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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ANTONY RICHARDS	01/17/2020
DOUGLAS KILPATRICK	01/22/2020

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:	16750713

CORRESPONDENCE DATA

Fax Number: (216)696-8731

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: 216-696-8730

Email: epas@thepatentattorneys.com
Correspondent Name: AMIN, TUROCY & WATSON, LLP

Address Line 1: 200 PARK AVENUE

Address Line 2: SUITE 300

Address Line 4: BEACHWOOD, OHIO 44122

ATTORNEY DOCKET NUMBER:	117767.01/DELLP346US
NAME OF SUBMITTER:	NATHANIEL A. GILDER
SIGNATURE:	/Nathaniel A. Gilder/
DATE SIGNED:	01/23/2020

Total Attachments: 4

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PATENT REEL: 051601 FRAME: 0620

PATENT/Joint Assignment EMC Docket No.: 117767.01

ASSIGNMENT

WHEREAS, we, Antony Richards and Douglas Kilpatrick 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 <u>CLUSTER GROUP CHANGE</u> <u>PREPARATION TECHNIQUES</u>, 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	Noon	

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State 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 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, 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 us had this assignment and sale not been made; 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. 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, we hereby further agree for ourselves and 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

PATENT REEL: 051601 FRAME: 0621

PATENT/Joint Assignment EMC Docket No.: 117767.01

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

AND, 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, we have hereunto set our hands and affixed our seals as set forth below:

Date: 17/5an/2020	4/-
,	Inventor's Signature
Print full name of first inventor:	Antony Richards
Residence:	Rose Bay, Australia
Citizenship:	Australia
Mailing Address:	1 Richmond Rd.
	Rose Bay, Australia 2029
is 37/ Nov Joy Hear	(ngme) whose residential address
was personally present and did see	ra
A promise to the second se	
	gnature of first witness)
Signed at <u>33 Bungla rd</u> (1 on this day <u>17 Januar</u> of 20	ocation of witness signature)
on this day 17 January of 20	20 (date of signature)
Immonto Daviel Noch is 37 Brogga Gd. Belley	Girges (name) whose residential address
was personally present and did seeA_bea_ the assignment) who is personally known to n	- Cinards (name of person signing
Signed at 33 Brylo Gol, Bills	(location of witness signature)
on this day <u>January</u> 11 of 20	120 (date of signature)

Date: 1/2/2020	
	Inventor's Signature
Print full name of second inventor:	Douglas Kilpatrick
Residence:	Seattle, WA
Citizenship:	United States
Mailing Address:	4406 23rd Ave. SW
	Seattle, WA 98106
I Arlene M. Belis 23621 7 ⁴⁶ Ave w & 646 e11, w was personally present and did see <u>Dougles</u> the assignment) who is personally known to	「レン (name) whose residential address <u>タ 980フ</u> <u> ヒルクロイレン (</u> name of person signing me, execute the above assignment.
Chlene M Berry (signature of first witness)
Signed at <u>SoS 151 AVc St, SecHle, Va</u>	(location of witness signature)
on this day <u>Johnaky 22 </u>	20 <u>2</u> ん. (date of signature)
I Mark Ranger is 3905 4 Aur NE, Seatile,	(name) whose residential address
was personally present and did see (2014) the assignment) who is personally known to	kilpetrick (name of person signing me, execute the above assignment.
	(signature of second witness)
Signed at <u>505 /st Ave S Seath</u> l	(location of witness signature)
on this day <u>Januery</u> 22 of	

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