

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6856165

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	RELEASE OF SECURITY INTEREST

**CONVEYING PARTY DATA**

Name	Execution Date
U.S. BANK NATIONAL ASSOCIATION	08/05/2021

**RECEIVING PARTY DATA**

<b>Name:</b>	QUANTUM CORPORATION
<b>Street Address:</b>	224 AIRPORT PARKWAY, SUITE 550
<b>City:</b>	SAN JOSE
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95110
<b>Name:</b>	QUANTUM LTO HOLDINGS, LLC
<b>Street Address:</b>	224 AIRPORT PARKWAY, SUITE 550
<b>City:</b>	SAN JOSE
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95110

**PROPERTY NUMBERS Total: 430**

Property Type	Number
Patent Number:	6380873
Patent Number:	6667852
Patent Number:	8154811
Patent Number:	7242549
Patent Number:	7365935
Patent Number:	7365936
Patent Number:	7502199
Patent Number:	8190655
Patent Number:	8577939
Patent Number:	6067587
Patent Number:	8442942
Patent Number:	8280860
Patent Number:	8260830
Patent Number:	8442948
Patent Number:	8849898

PATENT

<b>Property Type</b>	<b>Number</b>
<b>Patent Number:</b>	8760789
<b>Patent Number:</b>	9305591
<b>Patent Number:</b>	8773800
<b>Patent Number:</b>	9047900
<b>Patent Number:</b>	10044374
<b>Patent Number:</b>	8300758
<b>Patent Number:</b>	9965389
<b>Patent Number:</b>	7755863
<b>Patent Number:</b>	9344120
<b>Patent Number:</b>	7933939
<b>Patent Number:</b>	7743205
<b>Patent Number:</b>	8612697
<b>Patent Number:</b>	8166262
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<b>Patent Number:</b>	7212375
<b>Patent Number:</b>	7193810
<b>Patent Number:</b>	6829116
<b>Patent Number:</b>	6710962
<b>Patent Number:</b>	7499235
<b>Patent Number:</b>	7649707
<b>Patent Number:</b>	6188532
<b>Application Number:</b>	13373990
<b>Application Number:</b>	15943883
<b>Patent Number:</b>	8886616
<b>Patent Number:</b>	6092754
<b>Patent Number:</b>	6095445
<b>Patent Number:</b>	6580582
<b>Patent Number:</b>	7395982
<b>Patent Number:</b>	7387485
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<b>Patent Number:</b>	8683123
<b>Patent Number:</b>	9804804

<b>Property Type</b>	<b>Number</b>
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Patent Number:	9798617
Patent Number:	9176887
Patent Number:	8983916
Patent Number:	8296274
Patent Number:	8504595
Patent Number:	8699174
Patent Number:	8176292
Application Number:	14722905
Patent Number:	8719235
Patent Number:	7228467
Patent Number:	7290197
Patent Number:	7230782
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Patent Number:	8595195
Patent Number:	8442954
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Patent Number:	7038417
Patent Number:	8176270
Patent Number:	8335898
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Patent Number:	7215259
Patent Number:	9183130
Patent Number:	8707005
Patent Number:	8572312
Patent Number:	8225060
Patent Number:	9503127
Patent Number:	9692452
Application Number:	14509749
Application Number:	15386484
Application Number:	14244935
Application Number:	13460921
Patent Number:	7624328
Patent Number:	7493430
Patent Number:	7620755
Patent Number:	7831753
Patent Number:	8041862

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Patent Number:	9558074
Patent Number:	7124124
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Patent Number:	8326884
Patent Number:	7343460
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Patent Number:	7793066
Patent Number:	7831793
Application Number:	15400265
Application Number:	14728497
Application Number:	15602726
Patent Number:	6498771
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Patent Number:	6571302
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Patent Number:	9176676
Patent Number:	9846613
Patent Number:	D832789
Patent Number:	7085095
Patent Number:	7349930
Patent Number:	6148430
Patent Number:	9501353
Application Number:	15352475
Application Number:	14722809

<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14797738
<b>Application Number:</b>	10048864
<b>Application Number:</b>	15631486
<b>Patent Number:</b>	6269464
<b>Patent Number:</b>	7694208
<b>Patent Number:</b>	7076723
<b>Patent Number:</b>	7228490
<b>Patent Number:</b>	8195629
<b>Patent Number:</b>	8799244
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<b>Patent Number:</b>	8977590
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<b>Patent Number:</b>	10095616
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<b>Application Number:</b>	15007267
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Application Number:	15339024
Application Number:	15383532
Application Number:	15618723
Application Number:	15632584
Application Number:	15211208
Application Number:	15453043
Application Number:	14723005
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Patent Number:	7263596
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Patent Number:	8934197
Patent Number:	9153259
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Patent Number:	8984024
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Patent Number:	7961415
Patent Number:	6034839
Patent Number:	7204444
Patent Number:	D569103
Application Number:	15804238
Patent Number:	6965811
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Patent Number:	7515987
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Patent Number:	7146492
Patent Number:	8051252
Application Number:	15360774
Application Number:	14593022
Application Number:	15496421
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<b>Patent Number:</b>	8442956
<b>Application Number:</b>	15340691
<b>Application Number:</b>	14922432
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<b>Patent Number:</b>	6175470
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<b>Patent Number:</b>	7395983

<b>Property Type</b>	<b>Number</b>
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Patent Number:	6141184
Patent Number:	6324497
Patent Number:	7073742
Patent Number:	6937435
Patent Number:	8743501
Patent Number:	9792928
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Patent Number:	6879470
Application Number:	10014025
Patent Number:	8332684
Patent Number:	6130804
Patent Number:	6034850
Patent Number:	D496368
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Patent Number:	7859786
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Application Number:	10032474
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Patent Number:	8009377
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Patent Number:	6728066
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Patent Number:	7522372
Patent Number:	6499684

<b>Property Type</b>	<b>Number</b>
Application Number:	62675979
Application Number:	16043693
Application Number:	15993069
Application Number:	15787073
Application Number:	62626892
Application Number:	62669735
Application Number:	16146358
Application Number:	16203897
Application Number:	62592039
Application Number:	62745883
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Application Number:	16268868
Application Number:	16406448
Application Number:	16421685
Application Number:	16665756
Application Number:	16669574
Application Number:	16549433
Application Number:	16653454
Application Number:	15796234
Application Number:	15795882
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Application Number:	16677529
Application Number:	16688115
Application Number:	16745188
Application Number:	16817851
Application Number:	16830516
Application Number:	63009030
Application Number:	63017452
Application Number:	16869460

**CORRESPONDENCE DATA**

Fax Number: (617)951-8736

**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:** 6173417729  
**Email:** katarzyna.gaysunas@morganlewis.com  
**Correspondent Name:** KATARZYNA GAYSUNAS  
**Address Line 1:** 1 FEDERAL ST  
**Address Line 2:** C/O MORGAN, LEWIS & BOCKIUS LLP  
**Address Line 4:** BOSTON, MASSACHUSETTS 02110-1726

<b>NAME OF SUBMITTER:</b>	KATARZYNA GAYSUNAS
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<b>SIGNATURE:</b>	/Katarzyna Gaysunas/
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<b>DATE SIGNED:</b>	08/10/2021
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**Total Attachments: 23**

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RELEASE OF SECURITY INTEREST  
IN PATENTS

This Release of Security Interest in Patents, dated as of August 5, 2021 (this “Release”), is made by U.S. BANK NATIONAL ASSOCIATION, whose address is 214 North Tryon Street, 27<sup>th</sup> Floor, Charlotte, North Carolina 28202, acting in its capacity as the Agent (“Agent”) under that certain Intellectual Property Security Agreement dated as of December 27, 2018 (as amended, supplemented or modified from time to time, the “IP Security Agreement”) among QUANTUM CORPORATION, a Delaware corporation, and QUANTUM LTO HOLDINGS, LLC, a Delaware limited liability company (collectively, “Grantors”), and Agent. The IP Security Agreement was amended pursuant to that certain Supplement to Intellectual Property Security Agreement dated as of June 16, 2020 (as amended, supplemented or modified from time to time, the “Supplement”, and together with the IP Security Agreement, the “Security Agreement”). For notice purposes Quantum Corporation’s address is 110 110<sup>th</sup> Avenue NE, Suite 200, Bellevue, WA 98004, and Quantum LTO Holdings, LLC’s address is 224 Airport Parkway, Suite 550, San Jose, CA 95110.

Pursuant to the Security Agreement Grantors granted to Agent, for the benefit of the Secured Parties referred to therein, a security interest in and to all of each Grantors’ Intellectual Property Collateral (as defined in the Security Agreement, including, without limitation, those specific patents and patent applications listed on Exhibit A attached hereto (the “Released Patents”).

The IP Security Agreement was recorded on December 27, 2018, at Reel/Frame 049153/0518 in the United States Patent and Trademark Office, and the Supplement was recorded on June 16, 2020 at Reel/Frame 052948/0645 in the United States Patent and Trademark Office.

For good and valuable consideration, receipt and sufficiency of which is hereby acknowledged, Agent hereby releases, terminates and discharges its security interest in and to the Intellectual Property Collateral, including the Released Patents, and the goodwill associated therewith, without representation or warranty of any kind, express or implied.

[signature page follows]

IN WITNESS WHEREOF, Agent has executed this Release as of the date first written above.

U.S. BANK NATIONAL ASSOCIATION,  
solely in its capacity as Agent and not in its  
individual capacity

By: Crystal Crudup-Burt  
Name: Crystal Crudup-Burt  
Title: Vice President

[Quantum—Patent Release]

**PATENT**  
**REEL: 057142 FRAME: 0266**

EXHIBIT A

**U.S. Patents and Patent Applications**

<b>PATENT</b>	<b>(SERIAL NO.) PATENT NO.</b>	<b>(FILING DATE ) REGIS. DATE</b>	<b>HOLDER</b>
METHOD FOR REDUCING RADIO FREQUENCY EMISSIONS ON HIGH-SPEED SERIAL BUSES	6380873	4/30/2002	Quantum Corp
MAGNETIC TAPE CARTRIDGE WITH BRAKE RELEASE MEMBER PUSH ROD CONTACTING REEL GEAR HOLE VIA PROTRUSIONS	6667852	12/23/2003	Quantum Corp
MEASURING READER/WRITER OFFSET IN A TAPE DRIVE HEAD	8154811	4/10/2012	Quantum Corp
MEDIA CARTRIDGE AUTOLOADER	7242549	7/10/2007	Quantum Corp
MEDIA CARTRIDGE AUTOLOADER	7365935	4/29/2008	Quantum Corp
MEDIA CARTRIDGE AUTOLOADER	7365936	4/29/2008	Quantum Corp
MEDIA CARTRIDGE AUTOLOADER	7502199	3/10/2009	Quantum Corp
A METHOD FOR RELIABLE AND EFFICIENT FILESYSTEM METADATA CONVERSION	8190655	5/29/2012	Quantum Corporation
A METHOD FOR RELIABLE AND EFFICIENT FILESYSTEM METADATA CONVERSION	8577939	11/5/2013	Quantum Corporation
A METHOD FOR SERIALIZING AND SYNCHRONIZING DATA PACKETS BY UTILIZING A PHYSICAL LOCK SYSTEM AND CONTROL DATA STRUCTURE FOR MUTUAL EXCLUSION LOCK	6067587	5/23/2000	Quantum Corporation
COMBINING HASH BASED DUPLICATION WITH SUB-BLOCK DIFFERENCING TO DEDUPLICATE DATA	8442942	5/14/2013	Quantum Corporation
METHOD FOR INCREASING DEDUPLICATION SPEED ON DATA STREAMS FRAGMENTED BY SHUFFLING	8280860	10/2/2012	Quantum Corporation
ADAPTING A TIMER BOUNDED ARBITRATION PROTOCOL	8260830	9/4/2012	Quantum Corporation
ADAPTING A TIMER BOUNDED ARBITRATION PROTOCOL	8442948	5/14/2013	Quantum Corporation
ADAPTIVE COLLABORATIVE DE-DUPLICATION	8849898	9/30/2014	Quantum Corporation
ADAPTIVE CORRECTION OF SYMMETRICAL AND ASYMMETRICAL SATURATION IN MAGNETIC RECORDING DEVICES	8760789	6/24/2014	Quantum Corporation
ADAPTIVE CORRECTION OF SYMMETRICAL AND ASYMMETRICAL SATURATION IN MAGNETIC RECORDING DEVICES	9305591	4/5/2016	Quantum Corporation
ADAPTIVE DISTURBANCE COMPENSATION WITH MULTI-RATE SYNCHRONIZED SAMPLING	8773800	7/8/2014	Quantum Corporation



PATENT	(SERIAL NO.) PATENT NO.	(FILING DATE ) REGIS. DATE	HOLDER
ADAPTIVE DISTURBANCE COMPENSATION WITH MULTI-RATE SYNCHRONIZED SAMPLING	9047900	6/2/2015	Quantum Corporation
ADAPTIVE ERASURE CODES	10044374	8/7/2018	Quantum Corporation
ADAPTIVE EXPERIENCE BASED DE-DUPLICATION	(13373990)	(12/7/2011)	Quantum Corporation
ADAPTIVE FILTER USING SHIFTED REVERSE INTERPOLATION	8300758	10/30/2012	Quantum Corporation
ADAPTIVE STORAGE MANAGEMENT FOR OPTIMIZING MULTI-TIER DATA STORAGE SYSTEM	9965389	5/8/2018	Quantum Corporation
ADAPTIVE STORAGE MANAGEMENT FOR OPTIMIZING MULTI-TIER DATA STORAGE SYSTEM	(15943883)	(4/3/2018)	Quantum Corporation
ADJACENT TRACK READERS	7755863	7/13/2010	Quantum Corporation
ADJUSTING REDUNDANCY IN AN ERASURE CODE OBJECT STORE TO ACCOUNT FOR VARYING DATA VALUE	9344120	5/17/2016	Quantum Corporation
APPARATUS AND METHOD FOR PARTITIONING DATA BLOCKS	7933939	4/26/2011	Quantum Corporation
APPARATUS AND METHOD FOR VIRTUALIZING DATA STORAGE MEDIA, SUCH AS FOR USE IN A DATA STORAGE LIBRARY PROVIDING RESOURCE VIRTUALIZATION	7743205	6/22/2010	Quantum Corporation
APPARATUS AND METHOD FOR VIRTUALIZING DATA STORAGE MEDIA, SUCH AS FOR USE IN A DATA STORAGE LIBRARY PROVIDING RESOURCE VIRTUALIZATION	8612697	12/17/2013	Quantum Corporation
ASSIGNING A PHYSICAL ADDRESS TO A DATA STORAGE DEVICE	8166262	4/24/2012	Quantum Corporation
ASSOCIATING EVENTS WITH THE STATE OF A DATA SET	7447850	11/4/2008	Quantum Corporation
AUTOMATED STORAGE LIBRARY GRIPPER APPARATUS AND METHOD	7212375	5/1/2007	Quantum Corporation
AUTOMATED STORAGE LIBRARY GRIPPER WITH FINGER POSITION DETECTOR	7193810	3/20/2007	Quantum Corporation
AUTOMATED TAPE CARTRIDGE AUTOLOADER/LIBRARY SYSTEM	6829116	12/7/2004	Quantum Corporation
AUTOMATED TAPE LIBRARY	6710962	3/23/2004	Quantum Corporation
AUTO-SERVO TAPE SYSTEM AND ASSOCIATED RECORDING HEAD	7499235	3/3/2009	Quantum Corporation
AUTO-SERVO TAPE SYSTEM AND ASSOCIATED RECORDING HEAD	7649707	1/19/2010	Quantum Corporation
BACKWARD COMPATIBLE HEAD AND HEAD POSITIONING ASSEMBLY FOR A LINEAR DIGITAL TAPE DRIVE	6188532	2/13/2001	Quantum Corporation

PATENT	(SERIAL NO.) PATENT NO.	(FILING DATE ) REGIS. DATE	HOLDER
BLOCKLET PATTERN IDENTIFICATION	8886616	11/11/2014	Quantum Corporation
BUCKLER FOR A TAPE DRIVE	6092754	7/25/2000	Quantum Corporation
CARTRIDGE BUCKLER FOR A TAPE DRIVE	6095445	8/1/2000	Quantum Corporation
CARTRIDGE MAGAZINE FOR A TAPE LIBRARY	6580582	6/17/2003	Quantum Corporation
CARTRIDGE REEL CENTERING DEVICE	7395982	7/8/2008	Quantum Corporation
CARTRIDGE TRANSPORT ASSEMBLY	7387485	6/17/2008	Quantum Corporation
CASTELLATION TECHNIQUE FOR IMPROVED LIFT-OFF OF PHOTORESIST IN THIN-FILM DEVICE PROCESSING AND A THIN-FILM DEVICE MADE THEREBY	6716515	4/6/2004	Quantum Corporation
CENTER REEL LOCK STORAGE DEVICE	7481389	1/27/2009	Quantum Corporation
CHANNEL PROCESSOR USING REDUCED COMPLEXITY LDPC DECODER	7222289	5/22/2007	Quantum Corporation
CLASSIFYING DATA FOR DEDUPLICATION AND STORAGE	9176978	11/3/2015	Quantum Corporation
CLOUD BASED DE-DUPLICATION	8886716	11/11/2014	Quantum Corporation
CLOUD-BASED SOLID STATE DEVICE (SSD) WITH DYNAMICALLY VARIABLE ERROR CORRECTING CODE (ECC) SYSTEM	(14722905)	(5/27/2015)	Quantum Corporation
CLUSTERED STORAGE NETWORK	7991951	8/2/2011	Quantum Corporation
CLUSTERED STORAGE NETWORK	8266376	9/11/2012	Quantum Corporation
CLUSTERED STORAGE NETWORK	8683123	3/25/2014	Quantum Corporation
CLUSTERED STORAGE NETWORK	9804804	10/31/2017	Quantum Corporation
COLLABORATIVE, DISTRIBUTED, DATA DE-DUPLICATION	8543551	9/24/2013	Quantum Corporation
COMBINED ASYNCHRONOUS AND SYNCHRONOUS FOUNTAIN CODE STORAGE IN AN OBJECT STORE	9304852	4/5/2016	Quantum Corporation
COMBINED ASYNCHRONOUS AND SYNCHRONOUS FOUNTAIN CODE STORAGE IN AN OBJECT STORE	9798617	10/24/2017	Quantum Corporation
COMPRESSED LEVEL TWO BLOCK BUFFER METADATA CACHE	9176887	11/3/2015	Quantum Corporation
CONFIGURABLE DATA GENERATOR	8983916	3/17/2015	Quantum Corporation
CONSIDERING MULTIPLE LOOKUPS IN BLOOM FILTER DECISION MAKING	8296274	10/23/2012	Quantum Corporation
CONTEXT AWARE PARTITIONING OF PEER GROUPS WITH GLOBALLY COHERENT DE-DUPLICATION REPOSITORY	8504595	8/6/2013	Quantum Corporation
CONTROL METHOD FOR TAPE DRIVE TO COMPENSATE FOR SYSTEM DISTURBANCES WITHOUT USE OF FEED-FORWARD SENSOR	8699174	4/15/2014	Quantum Corporation
CONTROLLING CONFIGURABLE VARIABLE DATA REDUCTION	8176292	5/8/2012	Quantum Corporation

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CONTROLLING CONFIGURABLE VARIABLE DATA REDUCTION	(13460921)	(5/1/2012)	Quantum Corporation
CONTROLLING TAPE LAYOUT FOR DE-DUPLICATION	8719235	5/6/2014	Quantum Corporation
CORRECTING DATA HAVING MORE DATA BLOCKS WITH ERRORS THAN REDUNDANCY BLOCKS	7228467	6/5/2007	Quantum Corporation
CORRECTING DATA USING REDUNDANCY BLOCKS	7290197	10/30/2007	Quantum Corporation
CORRELATION RECEIVER FOR DEMODULATING SERVO TRACK INFORMATION	7230782	6/12/2007	Quantum Corporation
CREATING A BACKUP VOLUME USING A DATA PROFILE OF A HOST VOLUME	7185031	2/27/2007	Quantum Corporation
CREATING A SELF-CONTAINED PORTABLE OUTPUT FILE	8595195	11/26/2013	Quantum Corporation
CREATING AND MANAGING LINKS TO DEDUPLICATION INFORMATION	8442954	5/14/2013	Quantum Corporation
CREATING VIRTUAL PRIVATE CONNECTIONS BETWEEN END POINTS ACROSS A SAN	6845387	1/18/2005	Quantum Corporation
CURRENT CONTROL LOOP BIAS CALIBRATION BY INTEGRATION	7038417	5/2/2006	Quantum Corporation
DATA ALLOCATION SYSTEM	8176270	5/8/2012	Quantum Corporation
DATA ALLOCATION SYSTEM	8335898	12/18/2012	Quantum Corporation
DATA ALLOCATION SYSTEM	9262345	2/16/2016	Quantum Corporation
DATA AWARE DEDUPLICATION OBJECT STORAGE (DADOS)	(15386484)	(12/21/2016)	Quantum Corporation
DATA CLASSIFICATION AWARE OBJECT STORAGE	(14244935)	(4/4/2014)	Quantum Corporation
DATA COMPRESSION WITH SELECTIVE ENCODING OF SHORT MATCHES	7215259	5/8/2007	Quantum Corporation
DATA CONTROL SYSTEM FOR VIRTUAL ENVIRONMENT	9183130	11/10/2015	Quantum Corporation
DATA CONTROL SYSTEM FOR VIRTUAL ENVIRONMENT	(14509749)	(10/8/2014)	Quantum Corporation
DATA CONTROL SYSTEMS FOR VIRTUAL ENVIRONMENTS	8707005	4/22/2014	Quantum Corporation
DATA DE-DUPLICATION AND SOLID STATE MEMORY DEVICE	8572312	10/29/2013	Quantum Corporation
DATA DE-DUPLICATION BY PREDICTING THE LOCATIONS OF SUB-BLOCKS WITHIN THE REPOSITORY	8225060	7/17/2012	Quantum Corporation
DATA DEDUPLICATION WITH ADAPTIVE ERASURE CODE REDUNDANCY	9503127	11/22/2016	Quantum Corporation
DATA DEDUPLICATION WITH ADAPTIVE ERASURE CODE REDUNDANCY	9692452	6/27/2017	Quantum Corporation

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DATA DEDUPLICATION WITH ADAPTIVE ERASURE CODE REDUNDANCY	(15602726)	(5/23/2017)	Quantum Corporation
DATA ERROR DETECTION DURING MEDIA WRITE	7624328	11/24/2009	Quantum Corporation
DATA FLOW CONTROL AND BRIDGING ARCHITECTURE ENHANCING PERFORMANCE OF REMOVABLE DATA STORAGE SYSTEMS	7493430	2/17/2009	Quantum Corporation
DATA FLOW CONTROL AND BRIDGING ARCHITECTURE ENHANCING PERFORMANCE OF REMOVABLE DATA STORAGE SYSTEMS	7620755	11/17/2009	Quantum Corporation
DATA FLOW CONTROL AND BRIDGING ARCHITECTURE ENHANCING PERFORMANCE OF REMOVABLE DATA STORAGE SYSTEMS	7831753	11/9/2010	Quantum Corporation
DATA FLOW CONTROL AND BRIDGING ARCHITECTURE ENHANCING PERFORMANCE OF REMOVABLE DATA STORAGE SYSTEMS	8041862	10/18/2011	Quantum Corporation
DATA FLOW CONTROL AND BRIDGING ARCHITECTURE ENHANCING PERFORMANCE OF REMOVABLE DATA STORAGE SYSTEMS	8281044	10/2/2012	Quantum Corporation
DATA IDENTIFICATION SYSTEM	8640241	1/28/2014	Quantum Corporation
DATA IDENTIFICATION SYSTEM	9223975	12/29/2015	Quantum Corporation
DATA REDUCTION INDEXING	8423519	4/16/2013	Quantum Corporation
DATA REPLICA CONTROL	9558074	1/31/2017	Quantum Corporation
DATA REPLICA CONTROL	(15400265)	(1/6/2017)	Quantum Corporation
DATA STORAGE APPARATUS WITH SELECTIVE ADAPTIVE PREDICTIVE BEHAVIOR	(14728497)	(6/2/2015)	Quantum Corporation
DATA STORAGE DEVICES FOR LARGE SIZE DATA STRUCTURES	7124124	10/17/2006	Quantum Corporation
DATA STORAGE MEDIA ACCESSIBILITY IN A MEDIA LIBRARY	8276168	9/25/2012	Quantum Corporation
DATA STORAGE MEDIA LIBRARY WITH SCALABLE THROUGHPUT RATE FOR DATA ROUTING AND PROTOCOL CONVERSION	6766412	7/20/2004	Quantum Corporation
DATA STORAGE SYSTEM	8046380	10/25/2011	Quantum Corporation
DATA STORAGE SYSTEM	8326884	12/4/2012	Quantum Corporation
DATA STORAGE SYSTEM AND PROCESS	7343460	3/11/2008	Quantum Corporation
DATA STORAGE SYSTEM FOR STORING DATA IN DIFFERENT TYPES OF DATA STORAGE MEDIA	7487323	2/3/2009	Quantum Corporation
DATA STORAGE SYSTEM FOR STORING DATA IN DIFFERENT TYPES OF DATA STORAGE MEDIA	7793066	9/7/2010	Quantum Corporation
DATA STORAGE SYSTEM INCLUDING UNIQUE BLOCK POOL MANAGER AND APPLICATIONS IN TIERED STORAGE	7831793	11/9/2010	Quantum Corporation

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DATA STORAGE UNIT HAVING PLURAL REMOVABLE MAGAZINES	6498771	12/24/2002	Quantum Corporation
DATABASE CONVERSION FROM SINGLE MONOLITHIC FILE MODE TO ONE TABLE PER FILE AND ONE FILE PER TABLE MODE	(14797738)	(7/13/2015)	Quantum Corporation
DE-DUPLICATION INDEXING	8572053	10/29/2013	Quantum Corporation
DE-DUPLICATION REFERENCE TAG RECONCILIATION	8504533	8/6/2013	Quantum Corporation
DEDUPLICATION SEEDING	8892526	11/18/2014	Quantum Corporation
DELTA CHUNKS AND DELTA HASHES	8489611	7/16/2013	Quantum Corporation
DISK DRIVE SLED INSERTION AND REMOVAL SYSTEM	6304439	10/16/2001	Quantum Corporation
DISTRIBUTION AND REPLICATION OF ERASURE CODES	9450617	9/20/2016	Quantum Corporation
DOUBLY DISTRIBUTED ERASURE CODES	9431054	8/30/2016	Quantum Corporation
DYNAMIC ADJUSTMENT OF MULTIPLE SEQUENTIAL BURST DATA TRANSFERS	6571302	5/27/2003	Quantum Corporation
DYNAMICALLY CONFIGURING ERASURE CODE REDUNDANCY AND DISTRIBUTION	9584160	2/28/2017	Quantum Corporation
DYNAMICALLY CONFIGURING ERASURE CODE REDUNDANCY AND DISTRIBUTION	10048864	8/14/2018	Quantum Corporation
DYNAMICALLY CONTROLLING ERASURE CODE DISTRIBUTION IN AN OBJECT STORE	9727437	8/8/2017	Quantum Corporation
DYNAMICALLY CONTROLLING ERASURE CODE DISTRIBUTION IN AN OBJECT STORE	15631486	6/23/2017	Quantum Corporation
DYNAMICALLY RECONFIGURING REBUILD AGENTS FOR ERASURE CODE REBUILD	9356628	5/31/2016	Quantum Corporation
DYNAMICALLY VARIABLE ERROR CORRECTING CODE (ECC) SYSTEM WITH HYBRID RATELESS REED-SOLOMON ECCS	(14722809)	(5/27/2015)	Quantum Corporation
EFFICIENCY OF VIRTUAL MACHINES THAT USE DE-DUPLICATION AS PRIMARY DATA STORAGE	9176676	11/3/2015	Quantum Corporation
EFFICIENT DATA STORAGE ACROSS MULTIPLE STORAGE VOLUMES	(15352475)	(11/15/2016)	Quantum Corporation
EFFICIENT HIGH/LOW ENERGY ZONE SOLID STATE DEVICE DATA STORAGE	9846613	12/19/2017	Quantum Corporation
ELECTRICAL CONNECTOR	D832789	11/6/2018	Quantum Corporation
ELECTROMAGNETIC VOID-SENSING PROBES AND POSITION CONTROL SYSTEMS	7085095	8/1/2006	Quantum Corporation
EMULATED BACKUP TAPE DRIVE USING DATA COMPRESSION	7349930	3/25/2008	Quantum Corporation
ENCODING APPARATUS FOR RAID-6 SYSTEM AND TAPE DRIVES	6148430	11/14/2000	Quantum Corporation
ERASURE CODE PRIORITIZATION	9501353	11/22/2016	Quantum Corporation

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ERASURE CORRECTION FOR ECC ENTITIES	6772390	8/3/2004	Quantum Corporation
ERROR CHECKING TECHNIQUE FOR USE IN MASS STORAGE SYSTEMS	6269464	7/31/2001	Quantum Corporation
ERROR CORRECTION ALGORITHM USING INTERLEAVED PARITY CHECK AND REED-SOLOMON CODE	7694208	4/6/2010	Quantum Corporation
ERROR CORRECTION CODES	7076723	7/11/2006	Quantum Corporation
ERROR CORRECTION DECODER USING CELLS WITH PARTIAL SYNDROME GENERATION	7228490	6/5/2007	Quantum Corporation
ESTABLISHING PARSE SCOPE	8195629	6/5/2012	Quantum Corporation
ESTABLISHING PARSE SCOPE	8799244	8/5/2014	Quantum Corporation
EXTENDED ERROR CORRECTION CODES	7162678	1/9/2007	Quantum Corporation
EXTERNAL DESKTOP DOCK FOR A CARTRIDGE-BASED DATA STORAGE UNIT	7386868	6/10/2008	Quantum Corporation
FILE LEVEL RECOVERY USING VIRTUAL MACHINE IMAGE LEVEL BACKUP WITH SELECTIVE COMPRESSION	9563520	2/7/2017	Quantum Corporation
FILE LEVEL RECOVERY USING VIRTUAL MACHINE IMAGE LEVEL BACKUP WITH SELECTIVE COMPRESSION	(15421583)	(2/1/2017)	Quantum Corporation
FILE REPAIR	8463757	6/11/2013	Quantum Corporation
FILE SYSTEM BASED EXCHANGE BETWEEN DISK-BASED NETWORK ATTACHED STORAGE AND TAPE	8886606	11/11/2014	Quantum Corporation
FILE SYSTEM METADATA CAPTURE AND RESTORE	9361187	6/7/2016	Quantum Corporation
FILE SYSTEM WITH MULTI-CLASS STORAGE AND IN SITU TIERED ARCHIVING	(14795463)	(7/9/2015)	Quantum Corporation
FILTER FILE SYSTEM WITH INODE NUMBER AS PRIMARY DATABASE KEY	(15007267)	(1/27/2016)	Quantum Corporation
FINGERPRINT ANALYSIS FOR ANTI-VIRUS SCAN	8893277	11/18/2014	Quantum Corporation
FINGERPRINT ANALYSIS FOR ANTI-VIRUS SCAN	9449174	9/20/2016	Quantum Corporation
FORCED AIR COOLING FAN HAVING PIVOTAL FAN BLADES FOR UNIDIRECTIONAL AIR FLOW	6699013	3/2/2004	Quantum Corporation
FREQUENCY, EFFICIENCY AND MIGRATION BASED REPARSING	8775759	7/8/2014	Quantum Corporation
FRONT END INTELLIGENCE FOR MONITORING BACK END STATE	8977590	3/10/2015	Quantum Corporation
GARBAGE COLLECTION AND DEFRAGMENTATION FOR SOLID STATE DRIVES (SSD) AND SHINGLED MAGNETIC RECORDING (SMR) DRIVES	9734051	8/15/2017	Quantum Corporation
GARBAGE COLLECTION FOR VIRTUAL ENVIRONMENTS	10095616	10/9/2018	Quantum Corporation

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GENERATING UNIQUE ALIASES FOR KEYS USED WITH TAPE LIBRARIES	8320569	11/27/2012	Quantum Corporation
GLOBAL ACCESS TO REMOVABLE STORAGE MEDIA ITEMS	(15453043)	(3/8/2017)	Quantum Corporation
GLOBAL STORAGE SOLUTION WITH LOGICAL CYLINDERS AND CAPSULES	(14723005)	(5/27/2015)	Quantum Corporation
HEAD ROTATOR ASSEMBLY FOR TAPE DRIVE	8599519	12/3/2013	Quantum Corporation
HEAD ROTATOR ASSEMBLY FOR TAPE DRIVE	8867163	10/21/2014	Quantum Corporation
HEAD ROTATOR ASSEMBLY FOR TAPE DRIVE	8902541	12/2/2014	Quantum Corporation
HEURISTIC JOURNAL RESERVATIONS	9483356	11/1/2016	Quantum Corporation
HEURISTIC JOURNAL RESERVATIONS	(15339024)	(10/31/2016)	Quantum Corporation
HEURISTIC JOURNAL RESERVATIONS	(15383532)	(12/19/2016)	Quantum Corporation
HIGH DENSITY VARIABLE ACCESS STORAGE LIBRARY	8186929	5/29/2012	Quantum Corporation
HIGH RELIABILITY ERASURE CODE DISTRIBUTION	9465692	10/11/2016	Quantum Corporation
HIGH SPEED REEL	6062500	5/16/2000	Quantum Corporation
HIGH/LOW ENERGY ZONE DATA STORAGE	10114692	10/30/2018	Quantum Corporation
IDENTIFYING APPLICATION METADATA IN A BACKUP STREAM	8620845	12/31/2013	Quantum Corporation
IMMEDIATE RECOVERY OF VIRTUAL MACHINE USING DEDUPLICATION DEVICE AND SNAPSHOTS	9535915	1/3/2017	Quantum Corporation
IMPLEMENTING POWER SAVINGS IN AN AUTOMATED STORAGE SYSTEM	7817369	10/19/2010	Quantum Corporation
GARBAGE COLLECTION AND DEFRAGMENTATION FOR SOLID STATE DRIVES (SSD) AND SHINGLED MAGNETIC RECORDING (SMR) DRIVES	(15618723)	(6/9/2017)	Quantum Corporation
IMPROVING SPATIAL LOCALITY OF FILE SYSTEM BLOCK ALLOCATIONS FOR RELATED ITEMS	8271760	9/18/2012	Quantum Corporation
INDEPENDENT DOUBLE HUB TAKE-UP REEL ARRANGEMENT FOR USE WITH A SINGLE REEL CARTRIDGE TAPE DRIVE	6082652	7/4/2000	Quantum Corporation
INDEX ENTRY EVICTION	8397028	3/12/2013	Quantum Corporation
IN-SITU DATA VERIFICATION FOR THE CLOUD	(15632584)	(6/26/2017)	Quantum Corporation
INTELLIGENT TAPE DRIVE ASSEMBLY THAT DIAGNOSES AND REPAIRS ITS OWN TAPE DRIVE	7583463	9/1/2009	Quantum Corporation
INTERFACES FOR AN OPEN SYSTEMS SERVER PROVIDING TAPE DRIVE EMULATION	7127388	10/24/2006	Quantum Corporation
JOINT DE-DUPLICATION-ERASURE CODED DISTRIBUTED STORAGE	(15211208)	(7/15/2016)	Quantum Corporation
LIBRARY FOR STORING DATA-STORAGE MEDIA AND HAVING A REMOVABLE INTERFACE MODULE	6542787	4/1/2003	Quantum Corporation

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LIBRARY OF HARD DISK DRIVES WITH TRANSPARENT EMULATING INTERFACE	6754768	6/22/2004	Quantum Corporation
LOCKABLE EJECTION SYSTEM AND METHOD	7536701	5/19/2009	Quantum Corporation
LOG STRUCTURED BLOCK DEVICE	9851926	12/26/2017	Quantum Corporation
LOG STRUCTURED BLOCK DEVICE FOR HARD DISK DRIVE	(15804238)	(11/6/2017)	Quantum Corporation
LOGIC LIBRARY ARCHITECTURE FOR DATA STORAGE APPLICATIONS AND METHODS OF USE	7680979	3/16/2010	Quantum Corporation
LOGICAL LIBRARY ARCHITECTURE FOR DATA STORAGE APPLICATIONS AND METHODS OF USE	7263596	8/28/2007	Quantum Corporation
MAGNETIC HEAD WITH MINI-OUTRIGGERS AND METHOD OF MANUFACTURE	7271983	9/18/2007	Quantum Corporation
METHOD FOR MANUFACTURING A MAGNETIC HEAD WITH MINI-OUTRIGGERS	8223456	7/17/2012	Quantum Corporation
MAGNETIC MEDIA ACCESS HEAD WITH METAL COATING	8934197	1/13/2015	Quantum Corporation
MAGNETIC MEDIA ACCESS HEAD WITH METAL COATING	9153259	10/6/2015	Quantum Corporation
MAGNETIC MEDIA ACCESS HEAD WITH METAL COATING	9595272	3/14/2017	Quantum Corporation
MAGNETIC RECORDING HEADS WITH BEARING SURFACE PROTECTIONS AND METHODS OF MANUFACTURING	7751154	7/6/2010	Quantum Corporation
MAGNETIC TAPE	6103365	8/15/2000	Quantum Corporation
MAGNETIC TAPE CARTRIDGE FOR HOUSING A REEL	6760192	7/6/2004	Quantum Corporation
MAGNETIC TAPE HEADS	8873192	10/28/2014	Quantum Corporation
MANIPULATING THE ACTUAL OR EFFECTIVE WINDOW SIZE IN A DATA-DEPENDANT VARIABLE-LENGTH SUB-BLOCK PARSER	8572042	10/29/2013	Quantum Corporation
MANIPULATING THE ACTUAL OR EFFECTIVE WINDOW SIZE IN A DATA-DEPENDANT VARIABLE-LENGTH SUB-BLOCK PARSER	8984024	3/17/2015	Quantum Corporation
MASS STORAGE DEVICE WITH NETWORK INTERFACE	6622164	9/16/2003	Quantum Corporation
MASTER CALIBRATION CHANNEL FOR A MULTICHANNEL TAPE DRIVE	7961415	6/14/2011	Quantum Corporation
MECHANISM AND METHOD FOR LOADING A TAPE FROM A CARTRIDGE TO A TAKE-UP REEL	6034839	3/7/2000	Quantum Corporation
MEDIA CARTRIDGE HAVING REEL SUSPENSION SYSTEM AND METHOD OF MANUFACTURE	7204444	4/17/2007	Quantum Corporation
MEDIA CARTRIDGE PROTECTIVE CASE	D569103	5/20/2008	Quantum Corporation



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MEDIA DRIVE MODULE AND STORAGE LIBRARY SYSTEM	6965811	11/15/2005	Quantum Corporation
MEDIA DRIVE SYSTEM WITH IMPROVED FUNCTIONALITY	(15496421)	(4/25/2017)	Quantum Corporation
MEDIA HANDLING SYSTEM AND METHOD	6138909	10/31/2000	Quantum Corporation
MEDIA LIBRARY ASSEMBLY HAVING FIRST DATA TRANSFER ASSEMBLY THAT RECEIVES FIRST COMMAND SIGNAL AND TRANSMITS SECOND COMMAND SIGNAL TO SECOND DATA TRANSFER ASSEMBLY TO DECREASE TIME-TO-DATA	7515987	4/7/2009	Quantum Corporation
MEDIA LIBRARY INCLUDING STORAGE MEDIA RETRIEVAL ASSEMBLY	9601149	3/21/2017	Quantum Corporation
MEDIA LIBRARY INCLUDING STORAGE MEDIA RETRIEVAL ASSEMBLY	9601150	3/21/2017	Quantum Corporation
MEDIA LIBRARY SYSTEM AND METHOD FOR MONITORING CHANGES IN INVENTORY OF MEDIA CARTRIDGES	9343100	5/17/2016	Quantum Corporation
MEDIA LIBRARY WITH FAIL OVER CAPABILITY	6725394	4/20/2004	Quantum Corporation
MEDIA-FOLLOWING ENCRYPTION POLICY CONTROL	8850224	9/30/2014	Quantum Corporation
MERGING DATA VOLUMES AND DERIVATIVE VERSIONS OF THE DATA VOLUMES	8990526	3/24/2015	Quantum Corporation
MERGING DATA VOLUMES AND DERIVATIVE VERSIONS OF THE DATA VOLUMES	9164678	10/20/2015	Quantum Corporation
MERGING DATA VOLUMES AND DERIVATIVE VERSIONS OF THE DATA VOLUMES	9411871	8/9/2016	Quantum Corporation
MESSAGING POLICY CONTROLLED EMAIL DE-DUPLICATION	8898240	11/25/2014	Quantum Corporation
MESSAGING POLICY CONTROLLED EMAIL DE-DUPLICATION	9876746	1/23/2018	Quantum Corporation
METADATA PEERING WITH IMPROVED INODES	(14593022)	(1/9/2015)	Quantum Corporation
METADATA STORAGE IN UNUSED PORTIONS OF A VIRTUAL DISK FILE	8683111	3/25/2014	Quantum Corporation
METADATA STORAGE IN UNUSED PORTIONS OF A VIRTUAL DISK FILE	9524122	12/20/2016	Quantum Corporation
METADATA STORAGE IN UNUSED PORTIONS OF A VIRTUAL DISK FILE	(15360774)	(11/23/2016)	Quantum Corporation
METADUMP SPATIAL DATABASE SYSTEM	10133761	11/20/2018	Quantum Corporation
METHOD AND APPARATUS FOR ATTACHING MORE THAN TWO DISK DEVICES TO AN IDE BUS	7146492	12/5/2006	Quantum Corporation
METHOD AND APPARATUS FOR DETECTING THE PRESENCE OF SUBBLOCKS IN A REDUCED-REDUNDANCY STORAGE SYSTEM	8051252	11/1/2011	Quantum Corporation

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METHOD AND APPARATUS FOR DETECTING THE PRESENCE OF SUBBLOCKS IN A REDUCED-REDUNDANCY STORAGE SYSTEM	8214607	7/3/2012	Quantum Corporation
METHOD AND APPARATUS FOR DETECTING THE PRESENCE OF SUBBLOCKS IN A REDUCED REDUNDANCY STORING SYSTEM	8650368	2/11/2014	Quantum Corporation
METHOD AND APPARATUS FOR FACILITATING CONTROL INTERFACE FAILOVER IN A REMOVABLE MEDIA STORAGE DEVICE	8381020	2/19/2013	Quantum Corporation
METHOD AND APPARATUS FOR IMPLEMENTING ERROR CORRECTION CODING IN A RANDOM ACCESS MEMORY	7676730	3/9/2010	Quantum Corporation
METHOD AND APPARATUS FOR NON-REDUNDANT ENCRYPTED STORAGE	8572409	10/29/2013	Quantum Corporation
METHOD AND APPARATUS FOR OBTAINING COEFFICIENTS OF A FRACTIONALLY-SPACED EQUALIZER	8433965	4/30/2013	Quantum Corporation
METHOD AND APPARATUS FOR READ-AFTER-WRITE VERIFICATION WITH ERROR TOLERANCE	6512644	1/28/2003	Quantum Corporation
METHOD AND APPARATUS FOR STORAGE APPLICATION PROGRAMMING INTERFACE FOR DIGITAL MASS STORAGE AND RETREIVAL BASED UPON DATA OBJECT TYPE OR SIZE AND CHARACTERISTICS OF THE DATA STORAGE DEVICE	6128717	10/3/2000	Quantum Corporation
METHOD AND APPARATUS FOR TAPE DRIVE DATA LOGGING	8112557	2/7/2012	Quantum Corporation
METHOD AND SYSTEM FOR ADAPTIVE TIMING RECOVERY	7961818	6/14/2011	Quantum Corporation
METHOD AND SYSTEM FOR TRACKING MAGNETIC MEDIA WITH EMBEDDED OPTICAL SERVO TRACKS	7187515	3/6/2007	Quantum Corporation
METHOD AND SYSTEMS FOR A HIGHLY ERROR TOLERANT TAPE FORMAT	7440212	10/21/2008	Quantum Corporation
METHOD FOR ACCELERATION OF STORAGE DEVICES BY RETURNING SLIGHTLY EARLY WRITE STATUS	6757767	6/29/2004	Quantum Corporation
METHOD FOR ASSOCIATING PHYSICAL ADDRESS WITH LOGICAL COMMUNICATION ADDRESS IN A MEDIA LIBRARY ASSEMBLY	8868818	10/21/2014	Quantum Corporation
METHOD FOR CALIBRATING A TAPE MEDIA USING STAGGERED CALIBRATION TRACKS	6801383	10/5/2004	Quantum Corporation
METHOD FOR INDEXING IN A REDUCED-REDUNDANCY STORAGE SYSTEM	8356021	1/15/2013	Quantum Corporation

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METHOD FOR MEDIA ALLOCATION IN A PARTITIONED REMOVABLE MEDIA STORAGE LIBRARY	9311147	4/12/2016	Quantum Corporation
METHOD FOR MOVER TRANSITION IN AN AUTOMATED MEDIA LIBRARY	8825195	9/2/2014	Quantum Corporation
METHOD FOR RELIABLE AND EFFICIENT FILESYSTEM METADATA CONVERSION	9684677	6/20/2017	Quantum Corporation
METHOD FOR RELIABLE AND EFFICIENT FILESYSTEM METADATA CONVERSION	(15592179)	(5/10/2017)	Quantum Corporation
METHOD FOR STORING DATA WITH A REDUCED REDUNDANCY USING DATA CLUSTERS	7814129	10/12/2010	Quantum Corporation
METHOD FOR STORING DATA WITH A REDUCED REDUNDANCY USING DATA CLUSTERS	8255434	8/28/2012	Quantum Corporation
METHOD FOR VERIFYING FUNCTIONAL INTEGRITY OF COMPUTER HARDWARE, PARTICULARLY DATA STORAGE DEVICES	6938188	8/30/2005	Quantum Corporation
METHOD OF GENERATING CONTROL COMMANDS IN A DISTRIBUTED MASS DATA STORAGE LIBRARY NETWORK	7146244	12/5/2006	Quantum Corporation
METHOD OF PRODUCING FLUX GUIDES IN MAGNETIC RECORDING HEADS	7170721	1/30/2007	Quantum Corporation
METHOD OF READING OF RECORDING INFORMATION FROM A MAGNETIC TAPE THAT COMPENSATES FOR TRACK PITCH CHANGES	6141174	10/31/2000	Quantum Corporation
METHOD TO DIRECT DATA TO A SPECIFIC ONE OF SEVERAL REPOSITORIES	8209334	6/26/2012	Quantum Corporation
METHODOLOGY AND APPARATUS FOR SOFT-INFORMATION DETECTION AND LDPC DECODING ON AN ISI CHANNEL	8117515	2/14/2012	Quantum Corporation
METHODS AND APPARATUS FOR CALIBRATION OF A ROTATING SCANNER TO A PLURALITY OF DATA TRACK GROUPS RECORDED ON A TAPE	6101061	8/8/2000	Quantum Corporation
METHODS AND SYSTEMS FOR IMPROVED THROUGHPUT PERFORMANCE IN A DISTRIBUTED DATA DE-DUPLICATION ENVIRONMENT	8751561	6/10/2014	Quantum Corporation
METHODS AND SYSTEMS FOR IMPROVING READ PERFORMANCE IN DATA DE-DUPLICATION STORAGE	7962706	6/14/2011	Quantum Corporation
METHODS AND SYSTEMS FOR IMPROVING READ PERFORMANCE IN DATA DE-DUPLICATION STORAGE	8209508	6/26/2012	Quantum Corporation
METHODS AND SYSTEMS FOR PROVIDING PREDICTIVE MAINTENANCE, PREVENTATIVE MAINTENANCE, AND/OR FAILURE ISOLATION IN A TAPE STORAGE SUBSYSTEM	7277246	10/2/2007	Quantum Corporation

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METHODS AND SYSTEMS FOR SPACE MANAGEMENT IN DATA DE-DUPLICATION	8650228	2/11/2014	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DE-DUPLICATION	9047305	6/2/2015	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DE-DUPLICATION	9875271	1/23/2018	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DE-DUPLICATION	9886470	2/6/2018	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DE-DUPLICATION	9990390	6/5/2018	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DE-DUPLICATION	(15968716)	(5/1/2018)	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DUPLICATION	7979670	7/12/2011	Quantum Corporation
METHODS AND SYSTEMS FOR VECTORED DATA DUPLICATION	8332616	12/11/2012	Quantum Corporation
METHODS FOR CONTROLLING THE USE OF A CLEANING CARTRIDGE FOR TAPE DRIVES	7099103	8/29/2006	Quantum Corporation
METHODS OF MANUFACTURING MAGNETIC HEADS WITH REFERENCE AND MONITORING DEVICES	7290325	11/6/2007	Quantum Corporation
METHODS, SYSTEMS AND APPARATUS FOR REDUCING THE EFFECTS OF TAPE DIMENSIONAL STABILITY	7738212	6/15/2010	Quantum Corporation
METHODS, SYSTEMS AND APPARATUS FOR REDUCING THE EFFECTS OF TAPE DIMENSIONAL STABILITY	8213107	7/3/2012	Quantum Corporation
METHODS, SYSTEMS AND APPARATUS FOR REDUCING THE EFFECTS OF TAPE DIMENSIONAL STABILITY	8705199	4/22/2014	Quantum Corporation
MINIMIZE DAMAGE CAUSED BY CORRUPTION OF DE-DUPLICATED DATA	8645334	2/4/2014	Quantum Corporation
MITIGATING THE IMPACT OF A SINGLE POINT OF FAILURE IN AN OBJECT STORE	9569307	2/14/2017	Quantum Corporation
MOBILE DEVICE AGENT FOR PERSONAL DEDUPLICATION	10013448	7/3/2018	Quantum Corporation
MODULATION ENCODERS AND DECODERS	6236340	5/22/2001	Quantum Corporation
MOTOR/ENCODER ASSEMBLY FOR TAPE DRIVES	7145272	12/5/2006	Quantum Corporation
MOVING DATA FROM LINEAR TAPE FILE SYSTEM STORAGE TO CLOUD STORAGE	(14666561)	(3/24/2015)	Quantum Corporation
MULTI-CHANNEL TIMING RECOVERY SYSTEM	7860190	12/28/2010	Quantum Corporation
MULTI-DEDUPLICATION	9342525	5/17/2016	Quantum Corporation
MULTI-DRIVE, MULTI-MAGAZINE MASS STORAGE AND RETRIEVAL UNIT FOR TAPE CARTRIDGES	6097566	8/1/2000	Quantum Corporation

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MULTIPLE LUN SUPPORT FOR SATA DEVICES	7600059	10/6/2009	Quantum Corporation
MULTI-RATE TRACKING WITH A MULTI-ACTUATOR SERVO CONTROL	7684144	3/23/2010	Quantum Corporation
MULTI-THREADED MESSAGE PASSING JOURNAL	9069790	6/30/2015	Quantum Corporation
MULTI-TIER BANDWIDTH-CENTRIC DEDUPLICATION	9071584	6/30/2015	Quantum Corporation
NETWORK ATTACHED DEVICE FOR ACCESSING REMOVABLE STORAGE MEDIA	(15487776)	(4/14/2017)	Quantum Corporation
NETWORK-ATTACHABLE, FILE-ACCESSIBLE STORAGE DRIVE	8223600	7/17/2012	Quantum Corporation
NO TOUCH SYNTHETIC FULL BACKUP	8442945	5/14/2013	Quantum Corporation
NOISE TOLERANT PHASE LOCKED LOOP	7489203	2/10/2009	Quantum Corporation
N-WAY INODE TRANSLATION	9594763	3/14/2017	Quantum Corporation
OBJECT SYNTHESIS	9633032	4/25/2017	Quantum Corporation
OBJECT SYNTHESIS	(15468405)	(3/24/2017)	Quantum Corporation
OPTICAL APPARATUS FOR TRACKING A MAGNETIC TAPE	6246535	6/12/2001	Quantum Corporation
OPTICAL APPARATUS FOR TRACKING A MAGNETIC TAPE	7149049	12/12/2006	Quantum Corporation
OPTICAL RECORDING ARTICLE	7161894	1/9/2007	Quantum Corporation
PASSWORD-BASED MEDIA CARTRIDGE AUTHENTICATION	7779220	8/17/2010	Quantum Corporation
PATH LOOKUP IN A HIERARCHICAL FILE SYSTEM	10019451	7/10/2018	Quantum Corporation
PIVOTING LEVER CAM GUIDE TAPE HEAD POSITIONER	6075678	6/13/2000	Quantum Corporation
POINT-TO-POINT PROTOCOL	7023876	4/4/2006	Quantum Corporation
POLICY BASED DATA RETRIEVAL PERFORMANCE FOR DEDUPLICATED DATA	8244992	8/14/2012	Quantum Corporation
POSITIVE ENGAGEMENT BUCKLE FOR A TAPE DRIVE AND CARTRIDGE	5971310	10/26/1999	Quantum Corporation
POWER SAVINGS IN COLD STORAGE	9965351	5/8/2018	Quantum Corporation
POWER SAVINGS IN COLD STORAGE	(15942686)	(4/2/2018)	Quantum Corporation
PRESENTING A FILE SYSTEM FOR A FILE CONTAINING ITEMS	8473531	6/25/2013	Quantum Corporation
PRESENTING A FILE SYSTEM FOR A FILE CONTAINING ITEMS	9146813	9/29/2015	Quantum Corporation
PRESENTING A FILE SYSTEM FOR A FILE CONTAINING ITEMS	9697085	7/4/2017	Quantum Corporation
SYSTEMS AND METHODS FOR PROVIDING A FILE SYSTEM VIEW OF A STORAGE ENVIRONMENT	9959131	5/1/2018	Quantum Corporation
PREVENTING READ WHILE WRITING OCCURENCES	8650357	2/11/2014	Quantum Corporation

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PRIORITIZATING DATA DEDUPLICATION	8886613	11/11/2014	Quantum Corporation
PRML BASED MAGNETIC SERVO POSITION DEMODULATOR	7362525	4/22/2008	Quantum Corporation
PRODUCING A MASS STORAGE BACKUP USING A LOG OF WRITE COMMANDS AND TIME INFORMATION	7334098	2/19/2008	Quantum Corporation
PROTECTING DE-DUPLICATION REPOSITORIES AGAINST A MALICIOUS ATTACK	9094195	7/28/2015	Quantum Corporation
QUICK RELEASE FASTENING SYSTEM FOR STORAGE DEVICES	6618255	9/9/2003	Quantum Corporation
RATE 321/33 (D=0, K=6) RUN LENGTH LIMITED MODULATION CODE HAVING OPTIMIZED ERROR PROPAGATION	6184806	2/6/2001	Quantum Corporation
RECOVERY OF DATA ON A PRIMARY DATA VOLUME	7778958	8/17/2010	Quantum Corporation
RECURSIVE MULTI-THREADED FILE SYSTEM SCANNER FOR SERIALIZING FILE SYSTEM METADATA EXOSKELETON	(14922432)	(10/26/2015)	Quantum Corporation
REDUCING MESSAGING IN A CLIENT-SERVER SYSTEM	8190736	5/29/2012	Quantum Corporation
REDUCING MESSAGING IN A CLIENT-SERVER SYSTEM	8554909	10/8/2013	Quantum Corporation
METHOD AND APPARATUS FOR REDUCING MESSAGING IN A CLIENT_SERVER SYSTEM BY SELECTIVELY TRANSITIONING STATE MODE	9456041	9/27/2016	Quantum Corporation
REDUCING METADATA CONTROLLER COMMUNICATION VOLUME	9342568	5/17/2016	Quantum Corporation
REDUCING READ STARVATION	9069702	6/30/2015	Quantum Corporation
REDUCTION OF DEGRADATION OF MAGNETIC TAPE APPARATUS	8737007	5/27/2014	Quantum Corporation
REEL LOCK AND COUPLING ENGAGEMENT MECHANISMS FOR A CARTRIDGE	6113020	9/5/2000	Quantum Corporation
REEL LOCK AND COUPLING ENGAGEMENT MECHANISMS FOR A CARTRIDGE	6234416	5/22/2001	Quantum Corporation
REEL LOCK AND COUPLING ENGAGEMENT MECHANISMS FOR A CARTRIDGE	6318657	11/20/2001	Quantum Corporation
REMOVABLE MEDIA BASED OBJECT STORE	(15340691)	(11/1/2016)	Quantum Corporation
REPAIR OF A CORRUPT DATA SEGMENT USED BY A DE-DUPLICATION ENGINE	7913114	3/22/2011	Quantum Corporation
ROLLER-INSERTER FOR USE WITH CARTRIDGE STYLE INFORMATION STORAGE MEDIA	6120230	9/19/2000	Quantum Corporation
SAMPLING BASED ON DATA DE-DUPLICATION	8442956	5/14/2013	Quantum Corporation

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SATISFYING A REQUEST FOR A PHYSICAL IMPORT/EXPORT SLOT WITH A SLOT THAT IS NOT A PHYSICAL IMPORT/EXPORT SLOT	8886353	11/11/2014	Quantum Corporation
SELF-CENTERING TAPE REEL FOR SINGLE REEL TAPE CARTRIDGES	7100858	9/5/2006	Quantum Corporation
SEQUENTIAL ACCESS STORAGE AND DATA DE-DUPLICATION	9569134	2/14/2017	Quantum Corporation
SEQUENTIAL ACCESS STORAGE AND DATA DE-DUPLICATION	(15385023)	(12/20/2016)	Quantum Corporation
SERVO ERROR DETECTION AND COMPENSATION UTILIZING VIRTUAL DATA TRACKING SERVO METHODS	7826169	11/2/2010	Quantum Corporation
SERVO METHODS AND SYSTEMS USING EXISTING DATA STRUCTURES AND OPTICAL MASKS	7139152	11/21/2006	Quantum Corporation
SERVO METHODS AND SYSTEMS USING MASKED MEDIUM EDGE POSITION SENSORS	7136255	11/14/2006	Quantum Corporation
SERVO TRACK FORMAT THAT PROVIDED A UNIQUE MEDIA ID FOR ENCRYPTION	8339726	12/25/2012	Quantum Corporation
SERVO TRACK HAVING PERIODIC FRAMES OF TONE FIELD AND EMBEDDED SYNCHRONIZATION MARKS	7522371	4/21/2009	Quantum Corporation
SHARED COMMUNITY STORAGE NETWORK	7869383	1/11/2011	Quantum Corporation
SHARED COMMUNITY STORAGE NETWORK	8462665	6/11/2013	Quantum Corporation
SHARED COMMUNITY STORAGE NETWORK	9344378	5/17/2016	Quantum Corporation
SHIPPING TRAY FOR MULTIPLE CARTRIDGES	D523338	6/20/2006	Quantum Corporation
SHOCK MOUNT FOR A DEVICE PACKAGED IN A PORTABLE CARTRIDGE	6545865	4/8/2003	Quantum Corporation
SINGLE PASS FILE SYSTEM REPAIR WITH COPY ON WRITE	9898468	2/20/2018	Quantum Corporation
SINGLE TAPE CARTRIDGE INTERFACE HAVING A CARTRIDGE REINSERTION PREVENTING MECHANISM IN AN AUTOMATED AUTOLOADER/LIBRARY SYSTEM	6606218	8/12/2003	Quantum Corporation
SNAPSHOT CREATION FROM BLOCK LISTS	8738883	5/27/2014	Quantum Corporation
SOFTWARE, SYSTEMS, AND METHODS FOR ENHANCED REPLICATION WITHIN VIRTUAL MACHINE ENVIRONMENTS	9665582	5/30/2017	Quantum Corporation
STORAGE CONDITIONING WITH INTELLIGENT REBUILD	(14944251)	(11/18/2015)	Quantum Corporation
STORAGE DEVICE FOR USE IN A SHARED COMMUNITY STORAGE NETWORK	8108502	1/31/2012	Quantum Corporation
STORAGE MEDIUM CARTRIDGE HAVING AN INTEGRAL KEY	6175470	1/16/2001	Quantum Corporation

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STRENGTHENING PARITY CHECK BIT PROTECTION FOR ARRAY-LIKE LDPC CODES	7949932	5/24/2011	Quantum Corporation
SUPPORTING INTERNAL CONSISTENCY CHECKING WITH CONSISTENCY CODED JOURNAL FILE ENTRIES	8572048	10/29/2013	Quantum Corporation
SYNTHETIC VIEW	9020996	4/28/2015	Quantum Corporation
SYSTEM AND METHOD FOR DETECTING AND INHIBITING CYCLE SLIP FOR MULTI-CHANNEL MEDIA DRIVE	8922927	12/30/2014	Quantum Corporation
SYSTEM AND METHOD FOR ELECTRICAL CABLE MANAGMENT IN LIMITED ROTATION APPLICATIONS	8262009	9/11/2012	Quantum Corporation
SYSTEM AND METHOD FOR TAPE LAYOUT OPTIMIZATION	10014025	7/3/2018	Quantum Corporation
SYSTEMS AND METHOD FOR FORMING A SERVO PATTERN ON A MAGNETIC TAPE	7153366	12/26/2006	Quantum Corporation
SYSTEMS AND METHODS FOR COLLAPSING A DERIVATIVE VERSION OF A PRIMARY STORAGE VOLUME	8732427	5/20/2014	Quantum Corporation
SYSTEMS AND METHODS FOR INCREASING DATA VOLUME SPARSENESS	8825936	9/2/2014	Quantum Corporation
TAPE CARTRIDGE	D491564	6/15/2004	Quantum Corporation
TAPE CARTRIDGE	6271991	8/7/2001	Quantum Corporation
TAPE CARTRIDGE FOR TESTING AND REPAIRING A TAPE HEAD OF A TAPE DRIVE	7395983	7/8/2008	Quantum Corporation
TAPE CARTRIDGE PICKER FOR AN AUTOMATED TAPE CARTRIDGE AUTOLOADER/LIBRARY SYSTEM	6816331	11/9/2004	Quantum Corporation
TAPE DRIVE DATA STORAGE DEVICE HAVING PERPENDICULARLY ADJUSTED TAPE GUIDES	6141184	10/31/2000	Quantum Corporation
TAPE DRIVE EMULATION SYSTEM INCLUDING TAPE LIBRARY INTERACE	6324497	11/27/2001	Quantum Corporation
TAPE GUIDING REEL	7073742	7/11/2006	Quantum Corporation
TAPE HEAD WITH THIN SUPPORT SURFACE AND METHOD OF MANUFACTURE	6937435	8/30/2005	Quantum Corporation
TAPE LIBRARY INITIATED ACTION	8743501	6/3/2014	Quantum Corporation
TAPE STORAGE DEVICE HAVING AT LEAST ONE REDUNDANT READ DATA ELEMENT	9792928	10/17/2017	Quantum Corporation
THERMAL COOLING SYSTEM FOR DENSELY PACKED STORAGE DEVICES	6618249	9/9/2003	Quantum Corporation
THIN FILM RECORDING HEAD WITH A LOCALIZED COATING TO PROTECT AGAINST CORROSION AND ELECTROSTATIC DISCHARGE	6879470	4/12/2005	Quantum Corporation



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TIMER BOUNDED ARBITRATION PROTOCOL FOR RESOURCE CONTROL	8332684	12/11/2012	Quantum Corporation
FOUR CHANNEL AZIMUTH AND TWO CHANNEL NON-AZIMUTH READ-AFTER-WRITE LONGITUDINAL MAGNETIC HEAD	6130804	10/10/2000	Quantum Corporation
TWO-PART TAPE CARTRIDGE REEL LOCKING MECHANISM	6034850	3/7/2000	Quantum Corporation
TWO-TONE MAGNETIC TAPE CARTRIDGE	D496368	9/21/2004	Quantum Corporation
ULTRA HIGH TRACK DENSITY ADAPTIVE HEAD CORE TRACK PITCH CONTROL	7486464	2/3/2009	Quantum Corporation
ULTRA HIGH TRACK DENSITY ADAPTIVE HEAD CORE TRACK PITCH CONTROL	7859786	12/28/2010	Quantum Corporation
UNIFIED DATA PROTECTION AND DATA DE-DUPLICATION IN A STORAGE SYSTEM	8392791	3/5/2013	Quantum Corporation
UNSUCCESSFUL STORAGE MEDIA MOVEMENT HANDLING IN AUTOMATED REMOVABLE STORAGE MEDIA ENVIRONMENTS	10032474	7/24/2018	Quantum Corporation
VIRTUAL MAGNETIC TAPE DRIVE LIBRARY SYSTEM	6067481	5/23/2000	Quantum Corporation
WAVEFORM INTERPOLATOR ARCHITECTURE FOR ACCURATE TIMING RECOVERY BASED ON UP-SAMPLING TECHNIQUE	8594254	11/26/2013	Quantum Corporation
WIDE TAPE CARTRIDGE	6267313	7/31/2001	Quantum Corporation
WINDOWED LEVEL DETECTOR FOR PARTIAL RESPONSE CHANNELS	7852965	12/14/2010	Quantum Corporation
MAGNETIC TAPE CARTRIDGE	6452745	9/17/2002	Quantum LTO Holdings
MAGNETIC TAPE CARTRIDGE HAVING BRAKE WITH SKIRT PORTION THEREOF CONTACTING REEL HUB CONTINUOUS WALL PORTION	6563671	5/13/2003	Quantum LTO Holdings
MAGNETIC TAPE CARTRIDGE	6462906	10/8/2002	Quantum LTO Holdings c/o Quantum Corp
MAGNETIC TAPE CARTRIDGE	6648259	11/18/2003	Quantum LTO Holdings c/o Quantum Corp
MAGNETIC TAPE CARTRIDGE	6669127	12/30/2003	Quantum LTO Holdings c/o Quantum Corp
MAGNETIC TAPE CARTRIDGE HAVING PROJECTIONS	6717771	4/6/2004	Quantum LTO Holdings c/o Quantum Corp
MAGNETIC TAPE CARTRIDGE WITH ROTATABLY-MOUNTED MULTI-PROJECTION BRAKE RELEASE MEMBER	7085101	8/1/2006	Quantum LTO Holdings c/o Quantum Corp
TAMPER RESISTANT WRITE ONCE RECORDING OF A DATA STORAGE CARTRIDGE HAVING REWRITABLE MEDIA	7038874	5/2/2006	Quantum LTO Holdings c/o Quantum Corp

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TAPE LEADER PIN ASSEMBLY AND METHOD FOR MAKING THE SAME	6003802	12/21/1999	Quantum LTO Holdings, LLC
A TAPE ARCHITECTURE AND A HEAD ARCHITECTURE FOR A LINEAR TAPE DRIVE HAVING A REDUCED ACTUATOR STROKE	8009377	8/30/2011	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
BOUNDING DEFECTIVE REGIONS OF A TAPE STORAGE MEDIUM	7269687	9/11/2007	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
MAGNETIC TAPE CARTRIDGE WITH CONICALLY INCLINED SELF-CENTERING BRAKE SURFACE	6728066	4/27/2004	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
METHOD FOR CONSTRUCTING RLL CODES OF ARBITRARY RATE	7714749	5/11/2010	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
METHODS AND SYSTEMS FOR OVERWRITE PROTECTED STORAGE MEDIA	7224545	5/29/2007	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
SERVO TRACK HAVING PERIODIC FRAMES OF TONE FIELD AND EMBEDDED SYNCHRONIZATION MARKS	7522372	4/21/2009	QUANTUM LTO HOLDINGS, LLC c/o Quantum Corporation
TAPE LEADER PIN ASSEMBLY AND METHOD FOR MAKING THE SAME	6499684	12/31/2002	Quantum LTO HOLDINGS, LLC c/o Quantum Corporation
A METHOD FOR AUTOMATICALLY RELEASING STORAGE SPACE BY COPY TIER BASED ON TIME SINCE LAST ACCESS	(15787073)	10/18/2017	Quantum Corporation
ADAPTIVE PREFETCH	(62626892)	(2/6/2018)	Quantum Corporation
DATA BAND IDENTIFICATION FOR TAPE SERVO SYSTEM USING MULTIPLE SERVO BANDS	(62669735)	(5/10/2018)	Quantum LTO Holdings
DATA PROTECTION OF CONTAINER PERSISTENT STORAGE WITH CHANGED BLOCK TRACKING	(16146358)	(9/28/2018)	Quantum Corporation
DATA REDIRECTOR FOR SCALE OUT	(16203897)	(11/29/2018)	Quantum Corporation
DATA REDIRECTOR FOR SCALE OUT	(62592039)	(11/29/2017)	Quantum Corporation
DATA STORAGE ACROSS SIMPLIFIED HDD AND SSD STORAGE DEVICES	(62745883)	(10/15/2018)	Quantum Corporation
DIAGNOSTIC TAPE CARTRIDGE PATTERNED WITH PREDETERMINED HEAD-MEDIA SPACINGS FOR TESTING A TAPE HEAD OF A TAPE DRIVE	62617540	1/15/2018	Quantum Corporation
ERASURE CODED TAPES WITH ADAPTIVE PARITY PROTECTION FEEDBACK FROM MEDIA FOR CAPACITY OPTIMIZED GEOGRAPHIC DISTRIBUTION	(62675979)	(5/24/2018)	Quantum Corporation
FLEXIBLE SYNCHRONOUS FILE SYSTEM REPLICATION	(16043693)	(7/24/2018)	Quantum Corporation
SYSTEM AND METHOD FOR TAPE LAYOUT OPTIMIZATION	(15993069)	(5/30/2018)	Quantum Corporation

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JOINT DE-DUPLICATION-ERASURE CODED DISTRIBUTED STORAGE	(16285320)	(2/26/2019)	Quantum Corporation
ADAPTIVE PRE-FETCH	(16268868)	(2/6/2019)	Quantum Corporation
DATA BAND IDENTIFICATION FOR TAPE SERVO SYSTEM USING MULTIPLE SERVO BANDS	(16406448)	(5/8/2019)	Quantum LTO Holdings, LLC
ERASURE CODING MAGNETIC TAPES FOR MINIMUM LATENCY AND ADAPTIVE PARITY PROTECTION FEEDBACK	(16421685)	(5/24/2019)	Quantum Corporation
GLOBAL STORAGE SOLUTION WITH LOGICAL CYLINDERS AND CAPSULES	(16665756)	(10/28/2019)	Quantum Corporation
FILTER FILE SYSTEM WITH INODE NUMBER AS PRIMARY DATABASE KEY	(16669574)	(10/31/2019)	Quantum Corporation
CLOUD-BASED SOLID STATE DEVICE (SSD) WITH DYNAMICALLY VARIABLE ERROR CORRECTING CODE (ECC) SYSTEM	(16549433)	(8/23/2019)	Quantum Corporation
DATA STORAGE ACROSS SIMPLIFIED STORAGE VOLUMES	(16653454)	(10/15/2019)	Quantum Corporation
SYSTEMS AND METHODS FOR RANDOM TO SEQUENTIAL STORAGE MAPPING	(15796234)	(10/27/2017)	Quantum Corporation
SYSTEMS AND METHODS FOR DATA MANAGEMENT USING ZERO-TOUCH TAGGING	(15795882)	(10/27/2017)	Quantum Corporation
SYSTEMS AND METHODS FOR VIEWING AND ACCESSING DATA USING TAGGING	(15795961)	(10/27/2017)	Quantum Corporation
DIAGNOSTIC TAPE CARTRIDGE PATTERNED WITH PREDETERMINED HEAD-MEDIA SPACINGS FOR TESTING A TAPE HEAD OF A TAPE DRIVE	(10559322)	(02/11/2020)	Quantum Corporation
MAGNETIC TAPE CARTRIDGE WITH INCREASED DATA STORAGE CAPACITY	(16404552)	(05/06/2019)	Quantum Corporation
IMPROVED MAGNETIC TAPE MEDIA CARTRIDGE	(62926994)	(10/28/2019)	Quantum Corporation
IMPROVED MAGNETIC TAPE MEDIA CARTRIDGE	(62927001)	(10/28/2019)	Quantum Corporation
INTELLIGENT LIBRARY ARCHITECTURE BASED ON DISTRIBUTED COMPUTING USING LOCAL TAPE DRIVE ELECTRONICS FOR HIGH AREAL DENSITY TAPE STORAGE	(62926999)	(10/28/2019)	Quantum Corporation
SYSTEM AND METHOD FOR RAPID REPLACEMENT OF ROBOTIC MEDIA MOVER IN AUTOMATED MEDIA LIBRARY	(16677529)	(11/07/2019)	Quantum Corporation
CLIMATE CONTROLLER FOR MEDIA LIBRARY	(16688115)	(11/19/2019)	Quantum Corporation

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SYSTEM AND METHOD FOR EVALUATING THE INTERNAL STATE OF A MEDIA LIBRARY	(16745188)	(01/16/2020)	Quantum Corporation
STORAGE ARRAY SUPPORTING MULTI-THREAD ACCESS	(16817851)	(03/13/2020)	Quantum Corporation
DISTRIBUTED ERASURE ENCODING IN SHARED FILE SYSTEM	(16830516)	(03/26/2020)	Quantum Corporation
NON-VOLATILE STORAGE DEVICE WITH VOLATILE MEMORY	(63009030)	(04/13/2020)	Quantum Corporation
METHODS FOR AUTOMATED MEANS TO MECHANICALLY PREVENT ACCESS TO DATA ON MEDIA TO PROTECT FROM MALWARE INTRUSION	(63017452)	(04/29/2020)	Quantum Corporation
SYSTEM AND METHOD FOR CONTROLLING INTERNAL TEMPERATURE OF MEDIA LIBRARY	(16869460)	(05/07/2020)	Quantum Corporation

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