

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	3311148 NOVA SCOTIA LIMITED	01/14/2019
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	AT&T INTELLECTUAL PROPERTY I, L.P.	
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<b>City:</b>	ATLANTA	
<b>State/Country:</b>	GEORGIA	
<b>Postal Code:</b>	30308	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	13732479
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<b>ATTORNEY DOCKET NUMBER:</b>	MOR0010A CURRENT ENTITY	
<b>NAME OF SUBMITTER:</b>	JANET SHIBATA	
<b>SIGNATURE:</b>	/Janet Shibata/	
<b>DATE SIGNED:</b>	01/28/2019	
<b>Total Attachments: 6</b>		
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# RECORDABLE PATENT ASSIGNMENT

This Recordable Patent Assignment is between 3311148 Nova Scotia Limited ("NSL"), a Nova Scotia limited liability company, and AT&T Intellectual Property I, L.P. ("AT&T IP I"), a Nevada limited partnership.

Effective on December 31, 2018, for good and adequate consideration, the receipt and sufficiency of which has been and hereby is acknowledged, NSL hereby assigns, transfers, and conveys and/or has assigned, transferred, and conveyed to AT&T IP I all of NSL's right, title and interest in and to the patents and pending patent applications identified on Attachment A (the "Patents"), with respect to which and to the extent to which NSL has or previously had the right to so assign, transfer and convey such rights, including all claims for past infringement, and all divisions, reexaminations, reissues, substitutions, continuations, continuations-in-part and extensions thereof, including the right to file applications and obtain patents, utility models, industrial models and designs for said inventions in its own name throughout the world including all rights of priority, all rights to public cautionary notices reserving ownership of said inventions and all rights to claim and register said inventions in appropriate registries. NSL has further agreed to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in AT&T IP I, its successors, assigns and legal representatives.

IN WITNESS WHEREOF, NSL has caused this Recordable Patent Assignment to be executed by its duly authorized representative.

**3311148 Nova Scotia Limited**

By:

Maria Sbrocchi  
Secretary

Town of Thornhill, City of Markham)

25:

Province of Ontario, Canada

—

Before me personally appeared Maria Sbrocchi, who executed the foregoing instrument, and acknowledged to me that s/he executed the same for the purposes therein stated, this 14th day of January, 2019.

Notary Public

SEAL

**PATENT**  
**REEL: 048155 FRAME: 0631**

# ATTACHMENT A

Docket #	Country	Filing Type	Status	App. No.	App. Date	Grant Date	Patent No	Title
MOR001	United States	National	Granted	11/821557	6/22/2007	2/8/2011	7886318	Set Top Box With Digital Rights Management For Multiple Devices And Methods For Use Therewith
MOR001	United States	National	Inactive	12/963758	12/9/2010			Set Top Box With Digital Rights Management For Multiple Devices And Methods For Use Therewith
MOR002	United States	National	Granted	13/297459	11/16/2011	2/18/2014	8656425	Method For Creating A Subscriber Cable Channel And Set-Top Box For Use Therewith
MOR002	United States	National	Granted	11/821553	6/22/2007	12/20/2011	8082564	Method For Creating A Subscriber Cable Channel And Set-Top Box For Use Therewith
MOR003	United States	National	Granted	12/264218	11/3/2008	9/13/2011	8019687	Distributed Digital Rights Management Node Module And Methods For Use Therewith
MOR003	United States	National	Inactive	11/821544	6/22/2007			Distributed Digital Rights Management Node Module And Methods For Use Therewith
MOR003	United States	National	Inactive	13/198278	8/4/2011			Distributed Digital Rights Management Node Module And Methods For Use Therewith
MOR004	United States	National	Inactive	11/960076	12/19/2007			Handheld Video Player And Optical Storage Disc For Use Therewith
MOR005	United States	National	Inactive	11/960164	12/19/2007			Handheld Video Player And Optical Storage Disc With Advertising Data For Use Therewith
MOR006	United States	National	Inactive	12/880550	9/13/2010			Handheld Device With Gesture-Based Video Interaction And Methods For Use Therewith
MOR007	United States	National	Granted	13/027032	2/14/2011	6/4/2013	8458459	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR007	European Patent Convention	PCT/EPC Application	Inactive	11858497.8	12/8/2011	10/21/2015	2676453	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR007	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/IB2011/63967	12/8/2011	6/4/2013		Client Device And Local Station With Digital Rights Management And Methods For Use Therewith

Docket #	Country	Filing Type	Status	App. No.	App. Date	Grant Date	Patent No	Title
	Treaty							
MOR007	China P.R.	Patent Cooperation Treaty	Granted	201180067 488.4f	12/8/2011	10/28/2014	ZL201180 067488.4	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR007	United States	National	Granted	13/875694	5/2/2013	3/31/2015	8996862	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR007	France	PCT/EPC Application	Granted	11858497. 8	12/8/2011	10/21/2015	2676453	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR007	Great Britain	PCT/EPC Application	Granted	11858497. 8	12/8/2011	10/21/2015	2676453	Client Device And Local Station With Digital Rights Management And Methods For Use Therewith
MOR008	France	PCT/EPC Application	Granted	11850703. 7	12/8/2011	8/22/2018	2656537	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	Germany	PCT/EPC Application	Granted	11850703. 7	12/8/2011	8/22/2018	2656537	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	Great Britain	PCT/EPC Application	Granted	11850703. 7	12/8/2011	8/22/2018	2656537	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	China P.R.	Patent Cooperation Treaty	Granted	201180061 685.5	12/8/2011	3/16/2016	ZL201180 061685.5	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/US20 11/63974	12/8/2011			Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	United States	National	Granted	12/978484	12/24/2010	11/18/2014	8892908	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	European Patent Convention	PCT/EPC Application	Inactive	11850703. 7	12/8/2011	8/22/2018	2656537	Cryptography Module For Use With Fragmented Key And Methods For Use Therewith
MOR008	United	National	Inactive	61/426794	12/23/2010			Cryptography Module For Use With

Docket #	Country	Filing Type	Status	App. No.	App. Date	Grant Date	Patent No	Title
	States							Fragmented Key And Methods For Use Therewith
MOR008A	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/US2011/063978	12/8/2011			Elliptic Curve Cryptography With Fragmented Key Processing And Methods For Use Therewith
MOR008A	United States	National	Granted	14/138583	12/23/2013	12/23/2014	8917867	Elliptic Curve Cryptography With Fragmented Key Processing And Methods For Use Therewith
MOR008A	European Patent Convention	PCT/EPC Application	Filed	11857710.5	12/8/2011			Elliptic Curve Cryptography With Fragmented Key Processing And Methods For Use Therewith
MOR008A	United States	National	Granted	12/978488	12/24/2010	4/22/2014	8705730	Elliptic Curve Cryptography With Fragmented Key Processing And Methods For Use Therewith
MOR008A	China P.R.	Patent Cooperation Treaty	Granted	201180061880.2	12/8/2011	12/4/2015	ZL201180061880.2	Elliptic Curve Cryptography With Fragmented Key Processing And Methods For Use Therewith
MOR009	France	PCT/EPC Application	Granted	12777463.6	4/23/2012	3/30/2016	2702770	Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	Great Britain	PCT/EPC Application	Granted	12777463.6	4/23/2012	3/30/2016	2702770	Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	European Patent Convention	PCT/EPC Application	Filed	12776412.4	4/23/2012			Adaptive Video Server With Virtual File System And Methods For Use Therewith
MOR009	United States	National	Granted	13/095060	4/27/2011	8/13/2013	8510555	Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	United States	National	Granted	13/933372	7/2/2013	8/19/2014	8812846	Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	United States	National	Granted	14/320857	7/1/2014	10/20/2015	9167285	Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	United States	National	Granted	13/197400	8/3/2011	8/19/2014	8813116	Adaptive Video Server With Virtual File System And Methods For Use Therewith
MOR009	European Patent Convention	PCT/EPC Application	Inactive	12777463.6	4/23/2012	3/30/2016	2702770	Streaming Video Server With Virtual File System And Methods For Use Therewith

Docket #	Country	Filing Type	Status	App. No.	App. Date	Grant Date	Patent No	Title
	on							
MOR009	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/CA20 12/00398	4/23/2012			Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/CA20 12/00399	4/23/2012			Adaptive Video Server With Virtual File System And Methods For Use Therewith
MOR009	China P.R.	Patent Cooperation Treaty	Inactive	201280020 201.7	4/23/2012			Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR009	China P.R.	Patent Cooperation Treaty	Inactive	201280020 197.4	4/23/2012			Adaptive Video Server With Virtual File System And Methods For Use Therewith
MOR009	United States	National	Inactive	14/284195	5/21/2014			Streaming Video Server With Virtual File System And Methods For Use Therewith
MOR010	Patent Cooperation Treaty	Patent Cooperation Treaty	Inactive	PCT/CA20 13/000933	11/4/2013			Adaptive Video Server With Data Rate Control
MOR010	United States	National	Inactive	61/724110	11/8/2012			Adaptive Video Server With Data Rate Control
MOR010	United States	National	Granted	13/732473	1/2/2013	9/1/2015	9124672	Adaptive Video Server With Data Rate Control
MOR010 A	United States	National	Granted	13/732479	1/2/2013	4/21/2015	9015470	Adaptive Video Server With Data Rate Control
MOR011	United States	National	Inactive	61/735796	12/11/2012			Video Server Client Device And Methods For Use Therewith
MOR011	United States	National	Inactive	13/741668	1/15/2013			Video Server Client Device And Methods For Use Therewith
MOR011 A	United States	National	Granted	13/741715	1/15/2013	2/24/2015	8965960	Client Device With Video Player And Client-Side Proxy And Methods For Use Therewith
MOR011 B	United States	National	Granted	13/741740	1/15/2013	12/23/2014	8918821	Client Device With Video Playlist Translation Via Client-Side Proxy And Methods For Use Therewith
MOR013	United States	National	Granted	13/732527	1/2/2013	1/17/2017	9549216	Client Device With Secure Clock And Methods

Docket #	Country	Filing Type	Status	App. No.	App. Date	Grant Date	Patent No	Title
	States							For Use Therewith
MOR0013	United States	National	Inactive	61/732527	12/3/2012			Client Device With Secure Clock And Methods For Use Therewith
MOR0013 A	United States	National	Granted	13/732550	1/2/2013	7/21/2015	9088825	Client Device With Secure Clock And Methods For Use Therewith
MOR0014	United States	National	Granted	13/682934	11/21/2012	4/26/2016	9325945	Video Server And Client With Customer Key Exchange And Methods For Use Therewith
MOR0016	United States	National	Granted	13/751356	1/28/2013	3/22/2016	9294821	Scrubbing Noise Remover And Methods For Use Therewith
MOR0017	United States	National	Granted	13/893960	5/14/2013	2/28/2017	9584556	Client Proxy For Adaptive Bitrate Selection In HTTP Live Streaming
MOR0018	United States	National	Granted	13/893968	5/14/2013	8/25/2015	9118630	Client Proxy For Key Exchange In HTTP Live Streaming
MOR0019	United States	National	Inactive	13/893981	5/14/2013			Fixed-Length Segmentation For Segmented Video Streaming To Improve Playback Responsiveness
MOR0020	United States	National	Granted	13/754124	1/30/2013	4/21/2015	9015779	Streaming Video Server With Segment Length Control And Methods For Use Therewith
MOR0021	United States	National	Granted	14/750707	6/25/2015	8/22/2017	9740384	Media Device With Radial Gesture Control And Methods For Use Therewith
MOR0022	United States	National	Granted	14/848621	9/9/2015	8/22/2017	9743148	Video Device With Electronic Program Guide Application And Methods For Use Therewith
MOR0023	United States	National	Filed	15/674004	8/10/2017			System And Method For Peer-To-Peer Connectivity

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RECORDED: 01/28/2019