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Form PTO-1595 (Rev. 08/05)  
OMB No. 0651-0027 (exp. 6/30/2008)

MERCE  
rk Office

RECORDATION FORM  
PATENTS



103489892

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies):

James E. Barger (08/22/2005), Stephen D. Milligan  
(08/22/2005), Marshall Seth Brinn (08/29/2005), and  
Richard J. Mullen (08/22/2005)

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s): in parentheses after inventor name

- ☒ Assignment ☐ Merger ☐ Change of Name  
☐ Security Agreement ☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other

2. Name and address of receiving party(ies)

Name: BBN Technologies Corp

Internal Address: \_\_\_\_\_

Street Address: \_\_\_\_\_

10 Moulton Street

City: Cambridge

State: Massachusetts

Country: United States of America Zip: 02138

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

☒ This document is being filed together with a new application.

A. Patent Application No.(s)  
This application

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Edward A. Gordon  
ROPES & GRAY LLP

Internal Address: Atty. Dkt.: BBNT-P02-383

Street Address: One International Place

City: Boston

State: MA Zip: 02110

Phone Number: (617) 951-7066

Fax Number: (617) 951-7050

Email Address: egordon@ropesgray.com

6. Total number of applications and patents involved:

1

7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- ☐ Authorized to be charged by credit card  
☒ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers \_\_\_\_\_  
Expiration Date \_\_\_\_\_

b. Deposit Account Number 18-1945  
Authorized User Name Edward A. Gordon

9. Signature:

Signature  
Edward A. Gordon - 54,130  
Name of Person Signing

03/17/2008 MJAH1 0000040 101545 12075051  
01 FC:0021 March 7, 2008 40.00

Total number of pages including cover sheet, attachments, and documents:

9

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EM111668384US, on the date shown below in an envelope addressed to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Dated: March 7, 2008

Signature: (Lise Ann Ruggeri)

**ASSIGNMENT**

WHEREAS, the Undersigned have developed certain inventions described in U.S. patent application titled:

**SYSTEM AND METHOD FOR DETERMINING SHOOTER LOCATIONS WITH  
WEAK MUZZLE DETECTION**

filed on August 23, 2005, and having serial number 11/210295 have full right to convey their entire interest, both legal and equitable, in and to said inventions free from all prior assignments, agreements, licenses, mortgages, security interests, or other encumbrances whatsoever; and

WHEREAS, BBNT Solutions LLC ("ASSIGNEE"), a limited liability company organized and existing under the laws of the State of Delaware, having principal offices at 10 Moulton Street, Cambridge, Massachusetts 02138, is desirous of acquiring the entire right, title and interest in and to said invention or inventions and any and all patents to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the Undersigned, the Undersigned hereby sells, assigns and transfers unto said ASSIGNEE, its successors and assigns, their entire right, title and interest in and to said invention or inventions, as described in the aforesaid application and all applications resulting therefrom, including any and all divisions, continuations, continuations in part, substitute applications, and reissues or extensions thereof; and all resulting patents.

AND the Undersigned hereby authorizes and requests the issuing authority to issue any and all patents on said application or applications to said ASSIGNEE or its successors and assigns; the Undersigned agrees that the agent of record in said application shall hereinafter act on behalf of said ASSIGNEE.

AND, the Undersigned further agrees, without any further payment or compensation by said ASSIGNEE or its successors and assigns, upon request of the ASSIGNEE, to communicate to said ASSIGNEE, its representatives or agents or its successors and assigns, any facts relating to said invention or inventions including evidence for interference purposes or for other legal proceedings; to testify in any interference or other legal proceedings; to execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and to generally do everything reasonable to aid said ASSIGNEE, its successors or assigns and nominees to secure, obtain and enforce proper patent protection for said invention or inventions in this or any foreign country.

The undersigned hereby authorizes Ropes & Gray LLP, of One International Place, Boston, MA 02110, to insert hereon any further identification information necessary or desirable for recordation of this document.

WITNESS my hand this 22 day of August, 2005.

By: James E. Barger  
James E. Barger

State of Massachusetts )  
County of Middlesex )

On this the 22<sup>nd</sup> day of August, 2005, before me personally appeared James E. Barger known to me to be the person who signed the foregoing assignment, and acknowledged the signing of same as his free act and deed.

Catherine E. Quinn  
Notary Public

My commission expires 12-9-05

WITNESS my hand this 22<sup>nd</sup> day of August, 2005.

By: Stephen D. Milligan  
Stephen D. Milligan

State of Massachusetts )  
County of Middlesex )

On this the 22<sup>nd</sup> day of August, 2005, before me personally appeared Stephen D. Milligan known to me to be the person who signed the foregoing assignment, and acknowledged the signing of same as his free act and deed.

Catherine E. Quinn  
Notary Public

My commission expires 12-9-05

29<sup>th</sup> Mar

WITNESS my hand this 29<sup>th</sup> day of August, 2005.

By: [Signature]  
Marshall S. Brinn

State of Massachusetts)  
County of Middlesex)

On this the 29<sup>th</sup> day of August, 2005, before me personally appeared Marshall S. Brinn known to me to be the person who signed the foregoing assignment, and acknowledged the signing of same as his free act and deed.

[Signature]  
Notary Public

My commission expires 12-9-05

WITNESS my hand this 22 day of August, 2005.

By: [Signature]  
Richard J. Mullen

State of Massachusetts)  
County of Middlesex)

On this the 22<sup>nd</sup> day of August, 2005, before me personally appeared Richard J. Mullen known to me to be the person who signed the foregoing assignment, and acknowledged the signing of same as his free act and deed.

[Signature]  
Notary Public

My commission expires 12-9-05

# Delaware

PAGE 1

*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"BBNT SOLUTIONS LLC", A DELAWARE LIMITED LIABILITY COMPANY, WITH AND INTO "BBN TECHNOLOGIES OPERATING CORP." UNDER THE NAME OF "BBN TECHNOLOGIES OPERATING CORP.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE SECOND DAY OF DECEMBER, A.D. 2005, AT 3:58 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF MERGER IS THE THIRD DAY OF JANUARY, A.D. 2006, AT 12:01 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



3760012 8100M

050981779

*Harriet Smith Windsor*

Harriet Smith Windsor, Secretary of State

AUTHENTICATION: 4344737

DATE: 12-06-05

State of Delaware  
Secretary of State  
Division of Corporations  
Delivered 04:05 PM 12/02/2005  
FILED 03:58 PM 12/02/2005  
SRV 050981779 - 3760012 FILE

**CERTIFICATE OF MERGER**

of

**BBNT SOLUTIONS LLC,**  
a Delaware limited liability company

with and into

**BBN TECHNOLOGIES OPERATING CORP.,**  
a Delaware corporation

Pursuant to Title 8, Section 264(c) of the Delaware General Corporation Law (the "DGCL") and Title 6, Section 18-209 of the Delaware Limited Liability Company Act (the "LLC Act"), BBN Technologies Operating Corp., a Delaware corporation (the "Surviving Corporation"), hereby certifies to the following information regarding the merger of BBNT Solutions LLC, a Delaware limited liability company (the "Merging LLC"), into the Surviving Corporation (the "Merger"):

**FIRST:** The names and states of incorporation or formation, as applicable, of the Surviving Corporation and the Merging LLC, which are the constituent entities in the Merger (the "Constituent Entities"), are as follows:

Name	State
BBN Technologies Operating Corp.	Delaware
BBNT Solutions LLC	Delaware

**SECOND:** The Agreement and Plan of Merger dated as of November 22, 2005 (the "Merger Agreement") between the Surviving Corporation and the Merging LLC, setting forth the terms and conditions of the Merger, has been approved, adopted, certified, executed and acknowledged by each of the Constituent Entities in accordance with Title 8, Section 264(c) and Section 183 of the DGCL and Title 6, Section 18-209 of the LLC Act.

**THIRD:** The name of the corporation surviving the Merger is "BBN Technologies Operating Corp.", a Delaware corporation.

**FOURTH:** The Certificate of Incorporation of the Surviving Corporation in effect immediately before the effectiveness of the Merger shall be the Certificate of Incorporation of the Surviving Corporation until further amended in accordance with the DGCL.

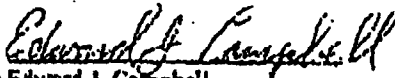
**FIFTH:** The executed Merger Agreement is on file at the principal place of business of the Surviving Corporation. The address of the principal place of business of the Surviving Corporation is: 10 Moulton Street, Cambridge, MA 02138.

**SIXTH:** A copy of the Merger Agreement will be furnished by the Surviving Corporation, on request and without cost, to any stockholder or member, as applicable, of the Constituent Entities.

**SEVENTH:** The Merger and this Certificate of Merger shall be effective at 12:01 a.m. E.S.T. on January 3, 2006, in accordance with the DGCL and the LLC Act

IN WITNESS WHEREOF, the Surviving Corporation has caused this certificate to be signed by the undersigned on November 22, 2005.

BBN TECHNOLOGIES OPERATING CORP

By:   
Name: Edward J. Campbell  
Title: Executive Vice President, Operations

# Delaware

PAGE 1

*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "BBN TECHNOLOGIES OPERATING CORP.", CHANGING ITS NAME FROM "BBN TECHNOLOGIES OPERATING CORP." TO "BBN TECHNOLOGIES CORP.", FILED IN THIS OFFICE ON THE SECOND DAY OF DECEMBER, A.D. 2005, AT 4:05 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF AMENDMENT IS THE THIRD DAY OF JANUARY, A.D. 2006, AT 12:01 O'CLOCK A.M.



3760012 8100

050981786

*Harriet Smith Windsor*  
Harriet Smith Windsor, Secretary of State  
AUTHENTICATION: 4344742

DATE: 12-06-05



**CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
BBN TECHNOLOGIES OPERATING CORP.**

BBN Technologies Operating Corp. (the "Corporation"), a corporation organized in the State of Delaware on February 3, 2004, for the purpose of amending its Certificate of Incorporation in accordance with Section 242 of the General Corporation Law of the State of Delaware, hereby certifies:

**FIRST:** That pursuant to the authority conferred by the Certificate of Incorporation and By-laws of the Corporation, the Board of Directors duly adopted a resolution setting forth a proposed amendment to the Certificate of Incorporation of the Corporation.


**SECOND:** Upon the effectiveness hereof, Article 1 of the Certificate of Incorporation shall be amended by striking out Article First in its entirety and by substituting in lieu of said Article 1 the following new Article 1:

"**FIRST:** The name of the corporation formed hereby is BBN Technologies Corp."

**THIRD:** The amendment of the Certificate of Incorporation herein certified has been duly adopted and written consent has been given in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

**FOURTH:** This Certificate of Amendment shall be effective at 12:01 a.m. E.S.T. on January 3, 2006, in accordance with the DGCL.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its Executive Vice President, Operations on December 1, 2005.

  
Edward J. Campbell  
Executive Vice President, Operations

Revised Cert of Amend. of Cert of Incorp. of BBN Technologies Operating Corp..DOC