

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7165079

|                              |                |
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| <b>SUBMISSION TYPE:</b>      | NEW ASSIGNMENT |
| <b>NATURE OF CONVEYANCE:</b> | ASSIGNMENT     |

**CONVEYING PARTY DATA**

| Name                    | Execution Date |
|-------------------------|----------------|
| MILOS DUNJIC            | 01/17/2020     |
| ARTHUR CARROLL CHOW     | 01/27/2022     |
| DAVID SAMUEL TAX        | 01/06/2022     |
| ARMON ROUHANI           | 01/27/2022     |
| KEITH SANJAY AJMANI     | 04/12/2021     |
| GREGORY ALBERT KLIEWER  | 12/19/2021     |
| ANTHONY HAITUYEN NGUYEN | 01/27/2022     |
| MARTIN ALBERT LONZON    | 01/17/2022     |
| KAREEM EL-ONSI          | 12/16/2021     |
| ASHKAN ALAVI-HARATI     | 12/15/2021     |
| ARUN VICTOR JAGGA       | 01/27/2022     |

**RECEIVING PARTY DATA**

|                          |                           |
|--------------------------|---------------------------|
| <b>Name:</b>             | THE TORONTO-DOMINION BANK |
| <b>Street Address:</b>   | 66 WELLINGTON STREET WEST |
| <b>Internal Address:</b> | TD TOWER, 15TH FLOOR      |
| <b>City:</b>             | TORONTO, ONTARIO          |
| <b>State/Country:</b>    | CANADA                    |
| <b>Postal Code:</b>      | M5K 1A2                   |

**PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 16528164 |

**CORRESPONDENCE DATA**

Fax Number: (202)776-7801

*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.*

Phone: 2027765252

Email: SMHill@duanemorris.com

Correspondent Name: DUANE MORRIS LLP

Address Line 1: 505 9TH STREET, N.W.

Address Line 4: WASHINGTON, D.C. 20004

PATENT

|                                |                       |
|--------------------------------|-----------------------|
| <b>ATTORNEY DOCKET NUMBER:</b> | G4144-00289           |
| <b>NAME OF SUBMITTER:</b>      | JAMES A. COOKE, III   |
| <b>SIGNATURE:</b>              | /James A. Cooke, III/ |
| <b>DATE SIGNED:</b>            | 02/08/2022            |

**Total Attachments: 13**

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**WORLDWIDE ASSIGNMENT**

WHEREAS, WE, (hereinafter referred to as the "ASSIGNORS"):

Milos DUNJIC,  
Arthur Carroll CHOW,  
David Samuel TAX,  
Armon ROUHANI,  
Keith Sanjay AJMANI,  
Gregory Albert KLIOWER,  
Anthony Haituyen NGUYEN,  
Martin Albert LOZON,  
Kareem EL-ONSI,  
Ashkan ALAVI-HARATI, and  
Arun Victor JAGGA

have invented a certain new and useful invention entitled:

**DYNAMIC IMPLEMENTATION AND MANAGEMENT OF HASH-BASED CONSENT  
AND PERMISSIONING PROTOCOLS**

for which a United States Patent application was filed on July 31, 2019, and accorded application serial number 16/528,164 (further identified by Attorney Docket No. G4144-00289 and TD Reference No. 18100-PMT-US-PAT, hereinafter the "Patent Application"), and

WHEREAS, **The Toronto-Dominion Bank** (hereinafter "**Assignee**"), a corporation organized under the laws of the Province of Ontario, CANADA, having a place of business at 66 Wellington Street West, TD Tower, 15<sup>th</sup> Floor, Toronto, Ontario, M5K 1A2, has acquired or is desirous of acquiring the entire and exclusive right, title and interest in and to the Patent Application inclusive of any and all priority rights derived therefrom and the inventions therein disclosed or claimed, and in and to all Letters Patent, in the United States of America, Canada, and throughout the world, which may be granted and issued therefore throughout the world;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the undersigned, WE, ASSIGNORS do hereby sell, assign, transfer, and set over to the ASSIGNEE, its successors and assigns, the entire and exclusive right, title and interest in and to the Patent Application for United States Letters Patent inclusive of any and all priority rights derived therefrom, and the inventions therein disclosed or claimed, and in and to all Letters Patent and issues thereof which may be granted upon the Patent Application and in and to all Letters Patent which may be issued upon any substitutes, continuations, continuations-in-part, divisions, re-issues or extensions of the Patent Application or Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, and in and to any and all Letters Patent which may be granted for the inventions in any foreign country or countries including priority rights derived from any application for the inventions in any country;


AND WE, ASSIGNORS, hereby agrees/agree to execute, upon request, any and all further papers without charge which may be necessary or desirable to enable the ASSIGNEE, its successors and assigns, to file and prosecute the Patent Application, and any and all substitutes, continuations, continuations-in-part, divisions, or extensions thereof, and any and all reissues of the Letters Patent granted upon the Patent Application, and any and all applications for foreign Letters Patent on the inventions; and ASSIGNORS further agree to execute any and all further papers without charge which may be necessary or desirable to vest or perfect the title of ASSIGNEE, its successors and assigns, in and to the Patent Application and the inventions therein disclosed or claimed, and in and to any and all Letters Patent and reissues thereof, in the United States of America, Canada, and foreign countries, which may be granted upon the Patent Application, and any substitutes, continuations, continuations-in-part, divisions, re-issues or extensions thereof, and upon any foreign applications;

AND WE, ASSIGNORS hereby authorize and request the Patent Office to issue each and every Letters Patent to be granted upon the Patent Application for United States Letters Patent, and upon any and all substitutes, continuations, continuations-in-part, divisions, or extensions of the Patent Application, and each and every reissue of the Letters Patent, to the ASSIGNEE, its successors and assigns, as the assignee of the entire right, title and interest therein, in accordance with this assignment;

AND WE, ASSIGNORS each individually hereby represent and warrant that I have read and fully understand the terms and provisions hereof, have had an opportunity to obtain independent legal advice, and have executed this assignment based upon my own judgment and advice of independent legal counsel (if sought), or alternatively, have waived the right to obtain independent legal counsel.

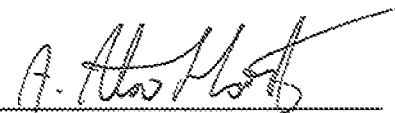
**Inventor 1:**

EXECUTED at (City, Province) Toronto, ON, this 17 day of Jan, 2019

  
\_\_\_\_\_  
Milos DUNJIC

STATEMENT BY WITNESS

I, Ashkan Alavi-Karati, whose full Post Office address is  
66 Wellington St. W. Toronto, ON M5K 1A2 was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

  
\_\_\_\_\_  
(Signature of Witness)

**Inventor 2:**

EXECUTED at (City, Province) MARKHAM, ONTARIO, this 27<sup>th</sup> day of January, 2022

  
\_\_\_\_\_  
Arthur Carroll CHOW

STATEMENT BY WITNESS

I, Siu KWAN IP, whose full Post Office address is  
75 EAKIN MILL ROAD, MARKHAM, ONTARIO L6E 1N9 was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

  
\_\_\_\_\_  
(Signature of Witness)

**Inventor 3:**

EXECUTED at (City, Province) Toronto, Ontario, this 6th day of January, 2022

*David Taux*

\_\_\_\_\_  
David Samuel Taux


STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is  
\_\_\_\_\_ was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

\_\_\_\_\_  
(Signature of Witness)

**Inventor 4:**

EXECUTED at (City, Province) Toronto, ON, this 27 day of Jan, 2023

  
.....  
Almon ROUHANI

STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is

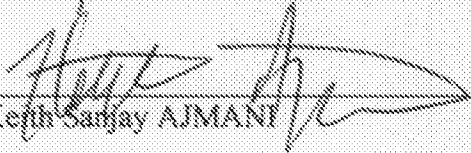
\_\_\_\_\_ was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

\_\_\_\_\_  
(Signature of Witness)



Inventor 5:

EXECUTED at (City, Province) Toronto, ON, this 12 day of April, 2021

  
Keith Sanjay AJMANI

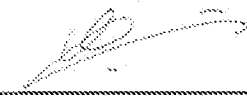
STATEMENT BY WITNESS

I, Sherry Pedersen Ajmani, whose full Post Office address is  
6 First Ave, Toronto, ON M4M 1W8 was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

  
(Signature of Witness)

Inventor 6:

EXECUTED at (City, Province) Barrie, ON, this 19 day of December, 2021

  
\_\_\_\_\_  
Gregory Albert KLEWER

STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is


\_\_\_\_\_ was

personally present and did see the above named person, who is known to me, execute the above Assignment.

\_\_\_\_\_  
(Signature of Witness)

**Inventor 7:**

EXECUTED at (City, Province) Toronto, Ontario, this 27 day of January, 2022



\_\_\_\_\_  
Anthony Haituyen NGUYEN

**STATEMENT BY WITNESS**

I, \_\_\_\_\_, whose full Post Office address is

\_\_\_\_\_ was

personally present and did see the above named person, who is known to me, execute the above Assignment.

\_\_\_\_\_  
(Signature of Witness)

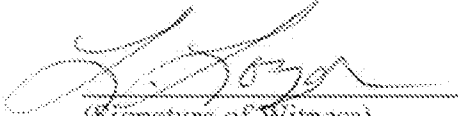
Inventor 8:

EXECUTED at (City, Province) Tilbury, ON, this 17 day of January, 2022

  
Martin Albert LOZON

STATEMENT BY WITNESS

I, Linda Darlene Lozon, whose full Post Office address is  
17890 Melody Drive, Tilbury, Ontario N0P 2L0 was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

  
(Signature of Witness)

**Inventor 9:**

EXECUTED at (City, Province) Oakville, ON, this 16 day of December, 2021

/Kareem EL-ONSI/  
Kareem EL-ONSI

STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is \_\_\_\_\_ was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

\_\_\_\_\_  
(Signature of Witness)

**Inventor 10:**

EXECUTED at (City, Province) Markham, Ontario, this 15 day of December, 2021

*Ashkan Alavi-Harati*  
Ashkan ALAVI-HARATI

STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is

\_\_\_\_\_ was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

\_\_\_\_\_  
(Signature of Witness)

**Inventor 11:**

EXECUTED at (City, Province) Toronto, On, this 27 day of January, 2022

/ Arun Jagga /  
Arun Victor JAGGA

STATEMENT BY WITNESS

I, \_\_\_\_\_, whose full Post Office address is  
\_\_\_\_\_ was  
personally present and did see the above named person, who is known to me, execute the above  
Assignment.

\_\_\_\_\_  
(Signature of Witness)