

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT (IN PART)	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	PALO ALTO RESEARCH CENTER INCORPORATED	12/02/2016
<b>RECEIVING PARTY DATA</b>		
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<b>State/Country:</b>	KOREA, REPUBLIC OF	
<b>Postal Code:</b>	442-742	
<b>PROPERTY NUMBERS Total: 9</b>		
<b>Property Type</b>	<b>Number</b>	
<b>Patent Number:</b>	9444722	
<b>Patent Number:</b>	9400800	
<b>Patent Number:</b>	9264459	
<b>Patent Number:</b>	9253075	
<b>Patent Number:</b>	9178917	
<b>Patent Number:</b>	8756297	
<b>Patent Number:</b>	8644211	
<b>Patent Number:</b>	8572092	
<b>Patent Number:</b>	8751664	
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PATENT

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<b>ATTORNEY DOCKET NUMBER:</b>	SAMSUNG - ASGMT (IN PART)
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<b>NAME OF SUBMITTER:</b>	CATHY WHITNEY
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<b>SIGNATURE:</b>	/Cathy Whitney/
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<b>DATE SIGNED:</b>	12/02/2016
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**Total Attachments: 9**

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ASSIGNMENT

By assignment of U.S. Patent No. 9444722, filed August 1, 2013, invented by Marc E. Mosko and Van L. Jacobson, entitled "Method and Apparatus for Configuring Routing Paths in a Custodian-Based Routing Architecture", recorded in the U.S. Patent and Trademark Office on Reel 030940, Frame 0831-0832 and Reel 040457, Frame 0018-0026, respectively, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

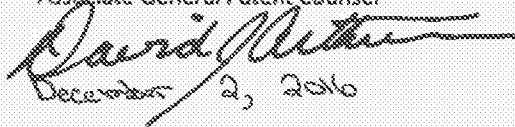
For good and valuable consideration, receipt of which is acknowledged, PARC hereby transfers and assigns to Samsung Electronics Co., Ltd., having offices at 416 Maelan-Dong, Yeongtong-Gu, Suwon, Kyungki-Do 442-742, Korea ("Samsung"), its successors, and assigns, an undivided one-half part of the whole right, title, and interest in the aforesaid Patent Assignment, the said undivided one-half part to be held and enjoyed by Samsung Electronics Co., Ltd. as a joint owner with PARC such that each shall have separate and undivided interest therein with the right to sell, license, lease, use, or otherwise commercially exploit with no duty to account to the other: (i) without compensation of any kind to the other, (ii) without obtaining the permission or consent of the other, or (iii) without notifying the other.

Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



Date:

December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 9400800, filed November 19, 2012, invented by Van L. Jacobson and Marc E. Mosko, entitled "Data Transport By Named Content Synchronization", recorded in the U.S. Patent and Trademark Office on Reel 029350, Frame 0546-0547, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

For good and valuable consideration, receipt of which is acknowledged, PARC hereby transfers and assigns to Samsung Electronics Co., Ltd., having offices at 416 Maetan-Dong, Yeongtong-Gu, Suwon, Kyungki-Do 442-742, Korea ("Samsung"), its successors, and assigns, an undivided one-half part of the whole right, title, and interest in the aforesaid Patent Assignment, the said undivided one-half part to be held and enjoyed by Samsung Electronics Co., Ltd. as a joint owner with PARC such that each shall have separate and undivided interest therein with the right to sell, license, lease, use, or otherwise commercially exploit with no duty to account to the other: (i) without compensation of any kind to the other, (ii) without obtaining the permission or consent of the other, or (iii) without notifying the other.

Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



Date:

December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 9264459, filed December 16, 2010, invented by Marc E. Mosko and Simon Barber, entitled "SIP-Based Custodian Routing In Content-Centric Networks", recorded in the U.S. Patent and Trademark Office on Reel 025518, Frame 0572-0573, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

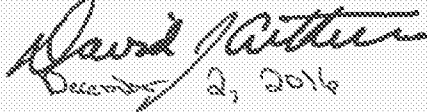
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Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



Date:

December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 9253075, filed December 19, 2012, invented by Van L. Jacobson and Marc E. Mosko, entitled "Dynamic Routing Protocols Using Database Synchronization", recorded in the U.S. Patent and Trademark Office on Reel 029521, Frame 0311-0312, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

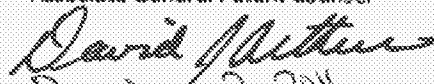
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Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



December 2, 2016

Date:

ASSIGNMENT

By assignment of U.S. Patent No. 9178917, filed December 16, 2010, invented by Marc E. Mosko and Simon Barber, entitled "Custodian Routing With Network Address Translation in Content-Centric Networks", recorded in the U.S. Patent and Trademark Office on Reel 025518, Frame 0325-0326, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

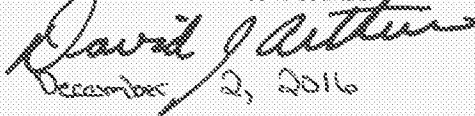
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Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



Date:

December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 8756297, filed December 16, 2010, invented by Van L. Jacobson, entitled "Energy-Efficient Content Caching With Custodian-Based Routing In Content-Centric Networks", recorded in the U.S. Patent and Trademark Office on Reel 025518, Frame 0672-0673, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

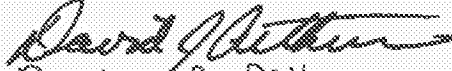
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Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:

  
December 2, 2016

Date:



ASSIGNMENT

By assignment of U.S. Patent No. 8644211, filed December 16, 2010, invented by Van L. Jacobson, entitled "Energy-Efficient Content Retrieval In Content-Centric Networks", recorded in the U.S. Patent and Trademark Office on Reel 025518, Frame 0591-0592, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

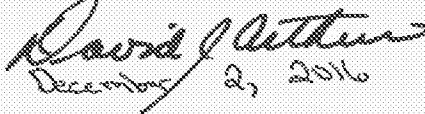
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Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature:



Date:

December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 8572092, filed December 19, 2011, invented by Marshall W. Bern, entitled "Generating Sketches Sensitive To High-Overlap Estimation", recorded in the U.S. Patent and Trademark Office on Reel 027412, Frame 0683-0684, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

For good and valuable consideration, receipt of which is acknowledged, PARC hereby transfers and assigns to Samsung Electronics Co., Ltd., having offices at 416 Maelan-Dong, Yeongtong-Gu, Suwon, Kyungki-Do 442-742, Korea ("Samsung"), its successors, and assigns, an undivided one-half part of the whole right, title, and interest in the aforesaid Patent Assignment, the said undivided one-half part to be held and enjoyed by Samsung Electronics Co., Ltd. as a joint owner with PARC such that each shall have separate and undivided interest therein with the right to sell, license, lease, use, or otherwise commercially exploit with no duty to account to the other: (i) without compensation of any kind to the other, (ii) without obtaining the permission or consent of the other, or (iii) without notifying the other.

Assignor: Palo Alto Research Center Incorporated

By: David J. Arthur

Title: Associate General Patent Counsel

Signature: 

Date: December 2, 2016

ASSIGNMENT

By assignment of U.S. Patent No. 8751664, filed December 16, 2010, invented by Van L. Jacobson and Marc E. Mosko, entitled "Custodian-Based Routing In Content-Centric Networks", recorded in the U.S. Patent and Trademark Office on Reel 025703, Frame 0309-0311, Palo Alto Research Center Incorporated ("PARC") is the owner of the "Application" and the "Invention" as set forth therein ("Patent Assignment").

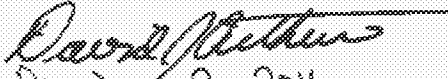
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