

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT4519642

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
GUANGHUA SHU	06/23/2017
FRANKIE Y. LIU	07/11/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ORACLE INTERNATIONAL CORPORATION
<b>Street Address:</b>	500 ORACLE PARKWAY
<b>Internal Address:</b>	MAIL STOP 50P7
<b>City:</b>	REDWOOD CITY
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94065
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15647716
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(530)759-1665
<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>	530-759-1661
<b>Email:</b>	jeannie@parklegal.com
<b>Correspondent Name:</b>	A. RICHARD PARK
<b>Address Line 1:</b>	PARK, VAUGHAN, FLEMING & DOWLER LLP
<b>Address Line 2:</b>	2820 FIFTH STREET
<b>Address Line 4:</b>	DAVIS, CALIFORNIA 95618
<b>ATTORNEY DOCKET NUMBER:</b>	ORA17-0720
<b>NAME OF SUBMITTER:</b>	A. RICHARD PARK
<b>SIGNATURE:</b>	/A. Richard Park/
<b>DATE SIGNED:</b>	07/25/2017
<b>Total Attachments: 3</b>	
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## CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

Guanghua Shu                      501 Island Parkway, Belmont, CA 94002  
Frankie Y. Liu                      401 Creekside Drive, Palo Alto, CA 94306

hereinafter termed "Inventor(s)", have invented certain new and useful improvements in

*SUBSAMPLING PHASE FREQUENCY DETECTOR FOR A DIVIDER-LESS PHASE-LOCKED LOOP*

and have executed a declaration or oath for an application for a United States patent disclosing and identifying the invention:

\_\_\_ On the \_\_\_ day of \_\_\_\_\_, 20\_\_\_;

Or

X Said application having Application Number 15/647,716 and filed on 25 July 2017; and

WHEREAS, Oracle International Corporation, a corporation of the State of California, having a place of business at 500 Oracle Parkway, Mail Stop 5OP7, Redwood City, CA 94065, (hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered jointly or severally by said Inventor(s) (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

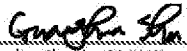
1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply for foreign patents on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.


2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

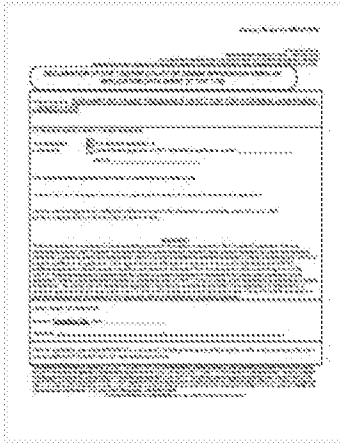
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.

4. Said Inventor(s) hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below.

<u>/</u>  Guanghua Shu	<u>/</u> Jun 23, 2017 Date
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<u>/</u>  Frankie Y. Liu	<u>/</u> Jul 11, 2017 Date
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# ORA17-0720 EchoSign Formal Documents

Adobe Sign Document History

07/11/2017

Created:	06/23/2017
By:	Document Support [REDACTED]
Status:	Signed
Transaction ID:	OBJCHBCAABAIAJAFK0Qyt-8D2T6TTF6TIT7uGzPzz5nZJ

## "ORA17-0720 EchoSign Formal Documents" History

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06/23/2017 - 2:47:07 PM PDT - IP address: 173.8.78.69
- Document emailed to Guanghua Shu [REDACTED] for signature  
06/23/2017 - 2:48:09 PM PDT
- Document emailed to frankie liu [REDACTED] for signature  
06/23/2017 - 2:48:10 PM PDT
- Document viewed by Guanghua Shu [REDACTED]  
06/23/2017 - 3:29:00 PM PDT - IP address: 148.87.23.16
- Document e-signed by Guanghua Shu [REDACTED]  
Signature Date: 06/23/2017 - 3:30:44 PM PDT - Time Source: server - IP address: 148.87.23.16
- Document Support [REDACTED] replaced signer [REDACTED] with Frankie Liu [REDACTED]  
07/11/2017 - 3:21:48 PM PDT - IP address: 173.8.78.69
- Document emailed to Frankie Liu [REDACTED] for signature  
07/11/2017 - 3:21:48 PM PDT
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- Document e-signed by frankie liu [REDACTED]  
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- Signed document emailed to [REDACTED] Frankie Liu [REDACTED] Document Support [REDACTED] Guanghua Shu [REDACTED] and 1 more  
07/11/2017 - 4:20:37 PM PDT