PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	RELEASE OF SECURITY INTEREST IN PATENTS PREVIOUSLY RECORDED AT REEL/FRAME (056295/0124)

CONVEYING PARTY DATA

Name	Execution Date
THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., AS NOTES COLLATERAL AGENT	03/29/2022

RECEIVING PARTY DATA

Name:	DELL PRODUCTS L.P.
Street Address:	ONE DELL WAY
City:	ROUND ROCK
State/Country:	TEXAS
Postal Code:	78682
Name:	EMC IP HOLDING COMPANY LLC
Street Address:	ONE DELL WAY
City:	ROUND ROCK
State/Country:	TEXAS
Postal Code:	78682

PROPERTY NUMBERS Total: 622

Property Type	Number
Application Number:	17245417
Application Number:	17245467
Application Number:	17246378
Application Number:	17243777
Application Number:	17243702
Application Number:	17244661
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Application Number:	17244338
Application Number:	17243923
Application Number:	17243684
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Application Number:	17164301
Application Number:	17164285
Application Number:	17163717
Application Number:	17164173
Application Number:	17163654

CORRESPONDENCE DATA

Fax Number: (212)455-2502

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: 2124552333

Email: jmull@stblaw.com

Correspondent Name: BOBBIE BURROWS

Address Line 1: 425 LEXINGTON AVENUE

Address Line 4: NEW YORK, NEW YORK 10017

ATTORNEY DOCKET NUMBER:	085706/0586
NAME OF SUBMITTER:	J. JASON MULL
SIGNATURE:	/J. Jason Mull/
DATE SIGNED:	06/10/2022

Total Attachments: 51

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NOTICE OF TERMINATION AND RELEASE OF SECURITY INTEREST IN PATENT RIGHTS

This NOTICE OF TERMINATION AND RELEASE (this "Release"), dated as of March 29, 2022 (the "Effective Date"), is made by THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., in its capacity as Notes Collateral Agent (the "Agent"), with respect to the grantor parties identified on the signature page hereto (each individually, a "Grantor," collectively the "Grantors").

WHEREAS, pursuant to the Indenture, dated as of March 20, 2019 (as amended and/or supplemented to the date hereof), among the Agent, the Grantor and certain other parties thereto (the "Indenture") and that certain Security Agreement, dated as of March 20, 2019 by and among the Agent, the Grantor and certain other parties thereto (as amended, amended and restated, or otherwise modified from time to time, the "Security Agreement"), the Grantor granted to the Agent a security interest in and to certain collateral, including Patents;

WHEREAS, pursuant to the Security Agreement, the Grantor executed and delivered a Patent Security Agreement, dated as of May 13, 2021 (the "Patent Security Agreement"), for recordal with the United States Patent and Trademark Office;

WHEREAS, the Patent Security Agreement was recorded with the United States Patent and Trademark Office on May 19, 2021 at Reel 56295 and Frame 0124;

WHEREAS, the security interest was terminated and released by the Agent on November 1, 2021, in accordance with the terms of the Indenture and the Security Agreement;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Agent hereby agrees as follows:

Defined Terms. All capitalized terms used, but not otherwise defined herein, shall have the respective meanings ascribed in or otherwise referenced in the Patent Security Agreement or the Security Agreement, as applicable.

Release. The Agent, without recourse, representation or warranty of any kind, hereby disclaims, releases, discharges, terminates and cancels any security interest in and to the Patent Collateral, including the Patents set forth in Schedule 1 attached hereto (the "Released Patents") arising from the Security Agreement and the recordation of the Patent Security Agreement and reassigns all right, title and interest it has in the Released Patents to the Grantor.
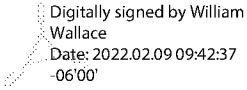
Further Assurances. Promptly upon request by the Grantor from time to time, the Agent agrees to take all further actions, and provide to the Grantor and its successors, assigns or other legal representatives, all such cooperation and assistance (including, without limitation, the execution and delivery of any and all documents or other instruments), reasonably requested by the Grantor, at the Grantor's sole cost and expense, to more fully and effectively effectuate the purposes of this Release.

Governing Law. This Release shall be governed by and construed in accordance with the laws of the State of New York, and shall be binding on the Grantor's and the Agent's representatives, successors, assigns and transferees.

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IN WITNESS WHEREOF, the Agent has caused this Release to be executed by its duly authorized representative as of the Effective Date:

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., not in its individual capacity but solely acting in its capacity as Agent for the Secured Parties

By: William Wallace Digitally signed by William Wallace
Date: 2022.02.09 09:42:37 -06'00'
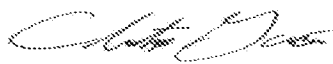
Name: William Wallace
Title: Vice President

PATENT
REEL: 062022 FRAME: 0033

GRANTOR(s)

Dell Products L.P.

By: _____
    Name: Christopher Garcia
    Title: Senior Vice President &
    Assistant Secretary

EMC IP Holding Company LLC

By: _____
    Name: Christopher Garcia
    Title: Senior Vice President &
    Assistant Secretary

Schedule I

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	Bi-Stable Synchronized Dual Axle Hinge	17/245417	4/30/2021
Dell Products L.P.	Belt Synchronized Expandable Dual Axle Hinge	17/245467	4/30/2021
Dell Products L.P.	Chained Loading with Static and Dynamic Root of Trust Measurements	17/246378	4/30/2021
Dell Products L.P.	COMPUTING DEVICE APPLICATION PERFORMANCE OPTIMIZATION SYSTEM	17/243777	4/29/2021
Dell Products L.P.	PROCESSING SYSTEM CONCURRENCY OPTIMIZATION SYSTEM	17/243702	4/29/2021
Dell Products L.P.	Key Management for Self-Encrypting Drives	17/244661	4/29/2021
Dell Products L.P.	MANAGEMENT CONTROLLER BASED DRIVE MIGRATION	17/244638	4/29/2021
Dell Products L.P.	Systems and Methods for Smart Network Interface Card-Initiated Server Management	17/244338	4/29/2021
Dell Products L.P.	SYSTEMS AND METHODS FOR ENABLING SMART NETWORK INTERFACE CARD AS AN ADVANCED TELEMETRY APPLIANCE	17/243923	4/29/2021
Dell Products L.P.	Methods to offer emergency alternate parts replacement while waiting for the part dispatch	17/243684	4/29/2021
Dell Products L.P.	Rapid Power Reduction for Non-Volatile Memory Express Storage	17/244215	4/29/2021
Dell Products L.P.	Trusted Platform Module Protection for Non-Volatile Memory Express (NVME) Recovery	17/243804	4/29/2021
Dell Products L.P.	INFORMATION HANDLING SYSTEM FAULT ANALYSIS WITH REMOTE REMEDIATION FILE SYSTEM	17/244323	4/29/2021
Dell Products L.P.	LINKING EMBEDDED CONTROLLER WITH MEMORY REFERENCE CODE	17/244624	4/29/2021

Owner	Application Title	Application Number	Filed Date
	AND SYSTEM BIOS SHADOWING		
Dell Products L.P.	Dark Storage Support for As-A-Service Model	17/243030	4/28/2021
Dell Products L.P.	Managing Migration of Self Encrypted Drive within a Single Key Management System User Group	17/243253	4/28/2021
Dell Products L.P.	Method to calculate airflow for each slot in a modular chassis to enable the sled thermal restriction matrix to be based on the actual configuration	17/242443	4/28/2021
Dell Products L.P.	PARTITION WALL DESIGN FOR UNIVERSAL BAY SYSTEM	17/243231	4/28/2021
Dell Products L.P.	UNIVERSAL BAY CHASSIS AND SYSTEM FOR SELF-IDENTIFICATION AND AUTOMATIC CONFIGURATION OF AN INFORMATION HANDLING SYSTEM IN THE CHASSIS	17/243217	4/28/2021
Dell Products L.P.	Flexible Server Chassis with Alternative Power Supply Locations and Directions	17/242567	4/28/2021
Dell Products L.P.	System for Enterprise Voice Signature Login	17/243150	4/28/2021
Dell Products L.P.	System for Enterprise Alert Timeline of a System and Service	17/243137	4/28/2021
Dell Products L.P.	HIGH-PERFORMANCE COMPUTING COOLING SYSTEM	17/243525	4/28/2021
Dell Products L.P.	HIGH-PERFORMANCE COMPUTING COOLING SYSTEM	17/243488	4/28/2021
Dell Products L.P.	HIGH-PERFORMANCE COMPUTING COOLING SYSTEM	17/243443	4/28/2021
Dell Products L.P.	Smart Power path selection ver.2	17/243121	4/28/2021

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	SYSTEM AND METHOD OF UTILIZING GRAPHICAL USER INTERFACE PROFILES	17/242734	4/28/2021
Dell Products L.P.	Secure & Attested All Photonics Network	17/241951	4/27/2021
Dell Products L.P.	ZERO TRAFFIC LOSS IN VLT FABRIC	17/241740	4/27/2021
Dell Products L.P.	Optimized Diagnostics Plan for an Information Handling System	17/241982	4/27/2021
Dell Products L.P.	AUTOMATIC PLACEMENT DECISIONS FOR RUNNING INCOMING WORKLOADS ON A DATACENTER INFRASTRUCTURE	17/241684	4/27/2021
Dell Products L.P.	Smart Sensor for Zero- Touch Trusted Association	17/241942	4/27/2021
Dell Products L.P.	THERMAL MODULE WITH HEAT PIPE HAVING A SHARP ANGLED BEND FOR INCREASED COOLING	17/241932	4/27/2021
Dell Products L.P.	Organic Light Emitting Diode Display Thermal Management	17/240633	4/26/2021
Dell Products L.P.	SYSTEMS AND METHODS FOR MIGRATION OF VIRTUAL COMPUTING RESOURCES USING SMART NETWORK INTERFACE CONTROLLER ACCELERATION	17/239859	4/26/2021
Dell Products L.P.	Display Panel Bottom Side Border	17/240257	4/26/2021
Dell Products L.P.	Secure Boot Runtime Universal Filesystem	17/240787	4/26/2021
Dell Products L.P.	LOOK-ASIDE RAID CONTROLLER STORAGE-DEVICE- ASSISTED DATA UPDATE SYSTEM	17/238708	4/23/2021
Dell Products L.P.	INTELLIGENT SUPPORT FRAMEWORK	17/238287	4/23/2021
Dell Products L.P.	ENUMERATING LOGICAL IDENTIFIERS FOR BACKPLANES OF AN	17/238491	4/23/2021

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Owner	Application Title	Application Number	Filed Date
	INFORMATION HANDLING SYSTEM		
Dell Products L.P.	MANAGING EDGE DEVICES BASED ON PREDICTED NETWORK BANDWIDTH UTILIZATION	17/239173	4/23/2021
Dell Products L.P.	Retrieving Congestion Configuration Information Automatically From A Centralized Repository	17/239294	4/23/2021
Dell Products L.P.	Kickstart Discovery Controller Connection command	17/239462	4/23/2021
Dell Products L.P.	METHOD AND SYSTEM FOR A SEMI-DICTATORIAL DETERMINATION OF STACKABLE SYSTEM ROLES IN AN INFORMATION HANDLING SYSTEM ENVIRONMENT	17/238903	4/23/2021
Dell Products L.P.	METHOD AND SYSTEM FOR A SEMI-DEMOCRATIC DETERMINATION OF STACKABLE SYSTEM ROLES IN AN INFORMATION HANDLING SYSTEM ENVIRONMENT	17/238919	4/23/2021
Dell Products L.P.	SYSTEM AND METHOD FOR DETECTING CONTAMINATION IN TWO-PHASE IMMERSION COOLING SYSTEMS BASED ON TEMPERATURE	17/239163	4/23/2021
Dell Products L.P.	METHOD AND SYSTEM FOR COLLECTIVELY-DETERMINING STACKABLE SYSTEM ROLES IN AN INFORMATION HANDLING SYSTEM ENVIRONMENT	17/238939	4/23/2021
Dell Products L.P.	METHOD AND SYSTEM FOR SECURELY APPLYING A STACKABLE SYSTEM ROLE TO AN INFORMATION HANDLING SYSTEM	17/238969	4/23/2021

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Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	AI/ML/cloud computing-based WWAN Thermal Management Optimization	17/238401	4/23/2021
Dell Products L.P.	Information Handling System Controller Adaptive Haptic Feedback	17/237602	4/22/2021
Dell Products L.P.	VERIFYING A USER OF AN INFORMATION HANDLING SYSTEM	17/237420	4/22/2021
Dell Products L.P.	INTELLIGENT ROUTING FRAMEWORK	17/237482	4/22/2021
Dell Products L.P.	COMPONENT MONITORING FRAMEWORK	17/237457	4/22/2021
Dell Products L.P.	ARTIFICIAL INTELLIGENCE-BASED ATTACH RATE PLANNING FOR COMPUTER-BASED SUPPLY PLANNING MANAGEMENT SYSTEM	17/237204	4/22/2021
Dell Products L.P.	Coordinating and Processing Events Across Multiple System Managers	17/237847	4/22/2021
Dell Products L.P.	Shared Storage Dynamic User Quota System	17/237181	4/22/2021
Dell Products L.P.	SPRING-BACK FORCE ADJUSTABLE INPUT/OUTPUT DEVICE FOR AN INFORMATION HANDLING SYSTEM	17/237866	4/22/2021
Dell Products L.P.	Software Upgrade System and Method for a Baseboard Management Controller Configured in an Information Handling System	17/236048	4/21/2021
Dell Products L.P.	ARTIFICIAL INTELLIGENCE-BASED CACHE DISTRIBUTION	17/236287	4/21/2021
Dell Products L.P.	Two-by-Two Cable Assembly	17/236124	4/21/2021
Dell Products L.P.	Controlling Storage Arraydata Transmissions	17/236695	4/21/2021
Dell Products L.P.	SYSTEM AND METHOD OF CHARGING A RECHARGEABLE BATTERY	17/236515	4/21/2021
Dell Products L.P.	SYSTEMS AND METHODS FOR SECURING AND	17/236399	4/21/2021

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Owner	Application Title	Application Number	Filed Date
	LOADING BIOS DRIVERS AND DEPENDENCIES IN A PREDEFINED AND MEASURED LOAD OARDER		
Dell Products L.P.	Detecting and Recovering a Corrupted Non-Volatile Random-Access Memory	17/236549	4/21/2021
Dell Products L.P.	SERVICE REQUEST REMEDIATION WITH MACHINE LEARNING BASED IDENTIFICATION OF CRITICAL AREAS OF LOG SEGMENTS	17/236107	4/21/2021
Dell Products L.P.	Data Relocation System	17/236307	4/21/2021
Dell Products L.P.	SYSTEM AND METHOD FOR OPERATING A PARTITIONED ANTENNA AT A VENT FORMED IN A BOTTOM METAL CHASSIS	17/236361	4/21/2021
Dell Products L.P.	COOLING COMPUTING MODULES OF A RACK-MOUNTABLE TRAY	17/235694	4/20/2021
Dell Products L.P.	Modular Horizontal Rack Manifold for Liquid Cooling	17/235624	4/20/2021
Dell Products L.P.	System and Method for Intermediate Software Upgrades for Information Handling Systems	17/234929	4/20/2021
Dell Products L.P.	Software Upgrade Verification System and Method of Using the Same	17/234902	4/20/2021
Dell Products L.P.	Automatically Detecting Data Offloading Methods Using Data Bucketing and Machine Learning Techniques	17/235285	4/20/2021
Dell Products L.P.	ARBITRATING SERIAL BUS ACCESS	17/235296	4/20/2021
Dell Products L.P.	LIQUID IMMERSION COOLED COMPUTING MODULE	17/235659	4/20/2021

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	COOLING COMPUTING MODULES OF A RACK-MOUNTABLE TRAY	17/235560	4/20/2021
Dell Products L.P.	Providing Continuous Cooling to a Storage Rack	17/235481	4/20/2021
Dell Products L.P.	Ball Grid Array Package Design	17/235486	4/20/2021
Dell Products L.P.	Data-Relationship- Based Fast Cache System	17/235657	4/20/2021
Dell Products L.P.	FOLDABLE CASE FOR A MULTI-FORM FACTOR INFORMATION HANDLING SYSTEM (IHS) WITH A DETACHABLE KEYBOARD	17/233945	4/19/2021
Dell Products L.P.	Prioritized Hash Table	17234063	4/19/2021
Dell Products L.P.	SYSTEM AND METHOD OF OPERATING MOBILE INFORMATION HANDLING SYSTEMS WITH RECHARGEABLE BATTERIES	17/234318	4/19/2021
Dell Products L.P.	BATTERY LEARN CYCLE MANAGEMENT	17/232237	4/16/2021
Dell Products L.P.	Uplink Failure Rebalancing	17/232936	4/16/2021
Dell Products L.P.	System for View-Only Command Center Mode	17/232447	4/16/2021
Dell Products L.P.	Applying a Failure Management Policy during Updating of Components at an Information Handling System	17/232917	4/16/2021
Dell Products L.P.	Method to Reduce IO Connector Stress at Solder Joints during Wrenching Event	17/232482	4/16/2021
Dell Products L.P.	Fabric Connection Assist System	17/233072	4/16/2021
Dell Products L.P.	DYNAMICALLY ILLUMINATED ELEMENT ON INFORMATION HANDLING SYSTEM BEZEL	17/232846	4/16/2021
Dell Products L.P.	PROVIDING A VERBALIZED DIAGNOSTIC MESSAGE TO A	17/232894	4/16/2021

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Owner	Application Title	Application Number	Filed Date
	USER OF AN INFORMATION HANDLING SYSTEM		
Dell Products L.P.	Dock to Bridge Vendor Defined Messages Between Devices	17/232497	4/16/2021
Dell Products L.P.	COOLING-POWER-UTILIZATION-BASED-WORKLOAD ALLOCATION SYSTEM	17/232400	4/16/2021
Dell Products L.P.	SYSTEM AND METHOD FOR COMPUTING CLUSTER SEEDING AND SECURITY USING KUBERNETES IMMUTABLE RESOURCE LOG	17/232958	4/16/2021
Dell Products L.P.	DETECTING AND RECONFIGURING OF BOOT PARAMETERS OF A REMOTE NONVOLATILE MEMORY EXPRESS (NVME) SUBSYSTEM	17/231437	4/15/2021
Dell Products L.P.	SHARING OF COMPUTING RESOURCES BETWEEN COMPUTING PROCESSES OF AN INFORMATION HANDLING SYSTEM	17/231384	4/15/2021
Dell Products L.P.	DDRS Crosstalk Mitigation Through Aggressor Misalignment	17/231396	4/15/2021
Dell Products L.P.	MANAGING A DISPLAY OF AN INFORMATION HANDLING SYSTEM	17/231324	4/15/2021
Dell Products L.P.	Systems and Methods for Secure Management of Components of Information Handling Systems	17/231216	4/15/2021
Dell Products L.P.	Receptacle Connector Socket with External Electrical Delivery Apparatus	17/230712	4/14/2021
Dell Products L.P.	Information Handling System with a Sequenced Order of Firmware Updates	17/230348	4/14/2021
Dell Products L.P.	EMI SHIELD SYSTEM AND METHOD FOR HYPERBARIC FAN COOLING SYSTEMS	17/230487	4/14/2021

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Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	Liquid-Assisted Air Cooling Design with Parallel Cold Plates and Serial Pumps	17/230627	4/14/2021
Dell Products L.P.	System for Enterprise Event Analysis via Micro-Expressions	17/228887	4/13/2021
Dell Products L.P.	Hardware System Identification Circuitry	17/229312	4/13/2021
Dell Products L.P.	Chassis Management Controller Monitored Overcurrent Protection for Modular Information Handling Systems	17/229602	4/13/2021
Dell Products L.P.	Modular and Highly Available Cooling Distribution Unit for Information Handling Systems	17/229624	4/13/2021
Dell Products L.P.	SYSTEM AND METHOD FOR ANTENNA REDUCTION AND USAGE FOR A MULTI-RADIO INFORMATION HANDLING SYSTEM	17/229532	4/13/2021
Dell Products L.P.	Thermal Control with Operating Point Shift for Acoustic Optimization	17/228509	4/12/2021
Dell Products L.P.	Computing Resource Sharing System	17/227838	4/12/2021
Dell Products L.P.	INTELLIGENT HARDWARE DELIVERY FOR ON-PREMISES HARDWARE AS A SERVICE	17/227788	4/12/2021
Dell Products L.P.	INCREASING POWER EFFICIENCY FOR AN INFORMATION HANDLING SYSTEM	17/228061	4/12/2021
Dell Products L.P.	DISCOVERY AND SAFE ENABLEMENT OF HIGH-SPEED MANAGEMENT INTERFACE VIA PCIE CARD ELECTROMECHANICAL CONNECTOR	17/227022	4/9/2021

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	MACHINE LEARNING-BASED ANALYSIS OF COMPUTING DEVICE IMAGES INCLUDED IN REQUESTS TO SERVICE COMPUTING DEVICES	17/226305	4/9/2021
Dell Products L.P.	REDUCING CORROSION IN AN INFORMATION HANDLING SYSTEM	17/226364	4/9/2021
Dell Products L.P.	TWO-PHASE COOLING APPARATUS	17/226350	4/9/2021
Dell Products L.P.	Personalizing User Experience with Neural Fitted Q Iteration	17/225630	4/8/2021
Dell Products L.P.	DEVICE ANTI-SURVEILLANCE SYSTEM	17/225236	4/8/2021
Dell Products L.P.	SOFTWARE VALIDATION FRAMEWORK	17/225229	4/8/2021
Dell Products L.P.	Port Beacon Plug	17/225251	4/8/2021
Dell Products L.P.	Overlay Ownership Certificates Including Hardware Inventory Profiles	17/225026	4/7/2021
Dell Products L.P.	Systems and Methods for Visually Identifying Equipment in a Data Center	17/224907	4/7/2021
Dell Products L.P.	Interchangeable Labeling Strip in Chassis Hem	17/224932	4/7/2021
Dell Products L.P.	Conformal Memory Heatsink	17/224862	4/7/2021
Dell Products L.P.	Reversible Airflow Shroud	17/224810	4/7/2021
Dell Products L.P.	Hybrid Port to Legacy Port Converter	17/223854	4/6/2021
Dell Products L.P.	Migrating Configuration Across Information Handling Systems Agnostic of Operating Systems	17/222468	4/5/2021
Dell Products L.P.	Device Access Control System	17/221319	4/2/2021
Dell Products L.P.	Handle Assembly with Slam Latch for Information Handling Resources	17/221142	4/2/2021

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Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	Connector Connection Verification System	17/221068	4/2/2021
Dell Products L.P.	STORAGE MODULE WITH REDUCED AIRFLOW IMPEDANCE AND IMPROVED STORAGE DEVICE DYNAMICS PERFORMANCE	17/221577	4/2/2021
Dell Products L.P.	SYSTEM AND METHOD OF MANAGING AVAILABLE MEMORY OF AN INFORMATION HANDLING SYSTEM	17/221316	4/2/2021
Dell Products L.P.	Unique Identification of Metric Values in Telemetry Reports	17/221120	4/2/2021
Dell Products L.P.	Direct Mount Acoustics Damping Shelf at Backplane-Identified Devices	17/220654	4/1/2021
Dell Products L.P.	Request Processing Using Dynamic Item Data Structures	17/219078	3/31/2021
Dell Products L.P.	System for Generating Enterprise Remediation Documentation	17/218536	3/31/2021
Dell Products L.P.	Enhanced Decision Feedback Equalization for Memory Interfaces	17/218660	3/31/2021
Dell Products L.P.	Client Authorization Mechanisms to Access Native Services	17/218529	3/31/2021
Dell Products L.P.	Direct-Attach Cable Data Transmission Visual Indicator System	17/218525	3/31/2021
Dell Products L.P.	Information Handling System Controller Scalable Interface	17/217196	3/30/2021
Dell Products L.P.	MULTI CRITERIA DECISION ANALYSIS FOR DETERMINING PRIORITIZATION OF VIRTUAL COMPUTING RESOURCES FOR SCHEDULING OPERATIONS	17/217111	3/30/2021
Dell Products L.P.	SCHEDULING WORKLOADS BASED ON PREDICTED MAGNITUDE OF STORAGE	17/216929	3/30/2021

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Owner	Application Title	Application Number	Filed Date
	CAPACITY SAVINGS ACHIEVED THROUGH DEDUPLICATION		
Dell Products L.P.	Active Stylus Adaptive to Multiple Input Types at an Information Handling System	17/217158	3/30/2021
Dell Products L.P.	Aggregated Networking Device Failover System	17/217664	3/30/2021
Dell Products L.P.	DETECTING DISPLAY DEVICE FAILURES USING POWER CONSUMPTION PROFILING	17/216132	3/29/2021
Dell Products L.P.	Information Handling System	29/776019	3/26/2021
Dell Products L.P.	Systems and Methods for Power Management for Modern Workspaces	17/213733	3/26/2021
Dell Products L.P.	Automatically Predicting Transaction Likelihood Information and Transaction-Related Temporal Information Using Machine Learning Techniques	17/213989	3/26/2021
Dell Products L.P.	Automatically Detecting Workload Type-Related Information in Storage Systems Using Machine Learning Techniques	17/213958	3/26/2021
Dell Products L.P.	Graphics Processing Management System	17/211995	3/25/2021
Dell Products L.P.	Systems and Methods for Consolidated Authentication for Modern Workspaces	17/212249	3/25/2021
Dell Products L.P.	Automatically Processing Storage System Data and Generating Visualizations Representing Differential Data Comparisons	17/212767	3/25/2021
Dell Products L.P.	Information Handling System Location Wakeup Radio Interface Synchronized Communications	17/212826	3/25/2021
Dell Products L.P.	Information Handling System and Peripheral Wakeup Radio Interface Synchronized Communications	17/212844	3/25/2021

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	Information Handling System and Peripheral Group Wakeup Radio Interface Synchronized Communications	17/212848	3/25/2021
Dell Products L.P.	Information Handling System and Peripheral Wakeup Radio Interface Configuration	17/212855	3/25/2021
Dell Products L.P.	Information Handling System and Peripheral Bi-Directional Wakeup Interface	17/212860	3/25/2021
Dell Products L.P.	Systems and Methods for Managing Hardware Privacy Configuration in Modern Workspaces	17/210562	3/24/2021
Dell Products L.P.	A High Density Adaptive Interface Monolithic Pstage	17/211430	3/24/2021
Dell Products L.P.	Systems and Methods for Determining Hinge Angle Position in an Information Handling System	17/210151	3/23/2021
Dell Products L.P.	Event Management System and Method for a Workspace Orchestration System	17/209271	3/23/2021
Dell Products L.P.	Workspace Migration System and Method of Using the Same	17/209267	3/23/2021
Dell Products L.P.	Systems and Methods for Orchestrated VPN Consolidation for Modern Workspaces	17/209549	3/23/2021
Dell Products L.P.	VIRTUAL ASSISTANT RESPONSE GENERATION	17/209372	3/23/2021
Dell Products L.P.	Security Hardened Function Keys and Indicators	17/210301	3/23/2021
Dell Products L.P.	SYSTEM AND METHOD OF MANAGING TEMPERATURES OF SURFACES OF INFORMATION HANDLING SYSTEMS	17/209895	3/23/2021
Dell Products L.P.	SYSTEMS AND METHODS FOR GRACEFUL TERMINATION OF APPLICATIONS IN RESPONSE TO POWER EVENT	17/208309	3/22/2021
Dell Products L.P.	System for Efficient Enterprise Dispatching	17/208796	3/22/2021

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Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	System for Optimizing Enterprise Network Relations	17/208758	3/22/2021
Dell Products L.P.	Systems and Methods for Orchestrated Resource Consolidation for Modern Workspaces	17/208250	3/22/2021
Dell Products L.P.	Connection Based Teaming with Composite Links	17/208570	3/22/2021
Dell Products L.P.	SYSTEM AND METHOD OF ENHANCING PERFORMANCES OF INFORMATION HANDLING SYSTEMS BY UTILIZING GRAPHICS PROCESSING UNITS	17/208677	3/22/2021
Dell Products L.P.	SYSTEMS AND METHODS OF EXECUTING A CHAIN OF TRUST WITH AN EMBEDDED CONTROLLER TO SECURE FUNCTIONALITIES OF AN INTEGRATED SUBSCRIBER IDENTIFICATION MODULE (ISIM)	17/208384	3/22/2021
Dell Products L.P.	System and Method for Reducing Failover Times in a Redundant Management Module Configuration	17/207181	3/19/2021
Dell Products L.P.	WEB Application Access Management System and Method for a Workspace Orchestration System	17/206509	3/19/2021
Dell Products L.P.	Workspace Administration System and Method for a Workspace Orchestration System	17/206249	3/19/2021
Dell Products L.P.	Caching System and Method for a Workspace Environment	17/206235	3/19/2021
Dell Products L.P.	License Verification System and Method for Workspace-Based Applications	17/206219	3/19/2021
Dell Products L.P.	Systems and Methods for Thread Management for Modern Workspaces	17/206286	3/19/2021
Dell Products L.P.	Centralized Discovery Controllers Storage Provisioning	17/205612	3/18/2021

Owner	Application Title	Application Number	Filed Date
Dell Products L.P.	PREDICTIVE BUILD QUALITY ASSESSMENT	17/205087	3/18/2021
Dell Products L.P.	Tolerance Absorbing Lever Mechanism	17/205006	3/18/2021
Dell Products L.P.	DYNAMICALLY PROVISIONING PERIPHERALS TO CONTAINERS	17/205343	3/18/2021
Dell Products L.P.	POWER/WORKLOAD MANAGEMENT SYSTEM	17/205825	3/18/2021
Dell Products L.P.	Information Handling System	29/774468	3/17/2021
Dell Products L.P.	Dock Assisted DBS Diversity	17/204417	3/17/2021
Dell Products L.P.	POWERING CO- PACKAGED NETWORKING SYSTEM	17/203930	3/17/2021
Dell Products L.P.	Contextual Bandwidth Management of Audio/Video Conference	17/203444	3/16/2021
Dell Products L.P.	Systems and Methods for Orchestrated Audio Session Management for Modern Workspaces	17/202487	3/16/2021
Dell Products L.P.	System and Method for Handling In-Band Interrupts on Inactive 13C Channels	17/201782	3/15/2021
Dell Products L.P.	Systems and Methods for Scaled User Authentication in Modern Workspaces	17/201175	3/15/2021
Dell Products L.P.	Multicast Domain Name System (mDNS)-Based Pull Registration	17/200896	3/14/2021
Dell Products L.P.	Systems and Methods for Secure Communications for Modern Workspaces	17/198680	3/11/2021
Dell Products L.P.	Systems and Methods for Managing Graphics Processor Usage by Modern Workspaces	17/198320	3/11/2021
Dell Products L.P.	GENERATING TEST SCENARIOS BY DETECTING FAILURE PATTERNS AND THEMES IN CUSTOMER EXPERIENCES	17/198836	3/11/2021
Dell Products L.P.	Link Validation System	17/198886	3/11/2021

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Dell Products L.P.	Floating Auto- Centering Cable Connector Assembly	17/197489	3/10/2021
Dell Products L.P.	SELF-CALIBRATING TRANSMISSION LINE RESONATOR OSCILLATING DRIVER APPARATUS	17/197457	3/10/2021
Dell Products L.P.	Impedance Matching Within a Signal Transmission Channel	17/197878	3/10/2021
Dell Products L.P.	MANAGING CLOCK SYNCHRONIZATION FOR A BASEBOARD MANAGEMENT CONTROLLER (BMC) OF AN INFORMATION HANDLING SYSTEM	17/197435	3/10/2021
Dell Products L.P.	Optical Liquid Coolant Leak Detector	17/197298	3/10/2021
Dell Products L.P.	METHOD AND APPARATUS FOR ANALYSIS OF RUNTIME BEHAVIOR	17/195874	3/9/2021
Dell Products L.P.	SYSTEM AND METHOD TO MAINTAIN OPTIMAL SYSTEM PERFORMANCE WHILE ADHERING TO COMPETING POWER CAP POLICIES	17/194997	3/8/2021
Dell Products L.P.	Systems and Methods for Utilizing Network Hints to Configure the Operation of Modern Workspaces	17/194343	3/8/2021
Dell Products L.P.	ENABLING MODERN STANDBY FOR UNSUPPORTED APPLICATIONS	17/195383	3/8/2021
Dell Products L.P.	Cover Assembly with Damping Hinge	17/194945	3/8/2021
Dell Products L.P.	Dynamic Connectivity Management Through Zone Groups	17/194251	3/6/2021
Dell Products L.P.	Detection of Indicators of Attack	17/193152	3/5/2021
Dell Products L.P.	Data Driven Chaos Engineering Based on Service Mesh and Organizational Chart	17/193940	3/5/2021

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Dell Products L.P.	Assessment of Humidity and Non-Humidity Driven Corrosion Risk	17/193619	3/5/2021
Dell Products L.P.	Dynamic Allocation of Bandwidth to Virtual Network Ports	17/193770	3/5/2021
Dell Products L.P.	DEVICE PROVISIONING USING SECURE CREDENTIALS FOR A FIRST DEPLOYMENT	17/193431	3/5/2021
Dell Products L.P.	Automated Internet Protocol (IP) Route Update Service for Ethernet Layer 3 (L3) IP Storage Area Networks (SANs)	17/192629	3/4/2021
Dell Products L.P.	SUSTAINABILITY AND EFFICIENCY AS A SERVICE	17/192095	3/4/2021
Dell Products L.P.	Systems and Methods for Itemizing Device Inventory for System Power Management	17/192073	3/4/2021
Dell Products L.P.	Systems and Methods for Resource Isolation for Network Boot Using Virtual Machine Monitor	17/192026	3/4/2021
Dell Products L.P.	System for Applying Server Config Files in the Augmented Reality Space	17/191031	3/3/2021
Dell Products L.P.	System and Method to Monitor and Manage a Passthrough Device	17/190719	3/3/2021
Dell Products L.P.	Latch with Movable Handle for Electronic Equipment	17/191363	3/3/2021
Dell Products L.P.	Information Handling System with Overlay Ownership Certificates for Ownership Chaining	17/189886	3/2/2021
Dell Products L.P.	Systems and Methods for Repairing Corruption to BIOS Boot Critical Memory Variables	17/189810	3/2/2021
Dell Products L.P.	SYSTEM AND METHOD OF CONFIGURING POWER SETTINGS OF AN INFORMATION HANDLING SYSTEM	17/190073	3/2/2021
Dell Products L.P.	METHOD AND APPARATUS FOR INTELLIGENT	17/189150	3/1/2021

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	SCHEDULING OF NETWORK EVALUATION IN WIRELESS LAN NETWORKS		
Dell Products L.P.	SYSTEM AND METHOD FOR GENERATING HIGH-FREQUENCY AND MID-FREQUENCY AUDIBLE SOUND VIA PIEZOELECTRIC ACTUATORS OF A HAPTIC KEYBOARD	17/188542	3/1/2021
Dell Products L.P.	SYSTEM AND METHOD FOR MACHINE LEARNING APPLIED TO IN-BAND TO OUT-OF-BAND COMMUNICATIONS MANAGEMENT	17/189146	3/1/2021
Dell Products L.P.	System and Method for Information Handling System (IHS) Optimization using Core Stall Management Technology	17/187927	3/1/2021
Dell Products L.P.	Antenna Diversity System and Method for an Information Handling System (IHS)	17/187920	3/1/2021
Dell Products L.P.	Portable Information Handling System User Interface Selection Based on Keyboard Configuration	17/187083	2/26/2021
Dell Products L.P.	Information Handling System Keyboard Discrete Row Illumination	17/187079	2/26/2021
Dell Products L.P.	INHIBITING RECOMMENDATION OF DRIVER INSTALLATIONS FOR DRIVERS THAT ARE LIKELY TO CAUSE A SYSTEM FAILURE	17/186648	2/26/2021
Dell Products L.P.	Network Manageability Techniques for Intelligent Connectivity	17/187356	2/26/2021
Dell Products L.P.	Systems and Methods for Block-Data Clustering-Based Deduplication	17/187413	2/26/2021
Dell Products L.P.	SYSTEM AND METHOD FOR NORMALIZING SHARED	17/187450	2/26/2021

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	CONTENT DURING A VIDEO CONFERENCE SESSION		
Dell Products L.P.	System and Method for Secure Movement of Trusted Memory Regions Across NUMA Nodes	17/185571	2/25/2021
Dell Products L.P.	Method to Create Secure USB Ports on a Computer	17/184641	2/25/2021
Dell Products L.P.	Information Handling System with Battery Power Management	17/185213	2/25/2021
Dell Products L.P.	Systems and Methods for Mitigating Failure to Enter Standby Mode	17/185630	2/25/2021
Dell Products L.P.	SYSTEM AND METHOD FOR SECURE MANAGEABILITY OF PRIVACY MODE	17/185255	2/25/2021
Dell Products L.P.	Modern Meetings	17/184639	2/25/2021
Dell Products L.P.	Fan Blockage Detection for an Information Handling System	17/185261	2/25/2021
Dell Products L.P.	Systems and Methods for Optimizing Preboot Telementry Efficiency	17/185701	2/25/2021
Dell Products L.P.	New design for M2 card with tool-less solution	17/184638	2/25/2021
Dell Products L.P.	SYSTEM AND METHOD FOR MULTI-USER STATE CHANGE	17/185222	2/25/2021
Dell Products L.P.	Methodology to allow automated thermal table assignment based on surrounding part substrate to enhance performance on multi-config products	17/184637	2/25/2021
Dell Products L.P.	Variable Wireless Beaconing Based on System Context	17/183613	2/24/2021
Dell Products L.P.	DEVICE MANAGEMENT FOR AN INFORMATION HANDLING SYSTEM	17/184225	2/24/2021
Dell Products L.P.	Scalable Capacity Forecasting in Storage Systems Using a Machine Learning Model	17/183961	2/24/2021
Dell Products L.P.	SYSTEM AND METHOD FOR DETECTING METAL MIGRATION IN TWO-PHASE IMMERSION COOLING SYSTEMS	17/184004	2/24/2021

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Dell Products L.P.	System and Method for BIOS Based Messaging in an Information Handling System	17/183020	2/23/2021
Dell Products L.P.	Artificial Intelligence (AI) Workload Sharing System and Method of Using the Same	17/182692	2/23/2021
Dell Products L.P.	System and Method for Provide Persistent Companion Software in an Information Handling System	17/183105	2/23/2021
Dell Products L.P.	System Method and Code for Un-Learning an Individual from an Artificial Intelligence (AI) Model	17/182632	2/23/2021
Dell Products L.P.	Method of Improved Power Capacity with Increased Rigidity for 4.5mm Cable AC Adapter Interface	17/182863	2/23/2021
Dell Products L.P.	Adaptive Source Power Enhancement for AC Adapters	17/182779	2/23/2021
Dell Products L.P.	PERFORMING WEAR LEVELING BETWEEN STORAGE SYSTEMS OF A STORAGE CLUSTER	17/182942	2/23/2021
Dell Products L.P.	Storage Drive Enclosure	29/771263	2/22/2021
Dell Products L.P.	Intelligent Diagnose Center	17/181975	2/22/2021
Dell Products L.P.	USAGE-BANDED ANOMALY DETECTION AND REMEDIATION UTILIZING ANALYSIS OF SYSTEM METRICS	17/179748	2/19/2021
Dell Products L.P.	MULTI-SPEED TRANSCEIVER SYSTEM	17/179689	2/19/2021
Dell Products L.P.	MULTI-SPEED INTEGRATED TRANSCEIVER CABLING SYSTEM	17/179531	2/19/2021
Dell Products L.P.	Information Handling System with a Tandem Fan Package	17/179721	2/19/2021
Dell Products L.P.	INTELLIGENT WORKLOAD SCHEDULING USING A RANKING OF SEQUENCES OF TASKS OF A WORKLOAD	17/178353	2/18/2021

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Dell Products L.P.	Systems and Methods for Managing Use of Portable IHS Batteries	17/177383	2/17/2021
Dell Products L.P.	Predictive Scanning and Handover	17/175980	2/15/2021
Dell Products L.P.	DEVICE FOR DETERMINING COOLANT LEAKS WITHIN INFORMATION HANDLING SYSTEMS	17/175017	2/12/2021
Dell Products L.P.	AUTOMATED BIOS PLATFORM CONFIGURATION SYSTEM	17/174621	2/12/2021
Dell Products L.P.	User authentication for an information handling system using a secured stylus	17/175107	2/12/2021
Dell Products L.P.	Authentication of user information handling system through stylus	17/174903	2/12/2021
Dell Products L.P.	Intelligent Automated Note Tagging	17/175482	2/12/2021
Dell Products L.P.	Intelligent automated note annotation	17/175402	2/12/2021
Dell Products L.P.	Information Handling System with Consolidated External User Presence Detection	17/174694	2/12/2021
Dell Products L.P.	Storage Area Network Connectivity Management Using Switch Fabric Conditions	17/174930	2/12/2021
Dell Products L.P.	Automatically generating a meeting summary for an information handling system	17/173905	2/11/2021
Dell Products L.P.	INFORMATION HANDLING SYSTEM AND METHOD FOR AUTOMATICALLY GENERATING A MEETING SUMMARY	17/173448	2/11/2021
Dell Products L.P.	PORT CONFIGURATION IDENTIFICATION SYSTEM	17/173414	2/11/2021
Dell Products L.P.	Robotic Dock for Video Conferencing	17/172379	2/10/2021
Dell Products L.P.	PLACEHOLDER BOOT OPTION AND BOOT OPTION REPLACEMENT SYSTEM	17/172812	2/10/2021
Dell Products L.P.	Cooling system for an information handling system	17/172749	2/10/2021

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Dell Products L.P.	Cooling system for an information handling system	17/172685	2/10/2021
Dell Products L.P.	Display Stand with Articulating Arm	29/770265	2/10/2021
Dell Products L.P.	Dock with Actively Controlled Heatsink for a Multi-Form Factor Information Handling System (IHS)	17/171334	2/9/2021
Dell Products L.P.	Head clamping force adjustment for open loop headset	17/171985	2/9/2021
Dell Products L.P.	Self adjusting AR/VR headset	17/171979	2/9/2021
Dell Products L.P.	Indirect contamination tracking with edge devices	17/171970	2/9/2021
Dell Products L.P.	Portable Information Handling System Hinge with Hybrid Rotation for Distributed Torque	17/171255	2/9/2021
Dell Products L.P.	Triad Tower Concept for Distributed Data Centers	29/770070	2/9/2021
Dell Products L.P.	Protective Information Handling System Case	29/770066	2/9/2021
Dell Products L.P.	Information Handling System	29/770064	2/9/2021
Dell Products L.P.	Display	29/770063	2/9/2021
Dell Products L.P.	Fan Tray System	17/170571	2/8/2021
Dell Products L.P.	VIRTUAL SWITCH FABRICS IN CONVERGED NETWORKS	17/170084	2/8/2021
Dell Products L.P.	CONTROLLING STATUS INDICATORS FOR DRIVE BAYS OF A DRIVE BAY ENCLOSURE OF A STORAGE SYSTEM	17/169784	2/8/2021
Dell Products L.P.	Path Selection Systems and Methods for Data Traffic for Link Aggregation Group Topologies	17/169295	2/5/2021
Dell Products L.P.	PERFORMANCE IMPACT DETECTION USING QUEUING CURVE ANALYSIS	17/168405	2/5/2021
Dell Products L.P.	Shared Transient Memory Storage in Basic Input/Output System Environment	17/168635	2/5/2021
Dell Products L.P.	REFLECTED ENERGY DETECTION SYSTEM AND	17/168896	2/5/2021

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	METHOD FOR DETECTING OILY RESIDUE IN TWO-PHASE IMMERSION COOLING SYSTEMS		
Dell Products L.P.	SYSTEM AND METHOD FOR DETECTING OILY RESIDUE IN TWO-PHASE IMMERSION COOLING SYSTEMS	17/168595	2/5/2021
Dell Products L.P.	Software defined multiple QoS traffic splitting over multiple heterogeneous links	17/168298	2/5/2021
Dell Products L.P.	Network and context aware AP and band switching	17/168305	2/5/2021
Dell Products L.P.	Traffic shaping with closed loop control	17/168309	2/5/2021
Dell Products L.P.	HYBRID MANAGEMENT SWITCH/CABLING SYSTEM	17/168408	2/5/2021
Dell Products L.P.	USE OF SIILICON PHOTONICS (SiP) FOR COMPUTER NETWORK INTERFACES	17/167758	2/4/2021
Dell Products L.P.	CONTROLLING AUDIO OF AN INFORMATION HANDLING SYSTEM	17/167858	2/4/2021
Dell Products L.P.	Information Handling System with Scrolling Expandable Display	17/167453	2/4/2021
Dell Products L.P.	System and Method for Adaptive Data Communication Radio Link Aggregation in an Information Handling System	17/167301	2/4/2021
Dell Products L.P.	Neural Net Method of Dynamic Multi-Path Authentication to Secure the Network	17/167582	2/4/2021
Dell Products L.P.	Cable Connector Release System	17/167191	2/4/2021
Dell Products L.P.	SYSTEM AND METHOD OF UTILIZING LEGACY APPLICATIONS WITH SECURE MEMORY MEDIUM PORTIONS	17/167726	2/4/2021
Dell Products L.P.	Baseboard Management Controller Firmware Security System	17/167845	2/4/2021

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Dell Products L.P.	Managing Neighbor Awareness Networking Technologies for Intelligent Connectivity	17/164860	2/2/2021
Dell Products L.P.	MANAGING ACCESS TO PERIPHERALS IN A CONTAINERIZED ENVIRONMENT	17/165036	2/2/2021
Dell Products L.P.	Proxy Management Controller System	17/165026	2/2/2021
Dell Products L.P.	SEGMENTED CONTROL OF A DISPLAY DEVICE'S PRIVACY CELL	17/164182	2/1/2021
Dell Products L.P.	DYNAMICALLY SELECTING A CONTAINER MODE	17/164218	2/1/2021
Dell Products L.P.	PREDICTING MOTHERBOARD CONNECTOR FAILURES	17/164138	2/1/2021
Dell Products L.P.	PREDICTING AND CREATING A SESSION ON A USER'S COMPUTING DEVICE	17/164245	2/1/2021
Dell Products L.P.	Data-Driven Organization Adjustment	17/164036	2/1/2021
Dell Products L.P.	Data-Driven Virtual Machine Recovery	17/164085	2/1/2021
Dell Products L.P.	Bezel with Air Filtration and Cable Management for an Information Handling System	17/164267	2/1/2021
EMC IP Holding Company LLC	Identifying Allocated Blocks In A Storage System	17/245572	4/30/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING INDEX OF STORAGE SYSTEM	17/246315	4/30/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR PROCESSING DATA	17/246293	4/30/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR DATA STORAGE	17/246267	4/30/2021

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EMC IP Holding Company LLC	DECENTRALIZED IDENTITIES FOR ACCESS TO MULTIPLE COMPUTING RESOURCE SYSTEMS	17/244414	4/29/2021
EMC IP Holding Company LLC	seamless tiering at data set level	17/244305	4/29/2021
EMC IP Holding Company LLC	Parallel File System with Smart Mapped RAID Rebuild @ scale	17/244465	4/29/2021
EMC IP Holding Company LLC	Offload Parallel File System POSIX Client to SmartNIC	17/244495	4/29/2021
EMC IP Holding Company LLC	MACHINE LEARNING TO IMPROVE CACHING EFFICIENCY IN A STORAGE SYSTEM	17/243973	4/29/2021
EMC IP Holding Company LLC	NVMe termination at memory speed	17/244518	4/29/2021
EMC IP Holding Company LLC	object termination at memory speed	17/244569	4/29/2021
EMC IP Holding Company LLC	Load Balancing In A Storage System	17/244733	4/29/2021
EMC IP Holding Company LLC	Inline deduplication for Parallel File System	17/244591	4/29/2021
EMC IP Holding Company LLC	End-To-End Data CRC @ scale	17/244608	4/29/2021
EMC IP Holding Company LLC	end to end encryption at scale with POSIX parallel file system	17/244627	4/29/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING INDEX OF STORAGE SYSTEM	17/244931	4/29/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR MANAGING STORAGE SYSTEM	17/244925	4/29/2021
EMC IP Holding Company LLC	Queued-based throttling for hierarchical requests	17/243353	4/28/2021
EMC IP Holding Company LLC	System and method for efficient backup system aware direct data migration between clouds storages	17/243275	4/28/2021
EMC IP Holding Company LLC	Improving Performance Of A Multi-Core Storage System	17/242992	4/28/2021

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EMC IP Holding Company LLC	System and Method for Efficient Scalable Software-Defined NVMEoF Front-End Connectivity	17/243306	4/28/2021
EMC IP Holding Company LLC	Queue Management System and Method	17/243421	4/28/2021
EMC IP Holding Company LLC	System and Method for Consistant Metadata Access Based on Local Locks Semantics in A Multi-Node Cluster	17/243252	4/28/2021
EMC IP Holding Company LLC	NETWORK SCALING APPROACH FOR HYPER-CONVERGED INFRASTRUCTURE (HCI) AND HETEROGENEOUS STORAGE CLUSTERS	17/242757	4/28/2021
EMC IP Holding Company LLC	greener software defined storage stack	17/242025	4/27/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR MULTI-NODE COMMUNICATION	17/240240	4/26/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING DATA PATTERN	17/239950	4/26/2021
EMC IP Holding Company LLC	Preventing Digital Forgery	17/238598	4/23/2021
EMC IP Holding Company LLC	USING MULTI- STREAM STORAGE DEVICES IN LOG STRUCTURED STORAGE SYSTEM	17/238613	4/23/2021
EMC IP Holding Company LLC	STORAGE SYSTEM WITH PASSIVE WITNESS NODE	17/238615	4/23/2021
EMC IP Holding Company LLC	System and Method for Non-Disruptive Upgrade For Metadata Log With Minimal Hiccup	17/238382	4/23/2021
EMC IP Holding Company LLC	Consolidated Write System and Method	17/239176	4/23/2021
EMC IP Holding Company LLC	System and Method for Implementing Mapper Metadata as a Log-Structured System	17/239021	4/23/2021
EMC IP Holding Company LLC	System and Method for Boosting Up Performance of NVMe-TCP Transport	17/239102	4/23/2021
EMC IP Holding Company LLC	Method and System for Establishing Trust Between	17/238653	4/23/2021

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	Nodes in a Network Based on Recommendations		
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR SCHEDULING BACKUP WORKLOADS USING A TRAINED JOB RESOURCE MAPPING MODEL	17/238885	4/23/2021
EMC IP Holding Company LLC	Memory Management System and Method	17/239281	4/23/2021
EMC IP Holding Company LLC	Memory Management System and Method	17/239243	4/23/2021
EMC IP Holding Company LLC	System and Method for Minimizing Write Amplification in Log Structured Writes	17/238408	4/23/2021
EMC IP Holding Company LLC	System and Method for Extending NVRAM-Based Write-Cache onto SSDs	17/238946	4/23/2021
EMC IP Holding Company LLC	Password Resetting System and Method	17/239145	4/23/2021
EMC IP Holding Company LLC	Method and System for Limiting Access of Multiple Data Nodes to Shared Storage During the Performance of Data Protection Services Through Load Balancing	17/238718	4/23/2021
EMC IP Holding Company LLC	Method and System for Generating Backups of Virtual Machines by Grouping	17/238690	4/23/2021
EMC IP Holding Company LLC	Method and System for Generating Backups with Historical Metadata	17/238664	4/23/2021
EMC IP Holding Company LLC	EXTENDING SIMILARITY-BASED DEDUPLICATION TO ADJACENT DATA	17/238303	4/23/2021
EMC IP Holding Company LLC	LOAD BALANCING COMBINING BLOCK AND FILE STORAGE	17/238877	4/23/2021
EMC IP Holding Company LLC	DISTRIBUTED STORAGE WORKLOAD MANAGEMENT	17/238115	4/22/2021
EMC IP Holding Company LLC	SNAPSHOT-BASED REMOTE REPLICATION	17/238103	4/22/2021
EMC IP Holding Company LLC	SYNCHRONOUS REMOTE REPLICATION OF SNAPSHOTS	17/237127	4/22/2021

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EMC IP Holding Company LLC	REMOTE REPLICATION OF SNAPSHOTS TAKEN WHILE REPLICATION WAS INACTIVE	17/237100	4/22/2021
EMC IP Holding Company LLC	ASYNCHRONOUS REMOTE REPLICATION OF SNAPSHOTS	17/237171	4/22/2021
EMC IP Holding Company LLC	System and Method for Efficient Queue Management	17/237519	4/22/2021
EMC IP Holding Company LLC	Migration of Legacy Data into an Ordered Event Stream	17/237535	4/22/2021
EMC IP Holding Company LLC	Information-Unit Based Scaling of an Ordered Event Stream	17/237517	4/22/2021
EMC IP Holding Company LLC	Grey Market Orders Detection	17/237561	4/22/2021
EMC IP Holding Company LLC	Market Basket Analysis for Infant Hybrid Technology Detection	17/237400	4/22/2021
EMC IP Holding Company LLC	Method and Apparatus for Dynamically Adjusting Differentiated Share Prioritization in a Storage System	17/237125	4/22/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR LOCKLESS DESTAGING OF METADATA PAGES	17/237359	4/22/2021
EMC IP Holding Company LLC	System and Method for Smart NVMeOF Disk Array Enclosure Deep Background Data Reduction Offload	17/237971	4/22/2021
EMC IP Holding Company LLC	System and Method for Efficient Snapshots Barrier Mechanism for System With Presorted Container-Based Log	17/237853	4/22/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR LOCKLESS READING OF METADATA PAGES	17/237398	4/22/2021
EMC IP Holding Company LLC	Storage System and Method Using Persistent Memory	17/237560	4/22/2021
EMC IP Holding Company LLC	Method and Apparatus for Providing Differentiated Share Prioritization in a Storage System	17/237120	4/22/2021
EMC IP Holding Company LLC	REMOTE REPLICATION WITH HOST ENCRYPTION	17/237749	4/22/2021
EMC IP Holding Company LLC	ELECTRONIC EQUIPMENT THAT PROVIDES MULTI-FUNCTION SLOTS	17/237202	4/22/2021

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EMC IP Holding Company LLC	Modelling, Persisting, and Presenting Job Reports in a Storage Management Application	17/236024	4/21/2021
EMC IP Holding Company LLC	ACTIVE-PASSIVE CONFIGURATION FOR SYNCHRONOUS REMOTE REPLICATION IN AN ACTIVE-ACTIVE METRO CLUSTER	17/236231	4/21/2021
EMC IP Holding Company LLC	RECOVERY FROM PARTIAL DEVICE ERROR IN DATA STORAGE SYSTEM	17/236256	4/21/2021
EMC IP Holding Company LLC	Early Validation of Communication Behavior	17/236612	4/21/2021
EMC IP Holding Company LLC	REINFORCEMENT LEARNING AND ACCUMULATORS MAP-BASED PIPELINE FOR WORKLOAD PLACEMENT	17/236625	4/21/2021
EMC IP Holding Company LLC	Method or apparatus for intelligent metadata compression to optimize performance and reduce the storage footprint	17/236398	4/21/2021
EMC IP Holding Company LLC	Self-Adaptive copy retention management	17/236397	4/21/2021
EMC IP Holding Company LLC	Application Consistent Network Backup using Three Phase Full Quorum	17/236196	4/21/2021
EMC IP Holding Company LLC	Systems and Methods for Determining Data Criticality Based on Causal Evaluation	17/236044	4/21/2021
EMC IP Holding Company LLC	Globally Unique Way to Identify a Resource	17/236032	4/21/2021
EMC IP Holding Company LLC	Reporting For Database Backups	17/236079	4/21/2021
EMC IP Holding Company LLC	Method and System for Generating Virtual Synthetic Full Backups of Virtual Machines	17/236407	4/21/2021
EMC IP Holding Company LLC	Analyzing User API usage from recorded API macros for software product improvement	17/237012	4/21/2021
EMC IP Holding Company LLC	Executing Repetitive Custom Workflows Through API Recording and Playback	17/236469	4/21/2021

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EMC IP Holding Company LLC	CONTAINER OWNERSHIP PROTOCOL FOR INDEPENDENT NODE FLUSHING	17/236887	4/21/2021
EMC IP Holding Company LLC	Method and System for Provisioning Workflows with Dynamic Accelerator Pools	17/236733	4/21/2021
EMC IP Holding Company LLC	Method and System for Managing Elastic Accelerator Resource Pools with a Shared Storage	17/236708	4/21/2021
EMC IP Holding Company LLC	Method for Detecting Corruption in Forever Incremental Backups with Primary Storage Systems	17/235977	4/21/2021
EMC IP Holding Company LLC	TECHNIQUES FOR PERFORMING BACKUPS USING HINTS	17/236757	4/21/2021
EMC IP Holding Company LLC	DIRECT READ IN CLUSTERED FILE PARALEGAL	17/236520	4/21/2021
EMC IP Holding Company LLC	Virtual Network Storage Array Data Transmissions	17/236395	4/21/2021
EMC IP Holding Company LLC	PERFORMING DATA REDUCTION DURING HOST DATA INGEST	17/236306	4/21/2021
EMC IP Holding Company LLC	GENERATING AND MANAGING WORKFLOW FINGERPRINTS BASED ON PROVISIONING OF DEVICES IN A DEVICE ECOSYSTEM	17/236717	4/21/2021
EMC IP Holding Company LLC	Method and System for Provisioning Workflows with Data Management Services	17/236744	4/21/2021
EMC IP Holding Company LLC	Method and System for Provisioning Workflows Based on Locality	17/236754	4/21/2021
EMC IP Holding Company LLC	Optimizing Workflow Movement Through Device Ecosystem Boundaries	17/236772	4/21/2021
EMC IP Holding Company LLC	CREATING AND MANAGING EXECUTION OF WORKFLOW PORTIONS USING CHAOS ACTION SETS	17/236725	4/21/2021

Owner	Application Title	Application Number	Filed Date
EMC IP Holding Company LLC	CREATING AND MANAGING DYNAMIC WORKFLOWS BASED ON OCCUPANCY	17/236742	4/21/2021
EMC IP Holding Company LLC	Provisioning Workflows Using Subgraph Similarity	17/236780	4/21/2021
EMC IP Holding Company LLC	Method and System for Provisioning Workflows with Proactive Data Transformation	17/236762	4/21/2021
EMC IP Holding Company LLC	ML SYSTEMS FOR ASSIGNING PERFORMANCE DEFECTS TO SOFTWARE COMPONENTS	17/236892	4/21/2021
EMC IP Holding Company LLC	A DATA MANAGING METHOD, AN ELECTRIC DEVICE, AND A COMPUTER PROGRAM PRODUCT	17/236756	4/21/2021
EMC IP Holding Company LLC	NVMEoF Flow Control from Initiator Based on Transaction Latency	17/234847	4/20/2021
EMC IP Holding Company LLC	SYNCHRONOUS TO SEMI-SYNCHRONOUS OUT-OF-BAND I/O	17/235323	4/20/2021
EMC IP Holding Company LLC	Automatically Validating Design Parameters for Enterprise Applications	17/235226	4/20/2021
EMC IP Holding Company LLC	Hyperband-based Probabilistic Hyper-parameter Search for Machine Learning Algorithms	17/235421	4/20/2021
EMC IP Holding Company LLC	System and Method for Cache Management	17/235253	4/20/2021
EMC IP Holding Company LLC	System and Method for Identifying Access Patterns	17/235215	4/20/2021
EMC IP Holding Company LLC	Kubernetes Security Isolation based on Classified Information and Risk Levels	17/235401	4/20/2021
EMC IP Holding Company LLC	Automatic Consistency Group Scale-out for Any Point In Time Replication Systems	17/235391	4/20/2021
EMC IP Holding Company LLC	Metadata Management for Scaled and High Density Backup Environments	17/235663	4/20/2021
EMC IP Holding Company LLC	RUNNING AN INDEPENDENT TASK IN CONNECTION WITH SYNCHRONOUS I/O OPERATIONS	17/234380	4/19/2021

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EMC IP Holding Company LLC	PERFORMANCE SCALE TESTING WITH I/O REUSE	17/234017	4/19/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR VOLUME POLARIZATION ACROSS MULTIPLE STORAGE SYSTEMS	17/234054	4/19/2021
EMC IP Holding Company LLC	Systems and Methods for Temporary Access with Adaptive Trust Levels for Authentication and Authorization	17/234333	4/19/2021
EMC IP Holding Company LLC	Storage Array Error Mitigation	17/234293	4/19/2021
EMC IP Holding Company LLC	Method and System for Archiving User Data During Backup Generation	17/233682	4/19/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR CONFIGURING SERVICE INSTANCE	17/232747	4/16/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR MACHINE LEARNING-DRIVEN CACHE FLUSHING	17/232428	4/16/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR FAILURE HANDLING FOR VIRTUAL VOLUMES ACROSS MULTIPLE STORAGE SYSTEMS	17/232445	4/16/2021
EMC IP Holding Company LLC	OBJECT SYNCHRONIZATION OF SERVER NODES IN A NETWORK COMPUTING ENVIRONMENT	17/232203	4/16/2021
EMC IP Holding Company LLC	Using machine learning techniques to flow control clients in a deduplication file system	17/233418	4/16/2021
EMC IP Holding Company LLC	System and Method for User Space NVMe-over-RDMA Host Library	17/233148	4/16/2021
EMC IP Holding Company LLC	Automated Storage System Performance Validation	17/232878	4/16/2021
EMC IP Holding Company LLC	DATA STORAGE CLUSTER WITH QUORUM SERVICE PROTECTION	17/232568	4/16/2021

Owner	Application Title	Application Number	Filed Date
EMC IP Holding Company LLC	DATA STORAGE CLUSTER WITH WITNESS NODE FOR SELECTING SURVIVING STORAGE NODE AFTER REPLICATION FAILURE	17/232292	4/16/2021
EMC IP Holding Company LLC	Cross application backup data backup accessibility within suite of application (O365)	17/232505	4/16/2021
EMC IP Holding Company LLC	Method and Apparatus for Accelerating Deduplication Processing	17/231073	4/15/2021
EMC IP Holding Company LLC	Java Annotation for Validating Actions to Apply to a Storage Object	17/231348	4/15/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR SCHEDULED SNAPSHOT PACING WITH DEDUPLICATION	17/231403	4/15/2021
EMC IP Holding Company LLC	System and Method for Distributed Model Adaptation	17/231883	4/15/2021
EMC IP Holding Company LLC	System and Method for Service Device Initiated Backup Generation	17/231872	4/15/2021
EMC IP Holding Company LLC	Method for NVMe data copy offloads, leveraging Data Handles and ROD (Representation of Data) Tokens	17/231326	4/15/2021
EMC IP Holding Company LLC	SMOOTH FLUSHING OF CACHED WRITE DATA	17/231197	4/15/2021
EMC IP Holding Company LLC	KNOWLEDGE GRAPH MANAGEMENT BASED ON MULTI-SOURCE DATA	17/230433	4/14/2021
EMC IP Holding Company LLC	Connecting Configuration Services Using Blockchain Technology	17/230542	4/14/2021
EMC IP Holding Company LLC	Distributed file system performance optimization for path-level setting based on machine learning approach	17/230071	4/14/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR DATA PROCESSING	17/230460	4/14/2021
EMC IP Holding Company LLC	LOGICAL STORAGE DEVICE ACCESS USING DEVICE-	17/229153	4/13/2021

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Owner	Application Title	Application Number	Filed Date
	SPECIFIC KEYS IN AN ENCRYPTED STORAGE ENVIRONMENT		
EMC IP Holding Company LLC	Storage Array Decryption	17/228946	4/13/2021
EMC IP Holding Company LLC	SYSTEMS AND METHODS TO SUBMIT UNALIGNED 10 ON AN ALIGNMENT- REQUIRED 10 STACK	17/229215	4/13/2021
EMC IP Holding Company LLC	UNIFORM HOST ATTACHMENT	17/229131	4/13/2021
EMC IP Holding Company LLC	Dynamic building of preview context	17/229170	4/13/2021
EMC IP Holding Company LLC	System and Method for Identifying Lock Sequence Conflicts	17/227698	4/12/2021
EMC IP Holding Company LLC	Quality of Service (QoS) Based Data Deduplication	17/227627	4/12/2021
EMC IP Holding Company LLC	Event Prioritization for an Ordered Event Stream	17/228611	4/12/2021
EMC IP Holding Company LLC	PRIORITY-AWARE INTERNODE MESSAGING FOR ACTIVE-ACTIVE STORAGE SYSTEM	17/227526	4/12/2021
EMC IP Holding Company LLC	Automated Delivery of Cloud Native Application Updates Using One or More User Connection Gateways	17/227644	4/12/2021
EMC IP Holding Company LLC	Cost-Aware Garbage Collection for Cloud Storage	17/226866	4/12/2021
EMC IP Holding Company LLC	Processing out of order writes in a log structured file system for improved garbage collection	17/227805	4/12/2021
EMC IP Holding Company LLC	METHOD AND APPARATUS FOR FILTERING UNDESIRED EMAIL MESSAGES	17/227744	4/12/2021
EMC IP Holding Company LLC	System and Method for Restoration Using Micro-Backups	17/226195	4/9/2021
EMC IP Holding Company LLC	DISTRIBUTED CONTROL PATH	17/226131	4/9/2021
EMC IP Holding Company LLC	A unified and efficient method to generate fstab file to support on-prem and multi-cloud environment	17/226276	4/9/2021

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EMC IP Holding Company LLC	Fault definition and injection process to simulate timing based errors in a distributed system	17/226466	4/9/2021
EMC IP Holding Company LLC	System and Method for Micro-Backup Generation	17/226180	4/9/2021
EMC IP Holding Company LLC	System and Method for Self-Healing of Upgrade Issues on a Customer Environment	17/226532	4/9/2021
EMC IP Holding Company LLC	System and Method for Raw Disk Backup and Recovery	17/226184	4/9/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR DATA PROCESSING	17/226396	4/9/2021
EMC IP Holding Company LLC	Group based RAID 1 implementation in multi-RAID configuration for Juniper	17/225170	4/8/2021
EMC IP Holding Company LLC	NANON Support for Antivirus Jobs in Clustered Storage	17/225686	4/8/2021
EMC IP Holding Company LLC	Proactive Data Protection Based on Weather Patterns and Severity	17/225650	4/8/2021
EMC IP Holding Company LLC	TECHNIQUES FOR STORAGE MANAGEMENT	17/225420	4/8/2021
EMC IP Holding Company LLC	Mechanism for Peer to Peer Communication between Storage Management Systems	17/224588	4/7/2021
EMC IP Holding Company LLC	BYPASSING OF TIER-1 STORAGE IN A STREAMING DATA STORAGE SYSTEM	17/224726	4/7/2021
EMC IP Holding Company LLC	Two-Way Secure Channels Between Multiple Services Across Service Groups	17/224651	4/7/2021
EMC IP Holding Company LLC	Two-Way Secure Channels with Certification by One Party	17/224630	4/7/2021
EMC IP Holding Company LLC	Smart Automation of Reliable differential backups of Always on availability group databases to Optimize the restore time	17/224384	4/7/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR STORING AND SEARCHING FOR DATA	17/224189	4/7/2021
EMC IP Holding Company LLC	Data Expiration for Stream Storages	17/223263	4/6/2021

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Owner	Application Title	Application Number	Filed Date
EMC IP Holding Company LLC	ESCALATED AUTHENTICATION SYSTEM TO PERFORM AN INTEGRITY-CHECK BASED ON BEHAVIOR PATTERNS	17/223643	4/6/2021
EMC IP Holding Company LLC	Method to identify the performance bottle neck in the complex enterprise virtualized environment	17/223604	4/6/2021
EMC IP Holding Company LLC	Method to enhance the Data Invulnerability Architecture of deduplication systems by optimally doing read-verify and fix of data moved to cloud tier	17/223557	4/6/2021
EMC IP Holding Company LLC	Automated Code Checker	17/223751	4/6/2021
EMC IP Holding Company LLC	CORRELATING TIME ON STORAGE NETWORK COMPONENTS	17/222350	4/5/2021
EMC IP Holding Company LLC	Managing Application Storage Resource Allocations Based on Application Specific Storage Policies	17/221772	4/3/2021
EMC IP Holding Company LLC	Unified Software Library Access and Vulnerability Correction Prioritization	17/221109	4/2/2021
EMC IP Holding Company LLC	COMMON MODEL FOR PAIRING PHYSICAL AND/OR CLOUD-BASED STORAGE SYSTEMS FOR DATA MOBILITY	17/221327	4/2/2021
EMC IP Holding Company LLC	Continuous I0 traces offloading from storage system	17/220310	4/1/2021
EMC IP Holding Company LLC	MAINTAINING AVAILABILITY OF A NON-VOLATILE CACHE	17/220317	4/1/2021
EMC IP Holding Company LLC	Protecting Data Based on Context of Data Movement Operation	17/218940	3/31/2021
EMC IP Holding Company LLC	DATA PROCESSING METHOD, ELECTRONIC DEVICE AND COMPUTER PROGRAM PRODUCT	17/219647	3/31/2021
EMC IP Holding Company LLC	MODEL PARAMETER SHARING BETWEEN INFERENCE APPLICATION	17/217203	3/30/2021

Owner	Application Title	Application Number	Filed Date
	INSTANCES IN PROCESSING UNIT OF INFORMATION PROCESSING SYSTEM		
EMC IP Holding Company LLC	Migrating Data of Sequential Workloads to Zoned Storage Devices	17/216915	3/30/2021
EMC IP Holding Company LLC	Adaptive Metadata Encryption for a Data Protection Software	17/217119	3/30/2021
EMC IP Holding Company LLC	Method and Apparatus for Affinity Based Smart Data Protection Policy for Pooled Protection Targets	17/217113	3/30/2021
EMC IP Holding Company LLC	Provisioning Zoned Storage Devices to Sequential Workloads	17/216908	3/30/2021
EMC IP Holding Company LLC	A Data-Layout-Aware QAT Chain Method for De-dup Systems	17/215122	3/29/2021
EMC IP Holding Company LLC	Scale Out Deduplicated File System as Microservices	17/215586	3/29/2021
EMC IP Holding Company LLC	Method to resolve the HDD performance regression during idle time	17/216343	3/29/2021
EMC IP Holding Company LLC	Efficient mechanism for data protection against cloud region failure/site disasters and RTO improvement for backup applications	17/213480	3/26/2021
EMC IP Holding Company LLC	Automatic Discovery of Related Data Records	17/213946	3/26/2021
EMC IP Holding Company LLC	Method or apparatus to efficiently consolidate data from multiple cloud buckets to one bucket in an intra cloud and inter cloud environment and method to efficiently migrate cloud data from one provider to another when moving from one cloud provider to another.	17/214196	3/26/2021
EMC IP Holding Company LLC	BLOCKCHAIN TECHNOLOGY FOR DATA INTEGRITY REGULATION AND PROOF OF EXISTENCE IN DATA PROTECTION SYSTEMS	17/211286	3/24/2021

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EMC IP Holding Company LLC	Modelling and predicting resource allocation using Eigenvalues and Eigenvectors	17/211689	3/24/2021
EMC IP Holding Company LLC	System Protection Using Verification of Software Digital Identity Values	17/210799	3/24/2021
EMC IP Holding Company LLC	COPY MANAGEMENT FOR CONTAINER-BASED APPLICATIONS	17/210779	3/24/2021
EMC IP Holding Company LLC	Automatically Replicating Configuration Parameters from Securely Identified Connected Systems	17/210004	3/23/2021
EMC IP Holding Company LLC	FAILOVER AFFINITY RULE MODIFICATION BASED ON NODE HEALTH INFORMATION	17/207992	3/22/2021
EMC IP Holding Company LLC	SYNCHRONIZATION OBJECT ISSUE DETECTION USING OBJECT TYPE QUEUES AND ASSOCIATED MONITOR THREADS IN A STORAGE SYSTEM	17/208295	3/22/2021
EMC IP Holding Company LLC	CIP #121475.01:Extension of Dell EMC Case no. 121475.01 (Effective tiering of data protected in object store using object lookup table)	17/208815	3/22/2021
EMC IP Holding Company LLC	ENHANCED FENCING SCHEME FOR CLUSTER SYSTEMS WITHOUT INHERENT HARDWARE FENCING	17/208213	3/22/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR THREAD MANAGEMENT	17/207806	3/22/2021
EMC IP Holding Company LLC	Highly Efficient Optimal and Dynamic Selection of Compression Dictionary Size and Data Buffer Coalesce Infrastructure for Greater Data Reduction and Lowered Network Bandwidth Usage Of Remote	17/206867	3/19/2021

Owner	Application Title	Application Number	Filed Date
	Data Facility (RDF) Replication Systems		
EMC IP Holding Company LLC	Using Footprints to classify defects	17/206251	3/19/2021
EMC IP Holding Company LLC	SYSTEM AND METHOD FOR BUG DEDUPLICATION USING CLASSIFICATION MODELS	17/206292	3/19/2021
EMC IP Holding Company LLC	Dynamic Cloud Native Cluster Construction Using Under-utilized Machines	17/205681	3/18/2021
EMC IP Holding Company LLC	MULTIPART UPLOAD FOR LARGE DATA EVENTS IN STREAMING DATA STORAGE	17/205133	3/18/2021
EMC IP Holding Company LLC	SUB-ROUTING KEY SPLITS IN SCALING DISTRIBUTED STREAMING DATA STORAGE	17/205149	3/18/2021
EMC IP Holding Company LLC	TECHNIQUES FOR STORAGE MANAGEMENT	17/205305	3/18/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR DATA WRITING	17/205542	3/18/2021
EMC IP Holding Company LLC	RESOURCE ALLOCATION USING DISTRIBUTED SEGMENT PROCESSING CREDITS	17/204318	3/17/2021
EMC IP Holding Company LLC	Fabricless allocation of a local cache in a fabric environment	17/203854	3/17/2021
EMC IP Holding Company LLC	DEDUPLICATING DATA AT SUB-BLOCK GRANULARITY	17/203876	3/17/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR STORAGE MANAGEMENT	17/204216	3/17/2021
EMC IP Holding Company LLC	CLUSTERING DATA MANAGEMENT ENTITIES DISTRIBUTED ACROSS A PLURALITY OF PROCESSING NODES	17/202531	3/16/2021
EMC IP Holding Company LLC	DATA RECOVERY IN VIRTUAL DESKTOP	17/201210	3/15/2021

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	INFRASTRUCTURE ENVIRONMENTS		
EMC IP Holding Company LLC	SECURE DATA MANAGEMENT IN A NETWORK COMPUTING ENVIRONMENT	17/201117	3/15/2021
EMC IP Holding Company LLC	MODEL TRAINING METHOD, DATA PROCESSING METHOD, ELECTRONIC DEVICE, AND PROGRAM PRODUCT	17/200986	3/15/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING STORAGE POOL OF STORAGE SYSTEM	17/201521	3/15/2021
EMC IP Holding Company LLC	Hash Migration Using A Gold Image Library Management System	17/200506	3/12/2021
EMC IP Holding Company LLC	Deferred Scaling of an Ordered Event Stream	17/200652	3/12/2021
EMC IP Holding Company LLC	Dynamic Service Mesh	17/199690	3/12/2021
EMC IP Holding Company LLC	Random walks to detect dissimilar records	17/199965	3/12/2021
EMC IP Holding Company LLC	Probabilistic model for file-specific compression selection under SLA-constraints	17/199914	3/12/2021
EMC IP Holding Company LLC	METHOD AND SYSTEM FOR A FAST ADAPTATION FOR IMAGE SEGMENTATION FOR AUTONOMOUS EDGE VEHICLES	17/199583	3/12/2021
EMC IP Holding Company LLC	Predictive Optimal Queue Length Model for Backup Sessions using Distributed Proxy	17/198386	3/11/2021
EMC IP Holding Company LLC	ADAPTIVE TURBO TOGGLING	17/198551	3/11/2021
EMC IP Holding Company LLC	Access control rights assignment capabilities utilizing a new Context-Based Hierarchy of data based on new forms of metadata.	17/198734	3/11/2021
EMC IP Holding Company LLC	Effective Build Process to Release Product VM to On-Prem and to Public Cloud	17/198480	3/11/2021

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EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE AND COMPUTER PROGRAM PRODUCT FOR ACCESSING STORAGE SYSTEM	17/198554	3/11/2021
EMC IP Holding Company LLC	SYNCHRONIZATION OBJECT HAVING A STAMP FOR FLOWS IN A STORAGE SYSTEM	17/197163	3/10/2021
EMC IP Holding Company LLC	RELIABLE VIRTUAL MACHINE DISCOVERY AND STORAGE ASSOCIATION	17/197563	3/10/2021
EMC IP Holding Company LLC	AUTOMATED UNIFORM HOST ATTACHMENT	17/197467	3/10/2021
EMC IP Holding Company LLC	POWER SUPPLY METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT	17/197440	3/10/2021
EMC IP Holding Company LLC	LOGICAL STORAGE DEVICE ACCESS USING DATASTORE-LEVEL KEYS IN AN ENCRYPTED STORAGE ENVIRONMENT	17/195894	3/9/2021
EMC IP Holding Company LLC	METHOD FOR TESTING STORAGE SYSTEMS, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT	17/196309	3/9/2021
EMC IP Holding Company LLC	Global Scale Recommendation Service	17/195262	3/8/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR UPDATING MODEL	17/195116	3/8/2021
EMC IP Holding Company LLC	Optimized data restore from object storage for directly written data	17/193860	3/5/2021
EMC IP Holding Company LLC	Automatic Identification of Computer Agents for Throttling	17/193963	3/5/2021
EMC IP Holding Company LLC	Data Retention Cost Control for Data Written Directly to Object Storage	17/193772	3/5/2021
EMC IP Holding Company LLC	Public Cloud Provider Cost Optimization for Writing Data Blocks Directly to Object Storage	17/193638	3/5/2021

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EMC IP Holding Company LLC	METHOD OR APPARATUS TO RECONSTRUCT LOST DATA AND METADATA	17/193372	3/5/2021
EMC IP Holding Company LLC	OPTIMIZING DOCKER IMAGE ENCRYPTION - KUBERNETES USING SHAMIR SECRETS TO ENFORCE MULTIPLE CONSTRAINTS IN CONTAINER RUNTIME ENVIRONMENT	17/193159	3/5/2021
EMC IP Holding Company LLC	Organizational Awareness for Automating Data Protection Policies	17/193342	3/5/2021
EMC IP Holding Company LLC	Writing Data Blocks Directly to Object Storage	17/193294	3/5/2021
EMC IP Holding Company LLC	Effective data life cycle model for data protected in object store using object lookup table.docx	17/193919	3/5/2021
EMC IP Holding Company LLC	AN EFFICIENT METHOD FOR OPTIMIZING LONG-TERM RETENTION BACKUP POLICY WITHIN RECOVERY POINT OBJECTIVES (RPO)	17/192941	3/5/2021
EMC IP Holding Company LLC	METHOD AND SYSTEM FOR PREDICTING USER INVOLVEMENT REQUIREMENTS FOR UPGRADE FAILURES	17/192942	3/5/2021
EMC IP Holding Company LLC	METHOD AND SYSTEM FOR PERFORMING DATA PROTECTION SERVICES FOR USER DATA ASSOCIATED WITH CALENDAR GROUPS	17/193168	3/5/2021
EMC IP Holding Company LLC	METHOD AND SYSTEM FOR PERFORMING DATA PROTECTION SERVICES FOR USER DATA ASSOCIATED WITH CALENDAR EVENTS	17/193202	3/5/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM FOR STORING INDEX VALUES OF MONITORED OBJECTS	17/193808	3/5/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM	17/193184	3/5/2021

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Owner	Application Title	Application Number	Filed Date
	PRODUCT FOR MANAGING WEAR LEVEL OF STORAGE SYSTEM		
EMC IP Holding Company LLC	Method to prevent backup failures and its consequential issues when the backup server (dedupe & non-dedupe) storage utilization is full or nearly full	17/192584	3/4/2021
EMC IP Holding Company LLC	Method to optimize ingest in dedupe systems by enhancing Distributed SegmentProcessing to generate & provide compressibility hints for the data segments.	17/192544	3/4/2021
EMC IP Holding Company LLC	TECHNIQUES FOR LOG SPACE MANAGEMENT	17/191759	3/4/2021
EMC IP Holding Company LLC	LOW LATENCY PROTOCOL FOR PROCESSING REQUESTS	17/191755	3/4/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR STORAGE MANAGEMENT	17/191910	3/4/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR INFORMATION PROCESSING	17/191299	3/3/2021
EMC IP Holding Company LLC	EFFICIENT METHOD TO OPTIMIZE DISTRIBUTED SEGMENT PROCESSING MECHANISM IN DEDUPE SYSTEMS BY LEVERAGING THE LOCALITY PRINCIPLE	17/191403	3/3/2021
EMC IP Holding Company LLC	SMARTNIC BASED VIRTUAL SPLITTER ENSURING MICROSECOND LATENCIES	17/191130	3/3/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR TRAINING AND DEPLOYING NEURAL NETWORK	17/190557	3/3/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR STORAGE MANAGEMENT	17/190807	3/3/2021

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Owner	Application Title	Application Number	Filed Date
EMC IP Holding Company LLC	INVOCATION CALLS ENABLING APPLICATIONS TO INITIATE REACTIVE ACTIONS IN RESPONSE TO RESOURCE STATE CHANGES OF ASSETS	17/189441	3/2/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR UPDATING MACHINE LEARNING MODEL	17/189993	3/2/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR PROCESSING ACCESS MANAGEMENT RIGHTS	17/189598	3/2/2021
EMC IP Holding Company LLC	Mitigating and automating backup failure recoveries in data protection policies	17/188073	3/1/2021
EMC IP Holding Company LLC	METHOD AND DEVICE FOR PROCESSING A MULTI-LANGUAGE TEXT	17/186551	2/26/2021
EMC IP Holding Company LLC	CONTAINER-BASED STATEFUL APPLICATION RESILIENCE TO NODE FAILURE	17/186562	2/26/2021
EMC IP Holding Company LLC	SYNCHRONIZATION OF MULTI-PATHING SETTINGS ACROSS CLUSTERED NODES	17/186379	2/26/2021
EMC IP Holding Company LLC	FILE BASED ENCRYPTION FOR MULTI-PATHING DEVICES	17/186354	2/26/2021
EMC IP Holding Company LLC	Mapping Storage Volumes to Storage Processing Nodes Using Input/Output Operation Constraints and Cost Function	17/186773	2/26/2021
EMC IP Holding Company LLC	Secure remote access to a private networks without Internet connectivity	17/187285	2/26/2021
EMC IP Holding Company LLC	CONFIGURABLE TELEMETRY FOR STRUCTURED REPORT	17/186604	2/26/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM	17/186426	2/26/2021

Owner	Application Title	Application Number	Filed Date
	PRODUCT FOR MANAGING STORAGE SYSTEM		
EMC IP Holding Company LLC	BACKUP AND TIERED POLICY COORDINATION IN TIME SERIES DATABASES	17/184976	2/25/2021
EMC IP Holding Company LLC	IMPORTING CRYPTOGRAPHIC KEYS INTO KEY VAULTS	17/185474	2/25/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING COMPUTER SYSTEM	17/185033	2/25/2021
EMC IP Holding Company LLC	An Adaptive QAT Inline polling Method for Dedup Storage System	17/184796	2/25/2021
EMC IP Holding Company LLC	Metadata display as part of rbac (role based access control) [Modified/proposed title: Methods and systems to enable role-based access control to backed up data on object store]	17/184111	2/24/2021
EMC IP Holding Company LLC	An Adaptive Approach to using QAT SHA 1-Compression-Chained Offloading to Boost Deduplication for Storage Systems	17/183736	2/24/2021
EMC IP Holding Company LLC	An intelligent solution to improve system performance during backup migration	17/184021	2/24/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR DATA TRANSMISSION	17/182442	2/23/2021
EMC IP Holding Company LLC	An Adaptive QAT Compression Approach to Improving Compression Ratio for De-dup System	17/182724	2/23/2021
EMC IP Holding Company LLC	Advanced Detection System on a STORAGE environment for Unauthorized Encryption via an internal process - Data Reduction (Archiving)	17/181655	2/22/2021
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR	17/181080	2/22/2021

Owner	Application Title	Application Number	Filed Date
	DISPLAYING GRAPHIC INTERFACES		
EMC IP Holding Company LLC	METHOD, ELECTRONIC DEVICE, AND COMPUTER PROGRAM PRODUCT FOR PROCESSING IMAGE	17/179988	2/19/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR DEPLOYING VISUAL RESOURCE	17/179636	2/19/2021
EMC IP Holding Company LLC	Stochastic risk scoring with counterfactual analysis for storage capacity - 02/02	17/178504	2/18/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND PROGRAM PRODUCT FOR MANAGING COMPUTING SYSTEM	17/178413	2/18/2021
EMC IP Holding Company LLC	LOGICAL STORAGE DEVICE ACCESS IN AN ENCRYPTED STORAGE ENVIRONMENT	17/177821	2/17/2021
EMC IP Holding Company LLC	APPLICATION AWARE DEDUPLICATION	17/174598	2/12/2021
EMC IP Holding Company LLC	Copy Reuse Using Gold Image Backups	17/174921	2/12/2021
EMC IP Holding Company LLC	Automatic update of network assets using Gold images	17/174881	2/12/2021
EMC IP Holding Company LLC	Automatic Detection and Identification of Gold Image Library Files and Directories	17/174840	2/12/2021
EMC IP Holding Company LLC	SELECTING RESTORE PROCESSES FOR APPLICATIONS HOSTED ON STORAGE VOLUMES THAT ARE PART OF GROUP REPLICATION SESSIONS	17/173856	2/11/2021
EMC IP Holding Company LLC	Optimal Proxy Selection Model	17/173815	2/11/2021
EMC IP Holding Company LLC	SMART DE-FRAGMENTATION OF FILE SYSTEMS INSIDE VMS FOR FAST REHYDRATION IN THE CLOUD AND EFFICIENT	17/172803	2/10/2021

Owner	Application Title	Application Number	Filed Date
	DEDUPLICATION TO THE CLOUD		
EMC IP Holding Company LLC	MULTI CLOUD TRANSACTIONAL STORAGE FOR AVAILABILITY AND SECURITY	17/172800	2/10/2021
EMC IP Holding Company LLC	AUTHENTICATION METHODS AND APPARATUS FOR GENERATING DIGITAL SIGNATURES	17/168910	2/5/2021
EMC IP Holding Company LLC	DATACENTER PREEMPTIVE MEASURES FOR IMPROVING PROTECTION USING IOT SENSORS	17/168423	2/5/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR REBUILDING STORAGE SYSTEM	17/168565	2/5/2021
EMC IP Holding Company LLC	SMART DYNAMIC RESTORE FOR KUBERNETES BASED APPLICATIONS	17/166341	2/3/2021
EMC IP Holding Company LLC	METHOD, DEVICE AND COMPUTER PROGRAM PRODUCT FOR STORAGE MANAGEMENT	17/166255	2/3/2021
EMC IP Holding Company LLC	EVENTUAL CONSISTENCY IN A DEDUPLICATED CLOUD STORAGE SYSTEM	17/164301	2/1/2021
EMC IP Holding Company LLC	EVENTUAL CONSISTENCY IN A DEDUPLICATED CLOUD STORAGE SYSTEM	17/164285	2/1/2021
EMC IP Holding Company LLC	AUTOMATED CODE REVIEW PROCESS USING RELEVANCE ANALYSIS TO CONTROL SELECTION OF AND INTERACTION WITH CODE REVIEWERS	17/163717	2/1/2021
EMC IP Holding Company LLC	Protecting Against and Learning Attack Vectors on Web Arfifacts	17/164173	2/1/2021
EMC IP Holding Company LLC	METHOD, DEVICE, AND COMPUTER PROGRAM PRODUCT FOR MONITORING USER	17/163654	2/1/2021