### PATENT ASSIGNMENT

### Electronic Version v1.1

Stylesheet Version v1.1

NATURE OF CONVEYANCE:   ASSIGNMENT     CONVEYING PARTY DATA   Image: Im	SUBMISSION TYPE:		NEW ASSIGNMENT			
Name Execution Date   Jaydeep Marathe 12/20/2012   Gautam Chakrabari 12/20/2012   Yuan Lin 12/20/2012   Okwan Kwon 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   RECEIVING PARTY DATA 12/20/2012   Street Address: 2701 San Tomas Expressway   City: Santa Clara   State/Country: CALFORNIA   Postal Code: 96050   PROPERTY NUMBERS Total: 13724089   CORRESPONDENCE DATA Execution Number:   Fax Number: 972400800   Email: India mcsweery@hittgaines.com   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 972400800   Email: India mcsweery@hittgaines.com   Correspondent Name: Hitt Gainess P. C./Nvidia   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Tole Attachments: 5 sources-Assignment_signed#page3.tif   sources-Assignment_signed#	NATURE OF CONVEYANCE:			ASSIGNMENT		
Jaydeep Marathe 12/20/2012   Gautam Chakraberi 12/20/2012   Yuan Lin 12/20/2012   Okwan Kwon 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   RECEIVING PARTY DATA 12/20/2012   Receiving Party DATA 12/20/2012   Receiving Party DATA 12/20/2012   Receiving Santa Clara 12/21/2012   Steed Address: 2/01 San Tomas Expressway   City: Santa Clara   Steed/Country: CALIFORNIA   Postal Code: 95050   PROPERTY NUMBERS Total: 1 13/24089   CORRESPONDENCE DATA 13/24089   Email: Inda.mesweny@hitgaines.com   CORRESPONDENCE DATA Fax Number:   Fax Number: 97/24808805   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 97/24808800   Email: linda.mesweny@hitgaines.com   Correspondent Name: Hit Gainess P. C./Nudia   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5	CONVEYING PARTY DA	CONVEYING PARTY DATA				
Gautam Chakrabari 12/20/2012   Yuan Lin 12/20/2012   Okwan Kwon 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   RECEIVING PARTY DATA Intervention   Name: Nvidia   Street Address: 2701 San Tomas Expressway   City: Santa Clara   State/Country: CALFORNIA   Postal Code: 95050   PROPERTY NUMBERS Total: 1 Intervention   CORRESPONDENCE DATA 13724069   CORRESPONDENCE DATA Fax Number:   Phone: 9724808805   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724808805   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724808800   Email: linda.mosweny@hittgaines.com   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724508270   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5	Name Execution Date					
Yuan Lin 12/20/2012   Okwan Kwon 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   Amit Sabne 12/20/2012   RECEIVING PARTY DATA 12/20/2012   Street Address: 2701 San Tomas Expressway   City: Santa Clara   State/Country: CALIFORNA   Postal Code: 95050   PROPERTY NUMBERS Total: 1 Image: Street Address   CORRESPONDENCE DATA 13724089   CORRESPONDENCE DATA 13724089   Fax Number: 972480800   Email: Inda mcsweeny@hittgaines.com   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 972480800   Email: Inda mcsweeny@hittgaines.com   Correspondent Name: Hitt Gainess P.C./Nudia   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5 source=Assignment_signed#page1.tif   source=Assignment_signed#page2.tif Source=Assignment_signed#page2.tif   source=Assignment_signed#page2.tif Source=Assignment_signed#page2.tif	Jaydeep Marathe				12/20/2012	
Okwan Kwon 12/20/2012   Amit Sabne 12/21/2012   RECEIVING PARTY DATA 12/21/2012   Name: Nvidia   Street Address: 2701 San Tomas Expressway   City: Santa Clara   State/Country: CALIFORNIA   Postal Code: 395050   PROPERTY NUMBERS Total: 1   Property Type Number   Application Number: 13724089   CORRESPONDENCE DATA 13724089   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724808865   Correspondent Name: Hitt Gainess P. C./Nvidia   Address Line 1: Inda. mcsweeny@hittgaines.com   Correspondent Name: P.O. Box 832570   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5 source=Assignment_signed#page1.tif   source=Assignment_signed#page3.tif source=Assignment_signed#page3.tif					12/20/2012	
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City: Santa Clara   State/Country: CALIFORNIA   Postal Code: 95050   PROPERTY NUMBERS Total: 1 Image: Comparison of the second sec	Name:	Nvidia				
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Postal Code: 95050   PROPERTY NUMBERS Total: 1   Property Type Number   Application Number: 13724089   CORRESPONDENCE DATA   Fax Number: 9724808865   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724808800   Email: linda.mcsweeny@hittgaines.com   Correspondent Name: Hitt Gainess P. C./Nvidia   Address Line 1: P.O. Box 832570   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5 source=Assignment_signed#page3.tif   source=Assignment_signed#page3.tif source=Assignment_signed#page3.tif	City:					
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Property Type Number   Application Number: 13724089   CORRESPONDENCE DATA   Fax Number: 9724808865   Correspondence will be sent via US Mail when the fax attempt is unsuccessful.   Phone: 9724808800   Email: Inda.mcsweeny@hittgaines.com   Correspondent Name: Hitt Gainess P.C./Nvidia   Address Line 1: P.O. Box 832570   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5 source=Assignment_signed#page1.tif   source=Assignment_signed#page2.tif source=Assignment_signed#page4.tif	Postal Code:	95050				
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Phone: 9724808800   Email: linda.mcsweeny@hittgaines.com   Correspondent Name: Hitt Gainess P.C./Nvidia   Address Line 1: P.O. Box 832570   Address Line 4: Richardson, TEXAS 75083   NAME OF SUBMITTER: David H. Hitt   Total Attachments: 5 source=Assignment_signed#page1.tif   source=Assignment_signed#page2.tif source=Assignment_signed#page3.tif   source=Assignment_signed#page3.tif source=Assignment_signed#page3.tif	Fax Number:	9724808	8865			
Email:linda.mcsweeny@hittgaines.comCorrespondent Name:Hitt Gainess P.C./NvidiaAddress Line 1:P.O. Box 832570Address Line 4:Richardson, TEXAS 75083NAME OF SUBMITTER:David H. HittTotal Attachments: 5David H. Hittsource=Assignment_signed#page1.tifsource=Assignment_signed#page2.tifsource=Assignment_signed#page3.tifsource=Assignment_signed#page3.tifsource=Assignment_signed#page4.tifdavid H. Hitt	Correspondence will be	sent via US Má	ail when	the fax attempt is unsuccessful.		
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source=Assignment_signed#page1.tif source=Assignment_signed#page2.tif source=Assignment_signed#page3.tif source=Assignment_signed#page4.tif	NAME OF SUBMITTER:					

Attorney Docket No. SC-12-0438-US1

Serial No.

#### ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below; and

WHEREAS, NVIDIA, a corporation organized and existing under the laws of the State of Delaware, with a place of business at 2701 San Tomas Expressway, Santa Clara, CA 95050 U.S.A, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said NVIDIA, its successors and assigns, my entire right, title and interest in and to the said invention and in to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said NVIDIA, as assignee of my entire right, title and interest.

I also hereby sell and assign to NVIDIA, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said NVIDIA, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said NVIDIA, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set hand and seal this day and year;

TITLE OF INVENTION	SYSTEM AND METHOD FOR ALLOCATING MEMORY OF DIFFERING PROPERTIES TO SHARED DATA OBJECTS
SIGNATURE OF INVENTOR AND NAME	Jaydeep Marathe
CITY AND STATE	Santa Clara, California
DATE SIGNED	12/20/2012

TITLE OF INVENTION	SYSTEM AND METHOD FOR ALLOCATING MEMORY OF DIFFERING PROPERTIES TO SHARED DATA OBJECTS
SIGNATURE OF INVENTOR AND NAME	<u>Gihekuchant</u> Gautam Chakrabarti
CITY AND STATE	Santa Clara, California
DATE SIGNED	12/20/2012

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## SC-12-0438-US1

# Page 2

TITLE OF INVENTION	SYSTEM AND METHOD FOR ALLOCATING MEMORY OF DIFFERING PROPERTIES, TO SHARED DATA OBJECTS
SIGNATURE OF INVENTOR AND NAME	
CITY AND STATE	Santa Clara, California
DATE SIGNED	12(20/2012

TITLE OF INVENTION	SYSTEM AND METHOD FOR ALLOCATING MEMORY OF DIFFERING PROPERTIES TO SHARED DATA OBJECTS
SIGNATURE OF INVENTOR AND NAME	Okwan Kwon
CITY AND STATE	West Lafayette, IN
DATE SIGNED	12/20/2012

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TITLE OF INVENTION	SYSTEM AND METHOD FOR ALLOCATING MEMORY OF DIFFERING PROPERTIES TO SHARED DATA OBJECTS
SIGNATURE OF INVENTOR	Alfabric
AND NAME CITY AND STATE	West Lafayette, IN
DATE SIGNED	12/21/2012

**RECORDED: 12/21/2012**