

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3220252

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
RICHARD HAN	02/27/2014
CHARLES HARROW	03/03/2014
ANDREW MONAGHAN	02/27/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NCR CORPORATION
<b>Street Address:</b>	3097 SATELITE BOULEVARD
<b>Internal Address:</b>	2ND FLOOR, LAW DEPARTMENT
<b>City:</b>	DULUTH
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30096
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14193967
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(404)487-8949
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	678-808-5231
<b>Email:</b>	PTOMail.Law@ncr.com
<b>Correspondent Name:</b>	NCR CORPORATION
<b>Address Line 1:</b>	3097 SATELITE BOULEVARD
<b>Address Line 2:</b>	BUILDING 700, 2ND FLOOR, LAW DEPARTMENT
<b>Address Line 4:</b>	DULUTH, GEORGIA 30096
<b>ATTORNEY DOCKET NUMBER:</b>	14-5032
<b>NAME OF SUBMITTER:</b>	PAUL W. MARTIN
<b>SIGNATURE:</b>	/Paul W. Martin/
<b>DATE SIGNED:</b>	02/10/2015
<b>Total Attachments: 12</b>	
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United States Patent Application

**COMBINED DECLARATION AND ASSIGNMENT**

As a below named inventor I hereby declare that:

My residence and post office are as stated below next to my name.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application entitled:

**'End-to-End Device Authentication'**

and identified by NCR Corporation Docket No. 14-5032, the specification of which:

- a.  is attached hereto
- b.  was filed on \_\_\_\_\_ as United States Application Number or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable), which I have reviewed and for which I solicit a United States patent.

The above-identified application was made or authorized to be made by me.

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 am aware of and do hereby acknowledge the duty to disclose all information, which is material to patentability of this application as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**ASSIGNMENT OF UNITED STATES PATENT APPLICATION**

WHEREAS, I, Richard Han of Oaksydix, Lundie, Angus DD2 5NW, Scotland, United Kingdom, (hereinafter called "the inventor"), have invented certain new and useful improvements in 'End-to-End Device Authentication', Docket No. 14-5032 (hereinafter called "the invention"), for which I have executed an application for Letters Patent of the United States of America (hereinafter called "the application") on same date herewith, respectively; and

WHEREAS, the invention being made in the circumstances set out in Section 39 (1) of the United Kingdom Patents Act 1977, belongs to our employer at that time, namely NCR Financial Solutions Group Limited, a company incorporated in England whose registered address is 206 Marylebone Road, London NW1, 6LY, United Kingdom; and

WHEREAS, NCR Corporation, a corporation of the State of Maryland, having its principal place of business at 3097 Satellite Boulevard, Duluth, Georgia 30096 USA, is desirous of acquiring from NCR Financial Solutions Group Limited, the entire right, title, and interest in and to the invention and the application; and

WHEREAS, NCR Financial Solutions Group Limited and NCR Corporation have authorized and requested my/our executing the application; and

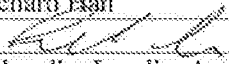
NOW, THEREFORE, to all whom it may concern be it known that I, the inventor, confirm the ownership by NCR Financial Solutions Group Limited of the invention and the application by operation of law under the United Kingdom Patents Act 1977 and if, under the law of the United States, or any other countries in the world, I the inventor have any ownership right, title, and interest in the invention and the application (which I do not believe to be the case and claim no ownership right, title, or interest in the invention and the application based on the Law of the United Kingdom), in consideration of the sum of One Dollar (\$1.00) and of other valuable considerations, the receipt of which is hereby acknowledged, I, the inventor, nevertheless hereby assign and transfer such ownership right, title, and interest in and to the invention and application to NCR Financial Solutions Group Limited, its successors and assigns. NCR Financial Solutions Group Limited in turn hereby assigns and transfers to NCR Corporation, its successors and assigns, the entire right, title, and interest in and to the invention and the application (including any right to claim priority under the International Convention), and in and to any divisions, continuations, reissues, and extensions thereof.

FURTHER, I, the inventor, and NCR Financial Solutions Group Limited hereby authorize and request any Letters Patent arising therefrom in the United States of America be issued to NCR Corporation, its successors and assigns.

FURTHER, I, the inventor, agree that I will communicate to NCR Corporation, or its representatives, any facts known to myself respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitution, renewal, and reissue applications, execute all necessary assignment papers to cause any Letters Patent arising therefrom in the United States of America to be issued to NCR Corporation, make all rightful oaths and generally to do everything possible to aid NCR Corporation, its successors and assigns, to obtain and enforce protection for the invention in the United States of America and in any other countries in the world.

FURTHER, it is hereby declared that the transaction hereby effected does not form part of a larger transaction or of a series of transactions in respect of which the amount or value or the aggregate amount or value, of the consideration exceeds £60,000 (Sterling).

SIGNED at Dundee this 27<sup>th</sup> day of February, 2014

Full name of inventor	Richard Han	
Inventor's signature		Date: 27 <sup>th</sup> February 2014
Residence	Oaksydix, Lundie, Angus DD2 5NW, Scotland, United Kingdom	
Post Office Address	Same as above	

Signed at Glenfarg, this 27<sup>th</sup> day of February, 2014

Signature Rory MacLeod  
Name (print) Rory MacLeod  
Title Head of International Patents  
NCR Financial Solutions Group Limited

Signed at ~~Dumfries~~  
USA this 10<sup>th</sup> day of February, 2014

Signature Paul W Martin  
Name (print) Paul W Martin  
Title Senior Attorney

United States Patent Application  
**COMBINED DECLARATION AND ASSIGNMENT**

As a below named inventor I hereby declare that:

My residence and post office are as stated below next to my name.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application entitled:

**'End-to-End Device Authentication'**

and identified by NCR Corporation Docket No. 14-5032, the specification of which:

- a.  is attached hereto
- b.  was filed on \_\_\_\_\_ as United States Application Number or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable), which I have reviewed and for which I solicit a United States patent.

The above-identified application was made or authorized to be made by me.

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I am aware of and do hereby acknowledge the duty to disclose all information, which is material to patentability of this application as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**ASSIGNMENT OF UNITED STATES PATENT APPLICATION**

WHEREAS, I, **Charles Harrow of 11 Beaumont Terrace, Broughty Ferry, Dundee DD5 3LR, Scotland, United Kingdom**, (hereinafter called "the inventor"), have invented certain new and useful improvements in 'End-to-End Device Authentication', Docket No. 14-5032 (hereinafter called "the invention"), for which I have executed an application for Letters Patent of the United States of America (hereinafter called "the application") on same date herewith, respectively; and

WHEREAS, the invention being made in the circumstances set out in Section 39 (1) of the United Kingdom Patents Act 1977, belongs to our employer at that time, namely NCR Financial Solutions Group Limited, a company incorporated in England whose registered address is 206 Marylebone Road, London NW1, 6LY, United Kingdom; and

WHEREAS, NCR Corporation, a corporation of the State of Maryland, having its principal place of business at 3097 Satellite Boulevard, Duluth, Georgia 30096 USA, is desirous of acquiring from NCR Financial Solutions Group Limited, the entire right, title, and interest in and to the invention and the application; and

WHEREAS, NCR Financial Solutions Group Limited and NCR Corporation have authorized and requested my/our executing the application; and

NOW, THEREFORE, to all whom it may concern be it known that I, the inventor, confirm the ownership by NCR Financial Solutions Group Limited of the invention and the application by operation of law under the United Kingdom Patents Act 1977 and if, under the law of the United States, or any other countries in the world, I the inventor have any ownership right, title, and interest in the invention and the application (which I do not believe to be the case and claim no ownership right, title, or interest in the invention and the application based on the Law of the United Kingdom), in consideration of the sum of One Dollar (\$1.00) and of other valuable considerations, the receipt of which is hereby acknowledged, I, the inventor, nevertheless hereby assign and transfer such ownership right, title, and interest in and to the invention and application to NCR Financial Solutions Group Limited, its successors and assigns. NCR Financial Solutions Group Limited in turn hereby assigns and transfers to NCR Corporation, its successors and assigns, the entire right, title, and interest in and to the invention and the application (including any right to claim priority under the International Convention), and in and to any divisions, continuations, reissues, and extensions thereof.

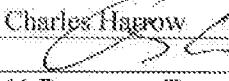
FURTHER, I, the inventor, and NCR Financial Solutions Group Limited hereby authorize and request any Letters Patent arising therefrom in the United States of America be issued to NCR Corporation, its successors and assigns.



FURTHER, I, the inventor, agree that I will communicate to NCR Corporation, or its representatives, any facts known to myself respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitution, renewal, and reissue applications, execute all necessary assignment papers to cause any Letters Patent arising therefrom in the United States of America to be issued to NCR Corporation, make all rightful oaths and generally to do everything possible to aid NCR Corporation, its successors and assigns, to obtain and enforce protection for the invention in the United States of America and in any other countries in the world.

FURTHER, it is hereby declared that the transaction hereby effected does not form part of a larger transaction or of a series of transactions in respect of which the amount or value or the aggregate amount or value, of the consideration exceeds £60,000 (Sterling).

SIGNED at Dundee this 3<sup>rd</sup> day of March, 2014

Full name of inventor	Charles Hargrow	
Inventor's signature		Date: 3 <sup>rd</sup> March 2014
Residence	11 Beaumont Terrace, Broughty Ferry, Dundee DD5 3LR, Scotland, United Kingdom	
Post Office Address	Same as above	

Signed at Glenfarg, this 27<sup>th</sup> day of February, 2014

Signature Rory MacLeod  
Name (print) Rory MacLeod  
Title Head of International Patents  
NCR Financial Solutions Group Limited

Signed at Dunfermline this 10<sup>th</sup> day of February 2014  
NSA

Signature Paul W Martin  
Name (print) Paul W Martin  
Title Senior Attorney

United States Patent Application  
**COMBINED DECLARATION AND ASSIGNMENT**

As a below named inventor I hereby declare that:

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I believe that I am the original inventor or an original joint inventor of a claimed invention in the application entitled:

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and identified by NCR Corporation Docket No. 14-5032, the specification of which:

- a.  is attached hereto
- b.  was filed on \_\_\_\_\_ as United States Application Number or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable), which I have reviewed and for which I solicit a United States patent.

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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 am aware of and do hereby acknowledge the duty to disclose all information, which is material to patentability of this application as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**ASSIGNMENT OF UNITED STATES PATENT APPLICATION**

WHEREAS, I, Andrew Monaghan of 21 Thomson Street, Dundee DD1 4LF, Scotland, United Kingdom, (hereinafter called "the inventor"), have invented certain new and useful improvements in 'End-to-End Device Authentication', Docket No. 14-5032 (hereinafter called "the invention"), for which I have executed an application for Letters Patent of the United States of America (hereinafter called "the application") on same date herewith, respectively; and

WHEREAS, the invention being made in the circumstances set out in Section 39 (1) of the United Kingdom Patents Act 1977, belongs to our employer at that time, namely NCR Financial Solutions Group Limited, a company incorporated in England whose registered address is 206 Marylebone Road, London NW1, 6LY, United Kingdom; and

WHEREAS, NCR Corporation, a corporation of the State of Maryland, having its principal place of business at 3097 Satellite Boulevard, Duluth, Georgia 30096 USA, is desirous of acquiring from NCR Financial Solutions Group Limited, the entire right, title, and interest in and to the invention and the application; and

WHEREAS, NCR Financial Solutions Group Limited and NCR Corporation have authorized and requested my/our executing the application; and

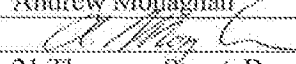
NOW, THEREFORE, to all whom it may concern be it known that I, the inventor, confirm the ownership by NCR Financial Solutions Group Limited of the invention and the application by operation of law under the United Kingdom Patents Act 1977 and if, under the law of the United States, or any other countries in the world, I the inventor have any ownership right, title, and interest in the invention and the application (which I do not believe to be the case and claim no ownership right, title, or interest in the invention and the application based on the Law of the United Kingdom), in consideration of the sum of One Dollar (\$1.00) and of other valuable considerations, the receipt of which is hereby acknowledged, I, the inventor, nevertheless hereby assign and transfer such ownership right, title, and interest in and to the invention and application to NCR Financial Solutions Group Limited, its successors and assigns. NCR Financial Solutions Group Limited in turn hereby assigns and transfers to NCR Corporation, its successors and assigns, the entire right, title, and interest in and to the invention and the application (including any right to claim priority under the International Convention), and in and to any divisions, continuations, reissues, and extensions thereof.

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SIGNED at Dundee this 27<sup>th</sup> day of February, 2014

Full name of inventor	Andrew Monaghan	
Inventor's signature		Date: 27 <sup>th</sup> February 2014
Residence	21 Thomson Street, Dundee DD1 4LF, Scotland, United Kingdom	
Post Office Address	Same as above	

Signed at Glenfarg, this 27<sup>th</sup> day of February, 2014

Signature Rory MacLeod  
Name (print) Rory MacLeod  
Title Head of International Patents  
NCR Financial Solutions Group Limited

Signed at ~~Dumfries~~ this 10<sup>th</sup> day of February, 2014  
USA

Signature Paul W Martin  
Name (print) Paul W Martin  
Title Senior Attorney