

# Dell PowerMax Announcements – FAQs for Sales

October 2024

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# October 2024 Announcement

## Announcement Overview

The latest PowerMaxOS 10.2 release introduces exciting new features and benefits designed to help customers stay ahead of their competition in today's unpredictable world. This announcement is built on four important pillars enabling customers to innovate securely across their organization.

### **SUPERCHARGE AI-DRIVEN EFFICIENCY**

PowerMax AI-driven automation has advanced in a few key areas. Dynamic cache optimization uses pattern recognition and predictive analytics to improve memory usage and reduce response times. Autonomous health checks predict capacity needs, identify unused storage, analyze performance, detect bottlenecks, and intelligently alert anomalies, resulting in faster time to problem resolution and corrective action before problems arise.

### **ADVANCED CYBER RESILIENCY**

Because cyber-attacks and data ransomware continue to threaten organizations, PowerMax cyber recovery is enhanced with a new ransomware recovery solution available through Dell Professional Services. PowerMax data protection is improved via Storage Direct Protection offering ultra-fast backups and restores using Dell PowerProtect, enabling up to 1PB / day for backups and up to 500TB / day for restores. Together, they ensure data is secure and mission-critical applications remain available. Additional enhancements, including new Container Storage Modules for cyber resiliency and Yubikey multi-factor authentication, further strengthening PowerMax data security.

### **MORE PERFORMANCE AT SCALE**

PowerMax is known for its software-driven, modern design that consistently delivers performance improvements. With a PowerMaxOS 10.2 upgrade, customers can get even more performance to manage data growth and scale PowerMax for their business. This upgrade provides up to 30% more performance for transaction processing workloads for PowerMax 8500 customers. The latest release also enhances networking bandwidth with new I/O modules, offering up to 3x more single-port bandwidth using 100GbE NVMe/TCP connectivity and up to 2x more using 64Gb NVMe/FC connectivity.

### **ACTIVATE MULTICLOUD AGILITY**

With PowerMaxOS 10.2, organizations can seamlessly connect on-premises and cloud storage with simple options for backup, restore, and migration, to and from any major public cloud. And Dell APEX Subscriptions make it even easier to consume storage as-a-Service, by providing choice and consistency. These new features enable organizations to tailor these capabilities and services to meet their needs, on their schedule, according to their user requirements.

PowerMaxOS 10.2 empowers businesses with AI-driven storage automation, enhanced cybersecurity, even higher performance, and multicloud flexibility.

PowerMaxOS 10.2 delivers...

More AI-driven Efficiency	More Cyber Resiliency	More Performance	More Multicloud
<p>Optimize mission-critical workloads with AI</p> <p>Dynamic cache optimization with machine learning</p> <p>Autonomous health checks with intelligent thresholds</p> <p>96% less time to insights</p> <p>8x faster time to resolution</p>	<p>Defend data and recover quickly from attacks</p> <p>Cyber Recovery Services by Dell Consulting Services</p> <p>Yubikey multifactor authentication</p>	<p>Headroom for current and future needs</p> <p>30% performance boost (PowerMax 8500)</p> <p>3x faster GbE connectivity (100Gb Ethernet)</p> <p>2x faster FC connectivity (64Gb Fibre Channel)</p> <p>1PB+ per day backups</p>	<p>Now backup, restore and migrate to cloud</p> <p>Move workloads between PowerMax and APEX Block Storage for Public Cloud</p> <p>Storage Direct backup/recovery to APEX Protection Storage</p> <p>APEX Subscriptions</p>

APEX AIOps – now with GenAI advantage

+ Future-Proof advantages

5:1 DRR Guarantee

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DELL Technologies

PowerMax use cases and key differentiators

PowerMax Use Cases and Technical Differentiators

When “Good Enough” is NOT Good Enough

<div><div>Performance at Scale / Demanding SLAs</div><div><p>Massive IOPS/consolidation with extremely low latency at scale, support for 64K LUNS and 65M snapshots! Most competitors fall short here. <b>Who Needs it?</b> Global Banks, Insurance, Retailers</p></div></div>	<div><div>Life Critical Operations</div><div><p>When people's lives are at stake, they deploy PowerMax, the world's most trusted storage platform, deployed in over 95% of Fortune 500 sectors <b>Who Needs it?</b> Hospitals, Airlines, Power Grid/Utilities</p></div></div>
<div><div>Mission Critical / MutliSite Replication</div><div><p>SRDF – the gold standard in replication has high value but companies who need it can afford it... compliance requirements, disaster recovery, &gt;6 9s data availability <b>Who Needs it?</b> Firms that cannot afford downtime</p></div></div>	<div><div>High Efficiency</div><div><p>The most energy-efficient mission-critical storage, industry's best 5:1 data reduction guarantee, the most comprehensive power monitoring and alerting array <b>Who Needs it?</b> GOVT, Utilities, Eco-friendly firms</p></div></div>
<div><div>Cyber Resiliency</div><div><p>World's most secure mission-critical storage, designed for Zero Trust, encryption, multifactor authentication, ransomware detection, cyber recovery vault (PS-led) <b>Who Needs it?</b> Firms that cannot afford to make the newspaper</p></div></div>	<div><div>Reputation and History</div><div><p>Over 30 years of enterprise storage innovation, we've seen it all and addressed it all, #1 in high-end share, proven for mission-critical workloads <b>Who Needs it?</b> Can't risk bleeding-edge technology</p></div></div>

Announcement and Availability Schedule

- Internal announcement ..... October 2, 2024
- Sizing and ordering activation..... October 16, 2024
- RTS / Generally available ..... October 16, 2024
- Public website updates go live ..... October 22, 2024

## Detailed Product FAQs

### **How can customers obtain the new PowerMaxOS 10.2 release?**

At RTS (see schedule above), PowerMaxOS 10.2 is available for download from Dell Services.

### **Is this software release update non-disruptive? How long does it take?**

Yes, the software upgrade is non-disruptive and takes ~6 seconds to download.

### **Is there any cost to upgrade to OS 10.2?**

No, PowerMaxOS 10.2 is available at no additional cost for any PowerMax customer with a Dell support contract. None of the included OS 10.2 features require additional licensing.

### **Are new PowerMax hardware models shipping with this announcement?**

No. The PowerMax 2500 and 8500 are the latest arrays available for Dell customers.

## **AI-DRIVEN STORAGE EFFICIENCIES**

### **What is Dell's AIOps automation strategy for PowerMax?**

Dell's PowerMax AIOps Strategy simplifies operations by utilizing proactive monitoring, root cause analytics, recommendations, and automated actions. It identifies potential issues and policy breaches, provides recommendations for issue resolution, and takes corrective actions to minimize risks. This proactive approach helps reduce remediation time, escalations, and potential outages. Additionally, users can manually remediate based on the automatically generated recommendations to address discovered issues and policy breaches.

### **How do autonomous health checks streamline customer operations?**

With PowerMax and APEX AIOps, customers gain comprehensive visibility into their storage infrastructure. Our advanced capabilities provide detailed insights into each event, including what happened, when it happened, who did it, why it happened, and the event's impact. But it doesn't stop there. APEX AIOps leverages AI/ML-based predictive analytics to anticipate potential storage problems. The new AI engine goes a step further by recommending proactive corrective actions. For example, if capacity headroom issues are predicted, it suggests ways to reclaim unused storage or add new capacity. It also analyzes performance and provides recommendations to optimize response times.

### **What is the remediation engine and what's its value to customers?**

The PowerMax remediation engine delivers recommendations to customers. These include enabling or disabling data reduction for optimum performance, capacity data mobility suggestions for optimal infrastructure use, and QoS recommendations to prevent performance-related issues such as noisy neighbor. Additionally, PowerMax APEX AIOps offers intelligent ransomware anomaly detection based on pattern recognition through data reduction rates or dataset access patterns. This comprehensive solution provides deep visibility, predictive analytics, proactive recommendations, and intelligent anomaly detection to optimize your infrastructure and ensure best practices.

### **What is AI-driven cache optimization and how does it help customers?**

The PowerMax architecture leverages a large memory to process I/O operations at ultra-fast DRAM speeds. The new AI-driven cache optimization engine is a powerful capability that reduces PowerMax response time latency by dynamically optimizing the cache layout. This optimization ensures a more efficient use of cache, resulting in reduced response time and improved overall performance (15%-20%). By utilizing AI-driven cache optimization, customers can experience faster response times and enhanced performance with no user intervention.

### **How does the new AI engine work? Which arrays use it?**

The new AI engine analyzes system workloads in real time and adjusts the cache layout accordingly to match the forecasted workload characteristics. This means that arrays with heavier read or write workloads can benefit from an optimized cache layout, leading to increased cache hits and significantly faster response times. The AI-driven cache optimization feature is available for both new and existing PowerMax 2500 and 8500 systems running PowerMaxOS 10.2.

### **How does the new AIOps Assistant work and how does it help PowerMax customers?**

Dell's groundbreaking APEX AIOps Assistant allows users to engage in natural conversations to obtain quick, reliable, and simple answers about their storage infrastructure. Users can ask follow-up questions to understand issues in more detail, similar to other AI language models available on the web. For example, users can ask the assistant to "walk me through the steps for a PowerMaxOS 10 upgrade," and the AIOps Assistant will provide a response synthesized in natural language along with supporting documentation. The AIOps Assistant has been trained on over 133,000 Knowledge Base articles that cover Dell products, including PowerMax and other infrastructure products.

## **ADVANCED CYBER RESILIENCY**

### **How does PowerMax provide industry-leading cyber resiliency?**

PowerMax offers unmatched cyber resiliency with its advanced capabilities to ensure always-on operations and protect against cyberattacks. It provides comprehensive security features that cover different aspects of security:

Storage security: PowerMax includes robust storage security features such as data at rest encryption, external key managers, D@RE key rotation, self-encrypting media, built-in hardware security, immutable HW Root of Trust, secure boot chain of trust, and digitally signed firmware updates.

Host security: PowerMax enhances host security with features like secure and immutable snapshots with granular recovery point objectives (RPOs), advanced threat detection, malware anomaly detection, cybersecurity configuration compliance alerts, and secure syslog alerts and exports.

Admin security: PowerMax ensures admin security through security certifications like Common Criteria and STIG Hardening/APL, optional FIPS 140 certified flash drives, trusted admin access control, SecureID Multi-Factor Authentication, CAC/PIV certificate support, RBAC, LDAP support, and zDP 2 Actor.

By adhering to NIST standards and safeguarding sensitive data at every stage, PowerMax offers extreme levels of cyber resiliency. These powerful cybersecurity features enable customers to securely innovate and protect their operations from potential breaches.

### **What is the new PowerMax Cyber Recovery Service and how does it work?**

The new PowerMax cyber recovery service, offered by Dell Professional Services (PS), provides a robust solution to recover production data from potential cyberattacks. The operation of the cyber vault consists of three basic steps:

1. Production data is synced through an SRDF air gap. The management server unlocks the air gap, allowing the data to be stored in the vault target storage. Once synced, the air gap is re-locked.

2. A copy of the data is made, and the retention of this data in the vault can be configured for different timeframes.

3. The vault is locked to provide additional protection from accidental or intentional deletion.

In the event of a cyberattack or recovery testing procedures, customers can quickly recover their data from the vault using native PowerMax software (SnapVX, SRDF) or by working with Dell Professional Services. By deploying an isolated vault, production data is protected from unauthorized access. PowerMax arrays detect cyberattacks quickly by monitoring unusual storage utilization and suspicious activities, and by protecting the data at a granular level using secure snapshots technology.

### **What are the additional benefits of deploying the new PS-led Cyber Recovery Service?**

The PS-led Cyber Recovery Service offers several additional benefits. First, Dell's Consulting-led ransomware experts tailor the solution to customer's specific business needs. Second, the service provides a physically and logically separate environment, known as a vault, which is controlled by secure access. This ensures the protection of customer data. Fourth, the service includes secure and immutable snapshots, enabling quick data rebuilding to minimize Recovery Time Objectives (RTO). By isolating and making the data immutable, the service reduces your customer's attack surface and helps them achieve their compliance goals.

### **Are there additional cyber resiliency features in the PowerMaxOS 10.2 release?**

Yes, the PowerMaxOS 10.2 release introduces additional cyber resiliency features. It includes two Container Storage Modules for cyber security and file replication. Additionally, YubiKey multifactor authentication is available, providing an extra layer of security for PowerMax customers running OS 10.2 or later.

## **MULTICLOUD AGILITY**

### **Which multicloud data mobility features are offered with PowerMaxOS 10.2?**

Earlier this year, Dell announced a partnership with RiverMeadow. This partnership offers a powerful solution for workload mobility between PowerMax and the cloud. RiverMeadow Cloud Mobility for Dell is an intuitive, easy-to-use SaaS platform that enables the non-disruptive movement of entire workloads, including storage, between a source and target environment. With PowerMaxOS 10.1 or later, users can seamlessly move their workloads to the desired destination environment, whether it's on-premises or in the cloud.

### **Which host operating systems are supported with RiverMeadow Cloud Mobility for Dell?**

RiverMeadow Cloud Mobility for Dell supports both Windows and Linux operating systems. This means that users can migrate workloads between various scenarios, such as on-premises to on-premises, on-premises to the cloud, cloud to cloud, or cloud to on-premises. This flexibility enables PowerMax users to easily move their entire workloads from PowerMax to other Dell storage solutions, regardless of whether they are on-premises or in the cloud. It provides organizations with the ability to optimize workload placement, leverage the advantages of cloud environments, and seamlessly integrate with other Dell storage solutions as well as PowerMax.

### **Does PowerMax direct backup with PowerProtect support on-prem and cloud backup targets?**

Yes, PowerMax direct backup provides customers with a lot of flexibility when it comes to choosing backup targets. The new Storage Direct Protection for PowerMax integrates with a variety of clouds, including AWS, Azure, Google Cloud Platform, and Alibaba. This integration

allows customers to avoid cloud vendor lock-in and select the vendor that best fits their needs. In addition, the backups use various methods to reduce costs, such as object storage, highly efficient PowerProtect Data Domain data reduction, and bandwidth-efficient replication. Customers can leverage this integration to build their multicloud data protection strategy, combining on-premises and cloud data protection copies.

### **Does the APEX Subscriptions offer replace PowerMax Flex on Demand payment solutions?**

Yes, with Dell APEX Subscriptions, we have consolidated our as-a-service portfolio and simplified the modern cloud and consumption experience. APEX Subscriptions now replace PowerMax Flex on Demand payment solutions. This consolidation allows customers to pay for what they use and manage their subscriptions through the APEX Console, which simplifies invoicing, and billing, and provides capacity usage monitoring for better forecasting and scaling.

### **How does APEX Subscriptions work?**

First, customers select the products and solutions needed and configure their capabilities to meet their specific requirements. Then, they can choose from a range of services, including value-added deployment and decommissioning, as well as optional managed services. Everything is tailored to customer needs, seamlessly integrated, and delivered on your schedule, without the need for a large upfront capital investment. APEX Subscriptions provide a flexible and convenient way to consume IT resources.

### **What are the major customer benefits of APEX Subscriptions for PowerMax?**

APEX Subscriptions offer a modern consumption experience while simplifying lifecycle management securely and sustainably. Customers who have adopted APEX Subscriptions are already experiencing great benefits. These include improved staff efficiencies, faster deployment of resources, and reduced unplanned downtime. By consolidating IT environments and leveraging the functionalities of newer and upgraded infrastructure solutions, customers can save IT staff time and achieve more efficient IT infrastructure teams. Studies have shown that participants benefited from 50% more efficient IT infrastructure teams by adopting APEX Subscriptions.

## **ADDITIONAL ENHANCEMENTS**

### **What Mainframe enhancements are in the PowerMaxOS 10.2 release?**

This release brings four essential mainframe features to market:

1. Mainframe I/O Optimization which is designed to increase IOPs by reducing response time latency for workloads that vary their IO demand over time (for example: unbalanced workloads) by tracking IO and reassigning PowerMax resources to reduce latency.
2. Cyber Intrusion Detection (zCID) usability enhancements for AI-enabled zCID now include “auto-learning” access pattern detection for SMS storage groups to build workload profiles, helpful when creating intrusion warning rules. These rules can also be dynamically modified by users. Users can also select from additional zCID reports and graphs for improved focus on potentially threatened storage groups.
3. IBM z System Recovery Boost exploitation. IBM Z System recovery boost is an IBM function within the mainframe server itself. “Exploitation” in this case means taking advantage of recovery boost to reduce processing time during configuration and critical recovery operations of Dell Autoswap and Consistency Groups, two PowerMax mainframe features that play a key role in ensuring rapid recovery during planned or unplanned outages.

4. Reporting on zHyperlink emulation threads % busy and zHyperlink metrics in Unisphere. This enhancement enables Unisphere 10.2.0 and later to report on the % of consumption of PowerMax processing resources by the high-speed zHyperlink read function within PowerMax.

### **What New Dell Services are available for PowerMax?**

Professional Services for Cyber Recovery based on the PowerMax platform are now available with PowerMaxOS 10.2. This advisory offer provides PowerMax customers with the education and training needed to set up, deploy, and maintain a comprehensively resilient cyber vault using the native features and capabilities available with PowerMax.

### **When can Cyber Recovery Services for PowerMax be purchased?**

Dell customers can purchase Cyber Recovery Services for PowerMax at the point of sale or after the point of sale starting in October 2024.

### **What are the requirements for a customer to purchase Cyber Recovery Services for PowerMax?**

Customers need to purchase or own two or more PowerMax arrays with one for Production and another for the cyber recovery data vault.

### **Are Cyber Recovery Services available for other Dell products?**

As of October 2024, Professional Services for Cyber Recovery are available for PowerMax and PowerProtect Data Domain solutions. Cyber Recovery Services for additional Dell products are expected to be available soon.



## Additional Resources

Additional PowerMax 2500/8500 resources are listed below:

- [Data sheet](#)
- [Spec sheet](#)
- [Top reasons why PowerMax](#) (customer handout)
- [What's New presentation](#)
- [Customer presentation](#)
- [These Sales FAQs](#)
- [PowerMax FastPass \(1-pager\)](#)

**PowerMax landing page (public):**

<https://www.delltechnologies.com/en-us/storage/powermax.htm#scroll=off>

**Product Knowledge Center:** <https://www.dellemc.com/resources/en-us/auth/products/storage/enterprise-storage/PowerMax.htm>

**PowerMax Storage Central site:**

<https://dell.sharepoint.com/sites/StorageCentral/SitePages/PowerMax.aspx>

**PowerMax Mainframe landing page (public):**

<https://www.delltechnologies.com/mainframe>

**PowerMax Mainframe Knowledge Center:**

<https://www.dellemc.com/resources/en-us/auth/products/storage/enterprise-storage/mainframe.htm#sort=relevancy&numberOfResults=25>

**PowerMax Mainframe Storage Central site:**

<https://dell.sharepoint.com/sites/StorageCentral/SitePages/Mainframe.aspx>

# April 2024 Announcement

## Announcement Overview (Fast Backups with PowerProtect)

Dell Technologies is excited to announce Storage Direct Protection for PowerMax, a groundbreaking solution that seamlessly integrates PowerMax 2500/8500 capabilities with PowerProtect Data Domain and PowerProtect Data Manager. This powerful combination delivers unparalleled performance and agility for backup and recovery, ensuring that our customer’s critical data remains secure and accessible across on-prem and multicloud environments.

### Key Features:

- **Ultra-Fast Performance:** With backup speeds of up to 46 TB/hour and restore speeds of up to 21 TB/hour, the native integration of PowerMax with PowerProtect Data Domain appliances ensures rapid data protection without compromising efficiency.
- **Data Integrity and Immutability:** By leveraging PowerMax integration with PowerProtect Data Domain, customer data remains immutable, safeguarding against unauthorized alterations. Additionally, the ability to incorporate a cyber vault enhances security further.
- **Flexibility Across Clouds:** Whether your customer operates on-prem, in a single cloud, or in a multicloud environment, Storage Direct Protection for PowerMax adapts effortlessly, providing consistent data protection and recovery capabilities.
- **Simplified Management:** The solution boasts a straightforward and intuitive user interface, making it easy for IT teams to manage and monitor backups. PowerProtect Data Manager streamlines backup and restore orchestration, allowing customers to focus on strategic initiatives rather than operational complexities.
- **Zero Impact on Host Applications:** Storage Direct Protection for PowerMax ensures no adverse impact on host applications so all server resources can be applied to high-priority host applications.

In today’s unpredictable business landscape, staying ahead of the competition requires innovative solutions. The direct backup approach with PowerMax 2500/8500 and PowerProtect empowers our customers to do just that—securely, efficiently, on-prem, or in the cloud.

## Announcement and Product Availability Schedule

- **Internal announcement** ..... April 17, 2024
- **Public announcement (blog coverage)** ..... April 30, 2024
- **Sizing and ordering activation**..... July 2024
- **Generally available / RTS** ..... July 2024

## Detailed Product FAQs

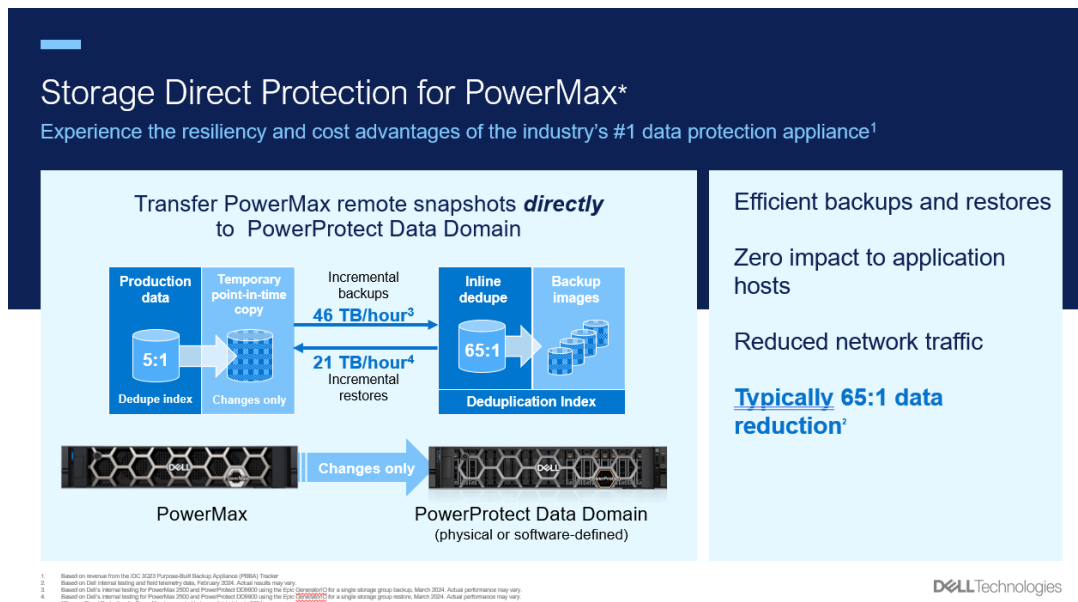
### Why is Dell announcing this offer before the product is generally available (RTS)?

Our customers and strategic technology partners, including Epic, consistently demonstrate a keen interest in a superior solution to the legacy PowerMax 2000/8000 direct backup offering from 2018. Dell Sellers are now poised to initiate the sales cycle, promoting the cutting-edge PowerMax 2500 and 8500 models with the latest PowerProtect Data Domain offers. Simultaneously, we will promote this offer during Dell Technologies World next month (May 20-23) to broaden customer awareness.

### How does the new PowerProtect backup integration with PowerMax work?

The Storage Direct Protection for PowerMax solution combines the latest PowerMax 2500/8500 hardware and software with all PowerProtect Data Domain models and the latest PowerProtect Data Manager. PowerMax 2500/8500 Dell Internal and Business Partner Use Only October 2024

Manager software. PowerMax's integration is a new, streamlined process to back up snapshots to physical PowerProtect DD appliances or PowerProtect DDVE instances. Customers will now have the ability to add PowerProtect DD targets with PowerProtect Data Manager as illustrated below:



### Does this solution require a dedicated backup server?

A dedicated backup server is not required. Customers will need to run proxy backup services (leveraging DD Boost) on a virtual machine or in the cloud.

### How were the ultra-fast backup performance results generated?

The performance benchmarks (up to 46TB/hr backups and 21TB/hour restores) are based on Dell internal testing for PowerMax 2500 and PowerProtect DD9900 using the Epic GeneratorIO for a single storage group backup. We expect even better performance when the latest Data Domain models are used (DD 9910).

### Are there limitations to the data types (open systems, mainframe, file) that can be backed up with Storage Direct Protection for PowerMax?

PowerMax's integration through PowerProtect Data Manager (19.17 or later) works with open systems block snapshots at the storage groups level and may support File at a later date. While this offering does not support mainframe backups, PowerMax mainframe customers can use Dell's powerful DLM backup solution.

### What are the use cases for Storage Direct Protection for PowerMax?

This new capability offers customers an easy, native way to create, send, and use crash-consistent and application-consistent backups to remote locations for multi-site, and cloud archival data protection. Storage administrators can use the longer retention period and data reduction of PowerProtect to make backups more cost-effective and reduce the length of time snapshots need to be held in the array for recovery.

This is an additional layer of data protection that is not intended to replace local or remote snapshots on PowerMax for rapid recovery of data. Array snapshots will always be faster to recover than retrieving from a backup target. The integration can also take advantage of the PowerProtect Cyber Recovery Vault for customers who want additional protection from potential ransomware attacks, providing the security of off-array and off-site backups.

## **Can the PowerProtect Data Manager Appliance scale out?**

No. The Data Manager Appliance has been designed from the ground up to provide in-place capacity increases rather than a scale-out architecture. We are confident that a grow-in-place architecture best meets the simplicity, space, and budget requirements of small and mid-sized organizations. Grow-in-place avoids the disruptive and time-consuming drawbacks of a scale-out upgrade.

## **What are some of the capacity efficiencies provided by the PowerProtect Data Manager Appliance?**

The appliance is powerful in its comprehensive coverage, performance, and cloud readiness. It supports a broad application ecosystem and has been optimized for VMware ecosystems, with industry-leading 55:1 guaranteed deduplication for the protection of approximately 5PB of logical data with a 2U form-factor, 96TB appliance. Customers can scale up to 256TB of usable capacity, using one to three 2U expansion shelves, leading to 42.2 PB of logical capacity. These advantages, along with its grow-in-place scalability make the Data Manager Appliance ideal for mid-size organizations, as well as remote/branch offices and standalone departments of larger enterprises.

## **What is Instant Access?**

Instant Access is a PowerProtect feature that enables customers to quickly perform granular data recovery from a snapshot without having to retrieve the entire snapshot. This feature helps customers save time, rapidly recovering small pieces of data with minimal disruption to business operations. Note that this feature was not released in the PowerProtect Data Manager 19.17 release but is expected to be released later this year.

## **What are the use cases for Instant Access?**

Instant Access enables storage administrators to manage and streamline granular data recovery without retrieving the entire snapshot. Storage administrators can manage the entire process quickly within PowerProtect Data Manager.

## **Additional Resources:**

### **PowerMax Content** (with PowerProtect highlights)

- [What's New Presentation](#)
- [Customer Presentation](#)
- [Data Sheet](#) (available with PowerProtect highlights April 30 – external asset)
- [Top Reasons Why PowerMax](#) (available with PowerProtect highlights April 30 – external asset)

### **PowerProtect Content**

- [Data Protection Products and Solutions](#) (Internal Site)
- [Data Protection Public Site](#) (Dell.com)

# October 2023 Announcement

## Announcement Overview

The latest PowerMaxOS 10 release incorporates new features and previously previewed capabilities for the Dell PowerMax enterprise-class storage array to help our customers stay ahead of their competition in an unpredictable world.

The announcement is built on two very important sets of new capabilities: 1. features that further advance breakthrough efficiency and 2. features that strengthen cyber resiliency, all while growing capacity in a compact open/mainframe footprint.

## Announcement Highlights

### SUPERCHARGE EFFICIENCY

#### Power Consumption Dashboard

- **Proactive power consumption planning and analysis** via real-time power monitoring, alerting, and management based on actual usage.
- **Rack-based and remote power monitoring** for all servers, switches, and storage within a rack.

#### Operational Efficiency Enhancements

- **Dynamic data mobility** optimizes storage resource utilization across arrays for relocating workloads to different arrays, maximizing resources. Combined with real-time environmental monitoring, organizations can make highly informed decisions on moving workloads to optimize energy consumption.
- **Autonomous health checks** with proactive remediation via AI/ML
- **Automated Storage Provisioning** using a simple REST API, saving considerable time and effort.

#### Data efficiency and Sustainability

- **A new 5:1** data reduction guarantee for open systems (non-mainframe). No Assessment required; part of the Future-Proof program.
- **Up to 2.8x more IOPs per watt** vs. prior models provide \$207K in electricity cost savings, along with up to 82% reduction in greenhouse gases compared to previous arrays

### STRENGTHEN CYBER RESILIENCY

#### Federal Security Compliance

- **TLS 1.3 support and US Federal DoD-approved product certification**, including STIG hardening, intrusion detection alerts, user lockout policies and other DoD safeguards.

#### Built-in security Enhancements

- **Industry's first storage-based cyber intrusion detection for mainframe environments.**
- **Accelerate ransomware detection (AI/ML)** via anomaly detection based on I/O patterns (for open systems and mainframe data)

- **Ignition Key Support** is a new data at rest capability leveraging external key managers to protect against physical theft of the array.
- **Data Sanitizer** is a NIST-compliant process that erases all data prior to decommissioning an array.

#### **Mission-critical availability for VMware**

- **SRDF/Metro SmartDR for VMware (SRM/SRA)**
- **Extended connectivity via NVMe/TCP support for VMware vVols.**

These enhancements further strengthen PowerMax security and cyber resiliency, which already includes robust hardware security, authentication and secure access, data immutability, intelligent threat detection and air-gapped cyber vault.

## **Announcement and Product Availability Schedule**

- **Internal announcement** ..... October 4, 2023
- **Public website updates go live** ..... October 17, 2023
- **Sizing and ordering activation**..... October 18, 2023
- **Generally available / RTS** ..... October 17, 2023

## **Detailed Product FAQs**

### **What is the Power Consumption Dashboard and rack-based remote power monitoring?**

Web browser-based monitoring of power consumption and environmental conditions inside Dell's 40U Rack based on a new, modular intelligent, power distribution unit (iPDU) which is standard inside PowerMax cabinets beginning October 17. Designed for streamlined power changes and serviceability, the iPDU provides real-time statistics and remote monitoring and alerting of PDU power (voltage, current, frequency) as well as temperature, and humidity of the entire rack.

The dashboard tracks total power consumption for all components in the rack (storage, switches, servers). Remote monitoring is done through secure IP connectivity supporting power connection monitoring across 2 racks.

For reporting and analysis, SNMP and Redfish APIs are used to set threshold alerts and generate insightful reports based on power usage, environmental conditions, and carbon footprint changes over time.

### **What is Proactive power consumption planning and analysis?**

By combining use of the new iPDU, Power Consumption Dashboard and companies' knowledge of storage workloads and energy costs by location of their PowerMax arrays, operations staff can maximize energy consumption by making informed decisions on where certain workloads should run based on usage and energy costs.

### **What is Dynamic Data Mobility?**

Dynamic Data Mobility for open systems data allows customers to relocate workloads (Storage Groups) to a different PowerMax array in order to maximize resource utilization across locations. Once a workload is moved, resources on the source PowerMax are made available.

### **What are AI-driven Autonomous health checks?**

Through pattern recognition and predictive analytics, PowerMax helps to identify potential vulnerabilities in the system before they occur. Once a vulnerability is identified, proactive remediation recommendations are sent to the system log for corrective action.

Examples of potential vulnerabilities include:

- Running low on available storage capacity
- Performance optimization opportunities
- Loose cable connections (SFPs)

### **How can Automated Storage Provisioning save considerable time and effort?**

Automated storage provisioning for open systems and mainframe workloads is accomplished with REST APIs saving considerable time and effort and, the software defined NVMe/TCP utility for storage improved e resource automation can save up to 44% less time to set up NVMe/TCP resources.

### **What improvements were made in data reduction?**

The “hassle-free” 5:1 guarantee was improved from 4:1 for open systems data (It remains 3:1 for mainframe data.) Like the previous guarantee, it does not require an assessment and has virtually no performance overhead, thanks to the latest data reduction hardware and software technology. It continues to be part of the Future Proof program.

### **How was “Up to 2.8x more IOPs per watt, \$207K in electricity cost savings, up to 82% reduction in greenhouse gases” calculated?**

This is based on Dell’s internal analysis in July 2023, of total electricity cost savings over 5 years operating a PowerMax 2500 at 8PBe (5kW) versus 6 PowerMax 2000s at 8PBe (27.5kW) using \$.21 per kWh (U.S. EIA April 2023 report, California Commercial rate). The CO<sub>2</sub> reduction is based on operating a PowerMax 2500 at 8PBe (5kW) over 5 years versus 6 PowerMax 2000s at 8PBe (27.5kW).

### **What is TLS 1.3 support and why does it matter?**

Transport Layer Security reduces the risk of eavesdropping and data breaches on IP networks. Version 1.3 is most secure version offering stronger encryption algorithms and improved resistance to attacks.

### **What is STIG hardening and why does it matter?**

STIG-hardening reduces the attack surface by disabling unnecessary services, closing unneeded ports, and applying access controls, limiting potential entry points for attackers. PowerMax STIG-Hardening meets the most stringent US Department of Defense guidelines.

### **What are AI/ML based autonomous health checks?**

When CloudIQ is used with PowerMax, CloudIQ uses AI/ML-based predictive analytics and remediation engine to predict storage behaviors enabling storage administrators to proactively take corrective action. Some examples include:

The system will predict capacity headroom and offer suggestions on how to reclaim unused storage or add new capacity.

It will analyze performance and give you recommendations on how to further optimize response times.

CloudIQ’s remediation engine can recommend:

When and where to enable or disable data reduction for optimum performance and capacity.

Data mobility recommendations for optimal use of your infrastructure.

QoS recommendations to prevent noisy neighbor or other performance-related issues.

I/O Port rebalancing distributing your traffic via PowerPath.

### **What is the industry’s first storage-based cyber intrusion detection for mainframe environments?**

Cyber Intrusion Detection for Z Systems (zCID) is a layer of intelligence that detects atypical data access rates. Additionally, Dell zDP snapsets plus zCID timestamped anomaly detection enables users to pick specific points in time to recover back to in the event of a suspected or actual intrusion.



### **What is (AI/ML)-based ransomware detection?**

PowerMax + CloudIQ enables intelligent anomaly detection based on pattern detection of performance, capacity, or data reduction.

### **What is Ignition Key Support?**

A new data at rest (D@ARE) capability leveraging external key managers (currently HASHICorp.) to protect against physical theft of the array. It Requires a handshake on every power cycle or restricts access to encrypted data for added security.

### **What is Data Sanitizer?**

A NIST-compliant process that enables erasing all data prior to decommissioning an array. It includes validation and certificate upon completion. Optionally, this process can be done by Dell professional services.

### **What is SRDF/Metro SmartDR for VMware (SRM/SRA) for mission-critical availability for VMware?**

PowerMax SRDF/Metro SmartDR software is now qualified with VMware Site Recovery Manager (SRM) for those customers that require the highest availability for their virtualized workloads. SRDF/Metro active-active replication enables instant access to data if one of the two arrays has an issue.

### **What is Extended connectivity via NVMe/TCP support for VMware vVols?**

Extended connectivity consists of three new vVols features: 1. NVMe/TCP front-end I/O support 2. VASA Guest Add / Remove 3. VASA Provider support for TLS 1.3 (requires vSphere 8.0 U2; final qualification will occur after VMware General availability in 2H 2023)

## **Services FAQs**

### **What is ProDeploy and when should I recommend deployment services?**

**ProDeploy Infrastructure Suite** helps customers get systems out of the box and into production fast and includes setup of connectivity software, which is integrated in the PowerMax appliance to ensure the best customer support experience and a faster connection with CloudIQ. Services offerings are:

- **ProDeploy Plus:** The best choice for increasing customer satisfaction for mission-critical environments, ProDeploy Plus provides 24x7 onsite installation and configuration of both hardware and system software with a commitment of delivering in-region and onsite resources for a personalized, high-touch experience. It also comes with Dell training credits, 30-day post-deployment configuration assistance and deployment validation to address any immediate concerns during early production.
- **ProDeploy:** Offering a blended delivery model, ProDeploy includes onsite hardware installation and remote resources for software configuration, ensuring accurate and timely delivery regardless of where the customer is located.
- **Basic Deployment:** Often sold when partners or customers plan to do their own configuration work, Basic includes rack, stack, cable, label and packaging disposal.

### **Why might customers need Data Migration Services?**

Data Migration Services complement the functionalities of the built-in data migration tools. Customers who wish to perform data migrations without help from a services provider can



leverage the data migration tools to move the data themselves. Customers with limited time or experience, or for those who need help with discovery, planning, and execution, can leverage data migration services to efficiently migrate their data with reduced risk, allowing internal teams to focus on other priorities.

## **What are Residency Services and when do I recommend them for PowerMax?**

Residency Services are ideal for PowerMax customers with complex environments or those new to the technology. Residency Services provide a dedicated hands-on product expert to fill resource gaps, manage day-to-day operations and help teams while transitioning to new technologies. Sold in one-month increments often for a 3 to 12-month engagement. Your customer controls these experts' priorities and time and has the flexibility to adjust resources and budget. There are two types of Residency engagements:

**Transitional Residency:** Ideal for customers who are new to a technology or product. These residents are Solutions Architects who:

- Drive product integration, process and documentation changes during a period of transition
- Prepare your customer's staff with critical skills
- Deliver specific expertise in new technologies

**Operational Residency:** Ideal for longer-term engagements where an expert is needed for operational oversight. These residents are Implementation Specialists who:

- Perform administrative and management tasks based on your customer's standard operating procedures
- Implement change management actions in conjunction with the customer
- Share knowledge and best practices with your customer's IT staff to improve performance

## **What are the support options for PowerMax?**

We offer [ProSupport Infrastructure Suite](#) to help customers resolve IT issues in less time and with less customer effort. Recommending one of our support services depends on the complexity of your customer's environment and how they allocate their IT resources. Support services are required with one of the following options:

**ProSupport Plus:** When you recommend our highest level of support, customers get all the features of ProSupport and a higher level of personalization and proactive features, including an assigned Service Account Manager and priority access to specialized support experts.

**ProSupport:** Ensures comprehensive 24x7 predictive support with automated issue detection and case creation. It's a single source for your customer's hardware and OS support.

## **Where can I get additional information about services for PowerMax?**

- Find marketing and sales enablement services assets for PowerMax on the Sales Portal: [Services for Storage Knowledge Center](#).
- For a deeper dive on deployment, support, managed, consulting and education services, go to the [Dell Technologies Services Knowledge Center](#) on the Sales Portal.

- For technical documentation and service briefs on deployment, consulting and education services, search by product on the SOL: [Service Offering Index](#)

## Messaging

What are the two key sets of messaging for this release?

### Supercharge your efficiency

Continuously modern architecture optimizes **energy, operational, and data efficiency**

#### Power consumption dashboard

**Proactive power consumption planning and analysis**

Real-time power monitoring, alerting, and management based on actual usage

Rack-based and remote power monitoring for servers, switches, storage

#### Operational efficiency enhancements

**Accelerate productivity and efficiency at scale**

Intelligent data mobility optimizes storage resource utilization across arrays

Autonomous health checks with proactive remediation via AI/ML

#### Data efficiency and sustainability

**New 5:1 data reduction guarantee\***

Industry-leading data efficiency

No assessment required

Future-Proof Program

\*Open Systems

**IOPS per Watt**  
Up to 2.8x more performance per watt

**Energy cost savings over 5 years**  
Up to \$207K in electricity cost savings\*

**Superior rack density across latest PowerMax models**

**82% reduction in greenhouse gases**

\* \$21 per kWh (California Commercial, EIA, April '23)

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**DELL**Technologies

### Strengthen your cyber resiliency

#### Federal security compliance

**Meet stringent requirements of US Federal Government**

TLS 1.3 certification (management apps)

Fed/DoD APL certification for 2500/8500

#### Built-in security enhancements

**Accelerate ransomware detection (AI/ML)**

Cyber intrusion detection for MF (1<sup>st</sup>)

Anomaly detection based on I/O patterns

#### Mission-critical availability for VMware

**Deliver the highest availability**

SRDF/Metro SmartDR for VMware (SRM)

**Extend connectivity**

NVMe/TCP support for VMware vVols

**Dell Trusted Infrastructure**

Hardware security

Authentication and secure access

Data immutability

Intelligent threat detection

Cyber Vault (best RTO)

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**DELL**Technologies

What are the new and existing Breakthrough Efficiency feature and function claims for this release?

## PowerMax Claims – Breakthrough Efficiency

**New Claims (Approved):**

- **Industry's most secure and energy-efficient mission-critical storage**
  - **Industry's most** energy-efficient mission-critical storage
- Up to 2.8x more performance per watt <sup>1</sup>
- Up to \$207K in electricity cost savings<sup>2</sup>
- 5:1 data reduction guarantee (open systems)

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- Up to 82% reduction in greenhouse gases (CO2)<sup>2</sup>
- CO2e reduction that can equal the consumption of up to 43K gallons of gas<sup>2</sup>
- CO2e reduction that can equal the energy required to power up to 74 homes for a year<sup>2</sup>

1 Comparing PowerMax 2500 vs. 2000 (RWM 8K, 64 SSDs)  
2 Comparing PowerMax 2500 vs. 2000 (x6) over 5 years (@8PBe)

**Existing Claims:**

- 80% power savings per terabyte (TBe)
- Up to 14x more storage capacity per rack unit
- 4:1 data reduction guarantee (open systems)
- 3:1 data reduction guarantee (mainframe)
- Industry's first compression for mainframe storage
- Industry's first automated end-to-end NVMe/TCP deploy
- Up to 44% less time to configure NVMe/TCP resources
- 2X faster storage provisioning
- One-click deployment of stateful applications on Kubernetes containers
- Optimized workload placement across multiple PowerMax arrays

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**DELL**Technologies

What are the new and existing Cyber Resiliency feature and function claims for this release?

## PowerMax Claims – Cyber Resiliency

**New Claims (Approved)**

- **Industry's first cyber intrusion detection for mainframe storage** based on data collected from PowerMax
  - October 2023
- U.S. Federal/DoD adds new PowerMax models to the **Approved Products List**, STIG hardening
  - **Recently added to U.S. Federal APL** – will amplify with Laurel

**Existing Claims:**

- **World's most secure mission-critical storage**
  - Based on Dell's internal analysis of cybersecurity capabilities of Dell PowerMax versus cyber security capabilities of competitive mainstream arrays supporting open systems and mainframe storage, **April 2023**.
- **Designed to accelerate Zero Trust adoption**
  - Based on Dell's internal analysis of Dell's seven pillars of Zero Trust architectures for Dell PowerMax, **April 2023**.
- **Industry's most granular cyber recovery at scale (65M secure snapshots per array)**
  - Based on Dell's analysis of PowerMax cyber recovery scalability vs competitive enterprise arrays, **April 2023**. Assuming an RPO of 10 minutes for 2 days and 60 minutes for 7 days, more than 2 million snaps are required, based on an average number of 5000 volumes configured in PowerMax.
- **Deployed in over 95% of Fortune 500 sectors**
  - Based on vertical industry categories from the Fortune 500 company rankings as of **May 2023**.

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Has the previous PowerMax 2500/8500 messaging changed with this announcement?

No, the original PowerMax messaging is still valid; this announcement adds feature and function that strengthens it.

### **Does the PowerMax 2500/8500 product positioning change with this announcement?**

No. The original PowerMax positioning is consistent with previous launches. PowerMax 2500/8500 arrays should be your lead all-flash mission-critical storage product in FY24.

The primary “sweet spots” for PowerMax are:

- Traditional databases running high-demand OLTP, decision support, and virtualized applications
- Large-scale storage consolidation of block, file, mainframe, and IBM i workloads
- Unified block and file storage for mission-critical workloads
- Tech refresh opportunities especially for customers running VMAX and XtremIO arrays
- Competitive takeout opportunities against all enterprise storage products, including storage from Hitachi, IBM, Huawei, NetApp, HPE, and Pure

When PowerMax 2500/8500 are being qualified in your account, continue to position PowerMax 2000/8000. PowerMax 2000/8000 arrays are ideal for existing customers who require continuity with their existing storage infrastructure and need additional time to qualify PowerMaxOS 10.

Since the PowerMax 2500 and 8500 are priced modestly above PowerMax 2000/8000, position the 2000 and 8000 for price-sensitive deals. Note that FINAL orders for PowerMax 2000/8000 are planned for January 2024 so now is the time to begin transitioning your PowerMax 2000/8000 demand to 2500/8500.

Does this release include new features and previously announced features?

Yes, this PowerMaxOS 10 release incorporates new features and many capabilities pre-announced during last year’s PowerMax 2500/8500 breakthrough launch.

### **Which Dell APEX cloud solution should I sell to customers interested in a pay-as-you-go operating model for PowerMax?**

For those customers interested in an as-a-service, pay-as-you-go operating model, continue to promote [Dell APEX Flex on Demand for PowerMax](#).

### **How is PowerMax positioned against competing solutions?**

PowerMax is the leader in high-end storage with over 3x share vs. the nearest competitor. The industry’s most secure mission-critical storage delivers on the promise of cyber resiliency by offering the latest capabilities to prevent, detect, and recover from a potential cyberattack.

PowerMax offers advanced data reduction technology backed by its 5:1 data reduction guarantee for open systems and by the industry’s first compression for mainframe storage with a 3:1 data reduction guarantee.

- **Hitachi:** PowerMax now offers even better data density over Hitachi VSP. Hitachi will attempt to create FUD around PowerMax’s data reduction capabilities - use PowerMax’s industry-first 3:1 Mainframe and improved 5:1 DRR guarantee for open systems to refute Hitachi FUD. Quoting data reduction technology should be standard in deals and capacities compared at their effective TB levels – not usable capacities that Hitachi may promote. The negative performance impacts Hitachi customers face with enabled data reduction make PowerMax the clear choice for customers driving enterprise performance and efficient capacity management.
- **IBM:** PowerMax’s 3:1 DRR guarantee for mainframe data is unmatched by IBM; they have no compression capability in their mainframe arrays. Internal testing of IBM’s AFA 9500 open systems array shows an average DRR of 2:1, offering significant returns for PowerMax customers over IBM’s data efficiency capabilities. IBM’s fragmented portfolio also limits the customer’s ability for scale-out operations, for which PowerMax’s multi-controller, NVMe scale-out and up capabilities should be championed. ZDP for PowerMax mainframe data protection and recovery for mainframe data is far superior in space consumption, recovery time and operational simplicity than IBM’s SafeGuarded Copy.
- **Huawei:** PowerMax delivers FIPS 140-3 certification and up to 65M secure snaps per array while Dorado has no FIPS 140-3 certification and limits snapshots to 2M. Huawei lacks robust

data services like NVMe/TCP and hamstrings operations when running data reduction with post-process deduplication that requires licensing by effective capacity.

- **NetApp:** The A900 has 25% fewer IOPS and 15% less bandwidth than what PowerMax can deliver. Customers also gain better data efficiencies with global data reduction for PowerMax, while NetApp deduplication is performed per aggregate.
- **Pure:** The FlashArray//XL cannot deliver the enterprise scale and performance offered by PowerMax. Customers are stuck in an active/passive controller architecture with Pure combined with limited storage scalability at a maximum 5.5PBe versus 8PBe/18PBe in the PowerMax 2500 and 8500 respectively.
- **HPE:** PowerMax's flexible RAID configurations, individual drive upgrades, and dynamic fabric capabilities are superior compared with flaws in HPE's Alletra's architecture. Additionally, Alletra 9000 only guarantees 4:1 for VDI and 2:1 for VM and DB workloads versus PowerMax's 4:1 data reduction guarantee.

#### **Has Dell's Global Services offering for PowerMax changed with this announcement?**

Dell's service offerings for PowerMax have not changed. For the life of the PowerMax, Dell Technologies offer services that deploy, configure, support, and optimize new infrastructure.

# March 2023 Announcement

## Announcement Overview

The latest PowerMaxOS 10 release incorporates new features and pre-announced capabilities to help our customers stay ahead of their competition in an unpredictable world.

Today's announcements specifically help customers strengthen cybersecurity, economically grow capacity in a compact open/mainframe footprint and increase upgrade flexibility to deploy enterprise storage that remains continuously modern over time.

## Announcement Highlights

### STRENGTHEN CYBER RESILIENCY

- **PowerMax cyber vault** *[new feature]* enhances cyber resiliency through an SRDF-airgap using native PowerMax software that secures data from the production network. Cyber vault is simplified, orchestrated, cyber recovery solution that replicates production data to an isolated cyber vault, enabling expedited, snapshot-based recovery of compromised production data. This solution is fully implemented using PowerMax arrays.
- **Deeper cybersecurity through ransomware and malware anomaly detection** and alerting help customers minimize the impact of unpredictable cyberattacks. And with CloudIQ, customers can easily monitor their storage and detect anomalies anytime, anywhere. Dell sellers can use this powerful differentiator to win big against all major competitors.

### EXPAND CAPACITY, REDUCE FOOTPRINT, SAVE ENERGY

- **Breakthrough storage density** enables customers to configure up to 4.5PBe of capacity per node pair – that's 3x more compared with previous configurations. This enhancement significantly reduces PowerMax acquisition costs while optimizing data center footprint.
- **Extreme data efficiency** delivers 80% power savings per terabyte plus 14x more capacity per rack unit helping customers achieve their sustainability goals while managing rapid data growth.
- **PowerMax 2500** scales higher to 8PB of effective capacity with the 30TB flash drive *[new feature]*, that's 7x more storage vs. PowerMax 2000 (1.2PBe).
- **PowerMax 8500** scales higher to 18PB of effective capacity that's 4x more storage vs. PowerMax 8000 (4.5PBe).

### STAY CONTINUOUSLY MODERN

- **Streamlined non-disruptive hardware expansion** for node pairs, node cache memory, and dynamic media enclosures (DMEs) enables customers to seamlessly scale PowerMax while keeping their existing infrastructure in place.
- **Flexible field upgrades** mix open systems and mainframe storage within a single array to help customers manage changing workload requirements throughout the lifecycle.

### EXTEND MAINFRAME CAPABILITIES

- **Mainframe storage density** has been improved to 1.9PBe per node delivering 3.8PBe maximum capacity for the model 2500 and 10PBe for the model 8500.
- **New zHyperLink connectivity delivers ultra-fast reads** for highly transactional environments (like DB2) that demand response times that are up to 10x lower than FICON.
- **zTPF** operating system support *[new feature]* expands the market opportunity for PowerMax 2500 and 8500 to competitive zTPF installations as well as refreshing older PowerMax or VMAX zTPF footprints.

## ADDITIONAL UPDATES

- **Enhanced file scalability** supporting up to 16 nodes per array makes PowerMax even more ideal for unified block and file solutions that require high availability and extensive scalability.
- **USGv6 R1 certification for U.S. Federal compliance** provides PowerMax proof of compliance with IPv6 specifications as defined by the Internet Engineering Task Force.
- European Union (EU) Lot 9 tier 3 compliance.
- Japanese user interface localization for Unisphere Manager *[new feature]*.

## Announcement and Product Availability Schedule

- **Public website updates go live** ..... March 15, 2023
- **Internal announcement** ..... March 15, 2023
- **Sizing and ordering activation**..... March 28, 2023
- **Generally available / RTS** ..... March 28, 2023

## Removal of Cloud Mobility from Marketing Content

We are evolving the Cloud Mobility solution for PowerMax to leverage a new ISG-wide multi-cloud approach that will utilize a common storage endpoint across all block storage products. The existing Cloud Mobility solution is being deprecated and will be removed from PowerMax collateral as appropriate. Details on the new solution will be shared at a later date. Existing Cloud Mobility installations will continue to be supported. For those customers interested in an as-a-service, pay-as-you-go operating model, continue to promote Dell APEX Flex on Demand for PowerMax.

## Messaging

PowerMax helps customers:

Safeguard High Value Data (Trusted)	Simplify Storage Operations (Intelligent)	Stay Continuously Modern (Innovative)
<b>Intrinsic protection from unauthorized access</b>	<b>Policy-based automation and orchestration</b>	<b>Data-in-place upgrade to next-gen hardware</b>
<b>Cyberattack anomaly detection (Open/Mainframe)</b>	<b>AIOps, advanced telemetry</b>	<b>Anytime Upgrade cost advantage</b>
<b>Most granular Cyber Recovery at scale</b>	<b>Intelligent and secure DevOps, <u>ITOps</u></b>	<b>Limitless scalability through product lifecycle</b>