3, lines 15-40) for maintaining data such as software licenses. Hence, it would have been obvious to one of ordinary skill to use the BIOS to store licenses in the Misra et al. system as they teach of users storing license data in persistent- non-volatile storage ('146, column 12, lines 8-27). Also pseudo unique keys can be issued, on a temporary basis (say), ('951, abstract), to encrypt licenses ('146, column 13, lines 42-48). This allows a client to access secured data without comprising the security of the larger system.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Edenson et al. teach a system for protecting copyrighted program material using a BIOS
- Fette et al. teach a programmable radio and operating software in accordance with a license
- Steinberg et al. teach software branding
- Smith et al. teach a system for distributing, registering and purchasing software over a network using an agent program embedded in each software application

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 308-8057. The Examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

c/o Technology Center 2100

Washington, D.C. 20231

or faxed to :

(703) 746-7239 (for formal communications intended for entry),

(703) 746-7238 (for after-final communications),

or:

(703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Hyung Sub Sough
Primary Examiner

Calvin Loyd Hewitt II

January 7, 2002

Notice of References Cited	Application/Control No. 09/164,777	Applicant(s)/Patent Under Reexamination MULLOR ET AL.	
	Examiner Calvin L Hewitt II	Art Unit 2161	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
	A	US-5,479,639-A	12-1995	Ewertz et al.	395	430
	B	US-6,189,146-A	02-2001	Misra et al.	717	11
	C	US-6,067,582-A	05-2000	Smith et al.	710	5
	D	US-6,000,030	12-1999	Steinberg et al.	713	200
	E	US-6,052,600-A	04-2000	Fette et al.	455	509
	F	US-6,198,875-A	03-2001	Edenson et al.	386	94
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
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FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,754,763		Bereiter	5/19/1998	
		5,758,068		Brandt et al.	5/26/1998	
		5,790,664		Coley et al.	8/4/1998	
		5,758,069		Olsen	5/26/1998	
		5,905,860		Olsen et al.	5/18/1999	
		5,390,297		Barber et al.	2/14/1995	
		6,173,446		Khan et al.	1/9/2001	
		4,903,296		Chandra et al.	2/20/1990	
		6,298,138		Gotoh et al.	10/2/2001	
		6,192,475		Wallance	2/20/2001	
		6,272,636		Neville et al.	8/77/2001	
		6,055,503		Horstmann	4/25/2000	
		6,073,256		Sesma	6/6/2000	
		6,006,190		Baena-Arnaiz et al.	12/21/1999	
		6,078,909		Knutson	6/20/2000	
		6,243,468		Pearce et al.	6/5/2001	
		6,189,146		Misra et al.	2/13/2001	
		5,671,412		Christiano	9/23/1997	
		5,826,011		Chou et al.	10/20/1998	
		6,023,763		Grumpstrup et al.	2/8/2000	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	1/23/03

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[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
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Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,226,747		Larsson et al.	5/1/2001	
		6,128,741		Goetz et al.	10/3/2000	
		4,924,378		Hershey et al.	5/8/1990	
		5,386,369		Christiano	1/31/1995	
		6,233,567		Cohen	5/15/2001	
		4,866,769		Karp	9/12/1989	
		6,021,438		Duvvoori et al.	2/1/2000	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

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USPT	updat$ adj bios	72	L1

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USPT	l6 not l5	27	L7
USPT	l4 and bios	31	L6
USPT	l2 and remote and (agent adj5 (configur$ or set$))	36	L5
USPT	l2 and remote	280	L4
USPT	steinberg.in. and (file adj server)	1	L3
USPT	agent and configuration and license	978	L2
USPT	(remote adj configuration) and license	3	L1

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Attorney Docket No. 39636-176166

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000, provides for continued examination of an utility or plant application filed on or after June 8, 1995. See The American Inventors Protection Act of 1999 (AIPA).

Application Number	09/164,777
Filing Date	October 1, 1998
Examiner Name	C. Hewitt, II
First Named Inventor	M. Muller
Group Art Unit	2161
Attorney Docket Number	39636-176166

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

NOTE: *37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for* the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 *Fed. Reg.* 14865 (Mar. 20, 2000), 1233 *Off. Gaz. Pat. Office* 47 (Apr. 11, 2000), which established RCE practice.

1. Submission required under 37 C.F.R. § 1.114

a. ☐ Previously submitted
   i. ☐ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on (Any unentered amendment(s) referred to above will be entered).
   ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on
   iii. ☐ Other

b. Enclosed
   i. ☒ Amendment/Reply
   ii ☐ Affidavit(s)/Declaration(s)
   iii. ☒ Information Disclosure Statement (IDS)
   iv. ☐ Other

2. Miscellaneous

a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required)

b. ☐ Other

3. Fees — The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.

a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 22-0261
   i. ☒ RCE fee required under 37 C.F.R. § 1.17(e)
   ii. ☒ Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
   iii. ☐ Other

b. ☒ Check in the amount of $ 570.00 enclosed

c. ☐ Payment by credit card (Form PTO-2038 enclosed)

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Jeffri A. Kaminski	Registration No. (Attorney/Agent)	42,709
Signature	[signature]	Date	November 14, 2001

VENABLE
P.O. Box 34385
Washington, DC 20043-9998

SEND Fees and Completed Forms to the following address: Commissioner for Patents, Box RCE, Washington, DC 20231.
PC Docs No. 331636

VENABLE

101203
Venable Filing Number

11/14/01
Filing Date

Atty. Docket No. 39638-176163
Re: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Application No.: 09/164,777 Filing Date: October 1, 1998
Patent No.: Issue Date
Trademark: Trademark Reg. No:
Opposition/Cancellation No:

The following items were received from Venable, Washington, D.C., by the U.S. Patent & Trademark Office:

U.S. PTO FEES ENCLOSED

XX	**RCE Transmittal Sheet**	$370.00	Filing Fee
	Issue Fee Part		Surcharge Fee
	Invention Declaration		Additional Claim Fee
	National Stage Application		
	Translation of International Application		Recordation of Assignment Fee
	New U.S. TM Application (___ specimens)		
	Rule 53(d) Continuation or Division Application		IDS Fee
	Rule 53(b) Continuation or Division Application (in Duplicate) (attach copy of specifications, claims, drawings & declaration)		
	Priority Document-Cert.Copy of _____Appln. # _____ Date _____	$200.00	**Extension Fee**
	Assignment w/Cover Sheet		
XX	**IDS w/ PTO-1449 (with references)**		Notice of Appeal Fee
XX	**Amendment (with marked up version)**		Brief on Appeal Fee
	Submission of Substitute Specification		Oral Hearing Request Fee
XX	**Petition/Request for Extension of Time**		Petition Fee
	Notice of Appeal		Issue Fee (Additional)
	Appeal Brief (in triplicate)		Maintenance Fee
	Request for Oral Hearing		TM Statement of Use
	Confirmation of Hearing Petition		8 Affidavit Fee
	Letter Under 37 CFR 1.28 (c)		TM Renewal Application Fee
	Certificate of Correction		Notice of Opposition Fee
	Maintenance Fee Transmittal		Terminal Disclaimer
	TM Statement of Use		
	Declaration Under 8	Fee:	$570.00
	Declaration Under 8 and 15		
	TM renewal Application	Check Number	
	Notice of Opposition		
	Supplemental Search Report and Annex		
	Postcard		
	Change of Address		

Official

OIPE JC177
NOV 16 2001
PATENT & TRADEMARK OFFICE

#331763

101203
Venable Filing Number

11/14/01
Filing Date

Atty. Docket No.: 39638-176166
Re: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Application No.: 09/164,777 Filing Date: October 1, 1998
Patent No.: Issue Date
Trademark: Trademark Reg. No:
Opposition/Cancellation No:

The following items were received from Venable, Washington, D.C., by the U.S. Patent & Trademark Office:

U.S. PTO FEES ENCLOSED

XX	**RCE Transmittal Sheet**	$370.00	**Filing Fee**
	Issue Fee Part		Surcharge Fee
	Invention Declaration		Additional Claim Fee
	National Stage Application		Recordation of Assignment Fee
	Translation of International Application		IDS Fee
	New U.S. TM Application (___ specimens)		
	Rule 53(d) Continuation or Division Application		
	Rule 53(b) Continuation or Division Application (in Duplicate) (attach copy of specifications, claims, drawings & declaration)		
	Priority Document-Cert.Copy of ______ Appln. # ________ Date ______	$200.00	**Extension Fee**
	Assignment w/Cover Sheet		Notice of Appeal Fee
XX	**IDS w/ PTO-1449 (with references)**		Brief on Appeal Fee
XX	**Amendment (with marked up version)**		Oral Hearing Request Fee
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	Notice of Appeal		Maintenance Fee
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	Confirmation of Hearing Petition		TM Renewal Application Fee
	Letter Under 37 CFR 1.28 (c)		Notice of Opposition Fee
	Certificate of Correction		Terminal Disclaimer
	Maintenance Fee Transmittal		
	TM Statement of Use		
	Declaration Under 8		
	Declaration Under 8 and 15		
	TM renewal Application		
	Notice of Opposition		
	Supplemental Search Report and Annex		
	Postcard		
	Change of Address		

Fee: $570.00

Check Number ________

OIPE JC177 NOV 14 2001 PATENT & TRADEMARK OFFICE

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#331763

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants	:	Miki MULLOR et al.
Appln. No.	:	09/164,777
Filed	:	October 1, 1998
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Group Art Unit	:	2161
Examiner	:	J. Trammell
Atty. Dkt.	:	39636-176166

Customer No.

26694
PATENT TRADEMARK OFFICE

Assistant Commissioner for Patents
Washington, D.C. 22031

AMENDMENT

Sir:

REQUEST FOR EXTENSION OF TIME

Please extend the period for responding to the Office Action dated June 22, 2001 by two months so that the due date expires November 22, 2001. The requisite extension fee of $200.00 under 37 C.F.R. 1.17 (a) (1) is attached. Should no check be attached, please charge our Deposit Account 22-0261. Please also deduct any additional fees due or credit any overage to the same account.

Responsive to the Office Action dated June 22, 2001, please amend the application as follows:

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) 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:

selecting a program residing in the volatile memory,

using an agent to set up verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record,

verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as an encryption key; transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprises the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-

license verification including an identification of the computer, an encrypted license-record for the selected program from the erasable, non-volatile memory area of the BIOS, and the program's license-record; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the unique key.

6. (Amended) 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.

7. (Amended) 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 establishing at least one license-record location in the first nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) 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 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.

10. (Amended) 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.

11. (Amended) A method according to claim 22 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the erasable, non-volatile memory area is a E^2PROM section of the BIOS.

16. (Amended) The method of Claim 22, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim 22, 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.

18. (Amended) The method according to Claim 22, wherein the step of verifying the program includes a decrypting the license record data accommodated in the erasable second non-volatile memory area of the BIOS using at least the unique key.

19. (Amended) The method according to Claim 22, wherein the step of verifying the program includes encrypting the license record that is accommodated in the program using at least the unique key.

20. (Amended) A method for accessing a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS; and

acting on the software program based on the verification.

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

REMARKS

Claims 1-13 and 16-23 are now pending in this application. New claims 21-23 have been added by this amendment. Each of the pending claims is believed to define an invention which is novel and unobvious over the cited references. Favorable reconsideration of this case is respectfully requested.

Applicant's representative appreciates the Examiner's courtesy in conducting a personnel interview in this case. The claims have been amended as agreed upon during the interview and it is respectfully submitted that this application is now in condition for allowance.

Specifically, claim 1 has been amended to recite that the verification structure is stored in an erasable, non-volatile memory area of the BIOS. This claim amendment overcomes the rejections under 35 U.S.C. 112, first paragraph in sections 3, 4 and 5 of the Final Office Action, as well as the rejection under 35 U.S.C. 112, second paragraph in section 7 of the Final Office Action.

Claim 20 has been amended to correct the informality noted by the Examiner. In view of these amendments, it is respectfully submitted that all pending claims are now in all aspects in compliance with 35 U.S.C. 112, first paragraph and 35 U.S.C. 112, second paragraph. Therefore, the withdrawal of these rejections is respectfully requested.

Claims 1-4, 6 and 10-13 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,892,900 to Ginter et al.

Claims 5 and 7-9, and 16-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al. in view of U.S. Patent No. 5,684,951 to Goldman et al.

Consequently, it is clear that the cited references do not anticipate or render the present claims obvious. Therefore, the withdrawal of this rejection is respectfully requested.

As requested by the Examiner during the interview, a description of a specific embodiment of the invention is attached hereto.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the foregoing, reconsideration and allowance of this application are believed in order, and such action is earnestly solicited.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

Respectfully submitted,

VENABLE, Attorneys at Law

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Telephone 202-962-4800
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RK/JAK/lrh
#331676

Appln. No.: 09/164,777

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) A method of restricting software operation within a license for use with a computer including an ~~first, non-erasable, non-volatile memory area, a second, non-~~erasable, non-volatile memory area of a (BIOS) of the computer. and a volatile memory area; ~~the first non-volatile memory accomodates data that includes unique key;~~ the method comprising the steps of:

selecting a program residing in the volatile memory,

using an agent to ~~setting~~ up verification structure in the ~~second~~ erasable, non-volatile memory of the BIOS, the ~~verfication~~ verification structure accommodati~~nges~~ data that includes at least one license record,

verifying the program using at least ~~said~~ the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as ~~the~~ an encryption key; ~~and~~ transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprisesing the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license verification including an identification of the computer, the an encrypted license-record for the selected program from the second erasable, non-volatile memory area of the BIOS, and the license software program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the pseudo unique key.

6. (Amended) 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 a the license-record.

7. (Amended) A method according to claim 1 6 wherein using an agent to setting up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the a first non-volatile memory area of the computer; and establishing at least one license-record location in the first or the second nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) A method according to claim 7 1 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 ~~first or the second~~ erasable, non-volatile memory area of the BIOS, using the pseudo-unique key; and comparing the encrypted licenses-software-program's license-record contents with the encrypted license-record in the ~~first or the second~~ erasable. non-volatile memory area of the BIOS, or comparing the license-software-program's license-record contents with the decrypted license-record in ~~the first or the second~~ erasable non-volatile memory area of the BIOS.

10. (Amended) A method according to claim ~~9~~1 wherein acting on the program includes the step: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. (Amended) A method according to claim ~~22~~1 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the ~~second~~ erasable, non-volatile memory area is a E^2PROM section of ~~a~~ the BIOS.

16. (Amended) The method of Claim ~~22~~1, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim ~~22~~1, wherein ~~said~~ the step of using the agent to ~~setting~~ up ~~a~~ the verification record, including the license record, includes encrypting a license record data in ~~said~~ the program using at least ~~said~~ the unique key.

18. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes a decrypting the license record data accommodated in ~~said~~ the erasable second non-volatile memory area of the BIOS using at least ~~said~~ the unique key.

19. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes encrypting the license record that is accommodated in ~~said~~ the program using at least ~~said~~ the unique key.

20. (Amended) A method for ~~restricting~~ accessing ~~to~~ a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method comprising:

~~storing a pseudo-unique key in a first non-volatile memory area of a computer;~~

~~selecting~~ loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting ~~pseudo-unique key~~ license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program ~~using~~ based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS ~~pseudo-unique key~~; and

acting on the software program based on the verification.

Appln. No.: 09/164,777

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

Duplicate #1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Miki MULLOR et al.	Art Unit: 2161
Appl. No: 09/164,777	Examiner: J. Trammell
Filed: October 1, 1998	Atty. Docket No: 39636-176166
For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION	Customer No: 26694 PATENT TRADEMARK OFFICE

Official

RECEIVED DEC 06 2001

Information Disclosure Statement Under 37 C.F.R. § 1.97(c)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is an Information Disclosure Statement submitted under 37 C.F.R. § 1.97 within the time specified under 37 C.F.R. § 1.97(c)(2).

In order to comply with applicant's duty of disclosure under 37 C.F.R. § 1.56, the U.S. Patent and Trademark Office is notified of the documents which are listed on the attached Form PTO-1449 and which the Examiner may deem relevant to patentability of the claims of the above-identified application. One copy of each of the listed documents is submitted herewith.

The instant Information Disclosure Statement is being a first Office action on the merits, after filing a request for continued examination. Accordingly, pursuant to 37 C.F.R. §1.97(b)(2), no fee is due.

In view of the above, no further translation or statement of relevance is required, and as all requirements of 37 C.F.R. § 1.97 and all official guide lines pertaining to Information

Information Disclosure Statement
U.S. Appln. No.: 09/164,777

Disclosure Statements have been complied with, and it is therefore respectfully requested that the Examiner consider the documents and make them of record.

If no check is attached, please charge any necessary fee or credit any overpayment in connection with this Information Disclosure Statement to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 11/19/01

Jeffri A. Kaminski
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#331700

Please type a plus sign (+) inside this box

PTO/SB/08A (08-00)
Approved for through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,754,763		Bereiter	5/19/1998	
		5,758,068		Brandt et al.	5/26/1998	
		5,790,664		Coley et al.	8/4/1998	
		5,758,069		Olsen	5/26/1998	
		5,905,860		Olsen et al.	5/18/1999	
		5,390,297		Barber et al.	2/14/1995	
		6,173,446		Khan et al.	1/9/2001	
		4,903,296		Chandra et al.	2/20/1990	
		6,298,138		Gotoh et al.	10/2/2001	
		6,192,475		Wallance	2/20/2001	
		6,272,636		Neville et al.	8/7/2001	
		6,055,503		Horstmann	4/25/2000	
		6,073,256		Sesma	6/6/2000	
		6,006,190		Bacon-Arnaiz et al.	12/21/1999	
		6,078,909		Knutson	6/20/2000	
		6,243,468		Pearce et al.	6/5/2001	
		6,189,146		Misra et al.	2/13/2001	
		5,671,412		Christiano	9/23/1997	
		5,826,011		Chou et al.	10/20/1998	
		6,023,763		Grumpstrup et al.	2/8/2000	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

VENABLE

Please type a plus sign (+) inside this box

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	09/164,777
Filing Date	October 1, 1998
First Named Inventor	Miki MULLOR et al.
Group Art Unit	2161
Examiner Name	J. Trammell
Attorney Docket Number	39636-176166

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		6,216,747		Larsson et al.	5/1/2001	
		6,128,741		Goetz et al.	10/3/2000	
		4,924,378		Hershey et al.	5/8/1990	
		5,386,369		Christiano	1/31/1995	
		6,233,567		Cohen	5/15/2001	
		4,866,769		Karp	9/12/1989	
		6,021,438		Duvvoori et al.	2/1/2000	

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DEC 03 2001
Group 2100

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

VENABLE

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MARYLAND • WASHINGTON, D.C. • VIRGINIA

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ATTORNEYS AT LAW

TO:	FAX NUMBER:	PHONE NUMBER:
Examiner C. Hewitt	**703-308-5397**	**703-308-8057**
SENDER:	SENDER'S FAX NUMBER:	SENDER'S PHONE NUMBER:
J. Kaminski		202-962-4048
	SENDER'S ASSISTANT:	ASSISTANT'S PHONE NUMBER:
DATE:	CLIENT/MATTER NUMBER:	PAGES, EXCLUDING COVER:
11/28/2001	176166	

MESSAGE:

Informational communication. Please deliver to Examiner Calvin Hewitt.
Attached is an informational copy of the amendment filed on November 14, which you have yet to receive from the PTO mailroom.

10120S

Venable Filing Number

11/14/01
Filing Date

Atty. Docket No. 39636-176166
Re: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Application No.: 09/164,777 Filing Date: October 1, 1998
Patent No.: Issue Date
Trademark: Trademark Reg. No:
Opposition/Cancellation No:

The following items were received from Venable, Washington, D.C., by the U.S. Patent & Trademark Office:

U.S. PTO FEES ENCLOSED

XX	**RCE Transmittal Sheet**	$370.00	**Filing Fee**
	Issue Fee Part		Surcharge Fee
	Invention Declaration		
	National Stage Application		Additional Claim Fee
	Translation of International Application		
	New U.S. TM Application (___ specimens)		Recordation of Assignment Fee
	Rule 53(d) Continuation or Division Application		
	Rule 53(b) Continuation or Division		IDS Fee
	Application (in Duplicate) (attach copy of specifications, claims, drawings & declaration)		
	Priority Document-Cert.Copy of _____Appln. # _____ Date _____	$200.00	**Extension Fee**
	Assignment w/Cover Sheet		
XX	**IDS w/ PTO-1449 (with references)**		Notice of Appeal Fee
XX	**Amendment (with marked up version)**		
	Submission of Substitute Specification		Brief on Appeal Fee
XX	**Petition/Request for Extension of Time**		
	Notice of Appeal		Oral Hearing Request Fee
	Appeal Brief (in triplicate)		
	Request for Oral Hearing		Petition Fee
	Confirmation of Hearing Petition		
	Letter Under 37 CFR 1.28 (c)		Issue Fee (Additional)
	Certificate of Correction		
	Maintenance Fee Transmittal		Maintenance Fee
	TM Statement of Use		
	Declaration Under 8		TM Statement of Use

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15743/PTO 11/14/01 CHECK NO 407829

DATE	INVOICE NO	AMOUNT	DISCOUNT	NET AMOUNT
11/14/01	04-111401	570.00	.00	570.00

L.HAYES-39636.176166-FILING RCE W/ EXT. OF TIME

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants	:	Miki MULLOR et al.
Appln. No.	:	09/164,777
Filed	:	October 1, 1998
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Group Art Unit	:	2161
Examiner	:	J. Trammell
Atty. Dkt.	:	39636-176166

Customer No.

26694
PATENT TRADEMARK OFFICE

Assistant Commissioner for Patents
Washington, D.C. 22031

AMENDMENT

Sir:

REQUEST FOR EXTENSION OF TIME

Please extend the period for responding to the Office Action dated June 22, 2001 by two months so that the due date expires November 22, 2001. The requisite extension fee of $200.00 under 37 C.F.R. 1.17 (a) (1) is attached. Should no check be attached, please charge our Deposit Account 22-0261. Please also deduct any additional fees due or credit any overage to the same account.

Responsive to the Office Action dated June 22, 2001, please amend the application as follows:

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) 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:

selecting a program residing in the volatile memory,

using an agent to set up verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record,

verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as an encryption key; transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprises the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-

license verification including an identification of the computer, an encrypted license-record for the selected program from the erasable, non-volatile memory area of the BIOS, and the program's license-record; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the unique key.

6. (Amended) 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.

7. (Amended) 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 establishing at least one license-record location in the first nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) 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 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.

10. (Amended) 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.

11. (Amended) A method according to claim 22 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the erasable, non-volatile memory area is a E^2PROM section of the BIOS.

16. (Amended) The method of Claim 22, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim 22, 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.

18. (Amended) The method according to Claim 22, wherein the step of verifying the program includes a decrypting the license record data accommodated in the erasable second non-volatile memory area of the BIOS using at least the unique key.

19. (Amended) The method according to Claim 22, wherein the step of verifying the program includes encrypting the license record that is accommodated in the program using at least the unique key.

20. (Amended) A method for accessing a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS; and

acting on the software program based on the verification.

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

REMARKS

Claims 1-13 and 16-23 are now pending in this application. New claims 21-23 have been added by this amendment. Each of the pending claims is believed to define an invention which is novel and unobvious over the cited references. Favorable reconsideration of this case is respectfully requested.

Applicant's representative appreciates the Examiner's courtesy in conducting a personnel interview in this case. The claims have been amended as agreed upon during the interview and it is respectfully submitted that this application is now in condition for allowance.

Specifically, claim 1 has been amended to recite that the verification structure is stored in an erasable, non-volatile memory area of the BIOS. This claim amendment overcomes the rejections under 35 U.S.C. 112, first paragraph in sections 3, 4 and 5 of the Final Office Action, as well as the rejection under 35 U.S.C. 112, second paragraph in section 7 of the Final Office Action.

Claim 20 has been amended to correct the informality noted by the Examiner. In view of these amendments, it is respectfully submitted that all pending claims are now in all aspects in compliance with 35 U.S.C. 112, first paragraph and 35 U.S.C. 112, second paragraph. Therefore, the withdrawal of these rejections is respectfully requested.

Claims 1-4, 6 and 10-13 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,892,900 to Ginter et al.

Claims 5 and 7-9, and 16-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al. in view of U.S. Patent No. 5,684,951 to Goldman et al.

Consequently, it is clear that the cited references do not anticipate or render the present claims obvious. Therefore, the withdrawal of this rejection is respectfully requested.

As requested by the Examiner during the interview, a description of a specific embodiment of the invention is attached hereto.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the foregoing, reconsideration and allowance of this application are believed in order, and such action is earnestly solicited.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

Respectfully submitted,

VENABLE, Attorneys at Law

Jeffri A. Kaminski
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Washington, D.C. 20043-9998
Telephone 202-962-4800
Telefax 202-962-8300

RK/JAK/lrh
#331676

Appln. No.: 09/164,777

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) A method of restricting software operation within a license for use with a computer including an ~~first, non-erasable, non-volatile memory area, a second, non-~~erasable, non-volatile memory area of a (BIOS) of the computer, and a volatile memory area; ~~the first non-volatile memory accomodates data that includes unique key;~~ the method comprising the steps of:

selecting a program residing in the volatile memory,

using an agent to set~~ting~~ up verification structure in the ~~second~~ erasable, non-volatile memory of the BIOS, the ~~verfication~~ verification structure accommodati~~nges~~ data that includes at least one license record,

verifying the program using at least ~~said~~ the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as ~~the~~ an encryption key; ~~and~~ transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprises~~ing~~ the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license verification including an identification of the computer, ~~the~~ an encrypted license-record for the selected program from the ~~second~~ erasable, non-volatile memory area of the BIOS, and the ~~license software~~ program's license-record ~~contents~~; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the ~~pseudo~~-unique key.

6. (Amended) 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 ~~a~~ the license-record.

7. (Amended) A method according to claim ~~1~~ 6 wherein using an agent to ~~setting~~ up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in ~~the~~ a first non-volatile memory area of the computer; and establishing at least one license-record location in the first ~~or the second~~ nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) A method according to claim ~~7~~ 1 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 ~~first or the second~~ erasable, non-volatile memory area of the BIOS, using the pseudo-unique key; and comparing the encrypted licenses-software-program's license-record contents with the encrypted license-record in the ~~first or the second~~ erasable, non-volatile memory area of the BIOS, or comparing the license-software-program's license-record contents with the decrypted license-record in ~~the first or the second~~ erasable non-volatile memory area of the BIOS.

10. (Amended) A method according to claim ~~9~~1 wherein acting on the program includes the step: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. (Amended) A method according to claim ~~22~~1 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the ~~second~~ erasable, non-volatile memory area is a E^2PROM section of ~~a~~ the BIOS.

16. (Amended) The method of Claim ~~22~~1, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim ~~22~~1, wherein ~~said~~ the step of using the agent to set~~ting~~ up ~~a~~ the verification record, including the license record, includes encrypting a license record data in ~~said~~ the program using at least ~~said~~ the unique key.

18. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes a decrypting the license record data accommodated in ~~said~~ the erasable second non-volatile memory area of the BIOS using at least ~~said~~ the unique key.

19. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes encrypting the license record that is accommodated in ~~said~~ the program using at least ~~said~~ the unique key.

20. (Amended) A method for ~~restricting~~ accessing ~~to~~ a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

~~storing a pseudo-unique key in a first non-volatile memory area of a computer;~~

~~selecting~~ loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting ~~pseudo-unique key~~ license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program ~~using~~ based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS ~~pseudo-unique key~~; and

acting on the software program based on the verification.

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Miki MULLOR et al.	Art Unit: 2161
Appl. No: 09/164,777	Examiner: J. Trammell
Filed: October 1, 1998	Atty. Docket No: 39636-176166
For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION	Customer No: 26694 PATENT TRADEMARK OFFICE

Information Disclosure Statement Under 37 C.F.R. § 1.97(c)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is an Information Disclosure Statement submitted under 37 C.F.R. § 1.97 within the time specified under 37 C.F.R. § 1.97(c)(2).

In order to comply with applicant's duty of disclosure under 37 C.F.R. § 1.56, the U.S. Patent and Trademark Office is notified of the documents which are listed on the attached Form PTO-1449 and which the Examiner may deem relevant to patentability of the claims of the above-identified application. One copy of each of the listed documents is submitted herewith.

The instant Information Disclosure Statement is being a first Office action on the merits, after filing a request for continued examination. Accordingly, pursuant to 37 C.F.R. §1.97(b)(2), no fee is due.

In view of the above, no further translation or statement of relevance is required, and as all requirements of 37 C.F.R. § 1.97 and all official guide lines pertaining to Information

Information Disclosure Statement
U.S. Appln. No.: 09/164,777

Disclosure Statements have been complied with, and it is therefore respectfully requested that the Examiner consider the documents and make them of record.

If no check is attached, please charge any necessary fee or credit any overpayment in connection with this Information Disclosure Statement to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 11/19/01

Jeffri A. Kaminski
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Telephone: (202) 962-4800
Telefax: (202) 962-8300

#331700

SAM RCE/2161/#9/RCE EH(2) 12-13-01

O I P E NOV 1 4 2001 PATENT & TRADEMARK OFFICE JC54

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000, provides for continued examination of an utility or plant application filed on or after June 8, 1995.
See The American Inventors Protection Act of 1999 (AIPA).

Application Number	09/164,777
Filing Date	October 1, 1998
Examiner Name	C. Hewitt, II
First Named Inventor	M. Mullor
Group Art Unit	2161
Attorney Docket Number	39636-176166

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.
NOTE: *37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for* the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 *Fed. Reg.* 14865 (Mar. 20, 2000), 1233 *Off. Gaz. Pat. Office* 47 (Apr. 11, 2000), which established RCE practice.

RECEIVED NOV 16 2001 Technology Center 2100

1. **Submission required under 37 C.F.R. § 1.114**
   - a. ☐ Previously submitted
     - i. ☐ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on
       (Any unentered amendment(s) referred to above will be entered).
     - ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on
     - iii. ☐ Other
   - b. Enclosed
     - i. ☒ Amendment/Reply
     - ii ☐ Affidavit(s)/Declaration(s)
     - iii. ☒ Information Disclosure Statement (IDS)
     - iv. ☐ Other
2. **Miscellaneous**
   - a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of ______months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) **required**)
   - b. ☐ Other
3. **Fees** The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.
   - a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 22-0261
     - i. ☒ RCE fee required under 37 C.F.R. § 1.17(e)
     - ii. ☒ Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
     - iii. ☐ Other
   - b. ☒ Check in the amount of $ 570.00 enclosed
   - c. ☐ Payment by credit card (Form PTO-2038 enclosed)

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print /Type)	Jeffri A. Kaminski	*Registration No. (Attorney/Agent)*	42,709
Signature	[signature]	*Date*	November 14, 2001

VENABLE
P.O. Box 34385
Washington, DC 20043-9998

SEND Fees and Completed Forms to the following address: Commissioner for Patents, Box RCE, Washington, DC 20231.
PC Docs No. 331636

11/15/2001 EABUBAK1 00000001 09164777
01 FC:279 370.00 OP

VENABLE ATTORNEYS AT LAW

#10/amdt B
MQ
12-13-01

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants	:	Miki MULLOR et al.	) Customer No. 26694 PATENT TRADEMARK OFFICE
Appln. No.	:	09/164,777	)
Filed	:	October 1, 1998	)
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION	)
Group Art Unit	:	2161	
Examiner	:	J. Trammell	
Atty. Dkt.	:	39636-176166	

Assistant Commissioner for Patents
Washington, D.C. 22031

AMENDMENT

Sir:

REQUEST FOR EXTENSION OF TIME

Please extend the period for responding to the Office Action dated June 22, 2001 by two months so that the due date expires November 22, 2001. The requisite extension fee of $200.00 under 37 C.F.R. 1.17 (a) (1) is attached. Should no check be attached, please charge our Deposit Account 22-0261. Please also deduct any additional fees due or credit any overage to the same account.

Responsive to the Office Action dated June 22, 2001, please amend the application as follows:

B

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) 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:

selecting a program residing in the volatile memory,

using an agent to set up verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record,

verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as an encryption key; transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprises the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-

license verification including an identification of the computer, an encrypted license-record for the selected program from the erasable, non-volatile memory area of the BIOS, and the program's license-record; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the unique key.

6. (Amended) 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.

7. (Amended) 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 establishing at least one license-record location in the first nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) 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 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.

10. (Amended) 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.

11. (Amended) A method according to claim 22 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the erasable, non-volatile memory area is a E^2PROM section of the BIOS.

16. (Amended) The method of Claim 22, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim 22, 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.

18. (Amended) The method according to Claim 22, wherein the step of verifying the program includes a decrypting the license record data accommodated in the erasable second non-volatile memory area of the BIOS using at least the unique key.

19. (Amended) The method according to Claim 22, wherein the step of verifying the program includes encrypting the license record that is accommodated in the program using at least the unique key.

20. (Amended) A method for accessing a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS; and

acting on the software program based on the verification.

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

REMARKS

Claims 1-13 and 16-23 are now pending in this application. New claims 21-23 have been added by this amendment. Each of the pending claims is believed to define an invention which is novel and unobvious over the cited references. Favorable reconsideration of this case is respectfully requested.

Applicant's representative appreciates the Examiner's courtesy in conducting a personnel interview in this case. The claims have been amended as agreed upon during the interview and it is respectfully submitted that this application is now in condition for allowance.

Specifically, claim 1 has been amended to recite that the verification structure is stored in an erasable, non-volatile memory area of the BIOS. This claim amendment overcomes the rejections under 35 U.S.C. 112, first paragraph in sections 3, 4 and 5 of the Final Office Action, as well as the rejection under 35 U.S.C. 112, second paragraph in section 7 of the Final Office Action.

Claim 20 has been amended to correct the informality noted by the Examiner. In view of these amendments, it is respectfully submitted that all pending claims are now in all aspects in compliance with 35 U.S.C. 112, first paragraph and 35 U.S.C. 112, second paragraph. Therefore, the withdrawal of these rejections is respectfully requested.

Claims 1-4, 6 and 10-13 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,892,900 to Ginter et al.

Claims 5 and 7-9, and 16-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al. in view of U.S. Patent No. 5,684,951 to Goldman et al.

Consequently, it is clear that the cited references do not anticipate or render the present claims obvious. Therefore, the withdrawal of this rejection is respectfully requested.

As requested by the Examiner during the interview, a description of a specific embodiment of the invention is attached hereto.

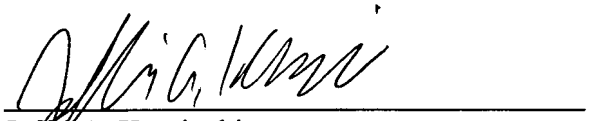
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the foregoing, reconsideration and allowance of this application are believed in order, and such action is earnestly solicited.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

Respectfully submitted,

VENABLE, Attorneys at Law



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amended the claims as follows:

1. (Twice Amended) A method of restricting software operation within a license for use with a computer including an ~~first, non-erasable, non-volatile memory area, a second, non-~~erasable, non-volatile memory area of a (BIOS) of the computer, and a volatile memory area; ~~the first non-volatile memory accomodates data that includes unique key;~~ the method comprising the steps of:

selecting a program residing in the volatile memory,

using an agent to ~~setting~~ up verification structure in the ~~second~~ erasable, non-volatile memory of the BIOS, the ~~verfication~~ verification structure accommodati~~nges~~ data that includes at least one license record,

verifying the program using at least ~~said~~ the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

3. (Amended) A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as ~~the~~ an encryption key; ~~and~~ transferring, from the bureau to the computer, the encrypted license-record; and storing the encrypted license record in the erasable non-volatile memory area of the BIOS.

4. (Amended) A method according to claim 2, wherein verifying the program further comprises~~ing~~ the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license verification including an identification of the computer, ~~the~~ an encrypted license-record for the selected program from the ~~second~~ erasable, non-volatile memory area of the BIOS, and the ~~license-software~~ program's license-record ~~contents~~; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. (Amended) A method according to claim 3 wherein the identification of the computer includes the ~~pseudo~~ unique key.

6. (Amended) 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 ~~a~~ the license-record.

7. (Amended) A method according to claim ~~1~~ 6 wherein using an agent to set~~ting~~ up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in ~~the~~ a first non-volatile memory area of the computer; and establishing at least one license-record location in the first ~~or the second~~ nonvolatile memory area or in the erasable, non-volatile memory area of the BIOS.

9. (Amended) A method according to claim 7~~1~~ 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 ~~first or the second~~ erasable, non-volatile memory area of the BIOS, using the pseudo-unique key; and comparing the encrypted licenses-software-program's license-record contents with the encrypted license-record in the ~~first or the second~~ erasable, non-volatile memory area of the BIOS, or comparing the license-software-program's license-record contents with the decrypted license-record in ~~the first or the second~~ erasable non-volatile memory area of the BIOS.

10. (Amended) A method according to claim 9~~1~~ wherein acting on the program includes the step: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. (Amended) A method according to claim 22~~1~~ wherein the first non-volatile memory area is a ROM section of a BIOS.

12. (Amended) A method according to claim 1 wherein the ~~second~~ erasable, non-volatile memory area is a E^2PROM section of ~~a~~ the BIOS.

16. (Amended) The method of Claim 22~~1~~, wherein the unique key includes a pseudo-unique key.

17. (Amended) The method according Claim 22~~1~~, wherein ~~said~~ the step of using the agent to set~~ting~~ up ~~a~~ the verification record, including the license record, includes encrypting a license record data in ~~said~~ the program using at least ~~said~~ the unique key.

18. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes a decrypting the license record data accommodated in ~~said~~ the erasable second non-volatile memory area of the BIOS using at least ~~said~~ the unique key.

19. (Amended) The method according to Claim 22~~1~~, wherein ~~said~~ the step of verifying the program includes encrypting the license record that is accommodated in ~~said~~ the program using at least ~~said~~ the unique key.

20. (Amended) A method for ~~restricting~~ accessing ~~to~~ a software program using a pseudo-unique key stored in a first non-erasable non-volatile memory area of a computer, the first non-volatile memory area being unable to be programmatically changed, the method, comprising:

~~storing a pseudo-unique key in a first non-volatile memory area of a computer;~~

~~selecting~~ loading a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting license information using the pseudo-unique key stored in the first non-volatile memory area;

storing the encrypting ~~pseudo-unique key~~ license information in a second erasable, writable, non volatile memory area of the BIOS of the computer;

subsequently verifying the software program ~~using~~ based on the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS ~~pseudo-unique key~~; and

acting on the software program based on the verification.

Please add the following new claims:

21. (New) The method of claim 20, wherein the verification comprises:

extracting the license information from the software program;

encrypting the license information using the pseudo-unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the second erasable, writable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

22. (New) The method of claim 1, wherein a unique key is stored in a first non-volatile memory area of the computer.

23. (New) The method according to claim 17, wherein the verification comprises:

extracting the license record from the software program;

encrypting the license record using the unique key stored in the first non-volatile memory area of the computer to form second encrypted license information; and

comparing the encrypted license information stored in the erasable, non-volatile memory area of the BIOS of the computer with the second encrypted license information.

#11

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Miki MULLOR et al.

Art Unit: 2161

Appl. No: 09/164,777

Examiner: J. Trammell

Filed: October 1, 1998

Atty. Docket No: 39636-176166

For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION

Customer No:

26694

PATENT TRADEMARK OFFICE

Information Disclosure Statement Under 37 C.F.R. § 1.97(c)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is an Information Disclosure Statement submitted under 37 C.F.R. § 1.97 within the time specified under 37 C.F.R. § 1.97(c)(2).

In order to comply with applicant's duty of disclosure under 37 C.F.R. § 1.56, the U.S. Patent and Trademark Office is notified of the documents which are listed on the attached Form PTO-1449 and which the Examiner may deem relevant to patentability of the claims of the above-identified application. One copy of each of the listed documents is submitted herewith.

The instant Information Disclosure Statement is being a first Office action on the merits, after filing a request for continued examination. Accordingly, pursuant to 37 C.F.R. §1.97(b)(2), no fee is due.

In view of the above, no further translation or statement of relevance is required, and as all requirements of 37 C.F.R. § 1.97 and all official guide lines pertaining to Information

Disclosure Statements have been complied with, and it is therefore respectfully requested that the Examiner consider the documents and make them of record.

If no check is attached, please charge any necessary fee or credit any overpayment in connection with this Information Disclosure Statement to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 11/19/01

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#331700

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARK
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
	11/09/01		

EXAMINER	
Calvin Hewitt	
ART UNIT	PAPER NUMBER
2161	8

DATE MAILED:

INTERVIEW SUMMARY

All participants (applicant, applicant's representative, PTO personnel):

(1) Calvin Hewitt (3) Robert Kinberg

(2) Jeff. Kurinski (4) Mickey Mullor

Date of Interview 11-9-01

Type: ☐ Telephonic ☐ Televideo Conference ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No If yes, brief description: _____

Agreement ☑ was reached. ☐ was not reached.

Claim(s) discussed: Claim 1 ; Independent claims

Identification of prior art discussed: Ginter 5892900

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:
Storage of license data using BIOS. 112 corrections
Editing independent claim language

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☐ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary. A FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has are ready been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

Examiner Note: You must sign this form unless it is an attachment to another form.

FORM PTOL-413 (REV. 2-98)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/164,777	10/01/98	MULLOR M	REINC4237.01

EXAMINER	
HEWITT II,C	
ART UNIT	**PAPER NUMBER**
2161	7

TM01/0622

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON DC 20005-3955

DATE MAILED: 06/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)

*U.S. GPO: 2000-473-000/44602

1- File Copy

Office Action Summary	Application No.	Applicant(s)	
	09/164,777	MULLOR ET AL.	
	Examiner	Art Unit	
	Calvin L Hewitt II	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

Status of Claims

1. Claims 1-13 and 16-20 have been examined.

Response to Arguments and Amendment

2. The Applicants are of the opinion that the Ginter et al. reference is insufficient as it is believed that it does not teach, "... setting up a verification structure and verifying the program using the verification structure". The Examiner will focus his comments to this matter as other comments regarding the intended use of the claimed invention (e.g. "stationary object" vs. "travelling object") do not result in a structural difference between the claimed invention and the prior art. And, if the prior art structure is capable of performing the intended use, then it meets the claim- See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). To this end, the Examiner would like to reiterate that Ginter et al. the system of Ginter et al. supports, "launchable content" (column/line 24/54-25/27) and maintains, and allows for evolving, content and content control as it passes through a "chain of handling" (column/line 28/42-32/60).

Regarding verification structure, Ginter et al. create for each VDE object a permission record (PERC) (column/line 93/5-94/4; column/line 155/38-159/12) that "...

controls how access and/or manipulation permissions are distributed and/or how content and/or other information may otherwise be used (column 155, lines 46-51). Ginter et al teach that electronic appliances may include one or more SPUs (column 64, lines 1-4) and may be a standardized feature on microprocessors (column 65, lines 17-55). As previously stated, the SPU contains, volatile and non-volatile memories (column/line 70/11-71/15; column/line 71/51-72/67). The SPU Internal ROM contains, "...kernel programs, load modules and encryption key information [that] enable the control of certain basic functions of the SPU" and "... components that are at least in part dependent on [device configuration] may be loaded in [ROM] along with additional load modules that have been determined to be required for specific installations or applications (column 70, lines 48-53). Further, Ginter et al. teach that SPU hardware, provides at least enough processing capabilities to support the secure parts of processing such as events that generate a usage permission (figure 3; column 58, lines 22-49; column 60, lines 45-55). Therefore, the Examiner regards the generation of usage permissions as basic to a SPU, hence, the appropriate load modules would be present in the ROM or EEPROM (column 70, lines 54-65) to allow for such minimum processing. Also, Ginter et al. teach that content control information follows the content (e.g. PERC) therefore, it is inherent that PERC-relevant data would be stored in non-volatile memory (relying on the standard definition of "non-volatile" memory as memory that is maintained even when the power is removed from the storage system). Finally, the Examiner takes issue with the Applicant using EEPROM to store a license record including author name, program name

and number of licensed users. The Applicant has not disclosed the necessary hardware to allow a user to add, remove and modify a license record stored in an EEPROM. EEPROM is read-only memory. Therefore the ability to update existing and add new records to data stored in the EEPROM is contradictory.

Claim Rejections - 35 USC § 112

3. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not support the Applicants' claim of using non-erasable, non-volatile memory being used to store license records.

Claims 2-19 are also rejected as they depend from claim 1.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicant refers to secondary non-volatile storage as EEPROM (Specification, page 8, lines 1 and 25-27). However, EEPROMs require a special or programmer voltage to program it, store 0's and 1's, are programmed at the factory and

when erased **all** data is removed. The Applicants do not teach the device necessary to edit an EEPROM nor have they made it clear to the Examiner how their system would be implemented in light of the non-trivial processing required to write and erase its data.

Claims 2-19 are also rejected as they depend from claim 1.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A device to write to an EEPROM and a method taking into account said device are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The Applicants do not teach the device necessary to edit an EEPROM nor have they made it clear to the Examiner how their system would be implemented in light of the non-trivial processing required to write and erase its data.

Claims 2-19 are also rejected as they depend from claim 1.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The term "non-volatile" in claim 1 is used by

the claim to exclude "hard disk," while it is accepted that a "hard disk" is "non-volatile" as it does not lose data when the power is removed from it.

Claims 2-19 are also rejected as they depend from claim 1.

8. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the encrypting of the pseudo unique key.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4, 6 and 10-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ginter et al. U.S. Patent No. 5,892,900.

As per claim 1, Ginter et al. teach of a system and method for secure transactions management and electronic rights protection that:

- restricts software operation within a license limitation (column 5, lines 29-41; column 6, lines 29-65; column 7, lines 45-57)

- utilizes a computer that has a first non-volatile memory column/line 70/45-71-16; column/line 71/52-72/67; column 231, lines 13-32; column 236, lines 43-53; column 240, lines 7-42; column 241, lines 19-30; column/line 245/55-246/24), a second non-volatile memory area (column/line 70/45-71-16; column/line 71/52-72/67; column 231, lines 13-32; column 236, lines 43-53; column 240, lines 7-42; column 241, lines 19-30; column/line 245/55-246/24) and a volatile memory area (column 71, lines 12-25)
- provides a means of selecting a program residing in the volatile memory (column 71, lines 25-27 and column 82, lines 12-52)
- sets up a verification structure in the non-volatile memories (column 70, lines 23-53 and column/line 63/67-64/15)
- verifies the program using the structure (column 70, lines 23-53 and column/line 63/67-64/15)
- acts on the program according to the verification (column 70, lines 23-53 and column/line 63/67-64/15).

As per claim 2, the method and system of Ginter et al. provide for a license authorization bureau in the form of a VDE (virtual distribution environment) distributor and/or administrator (column/line 278/40 to 281/44).

As per claim 3, the method and system of Ginter et al. discloses a verification method with a license authorization bureau that comprises of:

- a two-way data communication link between said bureau and end-user computer (figure 77)
- a method for establishing end-user rights (column/line 278/40 to 281/44)
- data encryption using keys (column 281, lines 10-22)
- creating a license record from the selected program at the bureau (column 15, lines 10-34; column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44).

As per claim 4, the method and system of Ginter et al. also provides a means of encrypting the license record for the selected program from the second volatile memory (column/line 65/55 to 66/47).

As per claim 6, the method and system of Ginter et al. provides a means for establishing a licensed software program. Where said program contains license record data and is found in the volatile memory (column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44, column 15, lines 10-34, figure 8 and column 96, lines 37-41).

As per claim 10, the method and system of Ginter et al. provide a means for restricting a program's operation with predetermined limitations if the authorization is invalid (column 279, lines 21-32).

As per claim 11, the method and system of Ginter et al. provide for a ROM BIOS (figure 69G and column 70, lines 39-53).

As per claim 12, the method and system of Ginter et al. provide for an EEPROM BIOS (figure 69G and column 70, lines 54-65).

As per claim 13, the method and system of Ginter et al. provide for volatile RAM (column 71, lines 22-25).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 5 and 7-9 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al. U.S. Patent No. 5,892,900 as applied to claims 1, 3, 4 and 6 above, and further in view of Goldman et al. 5,684,951.

As per claim 5 and 16-20, Ginter et al. disclose a verification structure. In addition, Ginter et al. disclose a system and method for secure transaction management and electronic rights protection utilizing encryption keys (column 15, lines 35-60; column/line 45/3-46/26; column 49, lines 47-52; column 206, lines 57-65). Ginter et al. also teach unique keys and storing keys in non-volatile memory (column/line 21/60-22/25; column/line 70/45-71-16; column/line 71/52-72/67). However, Ginter et al. do not disclose pseudo unique keys. Goldman et al. teach of a method and system for user

authorization over a multi-user computer system. In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key (abstract, lines 19-21) that is derived from a user id and the current IP address. Therefore, it would have been obvious to a person of ordinary skill in the art of encryption, to incorporate pseudo unique keys into the system of Ginter et al. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. It would have also been obvious to encrypt communications using pseudo unique keys if less secure means of data exchange was deemed appropriate.

As per claim 7, Ginter et al. teach of a method and system for electronic rights protection comprising of volatile memory, non-volatile memory, license records location and licensed software programs (column 5, lines 29-41; column 6, lines 29-65; column 15, lines 10-34; column/line 63/67-64/15; column/line 65/55-66-47; column 70, lines 23-65; column 71, lines 12-27; column 96, lines 37-41; column/line 278/40-281/44). Ginter et al. also use encryption keys (column 206, lines 57-65). However, Ginter et al. do not make use of pseudo unique keys in their system. Goldman et al. teach of a method and system for user authorization over a multi-user computer system through the use of pseudo unique keys (abstract, lines 19-23). In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key that is derived from a user id and the current IP address. Therefore, it would have been obvious to a person of ordinary skill in the art of the time the invention was made to utilize pseudo unique keys in the system of Ginter et al.. By utilizing such a

method a valid user can be provided access to secured data without comprising the security of the larger system.

As per claim 8, Ginter et al. disclose a method for authoring content that includes encryption keys (column/line 282/ 33 to 283/34). Ginter et al. disclose a method for selecting a licensed software program from the volatile memory to form a license record. However, Ginter et al. do not use pseudo unique keys for purposes of encryption. Goldman et al. teach of a method and system for user authorization over a multi-user computer system through the use of pseudo unique keys (abstract, lines 19-23). In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key that is derived from a user id and the current IP address. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use pseudo unique keys. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. In addition, it would have also been obvious to encrypt communications using pseudo unique keys if less secure means of data exchange was deemed appropriate.

As per claim 9, Ginter et al. teach of a system and method for encrypting and decrypting of licensing related communications between end-user(s) and a license authorization bureau (column/line 282/33 to 283/34 and 168/25 to 169/40). Ginter et al. also teach of volatile and non-volatile memory areas used in conjunction with licensed software programs (figure 8; column 15, lines 10-34; columns 70-72, column 82, lines

12-52, , column/line 70/45-71-16; column/line 71/52-72/67; column 96, lines 37-41; column 231, lines 13-32; column 236, lines 43-53; column 240, lines 7-42; column 241, lines 19-30; column/line 245/55-246/24; column/line 278/40-281/44). However, Ginter et al. do not disclose pseudo unique keys. Goldman et al. provide for the use of pseudo unique keys (abstract, 19-23). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to incorporate pseudo unique keys into the system of Ginter et al.. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Richardson , III teaches a system for software protection

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 305-0625. The examiner can normally be reached on Monday-Friday from 8:30 AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to"

Commissioner of Patents and Trademarks

C/o Technology Center 2700

Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or:

(703) 308-5397 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Calvin Loyd Hewitt II

June 21, 2001

JAMES P. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

GAU 2161
#6/Ext. 2 + Amdt A
ME
5-29-01

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants	:	Miki MULLOR et al.
Appln. No.	:	09/164,777
Filed	:	October 1, 1998
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Group Art Unit	:	2161
Examiner	:	J. Trammell
Atty. Dkt.	:	32130-142820

Customer No.
26694
PATENT TRADEMARK OFFICE

Assistant Commissioner for Patents
Washington, D.C. 22031

AMENDMENT

Sir:

REQUEST FOR EXTENSION OF TIME

Please extend the period for responding to the Office Action dated December 20, 2000 by two months so that the due date expires May 21, 2001. The requisite extension fee of $195.00 under 37 C.F.R. 1.17 (a) (1) is attached. Should no check be attached, please charge our Deposit Account 22-0261. Please also deduct any additional fees due or credit any overage to the same account.

Responsive to the Office Action dated December 20, 2000, please amend the application as follows:

IN THE SPECIFICATION

Page 1, please rewrite paragraph 2 as follows:

Numerous methods have been devised for the identifying and restricting of an unauthorized software program's operation. These methods have been primarily motivated by the grand proliferation of illegally copied software, which is engulfing the marketplace. This illegal copying represents billions of dollars in lost profits to commercial software developers.

Page1, please rewrite paragraph 1 as follows:

Hardware based products have also been developed to validate authorized software usage by accessing a dongle that is coupled e.g. to the parallel port of the P.C. These units are expensive, inconvenient, and not particularly suitable for software that may be sold by downloading (e.g. over the internet).

Page 9, please rewrite paragraph 3 as follows:

The second non-volatile memory includes a license-record-area (9) e.g. which contains at least one encrypted license-record (e.g. three records 10-12). The volatile memory accommodates a license program (16) having license record fields (13-15) appended thereto. By way of example said fields stand for Application names (e.g. Lotus 123), Vendor name (Lotus inc.), and number of licensed copies (1 for stand alone usage, >1 for number of licensed users for a network application).

Page 9, please rewrite paragraph 4 as follows:

Those versed in the art will readily appreciate that the license record is not necessarily bound to continuous fields. In fact, the various license content components of the data record may be embedded in various locations in the application. Any component may, if desired, be encrypted.

Page 9 and continuing on page 10, please rewrite paragraph 7 as follows:

The bureau forms the proposed license-record from the contents, encrypts (utilizing predetermined encryption algorithm) the so formed license-record using the key (8), and compares the so formed encrypted license-record with the license-record (10-12). The bureau generates an overlay according to the result of the comparison indicating successful comparison, non-critical failure comparison and the critical failure comparison.

IN THE CLAIMS:

Please amended the claims as follows:

1. (Amended) A method of restricting software operation within a licensefor use with a computer including a first, non erasable, non-volatile memory area, a second, non-erasable non-volatile memory area, and a volatile memory area; the first non volatile memory accomodates data that includes unique key; the method comprising the steps of:

selecting a program residing in the volatile memory,

setting up a verification structure in the second non-volatile memory , the verfication structure accommodates data that includes at least one license record,

verifying the program using at least said verification structure, and

acting on the program according to the verification.

Please add the following new claims:

16. (New) The method according to Claim 1, wherein the unique key includes a pseudo-unique key.

17. (New) The method according to Claim 1, wherein said step of setting up a verification record, including the license record, includes encrypting a license record data in said program using at least said key.

18. (New) The method according to Claim 1, wherein said step of verifying the program includes decrypting the license record data accommodated in said second non volatile memory using at least said unique key.

19. (New) The method according to Claim 1, wherein said step of verifying the program includes encrypting the license record that is accommodated in said program using at least said unique key.

20. (New) A method for restricting access to a software program, comprising:

storing a pseudo-unique key in a first non-volatile memory area of a computer;

selecting a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting the license information using the pseudo-unique key;

storing the encrypted pseudo-unique key in a second non-volatile memory area of the computer;

verifying the software program using based on the encrypted pseudo-unique key; and

acting on the software program based on the verification.

REMARKS

Claims 1-15 stand rejected. By this Amendment, claim 1 has been amended, claims 14 and 15 have been canceled and new claims 16-20 have been added to the application. Claims 1-13 and 16-20 are therefore pending. It is believed that each of the pending claims define an invention which is novel and unobvious over the cited art. Favorable reconsideration of this case is respectfully requested.

The specification has been reviewed and edited to eliminate minor inaccuracies and typographical errors.

The present invention provides a method and system for identifying and restricting operation of an unauthorized software program. In a preferred embodiemt, a key resides in a first non-volatile part of a computer's memory. The non-volatile memory being typically, but not necessarily, a stand alone module which is not erasable and therefore cannot be modified (see the present specification, page 9, lines 3 to 7). A verification structure is formed to include one or more license records, described below, and resides in a second non-volatile part of the memory, (see the present specification, page 9, lines 8 to 10). The second non-volatile part is erasable and therefore license data in the verification structure can be modified. For example, license data may be added or modified as required, for example, when new licenses are added or expire. The license records are obtained by encrypting license records extracted from the software program with the key stored in the first non-volatile part of the computer's memory, page 9 lines 19 to 21. The key may be of many possible variants (see, for example, the options elaborated in the bridging paragraph between pages 6 and 7 of the specification). The key may also be used for encryption of license record or decryption of encrypted license record all as required and appropriate (see, e.g. page 7 lines 20, 21). Moreover, the contents of the license record is very flexible (see e.g. page 10 lines 17 to 25). The specification explains other advantages of the

invention in more detail.

Claims 1-4, 6 and 10-13 have been rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 5,892,900 to Ginter et al.

Ginter et al. do not anticipate the present invention as they do not disclose, among other things, setting up a verification structure and verifying the program using the verification structure as recited in the rejected claims.

Ginter et al. provide a system and method for secure electronic transaction management and electronic rights protection. Ginter's method provides "machine bound" delivery of content or software through what they call "Stationary Object" (col. 136, lines 64-66 and Fig 18). A stationary object is an object bound to a specific machine. The main security measure used to protect the content of a "Stationary Object" from illegal use is to encrypt it according to the target's unique key (col. 137, lines 45-50).

"For example, a container that is bound by its control to a specific VDE node is called a "stationary Object (see Fig 18)" (col. 136, lines 64-66). "Fig 18 shows an example of a "stationary object" structure 850 provided by the preferred embodiment. 'Stationary Object" structure is intended to be used only at specific VDE electronic appliance/installations that have received explicit permissions to use one or more portions of the stationary object..." (col. 137, lines 23-28)

"This private body (method) section 806 is preferably encrypted using one or more private body keys contained in the separate permissions record 808. The data blocks 812 contain content (information or administrative) that may be encrypted using one or more content keys also provided in permissions record 808."

Accordingly, in Ginter et al., software distributed through a stationary object is encrypted for the specific machine therefor "bound" to it. " Objects may be classified in one sense based on

whether the protection information is bound together with the protected information" (Ginter, col. 136, line 62).

Consequently, this method suffers from the deficiency that it is incompatible with free "out of channel" or "retail channel" distribution. In the latter mode of operation, it is often desired to broadcast a single version of the software to all the subscribers, rather than a machine bound (and obviously different) version for each subscriber that is required by Ginter et al. In other words, the "Stationary Object" aspect of Ginter has the shortcoming, among others, that it cannot support a business model where the distributor doesn't know the final target machine. Therefore, the system and method will not be able to freely distribute the software, such as happens in retail and software companies that ships millions of copies.

Ginter itself acknowledges that the problem with "Stationary Objects" therefore suggests a second method named "Traveling Objects" (col. 136, line 66 - col.137, line 3, and fig. 19). A "Traveling Object" is an object that contains the information needed to use its content:
"a container that is not bound by its control information to a specific VDE node but rather carries sufficient control and permissions to permit its use, in a whole or in part, at any of several sites is called a "Traveling Object" (Ginter, col. 136, line 66 - col. 137, line 3). A traveling object allows shipping the content to unknown destinations by encrypting the content with the same key again and again. However, Ginter uses an encryption technique in the "Traveling Object" feature in which the key is incorporated in the distributed objects. Ginter acknowledge the shortcomings of this solution to wit:

> "In the case of a "traveling object", content owners may distribute information with some or all of the key blocks **810** included in the object **300** in which the content is encapsulated. Putting keys in distributed objects **300** increases the exposure to attempts to defeat security mechanisms by breaking or cryptoanalyzing the encryption algorithm with which the private header is protected (e.g., by determining the key for the header's encryption). This breaking of security would normally require considerable skill and time, but if broken, the

> algorithm and key could be published so as to allow large numbers of individuals who possess objects that are protected with the same key(s) and algorithm(s) to illegally use protected information. (Col. 139, lines 38 to 50)."

Ginter admits that this solution can thus be used only with limited type of software which is not commercially valuable, to wit:

> "As a result, placing keys in distributed objects **300** may be limited to content that is either "time sensitive" (has reduced value after the passage of a certain period of time), or which is somewhat limited in value, or where the commercial value of placing keys in objects (for example convenience to end-users, lower cost of eliminating the communication or other means for delivering keys and/or permissions information and/or the ability to supporting objects going "out-of channel") exceeds the cost of vulnerability to sophisticated hackers. (Col. 139, lines 50 to 59)."

The present invention differs from and overcomes the deficiencies associated with the stationary object and traveling object methods described in Ginter et al. In the present invention, a unique key is stored in the first non-volatile memory of the computer. A software program in the volatile memory of the computer is selected. A license record is extracted from the software program and encrypted using the unique key stored in the computer (see new independent claim 20). Thus, the software program is not machine bound as is required by the stationery object method, nor is the same key used over and over to encrypt the software as is the case with the traveling object. In the present method, the verification structure is formed by using a unique key for each computer and license record information in the software.

Moreover, in col. 70, line 23 – col. 71, line 25 Ginter et al. describe the architecture as add-on hardware which is named "SPU"(col. 63, line 66 – col. 64, line 15). Col. 64, lines 16-21 explicitly detail the fact that the SPU is a hardware add-on, not part of the PC. In col. 70 Ginter et al. describes the memory architecture for the SPU and uses terms taken from the PC engineering world. However, this is not referring to those actual PC components which name is used in their design.

In view of the above, it is clear that Ginter et al do not describe the step of setting up a verification structure. The portions of Ginter et al. referred to by the Examiner all describe the elements of the proprietary hardware of Ginter et al. These portions of Ginter et al. do not describe setting the verification structure in memory, they describe basic functionality of a common CPU that loads code to memory and executes it.

Furthermore, it is clear that Ginter et al. do not describe the step of verifying the program using the verification structure. There is no mention whatsoever in Ginter et al. in col. 70, lines 23-53 and col. 63, line 67 - col. 64, line 15 referred to by the Examiner of a process where a software program verifies its authenticity using a license (verification structure) stored in the second volatile non-volatile memory. The functionality described in these portions of Ginter et al. is the different functionality that add-on hardware, referred to as SPU, can perform. There no specific discussion as to how the functionality is performed and whether it is actually has something to do with protecting software.

In contrast to Ginter et al., the present invention provides a system and method which not only enables free distribution of the software (such as happens in retail stores, and software companies that ship millions of copies), that overcomes the problems with the stationary object in Ginter et al., but also does not suffer from the limitations of incorporating the key in the distributed data as is the case with the traveling object of Ginter et al. Moreover, the steps of setting up a verification structure and using that structure for verification are clearly recited in the rejected claims

For example, independent claim 1 recites a method of restricting software operation within a license limitation. The method is useful for a computer including a first, non-erasable, non-volatile memory area, a second, erasable, non-volatile memory area, and a volatile memory area. The first non-volatile memory accommodates data that includes unique key. According to

the method of the invention, a program residing in the volatile memory is selected. A verification structure is set up in the second non-volatile memory. The verification structure accommodates data that include at least one license record. The program is verified using at least the verification structure. Based on the verification, the program is acted on accordingly.

Additionally, new independent claim 20 recites additional features not disclosed in Ginter et al. In claim 20, a method for restricting access to a software program is defined. The method includes storing a pseudo-unique key in a first non-volatile memory area of a computer. A software program residing in a volatile memory area of the computer is selected. License information is extracted from the software program. The license information is encrypted using the pseudo-unique key. The encrypted pseudo-unique key is stored in a second non-volatile memory area of the computer. The software program is verified using based on the encrypted pseudo-unique key and the software program is acted on based on the verification.

Thus, in the method recited in claim 20, license information is extracted from the software program and encrypted using a key stored on the computer. Applicants review of the cited references did not reveal any description of extracting information from a program, encrypting the information using a key stored on the computer, and storing the encrypted information on the computer. There is no description in the cited references of the steps of "extracting license information from the software program" and "encrypting the license information using the pseudo-unique key" as is recited in new claim 22.

No claim recitation can be ignored in determining anticipation. See Pac-Tex, Inc. v. Amerace Corp., 14 U.S.P.Q.2d 187, (Fed. Cir. 1990). Anticipation requires the disclosure, in a prior art reference, of each and every recitation as set forth in the claims. See Titanium Metals Corp. v. Banner, 227 U.S.P.Q. 773 (Fed. Cir. 1985), Orthokinetics, Inc. v. Safety Travel Chairs,

Inc. 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986), and Akzo N.V. v. U.S. International Trade Commissioner, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986).

There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. 102. See Scripps Clinic and Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001 (CAFC, 1991) and Studiengesellschaft Kohle GmbH v. Dart Industries, 220 U.S.P.Q. 841 (CAFC, 1984).

In view of the above discussion, it is clear that the cited reference does not teach each and every element recited in the claims as required by 35 U.S.C. 102(e). Therefore, the withdrawal of the rejection of claims 1-4, 6 and 10-14 under 35 U.S.C. 102(e) is respectfully requested.

Claims 5 and 7-9 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al. in view of Goldman et al.

Claims 5 and 7-9 depend from independent claim 1 and would patentable for at least the reasons discussed above regarding independent claim 1.

Goldman et al. do not supplement Ginter et al. to teach or suggest the features as recited in the rejected claims.

Claims 14 and 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al in view of Goldman et al.

Claims 14 and 15 have been canceled, rendering this rejection moot.

In view of the above discussion, it is clear that the cited references, taken alone of in combination, do not render the present invention obvious. Therefore the withdraw of this rejection is respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the foregoing, reconsideration and allowance of this application are believed in order, and such action is earnestly solicited.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

Respectfully submitted,

VENABLE, Attorneys at Law

Robert Kinberg
Registration No. 26,924
P.O. Box 34385
Washington, D.C. 20043-9998
Telephone 202-962-4800
Telefax 202-962-8300

RK/JAK/lrh
#289169

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Page 1, please rewrite paragraph 2 as follows:

Numerous methods have been devised for the identifying and restricting of an unauthorized software program's operation. These methods have been primarily motivated by the grand proliferation of illegally copied software, which is engulfing the marketplace. This illegal copying represents billions of dollars in lost profits to commercial software developers.

Page1, please rewrite paragraph 3 as follows:

Hardware based products have also been developed to validate authorized software usage by accessing a dongle that is coupled e.g. to the parallel port of the P.C. These units are expensive, inconvenient, and not particularly suitable for software that may be sold by downloading (e.g. over the internet).

Page 9, please rewrite paragraph 3 as follows:

The second non-volatile memory includes a license-record-area (9) e.g. ~~for the containing of~~ which contains at least one encrypted license-record (e.g. three records 10-12). The volatile memory accommodates a license program (16) having license record fields (13-15) appended thereto. By way of example said fields stand for Application names (e.g. Lotus 123), Vendor name (Lotus inc.), and ~~no~~ number of licensed copies (1 for stand alone usage, >1 for number of licensed users for a network application).

Page 9, please rewrite paragraph 4 as follows:

Those versed in the art will readily appreciate that the license record is not necessarily bound to ~~continuos~~ continuous fields. In fact, the various license content components of the data

record may be embedded in various locations in the application. Any component may, if desired, be encrypted.

Page 9 and continuing on page 10, please rewrite paragraph 7 as follows:

The bureau forms the proposed license-record from the contents, encrypts (utilizing predetermined encryption algorithm) the so formed license-record using the key (8), and compares the so formed encrypted license-record with the license-record (10-12). The bureau generates an overlay according to the result of the comparison ~~indication~~ indicating successful comparison, non-critical failure comparison and the critical failure comparison.

IN THE CLAIMS:

Please amended the claims as follows:

1. (Amended) A method of restricting software operation within a license ~~limitation comprising;~~ for use with a computer including ~~having~~ a first, non erasable, non-volatile memory area, a second, non-erasable non-volatile memory area, and a volatile memory area; the first non volatile memory accomodates data that includes unique key; the method comprising the steps of:

selecting a program residing in the volatile memory,

setting up a verification structure in the second non-volatile memory ~~memories~~, the verfication structure accommodates data that includes at least one license record,

verifying the program using at least said verification structure~~the structure~~, and

acting on the program according to the verification.

Please add the following new claims:

16. (New) The method according to Claim 1, wherein the unique key includes a pseudo-unique key.

17. (New) The method according to Claim 1, wherein said step of setting up a verification record, including the license record, includes encrypting a license record data in said program using at least said key.

18. (New) The method according to Claim 1, wherein said step of verifying the program includes decrypting the license record data accommodated in said second non volatile memory using at least said unique key.

19. (New) The method according to Claim 1, wherein said step of verifying the program includes encrypting the license record that is accommodated in said program using at least said unique key.

20. (New) A method for restricting access to a software program, comprising:

storing a pseudo-unique key in a first non-volatile memory area of a computer;

selecting a software program residing in a volatile memory area of the computer;

extracting license information from the software program;

encrypting the license information using the pseudo-unique key;

storing the encrypted pseudo-unique key in a second non-volatile memory area of the computer;

verifying the software program using based on the encrypted pseudo-unique key; and

acting on the software program based on the verification.

FORM CD-76
(REV. 4-89)
(PRESCRIBED BY DAO 207-2)

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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WASHINGTON DC 20005-3955

DATE MAILED: 12/20/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)
*U.S. GPO: 2000-473-000/44602

1- File Copy

Office Action Summary	Application No.	Applicant(s)	
	09/164,777	MULLOR ET AL.	
	Examiner	Art Unit	
	Calvin L Hewitt II	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 2 .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

Status of Claims

1. Claims 1-15 have been examined.

Response to Applicants' Request

2. Applicant's desire for clarity regarding the Examiner's Office Action dated October 18, 2000 has been noted. In response, the Examiner has written another Office Action that the Examiner believes speaks directly to the issues raised by the Applicants.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4, 6 and 10-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ginter et al U.S. Patent No. 5,892,900.

As per claim 1, Ginter et al teach of a system and method for secure transactions management and electronic rights protection that:

- restricts software operation within a license limitation (column 5, lines 29-41; column 6, lines 29-65; column 7, lines 45-57)
- utilizes a computer that has a first non-volatile memory area (column 70, lines 40-65) , a second non-volatile memory area (column 70, lines 40-65) and a volatile memory area (column 71, lines 12-25)
- provides a means of selecting a program residing in the volatile memory (column 71, lines 25-27 and column 82, lines 12-52)
- sets up a verification structure in the non-volatile memories (column 70, lines 23-53 and column/line 63/67-64/15)
- verifies the program using the structure (column 70, lines 23-53 and column/line 63/67-64/15)
- and acts on the program according to the verification (column 70, lines 23-53 and column/line 63/67-64/15).

As per claim 2, the method and system of Ginter et al provide for a license authorization bureau in the form of a VDE (virtual distribution environment) distributor and/or administrator (column/line 278/40 to 281/44).

As per claim 3, the method and system of Ginter et al discloses a verification method with a license authorization bureau that comprises of:

- a two-way data communication link between said bureau and end-user computer (figure 77)
- a method for establishing end-user rights (column/line 278/40 to 281/44)
- data encryption using keys (column 281, lines 10-22)
- creating a license record from the selected program at the bureau (column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44 and column 15, lines 10-34).

As per claim 4, the method and system of Ginter et al also provides a means of encrypting the license record for the selected program from the second volatile memory (column/line 65/55 to 66/47).

As per claim 6, the method and system of Ginter et al provides a means for establishing a licensed software program. Where said program contains license record data and is found in the volatile memory (column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44, column 15, lines 10-34, figure 8 and column 96, lines 37-41).

As per claim 10, the method and system of Ginter et al provide a means for restricting a program's operation with predetermined limitations if the authorization is invalid (column 279, lines 21-32).

As per claim 11, the method and system of Ginter et al provide for a ROM BIOS (figure 69G and column 70, lines 39-53).

As per claim 12, the method and system of Ginter et al provide for an EEPROM BIOS (figure 69G and column 70, lines 54-65).

As per claim 13, the method and system of Ginter et al provide for volatile RAM (column 71, lines 22-25).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al U.S. Patent No. 5,892,900 as applied to claims 1, 3, 4 and 6 above, and further in view of Goldman et al 5,684,951.

As per claim 5, Ginter et al disclose a verification structure. In addition, Ginter et al disclose a system and method for secure transaction management and electronic rights protection utilizing encryption keys (column 206, lines 57-65).

However, Ginter et al do not disclose pseudo unique keys. Goldman et al teach of a method and system for user authorization over a multi-user computer system. In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key (abstract, lines 19-21) that is derived from

a user id and the current IP address. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. Therefore, it would have been obvious to a person of ordinary skill in the art of encryption, to incorporate pseudo unique keys into the system of Ginter et al.

As per claim 7, Ginter et al teach of a method and system for electronic rights protection comprising of volatile memory, non-volatile memory, license records location and licensed software programs (column 5, lines 29-41; column 6, lines 29-65; column 15, lines 10-34; column/line 63/67-64/15; column/line 65/55-66-47; column 70, lines 23-65; column 71, lines 12-27; column 96, lines 37-41; column/line 278/40-281/44). Ginter et al also use encryption keys (column 206, lines 57-65). However, Ginter et al do not make use of pseudo unique keys in their system. Goldman et al teach of a method and system for user authorization over a multi-user computer system through the use of pseudo unique keys (abstract, lines 19-23). In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key that is derived from a user id and the current IP address. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. Therefore, it would have been obvious to a person of ordinary skill in the art of the time the invention was made to utilize pseudo unique keys in the system of Ginter et al.

As per claim 8, Ginter et al disclose a method for authoring content that includes encryption keys (column/line 282/ 33 to 283/34). Ginter et al disclose a method for selecting a licensed software program from the volatile memory to form a license record. However, Ginter et al do not use pseudo unique keys for purposes of encryption. Goldman et al teach of a method and system for user authorization over a multi-user computer system through the use of pseudo unique keys (abstract, lines 19-23). In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key that is derived from a user id and the current IP address. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use pseudo unique keys.

As per claim 9, Ginter et al teach of a system and method for encrypting and decrypting of licensing related communications between end-user(s) and a license authorization bureau (column/line 282/33 to 283/34 and 168/25 to 169/40). Ginter et al also teach of volatile and non-volatile memory areas used in conjunction with licensed software programs (columns 70-72, column 82, lines 12-52, column/line 278/40 to 281/44, column 15, lines 10-34, figure 8 and column 96, lines 37-41). However, Ginter et al do not disclose pseudo unique keys. Goldman et al provide for the use of pseudo unique keys (abstract, 19-23). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to incorporate pseudo unique keys into the system of Ginter et al.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al, U.S. Patent No. 5,892,900 in view of Goldman et al U.S. Patent No. 5,684,951.

As per claims 14 and 15, Ginter et al. disclose a rights management system for restricting software operation (column 5, lines 29-41; column 6, lines 29-65; column 7, lines 45-57). Further, in order to execute said rights management system, Ginter et al. disclose read only memory (ROM) that may be used store encryption key information. Ginter et al. also disclose ROM components, such as masked ROM and EEPROM, that store permanent portions of code that interface with the encryption and decryption engine (column/line 70/54-71/11). Recall, Ginter et al utilize encryption keys as a method of encryption (column/line 67/48-68/16). However, Ginter et al. do not disclose pseudo unique keys. Goodman et al disclose pseudo unique keys (abstract, lines 19-23) and provides for the storage in a memory unit (column 8, lines 11-12). In said system, a user has valid id but lacks an authorized means of access. In order to access the desired data, a user is sent a pseudo unique key that is derived from a user id and the current IP address. By utilizing such a method a valid user can be provided access to secured data without comprising the security of the larger system. Therefore, it would have been obvious

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Richardson , III teaches a system for software protection

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 305-0625. The examiner can normally be reached on Monday-Friday from 8:30 AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to"

Commissioner of Patents and Trademarks

C/o Technology Center 2700

Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or:

(703) 308-5397 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Calvin Loyd Hewitt II

December 4, 2000

JAMES P. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Notice of References Cited

Application/Control No.	Applicant(s)/Patent Under Reexamination	
09/164,777	MULLOR ET AL.	
Examiner	**Art Unit**	Page 1 of 1
Calvin L Hewitt II	2161	

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE ** APS	OTHER
☐	A	5,892,900	Apr. 1999	Ginter et al.	395	186	☐	☐
☐	B	5,684,951	Nov. 1997	Goodman et al.	395	188.01	☐	☐
☐	C	5,490,216	Feb. 1996	Richardson III	380	4	☐	☐
☐	D						☐	☐
☐	E						☐	☐
☐	F						☐	☐
☐	G						☐	☐
☐	H						☐	☐
☐	I						☐	☐
☐	J						☐	☐
☐	K						☐	☐
☐	L						☐	☐
☐	M						☐	☐

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE ** APS	OTHER
☐	N							☐	☐
☐	O							☐	☐
☐	P							☐	☐
☐	Q							☐	☐
☐	R							☐	☐
☐	S							☐	☐
☐	T							☐	☐

NON-PATENT DOCUMENTS

*		DOCUMENT (Including Author, Title Date, Source, and Pertinent Pages)	DOCUMENT SOURCE ** APS	OTHER
☐	U		☐	☐
☐	V		☐	☐
☐	W		☐	☐
☐	X		☐	☐

*A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)
**APS encompasses any electronic search i.e. text, image, and Commercial Databases.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

12/1/00

Examiner: J. Trammell
Group Unit: 2161

In Re PATENT APPLICATION of

Applicant	:	Miki MULLOR et al.
Application No.	:	09/164,777
Filed	:	October 1, 1998
For	:	METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION
Attorney Docket	:	32130-142820

LETTER REQUESTING NEW ACTION

November 17, 2000

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The Examiner's Action of October 18, 2000 has been received. Because the Action is ambiguous as to the nature of the rejection, omits listing cited references on the form PTO-892 and fails to include copies of the references applied against at least claim 9 with the Action, it is requested that a new Action be issued with a new response date extending three-months from date of the new Action.

Specifically, the summary of the Action indicates claims 1-15 are rejected. However, in the body of the Action, only claims 1-13 are rejected. Claims 13 and 14 do not have any substantive rejections applied against them. It is also noted that in the first rejection on page 2, claims 1-4 and 11-13 are mentioned in the first part of the rejection, however, claims 6 and 10 also appear to be rejected in the narrative of this rejection.

The Richardson U.S. Patent No. 5,490,216 applied against claim 9 is not included on the form PTO-892 and no copy of this reference was supplied with the Action.

Finally, the Action fails to indicate receipt of the certified copy of the Priority Document which was filed with the Application on October 1, 1998. It is requested that in the new Action the Examiner acknowledge receipt of the Priority Document.

This letter is NOT a response to the pending Action but rather a request for issuance of a substitute Action with a new response date.

Respectfully submitted,

Robert Kinberg
Registration No. 26,924
VENABLE
Post Office Box 34385
Washington, DC 20005-3917
Telephone: (202) 962-4800
Direct dial: (202) 962-4014
Telefax: (202) 962-8300

RK/tah/trt

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UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/164,777	10/01/98	MULLOR M	REINC4237.01

TM11/1018

SPENCER AND FRANK
SUITE 300 EAST
1100 NEW YORK AVENUE NW
WASHINGTON DC 20005-3955

EXAMINER	
TRAMMELL, J	
ART UNIT	**PAPER NUMBER**
2161	3

DATE MAILED: 10/18/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/164,777	Applicant(s) MULLOR ET AL.	
	Examiner Calvin L Hewitt II	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
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- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☒ Responsive to communication(s) filed on *01 October 1998* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
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18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

Status of Claims

1. Claims 1-15 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4 and 11-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ginter et al U.S. Patent No. 5,892,900.

As per claim 1, Ginter et al teach of a system and method for secure transactions management and electronic rights protection that:

- restricts software operation within a license limitation (column 5, lines 29-41 and column 6, lines 29-65)
- utilizes a computer that has a first non-volatile memory area (column 70, lines 40-65)

, a second non-volatile memory area (column 70, lines 40-65) and a volatile memory area (column 71, lines 12-25)

- provides a means of selecting a program residing in the volatile memory (column 71, lines 25-27 and column 82, lines 12-52)
- sets up a verification structure in the non-volatile memories (column 70, lines 23-53 and column/line 63/67-64/15)
- verifies the program using the structure (column 70, lines 23-53 and column/line 63/67-64/15)
- and acts on the program according to the verification (column 70, lines 23-53 and column/line 63/67-64/15).

As per claim 2, the method and system of Ginter et al provide for a license authorization bureau in the form of a VDE (virtual distribution environment) distributor and/or administrator (column/line 278/40 to 281/44).

As per claim 3, the method and system of Ginter et al discloses a verification method with a license authorization bureau that comprises of:

- a two-way data communication link between said bureau and end-user computer (figure 77)

- a method for establishing end-user rights (column/line 278/40 to 281/44)
- data encryption using keys (column 281, lines 10-22)
- creating a license record from the selected program at the bureau (column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44 and column 15, lines 10-34).

As per claim 4, the method and system of Ginter et al also provides a means of encrypting the license record for the selected program from the second volatile memory (column/line 65/55 to 66/47).

As per claim 6, the method and system of Ginter et al provides a means for establishing a licensed software program. Where said program contains license record data and is found in the volatile memory (column 71, lines 25-27, column 82, lines 12-52, column/line 278/40 to 281/44, column 15, lines 10-34, figure 8 and column 96, lines 37-41).

As per claim 10, the method and system of Ginter et al provide a means for restricting a program's operation with predetermined limitations if the authorization is invalid (column 279, lines 21-32).

As per claim 11, the method and system of Ginter et al provide for a ROM BIOS (figure 69G and column 70, lines 39-53).

As per claim 12, the method and system of Ginter et al provide for an EEPROM BIOS (figure 69G and column, lines 54-65).

As per claim 13, the method and system of Ginter et al provide for RAM (column 71, lines 16-25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al U.S. Patent No. 5,892,900 as applied to claim 3 above, and further in view of Goldman et al 5,684,951. As per claim 3, Ginter et al disclose a verification structure. In addition, Ginter et al disclose a system and method for secure transaction management and electronic rights protection utilizing encryption keys (column 206, lines 57-65).

However, Ginter et al do not disclose pseudo unique keys. Goldman et al teach of a method and system for user authorization over a multi-user computer system. In said system, a user has valid id but lacks an authorized means of access. Using pseudo unique keys (abstract, lines 19-21), said user can validate said means of access. Therefore, it would have been obvious to a person of ordinary skill in the art of encryption, to incorporate pseudo unique keys into the system of Ginter et al.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al U.S. Patent. 5,892,900 in view of Goldman et al U.S Patent 5,684,951. Ginter et al teach of a method and system for electronic rights protection comprising of volatile memory, non-volatile memory, license records location and licensed software programs (see section 2 rejections pertaining to claims 1, 3, 4 and 6). Ginter et al also use encryption keys (column 206, lines 57-65).

However, Ginter et al do not make use of pseudo unique keys in their system. Goldman et al teach of a method and system for user authorization over a multi-user computer system through the use of pseudo unique keys (abstract, lines 19-21). Therefore, it would have been obvious to a person of ordinary skill in the art of the time the invention was made to utilize pseudo unique keys in the system of Ginter et al.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al U.S. Patent No. 5,892,900 as applied to claim 6 above, and further in view of Goldman et al U.S Patent 5,684,951. Ginter et al disclose a method for authoring content that includes encryption keys (column/line 282/ 33 to 283/34). As per claim 6, Ginter et al disclose a method for selecting a licensed software program from the volatile memory to form a license record. However, Ginter et al do not use pseudo unique keys for purposes of encryption. Goldman et al teach of a method and system for user authorization over a

multi-user computer system through the use of pseudo unique keys (abstract, lines 19-21). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use pseudo unique keys.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ginter et al U.S. Patent No. 5,892,900 in view of Goldman et al U.S Patent 5,684,951 and Richardson, III U.S. Patent No. 5,490,216. Ginter et al teach of a system and method for encrypting and decrypting of licensing related communications between end-user(s) and a license authorization bureau (column/line 282/33 to 283/34 and 168/25 to 169/40). Ginter et al also teach of volatile and non-volatile memory areas used in conjunction with licensed software programs (columns 70-72, column 82, lines 12-52, column/line 278/40 to 281/44, column 15, lines 10-34, figure 8 and column 96, lines 37-41). However, Ginter et al do not disclose pseudo unique keys. Goldman et al provide for the use of pseudo

unique keys (abstract, 21-23). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to incorporate pseudo unique keys into the system of Ginter et al.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Richardson , III teaches a system for software protection

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 305-0625. The examiner can normally be reached on Monday-Friday from 8:30 AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to"

Commissioner of Patents and Trademarks

C/o Technology Center 2700

Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or:

(703) 308-5397 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Calvin Loyd Hewitt II

October 3, 2000

James P. Trammell
Supervisory Patent Examiner
Technology Center 2700

Notice of References Cited

Application/Control No.	Applicant(s)/Patent Under Reexamination
09/164,777	MULLOR ET AL.
Examiner	**Art Unit**
Calvin L Hewitt II	2161

Page 1 of 1

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE ** APS	DOCUMENT SOURCE ** OTHER
☐	A	5,892,900	Apr. 1999	Ginter et al	395	186	☐	☐
☐	B	5,684,951	Nov. 1997	Goldman et al	395	188.01	☐	☐
☐	C						☐	☐
☐	D						☐	☐
☐	E						☐	☐
☐	F						☐	☐
☐	G						☐	☐
☐	H						☐	☐
☐	I						☐	☐
☐	J						☐	☐
☐	K						☐	☐
☐	L						☐	☐
☐	M						☐	☐

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE ** APS	DOCUMENT SOURCE ** OTHER
☐	N							☐	☐
☐	O							☐	☐
☐	P							☐	☐
☐	Q							☐	☐
☐	R							☐	☐
☐	S							☐	☐
☐	T							☐	☐

NON-PATENT DOCUMENTS

*		DOCUMENT (Including Author, Title Date, Source, and Pertinent Pages)	DOCUMENT SOURCE ** APS	DOCUMENT SOURCE ** OTHER
☐	U		☐	☐
☐	V		☐	☐
☐	W		☐	☐
☐	X		☐	☐

*A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)
**APS encompasses any electronic search, i.e. text, image, and Commercial Databases.

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Refine Search: internet and l1 Clear

Search History

Today's Date: 10/4/2000

DB Name	Query	Hit Count	Set Name
USPT	internet and l1	35	L6
USPT	bios and encryption	258	L5
USPT	bios andencryption	30492	L4
USPT	bios adj encryption	0	L3
USPT	pseudo adj unique adj keys	2	L2
USPT	software adj encryption	76	L1

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SYSTEM:OS  - DIALOG OneSearch
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        (c) 2002 ProQuest Info&Learning
*File  15: SELECT IMAGE AVAILABILITY FOR PROQUEST FILES
ENTER 'HELP PROQUEST' FOR MORE
  File  16:Gale Group PROMT(R)  1990-2002/Feb 18
        (c) 2002 The Gale Group
  File 160:Gale Group PROMT(R)  1972-1989
        (c) 1999 The Gale Group
  File 148:Gale Group Trade & Industry DB  1976-2002/Feb 18
        (c)2002 The Gale Group
  File 275:Gale Group Computer DB(TM)  1983-2002/Feb 18
        (c) 2002 The Gale Group
  File 621:Gale Group New Prod.Annou.(R)  1985-2002/Feb 18
        (c) 2002 The Gale Group
  File   9:Business & Industry(R)  Jul/1994-2002/Feb 15
        (c) 2002 Resp. DB Svcs.
  File 623:Business Week  1985-2002/Feb 18
        (c) 2002 The McGraw-Hill Companies Inc
  File 810:Business Wire  1986-1999/Feb 28
        (c) 1999 Business Wire
  File 624:McGraw-Hill Publications  1985-2002/Feb 19
        (c) 2002 McGraw-Hill Co. Inc
  File 636:Gale Group Newsletter DB(TM)  1987-2002/Feb 18
        (c) 2002 The Gale Group
  File 813:PR Newswire  1987-1999/Apr 30
        (c) 1999 PR Newswire Association Inc
  File 634:San Jose Mercury   Jun 1985-2002/Feb 16
        (c) 2002 San Jose Mercury News
  File  20:Dialog Global Reporter  1997-2002/Feb 19
        (c) 2002 The Dialog Corp.
  File  77:Conference Papers Index  1973-2002/Jan
        (c) 2002 Cambridge Sci Abs
  File  35:Dissertation Abs Online  1861-2002/Feb
        (c) 2002 ProQuest Info&Learning
  File 583:Gale Group Globalbase(TM)  1986-2002/Feb 16
        (c) 2002 The Gale Group
  File  65:Inside Conferences  1993-2002/Feb W2
        (c) 2002 BLDSC all rts. reserv.
  File   2:INSPEC  1969-2002/Feb W3
        (c) 2002 Institution of Electrical Engineers
  File 233:Internet & Personal Comp. Abs.  1981-2002/Feb
        (c) 2002 Info. Today Inc.
  File  99:Wilson Appl. Sci & Tech Abs  1983-2002/Jan
        (c) 2002 The HW Wilson Co.
  File 473:FINANCIAL TIMES ABSTRACTS  1998-2001/APR 02
        (c) 2001 THE NEW YORK TIMES
*File 473: This file will not update after March 31, 2001.
It will remain on Dialog as a closed file.
  File 474:New York Times Abs  1969-2002/Feb 18
        (c) 2002 The New York Times
  File 475:Wall Street Journal Abs  1973-2002/Feb 18
        (c) 2002 The New York Times
  File 610:Business Wire  1999-2002/Feb 19
        (c) 2002 Business Wire.
*File 610: File 610 now contains data from 3/99 forward.
Archive data (1986-2/99) is available in File 810.
  File 613:PR Newswire  1999-2002/Feb 19
```

***File 613: File 613 now contains data from 5/99 forward.**
Archive data (1987-4/99) is available in File 813.
File 476:Financial Times Fulltext 1982-2002/Feb 19

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      Set  Items  Description
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?s bios and verify and license
          45863  BIOS
         202023  VERIFY
         993507  LICENSE
      S1    100  BIOS AND VERIFY AND LICENSE
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Processing
Processed  20 of  27 files ...
Processing
Completed processing all files
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      S2    60  S1 AND PY<=1998
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>>>Records from unsupported files will be retained in the RD set.
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>>>Record 623:745043 ignored; incomplete bibliographic data, not retained -
in RD set
...completed examining records
      S3    42  RD (unique items)
?s s3 and agent
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        936552  AGENT
      S4     8  S3 AND AGENT
?t s4/5/1-8
```

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October 1, 1998

Assistant Commissioner for Patents
Washington, D.C. 20231

Re: New Patent Application
Inventor(s): Miki MULLOR and Julian VALIKO
Attorney Docket: REINC 4237.01

Sir:

Please find attached hereto an application for patent which includes:

Specification, Claims, Declaration, Power of Attorney.

A certified copy of Israel Application No. 124571 filed May 21, 1998, the priority of which is claimed herewith under 35 U.S.C. 119.

Verified Declaration Statement showing Small Entity Status:

Formal Drawings: Figures 1 and 2 (2 sheets)

Fee (see formula below) check enclosed.

Basic Fee $395/790..... $ 395.00

Additional Fees:

Total number of claims in excess of 20 * times $11/22 $ 0.00

Number of independent claims 1
in excess of 3: * times $41/82..... $ 0.00
An assignment is likewise enclosed; Recording Fee $40. $ 40.00
TOTAL FEES FOR THE ABOVE APPLICATION... $ 435.00

In the event there is attached hereto no check, or a check for an insufficient amount, please charge the fee to our Account No. 19-3700 and notify us accordingly.

Respectfully submitted

Robert Kinberg,
Registration No. 26,924

RK:boa

Attorney's
Docket No.

Applicant or Patentee:_____
Serial or Patent No.:_____
Filed or Issued:_____
For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I hereby declare that I am

[ ] the owner of the small business concern identified below:
[X] an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN M.Y.P.D. TECHNOLOGIES LTD.
ADDRESS OF CONCERN c/o Keren-Shechter Law Firm, 21 Har Sinai Street, Tel-Aviv 65816, Israel

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION by inventor(s) Miki MULLOR and Julian VALIKO described in

[x] the application filed herewith
[ ] application serial no._____, filed_____.
[ ] patent no._____, issued_____.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME_____
ADDRESS_____
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

NAME_____
ADDRESS_____
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change of status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING X Miki Mullor Julian Valiko
TITLE OF PERSON SIGNING X Manager Manager
ADDRESS OF PERSON SIGNING X 3 Rehov Ramat-Hasharon

SIGNATURE X_____ DATE 11/23/98

Method of Restricting Software Operation within A License Limitation

FIELD OF THE INVENTION

This invention relates to a method and system of identifying and restricting an unauthorized software program's operation.

BACKGROUND OF THE INVENTION

Numerous methods have been devised for the identifying and restricting of unauthorized software program's operation. These methods have been primarily motivated by the grand proliferation of illegally copied software, which is engulfing the marketplace. This illegal copying represents billions of dollars in lost profits to commercial software developers.

Software based products have been developed to validate authorized software usage by writing a license signature onto the computer's volatile memory (e.g. hard disk). These products may be appropriate for restricting honest software users, but they are very vulnerable to attack at the hands of skilled system's programmers (e.g. "hackers"). These license signatures are also subject to the physical instabilities of their volatile memory media.

Hardware base products have also been developed to validate authorized software usage by accessing a dongle that is coupled e.g. to the parallel port of the P.C. These units are expensive, inconvenient, and not particularly suitable for software that may be sold by downloading (e.g. over the internet).

There is accordingly a need in the art to provide for a system and method that substantially reduce or overcome the drawbacks of hitherto known solutions.

SUMMARY OF THE INVENTION

The present invention relates to a method of restricting software operation within a license limitation. This method strongly relies on the use of a key and of a record, which have been written into the non-volatile memory of a computer.

For a better understanding of the underlying concept of the invention, there follows a specific non-limiting example. Thus, consider a conventional computer having a conventional BIOS module in which a key was embedded at the ROM section thereof, during manufacture. The key constitutes, effectively, a unique identification code for the host computer. It is important to note that the key is stored in a non-volatile portion of the BIOS, i.e. it cannot be removed or modified.

Further, according to the invention, each application program that is to be licensed to run on the specified computer, is associated with a license record; that consists of author name, program name and number of licensed users (for network). The license record may be held in either encrypted or explicit form.

Now, there commences an initial license establishment procedure, where a verification structure is set in the BIOS so as to indicate that the specified program is licensed to run on the specified computer. This is implemented by encrypting the license record (or portion thereof) using said key (or portion thereof) exclusively or in conjunction with other identification information) as an encryption key. The resulting encrypted license record is stored in another (second) non-volatile section of the BIOS, e.g. E^2PROM (or

the ROM). It should be noted that unlike the first non-volatile section, the data in the second non-volatile memory may optionally be erased or modified (using E^2PROM manipulation commands), so as to enable to add, modify or remove licenses. The actual format of the license may include a string of terms that correspond to a license registration entry (e.g. lookup table entry or entries) at a license registration bureau (which will be further described as part of the preferred embodiment of the present invention).

Having placed the encrypted license record in the second non-volatile memory (e.g. the E^2PROM), the process of verifying a license may be commenced. Thus, when a program is loaded into the memory of the computer, a so called license verifier application, that is *a priori* running in the computer, accesses the program under question, retrieves therefrom the license record, encrypts the record utilizing the specified unique key (as retrieved from the ROM section of the BIOS) and compares the so encrypted record to the encrypted records that reside in the E^2PROM. In the case of match, the program is verified to run on the computer. If on the other hand the sought encrypted data record is not found in the E^2PROM database, this means that the program under question is not properly licensed and appropriate application define action is invoked (e.g. informing to the user on the unlicensed status, halting the operation of the program under question etc.)

Those versed in the art will readily appreciate that any attempt to run a program at an unlicensed site will be immediately detected. Consider, for example, that a given application, say Lotus 123, is verified to run on a given computer having a first identification code (k1) stored in the ROM portion of the BIOS thereof. This obviously requires that the license record (LR) of the application after having been encrypted using k1 giving rise to $(LR)_{k1}$ is stored in the E^2PROM of the first computer.

Suppose now that a hacker attempts to run the specified application in a second computer having a second identification code (k2) stored in the

ROM portion of the BIOS thereof. All or a portion the database contents (including of course $(LR)_{k1}$) that reside in the E^2PROM portion in the first computer may be copied in a known *per se* means to the second computer. It is important to note that the hacker is unable to modify the key in the ROM of the second computer to K1, since, as recalled, the contents of the ROM is established during manufacture and is practically invariable.

Now, when the application under question is executed in the second computer, the license verifier retrieves said LR from the application and, as explained above, encrypts it using the key as retrieved from the ROM of the second computer, i.e k2 giving rise to encrypted license record $(LR)_{k2}$. Obviously, the value $(LR)_{k2}$ does not reside in the E^2PROM database section of the second computer (since it was not legitimately licensed) and therefore the specified application is invalidated. It goes without saying that the data copied from the first (legitimate) computer is rendered useless, since comparing $(LR)_{k2}$ with the copied value $(LR)_{\tilde{k}1}$ results, of course, in mismatch.

The example above is given for clarity of explanation only and is by no means binding.

In its broadest aspect, the invention provides for a method of restricting software operation within a license limitation including; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

An important advantage in utilizing non-volatile memory such as that residing in the BIOS is that the required level of system programming expertise that is necessary to intercept or modify commands, interacting with the BIOS, is substantially higher than those needed for tampering with data

residing in volatile memory such as hard disk. Furthermore, there is a much higher cost to the programmer, if his tampering is unsuccessful, i.e. if data residing in the BIOS (which is necessary for the computer's operability) is inadvertently changed by the hacker. This is too high of a risk for the ordinary software hacker to pay. Note that various recognized means for hindering the professional-like hacker may also be utilized (e.g. anti-debuggers, etc.) in conjunction with the present invention.

In the context of the present invention, a "computer" relates to a digital data processor. These processors are found in personal computers, or on one or more processing cards in multi-processor machines. Today, a processor normally includes a first non-volatile memory, a second non-volatile memory, and data linkage access to a volatile memory. There are also processors having only one non-volatile memory or having more than two non-volatile memories; all of which should be considered logically as relating to having a first and a second non-volatile memory areas. There are also computational environments where the volatile memory is distributed into numerous physical components, using a bus, LAN, etc.; all of which should logically be considered as being a volatile memory area.

According to the preferred embodiment of the present invention, there is further provided a license authentication bureau which can participate in either or both of:

(i) establishing the license record in the second non-volatile memory; and

(ii) verifying if the key and license record in the non-volatile memory(s) is compatible with the license record information as extracted from the application under question.

The bureau is a telecommunications accessible processor where functions such as formatting, encrypting, and verifying may be performed. Performing these or other functions at the bureau helps to limit the

understanding of potential software hackers; since they can not observe how these functions are constructed. Additional security may also be achieved by forcing users of the bureau to register, collecting costs for connection to the bureau, logging transactions at the bureau, etc.

According to one example of using the bureau, setting up a verification structure further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

According to another example of using the bureau, verifying the program further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

The actual key that serves for identifying the computer may be composed of the pseudo-unique key exclusively, or, if desired, in combination with information, e.g. information related to the registration of the user such as e.g. place, telephone number, user name, license number, etc. In the context of the present invention, a "pseudo-unique" key may relate to a bit string which uniquely identifies each first non-volatile memory. Alternately the "pseudo-unique" key may relate to a random bit string (or to an assigned bit string) of sufficient length such that: there is an acceptably low probability of

a successful unauthorized transfer of licensed software between two computers, where the first volatile memories of these two computers have the same key.

It should be noted that the license bureau might maintain a registry of keys and of licensed programs that have been registered at the bureau in association with these keys. This registry may be used to help facilitate the formalization of procedures for the transfer of ownership of licensed software from use on one computer to use on another computer.

Constructing the key in the manner specified may hinder the hacker in cracking the proposed encryption scheme of the invention, in particular when the establishment of the license record or the verification thereof is performed in the bureau. Those versed in the art will readily appreciate that the invention is by no means bound by the data, the algorithms, or the manner of operation of the bureau. It should be noted that the tasks of establishing and/or verifying a license record may be shared between the bureau and the computer, done exclusively at the computer, or done exclusively at the bureau. The pseudo-unique key length needs to be long enough to hinder encryption attack schemes. The establishing of the key may be done at any time from the non-volatile memory's manufacture until an attempted use of an established license-record in the non-volatile memory. The key is used for encryption or decryption operations associated with license-records. In principle, the manufacturer of the licensed-software-program may specify the license-record format and therefore different formats may, if desired, be used for respective applications.

According to the preferred embodiment of the present invention, the pseudo-unique key is a unique-identification bit string that is written onto the first non-volatile memory by the manufacturer of the is memory media.

According to one, non-limiting, preferred embodiment of the present invention, the first non-volatile memory area is a ROM section of a BIOS; the

second non-volatile memory area is a E^2PROM section of a BIOS; and the volatile memory is a RAM e.g. hard disk and/or internal memory of the computer .

The present invention also relates to a non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

According to the preferred embodiment of the non-volatile memory media of the present invention, the pseudo-unique key is established in a ROM section of the BIOS.

BRIEF DESCRIPTION OF THE DRAWINGS:

In order to understand the invention and to see how it may be carried out in practice, a preferred embodiment will now be described, by way of non-limiting example only, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic diagram of a computer and a license bureau; and

Fig. 2 is a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

A schematic diagram of a computer and a license bureau is shown in Figure 1. Thus, a computer processor (1) is associated with input operations (2) and with output operations (3). This computer (processor) internally contains a first non-volatile memory area (4) (e.g. the ROM section of the BIOS), a second non-volatile memory area (5) (e.g. the E^2PROM section of the BIOS), and a volatile memory area (6) (e.g. the internal RAM memory of the computer).

The computer processor is in temporary telecommunications linkage with a license bureau (7).

The first non-volatile memory includes a pseudo-random identification key (8), which exclusively or in combination with other information (e.g. user name), is sufficient to uniquely differentiate this first non-volatile memory from all other first non-volatile memories. As specified before, said key constitutes unique identification of the computer.

The second non-volatile memory includes a license-record-area (9) e.g. for the containing of at least one encrypted license-record (e.g. three records 10-12). The volatile memory accommodates a license program (16) having license record fields (13-15) appended thereto. By way of example said fields stand for Application name (e.g. Lotus 123), Vendor name (Lotus inc.), and no of licensed copies (1 for stand alone usage, >1 for number of licensed users for a network application).

Those versed in the art will readily appreciate that the license record is not necessarily bound to continuos fields. In fact, the various license content components of the data record may be embedded in various locations in the application. Any component may, if desired, be encrypted.

Each one of the encrypted license records (10-12) is obtained by encrypting the corresponding license record as extracted from program 16, utilizing for encryption the identification key (8).

In a typical, yet not exclusive, sequence of operation, a transaction/request is sent, by the computer to the bureau. This transaction includes the key (8), the encrypted license-records (10-12), contents from the license program used in forming a license record (e.g. fields 13-15), and other items of information as desired.

The bureau forms the proposed license-record from the contents, encrypts (utilizing predetermined encryption algorithm) the so formed license-record using the key (8), and compares the so formed encrypted

license-record with the license-records (10-12). The bureau generates an overlay according to the result of the comparison indication successful comparison, non-critical failure comparison and critical failure comparison.

The bureau returns the overlay which will direct the computer in subsequent operation. Thus, a success overlay will allow the license program to operate. A non-critical failure overlay will ask for additional user interactions. A critical failure overlay will cause permanent disruption to the computer's BIOS operations. Thus, software operation of the program is methodologically according to a license limitation restriction.

Those versed in the art will readily appreciate that the implementation as described with reference to Fig. 1 is by no means binding. Thus, by way of non-limiting example, the bureau, instead of being external entity may form part of the computer.

Attention is now directed to Fig. 2, showing a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

Thus, selecting (17) a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein the licensed-software-program includes contents used to form a license-record. These contents, be they centralize or decentralized, may include terms, identifications, specifications, or limitations related to the manufacturer of a software product, the distributor of a software product, the purchaser of a software product, a licensor, a licensee, items of computer hardware or components thereof, or to other terms and conditions related to the aforesaid.

Setting up (18) the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

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 establishing the encrypted license-record in one of the at least one established license-record locations (e.g. 10-12 in Figure 1).

Verifying (19) 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

Acting (20) on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency. In this context "non-unity" relates to being unequal with respect to a specific equation (e.g. A=B+1); and "insufficiency" relates to being outside of a relational bound (e.g. A>B+1). "Restricting the program's operation with predetermined limitations" may include actions such as erasing the software in volatile memory, warning the license applicant/user, placing a fine on the applicant/user through the billing service charges collected at the license bureau (if applicable), or scrambling sections of the BIOS of the computer (or of functions interacting therewith).

The present invention has been described with a certain degree of particularity but it should be understood that various modifications and alterations may be made without departing from the scope or spirit of the invention as defined by the following claims:

CLAIMS:

1. A method of restricting software operation within a license limitation comprising; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

2. A method according to claim 1, further comprising the step of: establishing a license authentication bureau.

3. A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

4. A method according to claim 2, wherein verifying the program further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. A method according to claim 3 wherein the identification of the computer includes the pseudo-unique key.

6. A method according to claim 1 wherein selecting a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein said licensed-software-program includes contents used to form a license-record.

7. A method according to claim 1 wherein setting up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

8. 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 establishing the encrypted license-record in one of the at least one established license-record locations.

9. A method according to claim 1 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

10. A method according to claim 1 wherein acting on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. A method according to claim 1 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. A method according to claim 1 wherein the second non-volatile memory area is a E^2PROM section of a BIOS.

13. A method according to claim 1 wherein the volatile memory is a RAM.

14. A non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

15. A non-volatile memory media according to claim 14 wherein the pseudo-unique key is established in a ROM section of the BIOS.

ABSTRACT

A method of restricting software operation within a license limitation that is applicable for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area. The method includes the steps of selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

2/95b

DECLARATION FOR UNITED STATES PATENT APPLICATION, POWER OF ATTORNEY, DESIGNATION OF CORRESPONDENCE ADDRESS

Attorney Docket _____

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Method of Restricting Software Operation within a Licensed Limitation

the specification of which

[X] is attached hereto.

[ ] was filed on _____ as Application No. --Unknown--

and was amended on _____ [if applicable].

[ ] was filed under the Patent Cooperation Treaty on _____

Serial No. _____, the United States of America being designated.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent, utility model, design or inventor's certificate listed below and have also identified below any foreign application(s) for patent, utility model, design or inventor's certificate having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Date Filed	Yes	No
124571	Israel	May 21, 1998	X	

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: George H. Spencer (Reg. No. 18,038), Norman N. Kunitz (Reg.No. 20,586), Robert J. Frank (Reg. No. 19,112), Gabor J. Kelemen (Reg. No. 21,016), Robert Kinberg (Reg. No. 26,924), John W. Schneller (Reg. No. 26,031), Ashley J. Wells (Reg. No. 29,847), Christopher H. Lynt (Reg. No. 33,619) Suite 300 East, 1100 New York Avenue, N.W., Washington, D.C. 20005-3955, Telephone: (202) 414-4000, Telefax: (202) 414-4040. Address all correspondence to SPENCER & FRANK, Suite 300 East, 1100 New York Ave., N.W., Washington, D.C. 20005-3955.

The undersigned hereby authorizes the U.S. attorneys named herein to accept and follow instructions from the undersigned's assignee, if any, and/or, if the undersigned is not a resident of the United States, the undersigned's domestic attorney, patent attorney or patent agent, as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the U.S. attorneys named herein will be so notified by the undersigned.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature: X _____ Date: X 8/28/98, 1998.

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Signature: X _____ Date: X 8/28/98, 1998.

Second Inventor: Julian Valiko

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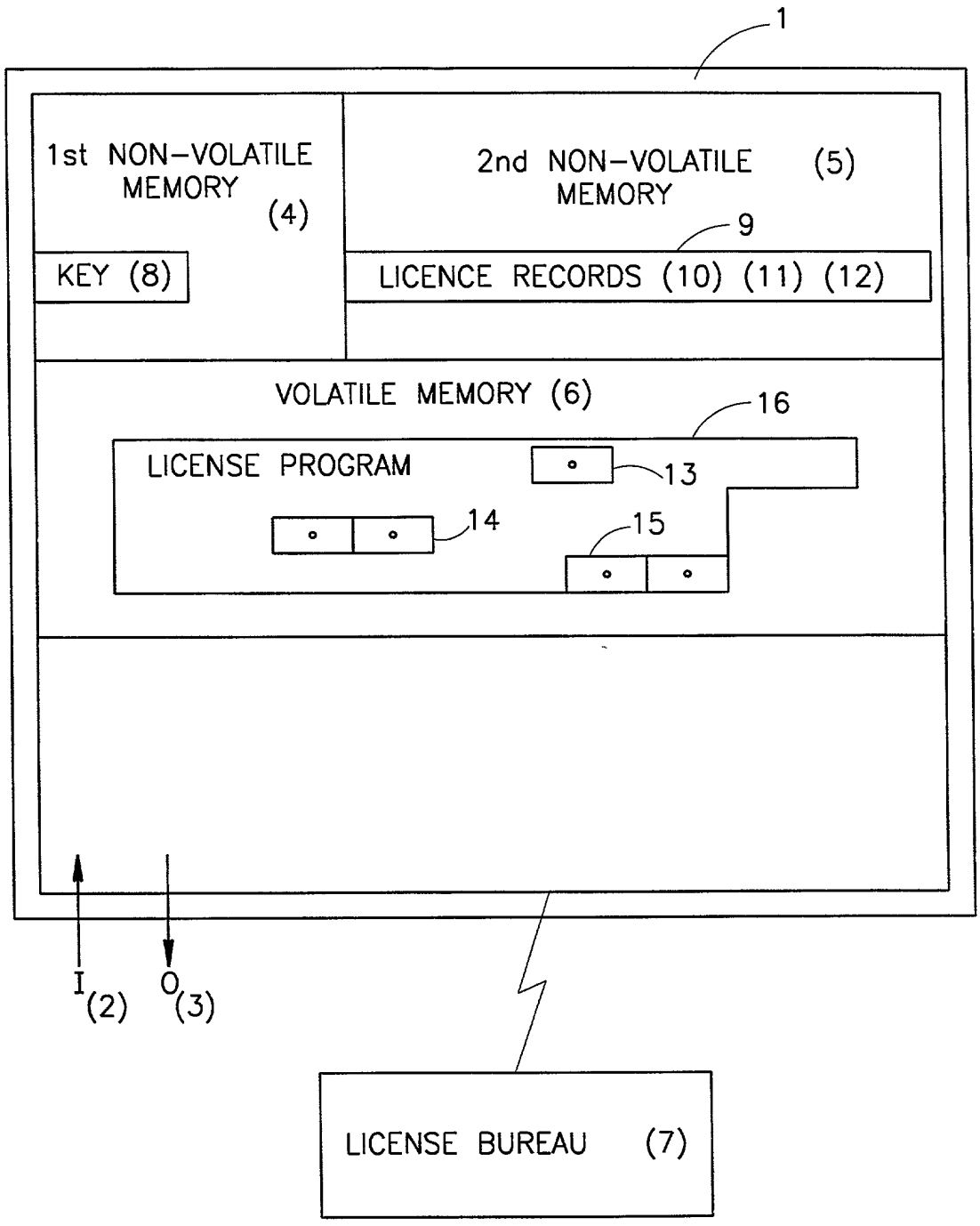

FIG.1

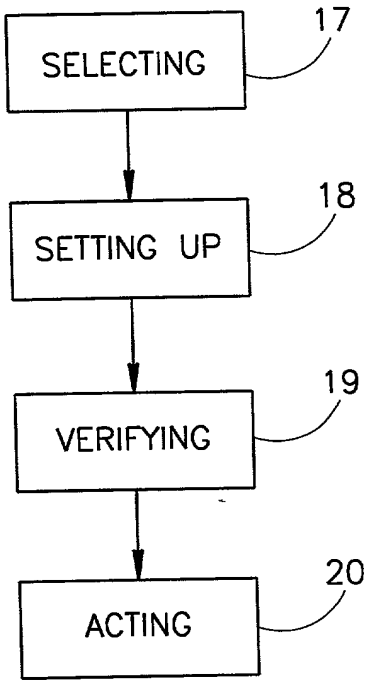

FIG.2

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October 1, 1998

Assistant Commissioner for Patents
Washington, D.C. 20231

Re: New Patent Application
Inventor(s): Miki MULLOR and Julian VALIKO
Attorney Docket: REINC 4237.01

Sir:

Please find attached hereto an application for patent which includes:

Specification, Claims, Declaration, Power of Attorney.

A certified copy of Israel Application No. 124571 filed May 21, 1998, the priority of which is claimed herewith under 35 U.S.C. 119.

Verified Declaration Statement showing Small Entity Status:

Formal Drawings: Figures 1 and 2 (2 sheets)

Fee (see formula below) check enclosed.

Basic Fee $395/790.....	$ 395.00
Additional Fees:	
Total number of claims in excess of 20 * times $11/22	$ 0.00
Number of independent claims 1	
in excess of 3: * times $41/82.....	$ 0.00
An assignment is likewise enclosed; Recording Fee $40.	$ 40.00
TOTAL FEES FOR THE ABOVE APPLICATION...	$ 435.00

In the event there is attached hereto no check, or a check for an insufficient amount, please charge the fee to our Account No. 19-3700 and notify us accordingly.

Respectfully submitted

Robert Kinberg,
Registration No. 26,924

RK:boa

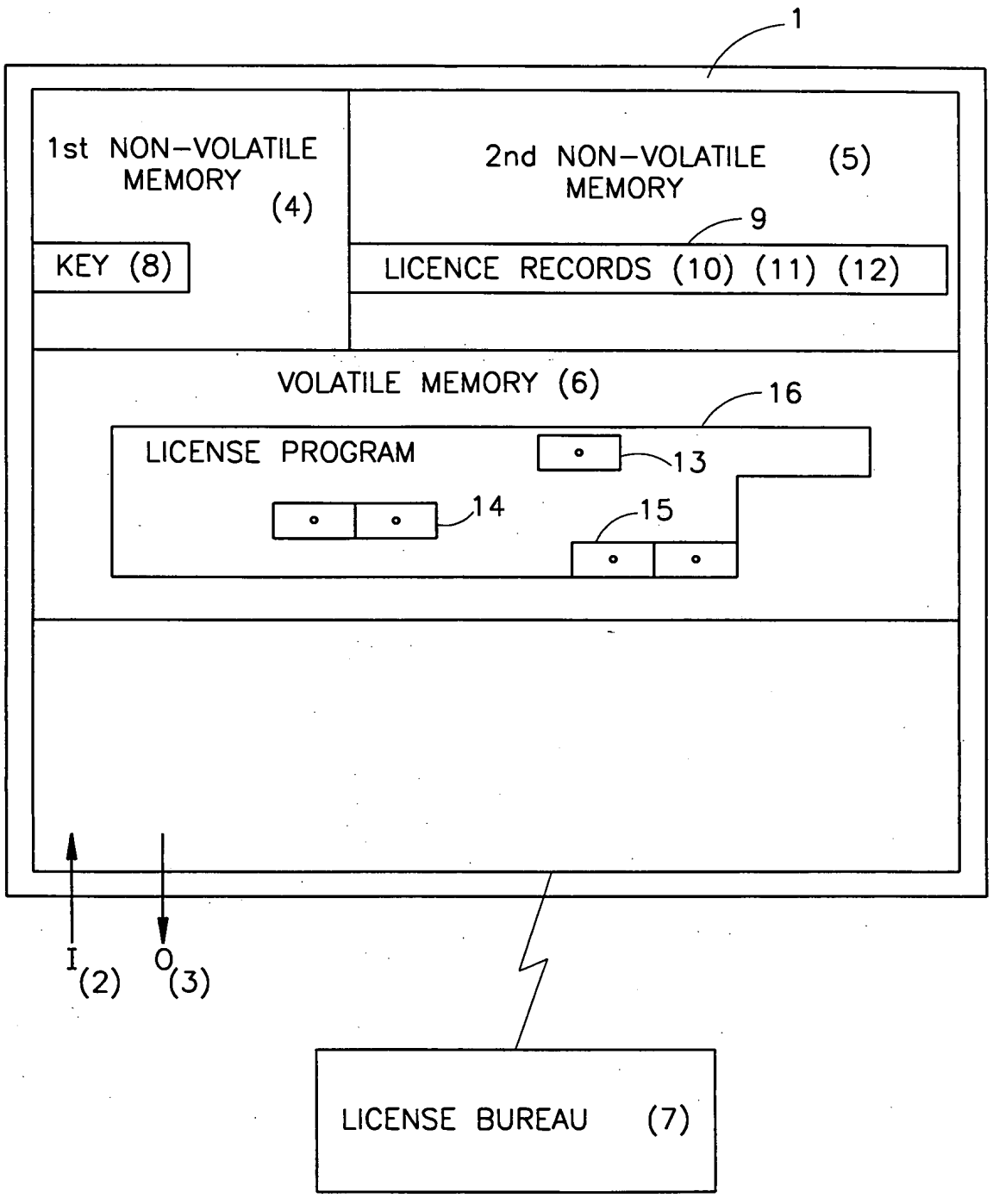

FIG.1

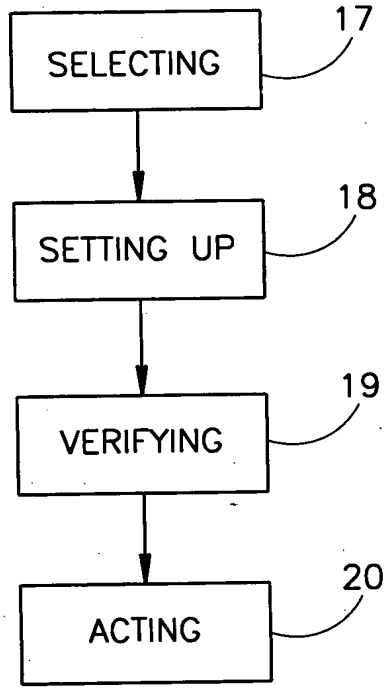

FIG.2

Method of Restricting Software Operation within A License Limitation

FIELD OF THE INVENTION

This invention relates to a method and system of identifying and restricting an unauthorized software program's operation.

BACKGROUND OF THE INVENTION

Numerous methods have been devised for the identifying and restricting of unauthorized software program's operation. These methods have been primarily motivated by the grand proliferation of illegally copied software, which is engulfing the marketplace. This illegal copying represents billions of dollars in lost profits to commercial software developers.

Software based products have been developed to validate authorized software usage by writing a license signature onto the computer's volatile memory (e.g. hard disk). These products may be appropriate for restricting honest software users, but they are very vulnerable to attack at the hands of skilled system's programmers (e.g. "hackers"). These license signatures are also subject to the physical instabilities of their volatile memory media.

Hardware base products have also been developed to validate authorized software usage by accessing a dongle that is coupled e.g. to the parallel port of the P.C. These units are expensive, inconvenient, and not particularly suitable for software that may be sold by downloading (e.g. over the internet).

There is accordingly a need in the art to provide for a system and method that substantially reduce or overcome the drawbacks of hitherto known solutions.

SUMMARY OF THE INVENTION

The present invention relates to a method of restricting software operation within a license limitation. This method strongly relies on the use of a key and of a record, which have been written into the non-volatile memory of a computer.

For a better understanding of the underlying concept of the invention, there follows a specific non-limiting example. Thus, consider a conventional computer having a conventional BIOS module in which a key was embedded at the ROM section thereof, during manufacture. The key constitutes, effectively, a unique identification code for the host computer. It is important to note that the key is stored in a non-volatile portion of the BIOS, i.e. it cannot be removed or modified.

Further, according to the invention, each application program that is to be licensed to run on the specified computer, is associated with a license record; that consists of author name, program name and number of licensed users (for network). The license record may be held in either encrypted or explicit form.

Now, there commences an initial license establishment procedure, where a verification structure is set in the BIOS so as to indicate that the specified program is licensed to run on the specified computer. This is implemented by encrypting the license record (or portion thereof) using said key (or portion thereof) exclusively or in conjunction with other identification information) as an encryption key. The resulting encrypted license record is stored in another (second) non-volatile section of the BIOS, e.g. E^2PROM (or

the ROM). It should be noted that unlike the first non-volatile section, the data in the second non-volatile memory may optionally be erased or modified (using E^2PROM manipulation commands), so as to enable to add, modify or remove licenses. The actual format of the license may include a string of terms that correspond to a license registration entry (e.g. lookup table entry or entries) at a license registration bureau (which will be further described as part of the preferred embodiment of the present invention).

Having placed the encrypted license record in the second non-volatile memory (e.g. the E^2PROM), the process of verifying a license may be commenced. Thus, when a program is loaded into the memory of the computer, a so called license verifier application, that is *a priori* running in the computer, accesses the program under question, retrieves therefrom the license record, encrypts the record utilizing the specified unique key (as retrieved from the ROM section of the BIOS) and compares the so encrypted record to the encrypted records that reside in the E^2PROM. In the case of match, the program is verified to run on the computer. If on the other hand the sought encrypted data record is not found in the E^2PROM database, this means that the program under question is not properly licensed and appropriate application define action is invoked (e.g. informing to the user on the unlicensed status, halting the operation of the program under question etc.)

Those versed in the art will readily appreciate that any attempt to run a program at an unlicensed site will be immediately detected. Consider, for example, that a given application, say Lotus 123, is verified to run on a given computer having a first identification code (k1) stored in the ROM portion of the BIOS thereof. This obviously requires that the license record (LR) of the application after having been encrypted using k1 giving rise to $(LR)_{k1}$ is stored in the E^2PROM of the first computer.

Suppose now that a hacker attempts to run the specified application in a second computer having a second identification code (k2) stored in the

ROM portion of the BIOS thereof. All or a portion the database contents (including of course $(LR)_{k1}$) that reside in the E^2PROM portion in the first computer may be copied in a known *per se* means to the second computer. It is important to note that the hacker is unable to modify the key in the ROM of the second computer to K1, since, as recalled, the contents of the ROM is established during manufacture and is practically invariable.

Now, when the application under question is executed in the second computer, the license verifier retrieves said LR from the application and, as explained above, encrypts it using the key as retrieved from the ROM of the second computer, i.e k2 giving rise to encrypted license record $(LR)_{k2}$. Obviously, the value $(LR)_{k2}$ does not reside in the E^2PROM database section of the second computer (since it was not legitimately licensed) and therefore the specified application is invalidated. It goes without saying that the data copied from the first (legitimate) computer is rendered useless, since comparing $(LR)_{k2}$ with the copied value $(LR)_{k1}$ results, of course, in mismatch.

The example above is given for clarity of explanation only and is by no means binding.

In its broadest aspect, the invention provides for a method of restricting software operation within a license limitation including; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

An important advantage in utilizing non-volatile memory such as that residing in the BIOS is that the required level of system programming expertise that is necessary to intercept or modify commands, interacting with the BIOS, is substantially higher than those needed for tampering with data

residing in volatile memory such as hard disk. Furthermore, there is a much higher cost to the programmer, if his tampering is unsuccessful, i.e. if data residing in the BIOS (which is necessary for the computer's operability) is inadvertently changed by the hacker. This is too high of a risk for the ordinary software hacker to pay. Note that various recognized means for hindering the professional-like hacker may also be utilized (e.g. anti-debuggers, etc.) in conjunction with the present invention.

In the context of the present invention, a "computer" relates to a digital data processor. These processors are found in personal computers, or on one or more processing cards in multi-processor machines. Today, a processor normally includes a first non-volatile memory, a second non-volatile memory, and data linkage access to a volatile memory. There are also processors having only one non-volatile memory or having more than two non-volatile memories; all of which should be considered logically as relating to having a first and a second non-volatile memory areas. There are also computational environments where the volatile memory is distributed into numerous physical components, using a bus, LAN, etc.; all of which should logically be considered as being a volatile memory area.

According to the preferred embodiment of the present invention, there is further provided a license authentication bureau which can participate in either or both of:

(i) establishing the license record in the second non-volatile memory; and

(ii) verifying if the key and license record in the non-volatile memory(s) is compatible with the license record information as extracted from the application under question.

The bureau is a telecommunications accessible processor where functions such as formatting, encrypting, and verifying may be performed. Performing these or other functions at the bureau helps to limit the

understanding of potential software hackers; since they can not observe how these functions are constructed. Additional security may also be achieved by forcing users of the bureau to register, collecting costs for connection to the bureau, logging transactions at the bureau, etc.

According to one example of using the bureau, setting up a verification structure further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

According to another example of using the bureau, verifying the program further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

The actual key that serves for identifying the computer may be composed of the pseudo-unique key exclusively, or, if desired, in combination with information, e.g. information related to the registration of the user such as e.g. place, telephone number, user name, license number, etc. In the context of the present invention, a "pseudo-unique" key may relate to a bit string which uniquely identifies each first non-volatile memory. Alternately the "pseudo-unique" key may relate to a random bit string (or to an assigned bit string) of sufficient length such that: there is an acceptably low probability of

a successful unauthorized transfer of licensed software between two computers, where the first volatile memories of these two computers have the same key.

It should be noted that the license bureau might maintain a registry of keys and of licensed programs that have been registered at the bureau in association with these keys. This registry may be used to help facilitate the formalization of procedures for the transfer of ownership of licensed software from use on one computer to use on another computer.

Constructing the key in the manner specified may hinder the hacker in cracking the proposed encryption scheme of the invention, in particular when the establishment of the license record or the verification thereof is performed in the bureau. Those versed in the art will readily appreciate that the invention is by no means bound by the data, the algorithms, or the manner of operation of the bureau. It should be noted that the tasks of establishing and/or verifying a license record may be shared between the bureau and the computer, done exclusively at the computer, or done exclusively at the bureau. The pseudo-unique key length needs to be long enough to hinder encryption attack schemes. The establishing of the key may be done at any time from the non-volatile memory's manufacture until an attempted use of an established license-record in the non-volatile memory. The key is used for encryption or decryption operations associated with license-records. In principle, the manufacturer of the licensed-software-program may specify the license-record format and therefore different formats may, if desired, be used for respective applications.

According to the preferred embodiment of the present invention, the pseudo-unique key is a unique-identification bit string that is written onto the first non-volatile memory by the manufacturer of the is memory media.

According to one, non-limiting, preferred embodiment of the present invention, the first non-volatile memory area is a ROM section of a BIOS; the

second non-volatile memory area is a E^2PROM section of a BIOS; and the volatile memory is a RAM e.g. hard disk and/or internal memory of the computer .

The present invention also relates to a non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

According to the preferred embodiment of the non-volatile memory media of the present invention, the pseudo-unique key is established in a ROM section of the BIOS.

BRIEF DESCRIPTION OF THE DRAWINGS:

In order to understand the invention and to see how it may be carried out in practice, a preferred embodiment will now be described, by way of non-limiting example only, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic diagram of a computer and a license bureau; and

Fig. 2 is a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

A schematic diagram of a computer and a license bureau is shown in Figure 1. Thus, a computer processor (1) is associated with input operations (2) and with output operations (3). This computer (processor) internally contains a first non-volatile memory area (4) (e.g. the ROM section of the BIOS), a second non-volatile memory area (5) (e.g. the E^2PROM section of the BIOS), and a volatile memory area (6) (e.g. the internal RAM memory of the computer).

The computer processor is in temporary telecommunications linkage with a license bureau (7).

The first non-volatile memory includes a pseudo-random identification key (8), which exclusively or in combination with other information (e.g. user name), is sufficient to uniquely differentiate this first non-volatile memory from all other first non-volatile memories. As specified before, said key constitutes unique identification of the computer.

Ins 93 The second non-volatile memory includes a license-record-area (9) e.g. for the containing of at least one encrypted license-record (e.g. three records 10-12). The volatile memory accommodates a license program (16) having license record fields (13-15) appended thereto. By way of example said fields stand for Application name (e.g. Lotus 123), Vendor name (Lotus inc.), and no of licensed copies (1 for stand alone usage, >1 for number of licensed users for a network application).

Ins 94 Those versed in the art will readily appreciate that the license record is not necessarily bound to continuos fields. In fact, the various license content components of the data record may be embedded in various locations in the application. Any component may, if desired, be encrypted.

Each one of the encrypted license records (10-12) is obtained by encrypting the corresponding license record as extracted from program 16, utilizing for encryption the identification key (8).

In a typical, yet not exclusive, sequence of operation, a transaction/request is sent, by the computer to the bureau. This transaction includes the key (8), the encrypted license-records (10-12), contents from the license program used in forming a license record (e.g. fields 13-15), and other items of information as desired.

Ins. A5 The bureau forms the proposed license-record from the contents, encrypts (utilizing predetermined encryption algorithm) the so formed license-record using the key (8), and compares the so formed encrypted

license-record with the license-records (10-12). The bureau generates an overlay according to the result of the comparison indication successful comparison, non-critical failure comparison and critical failure comparison.

The bureau returns the overlay which will direct the computer in subsequent operation. Thus, a success overlay will allow the license program to operate. A non-critical failure overlay will ask for additional user interactions. A critical failure overlay will cause permanent disruption to the computer's BIOS operations. Thus, software operation of the program is methodologically according to a license limitation restriction.

Those versed in the art will readily appreciate that the implementation as described with reference to Fig. 1 is by no means binding. Thus, by way of non-limiting example, the bureau, instead of being external entity may form part of the computer.

Attention is now directed to Fig. 2, showing a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

Thus, selecting (17) a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein the licensed-software-program includes contents used to form a license-record. These contents, be they centralize or decentralized, may include terms, identifications, specifications, or limitations related to the manufacturer of a software product, the distributor of a software product, the purchaser of a software product, a licensor, a licensee, items of computer hardware or components thereof, or to other terms and conditions related to the aforesaid.

Setting up (18) the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

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 establishing the encrypted license-record in one of the at least one established license-record locations (e.g. 10-12 in Figure 1).

Verifying (19) 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

Acting (20) on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency. In this context "non-unity" relates to being unequal with respect to a specific equation (e.g. A=B+1); and "insufficiency" relates to being outside of a relational bound (e.g. A>B+1). "Restricting the program's operation with predetermined limitations" may include actions such as erasing the software in volatile memory, warning the license applicant/user, placing a fine on the applicant/user through the billing service charges collected at the license bureau (if applicable), or scrambling sections of the BIOS of the computer (or of functions interacting therewith).

The present invention has been described with a certain degree of particularity but it should be understood that various modifications and alterations may be made without departing from the scope or spirit of the invention as defined by the following claims.

CLAIMS:

SUB A6 1. A method of restricting software operation within a license limitation comprising; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

2. A method according to claim 1, further comprising the step of: establishing a license authentication bureau.

SUB B2 3. A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

4. A method according to claim 2, wherein verifying the program further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. A method according to claim 3 wherein the identification of the computer includes the pseudo-unique key.

6. A method according to claim 1 wherein selecting a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein said licensed-software-program includes contents used to form a license-record.

7. A method according to claim 1 wherein setting up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

8. 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 establishing the encrypted license-record in one of the at least one established license-record locations.

SUB B3

9. A method according to claim 1 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

10. A method according to claim 1 wherein acting on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. A method according to claim 1 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. A method according to claim 1 wherein the second non-volatile memory area is a E^2PROM section of a BIOS.

13. A method according to claim 1 wherein the volatile memory is a RAM.

14. A non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

15. A non-volatile memory media according to claim 14 wherein the pseudo-unique key is established in a ROM section of the BIOS.

ADD A7

ADD B5

ABSTRACT

A method of restricting software operation within a license limitation that is applicable for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area. The method includes the steps of selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

2/95b DECLARATION FOR UNITED STATES PATENT APPLICATION; POWER OF ATTORNEY, DESIGNATION OF CORRESPONDENCE ADDRESS Attorney Docket _____

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Method of Restricting Software Operation within a Licensed Limitation

the specification of which

[X] is attached hereto.

[ ] was filed on _____ as Application No. --Unknown--
and was amended on _____ [if applicable].

[ ] was filed under the Patent Cooperation Treaty on _____,
Serial No. _____, the United States of America being designated.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent, utility model, design or inventor's certificate listed below and have also identified below any foreign application(s) for patent, utility model, design or inventor's certificate having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Date Filed	Yes	No
124571	Israel	May 21, 1998	X	

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: George H. Spencer (Reg. No. 18,038), Norman N. Kunitz (Reg.No. 20,586), Robert J. Frank (Reg. No. 19,112), Gabor J. Kelemen (Reg. No. 21,016), Robert Kinberg (Reg. No. 26,924), John W. Schneller (Reg. No. 26,031), Ashley J. Wells (Reg. No. 29,847), Christopher H. Lynt (Reg. No. 33,619) Suite 300 East, 1100 New York Avenue, N.W., Washington, D.C. 20005-3955, Telephone: (202) 414-4000, Telefax: (202) 414-4040. Address all correspondence to SPENCER & FRANK, Suite 300 East, 1100 New York Ave., N.W., Washington, D.C. 20005-3955.

The undersigned hereby authorizes the U.S. attorneys named herein to accept and follow instructions from the undersigned's assignee, if any, and/or, if the undersigned is not a resident of the United States, the undersigned's domestic attorney, patent attorney or patent agent, as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the U.S. attorneys named herein will be so notified by the undersigned.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature: X _____ Date: X 8/28/98, 1998.
Sole/First Inventor: Miki Mullor
Citizenship: Israeli
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Signature: X _____ Date: X 8/28/98, 1998.
Second Inventor: Julian Valiko
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Applicant or Patentee: ____________________ Attorney's Docket No.
Serial or Patent No.: ____________________
Filed or Issued: ____________________
For: METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I hereby declare that I am

[ ] the owner of the small business concern identified below:
[X] an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN M.Y.P.D. TECHNOLOGIES LTD.
ADDRESS OF CONCERN c/o Keren-Shechter Law Firm, 21 Har Sinai Street, Tel-Aviv 65816, Israel

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSED LIMITATION by inventor(s) Miki MULLOR and Julian VALIKO described in

[x] the application filed herewith
[ ] application serial no. ____________, filed ____________.
[ ] patent no. ____________, issued ____________.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

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ADDRESS ____________________
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

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I acknowledge the duty to file, in this application or patent, notification of any change of status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING X MIKI MULLOR JULIAN VLAIKO
TITLE OF PERSON SIGNING X Manager Manager
ADDRESS OF PERSON SIGNING X 3 [illegible] Ramat-Hasharon

SIGNATURE X [signature] [signature] DATE [illegible]

Best Available Copy

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/164,777	10/01/98	380	2766	REIN04237.01

APPLICANT

MIKI MULLOR, RAMAT HASHARON, ISRAEL; JULIAN VALIKO RAMAT HASHARON, ISRAEL.

CONTINUING DOMESTIC DATA********
VERIFIED

MM none

371 (NAT'L STAGE) DATA********
VERIFIED

MM none

FOREIGN APPLICATIONS********
VERIFIED ISRAEL 124571 05/21/98

MM

***** SMALL ENTITY *****

Foreign Priority claimed 35 USC 119 (a-d) conditions met Verified and Acknowledged	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☒ yes ☐ no ☒ yes ☐ no ☐ Met after Allowance Examiner's Initials _____ Initials	ILX	2	15	1

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TITLE

METHOD OF RESTRICTING SOFTWARE OPERATION WITHIN A LICENSE LIMITATION

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$395		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

PATENT APPLICATION FEE DETERMINATION RECORD

Effective October 1, 1997

Application or Docket Number: 09/164777

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)	SMALL ENTITY TYPE [A] 2 OR		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE	RATE	FEE
BASIC FEE	[redacted]		[redacted]	395.00 OR	[redacted]	790.00
TOTAL CLAIMS	15 minus 20 =	*	x$11=	OR	x$22=	
INDEPENDENT CLAIMS	1 minus 3 =	*	x41=	OR	x82=	
MULTIPLE DEPENDENT CLAIM PRESENT			+135=	OR	+270=	
			TOTAL	395.00 OR	TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY OR		OTHER THAN SMALL ENTITY	
	[redacted] CLAIMS REMAINING AFTER AMENDMENT	[redacted]	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
Total	* 20	Minus	** 20	=	x$11=		x$22=	
Independent	* 2	Minus	*** 3	=	x41=		x82=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+135=		+270=	
					TOTAL ADDIT. FEE		TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1)		(Column 2)	(Column 3)				
	[redacted] CLAIMS REMAINING AFTER AMENDMENT	[redacted]	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
Total	* 23	Minus	** 20	= 3	x$11=	27	x$22=	
Independent	* 2	Minus	*** 3	=	x41=		x82=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+135=		+270=	
					TOTAL ADDIT. FEE	27	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1)		(Column 2)	(Column 3)				
	[redacted] CLAIMS REMAINING AFTER AMENDMENT	[redacted]	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
Total	*	Minus	**	=	x$11=		x$22=	
Independent	*	Minus	***	=	x41=		x82=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+135=		+270=	
					TOTAL ADDIT. FEE		TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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the patent application
particulars of which are
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of the annex.

This 25 -06 1998 היום

ממונה על [illegible]

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חוק הפטנטים, תשכ"ז – 1967
PATENTS LAW, 5727-1967

בקשה לפטנט
Application For Patent

לשימוש הלשכה
For Office Use

מספר: Number	124571
תאריך: Date	21 -05- 1998
הוקדם/נדחה: Ante/Post-dated	

אני, (שם המבקש, מענו ולגבי גוף מאוגדת מקום התאגדותו)
I, (Name and address of applicant, and in case of body corporate-place of incorporation)

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Julian Valiko, Israeli citizen, of 3, Zelon St., Ramat Hasharon 47234, Israel

בעל אמצאה מכח היותנו ממציאים שמה הוא
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(בעברית)
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שיטה להגבלת פעולת תוכנה תוך הגבלת רשיון

(באנגלית)
(English)
Method of restricting software operation within a licensed limitation

מבקש בזאת כי ינתן לי עליה פטנט
Hereby apply for a patent to be granted to me in respect thereof.

* בקשת חלוקה Application of Division	* בקשת פטנט מוסף Appl. for Patent of Addition	דרישת דין קדימה* Priority Claim		
מבקשת פטנט from application	* לבקשה/לפטנט to Patent/Appl.	מספר/סימן Number/Mark	תאריך Date	מדינת האיגוד Convention Country
מס' No.	מס' No.			
מיום Dated	מיום dated			

* יפוי כח : עוד יוגש
P.O.A. : To be filed

המען למסירת מסמכים בישראל
Address for Service in Israel

REINHOLD COHN AND PARTNERS
Patent Attorneys
P.O.B. 4060, Tel-Aviv
C. 110713.5

חתימת המבקש
Signature of Applicant

For the Applicants,
REINHOLD COHN AND PARTNERS
By : —

היום This 20 בחודש of May שנת 1998 of the year

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שיטה להגבלת פעולת תוכנה תוך הגבלת רשיון

Method of restricting software operation within a licensed limitation

Miki Mullor

Julian Valiko

מיקי מולאור

יוליאן וליקו

C.110713.5

Method of Restricting Software Operation within A License Limitation

FIELD OF THE INVENTION

This invention relates to a method and system of identifying and restricting an unauthorized software program's operation.

BACKGROUND OF THE INVENTION

Numerous methods have been devised for the identifying and restricting of unauthorized software program's operation. These methods have been primarily motivated by the grand proliferation of illegally copied software, which is engulfing the marketplace. This illegal copying represents billions of dollars in lost profits to commercial software developers.

Software based products have been developed to validate authorized software usage by writing a license signature onto the computer's volatile memory (e.g. hard disk). These products may be appropriate for restricting honest software users, but they are very vulnerable to attack at the hands of skilled system's programmers (e.g. "hackers"). These license signatures are also subject to the physical instabilities of their volatile memory media.

Hardware base products have also been developed to validate authorized software usage by accessing a dongle that is coupled e.g. to the parallel port of the P.C. These units are expensive, inconvenient, and not

particularly suitable for software that may be sold by downloading (e.g. over the internet).

There is accordingly a need in the art to provide for a system and method that substantially reduce or overcome the drawbacks of hitherto known solutions.

SUMMARY OF THE INVENTION

The present invention relates to a method of restricting software operation within a license limitation. This method strongly relies on the use of a key and of a record, which have been written into the non-volatile memory of a computer.

For a better understanding of the underlying concept of the invention, there follows a specific non-limiting example. Thus, consider a conventional computer having a conventional BIOS module in which a key was embedded at the ROM section thereof, during manufacture. The key constitutes, effectively, a unique identification code for the host computer. It is important to note that the key is stored in a non-volatile portion of the BIOS, i.e. it cannot be removed or modified.

Further, according to the invention, each application program that is to be licensed to run on the specified computer, is associated with a license record; that consists of author name, program name and number of licensed users (for network). The license record may be held in either encrypted or explicit form.

Now, there commences an initial license establishment procedure, where a verification structure is set in the BIOS so as to indicate that the specified program is licensed to run on the specified computer. This is implemented by encrypting the license record (or portion thereof) using said key (or portion thereof) exclusively or in conjunction with other identification

information) as an encryption key. The resulting encrypted license record is stored in another (second) non-volatile section of the BIOS, e.g. E^2PROM (or the ROM). It should be noted that unlike the first non-volatile section, the data in the second non-volatile memory may optionally be erased or modified (using E^2PROM manipulation commands), so as to enable to add, modify or remove licenses. The actual format of the license may include a string of terms that correspond to a license registration entry (e.g. lookup table entry or entries) at a license registration bureau (which will be further described as part of the preferred embodiment of the present invention).

Having placed the encrypted license record in the second non-volatile memory (e.g. the E^2PROM), the process of verifying a license may be commenced. Thus, when a program is loaded into the memory of the computer, a so called license verifier application, that is *a priori* running in the computer, accesses the program under question, retrieves therefrom the license record, encrypts the record utilizing the specified unique key (as retrieved from the ROM section of the BIOS) and compares the so encrypted record to the encrypted records that reside in the E^2PROM. In the case of match, the program is verified to run on the computer. If on the other hand the sought encrypted data record is not found in the E^2PROM database, this means that the program under question is not properly licensed and appropriate application define action is invoked (e.g. informing to the user on the unlicensed status, halting the operation of the program under question etc.)

Those versed in the art will readily appreciate that any attempt to run a program at an unlicensed site will be immediately detected. Consider, for example, that a given application, say Lotus 123, is verified to run on a given computer having a first identification code (k1) stored in the ROM portion of the BIOS thereof. This obviously requires that the license record (LR) of the

application after having been encrypted using k1 giving rise to $(LR)_{k1}$ is stored in the E^2PROM of the first computer.

Suppose now that a hacker attempts to run the specified application in a second computer having a second identification code (k2) stored in the ROM portion of the BIOS thereof. All or a portion the database contents (including of course $(LR)_{k1}$) that reside in the E^2PROM portion in the first computer may be copied in a known *per se* means to the second computer. It is important to note that the hacker is unable to modify the key in the ROM of the second computer to K1, since, as recalled, the contents of the ROM is established during manufacture and is practically invariable.

Now, when the application under question is executed in the second computer, the license verifier retrieves said LR from the application and, as explained above, encrypts it using the key as retrieved from the ROM of the second computer, i.e k2 giving rise to encrypted license record $(LR)_{k2}$. Obviously, the value $(LR)_{k2}$ does not reside in the E^2PROM database section of the second computer (since it was not legitimately licensed) and therefore the specified application is invalidated. It goes without saying that the data copied from the first (legitimate) computer is rendered useless, since comparing $(LR)_{k2}$ with the copied value $(LR)_{k1}$ results, of course, in mismatch.

The example above is given for clarity of explanation only and is by no means binding.

In its broadest aspect, the invention provides for a method of restricting software operation within a license limitation including; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

An important advantage in utilizing non-volatile memory such as that residing in the BIOS is that the required level of system programming expertise that is necessary to intercept or modify commands, interacting with the BIOS, is substantially higher than those needed for tampering with data residing in volatile memory such as hard disk. Furthermore, there is a much higher cost to the programmer, if his tampering is unsuccessful, i.e. if data residing in the BIOS (which is necessary for the computer's operability) is inadvertently changed by the hacker. This is too high of a risk for the ordinary software hacker to pay. Note that various recognized means for hindering the professional-like hacker may also be utilized (e.g. anti-debuggers, etc.) in conjunction with the present invention.

In the context of the present invention, a "computer" relates to a digital data processor. These processors are found in personal computers, or on one or more processing cards in multi-processor machines. Today, a processor normally include a first non-volatile memory, a second non-volatile memory, and data linkage access to a volatile memory. There are also processors having only one non-volatile memory or having more than two non-volatile memories; all of which should be considered logically as relating to having a first and a second non-volatile memory areas. There are also computational environments where the volatile memory is distributed into numerous physical components, using a bus, LAN, etc.; all of which should logically be considered as being a volatile memory area.

According to the preferred embodiment of the present invention, there is further provided a license authentication bureau which can participate in either or both of:

(i) establishing the license record in the second non-volatile memory; and

(ii) verifying if the key and license record in the non-volatile memory(s) is compatible with the license record information as extracted from the application under question.

The bureau is a telecommunications accessible processor where functions such as formatting, encrypting, and verifying may be performed. Performing these or other functions at the bureau helps to limit the understanding of potential software hackers; since they can not observe how these functions are constructed. Additional security may also be achieved by forcing users of the bureau to register, collecting costs for connection to the bureau, logging transactions at the bureau, etc.

According to one example of using the bureau, setting up a verification structure further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

According to another example of using the bureau, verifying the program further includes the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

The actual key that serves for identifying the computer may be composed of the pseudo-unique key exclusively, or, if desired, in combination

with information, e.g. information related to the registration of the user such as e.g. place, telephone number, user name, license number, etc. In the context of the present invention, a "pseudo-unique" key may relate to a bit string which uniquely identifies each first non-volatile memory. Alternately the "pseudo-unique" key may relate to a random bit string (or to an assigned bit string) of sufficient length such that: there is an acceptably low probability of a successful unauthorized transfer of licensed software between two computers, where the first volatile memories of these two computers have the same key.

It should be noted that the license bureau might maintain a registry of keys and of licensed programs that have been registered at the bureau in association with these keys. This registry may be used to help facilitate the formalization of procedures for the transfer of ownership of licensed software from use on one computer to use on another computer.

Constructing the key in the manner specified may hinder the hacker in cracking the proposed encryption scheme of the invention, in particular when the establishment of the license record or the verification thereof is performed in the bureau. Those versed in the art will readily appreciate that the invention is by no means bound by the data, the algorithms, or the manner of operation of the bureau. It should be noted that the tasks of establishing and/or verifying a license record may be shared between the bureau and the computer, done exclusively at the computer, or done exclusively at the bureau. The pseudo-unique key length needs to be long enough to hinder encryption attack schemes. The establishing of the key may be done at any time from the non-volatile memory's manufacture until an attempted use of an established license-record in the non-volatile memory. The key is used for encryption or decryption operations associated with license-records. In principle, the manufacturer of the licensed-software-program may specify the

license-record format and therefore different formats may, if desired, be used for respective applications.

According to the preferred embodiment of the present invention, the pseudo-unique key is a unique-identification bit string that is written onto the first non-volatile memory by the manufacturer of the is memory media.

According to one, non-limiting, preferred embodiment of the present invention, the first non-volatile memory area is a ROM section of a BIOS; the second non-volatile memory area is a E^2PROM section of a BIOS; and the volatile memory is a RAM e.g. hard disk and/or internal memory of the computer .

The present invention also relates to a non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

According to the preferred embodiment of the non-volatile memory media of the present invention, the pseudo-unique key is established in a ROM section of the BIOS.

BRIEF DESCRIPTION OF THE DRAWINGS:

In order to understand the invention and to see how it may be carried out in practice, a preferred embodiment will now be described, by way of non-limiting example only, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic diagram of a computer and a license bureau; and

Fig. 2 is a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

A schematic diagram of a computer and a license bureau is shown in Figure 1. Thus, a computer processor (1) is associated with input operations (2) and with output operations (3). This computer (processor) internally contains a first non-volatile memory area (4) (e.g. the ROM section of the BIOS), a second non-volatile memory area (5) (e.g. the E^2PROM section of the BIOS), and a volatile memory area (6) (e.g. the internal RAM memory of the computer).

The computer processor is in temporary telecommunications linkage with a license bureau (7).

The first non-volatile memory includes a pseudo-random identification key (8), which exclusively or in combination with other information (e.g. user name), is sufficient to uniquely differentiate this first non-volatile memory from all other first non-volatile memories. As specified before, said key constitutes unique identification of the computer.

The second non-volatile memory includes a license-record-area (9) e.g. for the containing of at least one encrypted license-record (e.g. three records 10-12). The volatile memory accommodates a license program (16) having license record fields (13-15) appended thereto. By way of example said fields stand for Application name (e.g. Lotus 123), Vendor name (Lotus inc.), and no of licensed copies (1 for stand alone usage, >1 for number of licensed users for a network application).

Those versed in the art will readily appreciate that the license record is not necessarily bound to continuos fields. In fact, the various license content components of the data record may be embedded in various locations in the application. Any component may, if desired, be encrypted.

Each one of the encrypted license records (10-12) is obtained by encrypting the corresponding license record as extracted from program 16, utilizing for encryption the identification key (8).

In a typical, yet not exclusive, sequence of operation, a transaction/request is sent, by the computer to the bureau. This transaction includes the key (8), the encrypted license-records (10-12), contents from the license program used in forming a license record (e.g. fields 13-15), and other items of information as desired.

The bureau forms the proposed license-record from the contents, encrypts (utilizing predetermined encryption algorithm) the so formed license-record using the key (8), and compares the so formed encrypted license-record with the license-records (10-12). The bureau generates an overlay according to the result of the comparison indication successful comparison, non-critical failure comparison and critical failure comparison.

The bureau returns the overlay which will direct the computer in subsequent operation. Thus, a success overlay will allow the license program to operate. A non-critical failure overlay will ask for additional user interactions. A critical failure overlay will cause permanent disruption to the computer's BIOS operations. Thus, software operation of the program is methodologically according to a license limitation restriction.

Those versed in the art will readily appreciate that the implementation as described with reference to Fig. 1 is by no means binding. Thus, by way of non-limiting example, the bureau, instead of being external entity may form part of the computer.

Attention is now directed to Fig. 2, showing a generalized flow chart of the sequence of operations performed according to one embodiment of the invention.

Thus, selecting (17) a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein the licensed-software-program includes contents used to form a license-record. These contents, be they centralize or decentralized, may include terms, identifications, specifications, or limitations related to the

manufacturer of a software product, the distributor of a software product, the purchaser of a software product, a licensor, a licensee, items of computer hardware or components thereof, or to other terms and conditions related to the aforesaid.

Setting up (18) the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

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 establishing the encrypted license-record in one of the at least one established license-record locations (e.g. 10-12 in Figure 1).

Verifying (19) 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

Acting (20) on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency. In this context "non-unity" relates to being unequal with respect to a specific equation (e.g. A=B+1); and "insufficiency" relates to being outside of a relational bound (e.g. A>B+1). "Restricting the program's operation with predetermined limitations" may include actions such as erasing the software in volatile memory, warning the license applicant/user, placing a fine on the applicant/user through the billing service

charges collected at the license bureau (if applicable), or scrambling sections of the BIOS of the computer (or of functions interacting therewith).

The present invention has been described with a certain degree of particularity but it should be understood that various modifications and alterations may be made without departing from the scope or spirit of the invention as defined by the following claims:

CLAIMS:

1. A method of restricting software operation within a license limitation comprising; for a computer having a first non-volatile memory area, a second non-volatile memory area, and a volatile memory area; the steps of: selecting a program residing in the volatile memory, setting up a verification structure in the non-volatile memories, verifying the program using the structure, and acting on the program according to the verification.

2. A method according to claim 1, further comprising the step of: establishing a license authentication bureau.

3. A method according to claim 2, wherein setting up a verification structure further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license including an identification of the computer and the license-record's contents from the selected program; forming an encrypted license-record at the bureau by encrypting parts of the request-for-license using part of the identification as the encryption key; and transferring, from the bureau to the computer, the encrypted license-record.

4. A method according to claim 2, wherein verifying the program further comprising the steps of: establishing, between the computer and the bureau, a two-way data-communications linkage; transferring, from the computer to the bureau, a request-for-license-verification including an identification of the computer, the encrypted license-record for the selected program from the second non-volatile memory, and the licensed-software-program's license-record contents; enabling the comparing at the bureau; and transferring, from the bureau to the computer, the result of the comparing.

5. A method according to any of claims 3 or 4 wherein the identification of the computer includes the pseudo-unique key.

6. A method according to claims 1 or 2 wherein selecting a program includes the step of: establishing a licensed-software-program in the volatile memory of the computer wherein said licensed-software-program includes contents used to form a license-record.

7. A method according to claims 1 or 2 wherein setting up the verification structure includes the steps of: establishing or certifying the existence of a pseudo-unique key in the first non-volatile memory area; and establishing at least one license-record location in the first or the second nonvolatile memory area.

8. A method according to claims 6 and 7 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 establishing the encrypted license-record in one of the at least one established license-record locations.

9. A method according to claims 1 or 2 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 first or the second non-volatile memory area, using the key; and comparing the encrypted licensed-software-program's license-record contents with the encrypted license-record in the first or the second non-volatile memory area, or comparing the licensed-software-program's license-record contents with the decrypted license-record in the first or the second non-volatile memory area.

10. A method according to any of claims 1 or 9 wherein acting on the program includes the step of: restricting the program's operation with predetermined limitations if the comparing yields non-unity or insufficiency.

11. A method according to claim 1 wherein the first non-volatile memory area is a ROM section of a BIOS.

12. A method according to claim 1 wherein the second non-volatile memory area is a E^2PROM section of a BIOS.

13. A method according to claim 1 wherein the volatile memory is a RAM.

14. A non-volatile memory media used as a BIOS of a computer, for restricting software operation within a license limitation, wherein a pseudo-unique key is established.

15. A non-volatile memory media according to claim 14 wherein the pseudo-unique key is established in a ROM section of the BIOS.

For the Applicants,
REINHOLD COHN AND PARTNERS
By:

Miki Mullor
Julian Valiko

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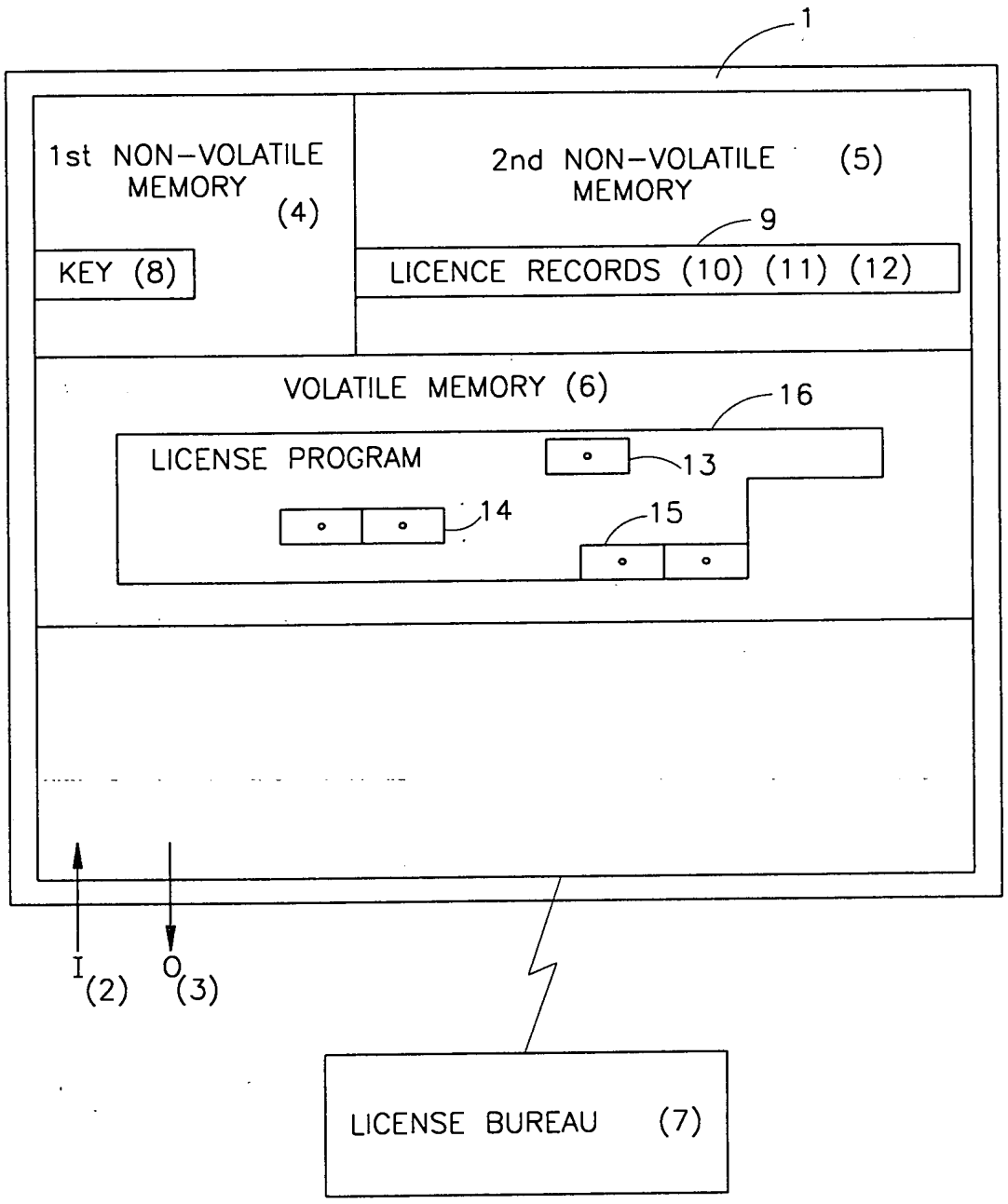

FIG. 1

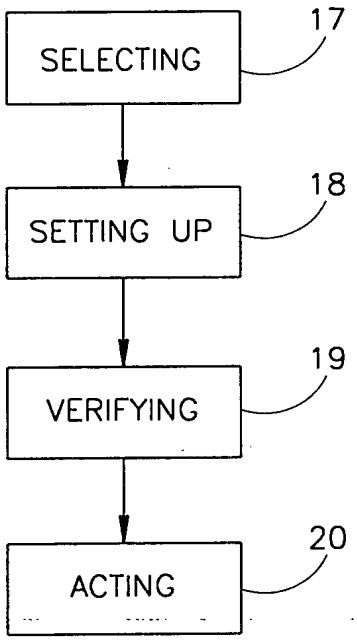

FIG.2

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ISSUE CLASSIFICATION	
Class	Subclass
705	59

PATENT NUMBER
6411941
6411941

U.S. UTILITY PATENT APPLICATION

O.I.P.E.	PATENT DATE
SCANNED ____ Q.A. ____	JUN 2 5 2002

SECTOR	CLASS	SUBCLASS	ART UNIT	EXAMINER

FILED WITH: ☐ DISK (CRF) ☐ FICHE
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PREPARED AND APPROVED FOR ISSUE

ISSUING CLASSIFICATION

ORIGINAL		CROSS REFERENCE(S)						
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					
705	59	705	50	51	53	57		
INTERNATIONAL CLASSIFICATION								
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☐ TERMINAL DISCLAIMER	DRAWINGS			CLAIMS ALLOWED	
	Sheets Drwg.	Figs. Drwg.	Print Fig.	Total Claims	Print Claim for O.G.
	2	2	1	19	18

☐ a) The term of this patent subsequent to ____ (date) has been disclaimed.	(Assistant Examiner) (Date)	NOTICE OF ALLOWANCE MAILED: 3-28-02
☐ b) The term of this patent shall not extend beyond the expiration date of U.S Patent. No. ____	Hyung-Sub Sough, Primary Examiner (Primary Examiner) (Date)	ISSUE FEE (W) — Amount Due: $640.00 — Date Paid: 4-22-02
☐ c) The terminal ___ months of this patent have been disclaimed.	(Legal Instruments Examiner) 4-26-02 (Date)	ISSUE BATCH NUMBER

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(LABEL AREA)

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Class	Sub.	Date	Exmr.
705	51	10/2/00	CHH
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380		10/2/00	CHH
713	167	10/2/00	CHH
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705	1		
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	56		
	58	updated search 2/19/02	CHH
	59		

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.

SEARCH NOTES
(INCLUDING SEARCH STRATEGY)

	Date	Exmr.
Used West in an attempt to identify prior art	10/2/00	CHH
Used WEST in an attempt to identify relevant prior art.	1/31/02	
Searched NPL and Foreign Patent Database	2/19/02	CHH

(RIGHT OUTSIDE)

ISSUE CLASSIFICATION STAPLE AREA (For additional cross references)

POSITION	INITIALS	ID NO.	DATE
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FORMALITY REVIEW			

INDEX OF CLAIMS

✔ ..... Rejected
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N ..... Non-elected
I ..... Interference
A ..... Appeal
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