

# Add Agile, High-Performing, Cost-Effective Storage to Your Solution

Dell PowerVault ME5 — it's OEM-Ready  
in more ways than one.

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## Executive summary

Customers who integrate Dell Technologies' products into their solutions often have distinct requirements for how those products should be customized, branded and delivered. Dell Technologies understands these unique requirements, and our dedicated OEM Solutions Group is working hard to meet your specific needs. We do this by delivering differentiated compute, storage and networking technologies that enable critical IT solutions.

Storage is typically a key building block within any reliable IT solution. And one example of a Dell storage technology that can integrate easily into your solution is the Dell PowerVault ME5 storage solution. PowerVault ME5 delivers performance, simplicity and affordability to a broad range of workloads and OEM use cases — including many of those at the edge. This white paper explores the key advantages of the PowerVault ME5 and how Dell Technologies OEM Solutions can help you build innovative designs that work for you and your customers.

## The Dell Technologies OEM Solutions Group — A group dedicated to OEM needs

At Dell, OEM is more than just an acronym. Original equipment manufacturers are part of our mission. We understand that you're not like most traditional data center customers. You operate differently. You have distinct needs and requirements. And you want to work with a company that understands those needs as well as the nuances of your business.

With more than 20 years' experience serving OEM customers, Dell Technologies OEM Solutions Group is a dedicated team focused solely on OEM customers. The result is an entire group of individuals, in all areas of the business, including product management, engineering, program management, sales, marketing, operations, procurement and more, committed to meeting your business needs. We recognize you are unique. We speak your language. We listen to what you're telling us. And we act on that information to help design and deliver products that integrate easily into your solution.

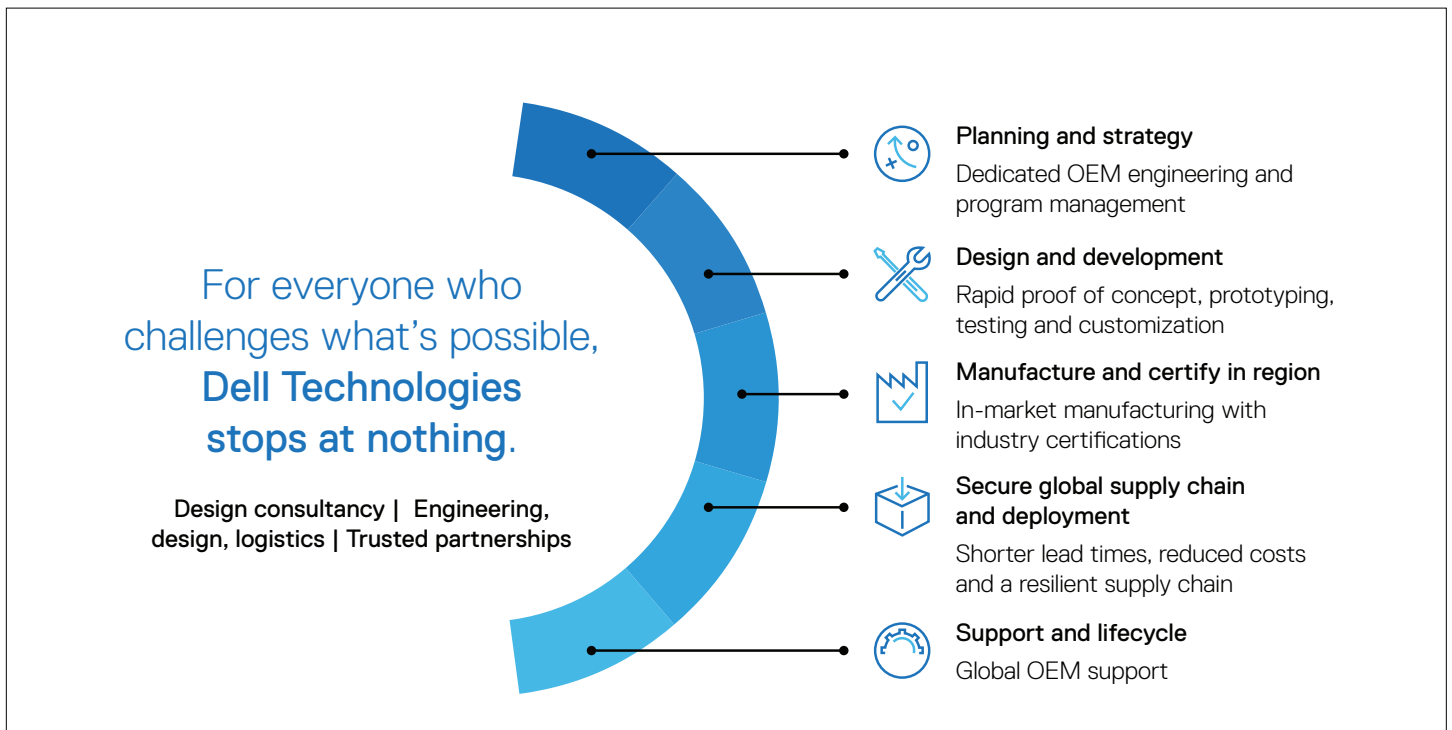


Figure: Dell Technologies OEM Solutions Group overview

## Dell Technologies — Driving distinct value for the OEM market

In addition to working with dedicated OEM specialists, solution builders that partner with Dell Technologies can choose from different go-to-market options depending on your solution requirements and the message you want to convey. Options include Dell Standard, OEM-Ready or OEM-Custom solutions.

- **Dell Standard** are off-the-shelf Dell products that carry Dell branding (hardware, software and certifications). They're designed for OEMs who want to convey key impressions — i.e., secure global supply chain, industry-leading products, rock-solid development — through their association with Dell.
- **OEM-Ready** are de-branded offerings with all Dell branding removed from the product, including the front bezel and the user interface. One reason you may want de-branded storage is to focus on brand equity and not have multiple branded options in your solution.
- **OEM-Custom** is for OEMs who want to use their own branding or other customization options — and are looking for Dell to help make that happen. These options might look like user-interface branding changes, logo change, color change or bezel change. Our engineers will work with you to design a solution to provide the customization you need and ensure everything runs optimally. We have Dell engineers on our team who make customized adjustments that work for you.

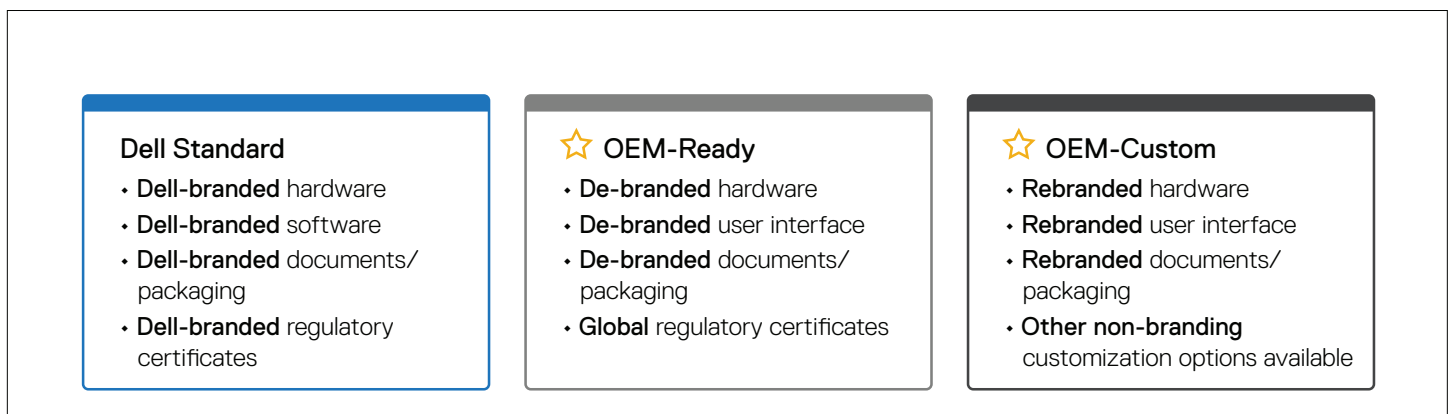


Figure: OEM Solutions go-to-market options

### Three PowerVault ME5 models to choose from

**ME5012** – 2 rack Us, up to 12 drives each, designed to support up to +5PB with expansion enclosures

**ME5024** – 2 rack Us, up to 24 drives each, designed to support up to +5PB with expansion enclosures

**ME5084** – 5 rack Us, up to 84 drives each, designed to support up to +6PB with expansion enclosures

### New and now available to OEMs — PowerVault ME5 storage, a powerful and versatile entry storage platform

Dell's existing PowerVault line, including the ME4, has been OEM-Ready for some time now. Like its predecessor, the newly released ME5 also fits this validated OEM model of delivering terrific performance and simple deployment and management, and it's OEM-Ready.

PowerVault ME5 is the new gold standard for entry storage that's purpose-built and optimized for SAN, DAS and edge workloads. It delivers substantial operational gains with significant increases in performance, capacity and throughput over its predecessor, the PowerVault ME4, without compromising simplicity, features, affordability or business outcomes.

This highly versatile product comes in three different models, supporting small to midsize businesses (SMB), ROBO (remote office, branch office), and enterprise environments. It also flexibly accommodates multiple high-value workloads and edge use cases.

## PowerVault ME5 benefits

PowerVault ME5 resets the standard for entry storage with blazing performance, considerable capacity expansion, rapid throughput and unmatched web-based management simplicity. When these are combined with the ME5's dual-active controller architecture; five-nines availability; and SAS, iSCSI and Fibre Channel protocols, it's no wonder IT generalists can configure PowerVault ME5 individually or with Dell PowerEdge servers in just a few short minutes. The ME5 delivers incredible simplicity and terrific price performance — making it an attractive addition to OEM solutions.

- **Simple.** Easy to install, configure and use with an intuitive graphical user interface; simple to manage with automation and policy-based activities; includes predictive storage analytics; and it's PowerEdge server-ready.
- **Fast.** Delivers powerful IOPs; high bandwidth; fast host connectivity options; and a 12Gb SAS backend for rapid capacity expansion.
- **Affordable.** Meets the needs of cost-conscious OEMs with low-cost configurations and low TCO; all-inclusive software makes it easy to own; pay-as-you-grow (expansions, enclosures, drives) model.
- **OEM-Ready.** Hardware and software de-brand (Dell branding removed) and rebrand-ready (with customers' branding).

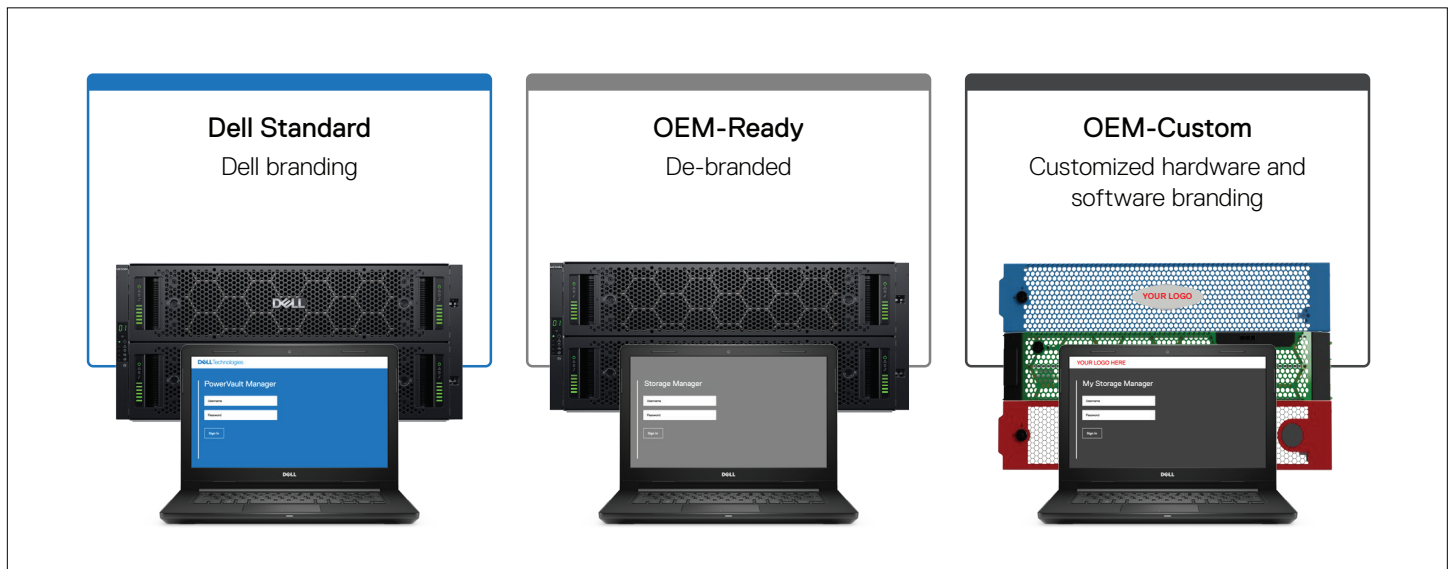


Figure: OEM go-to-market options for PowerVault ME5

**PowerVault ME5 Is All-Inclusive.** OEMs that purchase the ME5 array get all-inclusive software to store, manage and protect data — that means no costly additional software licensing. Avoid being hit with hidden costs with storage that's easy and affordable to own.

## Why transition to PowerVault ME5?

If you're considering what's next for your existing solution, now is a good time to refresh it with the ME5. With increased simplicity, performance and capacity, refreshing your existing storage solution with the ME5 allows you to achieve business outcomes faster and more efficiently.

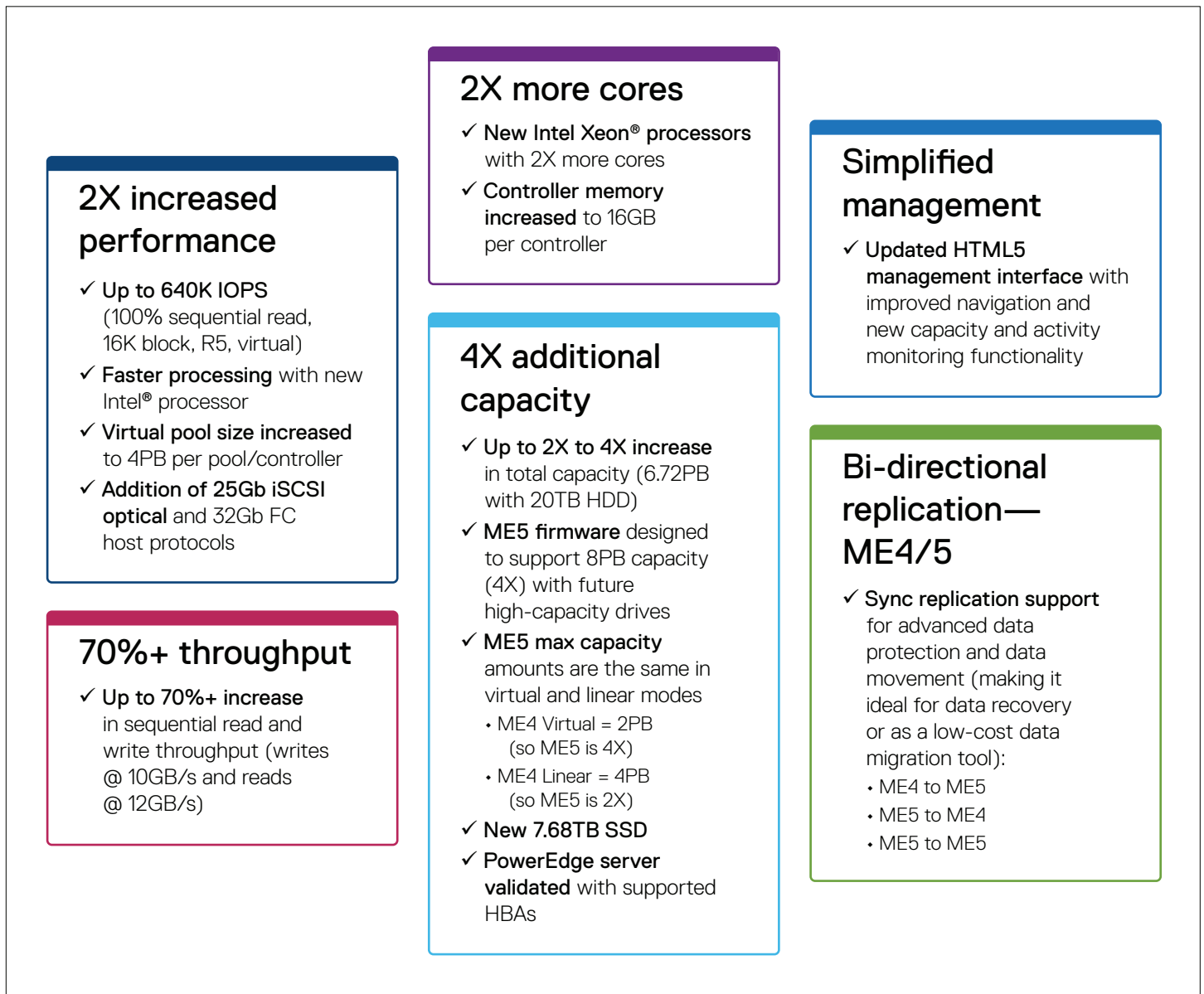


Figure: PowerVault ME5 benefits compared to the PowerVault ME4



The ME5 allows you to achieve business outcomes faster and more efficiently.



#### PowerVault ME4 and PowerVault ME5 comparison

	ME4	ME5
<b>CPU</b>	Intel Xeon (Broadwell)	Intel Xeon (Hewlett Lake)
<b>IOPS</b>	320K (100% sequential reads, 16K block)	640K (100% sequential reads, 16K block)
<b>Read throughput</b>	7GB/s	12GB/s
<b>Write throughput</b>	5.5GB/s	10GB/s
<b>Enclosure/expansion</b>	Base models: 2U12, 2U24, 5U84 Expansion models: ME412, ME424, ME484; 12GB SAS backend	Base models: 2U12, 2U24, 5U84 Expansion models: ME412, ME424, ME484; 12GB SAS backend
<b>Async replication between arrays</b>	ME4 to ME4 only	ME4 to ME5, ME5 to ME4; ME5 to ME5
<b>Memory per controller</b>	8GB	16GB
<b>Max virtual pool size (total usable capacity)</b>	1PB per controller (2PB total)	4PB per controller (8PB total)
<b>Capacity</b>	4PB	8PB <sup>1</sup>
<b>User interface</b>	Web-based HTML	Updated HTML5 GUI with capacity and activity monitoring

Figure: Comparison at a glance

<sup>1</sup> ME5 firmware designed to support 8PB with higher capacity drives.

## Powerful, scalable storage for high-value workloads

PowerVault ME5 is an entry storage solution that breaks the mold of what entry should be. The ME5 can be used in multiple environments and supports an incredible range of workloads and use cases, including safety and security (CCTV), databases, high performance computing (HPC) file systems, small-scale backup and archiving. The new ME5 base model also directly attaches to a PowerEdge server, simplifying the challenges of server capacity expansion and ensuring business applications get high-speed access to data. Whether your solutions are sold into healthcare environments, smart manufacturing (industrial automation), defense, energy, or media and entertainment, PowerVault ME5 delivers great performance and value.

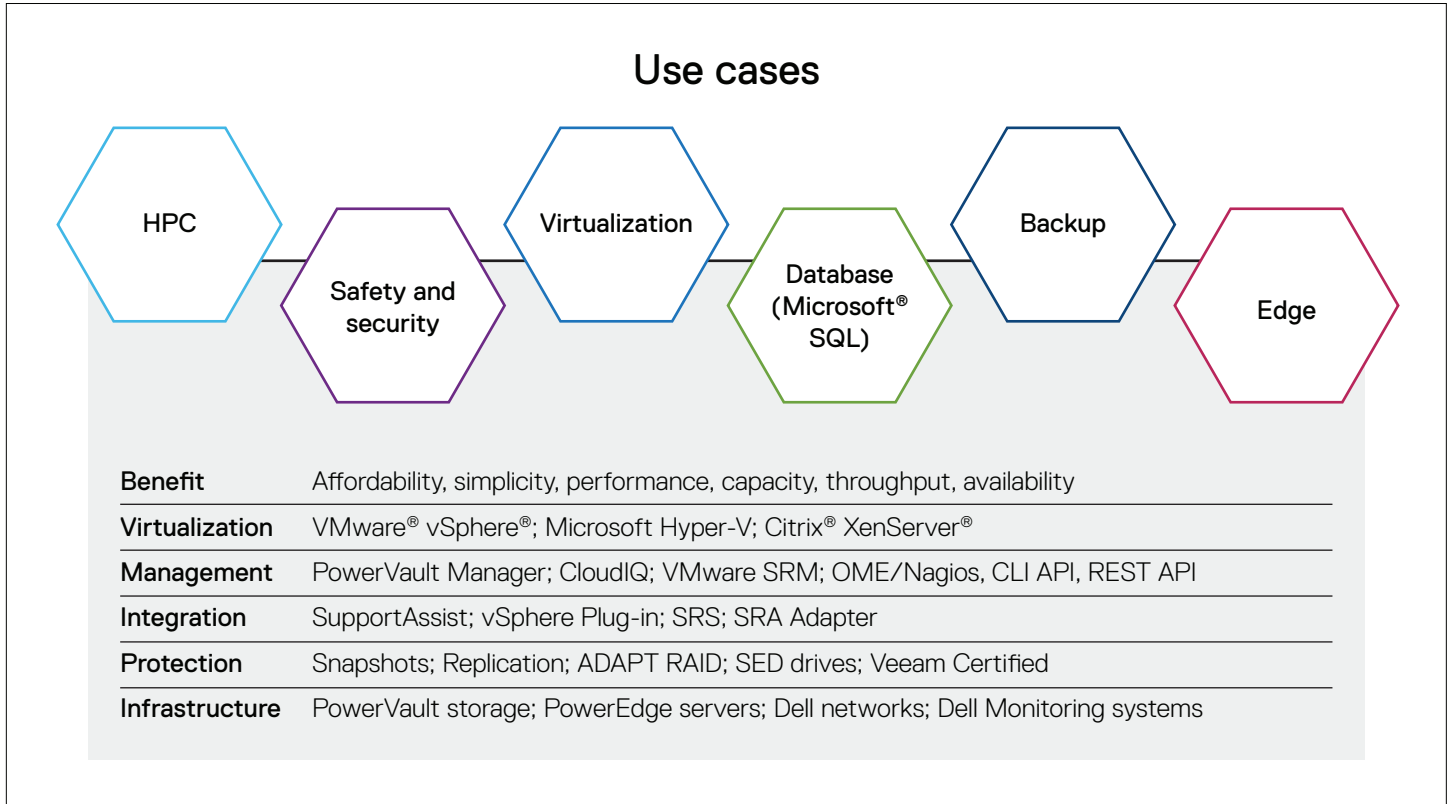


Figure: Flexible workload options with radical simplicity

## PowerVault and PowerEdge — Better together

Dell Technologies also makes it easy to directly attach data power with compute power, delivering additional advantages to OEMs:

- Simplify the challenges of server capacity expansion.
- Gain affordable capacity expansion options.
- Give business applications high-speed access to data.
- Standardize on Dell services and support.

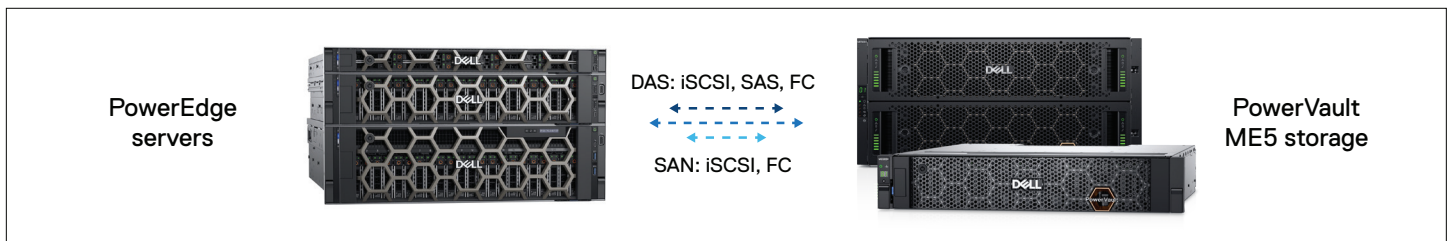


Figure: Connecting PowerEdge servers directly to PowerVault ME5 storage



## PowerVault ME5 — Enabling solutions at the edge

Combining PowerVault ME5 with PowerEdge servers opens the door to a select and expanding group of edge-based use cases ideally suited for OEMs customers. That's because the OEM-Ready ME5 provides incredible simplicity, flexibility and affordability, enabling easy integration into broader solutions.

Of the workloads and applications outlined earlier, a number of them lend themselves to OEM implementations at the edge — in safety and security, content delivery, retail, oil and gas, manufacturing and healthcare, among other industries.

### Safety and security — Cost-effective video archiving with capacity expansion

Many OEMs are turning to PowerVault ME5 for their safety and security (i.e., digital security) requirements not only because of the affordability, scalability and performance of the system but also because PowerVault ME5 is validated in Dell Safety and Security Labs to support digital security requirements alongside a wide range of video management systems applications required at the edge. Whether you're supplying digital security technology to retailers, manufacturers or other industries, your solutions require the scalability, throughput and cost effectiveness that the PowerVault ME5 delivers.

OEMs get high throughput and scalability to support hundreds of surveillance cameras at any bit rate. For example, the ME5 will support up to 600 cameras/devices at 4Mb/s and can simultaneously rebuild failed data drives if needed, with no video loss.

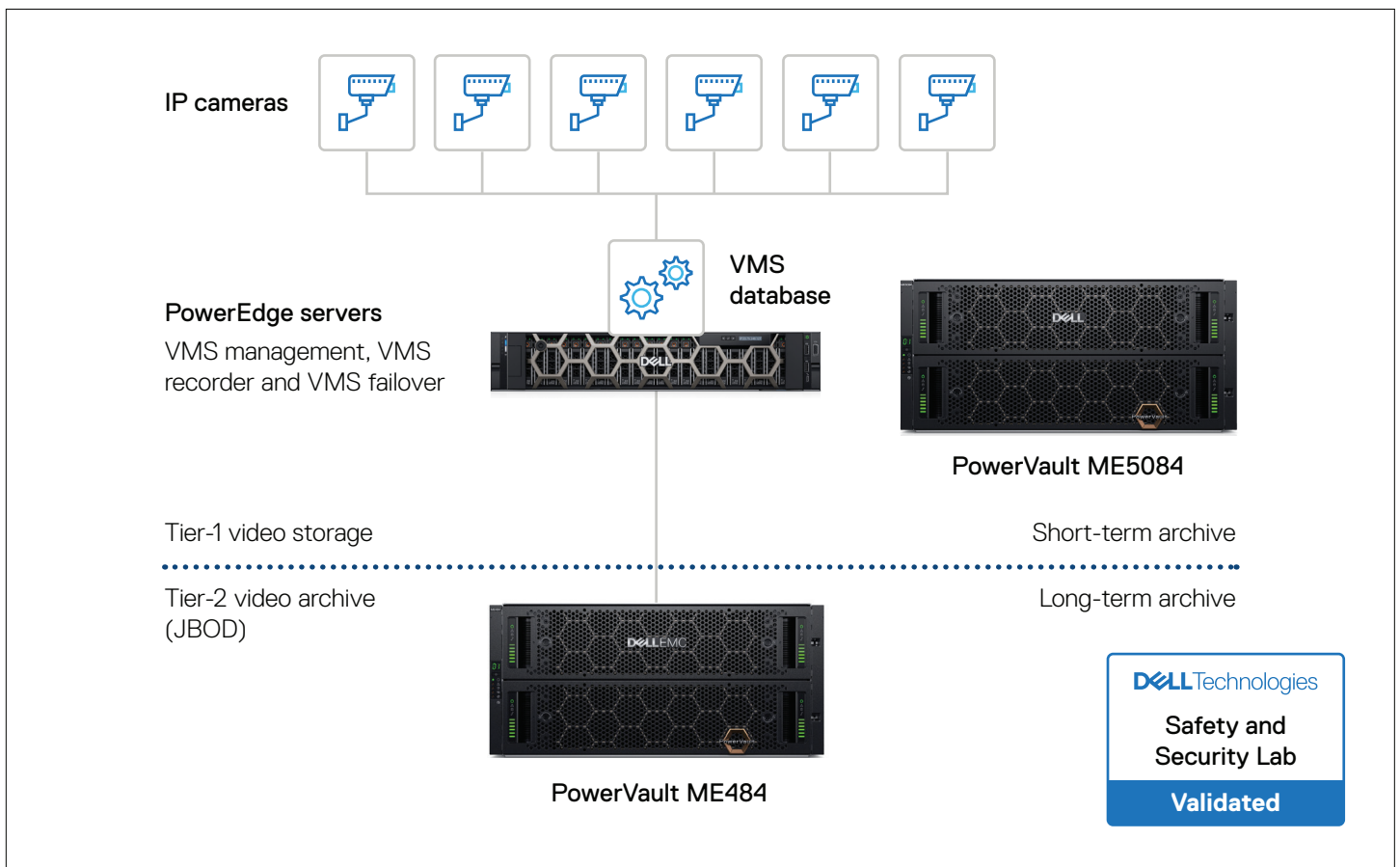


Figure: PowerVault ME5 edge solution for safety and security

PowerVault ME5 is validated in Dell Safety and Security Labs to support digital security requirements.

## Content delivery solutions — Driving performance at the edge

The edge is another use case where PowerVault ME5 and PowerEdge are used effectively together. As one combined solution, they empower thin clients with high performance, cost-effective storage for edge content delivery platforms such as cloud gaming. When you want to cache certain content that is accessed by users in specific geographic areas, the ME5 is an ideal solution to ensure fast content loading.

When demand increases, you can scale out compute with PowerEdge and scale up storage with ME5 to keep up with that demand. And data availability, also critical in this use case, is covered with dual-active controllers and five-nines hardware availability. If something goes wrong and you have to restore data, there are mechanisms in PowerVault ME5, like ADAPT RAID, that allow you to benefit from faster rebuild times.

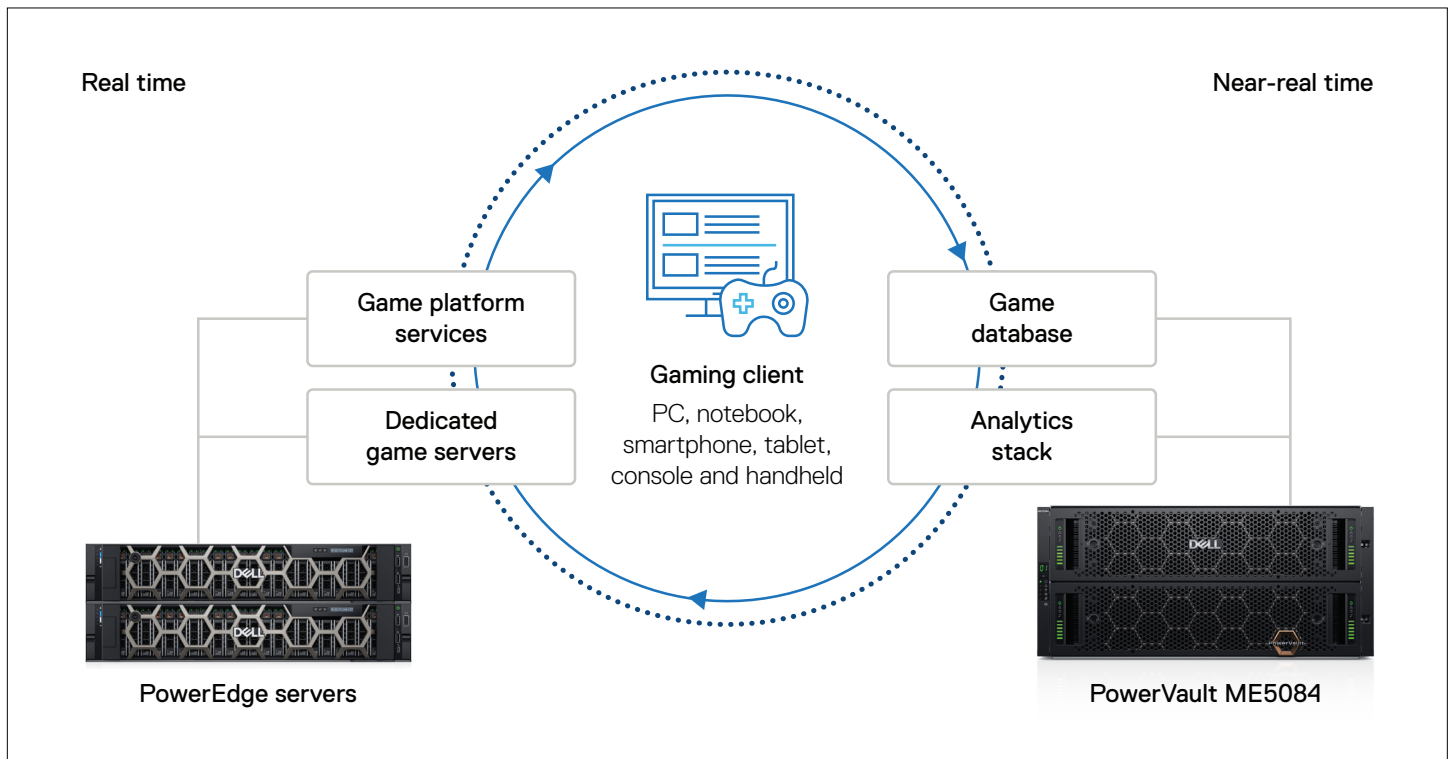


Figure: PowerVault ME5 edge solution for cloud gaming

## High Performance Computing (HPC) file systems — In industry automation, oil and gas, and sequencing scenarios

HPC file systems running on PowerVault ME5 and PowerEdge servers can boost your OEM solution. Industrial automation or oil and gas exploration often present geographic obstacles that require distinct features and capabilities. For example, if you're providing an edge solution to be used on an exploration vessel operating in a remote region, you're going to need very powerful and high-scale storage to collect data-intensive seismic or geophysics data.

Often, in these situations, space is also a concern and form factor becomes an issue. The ME5 lets you scale up to an incredible capacity in a very small footprint. It also delivers the flexibility to replicate data between two remote storage systems or even take that data off the system to a centralized location.

**The ME5 lets you scale up to an incredible capacity in a very small footprint.**

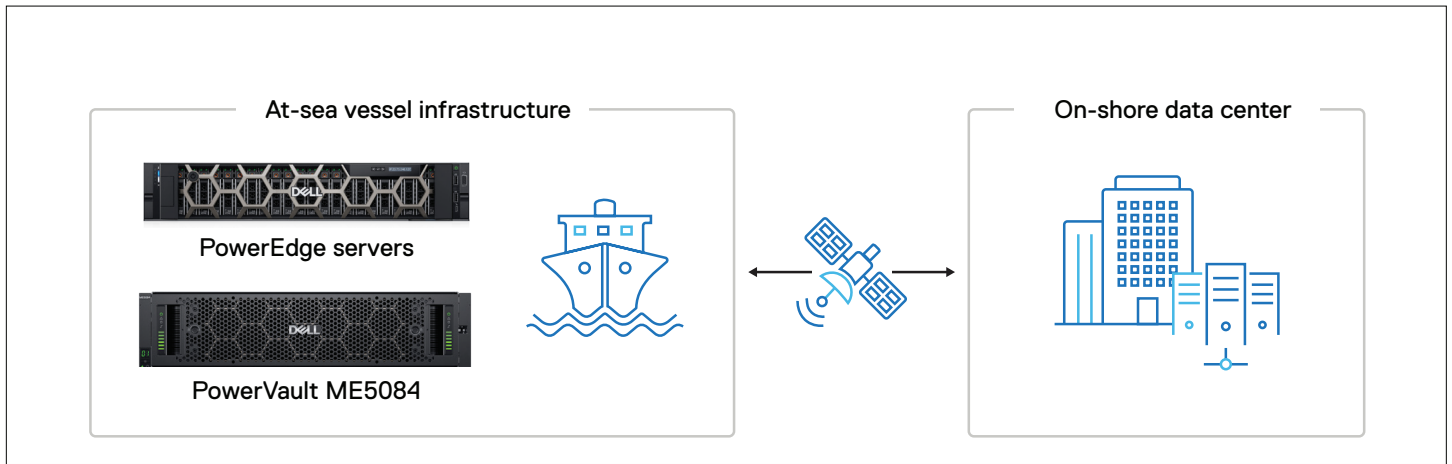


Figure: PowerVault ME5 edge solution for oil and gas exploration

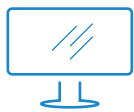
## Why PowerVault ME5 for OEMs?

You are focused on the success of your solutions and have specific design and branding needs that Dell OEM Solutions Group is uniquely positioned to fulfill. Not only do we provide end-to-end solutions that are essentially plug and play, as in the case of the PowerVault ME5; you also benefit from the flexibility, price and performance OEMs are looking for — to deliver solutions that satisfy your customers' needs and move the world forward.

The PowerVault ME5 is simple, fast, affordable and OEM-Ready storage that enables solutions at the edge. It's entry-level scalable storage for high-value workloads and has the full backing of the OEM Solutions Group, a dedicated team focused on the OEM market. Dell Technologies OEM Solutions capabilities include:

- **Plan, design and manage your solution** by working with industry experts who understand technology designs, lifecycle management, deployment and ongoing services/support — all stitched together through Dell OEM Program Management.
- **Roll-out ready designs** with unique off-the-shelf, OEM tailor-made products that meet your industry requirements and help you get to market fast.
- **Customize your innovation.** If you can dream it, together we can design, deliver and support it. We provide fast delivery of your fully functioning, validated and industry-tailored solution.
- **Partner with engineering.** Partner with dedicated OEM engineers every step of your Dell journey, from design, development, factory and deployment to onsite engineering residency.
- **Replicate success** at scale by leveraging a secure and resilient global supply chain and OEM support services.

Learn more about the PowerVault ME5 and how Dell's OEM Solutions Group can help you with the design of your solutions. Visit us at [DellTechnologies.com/OEMstorage](https://DellTechnologies.com/OEMstorage) or contact us at 800-433-2392.



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