PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUCHANG LEE	03/06/2015
KYU-HWAN KIM	03/06/2015
HYOUNG-JUN NA	03/06/2015
CHANG-GYOO PARK	03/06/2015
HYEJEONG LEE	03/06/2015

RECEIVING PARTY DATA

Name:	SAP SE
Street Address:	SAP GLOBAL IP GROUP
Internal Address:	DIETMAR-HOPP-ALLEE 16
City:	WALLDORF
State/Country:	GERMANY
Postal Code:	D-69190

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14657938	

CORRESPONDENCE DATA

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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.

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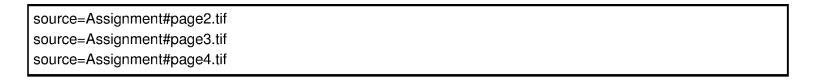
ATTORNEY DOCKET NUMBER:	1933.3140002
NAME OF SUBMITTER:	TODD M. HOPFINGER
SIGNATURE:	/Todd M. Hopfinger/
DATE SIGNED:	03/18/2015

Total Attachments: 4

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PATENT REEL: 035191 FRAME: 0457

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PATENT REEL: 035191 FRAME: 0458

ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: Juchang Lee, Kyu-Hwan Kim, Hyoung-Jun Na, Chang-Gyoo Park and Hyejeong Lee, hereby sell and assign to SAP SE, a corporation formed under the laws of Germany, whose mailing address is SAP Global IP Group, Dietmar-Hopp-Allee 16, Walldorf, Germany D-69190 (hereafter referred to as the Assignee), his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages, for the United States of America (as defined in 35 U.S.C. § 100) and throughout the world,

- (a) in the invention(s) known as RowID-Based Data Synchronization for Asynchronous Table Replication for which application(s) for patent in the Todd M. Hopfinger, United States of America has a filing date or a 371(c) date of 3/13/2015 (also known as United States Application No. 14/657,738), in any and all applications thereon, in any and all Letters Patent(s) therefor, and
- (b) in any and all applications that claim the benefit of the patent application listed above in part (a), including non-provisional applications, continuing (continuation, divisional, or continuation-in-part) applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and
- (c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventors agree to execute all papers necessary in connection with the application(s) and any non-provisional, continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

PATENT REEL: 035191 FRAME: 0459

The undersigned inventors agree to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any non-provisional, continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant the patent practitioners associated with CUSTOMER NUMBER 82515 the power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

The undersigned inventors hereby represent that he/she understands that the patent practitioners associated with CUSTOMER NUMBER 82515 are the legal representatives of, and attorneys for, the assignee, and are NOT the legal representatives of, and attorneys for, the inventors.

IN WITNESS WHEREOF,	executed by the undersigned inventors on the date opposite
his/her name.	
Date: 06/ March / 2015	Signature of Inventor: Juchang Lee
Date: #3/06/2015	Signature of Inventor:
	Kyu-Hwan Kim
Date: 2015. 3.4	Signature of Inventor: 나 허설
1/4(0,	Hyoung-Jun Na
Data	Signature of Inventor:
Date:	Chang-Gyoo Park
Date: 2015-03-66	Signature of Inventor:
Date: Cr. 67	Hyejeong Lee

ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: Juchang Lee, Kyu-Hwan Kim, Hyoung-Jun Na, Chang-Gyoo Park and Hyejeong Lee, hereby sell and assign to SAP SE, a corporation formed under the laws of Germany, whose mailing address is SAP Global IP Group, Dietmar-Hopp-Allee 16, Walldorf, Germany D-69190 (hereafter referred to as the Assignee), his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages, for the United States of America (as defined in 35 U.S.C. § 100) and throughout the world,

- (a) in the invention(s) known as RowID-Based Data Synchronization for Asynchronous Table Replication for which application(s) for patent in the United States of America has a filing date or a 371(c) date of 3/13/2015 (also known as United States Application No. 14/657,935), in any and all Applications thereon, in any and all Letters Patent(s) therefor, and

 (b) in any and all applications that claim the benefit of the patent application listed
- (b) in any and all applications that claim the benefit of the patent application listed above in part (a), including non-provisional applications, continuing (continuation, divisional, or continuation-in-part) applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and
- (c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventors agree to execute all papers necessary in connection with the application(s) and any non-provisional, continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

PATENT REEL: 035191 FRAME: 0461

The undersigned inventors agree to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application(s) or any non-provisional, continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant the patent practitioners associated with CUSTOMER NUMBER 82515 the power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

The undersigned inventors hereby represent that he/she understands that the patent practitioners associated with **CUSTOMER NUMBER 82515** are the legal representatives of, and attorneys for, the assignee, and are <u>NOT</u> the legal representatives of, and attorneys for, the inventors.

IN WITNESS WHEREOF, executed by the undersigned inventors on the date opposite his/her name.

Date:	Signature of Inventor: _	Juchang Lee
Date:	Signature of Inventor: _	Kyu-Hwan Kim
Date:	Signature of Inventor:	Hyoung-Jun Na
Date: Mar 6, 2017	Signature of Inventor: _	
Date:	Signature of Inventor:	

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