504754554 01/30/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4801282

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ROBERT L. FAIR	01/29/2018
THOMAS R. VANDERPUTTEN	01/26/2018

RECEIVING PARTY DATA

Name:	EMC IP HOLDING COMPANY LLC	
Street Address:	176 SOUTH STREET	
City:	HOPKINTON	
State/Country:	MASSACHUSETTS	
Postal Code:	01748	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15883960

CORRESPONDENCE DATA

Fax Number: (801)328-1707

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: 801-533-9800 Email: vso@wnlaw.com

Correspondent Name: **WORKMAN NYDEGGER** Address Line 1: 60 EAST SOUTH TEMPLE

Address Line 2: **SUITE 1000**

Address Line 4: SALT LAKE CITY, UTAH 84111

ATTORNEY DOCKET NUMBER:	16192.202	
NAME OF SUBMITTER:	PETER F. MALEN JR.	
SIGNATURE:	/Peter F. Malen Jr./	
DATE SIGNED:	01/30/2018	

Total Attachments: 4

source=16192-202_Assignment#page1.tif source=16192-202 Assignment#page2.tif source=16192-202_Assignment#page3.tif source=16192-202_Assignment#page4.tif

> **PATENT REEL: 044776 FRAME: 0756** 504754554

ASSIGNMENT

WHEREAS, I/we, Robert L. Fair and Thomas R. Vanderputten have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled SPARSE CREATION OF PERCLIENT PSEUDOFS IN NETWORK FILESYSTEM WITH LOOKUP HINTING, the specification of which:

[x]	is being executed on even date herewith and is about to be filed in the United States Patent Office;		
[]	was filed on	as U.S. Application No.	;
[]	was patented under U.S. Patent N	Noon	·

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of Delaware and having a usual place of business at 176 South Street, Hopkinton, Massachusetts 01748 desires to acquire an interest therein in accordance with agreements duly entered into with me/us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I/we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me/us had this assignment and sale not been made; I/we hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I/We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, I/we hereby further agree for myself/ourselves and my/our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements

and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, I/we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I/we have hereunto set my/our hands and affixed my/our seals as set forth below:

Date: 124 218 tla use inventor's Signature Print full name of inventor: Robert L. Fair Residence: Cary, North Carolina Citizenship: United States of America Mailing Address: 107 Lamlash Lane Cary, North Carolina 27511 United States of America - S.Fir (name) La la h Lo. Ca nc 7 11 (name) whose residential address was persona y present and did see Rt - F (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of first witness) Signed at 1 1 5 1 NC (location of witness signature) on this day 2 Jan v of 20 . (date of signature) læ. (name) whose residential address is was personally present and did see (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of second witness) Signed at (location of witness signature) of 20 18. (date of signature) on this day

> PATENT REEL: 044776 FRAME: 0759

Print full name of inventor: Thomas R. Vanderputten Residence: Chapel Hill, North Carolina Citizenship: United States of America Mailing Address: 201 Newberry Lane Chapel Hill, North Carolina 27516 United States of America Ke us Desai (name) whose residential address 712 Huskett Count Cox NC-27519 was personally present an is see Thomas Variable ulfor name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of first witness) Signed at [P] (location of witness signature) on this day [S] 26 of 20 15 (date of signature) of 20 🎮 (date of signature) I RAGA VEN R M NE INCHEZHIA name) whose residential address was personally present and did see Thora \sim 0716f (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of second witness)

Inventor's signature

PATENT **REEL: 044776 FRAME: 0760**

on this day of 20 \& (date of signature)

(location of witness signature)

Signed at R

RECORDED: 01/30/2018