

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7052213

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MEA WANG	11/03/2021
YANG LIU	11/09/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	THE GOVERNORS OF THE UNIVERSITY OF CALGARY
<b>Street Address:</b>	2500 UNIVERSITY DRIVE NW
<b>City:</b>	CALGARY AB
<b>State/Country:</b>	CANADA
<b>Postal Code:</b>	T2N 1N4
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	17464018
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(732)542-2283
<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>	7325422280
<b>Email:</b>	dlane@trbkllaw.com
<b>Correspondent Name:</b>	AT&T LEGAL DEPARTMENT - TRBK
<b>Address Line 1:</b>	ONE AT&T WAY
<b>Address Line 2:</b>	ROOM 2A-212
<b>Address Line 4:</b>	BEDMINSTER, NEW JERSEY 07921
<b>ATTORNEY DOCKET NUMBER:</b>	2021-0847 UNIV CALGARY
<b>NAME OF SUBMITTER:</b>	DIANE V. LANE
<b>SIGNATURE:</b>	/Diane V. Lane/
<b>DATE SIGNED:</b>	12/02/2021
<b>Total Attachments: 6</b>	
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**CONFIRMATORY ASSIGNMENT OF INVENTIONS AND PATENTS**

This Confirmatory Assignment is effective as of November 3, 2021 (the "Effective Date")

BY:

**MEA WANG** of 408 Scimitar Bay N.W., Calgary, AB, Canada T3L 1S7 ("**Assignor**")

AND

**THE GOVERNORS OF THE UNIVERSITY OF CALGARY**, located at 2500 University Drive N.W. Calgary AB, Canada, T2N 1N4 ("**Assignee**")

In consideration of CDN\$1.00 and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the Assignor and the Assignee, further to an Research Collaboration Agreement, effective **April 1, 2015**, between the Assignee and AT&T Services, Inc. &b/a AT&T Labs the Assignor, the Assignor hereby confirms the sale, assignment, transfer, and conveyance to the Assignee of all of its right, title, and interest worldwide in and to the inventions disclosed and claimed in the patents and patent applications listed in Schedule A attached to this Confirmatory Assignment (collectively, the "**Patents**"), including, without limitation, any and all:

- 1) rights relating thereto that may arise at law, including rights of action resulting from prior infringement or other unauthorized use thereof;
- 2) applications corresponding thereto, whether in the form of improvements, divisions, continuations, continuations-in-part, re-examinations, re-issues and extensions thereof;
- 3) Letters Patent and like industrial property registrations (collectively, the "**Registrations**") that may issue, be granted or result from the Patents and the corresponding applications for the inventions disclosed and claimed in the Patents (the "**Inventions**") and
- 4) rights of priority (including the right to claim the benefit thereof) resulting from the filing of the Patents, the corresponding applications and any previously filed applications in respect of the Inventions under international conventions, treaties or otherwise,

the same to be held and enjoyed as fully and exclusively as the same would have been held and enjoyed by the Assignor had the sale, assignment, transfer, and conveyance referenced above not been made.

The Assignor, on behalf of itself and its assigns, heirs or other legal representatives, does hereby covenant and agree to do all such lawful acts and things, and to execute and deliver without further consideration such further lawful assignments, instruments, assurances, applications and other documents, as may reasonably be required by the Assignee, or by its successors, assigns, nominees or other legal representatives, to obtain the Registrations and vest or secure the same in the Assignee, and in Assignee's successors, assigns, nominees or other legal representatives.

The Assignor does hereby authorize any official whose duty it is to grant patents or industrial property registrations, to grant the Registrations to the Assignee, and to the Assignee's successors, assigns, nominees or other legal representatives.

The Assignor, on behalf of itself and its assigns, heirs or other legal representatives, does hereby authorize the Assignee, its successors, assigns, nominees or other legal representatives to amend the present confirmatory assignment to insert or correct any identifying information of the Patents as may be needed to record the same.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have executed this Confirmatory Assignment with effect as of the Effective Date.

**ASSIGNOR**

Per:



Name: Mea Wang

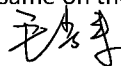
**STATEMENT OF WITNESS**

I, Chunlai Mao, whose residential address is:  
(name of witness)

408 Scimitar Bay NW, Calgary, AB, T3L 1S7

(address of witness)

state that I was personally present and did see **MEA WANG**, who is personally known to me to be the person named in the above confirmatory assignment, duly execute the same on the day and year set forth below.



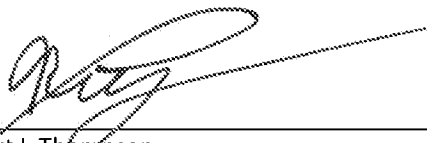
(signature of witness)

DATED at Calgary, Alberta, this 3 day of Nov, 2021.

**ASSIGNEE**

**THE GOVERNORS OF THE UNIVERSITY OF  
CALGARY**

Per:



Dr. Robert I. Thompson  
Associate Vice-President (Research)

Date: November 23, 2021

**SCHEDULE A**

**PATENTS**

**Patent Application No. 17/464,018**

**ADAPTIVE BITRATE STREAMING STALL MITIGATION**

**CONFIRMATORY ASSIGNMENT OF INVENTIONS AND PATENTS**

This Confirmatory Assignment is effective as of November 9th (the "Effective Date")

BY:

**YANG LIU** of Unit 201, 631 9A Street NW, Calgary, AB, Canada, T2N 1T9 ("**Assignor**")

AND

**THE GOVERNORS OF THE UNIVERSITY OF CALGARY**, located at 2500 University Drive N.W. Calgary AB, Canada, T2N 1N4 ("**Assignee**")

In consideration of CDN\$1.00 and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the Assignor and the Assignee, further to an Research Collaboration Agreement, effective **April 1, 2015**, between the Assignee and AT&T Services, Inc. &b/a AT&T Labs the Assignor, the Assignor hereby confirms the sale, assignment, transfer, and conveyance to the Assignee of all of its right, title, and interest worldwide in and to the inventions disclosed and claimed in the patents and patent applications listed in Schedule A attached to this Confirmatory Assignment (collectively, the "**Patents**"), including, without limitation, any and all:

- 1) rights relating thereto that may arise at law, including rights of action resulting from prior infringement or other unauthorized use thereof;
- 2) applications corresponding thereto, whether in the form of improvements, divisions, continuations, continuations-in-part, re-examinations, re-issues and extensions thereof;
- 3) Letters Patent and like industrial property registrations (collectively, the "**Registrations**") that may issue, be granted or result from the Patents and the corresponding applications for the inventions disclosed and claimed in the Patents (the "**Inventions**") and
- 4) rights of priority (including the right to claim the benefit thereof) resulting from the filing of the Patents, the corresponding applications and any previously filed applications in respect of the Inventions under international conventions, treaties or otherwise,

the same to be held and enjoyed as fully and exclusively as the same would have been held and enjoyed by the Assignor had the sale, assignment, transfer, and conveyance referenced above not been made.

The Assignor, on behalf of itself and its assigns, heirs or other legal representatives, does hereby covenant and agree to do all such lawful acts and things, and to execute and deliver without further consideration such further lawful assignments, instruments, assurances, applications and other documents, as may reasonably be required by the Assignee, or by its successors, assigns, nominees or other legal representatives, to obtain the Registrations and vest or secure the same in the Assignee, and in Assignee's successors, assigns, nominees or other legal representatives.

The Assignor does hereby authorize any official whose duty it is to grant patents or industrial property registrations, to grant the Registrations to the Assignee, and to the Assignee's successors, assigns, nominees or other legal representatives.

The Assignor, on behalf of itself and its assigns, heirs or other legal representatives, does hereby authorize the Assignee, its successors, assigns, nominees or other legal representatives to amend the present confirmatory assignment to insert or correct any identifying information of the Patents as may be needed to record the same.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have executed this Confirmatory Assignment with effect as of the Effective Date.

**ASSIGNOR**

Per:

Name: Yang Liu



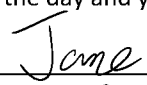
**STATEMENT OF WITNESS**

I, Jinwei Hu, whose residential address is:  
(name of witness)

Unit 201, 631 9A Street NW, Calgary, AB, Canada T2N 1T9

(address of witness)

state that I was personally present and did see **YANG LIU**, who is personally known to me to be the person named in the above confirmatory assignment, duly execute the same on the day and year set forth below.



(signature of witness)

DATED at Calgary, Alberta, this 9th day of Nov, 2021.

**ASSIGNEE**

**THE GOVERNORS OF THE UNIVERSITY OF  
CALGARY**

Per:

Dr. Robert I. Thompson  
Associate Vice President (Research)



Date: November 23, 2021

**SCHEDULE A**

**PATENTS**

**Patent Application No. 17/464,018**

**ADAPTIVE BITRATE STREAMING STALL MITIGATION**