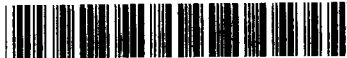


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Page 1 of 2



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HONORABLE COMMISSIONER OF
PATENTS AND TRADEMARKS
WASHINGTON, D.C. 20231

SIR:

PLEASE RECORD THE ATTACHED ORIGINAL DOCUMENT(S) OR COPY(IES) THEREOF.

10511 U.S. PTO
09/571602
05/15/00

1. NAME OF CONVEYING PARTY(IES)

Inventor: Ran Canetti
Address: 203 West 84 Street, Apt. 3A
City, State Zip: New York, NY 10024

Additional name(s) of conveying party(ies) attached? Yes

2. NAME(S) AND ADDRESS(ES) OF RECEIVING PARTY(IES)

Company: International Business Machines Corporation
Address: New Orchard Road
City, State Zip: Armonk, NY 10504

Additional name(s) of receiving party(ies) attached? No.

3. NATURE OF CONVEYANCE

X Assignment
— Security Agreement
— Merger
— Change of Name

Execution Date:

4/30/2000

4. APPLICATION NUMBER(S) OR PATENT NUMBER(S)

If this document is being filed together with a new application, the execution date of the application is: 5/15/2000

A. Patent Application No(s): B. Patent No(s):

Additional numbers attached? No.

5. NAME AND ADDRESS OF PARTY TO WHOM CORRESPONDENCE CONCERNING DOCUMENT SHOULD BE DIRECTED:

Randy W. Lacasse
2001 Jefferson Davis Highway
Suite 806
Arlington, VA 22202
(703) 415-1015

6. TOTAL NUMBER OF APPLICATIONS AND PATENTS INVOLVED: 1

7. TOTAL FEE DUE: \$40.00

9. STATEMENT AND SIGNATURE

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Randy W. Lacasse
Name

Signature

Date

Total number of pages including cover sheet, attachments, and document: 10

PATENT
REEL: 010802 FRAME: 0398

Additional Name(s) of Conveying Party(ies):

Name: Moses Samson Charikar
Address: 704 Campus Drive 15-N
City, State Zip: Stanford, CA 94305

Name: Sridhar Rajagopalan
Address: 1010 Foxchase Drive, #118
City, State Zip: San Jose, CA 95123

Name: Shanmugasundaram Ravikumar
Address: 5460 Lean Avenue, Apt. #202
City, State Zip: San Jose, CA 95123

Name: Amit Sahai
Address: 3054 Windrift Court
City, State Zip: Thousand Oaks, CA 91360

Name: Andrew S. Tomkins
Address: 3613 Copperfield Drive #336
City, State Zip: San Jose, CA 95136

ASSIGNMENT

Whereas, we,

(1) Ran Canetti
County of New York
and (2) Moses Samson Charikar
County of Santa Clara
and (3) Sridhar Rajagopalan
County of Santa Clara
and (4) Shanmugasundaram Ravikumar
County of Santa Clara
and (5) Amit Sahai
County of Middlesex
and (6) Andrew S. Tomkins
County of Santa Clara

of New York,
and State of NY,
of Stanford ,
and State of CA,
of San Jose ,
and State of CA,
of San Jose ,
and State of CA,
of Cambridge ,
and State of MA,
of San Jose ,
and State of CA,

have invented certain improvements in

Non-Transferable Anonymous Credentials

and executed, respectively, a United States patent application therefore on

(1) April 5, 2000, (2) _____, 2000, (3) _____, 2000,
(4) _____, 2000, (5) _____, 2000, (6) _____, 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we, the above named, hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

Signed and sealed:

(1) at NEW YORK, NY

Ran Canetti

on APR. 5, 2000

Ran Canetti

(2) at _____

on _____, 2000

Moses Samson Charikar

(3) at _____

on _____, 2000

Sridhar Rajagopalan

(4) at _____

on _____, 2000

Shanmugasundaram Ravikumar

(5) at _____

on _____, 2000

Amit Sahai

(6) at _____

on _____, 2000

Andrew S. Tomkins

ASSIGNMENT

Whereas, we,

(1) Ran Canetti
County of New York
and (2) Moses Samson Charikar
County of Santa Clara
and (3) Sridhar Rajagopalan
County of Santa Clara
and (4) Shanmugasundaram Ravikumar
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and State of MA,
of San Jose ,
and State of CA,

have invented certain improvements in

Non-Transferable Anonymous Credentials

and executed, respectively, a United States patent application therefore on

(1) _____, 2000, (2) _____, 2000, (3) _____, 2000,
(4) _____, 2000, (5) April 30, 2000, (6) _____, 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

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Signed and sealed:

(1) at _____
on _____, 2000 Ran Canetti

(2) at _____

on _____, 2000

Moses Samson Charikar

(3) at _____

on _____, 2000

Sridhar Rajagopalan

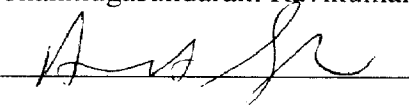
(4) at _____

on _____, 2000

Shanmugasundaram Ravikumar

(5) at MIT Cambridge, MA

on 4/30, 2000



Amit Sahai

(6) at _____

on _____, 2000

Andrew S. Tomkins

ASSIGNMENT

Whereas, we,

(1) Ran Canetti
County of New York
and (2) Moses Samson Charikar
County of Santa Clara
and (3) Sridhar Rajagopalan
County of Santa Clara
and (4) Shanmugasundaram Ravikumar
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and State of CA,
of San Jose ,
and State of CA,
of Cambridge ,
and State of MA,
of San Jose ,
and State of CA,

have invented certain improvements in

Non-Transferable Anonymous Credentials

and executed, respectively, a United States patent application therefore on

(1) _____, 2000, (2) _____, 2000, (3) April 20, 2000,
(4) April 5, 2000, (5) _____, 2000, (6) April 6, 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we, the above named, hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries,

and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

Signed and sealed:

(1) at _____
on _____, 2000

Ran Canetti

(2) at _____
on _____, 2000
(3) at San Jose, CA
on April 2 or, 2000
(4) at San Jose, CA
on APRIL 5, 2000
(5) at _____
on _____, 2000
(6) at San Jose, CA
on 4/6, 2000

Moses Samson Charikar

Sridhar Rajagopalan

Sridhar Rajagopalan

Shanmugasundaram Ravikumar

Shanmugasundaram Ravikumar

Amit Sahai

Andrew S. Tomkins

Andrew S. Tomkins

ASSIGNMENT

Whereas, we,

(1) Ran Canetti
County of New York
and (2) Moses Samson Charikar
County of Santa Clara
and (3) Sridhar Rajagopalan
County of Santa Clara
and (4) Shanmugasundaram Ravikumar
County of Santa Clara
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County of Middlesex
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of New York,
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and State of CA,
of San Jose ,
and State of CA,
of San Jose ,
and State of CA,
of Cambridge ,
and State of MA,
of San Jose ,
and State of CA,

have invented certain improvements in

Non-Transferable Anonymous Credentials

and executed, respectively, a United States patent application therefore on

(1) _____, 2000, (2) April 16, 2000, (3) _____, 2000,
(4) _____, 2000, (5) _____, 2000, (6) _____, 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

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Signed and sealed:

(1) at _____
on _____, 2000

Ran Canetti

(2) at STANFORD, CA

on APRIL 16, 2000

(3) at _____

on _____, 2000

(4) at _____

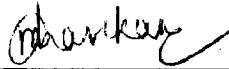
on _____, 2000

(5) at _____

on _____, 2000

(6) at _____

on _____, 2000



Moses Samson Charikar

Sridhar Rajagopalan

Shanmugasundaram Ravikumar

Amit Sahai

Andrew S. Tomkins