

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

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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                                                                                                                                                                                                    | 06/18/2019                      |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                                                                    |                                 |
| <b>Name:</b>                                                                                                                                                                                                                                   | PURE STORAGE, INC.              |
| <b>Street Address:</b>                                                                                                                                                                                                                         | 650 CASTRO STREET               |
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| <b>City:</b>                                                                                                                                                                                                                                   | MOUNTAIN VIEW                   |
| <b>State/Country:</b>                                                                                                                                                                                                                          | CALIFORNIA                      |
| <b>Postal Code:</b>                                                                                                                                                                                                                            | 94041                           |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                                                               |                                 |
| <b>Property Type</b>                                                                                                                                                                                                                           | <b>Number</b>                   |
| <b>Application Number:</b>                                                                                                                                                                                                                     | 17248885                        |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                                                                     |                                 |
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| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                                                                 | CS01272C1                       |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                                                                      | KAREN TAYLOR                    |
| <b>SIGNATURE:</b>                                                                                                                                                                                                                              | /Karen Taylor/                  |
| <b>DATE SIGNED:</b>                                                                                                                                                                                                                            | 02/12/2021                      |
| <b>Total Attachments: 39</b><br>source=IBM-CS_PST_Assignment#page1.tif<br>source=IBM-CS_PST_Assignment#page2.tif<br>source=IBM-CS_PST_Assignment#page3.tif<br>source=IBM-CS_PST_Assignment#page4.tif<br>source=IBM-CS_PST_Assignment#page5.tif |                                 |

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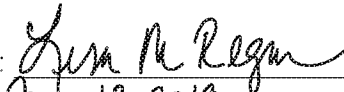
Form of Recordable Patent Assignment and Reservation

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. L190238 between the parties with an effective time and date of 11:59pm United States Eastern Time on June 11, 2019 ("Effective Time and Date") ("Patent Assignment Agreement"), International Business Machines Corporation, a New York corporation having a place of business at Armonk, New York (hereinafter "ASSIGNOR"), hereby grants and assigns to Pure Storage, Inc., a Delaware corporation having a place of business at Mountain View, California (hereinafter "ASSIGNEE"), all of IBM's right, title and interest in and to the patents and patent applications identified in Exhibits A-I, A-II, C-I and C-II, 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 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.

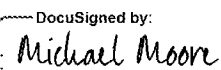
ASSIGNOR: INTERNATIONAL BUSINESS MACHINES CORPORATION

Signature:   
 Date: June 13, 2019

Name: Lisa M. Regan  
 Title: Director, Research and Intellectual Property Finance

ASSIGNEE hereby accepts and acknowledges the assignment of ASSIGNED PATENTS as stated above.

ASSIGNEE: PURE STORAGE, INC.

DocuSigned by:  
 Signature:   
 Date: 6/19/2019

Name: Michael Moore  
 Title: VP & AGC

**EXHIBIT A-I**  
**LISTED PATENTS (United States)**

| <b>IBM Docket Number</b> | <b>Country</b> | <b>Patent Number</b> | <b>Application Number</b> | <b>Filing Date</b> | <b>Issue Date</b> |
|--------------------------|----------------|----------------------|---------------------------|--------------------|-------------------|
| END920165001US2          | US             | 10078472             | 14/984024                 | 12/30/2015         | 9/18/2018         |
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| END920165005US10         | US             | 10168904             | 15/457408                 | 3/13/2017          | 1/1/2019          |
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| END920165007US2          | US             | 10169125             | 15/075946                 | 3/21/2016          | 1/1/2019          |
| END920165007US3          | US             | 10296404             | 15/343820                 | 11/4/2016          | 5/21/2019         |
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| END920165008US4          | US             | 10303546             | 15/170404                 | 6/1/2016           | 5/28/2019         |
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| END920165008US6          | US             | 10055290             | 15/187923                 | 6/21/2016          | 8/21/2018         |
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| END920165008US9          | US             | 10223201             | 15/194946                 | 6/28/2016          | 3/5/2019          |
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| END920165011US2   | US      | 10157018      | 15/248493          | 8/26/2016   | 12/18/2018 |
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| END920165011US6   | US      | 10171111      | 15/249130          | 8/26/2016   | 1/1/2019   |
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| END920165011US8   | US      | 10013207      | 15/272968          | 9/22/2016   | 7/3/2018   |
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| END920165012US3   | US      | 10133631      | 15/264160          | 9/13/2016   | 11/20/2018 |
| END920165012US7   | US      | 10176044      | 15/334604          | 10/26/2016  | 1/8/2019   |
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| END920165013US11  | US      | 9952930       | 15/331484          | 10/21/2016  | 4/24/2018  |
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| END920165013US2   | US      | 9971649       | 15/283196          | 9/30/2016   | 5/15/2018  |
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| END920165013US5   | US      | 10042706      | 15/281728          | 9/30/2016   | 8/7/2018   |
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| END920165013US7   | US      | 10241864      | 15/282888          | 9/30/2016   | 3/26/2019  |
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| END920165013US9   | US      | 10067832      | 15/283241          | 9/30/2016   | 9/4/2018   |
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| END920165575US1   | US      | 10061649      | 15/243378          | 8/22/2016   | 8/28/2018  |
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| END920165661US3   | US      | 9910732       | 15/399579          | 1/5/2017    | 3/6/2018   |
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| END920165662US2   | US      | 10049120      | 14/794723          | 7/8/2015    | 8/14/2018  |
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| END920165666US10  | US      | 10225205      | 15/903992          | 2/23/2018   | 3/5/2019   |
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| END920165666US3   | US      | 9690520       | 14/721615          | 5/26/2015   | 6/27/2017  |
| END920165666US4   | US      | 9838478       | 14/721723          | 5/26/2015   | 12/5/2017  |
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| END920165667US4   | US      | 10102069      | 15/400767          | 1/6/2017    | 10/16/2018 |
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| END920165668US4   | US      | 10152601      | 14/675360          | 3/31/2015   | 12/11/2018 |
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| END920165670US2   | US      | 9612882       | 14/638175          | 3/4/2015    | 4/4/2017   |
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| END920165671US3   | US      | 10015152      | 15/217242          | 7/22/2016   | 7/3/2018   |
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| END920165672US2   | US      | 10020826      | 14/613899          | 2/4/2015    | 7/10/2018  |
| END920165673US2   | US      | 9529834       | 14/589391          | 1/5/2015    | 12/27/2016 |
| END920165673US3   | US      | 9798619       | 15/351628          | 11/15/2016  | 10/24/2017 |
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| END920165677US2   | US      | 9594639       | 14/527139          | 10/29/2014  | 3/14/2017  |
| END920165678US2   | US      | 9900316       | 14/502337          | 9/30/2014   | 2/20/2018  |
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| END920165679US3   | US      | 10304096      | 15/675564          | 8/11/2017   | 5/28/2019  |
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| END920165680US3   | US      | 9841899       | 14/451610          | 8/5/2014    | 12/12/2017 |
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| END920165680US7   | US      | 10037140      | 14/452483          | 8/5/2014    | 7/31/2018  |
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| END920165681US3   | US      | 9661074       | 14/320547          | 6/30/2014   | 5/23/2017  |
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| END920165682US3   | US      | 9781207       | 14/315925          | 6/26/2014   | 10/3/2017  |
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| END920165683US2   | US      | 9626125       | 14/292009          | 5/30/2014   | 4/18/2017  |
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| END920165683US5   | US      | 9639298       | 14/307672          | 6/18/2014   | 5/2/2017   |
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| END920165685US3   | US      | 9921907       | 15/428390          | 2/9/2017    | 3/20/2018  |
| END920165685US4   | US      | 10169369      | 15/810426          | 11/13/2017  | 1/1/2019   |
| END920165686US2   | US      | 9501360       | 14/306312          | 6/17/2014   | 11/22/2016 |
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| END920165687US2   | US      | 9432341       | 14/256472          | 4/18/2014   | 8/30/2016  |
| END920165688US2   | US      | 9424132       | 14/256205          | 4/18/2014   | 8/23/2016  |
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| END920165689US2   | US      | 9405609       | 14/256536          | 4/18/2014   | 8/2/2016   |
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| END920165693US2   | US      | 10075523      | 14/172140          | 2/4/2014    | 9/11/2018  |
| END920165694US2   | US      | 9274908       | 14/153366          | 1/13/2014   | 3/1/2016   |
| END920165694US3   | US      | 9766810       | 15/011807          | 2/1/2016    | 9/19/2017  |

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| END920165696US4   | US      | 9348698       | 14/954873          | 11/30/2015  | 5/24/2016  |
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| END920165697US2   | US      | 10055441      | 14/102987          | 12/11/2013  | 8/21/2018  |
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| END920165699US4   | US      | 10042577      | 15/342238          | 11/3/2016   | 8/7/2018   |
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| END920165699US7   | US      | 10241866      | 15/439383          | 2/22/2017   | 3/26/2019  |
| END920165700US2   | US      | 9521197       | 14/056015          | 10/17/2013  | 12/13/2016 |
| END920165701US2   | US      | 9811533       | 14/055174          | 10/16/2013  | 11/7/2017  |
| END920165702US2   | US      | 9311179       | 14/027538          | 9/16/2013   | 4/12/2016  |
| END920165702US3   | US      | 9223723       | 14/027694          | 9/16/2013   | 12/29/2015 |
| END920165702US4   | US      | 9298542       | 14/027823          | 9/16/2013   | 3/29/2016  |
| END920165703US2   | US      | 9794337       | 14/028881          | 9/17/2013   | 10/17/2017 |
| END920165703US3   | US      | 9936020       | 14/029006          | 9/17/2013   | 4/3/2018   |
| END920165703US4   | US      | 9277011       | 14/029124          | 9/17/2013   | 3/1/2016   |
| END920165704US2   | US      | 9648087       | 13/959006          | 8/5/2013    | 5/9/2017   |
| END920165704US3   | US      | 9503513       | 13/959077          | 8/5/2013    | 11/22/2016 |
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| END920165704US5   | US      | 10042705      | 15/347605          | 11/9/2016   | 8/7/2018   |
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| END920165704US8   | US      | 10073737      | 15/688030          | 8/28/2017   | 9/11/2018  |
| END920165704US9   | US      | 10127111      | 15/719259          | 9/28/2017   | 11/13/2018 |
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| END920165709US2   | US      | 9537609       | 13/919566          | 6/17/2013   | 1/3/2017   |
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| END920165722US9   | US      | 9767109       | 15/215614          | 7/21/2016   | 9/19/2017  |
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| END920165723US11  | US      | 9141468       | 13/865679          | 4/18/2013   | 9/22/2015  |
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| END920165723US13  | US      | 8898542       | 13/707502          | 12/6/2012   | 11/25/2014 |
| END920165723US14  | US      | 9304858       | 13/707525          | 12/6/2012   | 4/5/2016   |
| END920165723US15  | US      | 9015556       | 13/707542          | 12/6/2012   | 4/21/2015  |
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| END920165723US26  | US      | 9817701       | 15/405203          | 1/12/2017   | 11/14/2017 |
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| END920165730US4   | US      | 9213742       | 13/565636          | 8/2/2012    | 12/15/2015 |
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| END920165731US8   | US      | 9087016       | 14/330194          | 7/14/2014   | 7/21/2015  |
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| END920165739US2   | US      | 9219604       | 13/449950          | 4/18/2012   | 12/22/2015 |
| END920165740US2   | US      | 8627091       | 13/413232          | 3/6/2012    | 1/7/2014   |
| END920165740US3   | US      | 9894151       | 14/147982          | 1/6/2014    | 2/13/2018  |
| END920165740US4   | US      | 8874990       | 13/413261          | 3/6/2012    | 10/28/2014 |
| END920165740US5   | US      | 9137303       | 14/524037          | 10/27/2014  | 9/15/2015  |
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| *END920165740US7  | US      | 8949688       | 13/413320          | 3/6/2012    | 2/3/2015   |
| END920165740US8   | US      | 9591068       | 14/587948          | 12/31/2014  | 3/7/2017   |
| END920165740US9   | US      | 10298684      | 15/435692          | 2/17/2017   | 5/21/2019  |
| END920165741US2   | US      | 8843803       | 13/413436          | 3/6/2012    | 9/23/2014  |
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| END920165741US4   | US      | 8843804       | 13/413452          | 3/6/2012    | 9/23/2014  |
| END920165741US5   | US      | 9135114       | 14/481245          | 9/9/2014    | 9/15/2015  |
| END920165741US6   | US      | 9501358       | 14/842129          | 9/1/2015    | 11/22/2016 |
| END920165741US7   | US      | 8880978       | 13/413469          | 3/6/2012    | 11/4/2014  |
| END920165741US8   | US      | 9208026       | 14/505835          | 10/3/2014   | 12/8/2015  |
| END920165741US9   | US      | 9471427       | 14/929925          | 11/2/2015   | 10/18/2016 |
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| END920165743US4   | US      | 10102063      | 13/372628          | 2/14/2012   | 10/16/2018 |

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| END920165746US3   | US      | 8683231       | 13/309432          | 12/1/2011   | 3/25/2014  |
| END920165746US4   | US      | 9319463       | 13/309469          | 12/1/2011   | 4/19/2016  |
| END920165746US5   | US      | 10169146      | 15/131488          | 4/18/2016   | 1/1/2019   |
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| END920165747US4   | US      | 9170882       | 13/308777          | 12/1/2011   | 10/27/2015 |
| END920165747US5   | US      | 9606869       | 14/875079          | 10/5/2015   | 3/28/2017  |
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| END920165748US2   | US      | 8914669       | 13/291009          | 11/7/2011   | 12/16/2014 |
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| END920165756US3   | US      | 9063968       | 13/943520          | 7/16/2013   | 6/23/2015  |
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| END920165758US11  | US      | 8892598       | 13/154744          | 6/7/2011    | 11/18/2014 |
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| END920165760US3   | US      | 8521697       | 13/105094          | 5/11/2011   | 8/27/2013  |
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| *END920165760US7  | US      | 8959597       | 13/105135          | 5/11/2011   | 2/17/2015  |
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| END920165762US2   | US      | 8625635       | 13/073948          | 3/28/2011   | 1/7/2014   |
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| END920165762US24  | US      | 9807171       | 15/346375          | 11/8/2016   | 10/31/2017 |
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| END920165768US8   | US      | 9697171       | 14/335915          | 7/20/2014   | 7/4/2017   |
| END920165768US9   | US      | 10027478      | 15/208790          | 7/13/2016   | 7/17/2018  |
| END920165769US2   | US      | 8885821       | 12/954875          | 11/28/2010  | 11/11/2014 |
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| END920165769US4   | US      | 10282564      | 14/452182          | 8/5/2014    | 5/7/2019   |
| END920165769US5   | US      | 8649521       | 12/954884          | 11/28/2010  | 2/11/2014  |
| END920165770US07  | US      | 9900387       | 15/681026          | 8/18/2017   | 2/20/2018  |
| END920165770US2   | US      | 8954667       | 12/943826          | 11/10/2010  | 2/10/2015  |
| END920165770US3   | US      | 9201732       | 14/446703          | 7/30/2014   | 12/1/2015  |
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| END920165770US5   | US      | 9760440       | 15/213811          | 7/19/2016   | 9/12/2017  |
| END920165770US6   | US      | 9043548       | 14/449549          | 8/1/2014    | 5/26/2015  |
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| END920165771US5   | US      | 9354980       | 14/444134          | 7/28/2014   | 5/31/2016  |
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| END920165773US5   | US      | 9811405       | 14/325425          | 7/8/2014    | 11/7/2017  |
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| END920165774US6   | US      | 10158648      | 15/221344          | 7/27/2016   | 12/18/2018 |
| END920165774US7   | US      | 10237281      | 15/221731          | 7/28/2016   | 3/19/2019  |

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| END920165777US7   | US      | 8458233       | 12/885244          | 9/17/2010   | 6/4/2013   |
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| END920165786US8   | US      | 8464133       | 12/850609          | 8/4/2010    | 6/11/2013  |
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| END920165809US5   | US      | 10083083      | 14/321629          | 7/1/2014    | 9/25/2018  |
| END920165809US6   | US      | 9830225       | 14/556657          | 12/1/2014   | 11/28/2017 |
| END920165809US7   | US      | 9846615       | 14/556703          | 12/1/2014   | 12/19/2017 |
| END920165809US8   | US      | 10169154      | 14/557078          | 12/1/2014   | 1/1/2019   |
| END920165809US9   | US      | 10185625      | 14/557136          | 12/1/2014   | 1/22/2019  |
| END920165811US1   | US      | 8819781       | 12/426807          | 4/20/2009   | 8/26/2014  |
| END920165811US2   | US      | 9537951       | 14/467273          | 8/25/2014   | 1/3/2017   |
| END920165812US1   | US      | 9483656       | 12/426727          | 4/20/2009   | 11/1/2016  |
| END920165812US10  | US      | 8504847       | 12/762352          | 4/18/2010   | 8/6/2013   |
| END920165812US11  | US      | 9104691       | 13/742577          | 1/16/2013   | 8/11/2015  |
| END920165812US2   | US      | 8656187       | 12/547753          | 8/26/2009   | 2/18/2014  |
| END920165812US3   | US      | 8744071       | 12/551117          | 8/31/2009   | 6/3/2014   |
| END920165812US6   | US      | 8601259       | 12/760066          | 4/14/2010   | 12/3/2013  |
| END920165812US7   | US      | 10104045      | 12/762350          | 4/18/2010   | 10/16/2018 |
| END920165812US8   | US      | 9203812       | 14/292132          | 5/30/2014   | 12/1/2015  |
| END920165812US9   | US      | 9276912       | 14/292344          | 5/30/2014   | 3/1/2016   |
| END920165813US1   | US      | 9092294       | 12/426623          | 4/20/2009   | 7/28/2015  |
| END920165814US1   | US      | 7904475       | 11/973621          | 10/9/2007   | 3/8/2011   |
| END920165814US2   | US      | 7953771       | 12/633779          | 12/8/2009   | 5/31/2011  |
| END920165814US3   | US      | 8190662       | 13/094375          | 4/26/2011   | 5/29/2012  |
| END920165814US4   | US      | 9092439       | 13/106577          | 5/12/2011   | 7/28/2015  |
| END920165815US1   | US      | 8285878       | 11/973613          | 10/9/2007   | 10/9/2012  |
| END920165815US10  | US      | 10270855      | 14/628817          | 2/23/2015   | 4/23/2019  |
| END920165815US11  | US      | 8886711       | 12/947941          | 11/17/2010  | 11/11/2014 |
| END920165815US12  | US      | 9888076       | 14/182393          | 2/18/2014   | 2/6/2018   |
| END920165815US13  | US      | 9959076       | 14/292206          | 5/30/2014   | 5/1/2018   |
| END920165815US14  | US      | 9578097       | 12/950755          | 11/19/2010  | 2/21/2017  |
| END920165815US15  | US      | 7962641       | 12/218594          | 7/16/2008   | 6/14/2011  |
| *END920165815US16 | US      | 8938591       | 12/749592          | 3/30/2010   | 1/20/2015  |
| END920165815US2   | US      | 8209363       | 12/218200          | 7/14/2008   | 6/26/2012  |
| END920165815US4   | US      | 8533256       | 12/648528          | 12/29/2009  | 9/10/2013  |
| END920165815US5   | US      | 8892698       | 14/021037          | 9/9/2013    | 11/18/2014 |
| END920165815US7   | US      | 8478865       | 12/648669          | 12/29/2009  | 7/2/2013   |
| *END920165815US9  | US      | 8965956       | 12/649099          | 12/29/2009  | 2/24/2015  |
| END920165816US1   | US      | 9996413       | 11/973542          | 10/9/2007   | 6/12/2018  |
| END920165816US2   | US      | 8880799       | 12/080042          | 3/31/2008   | 11/4/2014  |
| END920165817US1   | US      | 7953937       | 11/241555          | 9/30/2005   | 5/31/2011  |

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| END920165817US12  | US      | 8694668       | 13/107040          | 5/13/2011   | 4/8/2014   |
| END920165817US2   | US      | 7546427       | 11/403391          | 4/13/2006   | 6/9/2009   |
| END920165817US3   | US      | 7818518       | 12/431166          | 4/28/2009   | 10/19/2010 |
| END920165817US4   | US      | 7574570       | 11/403684          | 4/13/2006   | 8/11/2009  |
| END920165817US5   | US      | 8140777       | 12/499489          | 7/8/2009    | 3/20/2012  |
| END920165817US6   | US      | 7574579       | 11/404071          | 4/13/2006   | 8/11/2009  |
| END920165817US7   | US      | 8019960       | 12/499013          | 7/7/2009    | 9/13/2011  |
| END920165817US8   | US      | 8171101       | 11/973622          | 10/9/2007   | 5/1/2012   |
| END920165817US9   | US      | 8171102       | 12/684085          | 1/7/2010    | 5/1/2012   |
| END920165900US10  | US      | 10289505      | 15/203909          | 7/7/2016    | 5/14/2019  |
| END920165900US11  | US      | 9672108       | 15/214970          | 7/20/2016   | 6/6/2017   |
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| END920165900US13  | US      | 9733853       | 15/343925          | 11/4/2016   | 8/15/2017  |
| END920165900US14  | US      | 9817597       | 15/345597          | 11/8/2016   | 11/14/2017 |
| END920165900US15  | US      | 10282118      | 15/342633          | 11/3/2016   | 5/7/2019   |
| END920165900US16  | US      | 9927978       | 15/444104          | 2/27/2017   | 3/27/2018  |
| END920165900US17  | US      | 10001923      | 15/448148          | 3/2/2017    | 6/19/2018  |
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| END920165900US19  | US      | 10133632      | 15/485160          | 4/11/2017   | 11/20/2018 |
| END920165900US2   | US      | 8352831       | 12/903781          | 10/13/2010  | 1/8/2013   |
| END920165900US20  | US      | 10148788      | 15/614019          | 6/5/2017    | 12/4/2018  |
| END920165900US21  | US      | 10203877      | 15/721402          | 9/29/2017   | 2/12/2019  |
| END920165900US3   | US      | 8612827       | 13/736856          | 1/8/2013    | 12/17/2013 |
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| END920165901US4   | US      | 9104719       | 14/246253          | 4/7/2014    | 8/11/2015  |
| END920165901US5   | US      | 9460148       | 13/527785          | 6/20/2012   | 10/4/2016  |
| END920165902US10  | US      | 8291277       | 12/842949          | 7/23/2010   | 10/16/2012 |
| END920165902US11  | US      | 8527828       | 13/540289          | 7/2/2012    | 9/3/2013   |
| END920165902US2   | US      | 8433978       | 12/842942          | 7/23/2010   | 4/30/2013  |
| END920165902US3   | US      | 8667371       | 13/870138          | 4/25/2013   | 3/4/2014   |
| END920165902US4   | US      | 9049463       | 14/194961          | 3/3/2014    | 6/2/2015   |

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| END920165902US9          | US             | 8522074              | 12/842932                 | 7/23/2010          | 8/27/2013         |
| END920165907US2          | US             | 9424326              | 13/959702                 | 8/5/2013           | 8/23/2016         |
| END920165907US3          | US             | 10013471             | 15/223707                 | 7/29/2016          | 7/3/2018          |
| END920165907US4          | US             | 9483539              | 13/959727                 | 8/5/2013           | 11/1/2016         |
| END920165907US6          | US             | 10057351             | 15/400092                 | 1/6/2017           | 8/21/2018         |

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**EXHIBIT A-II**  
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| END920165001US2          | US             | 10078472             | 14/984024                 | 12/30/2015         | 9/18/2018         |
| END920165667US2          | US             | 9606867              | 14/680459                 | 4/7/2015           | 3/28/2017         |
| END920165667US4          | US             | 10102069             | 15/400767                 | 1/6/2017           | 10/16/2018        |
| END920165668US3          | US             | 10095872             | 14/675183                 | 3/31/2015          | 10/9/2018         |
| END920165668US4          | US             | 10152601             | 14/675360                 | 3/31/2015          | 12/11/2018        |
| END920165674US04         | US             | 10140182             | 15/841759                 | 12/14/2017         | 11/27/2018        |
| END920165675US2          | US             | 9778987              | 14/570366                 | 12/15/2014         | 10/3/2017         |
| END920165675US3          | US             | 10275313             | 15/705782                 | 9/15/2017          | 4/30/2019         |
| END920165736US7          | US             | 9110593              | 14/331676                 | 7/15/2014          | 8/18/2015         |
| END920165738US3          | US             | 9830222              | 14/844145                 | 9/3/2015           | 11/28/2017        |
| END920165740US5          | US             | 9137303              | 14/524037                 | 10/27/2014         | 9/15/2015         |
| END920165741US3          | US             | 9110834              | 14/480945                 | 9/9/2014           | 8/18/2015         |
| END920165741US5          | US             | 9135114              | 14/481245                 | 9/9/2014           | 9/15/2015         |
| END920165741US6          | US             | 9501358              | 14/842129                 | 9/1/2015           | 11/22/2016        |
| END920165741US8          | US             | 9208026              | 14/505835                 | 10/3/2014          | 12/8/2015         |
| END920165741US9          | US             | 9471427              | 14/929925                 | 11/2/2015          | 10/18/2016        |
| END920165744US4          | US             | 8914609              | 14/230446                 | 3/31/2014          | 12/16/2014        |
| END920165745US5          | US             | 8966341              | 14/276006                 | 5/13/2014          | 2/24/2015         |
| END920165747US3          | US             | 9037904              | 14/479905                 | 9/8/2014           | 5/19/2015         |
| END920165747US5          | US             | 9606869              | 14/875079                 | 10/5/2015          | 3/28/2017         |
| END920165750US5          | US             | 9098441              | 13/937400                 | 7/9/2013           | 8/4/2015          |
| *END920165750US6         | US             | 9015499              | 13/959688                 | 8/5/2013           | 4/21/2015         |
| END920165765US8          | US             | 8886992              | 14/048659                 | 10/8/2013          | 11/11/2014        |
| END920165797US3          | US             | 9690513              | 12/749606                 | 3/30/2010          | 6/27/2017         |
| END920165799US3          | US             | 8977801              | 14/021098                 | 9/9/2013           | 3/10/2015         |
| END920165799US8          | US             | 8578147              | 13/645703                 | 10/5/2012          | 11/5/2013         |
| END920165802US3          | US             | 8972692              | 14/026202                 | 9/13/2013          | 3/3/2015          |
| END920165802US5          | US             | 9201805              | 13/588111                 | 8/17/2012          | 12/1/2015         |
| END920165811US2          | US             | 9537951              | 14/467273                 | 8/25/2014          | 1/3/2017          |
| END920165814US2          | US             | 7953771              | 12/633779                 | 12/8/2009          | 5/31/2011         |
| END920165814US3          | US             | 8190662              | 13/094375                 | 4/26/2011          | 5/29/2012         |
| END920165814US4          | US             | 9092439              | 13/106577                 | 5/12/2011          | 7/28/2015         |
| END920165815US5          | US             | 8892698              | 14/021037                 | 9/9/2013           | 11/18/2017        |
| END920165817US5          | US             | 8140777              | 12/499489                 | 7/8/2009           | 3/20/2012         |

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**EXHIBIT C-I**  
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| END920165001US05         | US             | 15/832316                 | 12/5/2017          | 2018-0095825                        |
| END920165001US06         | US             | 15/832391                 | 12/5/2017          | 2018-0095826                        |
| END920165001US07         | US             | 15/822302                 | 11/27/2017         | 2018-0075047                        |
| END920165001US08         | US             | 15/839426                 | 12/12/2017         | 20180101439                         |
| END920165001US09         | US             | 15/841990                 | 12/14/2017         | 20180107422                         |
| *END920165001US1         | US             | 62/121736                 | 2/27/2015          |                                     |
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| END920165002US03         | US             | 15/837705                 | 12/11/2017         | 20180101325                         |
| END920165002US04         | US             | 15/841863                 | 12/14/2017         | 20180107427                         |
| END920165002US05         | US             | 15/843804                 | 12/15/2017         | 20180107424                         |
| END920165002US06         | US             | 15/845137                 | 12/18/2017         | 20180107837                         |
| END920165002US07         | US             | 15/843390                 | 12/15/2017         | 20180107544                         |
| END920165002US08         | US             | 15/840151                 | 12/13/2017         | 20180101308                         |
| END920165002US09         | US             | 15/839248                 | 12/12/2017         | 20180101306                         |
| *END920165002US1         | US             | 62/140861                 | 3/31/2015          |                                     |
| END920165002US10         | US             | 15/842596                 | 12/14/2017         | 20180107423                         |
| END920165002US11         | US             | 16/298150                 | 3/11/2019          |                                     |
| *END920165005US1         | US             | 62/154886                 | 4/30/2015          |                                     |
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| END920165005US12         | US             | 16/145481                 | 9/28/2018          | 20190050712                         |
| END920165005US13         | US             | 16/193194                 | 11/16/2018         | 20190087270                         |
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| *END920165006US1         | US             | 62/168145                 | 5/29/2015          |                                     |
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| END920165006US2          | US             | 15/082887                 | 3/28/2016          | US20160350329A1                     |
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| END920165006US4          | US             | 15/354034                 | 11/17/2016         | US20170068691A1                     |
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| END920165008US11  | US      | 16/031488          | 7/10/2018   | 20180322009                  |
| END920165008US12  | US      | 16/255181          | 1/23/2019   | 20190155689                  |
| END920165008US13  | US      | 16/255942          | 1/24/2019   | 20190155690                  |
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| END920165008US3   | US      | 15/164357          | 5/25/2016   | US20170004055A1              |
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| END920165009US13  | US      | 16/262286          | 1/30/2019   |                              |
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| END920165009US15  | US      | 16/374297          | 4/3/2019    |                              |
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| END920165012US12  | US      | 16/171248          | 10/25/2018  | US20190065312A1              |
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| END920165012US9   | US      | 15/331504          | 10/21/2016  | 20170123976                  |
| *END920165013US1  | US      | 62/248752          | 10/30/2015  |                              |
| END920165013US13  | US      | 16/172112          | 10/26/2018  | 20190065316                  |
| END920165013US14  | US      | 16/378652          | 4/9/2019    |                              |
| END920165013US3   | US      | 15/244354          | 8/23/2016   | 20170126794                  |
| END920165653US04  | US      | 15/839639          | 12/12/2017  | 20180102874                  |
| END920165653US05  | US      | 15/842298          | 12/14/2017  | 20180107548                  |
| END920165653US06  | US      | 15/844779          | 12/18/2017  | 20180107567                  |
| END920165653US07  | US      | 15/846300          | 12/19/2017  | 20180121278                  |
| END920165653US08  | US      | 15/842730          | 12/14/2017  | 20180109617                  |
| END920165653US09  | US      | 15/842768          | 12/14/2017  | 20180107549                  |
| *END920165653US1  | US      | 62/121667          | 2/27/2015   |                              |
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| END920165654US04  | US      | 15/841936          | 12/14/2017  | 20180109615                  |
| END920165654US05  | US      | 15/831965          | 12/5/2017   | 2018-0109614                 |
| END920165654US07  | US      | 15/837401          | 12/11/2017  | 20180103102                  |
| END920165654US08  | US      | 15/836450          | 12/8/2017   | 20180103101                  |
| END920165654US09  | US      | 15/838725          | 12/12/2017  | 20180103103                  |
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| END920165654US11  | US      | 15/842972          | 12/15/2017  | 20180109618                  |
| END920165654US12  | US      | 16/189203          | 11/13/2018  | 20190079822                  |
| END920165654US3   | US      | 15/812706          | 11/14/2017  | 2018-0077238                 |
| END920165655US04  | US      | 15/838874          | 12/12/2017  | 20180101436                  |
| END920165655US05  | US      | 15/833760          | 12/6/2017   | 2018-0095827                 |
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| END920165655US07  | US      | 15/843220          | 12/15/2017  | 20180107543                  |
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| END920165656US04  | US      | 15/830252          | 12/4/2017   | 20180101451                  |
| END920165656US05  | US      | 15/831477          | 12/5/2017   | 2018-0095891                 |
| END920165656US06  | US      | 15/830321          | 12/4/2017   | 2018-0091595                 |
| END920165656US07  | US      | 15/830443          | 12/4/2017   | 2018-0089026                 |
| END920165656US08  | US      | 15/830596          | 12/4/2017   | 2018-0089027                 |

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| END920165657US03         | US             | 15/844121                 | 12/15/2017         | 20180107431                         |
| END920165657US04         | US             | 15/844180                 | 12/15/2017         | 20180107398                         |
| END920165657US05         | US             | 15/844255                 | 12/15/2017         | 20180107535                         |
| END920165657US06         | US             | 15/844299                 | 12/15/2017         | 20180107545                         |
| END920165657US07         | US             | 15/843978                 | 12/15/2017         | 20180107397                         |
| END920165657US08         | US             | 15/843534                 | 12/15/2017         | 20180107728                         |
| END920165657US09         | US             | 15/837868                 | 12/11/2017         | 20180101434                         |
| *END920165657US1         | US             | 62/098414                 | 12/31/2014         |                                     |
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| END920165659US04         | US             | 15/837455                 | 12/11/2017         | 20180101433                         |
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| END920165659US06         | US             | 15/840999                 | 12/13/2017         | 20180101440                         |
| END920165659US07         | US             | 15/838005                 | 12/11/2017         | 20180101328                         |
| END920165659US08         | US             | 15/839254                 | 12/12/2017         | 20180101438                         |
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| *END920165659US1         | US             | 62/086542                 | 12/2/2014          |                                     |
| END920165659US10         | US             | 16/136106                 | 9/19/2018          | 20190018725                         |
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| END920165660US06         | US             | 15/848137                 | 12/20/2017         | 20180113747                         |
| END920165660US07         | US             | 15/850127                 | 12/21/2017         | 20180113651                         |
| END920165660US09         | US             | 15/903628                 | 2/23/2018          | 20180189139                         |
| *END920165660US1         | US             | 62/072123                 | 10/29/2014         |                                     |
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| END920165660US11         | US             | 16/284102                 | 2/25/2019          |                                     |
| END920165661US06         | US             | 16/144909                 | 9/27/2018          | 20190034275                         |
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| *END920165661US1         | US             | 62/047458                 | 9/8/2014           |                                     |
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| END920165662US05         | US             | 16/185443                 | 11/9/2018          | 20190079951                         |
| *END920165662US1         | US             | 62/046444                 | 9/5/2014           |                                     |
| END920165665US03         | US             | 16/036999                 | 7/17/2018          | 20180324246                         |
| END920165665US04         | US             | 16/050236                 | 7/31/2018          | 20180336101                         |
| *END920165665US1         | US             | 62/019126                 | 6/30/2014          |                                     |
| *END920165666US1         | US             | 62/019074                 | 6/30/2014          |                                     |
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| END920165666US6   | US      | 14/707974          | 5/8/2015    | 20150378625                  |
| END920165666US7   | US      | 15/443065          | 2/27/2017   | 20170168749                  |
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| *END920165667US1  | US      | 62/008207          | 6/5/2014    |                              |
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| *END920165668US1  | US      | 62/008182          | 6/5/2014    |                              |
| END920165668US2   | US      | 14/675070          | 3/31/2015   | 20150356305                  |
| END920165669US06  | US      | 16/412167          | 5/14/2019   |                              |
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| *END920165671US1  | US      | 61/974142          | 4/2/2014    |                              |
| *END920165671US2  | US      | 14/610220          | 1/30/2015   | 20150288680                  |
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| END920165677US05  | US      | 16/138459          | 9/21/2018   | 20190026186                  |
| *END920165677US1  | US      | 61/924196          | 1/6/2014    |                              |
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| END920165678US04  | US      | 16/145940          | 9/28/2018   | 20190050280                  |
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| *END920165678US1  | US      | 61/911544          | 12/4/2013   |                              |
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| END920165679US05  | US      | 16/190742          | 11/14/2018  | 20190082014                  |
| END920165679US06  | US      | 16/359221          | 3/20/2019   |                              |
| *END920165679US1  | US      | 61/898934          | 11/1/2013   |                              |
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| END920165680US11  | US      | 15/821566          | 11/22/2017  | 2018-0095669                 |
| END920165680US5   | US      | 14/452136          | 8/5/2014    | 20150100726                  |
| END920165680US9   | US      | 14/475772          | 9/3/2014    | 20150100662                  |
| *END920165681US1  | US      | 61/871833          | 8/29/2013   |                              |
| END920165681US6   | US      | 15/425128          | 2/6/2017    | 20170147611                  |
| END920165681US7   | US      | 15/642660          | 7/6/2017    | 20170300259                  |
| END920165681US8   | US      | 15/809584          | 11/10/2017  | 2018-0069926                 |
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| *END920165682US1  | US      | 61/871649          | 8/29/2013   |                              |
| END920165682US2   | US      | 14/315893          | 6/26/2014   | 20150067100                  |
| END920165682US6   | US      | 15/651161          | 7/17/2017   | 20170315871                  |
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| END920165683US7   | US      | 15/415236          | 1/25/2017   | 2017-0132082                 |
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| *END920165684US1  | US      | 61/860456          | 7/31/2013   |                              |
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| *END920165685US1  | US      | 61/841625          | 7/1/2013    |                              |
| END920165686US05  | US      | 16/151108          | 10/3/2018   | 20190034279                  |
| *END920165686US1  | US      | 61/841603          | 7/1/2013    |                              |
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| *END920165688US1         | US             | 61/828883                 | 5/30/2013          |                                     |
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| END920165688US5          | US             | 15/805464                 | 11/7/2017          | 2018-0060174                        |
| END920165689US04         | US             | 16/128730                 | 9/12/2018          | 20190012233                         |
| *END920165689US1         | US             | 61/826316                 | 5/22/2013          |                                     |
| END920165690US05         | US             | 16/136681                 | 9/20/2018          | 20190018741                         |
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| *END920165690US1         | US             | 61/819039                 | 5/3/2013           |                                     |
| *END920165691US1         | US             | 61/819025                 | 5/3/2013           |                                     |
| END920165691US3          | US             | 15/795636                 | 10/27/2017         | 20180046537                         |
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| END920165693US03         | US             | 16/049778                 | 7/30/2018          | 20180365261                         |
| END920165693US04         | US             | 16/124666                 | 9/7/2018           | 20190007380                         |
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| END920165693US06         | US             | 16/125043                 | 9/7/2018           | 20190005261                         |
| *END920165693US1         | US             | 61/807288                 | 4/1/2013           |                                     |
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| END920165694US4          | US             | 15/656245                 | 7/21/2017          | 20170322733                         |
| END920165694US5          | US             | 15/837536                 | 12/11/2017         | 20180101305                         |
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| END920165695US4          | US             | 15/802633                 | 11/3/2017          | 2018-0054486                        |
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| *END920165696US1         | US             | 61/761005                 | 2/5/2013           |                                     |
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| END920165697US08         | US             | 16/159469                 | 10/12/2018         | 20190050303                         |
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| END920165697US5          | US             | 15/823865                 | 11/28/2017         | 2018-0081546                        |
| END920165697US6          | US             | 15/824783                 | 11/28/2017         | 2018-0081750                        |
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| *END920165698US1         | US             | 61/748916                 | 1/4/2013           |                                     |
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| END920165698US5          | US             | 15/805280                 | 11/7/2017          | 2018-0067808                        |
| END920165699US08         | US             | 15/967245                 | 4/30/2018          | 20180247071                         |



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| END920165699US10         | US             | 16/244615                 | 1/10/2019          | 20190146877                         |
| *END920165700US1         | US             | 61/733698                 | 12/5/2012          |                                     |
| END920165700US3          | US             | 15/216494                 | 7/21/2016          | 20160328297                         |
| END920165700US4          | US             | 15/816934                 | 11/17/2017         | 2018-0077239                        |
| END920165701US05         | US             | 15/670900                 | 8/7/2017           | 20170357666                         |
| END920165701US06         | US             | 15/804069                 | 11/6/2017          | 2018-0060351                        |
| *END920165701US1         | US             | 61/733686                 | 12/5/2012          |                                     |
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| END920165701US4          | US             | 15/660135                 | 7/26/2017          | 20170322734                         |
| *END920165702US1         | US             | 61/720274                 | 10/30/2012         |                                     |
| END920165703US05         | US             | 15/901686                 | 2/21/2018          | 20180183800                         |
| *END920165703US1         | US             | 61/720204                 | 10/30/2012         |                                     |
| *END920165704US1         | US             | 61/711106                 | 10/8/2012          |                                     |
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| END920165704US13         | US             | 16/143854                 | 9/27/2018          | 20190034267                         |
| *END920165706US1         | US             | 61/696018                 | 8/31/2012          |                                     |
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| END920165706US14         | US             | 16/297890                 | 3/11/2019          |                                     |
| END920165706US8          | US             | 15/612082                 | 6/2/2017           | 20170269999                         |
| END920165706US9          | US             | 15/817012                 | 11/17/2017         | 2018-0074897                        |
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| END920165710US06         | US             | 16/047942                 | 7/27/2018          | 20180336097                         |
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| *END920165711US1         | US             | 61/663796                 | 6/25/2012          |                                     |
| *END920165712US1         | US             | 61/661075                 | 6/18/2012          |                                     |
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| END920165713US11  | US      | 16/188942          | 11/13/2018  | 20190079862                  |
| END920165713US8   | US      | 15/821664          | 11/22/2017  | 2018-0076953                 |
| END920165714US07  | US      | 16/149667          | 10/2/2018   | 20190034272                  |
| END920165714US08  | US      | 16/152636          | 10/5/2018   | 20190036912                  |
| *END920165714US1  | US      | 61/655736          | 6/5/2012    |                              |
| END920165714US6   | US      | 15/819810          | 11/21/2017  | 2018-0095696                 |
| END920165715US04  | US      | 16/045813          | 7/26/2018   | 20180357126                  |
| END920165715US05  | US      | 16/045850          | 7/26/2018   | 20180336095                  |
| *END920165715US1  | US      | 61/637940          | 4/25/2012   |                              |
| *END920165719US1  | US      | 61/605869          | 3/2/2012    |                              |
| END920165719US4   | US      | 15/402346          | 1/10/2017   | 20170116044                  |
| *END920165720US1  | US      | 61/605856          | 3/2/2012    |                              |
| END920165720US10  | US      | 15/995484          | 6/1/2018    | 20180275903                  |
| END920165720US11  | US      | 16/143754          | 9/27/2018   | 20190026102                  |
| END920165720US12  | US      | 16/411424          | 5/14/2019   |                              |
| END920165720US4   | US      | 15/225476          | 8/1/2016    | US20160335308A1              |
| END920165720US9   | US      | 15/806241          | 11/7/2017   | 2018-0062791                 |
| END920165721US06  | US      | 16/128792          | 9/12/2018   | 20190012234                  |
| *END920165721US1  | US      | 61/593126          | 1/31/2012   |                              |
| *END920165722US1  | US      | 61/593116          | 1/31/2012   |                              |
| END920165722US11  | US      | 15/882013          | 1/29/2018   | 20180152298                  |
| END920165722US6   | US      | 13/943456          | 7/16/2013   | 20130304745                  |
| *END920165723US1  | US      | 61/569387          | 12/12/2011  |                              |
| END920165723US18  | US      | 15/281317          | 9/30/2016   | US20170019253A1              |
| END920165723US21  | US      | 15/346948          | 11/9/2016   | US20170052858A1              |
| END920165723US23  | US      | 15/418164          | 1/27/2017   | 21070139843                  |
| END920165723US27  | US      | 15/409386          | 1/18/2017   | US20170123920A1              |
| END920165723US29  | US      | 15/444952          | 2/28/2017   | 20170168874                  |
| END920165723US30  | US      | 15/445152          | 2/28/2017   | 20170171105                  |
| END920165723US31  | US      | 15/795651          | 10/27/2017  | 20180046627                  |
| END920165723US32  | US      | 15/822333          | 11/27/2017  | 2018-0074858                 |
| END920165723US33  | US      | 15/824433          | 11/28/2017  | 2018-0083930                 |
| END920165723US35  | US      | 16/113437          | 8/27/2018   | 20190012213                  |
| END920165723US36  | US      | 16/167443          | 10/22/2018  | 20190056997                  |
| END920165723US37  | US      | 16/183644          | 11/7/2018   | 20190073267                  |
| END920165723US38  | US      | 16/407894          | 5/9/2019    |                              |
| END920165723US39  | US      | 16/378724          | 4/9/2019    |                              |
| END920165723US40  | US      | 16/378703          | 4/9/2019    |                              |

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| *END920165724US1  | US      | 61/564200          | 11/28/2011  |                              |
| *END920165725US1  | US      | 61/564185          | 11/28/2011  |                              |
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| END920165725US11  | US      | 16/288848          | 2/28/2019   |                              |
| END920165725US12  | US      | 16/358943          | 3/20/2019   |                              |
| END920165725US2   | US      | 13/683951          | 11/21/2012  | 20130138756                  |
| END920165725US7   | US      | 15/255540          | 9/2/2016    | US20160371202A1              |
| END920165725US8   | US      | 15/282782          | 9/30/2016   | US20170024282A1              |
| END920165726US08  | US      | 16/163788          | 10/18/2018  | 20190050293                  |
| END920165726US09  | US      | 16/142479          | 9/26/2018   | 20190026196                  |
| *END920165726US1  | US      | 61/554358          | 11/1/2011   |                              |
| END920165726US2   | US      | 13/611533          | 8/12/2012   | 20130111166                  |
| END920165727US06  | US      | 16/391389          | 4/23/2019   |                              |
| *END920165727US1  | US      | 61/554152          | 11/1/2011   |                              |
| END920165727US5   | US      | 15/687338          | 8/25/2017   | 20170357548                  |
| *END920165728US1  | US      | 61/542923          | 10/4/2011   |                              |
| END920165728US8   | US      | 15/728276          | 10/9/2017   | 20180034639                  |
| END920165729US08  | US      | 16/240390          | 1/4/2019    | 20190138393                  |
| *END920165729US1  | US      | 61/542914          | 10/4/2011   |                              |
| END920165730US07  | US      | 16/279172          | 2/19/2019   |                              |
| *END920165730US1  | US      | 61/531317          | 9/6/2011    |                              |
| END920165731US09  | US      | 15/952707          | 4/13/2018   | 20180234238A1                |
| *END920165731US1  | US      | 61/524521          | 8/17/2011   |                              |
| END920165731US10  | US      | 16/050920          | 7/31/2018   | 20180336100                  |
| END920165732US07  | US      | 16/148012          | 10/1/2018   | 20190034123                  |
| *END920165732US1  | US      | 61/512122          | 7/27/2011   |                              |
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| *END920165734US1  | US      | 61/505010          | 7/6/2011    |                              |
| END920165734US6   | US      | 15/822682          | 11/27/2017  | 2018-0074905                 |
| END920165734US7   | US      | 15/823698          | 11/28/2017  | 2018-0089028                 |
| END920165734US8   | US      | 15/797745          | 10/30/2017  | 20180046547                  |
| *END920165735US1  | US      | 61/493825          | 6/6/2011    |                              |
| END920165735US11  | US      | 15/874461          | 1/18/2018   | 20180150353                  |
| *END920165736US1  | US      | 61/493820          | 6/6/2011    |                              |
| END920165736US11  | US      | 16/410419          | 5/13/2019   |                              |
| END920165736US3   | US      | 13/464015          | 5/4/2012    | 20120311557                  |
| END920165737US05  | US      | 15/466322          | 3/22/2017   | 20170192684                  |

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| *END920165738US1  | US      | 61/483852          | 5/9/2011    |                              |
| *END920165739US1  | US      | 61/483846          | 5/9/2011    |                              |
| *END920165740US1  | US      | 61/470524          | 4/1/2011    |                              |
| END920165740US10  | US      | 15/824651          | 11/28/2017  | 2018-0084035                 |
| END920165740US11  | US      | 16/200103          | 11/26/2018  | 20190098078                  |
| *END920165741US1  | US      | 61/470521          | 4/1/2011    |                              |
| END920165741US10  | US      | 15/350762          | 11/14/2016  | US20170060457A1              |
| END920165742US07  | US      | 16/193328          | 11/16/2018  | 20190087262                  |
| *END920165742US1  | US      | 61/448526          | 3/2/2011    |                              |
| *END920165742US3  | US      | 13/372689          | 2/14/2012   | 20120226667                  |
| *END920165742US5  | US      | 13/372748          | 2/14/2012   | 20120226855                  |
| *END920165743US1  | US      | 61/448518          | 3/2/2011    |                              |
| END920165743US6   | US      | 15/626807          | 6/19/2017   | 20170293528                  |
| *END920165744US1  | US      | 61/438516          | 2/1/2011    |                              |
| *END920165745US1  | US      | 61/438490          | 2/1/2011    |                              |
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| *END920165746US1  | US      | 61/427457          | 12/27/2010  |                              |
| *END920165747US1  | US      | 61/426237          | 12/22/2010  |                              |
| END920165748US07  | US      | 16/136362          | 9/20/2018   | 20190018619                  |
| *END920165748US1  | US      | 61/417873          | 11/29/2010  |                              |
| END920165748US6   | US      | 15/285582          | 10/5/2016   | US20170024155A1              |
| END920165749US06  | US      | 16/110580          | 8/23/2018   | 20180364933                  |
| END920165749US07  | US      | 16/115235          | 8/28/2018   | 20180364940                  |
| *END920165749US1  | US      | 61/411478          | 11/9/2010   |                              |
| *END920165750US1  | US      | 61/408980          | 11/1/2010   |                              |
| END920165750US10  | US      | 15/362460          | 11/28/2016  | US20170075763A1              |
| END920165750US11  | US      | 15/433824          | 2/15/2017   | 2017-0163378                 |
| END920165750US13  | US      | 15/819198          | 11/21/2017  | 2018-0095688                 |
| END920165750US14  | US      | 16/247991          | 1/15/2019   |                              |
| END920165750US15  | US      | 16/271603          | 2/8/2019    |                              |
| END920165750US16  | US      | 16/366715          | 3/27/2019   |                              |
| *END920165751US1  | US      | 61/408971          | 11/1/2010   |                              |
| END920165751US4   | US      | 13/252418          | 10/4/2011   | 20120109885                  |
| *END920165752US1  | US      | 61/390472          | 10/6/2010   |                              |
| END920165752US11  | US      | 16/378041          | 4/8/2019    |                              |
| END920165752US9   | US      | 15/718025          | 9/28/2017   | 20180018222                  |

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| END920165754US07         | US             | 16/174504                 | 10/30/2018         | 20190073143                         |
| *END920165754US1         | US             | 61/377428                 | 8/26/2010          |                                     |
| END920165754US4          | US             | 14/312259                 | 6/23/2014          | 20140304486                         |
| END920165756US09         | US             | 16/201486                 | 11/27/2018         | 20190095101                         |
| *END920165756US1         | US             | 61/369812                 | 8/2/2010           |                                     |
| END920165756US10         | US             | 16/136761                 | 9/20/2018          | 20190034085                         |
| *END920165758US1         | US             | 61/357430                 | 6/22/2010          |                                     |
| END920165758US12         | US             | 14/445334                 | 7/29/2014          | 20140337661                         |
| END920165758US13         | US             | 16/262577                 | 1/30/2019          |                                     |
| END920165758US14         | US             | 16/390530                 | 4/22/2019          |                                     |
| END920165758US5          | US             | 14/447890                 | 7/31/2014          | 20170185614                         |
| END920165758US7          | US             | 14/452791                 | 8/6/2014           | 20140351579                         |
| *END920165759US1         | US             | 61/357390                 | 6/22/2010          |                                     |
| *END920165760US1         | US             | 61/346203                 | 5/19/2010          |                                     |
| END920165760US9          | US             | 15/167482                 | 5/27/2016          | 20160277502                         |
| *END920165761US1         | US             | 61/346173                 | 5/19/2010          |                                     |
| END920165761US14         | US             | 15/362180                 | 11/28/2016         | US20170075762A1                     |
| END920165761US15         | US             | 16/202986                 | 11/28/2018         | 20190109711                         |
| END920165761US16         | US             | 16/171161                 | 10/25/2018         | 20190081781                         |
| *END920165762US1         | US             | 61/328000                 | 4/26/2010          |                                     |
| END920165762US14         | US             | 13/920635                 | 6/18/2013          | 20130282865                         |
| END920165762US26         | US             | 16/138753                 | 9/21/2018          | 20190034274                         |
| *END920165763US1         | US             | 61/327921                 | 4/26/2010          |                                     |
| END920165763US11         | US             | 16/137681                 | 9/21/2018          | 20190026044                         |
| *END920165764US1         | US             | 61/314166                 | 3/16/2010          |                                     |
| *END920165765US1         | US             | 61/313885                 | 3/15/2010          |                                     |
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| *END920165766US1         | US             | 61/313582                 | 3/12/2010          |                                     |
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| END920165766US3          | US             | 14/291199                 | 5/30/2014          | 20140281815                         |
| *END920165768US1         | US             | 61/308737                 | 2/26/2010          |                                     |
| END920165768US19         | US             | 15/840397                 | 12/13/2017         | 20180103107                         |
| END920165768US20         | US             | 15/840508                 | 12/13/2017         | 20180115604                         |
| END920165768US21         | US             | 15/842560                 | 12/14/2017         | 20180109616                         |
| END920165768US28         | US             | 16/256177                 | 1/24/2019          | 20190158595                         |
| END920165768US29         | US             | 16/390426                 | 4/22/2019          |                                     |
| END920165768US30         | US             | 16/416363                 | 5/20/2019          |                                     |
| END920165769US08         | US             | 16/201878                 | 11/27/2018         | 20190108368                         |

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| *END920165769US1  | US      | 61/299245          | 1/28/2010   |                              |
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| *END920165770US1  | US      | 61/299228          | 1/28/2010   |                              |
| *END920165771US1  | US      | 61/299197          | 1/28/2010   |                              |
| *END920165772US1  | US      | 61/299075          | 1/28/2010   |                              |
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| END920165772US4   | US      | 14/319849          | 6/30/2014   | 20140137053                  |
| END920165773US07  | US      | 16/050583          | 7/31/2018   | 20180335967                  |
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| *END920165773US1  | US      | 61/290775          | 12/29/2009  |                              |
| *END920165774US1  | US      | 61/290757          | 12/29/2009  |                              |
| END920165774US10  | US      | 16/128941          | 9/12/2018   | 20190014125                  |
| END920165774US11  | US      | 16/244315          | 1/10/2019   | 20190149556                  |
| END920165774US12  | US      | 16/386831          | 4/17/2019   |                              |
| END920165774US8   | US      | 15/222078          | 7/28/2016   | US20160335202A1              |
| *END920165775US1  | US      | 61/290689          | 12/29/2009  |                              |
| *END920165776US1  | US      | 61/290662          | 12/29/2009  |                              |
| *END920165777US1  | US      | 61/264534          | 11/25/2009  |                              |
| *END920165778US1  | US      | 61/264516          | 11/25/2009  |                              |
| END920165779US06  | US      | 15/956984          | 4/19/2018   | 20180239673A1                |
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| *END920165780US1  | US      | 61/264316          | 11/25/2009  |                              |
| END920165781US09  | US      | 16/185573          | 11/9/2018   | 20190095290                  |
| *END920165781US1  | US      | 61/264297          | 11/25/2009  |                              |
| *END920165781US4  | US      | 14/315748          | 6/26/2014   | 20140310491                  |
| END920165781US8   | US      | 15/805308          | 11/7/2017   | 2018-0067820                 |
| *END920165782US1  | US      | 61/264072          | 11/24/2009  |                              |
| *END920165783US1  | US      | 61/256436          | 10/30/2009  |                              |
| *END920165784US1  | US      | 61/256419          | 10/30/2009  |                              |
| *END920165784US5  | US      | 12/817208          | 6/17/2010   | 20110107078                  |
| *END920165785US1  | US      | 61/256411          | 10/30/2009  |                              |
| *END920165786US1  | US      | 61/256314          | 10/30/2009  |                              |
| END920165786US2   | US      | 12/850606          | 8/4/2010    | 20110107182                  |
| END920165786US6   | US      | 12/850607          | 8/4/2010    | 20110107027                  |
| END920165786US7   | US      | 14/289738          | 5/29/2014   | 20140280682                  |
| END920165787US06  | US      | 16/121290          | 9/4/2018    | 20180375671                  |
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| END920165789US10         | US             | 16/239244                 | 1/3/2019           | 20190138231                         |
| END920165789US9          | US             | 15/427408                 | 2/8/2017           | 20170147219                         |
| *END920165790US1         | US             | 61/246876                 | 9/29/2009          |                                     |
| *END920165790US2         | US             | 12/777850                 | 5/11/2010          | 20110078343                         |
| *END920165791US1         | US             | 61/246818                 | 9/29/2009          |                                     |
| *END920165792US1         | US             | 61/246809                 | 9/29/2009          |                                     |
| *END920165793US1         | US             | 61/237652                 | 8/27/2009          |                                     |
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| *END920165794US1         | US             | 61/237650                 | 8/27/2009          |                                     |
| *END920165795US1         | US             | 61/237645                 | 8/27/2009          | 20140337932                         |
| *END920165795US5         | US             | 14/292070                 | 5/30/2014          | 20140337932                         |
| *END920165797US1         | US             | 61/237624                 | 8/27/2009          |                                     |
| *END920165798US1         | US             | 61/230937                 | 8/3/2009           |                                     |
| *END920165799US1         | US             | 61/230304                 | 7/31/2009          |                                     |
| *END920165802US1         | US             | 61/230019                 | 7/30/2009          |                                     |
| *END920165805US1         | US             | 61/141494                 | 12/30/2008         |                                     |
| *END920165807US1         | US             | 61/141428                 | 12/30/2008         |                                     |
| END920165807US16         | US             | 15/612243                 | 6/2/2017           | 20170270003                         |
| *END920165809US1         | US             | 60/316601                 | 8/31/2001          |                                     |
| *END920165812US12        | US             | 14/633315                 | 2/27/2015          | 20150169897                         |
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| *END920165812US5         | US             | 61/237634                 | 8/27/2009          |                                     |
| *END920165815US3         | US             | 61/141312                 | 12/30/2008         |                                     |
| *END920165815US6         | US             | 61/141478                 | 12/30/2008         |                                     |
| *END920165815US8         | US             | 61/141534                 | 12/30/2008         |                                     |
| *END920165900US1         | US             | 61/290632                 | 12/29/2009         |                                     |
| END920165900US22         | US             | 15/974345                 | 5/8/2018           | 20180260122                         |
| END920165900US23         | US             | 16/130431                 | 9/13/2018          | 20190014192                         |
| END920165900US24         | US             | 16/245988                 | 1/11/2019          | 20190146676                         |
| *END920165901US1         | US             | 61/505013                 | 7/6/2011           |                                     |
| END920165901US6          | US             | 13/527811                 | 6/20/2012          | 20130013798                         |
| *END920165902US1         | US             | 61/256193                 | 10/29/2009         |                                     |
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| END920165907US11         | US             | 16/297978                 | 3/11/2019          |                                     |
| END920165907US5          | US             | 15/338473                 | 10/31/2016         | US20170046417A1                     |

| <b>IBM Docket Number</b> | <b>Country</b> | <b>Application Number</b> | <b>Filing Date</b> | <b>Published Application Number</b> |
|--------------------------|----------------|---------------------------|--------------------|-------------------------------------|
| END920165907US7          | US             | 15/822873                 | 11/27/2017         | 2018-0075123                        |
| END920165907US8          | US             | 15/816813                 | 11/17/2017         | 2018-0075121                        |

\* Abandoned or Expired

**END OF EXHIBIT C-I**



**EXHIBIT C-II**  
**ASSIGNED US PATENT APPLICATIONS**

| <b>IBM Docket Number</b> | <b>Country</b> | <b>Application Number</b> | <b>Filing Date</b> | <b>Published Application Number</b> |
|--------------------------|----------------|---------------------------|--------------------|-------------------------------------|
| END920165667US05         | US             | 16/108905                 | 8/22/2018          | 20180365105                         |
| END920165668US05         | US             | 16/032288                 | 7/11/2018          | 20180341417                         |
| END920165668US06         | US             | 16/151513                 | 10/4/2018          | 20190042768                         |
| END920165668US2          | US             | 14/675070                 | 3/31/2015          | 20150356305                         |
| END920165669US06         | US             | 16/412167                 | 5/14/2019          |                                     |
| END920165674US07         | US             | 16/121068                 | 9/4/2018           | 20180373595                         |
| END920165675US04         | US             | 16/150841                 | 10/3/2018          | 20190034278                         |
| END920165675US05         | US             | 16/171585                 | 10/26/2018         | 20190065315                         |
| END920165690US05         | US             | 16/136681                 | 9/20/2018          | 20190018741                         |
| END920165690US06         | US             | 16/254789                 | 1/23/2019          | 20190155701                         |
| END920165709US07         | US             | 16/239651                 | 1/4/2019           | 20190140777                         |
| END920165714US08         | US             | 16/152636                 | 10/5/2018          | 20190036912                         |
| END920165720US12         | US             | 16/411424                 | 5/14/2019          |                                     |
| END920165736US11         | US             | 16/410419                 | 5/13/2019          |                                     |
| END920165766US12         | US             | 16/409234                 | 5/10/2019          |                                     |
| END920165768US29         | US             | 16/390426                 | 4/22/2019          |                                     |
| END920165768US30         | US             | 16/416363                 | 5/20/2019          |                                     |

**END OF EXHIBIT C-II**