

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4369959

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the CORRESPONDENCE DATA previously recorded on Reel 041963 Frame 0170. Assignor(s) hereby confirms the CORRESPONDENCE DATA TO BE HEWLETT PACKARD ENTERPRISE, 3404 E. HARMONY ROAD MS 79, FORT COLLINS, COLORADO 80528.
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DEBABRATA DASH	11/12/2011
WENTING TANG	11/11/2011
MARYLOU ORAYANI	11/11/2011
BRADLEY W. CLEVELAND	11/11/2011
MASAKI UTSUMIYA	11/11/2011
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.
<b>Street Address:</b>	11445 COMPAQ CENTER DRIVE WEST
<b>City:</b>	HOUSTON
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77070
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15389919
<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>Phone:</b>	(970) 898-7444
<b>Email:</b>	hpe.ip.mail@hp.com
<b>Correspondent Name:</b>	HEWLETT PACKARD ENTERPRISE
<b>Address Line 1:</b>	3404 E. HARMONY ROAD MS 79
<b>Address Line 4:</b>	FORT COLLINS, COLORADO 80528
<b>ATTORNEY DOCKET NUMBER:</b>	90324147
<b>NAME OF SUBMITTER:</b>	JOHN C. GARZA
<b>SIGNATURE:</b>	/John C. Garza/
<b>DATE SIGNED:</b>	04/17/2017

**Total Attachments: 4**

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## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4362191

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DEBABRATA DASH	11/12/2011
WENTING TANG	11/11/2011
MARYLOU ORAYANI	11/11/2011
BRADLEY W. CLEVELAND	11/11/2011
MASAKI UTSUMIYA	11/11/2011
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Hewlett-Packard Development Company, L.P.
<b>Street Address:</b>	11445 Compaq Center Drive West
<b>City:</b>	Houston
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77070
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15389919
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(970)778-4063
<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>Phone:</b>	(541)715-8443
<b>Email:</b>	ipa.mail@hp.com
<b>Correspondent Name:</b>	HP INC.
<b>Address Line 1:</b>	3390 E. HARMONY ROAD MS 35
<b>Address Line 2:</b>	INTELLECTUAL PROPERTY
<b>Address Line 4:</b>	FORT COLLINS, COLORADO 80528
<b>ATTORNEY DOCKET NUMBER:</b>	90324147
<b>NAME OF SUBMITTER:</b>	JOHN C. GARZA
<b>SIGNATURE:</b>	/John C. Garza/
<b>DATE SIGNED:</b>	04/11/2017
<b>Total Attachments: 3</b>	

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

PATENT APPLICATION

PATENT REFERENCE: 90324147

ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), in furtherance of my/our obligations to the Hewlett-Packard Company and its subsidiaries and affiliates, and do hereby assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

QUERY SUMMARY GENERATION USING ROW-COLUMN DATA STORAGE

Filing Date: 12/23/2016

Application No.: 15/389,919

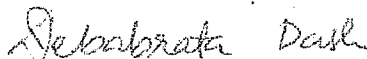
and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Letters Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefore; and any reissues, or reexaminations, or extensions of said Letters Patent.

I/we additionally authorize HPDC to file applications in my/our name for Letters Patent in any country, to be held and enjoyed by HPDC, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, and transfer not been made;

AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Letters Patent, to HPDC, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to HPDC, or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HPDC, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HPDC;

AND I/we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to HPDC, as assignee of the entire right, title and interest, any and all Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct the attorneys of record to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.



Inventor's Signature

11/12/2011

Date Assignment Signed

Debabrata DASH

Inventor's Typed Name

11/12/2011

Date Application Signed

Inventor's Signature

Date Assignment Signed

Wenting TANG

Inventor's Typed Name

Date Application Signed

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

PATENT APPLICATION

PATENT REFERENCE: 82893966

ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), in furtherance of my/our obligations to the Hewlett-Packard Company and its subsidiaries and affiliates, and do hereby assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

QUERY SUMMARY GENERATION USING ROW-COLUMN DATA STORAGE

Filing Date: \_\_\_\_\_

Application No.: \_\_\_\_\_

and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Letters Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefore; and any reissues, or reexaminations, or extensions of said Letters Patent.

I/we additionally authorize HPDC to file applications in my/our name for Letters Patent in any country, to be held and enjoyed by HPDC, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, and transfer not been made;

AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Letters Patent, to HPDC, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to HPDC, or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HPDC, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HPDC;

AND I/we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to HPDC, as assignee of the entire right, title and interest, any and all Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct the attorneys of record to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.

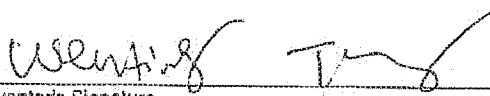
Inventor's Signature

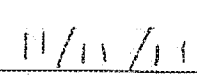
Date Assignment Signed

Debabrata DASH

Inventor's Typed Name

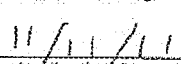
Date Application Signed

  
Inventor's Signature

  
Date Assignment Signed

Wenting TANG

Inventor's Typed Name

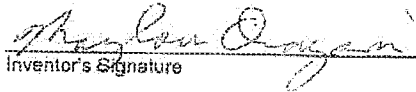
  
Date Application Signed

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

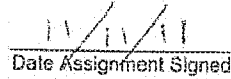
PATENT APPLICATION

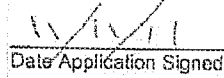
PATENT REFERENCE: 82893966

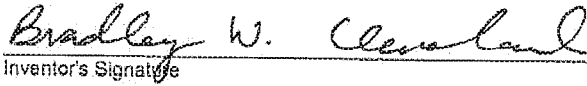
ASSIGNMENT OF PATENT APPLICATION (cont.)

  
Inventor's Signature

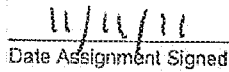
Marylou ORAYANI  
Inventor's Typed Name

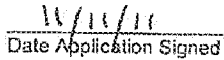
  
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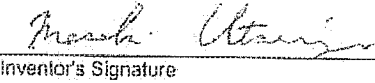
  
Date Application Signed

  
Inventor's Signature

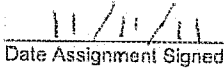
Bradley W. CLEVELAND  
Inventor's Typed Name

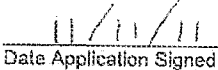
  
Date Assignment Signed

  
Date Application Signed

  
Inventor's Signature

Masaki UTSUMIYA  
Inventor's Typed Name

  
Date Assignment Signed

  
Date Application Signed

Inventor's Signature

Date Assignment Signed

Inventor's Typed Name

Date Application Signed

Inventor's Signature

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