PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3133474

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STEPHEN LEE SMITH	11/11/2014
MICHAEL C. SHAUGHNESSY-CULVER	11/24/2014
JIE LIU	11/11/2014
VICTOR MOROZ	11/11/2014
YONG-SEOG OH	11/11/2014
PRATHEEP BALASINGAM	11/11/2014
TERRY SYLVAN KAM-CHIU MA	11/24/2014

RECEIVING PARTY DATA

Name:	SYNOPSYS, INC.
Street Address:	700 E. MIDDLEFIELD
City:	MOUNTAIN VIEW
State/Country:	CALIFORNIA
Postal Code:	94043

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14497681

CORRESPONDENCE DATA

Fax Number: (650)712-0263

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.

Phone: 6507120340
Email: motts@hmbay.com

Correspondent Name: HAYNES BEFFEL & WOLFELD LLP

Address Line 1: 637 MAIN ST.

Address Line 4: HALF MOON BAY, CALIFORNIA 94019

ATTORNEY DOCKET NUMBER:	SYNP 2384-2
NAME OF SUBMITTER:	WARREN S. WOLFELD
SIGNATURE:	/Warren S. Wolfeld/
DATE SIGNED:	12/04/2014

Total Attachments: 6

PATENT
REEL: 034535 FRAME: 0449

503086869



PATENT REEL: 034535 FRAME: 0450

JOINT TO CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

(1) Stephen Lee Smith	(2) Michael C. Shaughnessy-Culver
1662 Columbia Drive	1068 Wood Duck Ave.
Mountain View, CA 94040	Santa Clara, CA
(3) Jie Liu	(4) Victor Moroz
Pleasanton	17035 Bohlman Road
San Jose, CA 95126	Saratoga, CA 95070
(5) Yong-Seog Oh	(6) Prathcep Balasingam
2667 Calle Morelia	6249 Plymouth Avenue
Pleasanton, CA 94566	San Jose, CA 95129
(7) Terry Sylvan Kam-Chiu Ma 510 Preakness Court Danville, CA 94506	

hereinafter termed "Inventors", have invented certain new and useful improvements in

ADAPTIVE PARALLELIZATION FOR MULTI-SCALE SIMULATION

and
] as described in a provisional application for a United States patent disclosing and identifying the above invention or, as Application No.,
X] as described in a non-provisional application for a United States patent disclosing and identifying the above invention on 26 September 2014 as Application No. 14/497,681,
] as described in a non-provisional application herewith, and
I have executed an oath or declaration of inventorship for such non-provisional application on:
(1) the 11 day of Novembet, 2014;
(2) the, 2014;
(3) the _//_ day of _ November, 2014;

1/3

(6) the // day of November, 2014;

(4) the 11 day of November, 2014;

(5) the // day of November , 2014;

(7) the 24 h day of November, 2014;

(hereinafter termed "applications"); and

WHEREAS, Synopsys, Inc., a corporation of Delaware, having a place of business at having a place of business at 700 E. Middlefield Rd., Mountain View, CA 94043 (hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and interest in and to said applications and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered by said Inventors (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 Inventors to have been received in full from said Assignee:

- I. Said Inventors do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said applications and said invention; (b) in and to all rights to apply for foreign patents (including patent, utility model and industrial design) on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise, including the right to claim priority from the applications; (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 extension of any of said patents.
- 2. Said Inventors 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 Inventors 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 Inventors 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 Inventors, the Inventors' respective heirs, legal representatives and assigns.
- 4. Said Inventors hereby warrant and represent that said Inventors have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. Said Inventors hereby authorize any of the following attorneys:

Mark A. Haynes, Ernest J. Beffel, Jr., Warren S. Wolfeld, James F. Hann, Kenta Suzue, Chris Blizzard and Yiding Wu to (a) insert the date of execution of the oath or declaration of inventorship, and (b) insert the application number and filing date of this application when known.

The mountainment of the second	Date: NOV 1/2014
1) Stephen Lee Smith	
	Date:
) Michael C. Shaughnessy-Culver	
The his	Date: 100, 11, 2014
) Jie Liu	
	Date: <u>Nov. 11, 2014</u>
) Victor Moroz	
Burk	Date: Nov. 11. 2014
) Yorle-Sede Oh	
& Bollo fa	Date: Nov. 11, 2014
) Pratheep Balasingam	
holant L	Date: WV. Up lovy
7) Terry Sylvan Kam-Chiu Ma	Exact.

JOINT TO CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

(1) Stephen Lee Smith 1662 Columbia Drive Mountain View, CA 94040	(2) Michael C. Shaughnessy-Culver 1068 Wood Duck Ave. 1880 Tallac Street Santa Clara, CA Napa, CA 94558 M5 11-24-2014
(3) Jie Liu Pleasanton San Jose, CA 95126	(4) Victor Moroz 17035 Bohlman Road Saratoga, CA 95070
(5) Yong-Seog Oh 2667 Calle Morelia Pleasanton, CA 94566	(6) Pratheep Balasingam 6249 Plymouth Avenue San Jose, CA 95129
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hereinafter termed "Inventors", have invented certain new and useful improvements in

ADAPTIVE PARALLELIZATION FOR MULTI-SCALE SIMULATION

(7) the _____, 2014;

(hereinafter termed "applications"); and

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

- 1. Said Inventors do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said applications and said invention; (b) in and to all rights to apply for foreign patents (including patent, utility model and industrial design) on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise, including the right to claim priority from the applications; (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 extension of any of said patents.
- 2. Said Inventors 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 Inventors 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 Inventors 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 Inventors, the Inventors' respective heirs, legal representatives and assigns.
- 4. Said Inventors hereby warrant and represent that said Inventors have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
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date written below.	
(1) Stephen Lee Smith	Date:
(2) Michael C. Shaughnessy-Culver	Date: 11-24-2014
(3) Jie Liu	Date:
	Date:
(4) Victor Moroz	Date:
(5) Yong-Seog Oh	Date:
(6) Pratheep Balasingam	Date:
(7) Terry Sylvan Kam-Chiu Ma	

IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument to said Assignee as of the