

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT2865129

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EDWARD-ROBERT TYERCHA	05/09/2014
GERRIT SIMON KAZMAIER	05/09/2014
HINNERK GILDHOFF	05/09/2014
ISIL PEKEL	05/09/2014
LARS VOLKER	05/09/2014
TIM GROUISBORN	05/09/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SAP AG
<b>Street Address:</b>	DIETMAR-HOPP-ALLEE 16
<b>City:</b>	WALLDORF
<b>State/Country:</b>	GERMANY
<b>Postal Code:</b>	D-69190
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14274548
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	TBARNETT@MINTZ.COM
<b>Correspondent Name:</b>	MINTZ LEVIN
<b>Address Line 1:</b>	3580 CARMEL MOUNTAIN ROAD, SUITE 300
<b>Address Line 4:</b>	SAN DIEGO, CALIFORNIA 92130
<b>ATTORNEY DOCKET NUMBER:</b>	54874-028F01US
<b>NAME OF SUBMITTER:</b>	CARL A. KUKKONEN, III
<b>SIGNATURE:</b>	/ck3/
<b>DATE SIGNED:</b>	05/21/2014
<b>Total Attachments: 7</b>	
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## ASSIGNMENT

We, **Edward-Robert Tyercha** of Heidelberg, Germany, **Gerrit Simon Kasmaier** of Heidelberg, Germany, **Hinnerk Gildhoff** of Heidelberg, Germany, **Isil Pekel** of Heidelberg, Germany, **Lars Volker** of Karlsruhe, Germany, and **Tim Grouisborn** of Mannheim, Germany; the undersigned, hereinafter referred to as the ASSIGNORS, for good and valuable consideration, the receipt of which is hereby acknowledged, confirm that we have sold and assigned, and do hereby assign, sell and transfer to **SAP AG, a German Corporation**, with offices at Dietmar-Hopp-Allee 16, D-69190, Walldorf, Germany, and to its successors, assigns and legal representatives, collectively hereinafter referred to as the ASSIGNEE: (1) our entire right, title and interest for the United States and in all countries, in and to any and all inventions, discoveries and applications which are disclosed in the application for United States Letters Patent entitled:

### Querying Spatial Data in Column Stores Using Grid-Order Scans

filed with the U.S. Patent and Trademark Office on May 9, 2014 and assigned Application No. 14/274,548<sup>1</sup>, including any subsequently filed utility applications, which claim priority to Application No. 14/274,548<sup>1</sup>, and including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof and any substitute applications therefor; (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names as the ASSIGNEE, or its designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any country, and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the above inventions, discoveries and applications.

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to the ASSIGNEE of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE, to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries, or applications and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

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<sup>1</sup> Any attorney or agent of record and any registered attorney or agent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, MA 02111, telephone (617) 542-6000, is hereby authorized to insert, when known.

First Inventor: Edward-Robert Tyercha et al.  
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We further agree at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do the necessary to give full effect to and to perfect the rights of the ASSIGNEE under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

We hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

We further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

Date: 09.05.2014

Tyercha  
Signature of: Edward-Robert Tyercha

IN WITNESS WHEREOF, I, Lars Volker, hereby declare  
(Printed Name of Witness)

that I was personally present and did see the above named person duly sign and execute the assignment.

[Signature]  
(Signature of Witness)

Date: 2014-05-05

IN WITNESS WHEREOF, I, Hinnerk Giedhoff, hereby declare  
(Printed Name of Witness)

that I was personally present and did see the above named person duly sign and execute the assignment.

[Signature]  
(Signature of Witness)

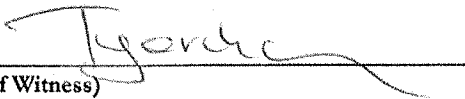
Date: 9.5.2014

First Inventor: Edward-Robert Tyercha et al.  
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Date: 2014-05-09

  
Signature of: **Gerrit Simon Kazmaier**

IN WITNESS WHEREOF, I, Edward Tyercha, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

Date: 09.05.2014

IN WITNESS WHEREOF, I, Tim Grovisborn, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

Date: 2014-05-05

First Inventor: Edward-Robert Tyercha et al.  
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Date: 9.5.2014 H. Gildhoff  
Signature of: Hinnerk Gildhoff

IN WITNESS WHEREOF, I, Edward Tyercha, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

Tyercha  
(Signature of Witness)

Date: 09.05.2014

IN WITNESS WHEREOF, I, Tim Grouisborn, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

Tim Grouisborn  
(Signature of Witness)

Date: 05.05.2014

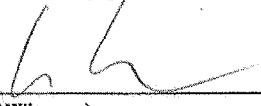
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Date: 09.05.14

  
Signature of: Isil Pekel

IN WITNESS WHEREOF, I, Lars Volker, hereby declare  
(Printed Name of Witness)

that I was personally present and did see the above named person duly sign and execute the assignment.

  
(Signature of Witness)

Date: 2014-05-09

IN WITNESS WHEREOF, I, Hinnerk Gildhoff, hereby declare  
(Printed Name of Witness)


that I was personally present and did see the above named person duly sign and execute the assignment.

  
(Signature of Witness)

Date: 9.5.2014

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Date: 2014-05-09


  
Signature of: Lars Volker

IN WITNESS WHEREOF, I, Edward Tyercha, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

Date: 09.05.2014

IN WITNESS WHEREOF, I, Isil Özge Peker, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

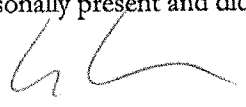
Date: 09.05.14



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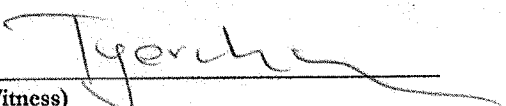
Date: 2014-05-05   
Signature of: Tim Grouishborn

IN WITNESS WHEREOF, I, Lars Voller, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

Date: 2014-05-05

IN WITNESS WHEREOF, I, Edward Tyercha, hereby declare  
(Printed Name of Witness)  
that I was personally present and did see the above named person duly sign and execute the  
assignment.

  
(Signature of Witness)

Date: 05.05.2014