03-31-2005		
9/15/04	Dacket No.: EMS-08401	
To the Director of the U.S. Patern 10286	ocuments or the new address(es) below.	
1. Name of conveying party(ies)/Execution Date(s):	s of receiving party(ies):	
John Kemeny Michael R. McCarthy Bradford B. Glade David Harvey James A. Wentworth, III William B. Whalen Matthew Waxman	Name: EMC Corporation Internal Address: Street Address: 176 South Street City: Hopkinton	
Execution Date(s): September 8, 2004	State: Massachusetts	
Additional name(s) of conveying party(ies) attached? Yes No	Country: U.S. Zip: 01748	
3. Nature of conveyance:	,	
Assignment	Additional name(s) & address(es) attached? ☐ Yes ☒ No	
Executive Order 9424, Confirmatory License Other:	10941671	
4. Application or patent number(s): A. Patent Application No.(s)	s document is being filed together with a new application B. Patent No.(s)	
Additional numbers atts	chcd? 🗌 Yes 🛛 No	
 Name and address to whom correspondence concerning document should be mailed: 	6. Total number of applications and patents involved: 1	
Name: Patent Group	7. Total fee (37 CFR 1.21(h) & 3.41)	
Internal Address: Choate, Hall & Stewart	Authorized to be charged to deposit account	
Street Address: Exchange Place 53 State Street	☐ None required (government interest not affecting title)	
City: Boston	8. Payment Information	
State: Massachusetts Zip: 02109-2804	a. Credit Card Last 4 Numbers	
Fax Number: 617-248-4000	Expiration Date b. Deposit Account Number	
	Authorized User Name	
9. Signature:	0.	
Anne E. Saturnelli, Reg. No. 41,290 Name of Person Signing Sign	September 15, 2004 Date	
Total number of pages including cover sheet, attachments, and documents: 9		
Documents to be reforded (including cover sheet) should be faxed to (703) 306-5995, or mailed to: Mall Stop Assignment Recordation Services		
23/2004 ECROPER 00000155 10941671 Director of the U.S. Patent and Trademark Office P.O. Box 1450, Alexandria, VA 22313-1450		

PAGE 3/11 * RCVD AT 3/29/2005 1:04:41 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7463140 * CSID:617 248 4000 * DURATION (mm-ss):03-04

Attorney Docket No.: EMS-08401 EMC Docket No.: EMC-04-115

ASSIGNMENT

WHEREAS, we, John Kemeny, Michael R. McCarthy, Bradford B. Glade, David Harvey, James A. Wentworth, III, William B. Whalen and Matthew Waxman 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 titled TWO-PHASE SNAP COPY, the specification of which:

[X]	is being executed on even date he States Patent Office;	rewith and is about to be fi	led in the	United
[]	was filed on	as U.S. Application No		;
[]	was patented under U.S. Patent N	oon	4.	•
	CREAS, EMC Corporation (hereinal		_	

existing under the laws of the Commonwealth of Massachusetts 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,

3739345v1

PAGE 4/11 * RCVD AT 3/29/2005 1:04:41 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7463140 * CSID:617 248 4000 * DURATION (mm-ss):03-04

PATENT REEL: 015872 FRAME: 0481

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, 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: 9/8/04	- John Kerneny
	Inventor's Signature
Print full name of first inventor:	John Kemeny
Residence:	36 Robinson Road
	Westford, MA 01886
Citizenship:	U.S.
Mailing Address:	Same
STATE/OOMANONISHE AT TILOF AND	
STATE/COMMONWEALTH OF M COUNTY OF	assachusetts
O T	
and the last	
On this 7 day of 200 hown to n	g, 2004, then personally appeared before me the ne through satisfactory evidence of identification
employee identification card; []	driver's license; [] (other)
to be the person whose name is subscrib	ed to the foregoing Assignment and acknowledged that
ne executed the same as his free act and	deed for the purposes therein contained.
	Finda N. Lleston
	Notary Public
	Print Name: LWla N. Dilva
	My Commission expires 2/18/26//

Date: 9/8/2004	_ Mul R Abolet
	Inventor's Signature
Print full name of second inventor:	Michael R. McCarthy
Residence:	19 Monahan Lane
	Mansfield, MA 02048
Citizenship:	U.S.A.
Mailing Address:	Same
On this day of	Massachusetts Old_, 2004, then personally appeared before me the lown to me through satisfactory evidence of identification driver's license; [] (other) bed to the foregoing Assignment and acknowledged that it deed for the purposes therein contained. Notary Public Print Name:

Date: 9/8/2004	Bulos B. Rue
	Inventor's Signature
Print full name of third inventor:	Bradford B. Glade
Residence:	109 East Bare Hill Road
	Harvard, MA 01451
Citizenship:	U.Ş.A.
Mailing Address:	Same
STATE/COMMONWEALTH OF Massachusetts COUNTY OF	

Date: 9/8/04	Den li Harciey
·	Inventor's Signature
Print full name of fourth inventor:	David Harvey
Residence:	36 Pine Crest Road
	Newton, MA 02459
Citizenship:	U.S.A.
Mailing Address:	Same
On this day of, 2 aboye-named David Harvey known to me thro employee identification card; [] driver'	2004, then personally appeared before me the ugh satisfactory evidence of identification is license; [] (other)

My Commission expires 2 / 18/2011

CHOATE HALL & STEWART 6172484000

Attorney Docket No.: EMS-08401 EMC Docket No.: EMC-04-115

Signature

Date:

Print full name of fifth inventor:

James A. Wentworth, III

Residence:

10 Leblanc Road

Shrewsbury, MA 01545

Citizenship:

U.S.A.

Mailing Address:

Same

STATE/COMMONWEALTH OF

Massachusetts

COUNTY OF

ou_, 2004, then personally appeared before me the above-named James A Wentworth, III known to me through satisfactory evidence of identification [| employee identification card; [] driver's license; [] (other)

to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the

purposes therein contained.

Print Name:

My Commission expires 2/18/20/

Date: 9/8/04	William B. Whale
	Inventor's Signature
Print full name of sixth inventor:	William B. Whalen
Residence:	58 Hunting Avenue
	Shrewsbury, MA 01545
Citizenship:	U.S.A.
Mailing Address:	Same
above-named William B. Whalen known to me [] employee identification card; [] driver's to be the person whose name is subscribed to the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the same as his free act and deed for the executed the exec	004, then personally appeared before me the ethrough satisfactory evidence of identification is license; [] (other)he foregoing Assignment and acknowledged that

My Commission expires 0 / 18 / 20 //

Date: 9/8/04	Hat Ware
	Inventor's Signature
Print full name of seventh inventor:	Matthew Waxman
Residence:	1405 Beacon Street, Apt. 1
	Brookline, MA 02446
Citizenship:	Canada
Mailing Address:	Same
above-named Matthew Waxman known to me employee identification card; [] driver	2004, then personally appeared before me the through satisfactory evidence of identification s license; [] (other)

RECORDED: 09/15/2004