504136621 12/20/2016 PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT			
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CONVEYING PARTY D	ΑΤΑ				
		Name Execution	Date		
ASSAF NATANZON		12/01/2016			
_EEHOD BARUCH		12/13/2016			
RON BIGMAN		12/07/2016			
AMIT LIEBERMAN		12/01/2016			
JEHUDA SHEMER		12/05/2016			
RECEIVING PARTY DA					
Name:		P HOLDING COMPANY LLC			
Street Address:	176 SC	DUTH STREET			
City:	НОРКІ	NTON			
State/Country:	MASSA	MASSACHUSETTS			
Postal Code:	01748				
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ASSIGNMENT

WHEREAS, we, Assaf Natanzon, Leehod Baruch, Ron Bigman, Amit Lieberman and Jehuda Shemer, 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 INDEPENDENT PARALLEL ON DEMAND RECOVERY OF DATA REPLICAS IN A STORAGE SYSTEM and identified as Attorney Docket No. EMC-350PUS, the specification of which:

- 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.;

 $\leq \frac{1}{2}$

[] was patented under U.S. Patent No. _____ on _____

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a Delaware limited liability company 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;

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

> PATENT REEL: 040687 FRAME: 0286

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;

AND, we hereby authorize attorneys that we have appointed and EMC IP Holding Company LLC to insert here in parenthesis (15/380 033 bec. 15, 2016) the application number and filing date of said Application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

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

PATENT Any, Dekt. No.: EMC-350PUS Client Case No.: EMC-16-0653

Date: 1/17

Anventor's Signature

Print full name of first inventor:

Residence:

Citizenship:

israel

Mailing Address:

Same as above

Asset Natanzon

Tel Aviv 69395 ISRAEL

Levanon 95

and created in the second s Ĭ, rae Topno

was personally presented and did see Assa Natanzon who is personally known to me, execute the above assignment.

Harr	· · · · · · · · · · · · · · · · · · ·	ignature of first wi	tness)
Signed at	<u>Mandeliae</u>		(location of witness signature)
on this day		2	(date of witness signature)

 $\frac{N}{R}$ (name of second witness), whose residential address is Ĩ., 240 Shirton lorgel St. Hustzling & was personally presented and did see Assa Natanzon who is personally known to me, execute the

above assignment.

Michal	4 On	v. (signature	of second	witness)
Signed at No 4	$^{\prime}$ $, P_{M}$	<u></u>		(location of witness signature)
on this day	<u>) G.C.</u>	LUV Manual Manual Manual Manual Manual Manual Manual Manual	20 <u>1 (</u> 2	(date of witness signature)

Page 3 of 7

PATENT Atty. Dekt. No.: EMC-350PUS Client Case No.: EMC-16-0653

Date: <u>12.12.2.016</u>

Barneh

Inventor's Signature

Print full name of first inventor:

Residence:

Zabotinski 48 Rishon Leziyon ISRAEL

Leehod Baruch

Citizenship:

Israel

Mailing Address:

Same as above

(name of first witness), whose residential address is lo israel icotis and the second

was personally presented and did see Leehod Baruch who is personally known to me, execute the above assignment.

	a	(signature	of first wi	iness)
Signed al	Eme Her	2/129		(location of witness signature)
on this day	13/12		_, 20 <u>_16</u>	(date of witness signature)

I, Classe Citatalla (name of second witness), whose residential address is

<u>DTL' MARLA 246 TP1-14USU</u> was personally presented and did see <u>Leehod Baruch</u> who is personally known to me, execute the above assignment.

(signature of second witness) 1. Signed at <u>EAC</u> Herzling (location of witness signature) on this day 3/12, 2016 (date of witness signature)

Page 4 of 7

		PATENT
Atty, Dck	d. No.:	EMC-350PUS
Client Ca	se No.:	EMC-16-0653

R.C.S. 2016 dic 01 30 Date:

Inventor's Signature

Print full name of first inventor:

and a second second

Residence:

Citizenship:

Israel

ISRAEL

Ron Bigman

Shmaryahu Levin 2 Holon 6852114

Mailing Address:

Same as above

(name of first witness), whose residential address is

was personally presented and did see <u>Ron Bigman</u> who is personally known to me, execute the above assignment.

(signature of first witness) FALC (location of witness signature) Signed at $\frac{1}{4}$, $\frac{2016}{6}$ (date of witness signature) Weeknerd on this day ____

(name of second witness), whose residential address is

was personally presented and did see <u>Ron Bigman</u> who is personally known to me, execute the above assignment.

i.,	ž.			×(signs	uture of secon	d witness)
Signed				2/1/2	<i></i>	(location of witness signature)
on this	day	<u>e6</u>	<u>ne Sch 25/</u>	<u>Ne cember /</u>	<u>20_//e</u>	(date of witness signature)

PATENT REEL: 040687 FRAME: 0290

PATENT Any. Dokt. No.: EMC-350PUS Client Case No.: EMC-16-0653

i ji or Date:

Inventor's Signature

Print full name of first inventor:

Residence:

13 Ben Gurion Raanana 43360 ISRAEL

Amit Lieberman

Citizenship:

Israel

1. 102

Mailing Address:

Same as above

<u>Toure ts Vi</u> (name of first witness), whose residential address is Etainy str. 7 Pannal Gan, Israel

was personally presented and did see Amit Lieberman who is personally known to me. execute the above assignment.

(signature of first witness) Hertalia Israel (location of witness signature) Signed at (date of witness signature) \mathbb{D} CLANKS 12 on this day

(name of second witness), whose residential address is

Ya 12 more 24 Yeeko was personally presented and did see <u>Amit Lieberman</u> who is personally known to me, execute the above assignment.

(signature of second witness) Signed at <u>Here #210, Zsecred</u> (location of witness signature) / Doc. 0. https:// , 20 / 6 (date of witness signature) on this day

Page 6 of 7

PATENT REEL: 040687 FRAME: 0291

PATENT Aty. Dckt. No.: EMC-350PUS Hient Case No.: EMC-16-0653

 $\sum \omega i \mathcal{L}$ Date:

Maglentor's Signature

Print full name of first inventor:

Residence:

30.30

Citizenship:

Israel

ISRAEL

Mailing Address:

Same as above

Jehuda Shemer

Kfar Saba 44349

Brener 7/7

in the second (name of first witness), whose residential address is £3,

was personally presented and did see <u>Jehuda Shemer</u> who is personally known to me, execute the above assignment.

		(signature of first witness)
Signed at	Jungmon Jung	(location of witness signature)
on this day	Nor es	. 20 A c (date of witness signature)

Slaví K (name of second witness), whose residential address is 4 Mi

1. Shul	C Normar_	(signature of second witness)
Signed at	Jurah 119 a	(location of witness signature)
on this day	000 25	20 <u>1</u> 6 (date of witness signature)

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Page 7 of 7

RECORDED: 12/20/2016