

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT																
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT																
<b>CONVEYING PARTY DATA</b>																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:70%;">Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>John E. Barth Jr.</td> <td>10/29/2007</td> </tr> <tr> <td>Philip G. Emma</td> <td>10/26/2007</td> </tr> <tr> <td>Erik L. Hedberg</td> <td>10/23/2007</td> </tr> <tr> <td>Hillery C. Hunter</td> <td>10/26/2007</td> </tr> <tr> <td>Peter A. Sandon</td> <td>10/18/2007</td> </tr> <tr> <td>Vijayalakshmi Srinivasan</td> <td>10/26/2007</td> </tr> <tr> <td>Arnold S. Tran</td> <td>10/18/2007</td> </tr> </tbody> </table>		Name	Execution Date	John E. Barth Jr.	10/29/2007	Philip G. Emma	10/26/2007	Erik L. Hedberg	10/23/2007	Hillery C. Hunter	10/26/2007	Peter A. Sandon	10/18/2007	Vijayalakshmi Srinivasan	10/26/2007	Arnold S. Tran	10/18/2007
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Arnold S. Tran	10/18/2007																
<b>RECEIVING PARTY DATA</b>																	
<b>Name:</b>	International Business Machines Corporation																
<b>Street Address:</b>	New Orchard Road																
<b>City:</b>	Armonk																
<b>State/Country:</b>	NEW YORK																
<b>Postal Code:</b>	10504																
<b>PROPERTY NUMBERS Total: 1</b>																	
<b>Property Type</b>	<b>Number</b>																
<b>Application Number:</b>	11949904																
<b>CORRESPONDENCE DATA</b>																	
<b>Fax Number:</b>	(860)286-0115																
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>																	
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<b>Address Line 1:</b>	55 GRIFFIN ROAD SOUTH																
<b>Address Line 4:</b>	BLOOMFIELD, CONNECTICUT 06002																
<b>ATTORNEY DOCKET NUMBER:</b>	BUR920070045US1																

CH \$40.00 11949904

NAME OF SUBMITTER:

Michael J. LeStrange

**Total Attachments: 6**

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**PATENT ASSIGNMENT FORM**

For and in consideration of good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor acknowledges his/her prior and ongoing obligation to sell, assign, and transfer, and agrees to sell, assign, and transfer the entire world wide right, title and interest for the United States and all foreign countries, in and to any and all inventions and improvements conceived during and within the scope of his/her employment, and further acknowledges that he/she has sold, assigned, and transferred, and hereby sells, assigns, and transfers, unto:

**INTERNATIONAL BUSINESS MACHINES CORPORATION ("IBM"),  
Armonk, New York 10504**

a corporation of New York, and IBM desires to acquire all right, title, and interest, in and to the certain inventions (identified below), applications, and any United States and foreign patents to be obtained therefor relating to:

Title of Invention for United States Patent

**Method and System for Implementing Dynamic Refresh Protocols for Dram Based Cache**

as set forth in United States Patent Application executed by each undersigned inventor on the date indicated by each inventor signature below, and further identified by **Attorney Docket Number BUR920070045US1**;

(select one)  executed concurrently herewith or  Serial No. \_\_\_\_\_ Filed on \_\_\_\_\_

for and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States and foreign patents and all rights of priority to be obtained therefor which may issue on any such application or for said invention therein disclosed, including any and all reissues or extensions thereof, to be held and enjoyed by, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each undersigned inventor hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to IBM, its successors and assigns, in accordance herewith;

Each undersigned inventor warrants and covenants that he/she has the full and unencumbered right to sell and assign the interests hereby sold and assigned and that he/she has not executed and will not execute any document or instrument in conflict herewith;

Each undersigned inventor further covenants and agrees that he/she, upon the request and at the expense of the IBM, will execute and deliver any papers, make all rightful oaths, testify in any

legal proceeding relating to said inventions and improvements, communicate to the IBM all facts known to the undersigned relating to such inventions and improvements and the history thereof; and perform all other lawful acts deemed necessary or desirable by IBM, and its legal representatives, to secure, maintain, and enforce patent protection for such inventions and improvements and for vesting title to such inventions and improvements in the IBM, and in particular to perfect title to said above-identified certain inventions, and applications including divisions and continuations thereof, and any and all Letters Patent which may be granted therefor or thereon, including reissues, extensions, or counterparts;

Each undersigned inventor hereby grants the IBM and the firm of the power to insert in this Assignment any further identification which may be necessary or desirable for recordation of this Assignment.

This assignment is governed by the substantive laws of the state of New York.

**Executed by Inventor 1**

Signature: John E. Barth Jr. Date: 10/29/07  
**John E. Barth Jr.**

**Executed by Inventor 2**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
**Philip G. Emma**

**Executed by Inventor 3**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
**Erik L. Hedberg**

legal proceeding relating to said inventions and improvements, communicate to the IBM all facts known to the undersigned relating to such inventions and improvements and the history thereof; and perform all other lawful acts deemed necessary or desirable by IBM, and its legal representatives, to secure, maintain, and enforce patent protection for such inventions and improvements and for vesting title to such inventions and improvements in the IBM, and in particular to perfect title to said above-identified certain inventions, and applications including divisions and continuations thereof, and any and all Letters Patent which may be granted therefor or thereon, including reissues, extensions, or counterparts;

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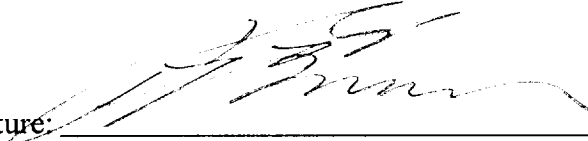
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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**John E. Barth Jr.**

**Executed by Inventor 2**

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**John E. Barth Jr.**

**Executed by Inventor 2**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Philip G. Emma**

**Executed by Inventor 3**

Signature: Erik L Hedberg Date: Oct 23, 2007

**Erik L. Hedberg**

**Executed by Inventor 4**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Hillery C. Hunter**

**Executed by Inventor 5**

Signature: Peter A. Sandon Date: 10/18/2007

**Peter A. Sandon**

**Executed by Inventor 6**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

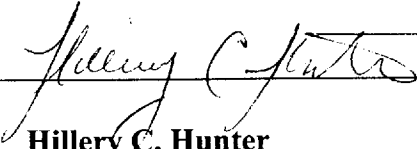
**Vijayalakshmi Srinivasan**

**Executed by Inventor 7**

Signature: Arnold S. Tran Date: 10/18/2007

**Arnold S. Tran**

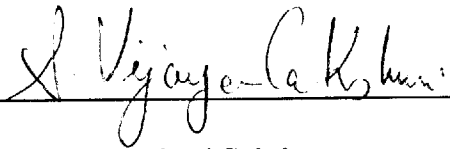
**Executed by Inventor 4**

Signature:  Date: 10/26/2007  
**Hillary C. Hunter**

**Executed by Inventor 5**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
**Peter A. Sandon**

**Executed by Inventor 6**

Signature:  Date: 10/26/2007  
**Vijayalakshmi Srinivasan**

**Executed by Inventor 7**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
**Arnold S. Tran**