

# The VxRail VD-4000 for the OEM Market

Add the smallest, most flexible VxRail system  
to your edge solution

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## Executive summary

If you're considering integrating Dell products into your solutions, you want the peace of mind knowing you are using modern, innovative technologies. You want the assurance of a secure supply chain. And you want to know the product meets your technical requirements.

Dell Technologies OEM Solutions group has been working with customers who OEM our technologies for more than 20 years. We understand that you have unique requirements. And it's why we work closely with you, not only to identify the right system for your needs, but also to deliver systems on your terms.

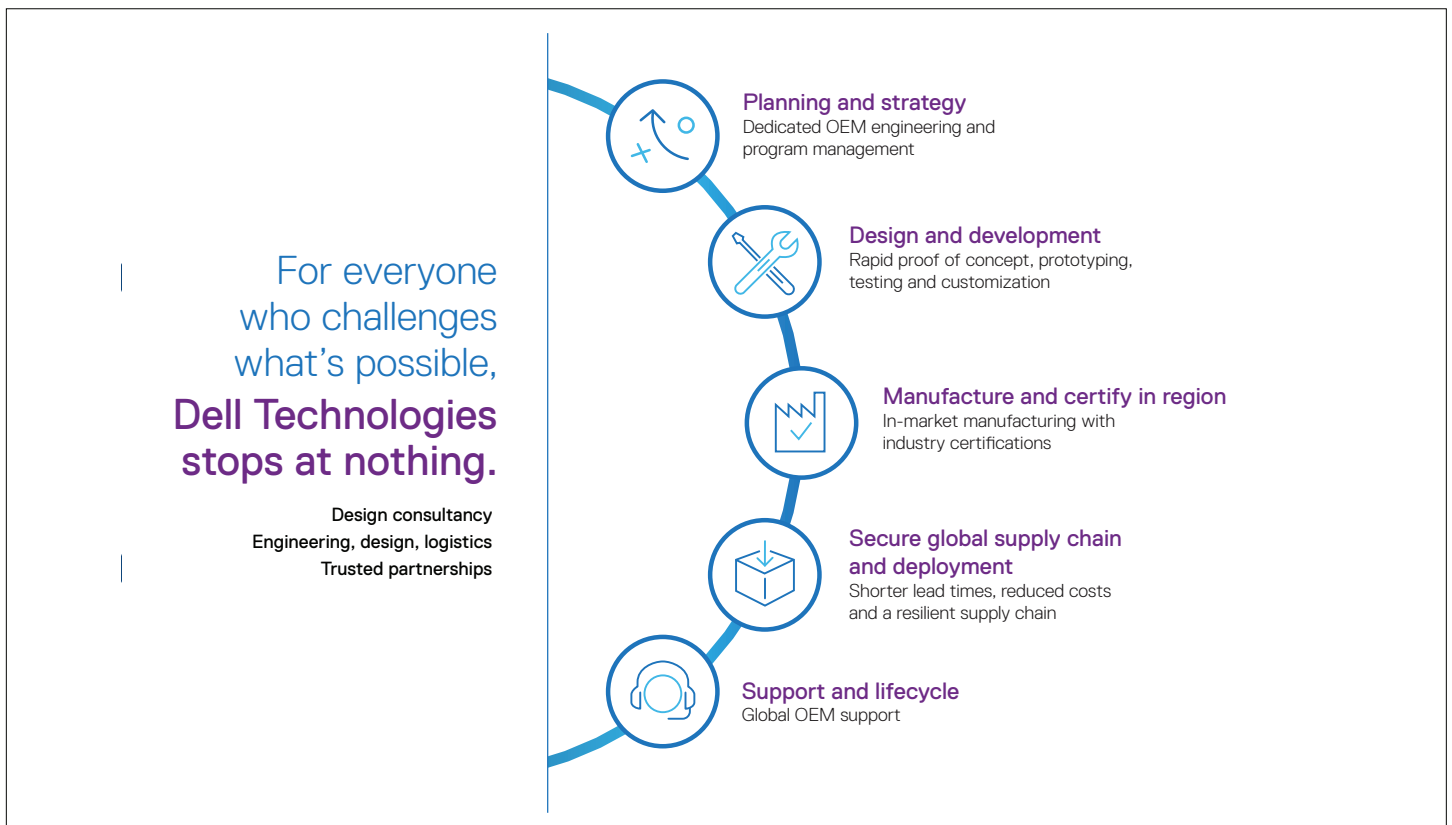
This paper focuses on the value of hyperconverged infrastructure (HCI) systems, how Dell VxRail has evolved to meet today's edge requirements and how we, the Dell Technologies OEM Solutions group, can help you OEM our technologies.

## How Dell Technologies OEM Solutions helps our customers

Dell Technologies OEM Solutions group helps customers just like you achieve breakthroughs at the intelligent edge. We go above and beyond system offerings, providing collaborative designs, supporting unique go-to-market options and accelerating time to market for your solution.

Gain access to high-performance, reliable and innovative technologies backed by decades of global experience in 40+ verticals. We are helping our customers turn their boldest ideas into innovations, reimagining the products they make, how they make them and the way they monetize them.

Whether you're designing solutions for retail point of sale (POS), the dusty factory floor, the remote military outpost or another edge environment, trust Dell Technologies to deliver secure solutions that drive insight and opportunities, accelerate your time to market and ultimately power your business growth.



## \$16 billion

HCI market growth by 2026<sup>1</sup>

## 31%

Dell Q4 2022 total HCI revenue share<sup>2</sup>

## 61%

lower total cost of operations (inclusive of infrastructure management and downtime)<sup>3</sup>

## 61%

more efficient IT infrastructure teams<sup>3</sup>

## 11 months

to payback<sup>3</sup>

## Did you know?

Hundreds of Dell engineers spend more than 800,000 hours testing every major VxRail release. We're doing the grunt work so you don't have to.

## The value to OEMs

Achieve deployment flexibility with VxRail. Regardless of whether you're working on a small integrated system or large multinode deployment, you can count on VxRail to deliver a consistent user experience.

## The value of HCI in today's OEM market

Today, many customers who OEM their technologies are turning to HCI solutions to improve efficiency, reduce complexity and drive down costs of their solutions. By consolidating IT compute and storage resources into a single platform, you gain distinct benefits including:

- **HCI drives agility.** Because all hardware and software components are integrated into a single turnkey system, complexity is greatly reduced and management is simplified, enabling cloud-like speed and efficiency.
- **HCI enables scalability.** Scale up or down easily. One of the key advantages of HCI is that you can start out small and add nodes as needed, responding quickly to changing business requirements as they occur.
- **HCI brings simplicity.** HCI systems reduce the complexity associated with IT monitoring and management. Eliminate the management silos that come with traditional infrastructure. Instead, a single, unified HCI system lets you upgrade the software and hardware more quickly and easily compared to upgrading each component individually.

## A VxRail overview

Dell Technologies provides OEMs with a simple and cost-effective hyperconverged solution that solves a wide range of challenges and supports almost any use case — including many of those at the edge.

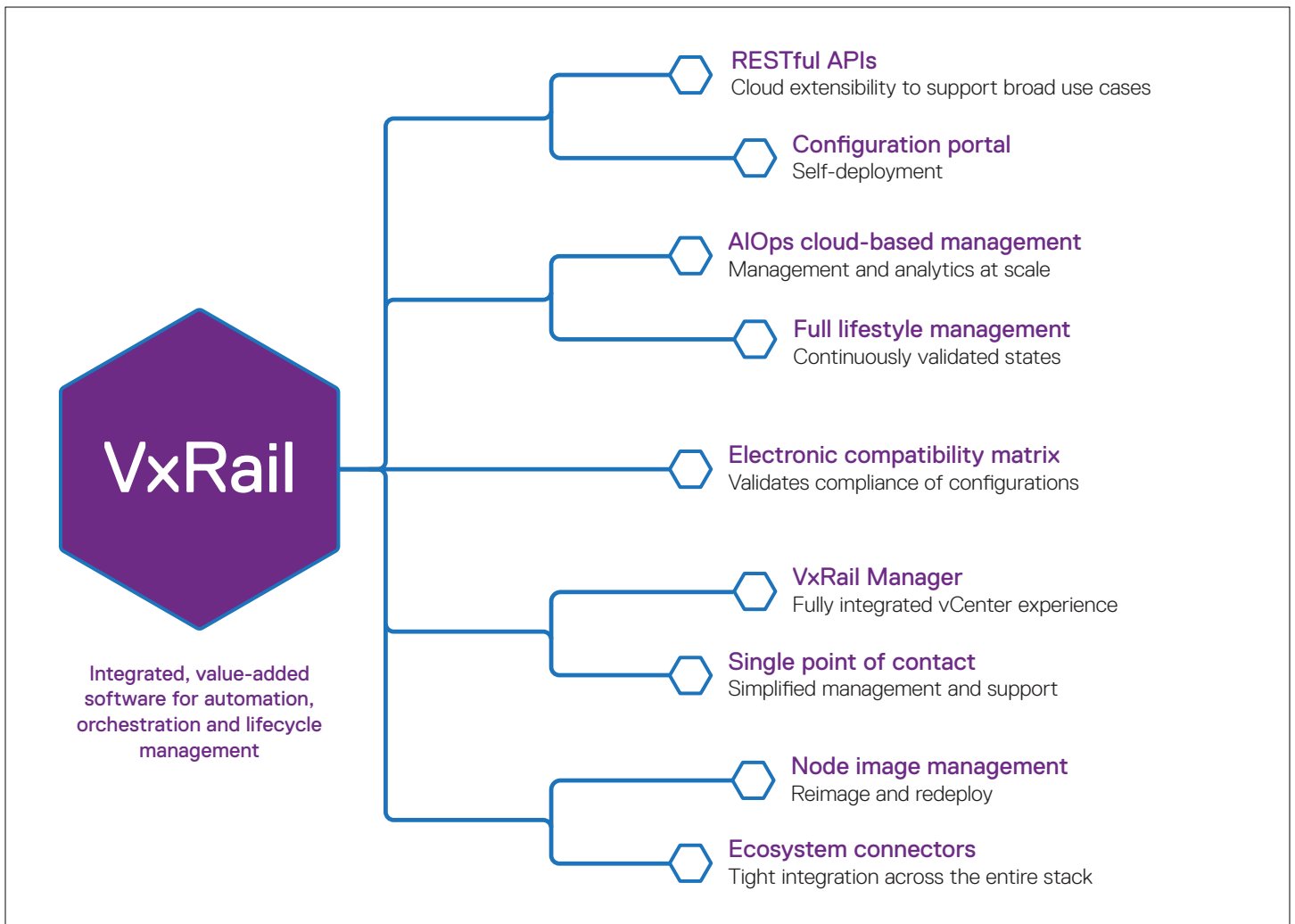
The Dell VxRail is a powerful HCI solution that integrates software and hardware resources into a single system. It is the fastest and easiest way to extend VMware® operations and drive business-critical solutions — after all, VxRail is the only HCI system that is jointly engineered with VMware, for VMware, to enhance VMware.

Powered by Dell PowerEdge server platforms and Intel® Xeon® Scalable processors, VxRail features next-generation technology to future-proof your infrastructure and provide deep integration across the VMware ecosystem.

**Automate** — VxRail provides robust, automated and consistent operations with VxRail HCI System Software, which enables thoroughly tested and validated full-stack lifecycle management upgrades.

**Innovate** — VxRail helps unlock innovation by providing simple, agile infrastructure with tight VMware integration and familiar tool sets so you can seamlessly add emerging technology to meet your workload demands.

**Accelerate** — VxRail accelerates IT outcomes so you can focus on driving business value rather than maintaining your infrastructure.



Unlike other HCI offerings, Dell VxRail delivers differentiated features and benefits because of its specialized software. VxRail HCI System Software enables a seamless and automated operational experience that also includes full-stack lifecycle management, upgrades, global cluster management, health checks, robust APIs and more.

## Introducing the new VxRail VD-4000



The new Dell VxRail VD-4000, powered by Intel Xeon-D® processors, is the latest offering in our VxRail edge line-up. Roughly the size of a shoebox, this solution is our smallest VxRail ever. But don't let its size fool you. It brings big capabilities to your edge solution, namely a ruggedized design that:

- Can withstand some of the harshest uses and environments
- Is shock resistant and Network Equipment Building System (NEBS) and Military Standard (MIL-STD) certified<sup>4</sup>
- Operates in extreme temperatures from 27° to 131°F (-5° to 55°C)
- Includes an optional lockable, filtered bezel to keep your system secure and free of dust and other air contaminants

## Embedded vSAN witness changes the game

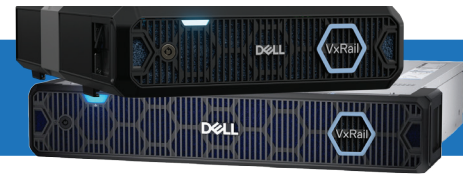
Another advantage of the VD-4000 is the addition of an embedded vSAN witness. This eliminates the need for a virtual witness node to achieve data consistency. In fact, this is the industry's first vSAN HCI system utilizing an embedded vSAN witness node.

Eliminating the need for a data center or cloud-based witness enables the creation of a simplified, self-contained two-node vSAN cluster in a small footprint. This allows for far-edge deployments in locations previously unattainable due to latency and bandwidth constraints.

**Added benefit of having an embedded vSAN witness: a two-node VD-4000 with an embedded vSAN witness requires 38% less power than a standard three-node cluster.<sup>5</sup>**

The new VxRail VD-4000 also conveniently provides deployment flexibility. You can easily rack, stack or mount your solution on a wall for space-constrained locations. The VD-4000 comes in a standard-width rack mount chassis or a stackable/wall mountable 10.5" x 14" chassis. It's highly portable, weighing between 20 and 28.4 lb, expandable with a 1U and 2U compute sled-based architecture and serviceable with front-facing I/O.

All the VxRail functionality plus:



1U node



Embedded vSAN witness



2x 1U nodes + embedded vSAN witness



1x 2U node + embedded vSAN witness



4x 1U nodes



2x 2U nodes + embedded vSAN witness



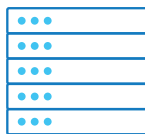
2x 1U + 1x 2U nodes



2U stack/mount chassis



2U rack chassis



- Flexible configurations
- Intelligent filtered bezel
- Front and rear I/O options
- Short depth (350mm)



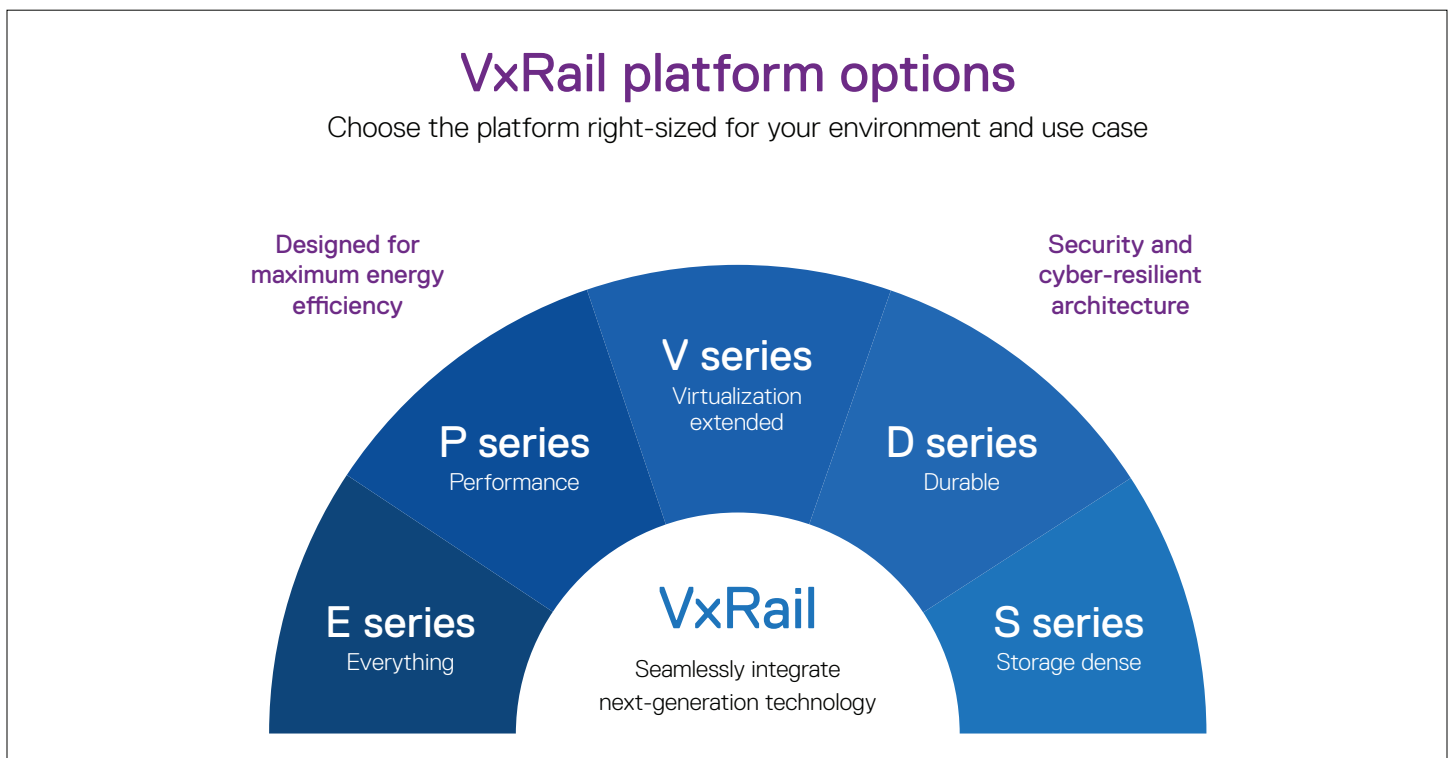
- 27° to 131°F (-5° to 55°C) temperature support
- GPU ready
- Military and NEBS certified<sup>4</sup>

The **smallest**, most **flexible**, and **self-contained** VxRail form factor ever

## The VxRail portfolio powered by Intel Xeon Scalable processors

The broad VxRail portfolio, powered by Intel, gives you flexibility to choose the platform that best meets your performance, storage, graphics, IO, cost and form factor requirements.

- **VxRail E series** is our everything platform, designed for low-profile, cost-effective platform for core-to-edge deployments powered by single or dual Intel Xeon Scalable processors.
- **VxRail P series** is a performance-intensive platform optimized for heavy workloads, such as databases, powered by single, dual or quad Intel Xeon Scalable processors.
- **VxRail V series** is a virtualization-extended, graphics-ready platform for specialized use cases, such as high-end 2D/3D visualization, powered by dual Intel Xeon Scalable processors.
- **VxRail S series** is a storage- and memory-dense platform that is capacity-optimized for demanding applications, such as big data and analytics, powered by singular or dual Intel Xeon Scalable processors.
- **VxRail D series** is a durable, ruggedized, short-depth platform for workloads at the edge, in extreme environments and space-constrained areas. Powered by a single Intel Xeon-D processor with 4, 8, 12, 16 or 20 cores, the VxRail VD-4000 comes with Intel Quad 10GbE or 25GbE onboard networking.



## VxRail at the edge

As more business occurs outside of the data center, there's an opportunity to create edge solutions that optimize experiences and capitalize on the data that's created there. But edge workloads and solutions can also be challenging for a variety of reasons:

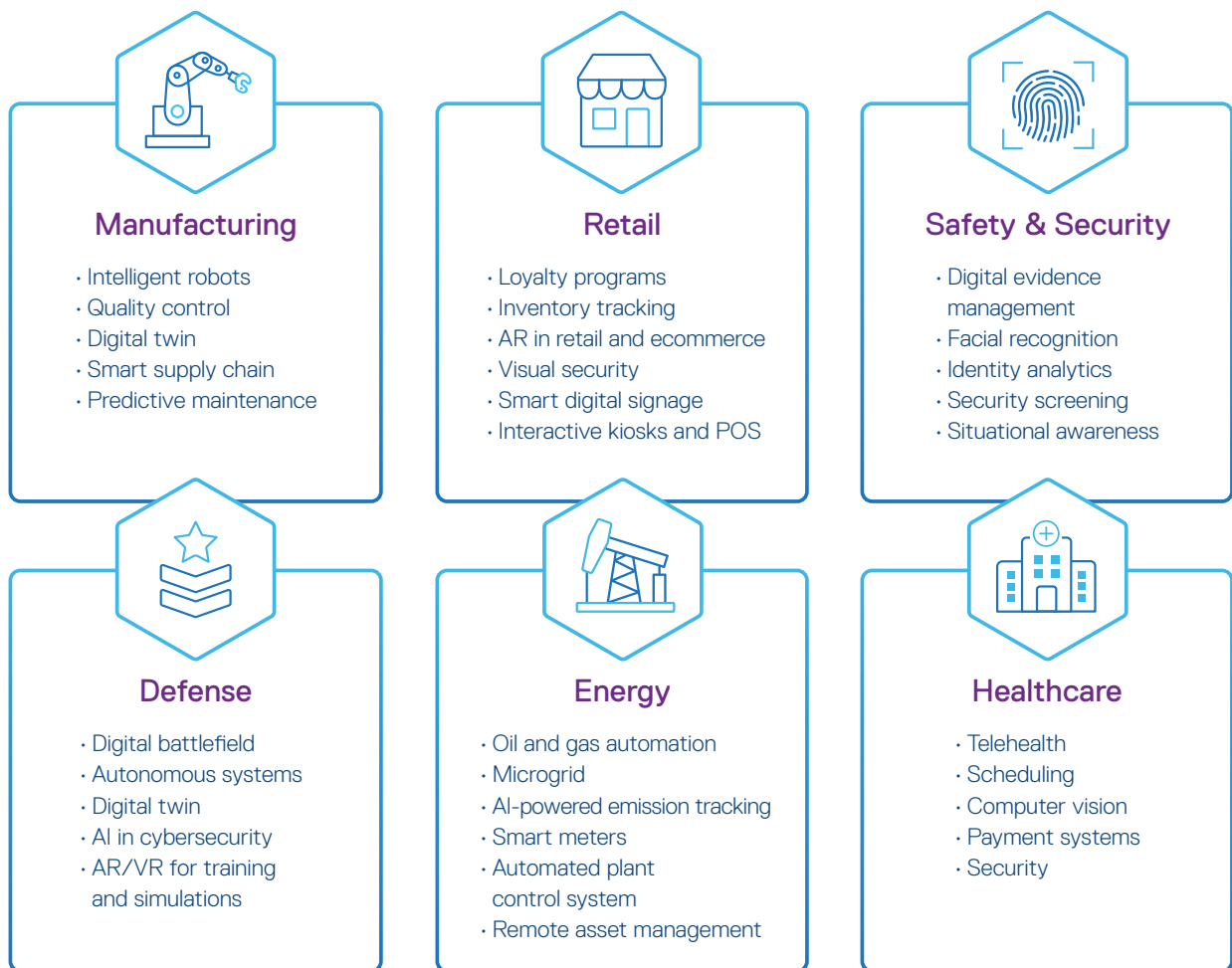
- **Limited compute** — Compared to data centers, deployments are fairly small at the edge. Provisioning additional resources may be difficult with limited infrastructure and expertise.
- **Poor network connections at the edge** — Edge sites are typically remote. As such, these sites can be plagued with latency and low-bandwidth issues, which can negatively impact your experience.
- **Management obstacles** — Some organizations may have thousands of sites and typically don't have the technology resources onsite to manage that infrastructure or push out upgrades.

In spite of these challenges, the technology you deploy must meet key edge requirements. With so much happening at the edge and the innovation taking place (think IoT), speed is a necessity. It's also imperative that customers can view and manage all of their infrastructure from a centralized location. And because of the different vulnerabilities introduced at the edge, customers want to know that their solution is secure.

Fortunately, VxRail systems can meet these critical edge demands, making it that much easier for you to achieve edge expectations with your own solutions.

## Why the VxRail VD-4000 is right for your edge solution

When you're creating intelligent solutions, it's important to note that the use cases at the edge are virtually endless and link to a broad range of overlapping industries. For example, digital twins are used in manufacturing as well as defense. Computer vision technologies are widely deployed in retail, smart cities and more. Artificial intelligence (AI) and analytics applications apply to virtually any industry. It's impossible to talk about specific edge use cases for the VxRail VD-4000 because, quite frankly, the system cannot be constrained. The graphic below highlights the overlap among use cases and verticals.





# 81%

of US Fortune® 100®  
companies use  
Dell Technologies for  
their edge solutions.<sup>6</sup>

While the applications are virtually endless, what's common to all of these edge use case examples is that they're driven by specific edge requirements — size, weight, form factor, management capabilities, power usage requirements, etc.

The VxRail VD-4000 delivers on many of these demands with capabilities, features and functions required of intelligent solutions at the edge:

- Small size, portable weight and short-depth form factor
- Flexible deployment options
- Ruggedized components for extreme environments
- NEBS and MIL-STD certifications<sup>4</sup>
- Consistent operation and management with VxRail HCI System Software
- Embedded vSAN witness

## Partner with OEM Solutions and gain an advantage

There is a reason more companies are choosing Dell Technologies for their edge solutions. Partnering with OEM Solutions puts you in a winning position. Our goal is to help you select the ideal system for your solution, develop and refine your solution, and accelerate time to market and time to monetization.

All of this involves collaboration and support. And OEM Solutions is here to help. Take advantage of the experts we have on hand, the programs that we've evolved over the last 20+ years, and the opportunities we make available to you in terms planning, designing, manufacturing, certifying and supporting your solution. Only by working together can we all truly succeed.

### Are you ready to get serious about storage or data protection OEM opportunities

Learn more about the VxRail VD-4000 and other storage and data protection technologies and how OEM Solutions can help you deploy new solutions.

Visit us at [Dell.com/OEMstorage](https://Dell.com/OEMstorage) or contact your account manager and let us help you realize your full potential.

1 IDC, Worldwide Quarterly Converged Systems Forecast Tracker, 1Q 2022.

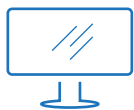
2 IDC, Quarterly Converged Tracker, Q4 2022. Hyperconverged Systems product category (total Dell Technologies HCI).

3 IDC Business Value White Paper, sponsored by Dell Technologies, Intel, and VMware, "The Business Value of Dell VxRail HCI," March 2023.

4 Estimated availability for certifications is May 2023.

5 Based on internal testing, VxRail VD-4000 two-node with witness vs VxRail three-node single-socket E660F. Actual results may vary.

6 Dell Technologies analysis of US Fortune 100, June 2022.



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