

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Li ZHOU</td> <td>02/25/2013</td> </tr> <tr> <td>Sandeep UTTAMCHANDANI</td> <td>02/26/2013</td> </tr> <tr> <td>Yizheng CHEN</td> <td>02/25/2013</td> </tr> </tbody> </table>		Name	Execution Date	Li ZHOU	02/25/2013	Sandeep UTTAMCHANDANI	02/26/2013	Yizheng CHEN	02/25/2013		
Name	Execution Date										
Li ZHOU	02/25/2013										
Sandeep UTTAMCHANDANI	02/26/2013										
Yizheng CHEN	02/25/2013										
RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>VMware, Inc.</td> </tr> <tr> <td>Street Address:</td> <td>3401 Hillview Avenue</td> </tr> <tr> <td>City:</td> <td>Palo Alto</td> </tr> <tr> <td>State/Country:</td> <td>CALIFORNIA</td> </tr> <tr> <td>Postal Code:</td> <td>94304</td> </tr> </table>		Name:	VMware, Inc.	Street Address:	3401 Hillview Avenue	City:	Palo Alto	State/Country:	CALIFORNIA	Postal Code:	94304
Name:	VMware, Inc.										
Street Address:	3401 Hillview Avenue										
City:	Palo Alto										
State/Country:	CALIFORNIA										
Postal Code:	94304										
PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13778441</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13778441						
Property Type	Number										
Application Number:	13778441										
CORRESPONDENCE DATA											
Fax Number: 6504274818 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 650-427-3096 Email: ipadmin@vmware.com, rsmith@pattersonsheridan.com Correspondent Name: VMware, Inc. Address Line 1: 3401 Hillview Avenue Address Line 2: Danile Lin Address Line 4: PALO ALTO, CALIFORNIA 94304											
ATTORNEY DOCKET NUMBER:	B048										
NAME OF SUBMITTER:	Rebecca J. Smith										
Total Attachments: 6 source=B048_Assignments#page1.tif											

CH \$40.00 13778441

source=B048\_Assignments#page2.tif  
source=B048\_Assignments#page3.tif  
source=B048\_Assignments#page4.tif  
source=B048\_Assignments#page5.tif  
source=B048\_Assignments#page6.tif

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, an ASSIGNOR named below,

Li ZHOU	of	Campbell, CA
Sandeep UTTAMCHANDANI	of	Cupertino, CA
Yizheng CHEN	of	Palo Alto, CA

hereby sell, assign, transfer and set over to

ASSIGNEE: VMware, Inc., a Delaware corporation, having a principal place of business at 3401 Hillview Avenue, Palo Alto, California 94304, U.S.A. (VMware), its successors, assigns and legal representatives,

my entire right, title and interest throughout the world, including all rights to claim priority, in and to the invention(s) disclosed in:

☒ U.S. Patent Application executed on or about the date of this Assignment,  
☐ U.S. Patent Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
☐ U.S. Provisional Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
☐ International Application No.: PCT/\_\_\_\_\_, filed on \_\_\_\_\_;

and

ENTITLED: ADAPTIVE TASK SCHEDULING OF HADOOP IN A VIRTUALIZED ENVIRONMENT

and identified by Attorney Docket Number: B048

and naming inventor(s) as follows:

INVENTOR(S): Li ZHOU  
Sandeep UTTAMCHANDANI  
Yizheng CHEN

including without limitation, my entire right, title and interest in and to any and all United States and foreign applications (including any and all provisional, international, regional and foreign national applications) for said invention(s), including divisionals, continuations, continuations-in-part, renewals, substitutes and extensions thereof, and in and to any and all patents of every country or region that may be granted or have been granted for said invention(s), including any reissues and reexaminations thereof –the foreign applications including, without limitation, all applications for patents, utility models and designs which may hereafter be filed for the invention(s) in any country or countries foreign to the United States, and all forms of industrial property protection, including, without limitation, patents, utility models, inventor's certificates and designs which may be granted for the invention(s) in any country or countries foreign to the United States and all extensions, renewals and reissues thereof.


## ASSIGNMENT

I authorize ASSIGNEE to apply for patents of foreign countries for said invention(s); to claim all rights of priority without further authorization from me, which priority rights include rights derived from any United States application (provisional or otherwise) under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and to own in its own name all applications, all patents and inventor's certificates in all countries based on the invention(s).

I agree to execute any and all documents requested by ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their reasonable expense, in connection with filing and prosecution of any and all United States and foreign applications (including international, regional, and foreign national applications), enforcement of all patents, and maintenance of all rights in the invention(s), patents, inventor's certificates and applications for patents or inventor's certificates based on any of the invention(s); and generally to do everything possible to aid ASSIGNEE, its successors, assigns, legal representatives, and nominees, at their request and reasonable expense, in obtaining, enforcing, and maintaining patents and inventor's certificates for said invention(s) in all countries. In particular, I agree to provide to ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their request and at their reasonable expense, all information known to or ascertainable by me and all documents and other materials and objects pertaining to the invention(s) that are in the possession of or accessible to me; and further, at any trial, hearing, deposition or other legal proceeding where I am called as a witness by ASSIGNEE, its successors, assigns, legal representatives, or nominee, I agree to testify to all facts pertaining to the invention(s) for which I am competent to testify.

I hereby covenant that I have full right to convey the entire interest that is being assigned by this Assignment, and that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

I authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue any U.S. Letters Patent or any other patent or property right that may be granted for said invention(s) to ASSIGNEE, its successors or assigns.

Executed on 02/25/2013, by   
Date Li ZHOU

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Sandeep UTTAMCHANDANI

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Yizheng CHEN

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, an ASSIGNOR named below,

LI ZHOU	of	Campbell, CA
Sandeep UTTAMCHANDANI	of	Cupertino, CA
Yizheng CHEN	of	Palo Alto, CA

hereby sell, assign, transfer and set over to

ASSIGNEE: VMware, Inc., a Delaware corporation, having a principal place of business at 3401 Hillview Avenue, Palo Alto, California 94304, U.S.A. (VMware), its successors, assigns and legal representatives,

my entire right, title and interest throughout the world, including all rights to claim priority, in and to the invention(s) disclosed in:

☒ U.S. Patent Application executed on or about the date of this Assignment,  
\_\_\_ U.S. Patent Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
\_\_\_ U.S. Provisional Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
\_\_\_ International Application No.: PCT/\_\_\_\_\_, filed on \_\_\_\_\_;

and

ENTITLED: ADAPTIVE TASK SCHEDULING OF HADOOP IN A VIRTUALIZED ENVIRONMENT

and identified by Attorney Docket Number: B048

and naming inventor(s) as follows:

INVENTOR(S):     Li ZHOU  
                      Sandeep UTTAMCHANDANI  
                      Yizheng CHEN

including without limitation, my entire right, title and interest in and to any and all United States and foreign applications (including any and all provisional, international, regional and foreign national applications) for said invention(s), including divisionals, continuations, continuations-in-part, renewals, substitutes and extensions thereof, and in and to any and all patents of every country or region that may be granted or have been granted for said invention(s), including any reissues and reexaminations thereof --the foreign applications including, without limitation, all applications for patents, utility models and designs which may hereafter be filed for the invention(s) in any country or countries foreign to the United States, and all forms of industrial property protection, including, without limitation, patents, utility models, inventor's certificates and designs which may be granted for the invention(s) in any country or countries foreign to the United States and all extensions, renewals and reissues thereof.

## ASSIGNMENT

I authorize ASSIGNEE to apply for patents of foreign countries for said invention(s); to claim all rights of priority without further authorization from me, which priority rights include rights derived from any United States application (provisional or otherwise) under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and to own in its own name all applications, all patents and inventor's certificates in all countries based on the invention(s).

I agree to execute any and all documents requested by ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their reasonable expense, in connection with filing and prosecution of any and all United States and foreign applications (including international, regional, and foreign national applications), enforcement of all patents, and maintenance of all rights in the invention(s), patents, inventor's certificates and applications for patents or inventor's certificates based on any of the invention(s); and generally to do everything possible to aid ASSIGNEE, its successors, assigns, legal representatives, and nominees, at their request and reasonable expense, in obtaining, enforcing, and maintaining patents and inventor's certificates for said invention(s) in all countries. In particular, I agree to provide to ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their request and at their reasonable expense, all information known to or ascertainable by me and all documents and other materials and objects pertaining to the invention(s) that are in the possession of or accessible to me; and further, at any trial, hearing, deposition or other legal proceeding where I am called as a witness by ASSIGNEE, its successors, assigns, legal representatives, or nominee, I agree to testify to all facts pertaining to the invention(s) for which I am competent to testify.

I hereby covenant that I have full right to convey the entire interest that is being assigned by this Assignment, and that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

I authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue any U.S. Letters Patent or any other patent or property right that may be granted for said invention(s) to ASSIGNEE, its successors or assigns.

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Li ZHOU

Executed on 2/26/13, by Sandeep UTTAMCHANDANI  
Date

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Yizheng CHEN

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, an ASSIGNOR named below,

Li ZHOU	of	Campbell, CA
Sandeep UTTAMCHANDANI	of	Cupertino, CA
Yizheng CHEN	of	Palo Alto, CA

hereby sell, assign, transfer and set over to

ASSIGNEE: VMware, Inc., a Delaware corporation, having a principal place of business at 3401 Hillview Avenue, Palo Alto, California 94304, U.S.A. (VMware), its successors, assigns and legal representatives,

my entire right, title and interest throughout the world, including all rights to claim priority, in and to the invention(s) disclosed in:

☒ U.S. Patent Application executed on or about the date of this Assignment,  
\_\_\_ U.S. Patent Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
\_\_\_ U.S. Provisional Application No.: \_\_\_\_\_, filed on \_\_\_\_\_;  
\_\_\_ International Application No.: PCT/\_\_\_\_\_, filed on \_\_\_\_\_;

and

ENTITLED: ADAPTIVE TASK SCHEDULING OF HADOOP IN A VIRTUALIZED ENVIRONMENT

and identified by Attorney Docket Number: B048

and naming inventor(s) as follows:

INVENTOR(S): Li ZHOU  
Sandeep UTTAMCHANDANI  
Yizheng CHEN

including without limitation, my entire right, title and interest in and to any and all United States and foreign applications (including any and all provisional, international, regional and foreign national applications) for said invention(s), including divisionals, continuations, continuations-in-part, renewals, substitutes and extensions thereof, and in and to any and all patents of every country or region that may be granted or have been granted for said invention(s), including any reissues and reexaminations thereof –the foreign applications including, without limitation, all applications for patents, utility models and designs which may hereafter be filed for the invention(s) in any country or countries foreign to the United States, and all forms of industrial property protection, including, without limitation, patents, utility models, inventor's certificates and designs which may be granted for the invention(s) in any country or countries foreign to the United States and all extensions, renewals and reissues thereof.

# ASSIGNMENT

I authorize ASSIGNEE to apply for patents of foreign countries for said invention(s); to claim all rights of priority without further authorization from me, which priority rights include rights derived from any United States application (provisional or otherwise) under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and to own in its own name all applications, all patents and inventor's certificates in all countries based on the invention(s).

I agree to execute any and all documents requested by ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their reasonable expense, in connection with filing and prosecution of any and all United States and foreign applications (including international, regional, and foreign national applications), enforcement of all patents, and maintenance of all rights in the invention(s), patents, inventor's certificates and applications for patents or inventor's certificates based on any of the invention(s); and generally to do everything possible to aid ASSIGNEE, its successors, assigns, legal representatives, and nominees, at their request and reasonable expense, in obtaining, enforcing, and maintaining patents and inventor's certificates for said invention(s) in all countries. In particular, I agree to provide to ASSIGNEE, its successors, assigns, legal representatives, or nominees, at their request and at their reasonable expense, all information known to or ascertainable by me and all documents and other materials and objects pertaining to the invention(s) that are in the possession of or accessible to me; and further, at any trial, hearing, deposition or other legal proceeding where I am called as a witness by ASSIGNEE, its successors, assigns, legal representatives, or nominee, I agree to testify to all facts pertaining to the invention(s) for which I am competent to testify.

I hereby covenant that I have full right to convey the entire interest that is being assigned by this Assignment, and that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

I authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue any U.S. Letters Patent or any other patent or property right that may be granted for said invention(s) to ASSIGNEE, its successors or assigns.

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Li ZHOU

Executed on \_\_\_\_\_, by \_\_\_\_\_  
Date Sandeep UTTAMCHANDANI

Executed on 02/25/2013, by Yizheng Chen  
Date Yizheng CHEN