

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7655659

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	DELL PRODUCTS L.P.	10/31/2016
RECEIVING PARTY DATA		
Name:	DELL SOFTWARE INC.	
Street Address:	4 POLARIS WAY	
City:	ALISO VIEJO	
State/Country:	CALIFORNIA	
Postal Code:	92656	
PROPERTY NUMBERS Total: 1		
	Property Type	Number
	Application Number:	16189813
CORRESPONDENCE DATA		
Fax Number:	(435)252-1361	
<i>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.</i>		
Phone:	4355751383	
Email:	acorwell@mabr.com	
Correspondent Name:	ERIC L. MASCHOFF	
Address Line 1:	1389 CENTER DRIVE	
Address Line 2:	SUITE 300	
Address Line 4:	PARK CITY, UTAH 84098	
ATTORNEY DOCKET NUMBER:	Q3035.10061US02	
NAME OF SUBMITTER:	ERIC L. MASCHOFF	
SIGNATURE:	/Eric L. Maschoff/	
DATE SIGNED:	11/21/2022	
Total Attachments: 9		
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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4121114

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	DELL PRODUCTS L.P.	10/31/2016
RECEIVING PARTY DATA		
Name:	DELL SOFTWARE INC.	
Street Address:	4 POLARIS WAY	
City:	ALISO VIEJO	
State/Country:	CALIFORNIA	
Postal Code:	92656	
PROPERTY NUMBERS Total: 66		
Property Type	Number	
Patent Number:	7881544	
Patent Number:	7885988	
Patent Number:	7936932	
Patent Number:	7961959	
Patent Number:	7961960	
Patent Number:	7970216	
Patent Number:	7974478	
Patent Number:	8219534	
Patent Number:	8224831	
Patent Number:	8386443	
Patent Number:	8423520	
Patent Number:	8655898	
Patent Number:	8694466	
Patent Number:	8713583	
Patent Number:	8849773	
Patent Number:	8862559	
Patent Number:	8892528	
Patent Number:	8965852	
Patent Number:	9201890	
Patent Number:	9210044	

Property Type	Number
Patent Number:	9250819
Patent Number:	9251161
Patent Number:	9256609
Patent Number:	9262432
Patent Number:	9323778
Application Number:	13158289
Application Number:	13182145
Application Number:	13182230
Application Number:	13243965
Application Number:	13243985
Application Number:	13306878
Application Number:	13343924
Application Number:	13555534
Application Number:	13664658
Application Number:	13739731
Application Number:	13743191
Application Number:	13748743
Application Number:	13786759
Application Number:	13786781
Application Number:	13862911
Application Number:	13937150
Application Number:	13952062
Application Number:	14154961
Application Number:	14166641
Application Number:	14311485
Application Number:	14319136
Application Number:	14327006
Application Number:	14453121
Application Number:	14453150
Application Number:	14453158
Application Number:	14453165
Application Number:	14453173
Application Number:	14498597
Application Number:	14518063
Application Number:	14521035
Application Number:	14596186
Application Number:	14806072
Application Number:	14850096

Property Type	Number
Application Number:	14884583
Application Number:	14949731
Application Number:	14996608
Application Number:	15017079
Application Number:	15018809
Application Number:	15067976
Application Number:	15075526
Application Number:	15133824

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: 95015.00002

NAME OF SUBMITTER: RYAN M. ENCHELMAYER

SIGNATURE: /Ryan M. Enchelmayer/

DATE SIGNED: 10/31/2016

Total Attachments: 6

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U.S. PATENT AND TRADEMARK OFFICE

PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment") is made and entered into as of October 31, 2016 ("Effective Date"), by and between **Dell Products L.P.**, a Texas limited partnership ("Assignor"), and **Dell Software Inc.**, a Delaware corporation ("Assignee").

WHEREAS, Assignor is the sole and exclusive owner of the entire right, title and interest in, to and under the patents and patent applications set forth on Schedule A hereof (collectively, the "Patents"); and

WHEREAS, Assignor wishes to assign to Assignee, and Assignee wishes to acquire from Assignor, all right, title and interest to the Patents;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby irrevocably sells, conveys, assigns, transfers and delivers to Assignee its entire right, title and interest in and to the Patents, for the United States and for all foreign countries, and the inventions they claim (including subject matter capable of being reduced to a patent claim in a reissue or reexamination proceeding relating to any of the Patents and subject matter that could have been included as a claim in any of the Patents), and any and all continuations, divisionals, continuations-in-part, provisionals, reissues, reexaminations, extensions, international applications or foreign equivalents thereof which may be obtained therefrom, and the priority rights thereto, for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment had not been made, together with all income, royalties, or payments due or payable as of the Effective Date or thereafter, including, without limitation, all claims for damages by reason of past, present or future infringement or other unauthorized use of the Patents, with the right to sue for, and collect the same for its own use and enjoyment, and for the use and enjoyment of its successors, assigns, or other legal representatives. Assignor hereby requests the Commissioner for Patents in the United States Patent and Trademark Office, and the corresponding entities or agencies in any applicable foreign jurisdictions, to record and register Assignee as the assignee and owner of the Patents.

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IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their duly authorized representatives as of the Effective Date.

ASSIGNOR

DELL PRODUCTS L.P.

By: 

Name: Janet B. Wright

Title: Senior Vice President and Assistant Secretary

ASSIGNEE

DELL SOFTWARE INC.

By: 

Name: Janet B. Wright

Title: Senior Vice President and Assistant Secretary

SCHEDULE A

PATENTS AND PATENT APPLICATIONS

App. No.	Patent No.	Title	Country	Owner
11/774278	7881544	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774333	7885988	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774297	7936932	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774267	7961959	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774272	7961960	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774310	7970216	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
11/774319	7974478	METHODS AND APPARATUS FOR REDUCING STORAGE SIZE	United States of America	Dell Products L.P.
12/038223	8219534	MULTIPLE FILE COMPACTION FOR NETWORK ATTACHED STORAGE	United States of America	Dell Products L.P.
12/038219	8224831	VIRTUALIZATION OF METADATA FOR FILE OPTIMIZATION	United States of America	Dell Products L.P.
12/573690	8386443	REPRESENTING AND STORING AN OPTIMIZED FILE SYSTEM USING A SYSTEM OF SYMLINKS, HARDLINKS AND FILE ARCHIVES	United States of America	Dell Products L.P.
12/624354	8423520	METHODS AND APPARATUS FOR EFFICIENT COMPRESSION AND DEPLICATION	United States of America	Dell Products L.P.
13/491679	8655898	VIRTUALIZATION OF METADATA FOR FILE OPTIMIZATION	United States of America	Dell Products L.P.
12/574990	8694466	OBJECT DEPLICATION AND APPLICATION AWARE SNAPSHOTS	United States of America	Dell Products L.P.
14/021852	8713583	SYSTEMS AND METHODS FOR MANAGING POLICIES ON A COMPUTER	United States of America	Dell Products L.P.
13/041282	8849773	METHODS AND APPARATUS FOR ACTIVE OPTIMIZATION OF DATA	United States of America	Dell Products L.P.
12/574580	8862559	SCALABLE MECHANISM FOR DETECTION OF COMMONALITY IN A DEPLICATION DATA SET	United States of America	Dell Products L.P.
14/010495	8892528	ACCELERATED DEPLICATION	United States of America	Dell Products L.P.

[Schedule A to Patent Assignment]

App. No.	Patent No.	Title	Country	Owner
12/954348	8965852	METHODS AND APPARATUS FOR NETWORK EFFICIENT DEDUPLICATION	United States of America	Dell Products L.P.
13/158292	9201890	STORAGE OPTIMIZATION MANAGER	United States of America	Dell Products L.P.
13/560762	9210044	AUTOMATED REMEDIATION WITH AN APPLIANCE	United States of America	Dell Products L.P.
13/784575	9250819	A LEARNING MACHINE TO OPTIMIZE RANDOM ACCESS IN A STORAGE SYSTEM	United States of America	Dell Products L.P.
14/245084	9251161	OBJECT DEDUPLICATION AND APPLICATION AWARE SNAPSHOTS	United States of America	Dell Products L.P.
13/415324	9256609	FIXED SIZE EXTENTS FOR VARIABLE SIZE DEDUPLICATION SEGMENTS	United States of America	Dell Products L.P.
14/507731	9262432	SCALABLE MECHANISM FOR DETECTION OF COMMONALITY IN A DEDUPLICATED DATA SET	United States of America	Dell Products L.P.
13/081335	9323778	VIRTUAL DISK UTILITY	United States of America	Dell Products L.P.
13/158289	N/A	DATA BLOCK MIGRATION	United States of America	Dell Products L.P.
13/182145	N/A	MINI APPLIANCE	United States of America	Dell Products L.P.
13/182230	N/A	MINI APPLIANCE ENSURING SOFTWARE LICENSE COMPLIANCE	United States of America	Dell Products L.P.
13/243965	N/A	MAINTAINING DEDUPLICATION DATA IN NATIVE FILE FORMATS	United States of America	Dell Products L.P.
13/243985	N/A	APPLICATION TRANSPARENT DEDUPLICATION DATA	United States of America	Dell Products L.P.
13/306878	N/A	RESYNCHRONIZATION OF REPLICATED DATA	United States of America	Dell Products L.P.
13/343924	N/A	HOME HUB	United States of America	Dell Products L.P.
13/555534	N/A	GARBAGE COLLECTION AWARE DEDUPLICATION	United States of America	Dell Products L.P.
13/664658	N/A	SYSTEM AND METHOD FOR OPTIMIZED DISTRIBUTED STORAGE SYSTEM	United States of America	Dell Products L.P.
13/739731	N/A	SYSTEM AND METHOD FOR MANIPULATING USER-INTERFACE DISPLAY ITEMS FOR WEB WIDGETS	United States of America	Dell Products L.P.
13/743191	N/A	DEPLOYMENT AND MANAGEMENT OF VIRTUAL CONTAINERS	United States of America	Dell Products L.P.
13/748743	N/A	EFFICIENT REPLICA CLEANUP DURING RESYNCHRONIZATION	United States of America	Dell Products L.P.

[Schedule A to Patent Assignment]

App. No.	Patent No.	Title	Country	Owner
13/786759	N/A	STORAGE SYSTEM DEDUPLICATION WITH SERVICE LEVEL AGREEMENTS	United States of America	Dell Products L.P.
13/786781	N/A	HANDLING RESTORES IN AN INCREMENTAL BACKUP STORAGE SYSTEM	United States of America	Dell Products L.P.
13/862911	N/A	METHODS AND APPARATUS FOR EFFICIENT COMPRESSION AND DEDUPLICATION	United States of America	Dell Products L.P.
13/937150	N/A	FILE AWARE BLOCK LEVEL DEDUPLICATION	United States of America	Dell Products L.P.
13/952062	N/A	TRANSFERRING DIFFERENCES BETWEEN CHUNKS FOR DATA REDUCTION DURING REPLICATION OVER LOW-BANDWIDTH LINKS	United States of America	Dell Products L.P.
14/154961	N/A	SYNCHRONIZED STORAGE SYSTEM OPERATION	United States of America	Dell Products L.P.
14/166641	N/A	NET-BASED EMAIL FILTERING	United States of America	Dell Products L.P.
14/311485	N/A	INTELLIGENT DEDUPLICATION DATA PREFETCHING	United States of America	Dell Products L.P.
14/319136	N/A	IDENTIFICATION OF UNAUTHORIZED APPLICATION DATA IN A CORPORATE NETWORK	United States of America	Dell Products L.P.
14/327006	N/A	ENGINE FOR VIRTUAL MACHINE RESOURCES	United States of America	Dell Products L.P.
14/453121	N/A	ACCELERATING TRANSFER PROTOCOLS	United States of America	Dell Products L.P.
14/453150	N/A	POLICY USE IN A DATA MOVER EMPLOYING DIFFERENT CHANNEL PROTOCOLS	United States of America	Dell Products L.P.
14/453158	N/A	CLIENT-SIDE DEDUPLICATION WITH LOCAL CHUNK CACHING	United States of America	Dell Products L.P.
14/453165	N/A	CHUNK COMPRESSION IN A DEDUPLICATION AWARE CLIENT ENVIRONMENT	United States of America	Dell Products L.P.
14/453173	N/A	TECHNIQUE SELECTION IN A DEDUPLICATION AWARE CLIENT ENVIRONMENT	United States of America	Dell Products L.P.
14/498597	N/A	HEAT INDICES FOR FILE SYSTEMS AND BLOCK STORAGE	United States of America	Dell Products L.P.
14/518063	N/A	ACCELERATED DEDUPLICATION	United States of America	Dell Products L.P.
14/521035	N/A	FAST UPDATE OF DATA PACKET CHECKSUMS	United States of America	Dell Products L.P.
14/596186	N/A	METHODS AND APPARATUS FOR NETWORK EFFICIENT DEDUPLICATION	United States of America	Dell Products L.P.
14/806072	N/A	PROBABILITY BASED WHITELIST	United States of	Dell Products L.P.

[Schedule A to Patent Assignment]

PATENT
REEL: 061838 FRAME: 0655

App. No.	Patent No.	Title	Country	Owner
			America	
14/850096	N/A	METHOD OF INTERACTION WITH VIRTUAL PERIPHERY	United States of America	Dell Products L.P.
14/884583	N/A	DYNAMIC ADJUSTMENT OF INSTRUMENTATION SCOPE	United States of America	Dell Products L.P.
14/949731	N/A	NET-BASED EMAIL FILTERING	United States of America	Dell Products L.P.
14/996608	N/A	OBJECT DEDUPLICATION AND APPLICATION AWARE SNAPSHOTS	United States of America	Dell Products L.P.
15/017079	N/A	SCALABLE MECHANISM FOR DETECTION OF COMMONALITY IN A DEDUPLICATED DATA SET	United States of America	Dell Products L.P.
15/018809	N/A	FIXED SIZE EXTENTS FOR VARIABLE SIZE DEDUPLICATION SEGMENTS	United States of America	Dell Products L.P.
15/067976	N/A	HEAT INDICES FOR FILE SYSTEMS AND BLOCK STORAGE	United States of America	Dell Products L.P.
15/075526	N/A	VIRTUAL DISK UTILITY	United States of America	Dell Products L.P.
15/133824	N/A	TIME ZERO CLASSIFICATION OF MESSAGES	United States of America	Dell Products L.P.

[Schedule A to Patent Assignment]