

## 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> |
| INTERNATIONAL BUSINESS MACHINES CORPORATION                                                                                                                                                     |                            | 12/27/2019            |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                            |                       |
| <b>Name:</b>                                                                                                                                                                                    | TESSERA, INC.              |                       |
| <b>Street Address:</b>                                                                                                                                                                          | 3025 ORCHARD PARKWAY       |                       |
| <b>City:</b>                                                                                                                                                                                    | SAN JOSE                   |                       |
| <b>State/Country:</b>                                                                                                                                                                           | CALIFORNIA                 |                       |
| <b>Postal Code:</b>                                                                                                                                                                             | 95134                      |                       |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                            |                       |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>              |                       |
| <b>Application Number:</b>                                                                                                                                                                      | 16798240                   |                       |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                            |                       |
| <b>Fax Number:</b>                                                                                                                                                                              |                            |                       |
| <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> |                            |                       |
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| <b>Email:</b>                                                                                                                                                                                   | KAREN.PERRICONE@XPERI.COM  |                       |
| <b>Correspondent Name:</b>                                                                                                                                                                      | TESSERA INC.               |                       |
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| <b>Address Line 4:</b>                                                                                                                                                                          | SAN JOSE, CALIFORNIA 95134 |                       |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | ME002-0054-US-03-2         |                       |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | CHRISTOPHER W. LATTIN      |                       |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /Christopher W. Lattin/    |                       |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 02/26/2020                 |                       |
| <b>Total Attachments: 13</b>                                                                                                                                                                    |                            |                       |
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Recordable Patent Assignment and Reservation

For good and valuable consideration, the receipt of which is hereby acknowledged, and subject to the reservations stated in the Patent Assignment Agreement Reference No. L190373 between the parties with an effective time and date of 11:59pm United States Eastern Time on December 19, 2019 ("Effective Time & Date") ("Patent Assignment Agreement"), International Business Machines Corporation, a New York corporation having a place of business at New Orchard Road, Armonk, New York, 10504, U.S.A. (hereinafter "ASSIGNOR"), hereby grants and assigns to TESSERA, INC., a Delaware limited liability company having a place of business at 3025 Orchard Parkway, San Jose, California 95134 (hereinafter "ASSIGNEE"), all of IBM's right, title and interest in and to the United States Letters Patents and the United States Patent Applications identified in Exhibits A and C, attached hereto (hereinafter, collectively, "ASSIGNED PATENTS"), to have and to hold the same, unto ASSIGNEE for its own use and enjoyment and for the use and enjoyment of its successors and assigns, including all damages for infringement of any of the ASSIGNED PATENTS accruing on or after the Effective Time & Date and the sole right to sue therefore under such ASSIGNED PATENTS, for the full term or terms of all such ASSIGNED PATENTS, subject to all rights granted under the ASSIGNED PATENTS to third parties prior to said Effective Time & Date.

ASSIGNOR hereby reserves and retains, for the benefit of itself and its subsidiaries and its and their successors and assigns, the rights and licenses set forth in the Patent Assignment Agreement.

IN WITNESS WHEREOF, ASSIGNOR has caused this Patent Assignment and Reservation to be duly signed on its behalf.

Signature:   
Name: Lisa M. Regan

Date: Dec. 27, 2019

Title: Vice President, Finance & Operations, Research and Intellectual Property

## EXHIBIT A

### ASSIGNED PATENTS

#### EXHIBIT A-I

#### LISTED PATENTS (United States)

| IBM Docket Number | Country | Patent Number | Application Number | Filing Date | Issue Date |
|-------------------|---------|---------------|--------------------|-------------|------------|
| BUR920080285US2   | US      | 8169055       | 12/634726          | 12/10/2009  | 5/1/2012   |
| BUR920100010US1   | US      | 8188591       | 12/835306          | 7/13/2010   | 5/29/2012  |
| BUR920100010US2   | US      | 8232139       | 13/426835          | 3/22/2012   | 7/31/2012  |
| *BUR920130117US1  | US      | 9159671       | 14/083929          | 11/19/2013  | 10/13/2015 |
| BUR920130117US2   | US      | 9230914       | 14/526741          | 10/29/2014  | 1/5/2016   |
| BUR920130117US3   | US      | 9613853       | 14/883162          | 10/14/2015  | 4/4/2017   |
| FIS920050163US1   | US      | 7301236       | 11/163410          | 10/18/2005  | 11/27/2007 |
| *FIS920050163US2  | US      | 7439173       | 11/869044          | 10/9/2007   | 10/21/2008 |
| FIS920050184US1   | US      | 7456095       | 11/163038          | 10/3/2005   | 11/25/2008 |
| FIS920050184US2   | US      | 8298385       | 12/047561          | 3/13/2008   | 10/30/2012 |
| *FIS920050184US3  | US      | 7759741       | 12/049595          | 3/17/2008   | 7/20/2010  |
| FIS920090108US1   | US      | 8558345       | 12/614883          | 11/9/2009   | 10/15/2013 |
| FIS920090108US2   | US      | 8785289       | 13/975519          | 8/26/2013   | 7/22/2014  |
| FIS920120244US1   | US      | 9202743       | 13/716636          | 12/17/2012  | 12/1/2015  |
| FIS920120244US2   | US      | 9293412       | 14/559962          | 12/4/2014   | 3/22/2016  |
| FIS920120324US1   | US      | 9190321       | 13/858125          | 4/8/2013    | 11/17/2015 |
| FIS920120324US2   | US      | 9691656       | 14/817868          | 8/4/2015    | 6/27/2017  |
| FIS920130234US1   | US      | 9349836       | 14/154206          | 1/14/2014   | 5/24/2016  |
| FIS920130234US2   | US      | 9515168       | 14/884045          | 10/15/2015  | 12/6/2016  |
| FIS920130234US3   | US      | 9601380       | 14/883913          | 10/15/2015  | 3/21/2017  |
| FIS920130234US4   | US      | 9391175       | 14/883882          | 10/15/2015  | 7/12/2016  |
| FIS920130234US5   | US      | 9679993       | 15/179699          | 6/10/2016   | 6/13/2017  |
| FIS920130265US1   | US      | 9385123       | 14/281931          | 5/20/2014   | 7/5/2016   |
| FIS920140039US1   | US      | 9515164       | 14/198976          | 3/6/2014    | 12/6/2016  |
| FIS920140039US2   | US      | 10395993      | 15/284567          | 10/4/2016   | 8/27/2019  |
| FIS920140045US1   | US      | 9269792       | 14/299300          | 6/9/2014    | 2/23/2016  |
| FIS920140113US1   | US      | 9305845       | 14/477450          | 9/4/2014    | 4/5/2016   |
| FIS920140113US2   | US      | 9842737       | 15/046055          | 2/17/2016   | 12/12/2017 |
| FIS920140131US05  | US      | 10325806      | 15/825646          | 11/29/2017  | 6/18/2019  |
| FIS920140131US06  | US      | 10224241      | 15/825889          | 11/29/2017  | 3/5/2019   |
| FIS920140131US1   | US      | 9455182       | 14/466539          | 8/22/2014   | 9/27/2016  |
| FIS920140131US2   | US      | 9601371       | 14/882568          | 10/14/2015  | 3/21/2017  |
| FIS920140131US3   | US      | 9947581       | 15/214760          | 7/20/2016   | 4/17/2018  |

|                  |    |          |           |            |            |
|------------------|----|----------|-----------|------------|------------|
| FIS920140131US4  | US | 9947579  | 15/417390 | 1/27/2017  | 4/17/2018  |
| FIS920140138US03 | US | 10170587 | 15/795445 | 10/27/2017 | 1/1/2019   |
| FIS920140138US1  | US | 9472628  | 14/330158 | 7/14/2014  | 10/18/2016 |
| FIS920140138US2  | US | 10158001 | 15/244499 | 8/23/2016  | 12/18/2018 |
| FIS920140148US1  | US | 9613954  | 14/325547 | 7/8/2014   | 4/4/2017   |
| FIS920140215US1  | US | 9455195  | 14/561550 | 12/5/2014  | 9/27/2016  |
| FIS920140215US2  | US | 9761679  | 15/070154 | 3/15/2016  | 9/12/2017  |
| FIS920140215US3  | US | 9735058  | 15/211742 | 7/15/2016  | 8/15/2017  |
| FIS920140244US1  | US | 9337094  | 14/589222 | 1/5/2015   | 5/10/2016  |
| FIS920140254US02 | US | 10121852 | 15/794616 | 10/26/2017 | 11/6/2018  |
| FIS920140254US03 | US | 10121853 | 15/794636 | 10/26/2017 | 11/6/2018  |
| FIS920140254US1  | US | 9876074  | 14/719829 | 5/22/2015  | 1/23/2018  |
| FIS920150002US1  | US | 9356027  | 14/708885 | 5/11/2015  | 5/31/2016  |
| FIS920150002US2  | US | 9576858  | 15/149360 | 5/9/2016   | 2/21/2017  |
| FIS920150002US3  | US | 9627270  | 15/149326 | 5/9/2016   | 4/18/2017  |
| FIS920150011US04 | US | 9985024  | 15/494586 | 4/24/2017  | 5/29/2018  |
| FIS920150011US05 | US | 10276569 | 15/923097 | 3/16/2018  | 4/30/2019  |
| FIS920150011US1  | US | 9443853  | 14/680099 | 4/7/2015   | 9/13/2016  |
| FIS920150011US2  | US | 9704753  | 15/203847 | 7/7/2016   | 7/11/2017  |
| FIS920150011US3  | US | 9852951  | 15/237802 | 8/16/2016  | 12/26/2017 |
| FIS920150046US1  | US | 9437502  | 14/738316 | 6/12/2015  | 9/6/2016   |
| FIS920150071US1  | US | 9287135  | 14/721430 | 5/26/2015  | 3/15/2016  |
| FIS920150083US02 | US | 10079175 | 15/601488 | 5/22/2017  | 9/18/2018  |
| FIS920150083US1  | US | 9728450  | 14/749788 | 6/25/2015  | 8/8/2017   |
| FIS920150117US05 | US | 10141402 | 15/827053 | 11/30/2017 | 11/27/2018 |
| FIS920150117US06 | US | 10276658 | 15/813277 | 11/15/2017 | 4/30/2019  |
| FIS920150117US07 | US | 10224247 | 16/115953 | 8/29/2018  | 3/5/2019   |
| FIS920150117US08 | US | 10319640 | 16/115967 | 8/29/2018  | 6/11/2019  |
| FIS920150117US1  | US | 9685507  | 14/750013 | 6/25/2015  | 6/20/2017  |
| FIS920150117US2  | US | 10157797 | 15/182043 | 6/14/2016  | 12/18/2018 |
| FIS920150117US3  | US | 9613869  | 15/182048 | 6/14/2016  | 4/4/2017   |
| FIS920150117US4  | US | 10014221 | 15/417597 | 1/27/2017  | 7/3/2018   |
| FIS920150165US1  | US | 9431486  | 14/953851 | 11/30/2015 | 8/30/2016  |
| FIS920150165US2  | US | 9461168  | 15/046559 | 2/18/2016  | 10/4/2016  |
| FIS920150165US3  | US | 9905421  | 15/221758 | 7/28/2016  | 2/27/2018  |
| FIS920150191US04 | US | 10256186 | 15/816508 | 11/17/2017 | 4/9/2019   |
| FIS920150191US1  | US | 9502350  | 15/009108 | 1/28/2016  | 11/22/2016 |
| FIS920150191US2  | US | 9601426  | 15/166570 | 5/27/2016  | 3/21/2017  |
| FIS920150191US3  | US | 9852980  | 15/405344 | 1/13/2017  | 12/26/2017 |
| FIS920150198US1  | US | 9466693  | 14/943652 | 11/17/2015 | 10/11/2016 |
| FIS920150198US2  | US | 10418450 | 15/136238 | 4/22/2016  | 9/17/2019  |
| FIS920150219US1  | US | 9564446  | 14/971212 | 12/16/2015 | 2/7/2017   |

|                  |    |          |           |            |            |
|------------------|----|----------|-----------|------------|------------|
| FIS920150219US2  | US | 10096521 | 15/396993 | 1/3/2017   | 10/9/2018  |
| FIS920150231US1  | US | 9583400  | 14/996563 | 1/15/2016  | 2/28/2017  |
| FIS920150244US1  | US | 9799605  | 14/952017 | 11/25/2015 | 10/24/2017 |
| FIS920150244US2  | US | 10276435 | 15/470038 | 3/27/2017  | 4/30/2019  |
| FIS920150267US1  | US | 10256296 | 14/951333 | 11/24/2015 | 4/9/2019   |
| FIS920150267US2  | US | 10355080 | 15/206127 | 7/8/2016   | 7/16/2019  |
| FIS920160022US02 | US | 10297569 | 15/823222 | 11/27/2017 | 5/21/2019  |
| FIS920160022US1  | US | 9941241  | 15/198992 | 6/30/2016  | 4/10/2018  |
| FIS920160043US02 | US | 9947655  | 15/650530 | 7/14/2017  | 4/17/2018  |
| FIS920160043US1  | US | 9716088  | 15/199052 | 6/30/2016  | 7/25/2017  |
| FIS920160044US1  | US | 9620479  | 15/199129 | 6/30/2016  | 4/11/2017  |
| FIS920170003US02 | US | 10103144 | 15/799247 | 10/31/2017 | 10/16/2018 |
| FIS920170003US03 | US | 10103145 | 15/799286 | 10/31/2017 | 10/16/2018 |
| FIS920170003US04 | US | 10170474 | 15/862976 | 1/5/2018   | 1/1/2019   |
| FIS920170003US1  | US | 9947660  | 15/489920 | 4/18/2017  | 4/17/2018  |
| P201705085US01   | US | 10424651 | 15/880757 | 1/26/2018  | 9/24/2019  |
| YOR820161815US01 | US | 10020254 | 15/727956 | 10/9/2017  | 7/10/2018  |
| YOR820161815US02 | US | 10020255 | 15/798794 | 10/31/2017 | 7/10/2018  |
| YOR820162685US01 | US | 10204829 | 15/870213 | 1/12/2018  | 2/12/2019  |
| YOR820170142US01 | US | 10361117 | 15/837361 | 12/11/2017 | 7/23/2019  |
| YOR820170167US01 | US | 10410928 | 15/824537 | 11/28/2017 | 9/10/2019  |
| YOR920070753US1  | US | 7843063  | 12/031103 | 2/14/2008  | 11/30/2010 |
| *YOR920070753US2 | US | 8008199  | 12/869113 | 8/26/2010  | 8/30/2011  |
| YOR920110290US05 | US | 10326074 | 15/671847 | 8/8/2017   | 6/18/2019  |
| YOR920110290US06 | US | 10424727 | 16/364794 | 3/26/2019  | 9/24/2019  |
| YOR920110290US1  | US | 8928100  | 13/168477 | 6/24/2011  | 1/6/2015   |
| *YOR920110290US2 | US | 9082963  | 14/556967 | 12/1/2014  | 7/14/2015  |
| YOR920110290US3  | US | 9318698  | 14/699716 | 4/29/2015  | 4/19/2016  |
| YOR920110290US4  | US | 9793471  | 15/088849 | 4/1/2016   | 10/17/2017 |
| YOR920110671US1  | US | 8648454  | 13/396030 | 2/14/2012  | 2/11/2014  |
| YOR920120458US1  | US | 8659077  | 13/615343 | 9/13/2012  | 2/25/2014  |
| YOR920120458US2  | US | 8647972  | 13/618255 | 9/14/2012  | 2/11/2014  |
| YOR920120867US1  | US | 8802512  | 13/739182 | 1/11/2013  | 8/12/2014  |
| YOR920120867US2  | US | 9000413  | 13/970931 | 8/20/2013  | 4/7/2015   |
| YOR920120867US3  | US | 10319860 | 14/667349 | 3/24/2015  | 6/11/2019  |
| YOR920130256US1  | US | 9257289  | 14/197959 | 3/5/2014   | 2/9/2016   |
| YOR920130256US2  | US | 9685521  | 14/984194 | 12/30/2015 | 6/20/2017  |
| YOR920130378US1  | US | 8969149  | 13/893896 | 5/14/2013  | 3/3/2015   |
| YOR920130378US2  | US | 8994081  | 14/028053 | 9/16/2013  | 3/31/2015  |
| YOR920130542US1  | US | 9324710  | 14/187896 | 2/24/2014  | 4/26/2016  |
| YOR920130613US03 | US | 10170327 | 15/613774 | 6/5/2017   | 1/1/2019   |
| YOR920130613US1  | US | 9064901  | 14/139121 | 12/23/2013 | 6/23/2015  |

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|------------------|----|----------|-----------|------------|------------|
| YOR920130613US2  | US | 9728419  | 14/697306 | 4/27/2015  | 8/8/2017   |
| YOR920130623US1  | US | 9331146  | 14/301587 | 6/11/2014  | 5/3/2016   |
| YOR920130623US2  | US | 9647062  | 14/805669 | 7/22/2015  | 5/9/2017   |
| YOR920130818US1  | US | 9196612  | 14/225812 | 3/26/2014  | 11/24/2015 |
| YOR920130818US2  | US | 9437499  | 14/830829 | 8/20/2015  | 9/6/2016   |
| YOR920130854US06 | US | 10224420 | 15/656326 | 7/21/2017  | 3/5/2019   |
| YOR920130854US07 | US | 10170594 | 15/715593 | 9/26/2017  | 1/1/2019   |
| YOR920130854US2  | US | 9559191  | 14/578842 | 12/22/2014 | 1/31/2017  |
| YOR920130854US3  | US | 10084070 | 15/250166 | 8/29/2016  | 9/25/2018  |
| YOR920130854US4  | US | 10103251 | 15/250207 | 8/29/2016  | 10/16/2018 |
| YOR920130854US5  | US | 10109723 | 15/342477 | 11/3/2016  | 10/23/2018 |
| YOR920130855US1  | US | 9252243  | 14/175441 | 2/7/2014   | 2/2/2016   |
| YOR920130855US2  | US | 9391155  | 14/953908 | 11/30/2015 | 7/12/2016  |
| YOR920130855US3  | US | 9583585  | 14/985711 | 12/31/2015 | 2/28/2017  |
| YOR920130973US1  | US | 9324830  | 14/227345 | 3/27/2014  | 4/26/2016  |
| YOR920130973US2  | US | 9634117  | 15/075260 | 3/21/2016  | 4/25/2017  |
| YOR920130973US3  | US | 10037944 | 15/417940 | 1/27/2017  | 7/31/2018  |
| YOR920140073US1  | US | 9349691  | 14/339704 | 7/24/2014  | 5/24/2016  |
| YOR920140073US2  | US | 9859160  | 15/070411 | 3/15/2016  | 1/2/2018   |
| YOR920140073US3  | US | 9953869  | 15/078066 | 3/23/2016  | 4/24/2018  |
| YOR920140090US1  | US | 9419097  | 14/551322 | 11/24/2014 | 8/16/2016  |
| YOR920140090US2  | US | 9685530  | 15/182726 | 6/15/2016  | 6/20/2017  |
| YOR920140090US3  | US | 9620622  | 15/189579 | 6/22/2016  | 4/11/2017  |
| YOR920140278US2  | US | 10367060 | 15/136048 | 4/22/2016  | 7/30/2019  |
| YOR920140291US1  | US | 9305836  | 14/536751 | 11/10/2014 | 4/5/2016   |
| YOR920140291US2  | US | 9960117  | 14/960483 | 12/7/2015  | 5/1/2018   |
| YOR920140291US3  | US | 9711455  | 14/961966 | 12/8/2015  | 7/18/2017  |
| YOR920140314US02 | US | 10056378 | 15/805420 | 11/7/2017  | 8/21/2018  |
| YOR920140314US1  | US | 9859275  | 14/605142 | 1/26/2015  | 1/2/2018   |
| YOR920140398US1  | US | 9269627  | 14/501654 | 9/30/2014  | 2/23/2016  |
| YOR920140398US2  | US | 9659931  | 15/045950 | 2/17/2016  | 5/23/2017  |
| YOR920140418US1  | US | 9728462  | 14/672350 | 3/30/2015  | 8/8/2017   |
| YOR920140418US2  | US | 9536791  | 14/748424 | 6/24/2015  | 1/3/2017   |
| YOR920140418US3  | US | 9985027  | 15/361794 | 11/28/2016 | 5/29/2018  |
| YOR920140527US1  | US | 9419091  | 14/613667 | 2/4/2015   | 8/16/2016  |
| YOR920150061US1  | US | 9484250  | 14/643011 | 3/10/2015  | 11/1/2016  |
| YOR920150061US2  | US | 9761698  | 15/294376 | 10/14/2016 | 9/12/2017  |
| YOR920150061US3  | US | 9786767  | 15/294391 | 10/14/2016 | 10/10/2017 |
| YOR920150287US1  | US | 9786550  | 14/749811 | 6/25/2015  | 10/10/2017 |
| YOR920150287US2  | US | 9799552  | 14/949386 | 11/23/2015 | 10/24/2017 |
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| FIS920130290US1  | US | 9318384  | 14/223282 | 3/24/2014  | 4/19/2016  |
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| FIS920140198US12 | US | 10381452 | 15/797315 | 10/30/2017 | 8/13/2019  |
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| YOR820162134US01 | US | 10229854 | 15/841933 | 12/14/2017 | 3/12/2019  |
| YOR920070226US3  | US | 9263391  | 13/089958 | 4/19/2011  | 2/16/2016  |
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| YOR920161563US02 | US | 10396169 | 15/846461 | 12/19/2017 | 8/27/2019  |
| YOR920161563US03 | US | 10249539 | 15/846447 | 12/19/2017 | 4/2/2019   |
| YOR920161563US1  | US | 9935014  | 15/404469 | 1/12/2017  | 4/3/2018   |
| YOR920161610US02 | US | 10332995 | 15/695319 | 9/5/2017   | 6/25/2019  |
| YOR920161610US03 | US | 10269957 | 15/850891 | 12/21/2017 | 4/23/2019  |
| YOR920161610US1  | US | 9935195  | 15/404904 | 1/12/2017  | 4/3/2018   |
| YOR920161616US02 | US | 10256289 | 15/805829 | 11/7/2017  | 4/9/2019   |
| YOR920161616US1  | US | 10090378 | 15/462501 | 3/17/2017  | 10/2/2018  |
| YOR920161617US02 | US | 10410875 | 15/802634 | 11/3/2017  | 9/10/2019  |

|                  |    |          |           |            |            |
|------------------|----|----------|-----------|------------|------------|
| YOR920161617US1  | US | 10312103 | 15/445112 | 2/28/2017  | 6/4/2019   |
| YOR920161618US1  | US | 10103022 | 15/463659 | 3/20/2017  | 10/16/2018 |
| YOR920161829US02 | US | 10242911 | 15/815173 | 11/16/2017 | 3/26/2019  |
| YOR920161829US1  | US | 9911652  | 15/472745 | 3/29/2017  | 3/6/2018   |
| YOR920161852US02 | US | 10141313 | 15/819577 | 11/21/2017 | 11/27/2018 |
| YOR920161852US1  | US | 9865598  | 15/450725 | 3/6/2017   | 1/9/2018   |
| YOR920170044US02 | US | 10243043 | 15/811812 | 11/14/2017 | 3/26/2019  |
| YOR920170044US1  | US | 9954058  | 15/620437 | 6/12/2017  | 4/24/2018  |
| YOR920170145US02 | US | 10242909 | 15/808193 | 11/9/2017  | 3/26/2019  |
| YOR920170145US1  | US | 10090247 | 15/585704 | 5/3/2017   | 10/2/2018  |

## EXHIBIT A-II

### LISTED PATENTS (United States)

| IBM Docket Number | Country | Patent Number | Application Number | Filing Date | Issue Date |
|-------------------|---------|---------------|--------------------|-------------|------------|
| *FIS920070140US1  | US      | 7585716       | 11/769150          | 6/27/2007   | 9/8/2009   |
| FIS920070140US2   | US      | 7812411       | 12/554292          | 9/4/2009    | 10/12/2010 |
| FIS920080279US1   | US      | 7939369       | 12/465839          | 5/14/2009   | 5/10/2011  |

\* inactive

## END OF EXHIBIT A

## EXHIBIT C-I

### ASSIGNED PATENT APPLICATIONS

US Assigned Patent Applications

| IBM Docket Number | Country | Application Number | Filing Date | Published Application Number |
|-------------------|---------|--------------------|-------------|------------------------------|
| *BUR920080285US1  | US      | 61/161111          | 3/18/2009   |                              |
| *FIS920130265US2  | US      | 14/828551          | 8/18/2015   | 20150357328                  |
| FIS920140039US03  | US      | 16/454178          | 6/27/2019   | 20190318966                  |
| FIS920140131US07  | US      | 16/118998          | 8/31/2018   | 20180374748                  |
| FIS920140131US08  | US      | 16/657169          | 10/18/2019  |                              |
| FIS920140148US03  | US      | 16/662845          | 10/24/2019  |                              |
| FIS920140148US2   | US      | 15/450829          | 3/6/2017    | 20170178960                  |
| FIS920150011US06  | US      | 16/296433          | 3/8/2019    | 20190206865                  |

|                  |    |           |            |             |
|------------------|----|-----------|------------|-------------|
| FIS920150117US09 | US | 16/265110 | 2/1/2019   | 20190181049 |
| FIS920150198US03 | US | 16/459685 | 7/2/2019   | 20190326406 |
| FIS920150244US03 | US | 16/057056 | 8/7/2018   | 20180342419 |
| FIS920150267US03 | US | 16/261305 | 1/29/2019  | 20190157388 |
| FIS920150267US04 | US | 16/399845 | 4/30/2019  | 20190259831 |
| FIS920170003US05 | US | 16/051820 | 8/1/2018   | 20180342510 |
| FIS920170003US06 | US | 16/052526 | 8/1/2018   | 20180342511 |
| P201705085US02   | US | 16/391622 | 4/23/2019  | 20190252516 |
| YOR820162685US02 | US | 16/213618 | 12/7/2018  | 20190221477 |
| YOR820162922US01 | US | 15/842841 | 12/14/2017 | 20190189457 |
| YOR820170142US02 | US | 16/406115 | 5/8/2019   | 20190267278 |
| YOR820170167US02 | US | 16/505063 | 7/8/2019   | 20190333824 |
| YOR920130854US08 | US | 16/056940 | 8/7/2018   | 20180350959 |
| *YOR920130854US1 | US | 61/980292 | 4/16/2014  |             |
| YOR920130973US04 | US | 16/032213 | 7/11/2018  | 20180331039 |
| YOR920140073US04 | US | 15/897526 | 2/15/2018  | 20180174903 |
| YOR920140073US05 | US | 16/689142 | 11/20/2019 |             |
| YOR920140073US06 | US | 16/689223 | 11/20/2019 |             |
| YOR920140278US03 | US | 16/402267 | 5/3/2019   | 20190259834 |
| *YOR920140278US1 | US | 14/547181 | 11/19/2014 | 20160141360 |
| YOR920150643US06 | US | 16/002479 | 6/7/2018   | 20180294339 |
| YOR920150643US07 | US | 16/000371 | 6/5/2018   | 20180286958 |
| YOR920150867US2  | US | 15/222151 | 7/28/2016  | 20170148890 |
| YOR920151069US2  | US | 15/345574 | 11/8/2016  | 20170117181 |
| YOR920151318US03 | US | 16/103085 | 8/14/2018  | 20190006463 |
| YOR920151468US02 | US | 16/042388 | 7/23/2018  | 20180331180 |
| YOR920151468US03 | US | 16/042498 | 7/23/2018  | 20180350909 |
| YOR920160079US02 | US | 15/609672 | 5/31/2017  | 20170294382 |
| YOR920160175US04 | US | 16/002590 | 6/7/2018   | 20180294263 |
| YOR920160175US2  | US | 15/371350 | 12/7/2016  | 20170352657 |
| YOR920160420US04 | US | 16/410178 | 5/13/2019  | 20190267279 |
| YOR920160479US06 | US | 16/234974 | 12/28/2018 | 20190139832 |
| YOR920160479US07 | US | 16/227733 | 12/20/2018 | 20190131179 |
| YOR920160487US02 | US | 16/054394 | 8/3/2018   | 20180342512 |
| YOR920160487US03 | US | 16/054417 | 8/3/2018   | 20180350810 |
| YOR920160694US03 | US | 16/058232 | 8/8/2018   | 20180350599 |
| YOR920160694US04 | US | 16/675630 | 11/6/2019  |             |
| YOR920160705US04 | US | 16/421587 | 5/24/2019  | 20190279931 |
| YOR920160871US02 | US | 16/238193 | 1/2/2019   | 20190140090 |
| YOR920160920US02 | US | 16/250351 | 1/17/2019  | 20190148296 |
| YOR920160989US03 | US | 16/106359 | 8/21/2018  | 20180374930 |
| YOR920161173US03 | US | 16/114816 | 8/28/2018  | 20190013244 |

|                  |    |           |            |                 |
|------------------|----|-----------|------------|-----------------|
| YOR920161315US02 | US | 15/852151 | 12/22/2017 | 20180122691     |
| YOR920161315US03 | US | 15/852176 | 12/22/2017 | 20180122692     |
| FIS920140198US15 | US | 16/440106 | 6/13/2019  | 20190296120     |
| JP920170034US02  | US | 15/850446 | 12/21/2017 | US20180294214A1 |
| JP920170034US03  | US | 16/352946 | 3/14/2019  | 20190214339     |
| *ROC920080355US3 | US | 13/618656 | 9/14/2012  | 20130011968     |
| YOR820161893US02 | US | 16/252663 | 1/20/2019  | 20190157420     |
| YOR820162134US02 | US | 16/244493 | 1/10/2019  | 20190189517     |
| *YOR920070226US1 | US | 11/855211 | 9/14/2007  | 20090072409     |
| *YOR920070226US2 | US | 11/855280 | 9/14/2007  | 20090075470     |
| *YOR920070226US5 | US | 13/096757 | 4/28/2011  | 20110237075     |
| *YOR920130857US1 | US | 61/982616 | 4/22/2014  |                 |
| *YOR920150209US1 | US | 14/817783 | 8/4/2015   | 20170040257     |
| YOR920150588US04 | US | 16/452251 | 6/25/2019  | 20190312104     |
| YOR920151401US06 | US | 16/014676 | 6/21/2018  | 20180315841     |
| YOR920160014US04 | US | 16/040093 | 7/19/2018  | 20180323073     |
| YOR920160560US02 | US | 15/797648 | 10/30/2017 | 20180219083     |
| YOR920160560US03 | US | 16/684115 | 11/14/2019 |                 |
| YOR920160793US04 | US | 16/681347 | 11/12/2019 |                 |
| YOR920160903US02 | US | 16/014020 | 6/21/2018  | 20180315653     |
| YOR920160903US03 | US | 16/014025 | 6/21/2018  | 20180315654     |
| YOR920160982US02 | US | 16/250561 | 1/17/2019  | 20190157146     |
| YOR920161085US03 | US | 15/629280 | 6/21/2017  | 20180090606     |
| YOR920161085US05 | US | 16/685229 | 11/15/2019 |                 |
| YOR920161085US06 | US | 16/685329 | 11/15/2019 |                 |
| YOR920161307US02 | US | 16/001426 | 6/6/2018   | 20180286682     |
| YOR920161307US03 | US | 16/682588 | 11/13/2019 |                 |
| YOR920161610US04 | US | 16/276118 | 2/14/2019  | US20190181263   |
| YOR920161616US03 | US | 16/052161 | 8/1/2018   | 20180350896     |
| YOR920161617US03 | US | 16/508691 | 7/11/2019  | US20190333774   |
| YOR920161618US02 | US | 16/058088 | 8/8/2018   | 20180350600     |
| YOR920161829US03 | US | 16/257221 | 1/25/2019  | 20190172748     |

\*inactive

END OF EXHIBIT C