507120866 02/09/2022

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7167706

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MUKTA GUPTA	01/25/2022
ALOK KUMAR	01/25/2022
GARGI ADHAV	01/27/2022
YUQUAN JIANG	02/08/2022
AAKASH BHUSHAN ARORA	01/25/2022
SHIJEESH NHARAPPADATH SANKARANATHAN	01/25/2022
MARCO LEOGRANDE	01/25/2022
SALOMON SONNY BEN-SHIMON	01/25/2022

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17581357

CORRESPONDENCE DATA

Fax Number: (908)654-7866

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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Email: assignment@lernerdavid.com

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

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ATTORNEY DOCKET NUMBER:	GOOGLE 3.0F-3607	
NAME OF SUBMITTER:	LIZ SEMON	
SIGNATURE:	/Liz Semon/	

PATENT 507120866 REEL: 058940 FRAME: 0777

DATE SIGNED:	02/09/2022	
Total Attachments: 8		
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PATENT REEL: 058940 FRAME: 0778

Docket Number (Optional)

ASSIGNMENT OF PATENT APPLICATION GOOGLE 3.0F-3607 WHEREAS, I, Mukta Gupta of Santa Clara, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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: 1/25/2022 CE97556E15C4467 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Alok Kumar of Fremont, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. 1/25/2022 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Gargi Adhav of San Jose. California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. DocuSianed by 1/27/2022 24A70876E8904BF (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Yuquan Jiang of San Jose, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 _____, filed on ______] the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. 2/8/2022 1C30662D7F024B1. (Signature) (Date)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Aakash Bhushan Arora of Newark, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), Х WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. DocuSianed by: 1/25/2022 6D267DF2CD6C4D7 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Shijeesh Nharappadath Sankaranathan of Sunnyvale, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. 1/25/2022 36C3FB96CE6749B (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.0F-3607 WHEREAS, I, Marco Leogrande of Redwood City. California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____] the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. 1/25/2022 (Date) (Signature)

Docket Number (Optional)

ASSIGNMENT OF PATENT APPLICATION GOOGLE 3.0F-3607 WHEREAS, I, Salomon Sonny Ben-Shimon of Tel Aviv: ISRAEL, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Proxyless Network Address Translation With Dynamic Port Allocation" (hereafter "Patent Application"), Х WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on January 21, 2022, Application Number 17/581,357, 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 filed on _____ the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 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. 1/25/2022 (Date) (Signature)

> PATENT **REEL: 058940 FRAME: 0786**

RECORDED: 02/09/2022