#### 504530032 09/01/2017

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4576738

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
GAUTHAM THAMBIDORAI	08/25/2017
MATTHEW ROSENCRANTZ	08/25/2017
SANJAY GHEMAWAT	08/25/2017
SRDJAN PETROVIC	08/27/2017
IVAN POSVA	08/25/2017

#### **RECEIVING PARTY DATA**

Name:	GOOGLE INC.	
Street Address:	1600 AMPHITHEATRE PARKWAY	
City:	MOUNTAIN VIEW	
State/Country:	CALIFORNIA	
Postal Code:	94043	

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15685055

#### **CORRESPONDENCE DATA**

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**Correspondent Name:** LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP

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ATTORNEY DOCKET NUMBER:	GOOGLE 3.0F-2094 II	
NAME OF SUBMITTER:	MELINDA C. CORMIER	
SIGNATURE:	/Melinda C. Cormier/	
DATE SIGNED:	09/01/2017	

**Total Attachments: 5** 

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**PATENT REEL: 043469 FRAME: 0582** 

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> PATENT REEL: 043469 FRAME: 0583

Docket Number (Optional)

GOOGLE 3.0F-2094 II WHEREAS, I, Gautham Thambidorai of Palo Alto, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "METHOD FOR INTRA-SUBGRAPH OPTIMIZATION IN TUPLE GRAPH PROGRAMS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on August 24, 2017, Application Number 15/685.055, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application 1 the application number and filing date of the application when , filed on No. known), and WHEREAS, Google Inc., incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same; NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged. I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision. DocuSigned by: 8/25/2017 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-2094 II WHEREAS, I, Matthew Rosencrantz of Menlo Park, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "METHOD FOR INTRA-SUBGRAPH OPTIMIZATION IN TUPLE GRAPH PROGRAMS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on August 24, 2017, Application Number 15/685,055, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application 1 the application number and filing date of the application when , filed on No. known), and WHEREAS, Google Inc., incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same; NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged. I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision. 8/25/2017 (Date) (Signature)

Docket Number (Optional)

ASSIGNMENT OF FATERITAL FLOATION	GOOGLE 3.0F-2094 II			
WHEREAS, I, <u>Sanjay Ghemawat</u> of <u>Mountain View, California</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "METHOD FOR INTRA-SUBGRAPH OPTIMIZATION IN TUPLE GRAPH PROGRAMS" (hereafter "Patent Application"),				
WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on August 24, 2017, Application Number 15/685,055, and				
WHEREAS (if the left box is checked), the Patent Application names the following inventors:  (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No, filed on] the application number and filing date of the application when known), and				
WHEREAS, <u>Google Inc.</u> . incorporated or otherwise formed in <u>Delaware</u> and having a place of business at <u>1600</u> <u>Amphitheatre Parkway; Mountain View, California 94043</u> (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same;				
NOW, THEREFORE, for good and valuable consideration the reas follows. I agree to assign, and hereby do assign, to the assignee my element Assigned Applications in the United States of America and all other country. Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or ot Patent Application pursuant to any law or treaty, and any patent issuing from the assign, to assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to issuit Assigned Applications and to record assignee's ownership thereof. At assignet as testimony, as may be reasonably required to evidence or protect assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its acceptance in unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, title and interest in and to the ries, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the orm the foregoing. I agree to assign, and hereby t previously conveyed, nor am I aware of an y. I hereby authorize the U.S. Patent and ue to assignee all patents resulting from the signee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications. Is sole discretion. I agree that the assignee may stance of the provisions hereof. If any provision the full extent permissible by law and the			
8/25/2017	Signed by:			
(Date)	(Signature)			

Docket Number (Optional)

GOOGLE 3.0F-2094 II WHEREAS, I, Srdjan Petrovic of Palo Alto, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "METHOD FOR INTRA-SUBGRAPH OPTIMIZATION IN TUPLE GRAPH PROGRAMS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on August 24, 2017, Application Number 15/685,055, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application 1 the application number and filing date of the application when , filed on No. known), and WHEREAS, Google Inc., incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same; NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged. I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision. 8/27/2017 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-2094 II WHEREAS, I, Ivan Posva of Mountain View, California, have invented or discovered inventions or discoveries. the subject matter of which is described in the patent application entitled "METHOD FOR INTRA-SUBGRAPH OPTIMIZATION IN TUPLE GRAPH PROGRAMS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on August 24, 2017, Application Number 15/685,055, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application 1 the application number and filing date of the application when , filed on No. known), and WHEREAS, Google Inc., incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043 (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same; NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged. I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision. DocuSigned by: 8/25/2017 25E.C8204B30149C (Date) (Signature)

> PATENT REEL: 043469 FRAME: 0588