



Power Endless Innovation

Lab tested, benchmarked and third-party
proven Dell PowerEdge server benefits



Table of Contents

Technology and solutions that help you innovate,
adapt and grow

The rapid rise of a more connected, data-driven world has created an uncharted digital territory. If you're putting data first and pursuing digital transformation, you know it's not about reaching a single destination — it's about adopting better ways to navigate this evolving landscape at a rapid pace, charting a course to the future while being ready for anything along the way.

Success in this data-driven era requires a technology foundation that works together seamlessly to power your business today — and help you shift gears quickly to take advantage of new opportunities as they come along. Dell Technologies can help you on your way with solutions that help you innovate, adapt and grow.

Innovation drives success.

Dell Technologies has several expert teams covering a range of capabilities to ensure that our products will handle the various needs of our customers. Dell Technical Marketing Engineering (TME), Solution Performance Analytics (SPA) and HPC & AI Innovation Lab teams are dedicated to accelerating business breakthroughs and delivering outstanding application deployments. The seasoned engineers from these teams anticipate needs, integrate new feature functionality and develop technical materials to offer you a greater understanding of the benefits of your server infrastructure investment. With tested benchmarks and tangible results, you can be confident in your choice to deploy Dell PowerEdge server solutions.



Adaptive compute

Be ready for what's next and address evolving compute demands with a platform engineered to optimize the latest technology advancements, while easily scaling to address your data at the point of need. Dell Technologies is ready to help power your drive toward endless innovation. We are quick to deliver first-to-market technologies — leading to consistently excellent customer success and consistent growth. We also make it easy for you to get the technology you need, with large volumes and an extensive channel partner network that results in the shortest lead times. Plus, Dell Technologies solutions are sold virtually everywhere, including via easy-to-configure website purchase options.



Autonomous infrastructure

Continuing to innovate in a world where talent is hard to come by requires solutions that free IT from mundane tasks so they can focus on innovation. Dell Technologies helps you respond rapidly to business opportunities with intelligent systems that work together and independently, delivering to the parameters that you set.

Dell Technologies is responding to help overcome IT operations challenges that have never been more significant, as administrators deal with resource constraints amid data center expansion and workload multiplication. Our solutions enhance IT productivity through management automation. In addition, we have evolved our server management with more scalable, secure and capable application programming interfaces (APIs) such as DMTF Redfish and new management orchestration and automation solutions. Dell Technologies is an industry leader in management automation, delivering innovative, agent-free local and remote server administration tools that automate many management tasks — including configuration, update and monitoring — to simplify server operations and free resources for other activities.



Proactive resilience

Build resilience into your digital transformation with an infrastructure designed for secure interactions and the capability to predict potential threats. Dell Technologies is the only server vendor offering a cross-portfolio solution for cryptographically verified hardware integrity¹ and dynamic system lockdown.² We provide security that starts at design and continues through the supply chain and lifecycle, all from a single, trusted vendor.



Get started today.

With Dell Technologies solutions, you can rapidly adapt to evolving business demands, automate manual processes to free IT staff for higher-value activities and protect against cyberthreats with proactive resilience.

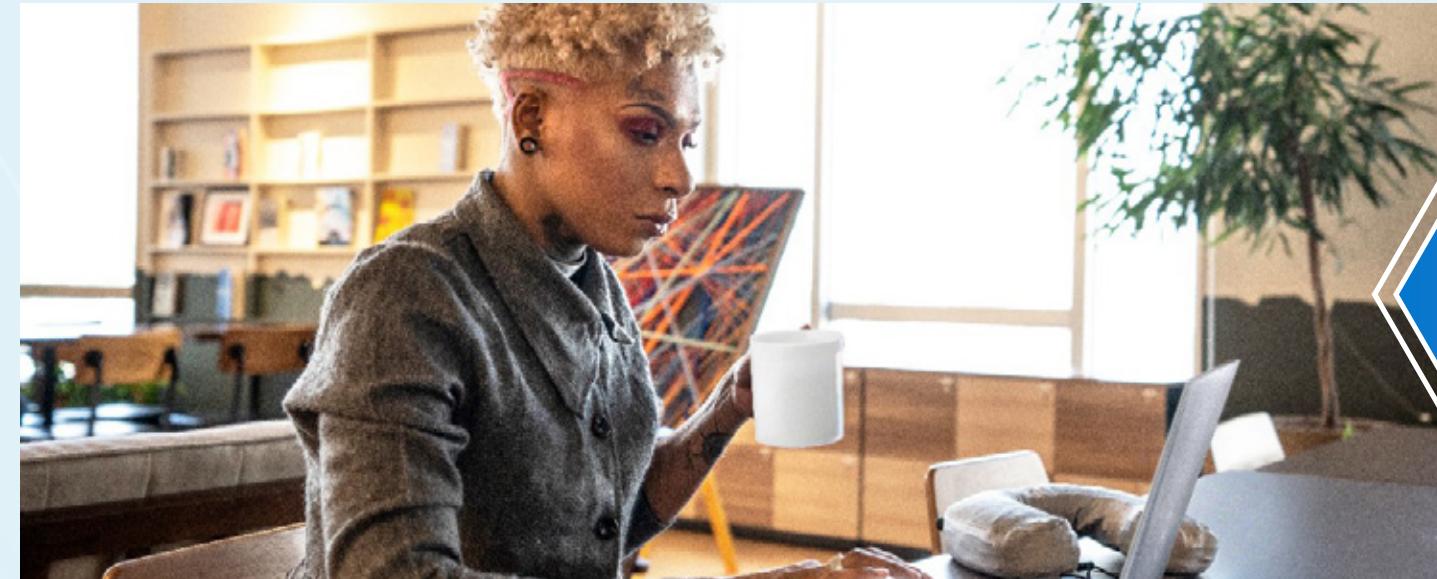
Adaptive compute

Address evolving demands to innovate and seamlessly deliver predictable, profitable outcomes.

Technologies, customer expectations, business demands and market realities can all change in an instant — and you need to be ready to keep up. With an adaptable, scalable innovation engine as your IT foundation, you can be ready to drive the business forward at full speed.

Server solutions designed to meet challenges of every size

PowerEdge servers are designed for modern IT environments of any size, anywhere. The PowerEdge portfolio can help you adapt to change quickly, incorporating the latest technology without disruption to empower your organization from home offices to multiple data centers and clouds to distant edge locations.



[PowerEdge T150](#)

[PowerEdge R250](#)

Home office heroes

Streamline and simplify IT with rack and tower servers built for affordability while still delivering enterprise-class features for your home office. Compared to the previous generation, PowerEdge servers deliver:

28%

Up to 28% faster IO³

20%

faster UDIMM speeds⁴

2X

more I/O throughput⁵



[PowerEdge T350](#)

[PowerEdge R350](#)

[PowerEdge T550](#)

Small to medium businesses (SMBs) and remote and branch offices (ROBOs) options

Keep pace with growing business needs by adopting Dell servers for SMBs and ROBOs. Improve productivity, increase reliability and protect data from cyberthreats with greater flexibility for expanding compute and storage capacity as the business grows and IT requirements evolve. Compared to the previous generation, PowerEdge servers deliver:

32.3%

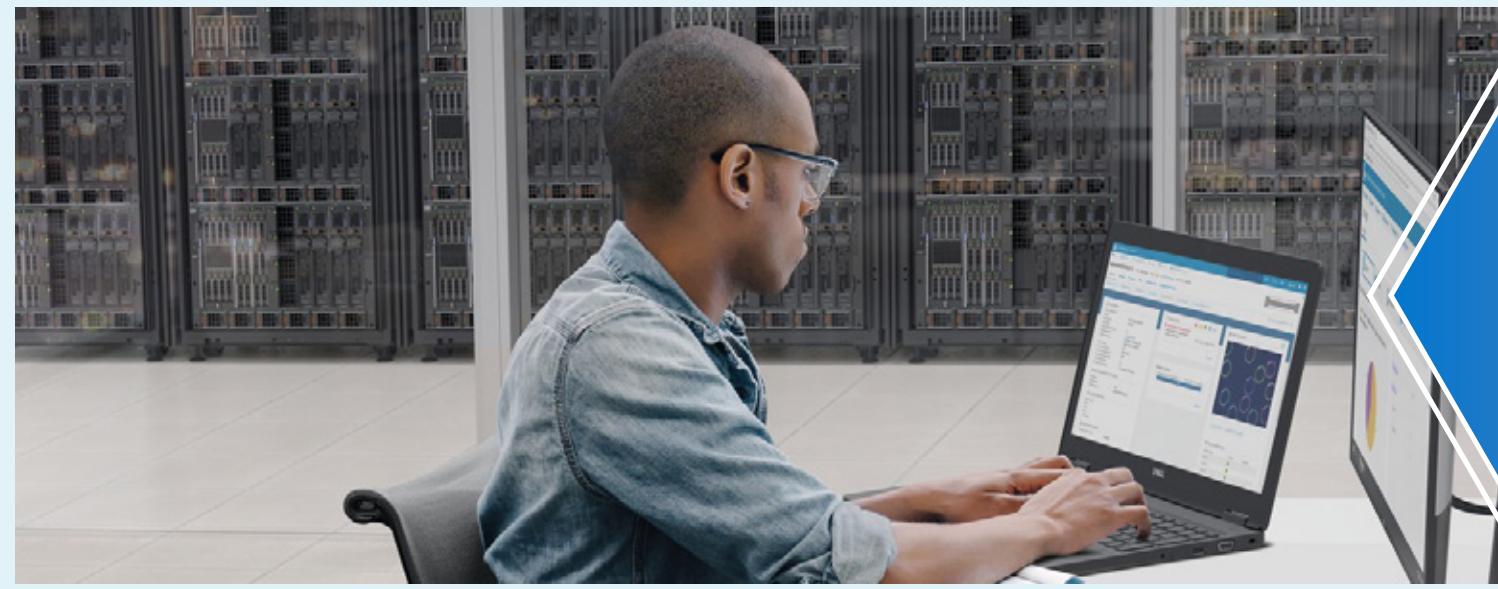
Up to 32.3% performance gains⁶

28%

Up to 28% faster IO⁷

49%

less RAM to process video streams⁸



[PowerEdge R650xs](#)

[PowerEdge R750xs](#)

[PowerEdge R750](#)

[PowerEdge R6515](#)

[PowerEdge R6525](#)

[PowerEdge R7525](#)

Data center workhorses

Choose from a complete portfolio of rack servers designed to address your most challenging workloads, working autonomously and collaboratively across all your IT environments. Paired with our Dell OpenManage integrated IT management system, PowerEdge rack servers include our most powerful automation and reporting features yet — freeing you to focus on growing your business. Compared to the previous generation, PowerEdge servers deliver:

61%
more virtual desktops
per server⁹

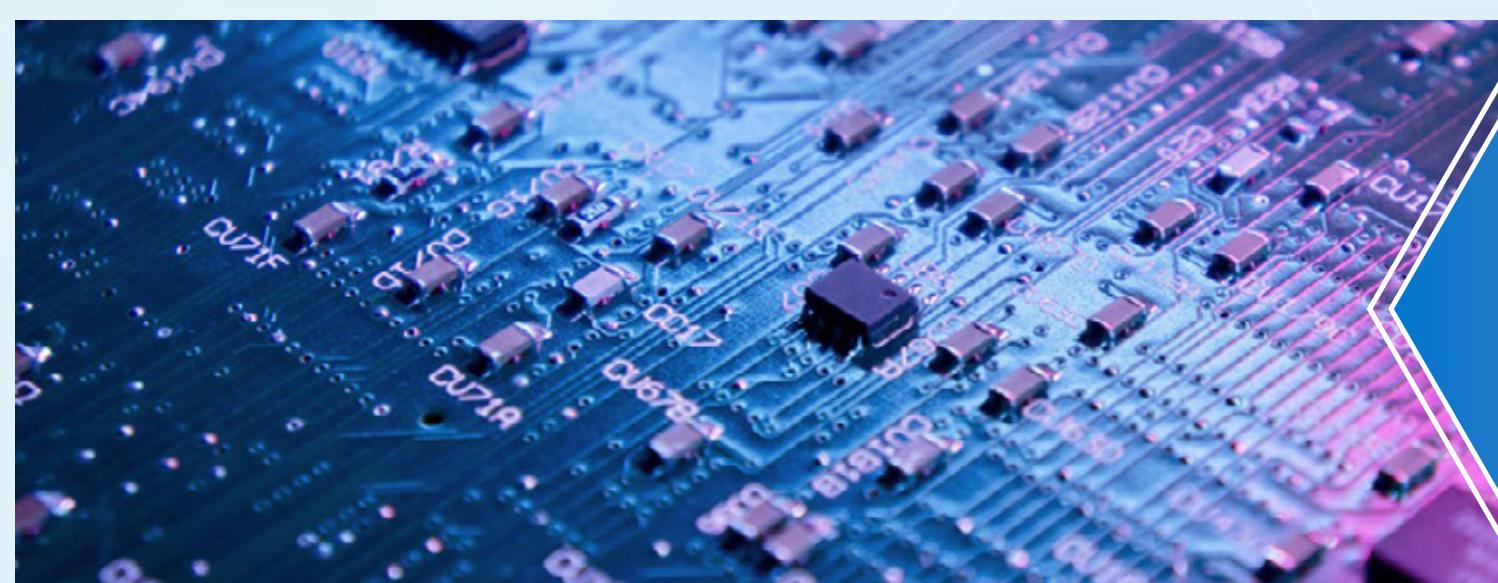
37%
higher virtual machine
(VM) density¹⁰

8X
the analytics in
39% less time¹¹

58%
higher TCPx-HS
score¹²

24%
higher VMmark
score¹³

22.8%
higher score for virtualized
database performance¹⁴



[PowerEdge DSS8440](#)

[PowerEdge C6520](#)

High density for modern workloads

Modern, compute-intensive workloads such as artificial intelligence (AI), machine learning (ML) and analytics require massive compute power. Dell high-density servers are optimized for the most demanding workloads, delivering performance and scale in a smaller footprint that maximizes your return on investment (ROI) while reducing your carbon footprint to advance sustainability goals.

8X
NVMe® drives connected
via multiple switches¹⁵

67%
Up to 67% lower latency compared
to the previous generation¹⁶



PowerEdge MX series servers

Modular infrastructure

Set the foundation for the future of your business with compute, storage and networking modules that can be precisely tailored to your needs and expanded over time. Dell Technologies modular infrastructure solutions let you optimize your IT infrastructure for traditional, new and emerging workloads and provide a path to a modern, software-defined data center. Compared to the previous generation, PowerEdge servers deliver:

36.1%

more OLTP database work¹⁷

25%

greater VM density¹⁸

Computing outside the data center



PowerEdge XE2420

PowerEdge XE8545

Ideal at the edge

The rise of smart devices and their synergy with 5G mobile networks are transforming businesses at the edge. Dell Technologies edge computing brings compute, storage and networking closer to where data is created and consumed, enabling faster processing of data for speedier insights and quicker decision making.

Real-time

performance of ~6 frames per second for ML¹⁹

150,000+

images per second²⁰



PowerEdge XR series servers

PowerEdge XR11 and XR12 servers for edge computing

Rugged environments

The prolific growth of edge devices has created a demand for servers beyond the traditional data center. Rugged PowerEdge XR servers are built to withstand the extreme heat, dust, shock and vibration of factory floors, construction sites, mobile command centers and other extreme environments. Compared to the previous generation, PowerEdge servers deliver:

62%

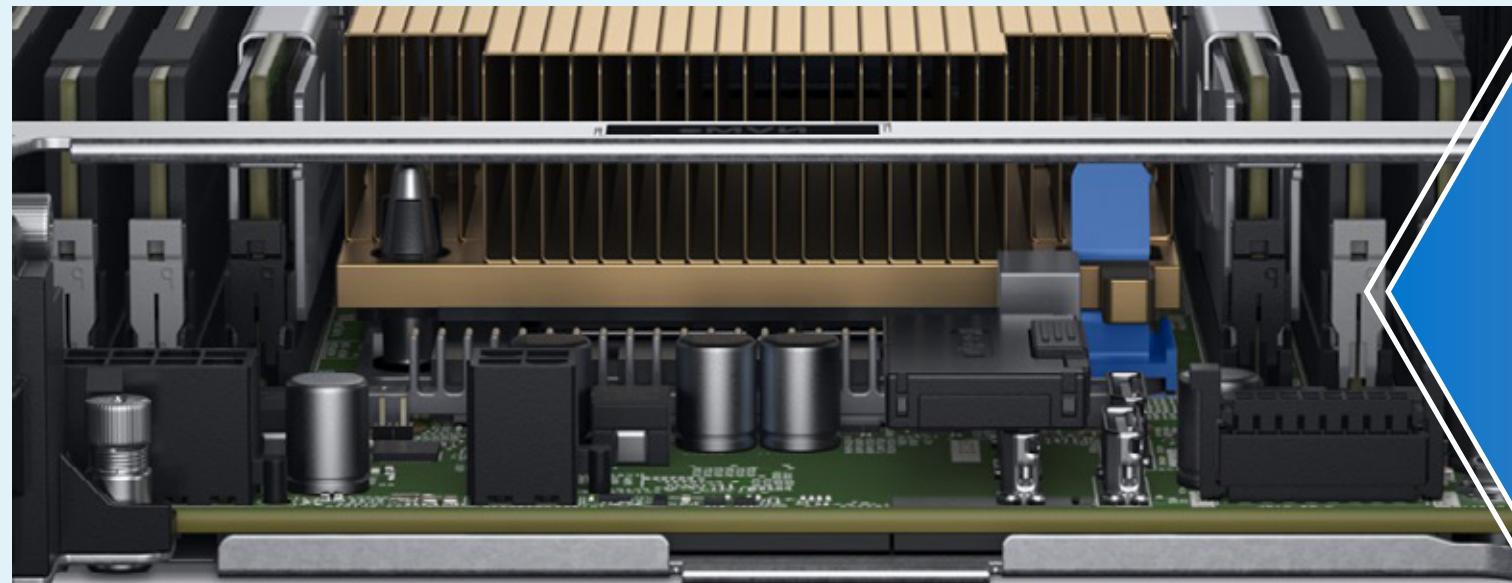
more performance for network and 5G workloads²¹

1/2 the footprint

compared to a standard server, ideal for edge and telco deployments²²

Optimize server performance with the latest technology advancements.

When you need to adapt quickly, upgrading to hardware with new processor and accelerator technologies, architecture advancements, storage innovations and more can improve performance without increasing your footprint. Dell Technologies can help you establish an agile, reliable, future-ready infrastructure with a wealth of innovations that enhance performance PowerEdge servers.



[Intel Xeon E-2300 processor series](#)

[AMD EPYC 7502 processors](#)

Choose from a full stack offering for Intel and AMD CPUs.

Drive actionable insights and address your most challenging workloads from the edge to the cloud to the core with a wide selection of PowerEdge servers powered by Intel® Xeon® Scalable processors and AMD® EPYC™ processors.

28%

CPU performance increase compared to the previous generation²³

2.32X

greater ML performance/cost ratio versus an HPE DL380 Gen10 server²⁴



[NVIDIA® GPUs](#)

[AMD GPUs](#)

Speed compute-intensive workloads with server GPUs.

The emergence of more demanding use cases like AI/ML, analytics and virtual desktop infrastructure (VDI) requires the optimal compute approach. PowerEdge servers are designed and built to support accelerators to boost workload performance.

37.4TFLOPS

FP32 peak single precision²⁵

11.5TFLOPS

FP64 peak double precision²⁵



[PowerEdge with PCIe Gen4](#)

Double performance capabilities with PCIe Gen4.

PowerEdge servers leveraging PCIe Gen4 NVMe drives deliver double the lanes of PCIe Gen3, effectively doubling performance capabilities compared to the previous generation.

2X

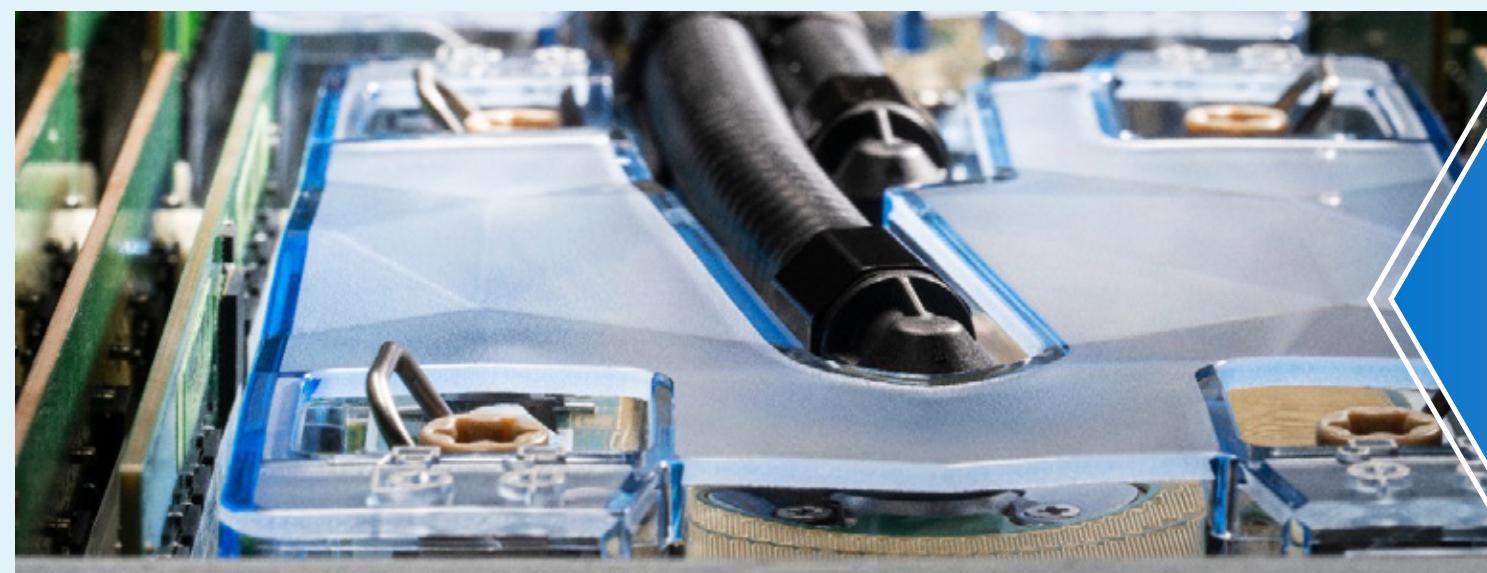
bandwidth, up to 64GB/s²⁶

2X

bit rate, up to 16GT/s²⁶

2X

frequency, up to 16GHz²⁶



Dell Multi Vector Cooling

PowerEdge thoughtful thermal design

Dell Direct Liquid Cooling

Achieve maximum density with enhanced cooling designs.

Higher-performance fans, new power supply units (PSUs), purposeful airflow pathways and liquid cooling options enable PowerEdge servers to support the dense configurations required by today's data-intensive workloads.

AI-based

thermal controls²⁷

3-tier

approach to higher-performance fans²⁸

4X

heat capacity for liquid cooling versus²⁹



Intel Optane™ Persistent Memory

Achieve peak performance with the latest memory.

Well-balanced, capacious memory configurations optimize functionality and data transfer speeds to help achieve peak performance with PowerEdge servers. The ability to mix DRAM and PMEM quantities in PowerEdge servers leads to:

71%

cost reduction³⁰

150%

Up to 150% capacity gains³¹



Dell SSD performance comparison

Optimize price/performance with a choice of server storage.

Optimize your PowerEdge server configuration based on your business needs. Choose from multiple server storage options including NVMe, SAS, or SATA solid-state drives (SSDs) to optimize your workload performance, budget, scale and roadmap.

350,000

IOPS with enterprise NVMe³²

310,000

IOPS with data center NVMe³²

156,000

IOPS with enterprise SAS³²

110,000

IOPS with value SAS³²

46,000

IOPS with SATA³²



PowerEdge with PERC11 controller

Boost performance with PERC11 and NVMe hardware RAID.

Dell Technologies continues to innovate with the new PERC11 RAID controller, which supports hardware RAID for NVMe drives, delivering a performance boost for the latest generation of PowerEdge servers on all major storage mediums, including NVMe drives. Compared to the previous generation, PowerEdge servers deliver:

3,555,000

IOPS vs. 505,000 IOPS³³

93%

less latency³³

15.7X

more disk bandwidth³³



PowerEdge with 800 series adapters

Break through bottlenecks with 100GbE networking.

The latest generation of PowerEdge servers were made to support modern workloads such as AI/ML, analytics and high performance computing (HPC). Dell Technologies innovations deliver strong networking performance with a fast and consistent I/O experience for these compute-intensive workloads.

Eliminate

three major sources
of overhead³⁴

2X

increase in network bandwidth
compared to previous generations³⁵

Autonomous infrastructure

Respond rapidly to business opportunities and maximize productivity.

In an ever-changing and competitive environment, IT teams often find themselves stretched thin just handling day-to-day management tasks. Advances in server automation can take over many of these tasks, so IT can focus more time and energy on digital transformation that drives innovation and business success. Dell Technologies offers management solutions that simplify, automate and optimize your IT operations.



OpenManage Enterprise

OpenManage Power Manager

Accomplish more with OpenManage intelligent automation.

Modern IT infrastructures are powerful and flexible, yet often complex and challenging to manage. The OpenManage systems management portfolio helps tame the complexity of your IT infrastructure with intuitive tools that work together to deliver automated, repeatable processes, based on your unique policies, enabling effortless management.

46 seconds

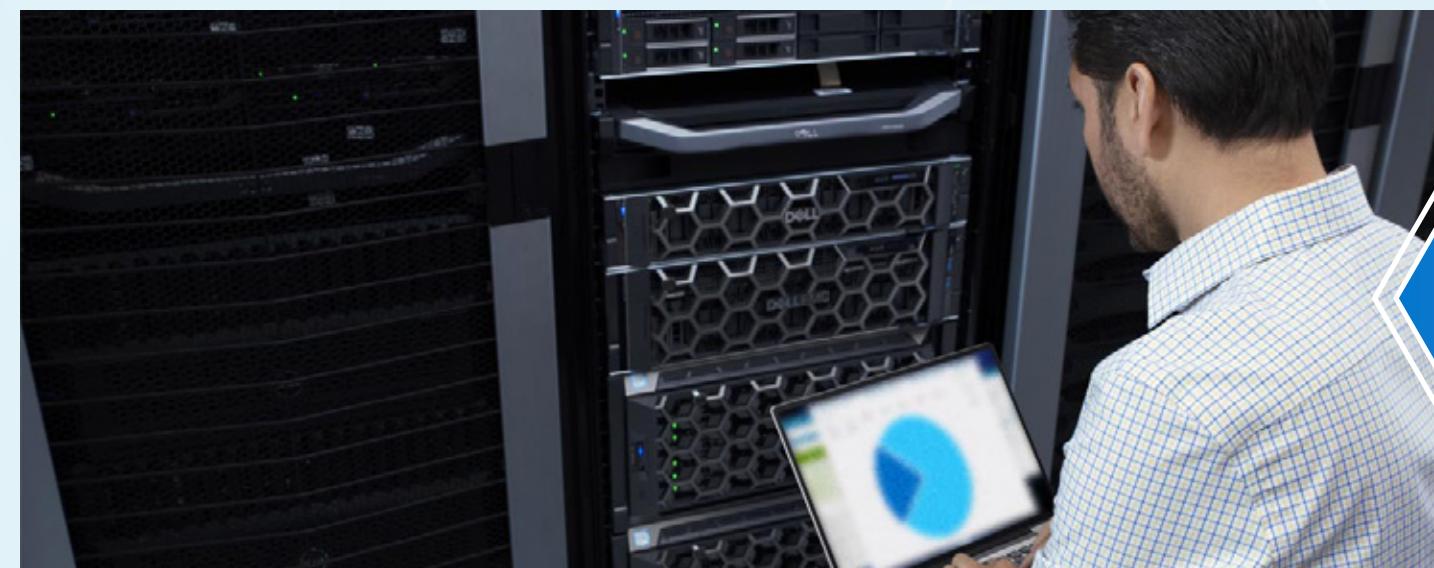
versus 42+ minutes to update multiple servers³⁶

56 seconds

versus 211 seconds to discover three servers and deploy server profiles³⁷

7 steps

versus 1,620 to detect power zombies³⁸



Improve sustainability through energy insights with OpenManage Enterprise Power Manager 3.0

Streamline sustainability efforts with energy insights.

OpenManage Enterprise Power Manager helps drive energy efficiency on PowerEdge servers. Automatic reports and insights allow systems administrators to respond quickly to power issues, improve overall power usage and track greenhouse gas (GHG) emissions.

1 console

for collecting server component power usage metrics that can provide carbon footprint estimates³⁹

Maximum and optimal

VM power consumption metrics via VM grouping for power reporting³⁹

15 minutes

instead of months to generate actionable power reports³⁹



iDRAC System Lockdown

iDRAC9 Automated SSL Certificate Renewal

iDRAC Automated OS Deployment

Respond effortlessly with Dell Integrated Dell Remote Access Controller (iDRAC).

Dell iDRAC is designed for secure local and remote server management and helps IT administrators deploy, update and monitor PowerEdge servers anywhere, anytime. By utilizing standards-based APIs and robust automation scripting tools, you can efficiently manage thousands of servers to increase productivity.

Only vendor 45 workdays

to allow dynamically enabling and disabling system lockdown on a production server without reboot⁴⁰

saved with automated iDRAC SSL certificate renewal compared to manual renewal⁴¹

99.1%

less hands-on deployment time compared to manual deployment⁴²



iDRAC Telemetry Streaming

Discover trends, fine tune operations and create predictive analytics with telemetry streaming.

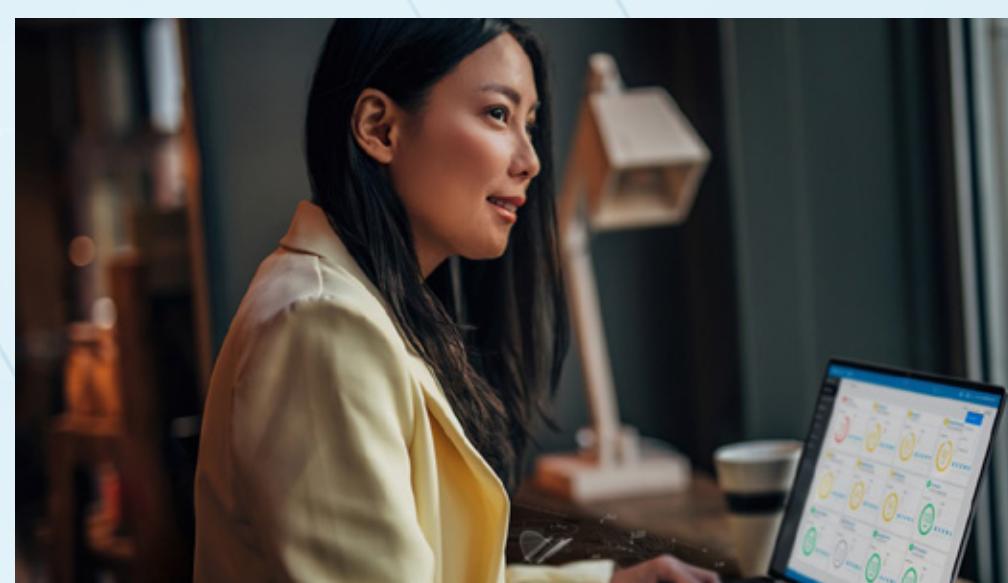
iDRAC telemetry streaming provides a comprehensive view of system data and analytics that can be used for system customization, optimization, risk management and predictive analytics. Performing deep analysis of server telemetry including storage, networking and memory parametric data can inform proactive decision making and decrease downtime.

2,900,000

data points collected from a single server in 24 hours⁴³

17,280X

more efficient reporting compared to server polling⁴⁴



CloudIQ

Get smarter with Dell CloudIQ: AIOps for intelligent infrastructure insights.

Dell CloudIQ combines proactive monitoring, ML and predictive analytics so you can take quick action and simplify operations of your on-premises infrastructure and data protection in the cloud. Plus, you can share productivity-proven dashboards and real-time customizable reports with your stakeholders.

Single console

for proactive monitoring⁴⁵

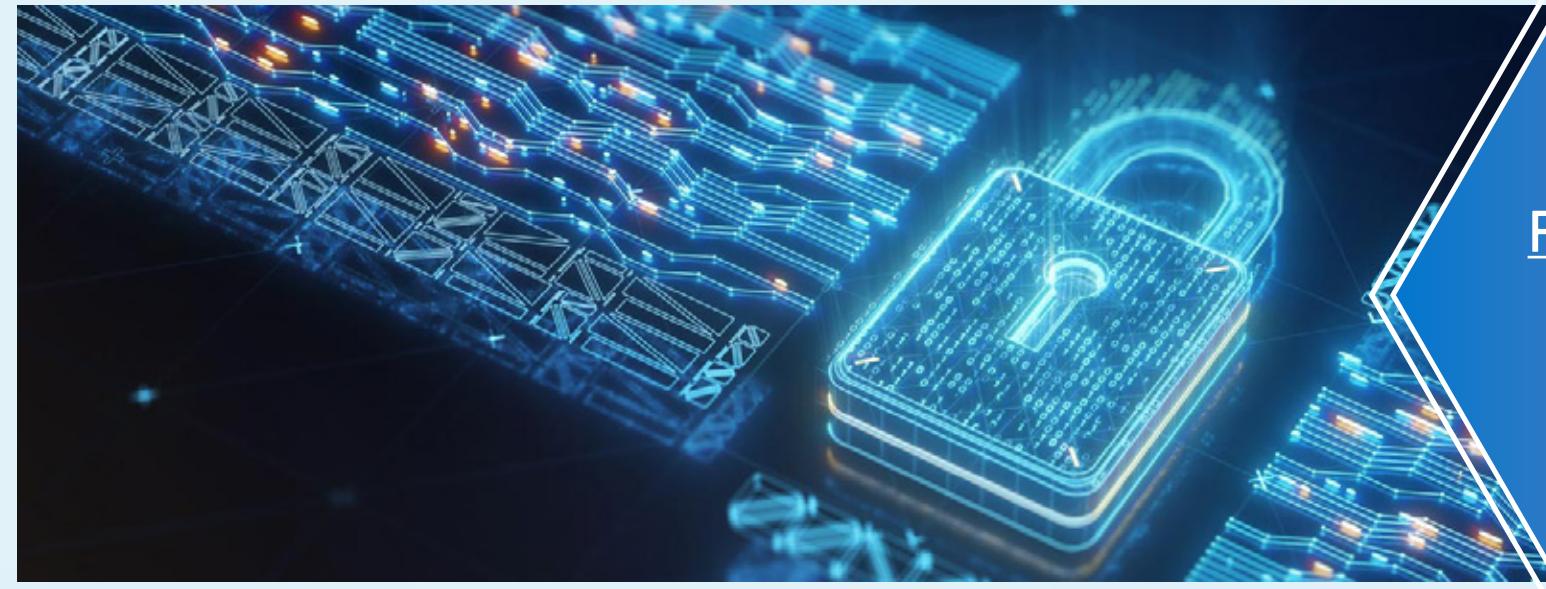
0.056KBps

negligible impact on network bandwidth⁴⁶

Proactive resilience

Build cyber resilience into your digital transformation.

Dell system security starts with design and continues through the supply chain and complete lifecycle, all from a single, trusted vendor. Continuous innovations are designed to build and bolster your cyber resilience in the face of intensifying threats.



[PowerEdge Cyber Resilient Architecture](#)

[Dell Technologies Zero Trust](#)

Comprehensive security with Dell PowerEdge Cyber Resilient Architecture.

Safeguarding your data and intellectual property requires a robust, layered approach. Dell PowerEdge Cyber Resilient Architecture builds on a long security legacy, with enhanced capabilities that effectively protect your infrastructure, reliably detect threats and help you rapidly recover from cyberattacks.

Built-in

cybersecurity and a protected supply chain⁴⁷

Layered

and pervasive to protect against today's sophisticated threats⁴⁷

Zero trust

to meet the challenge of ever-changing threats⁴⁸



[Dell Secured Component Verification](#)

[Secured Component Verification Security Assessment](#)

Secured Component Verification

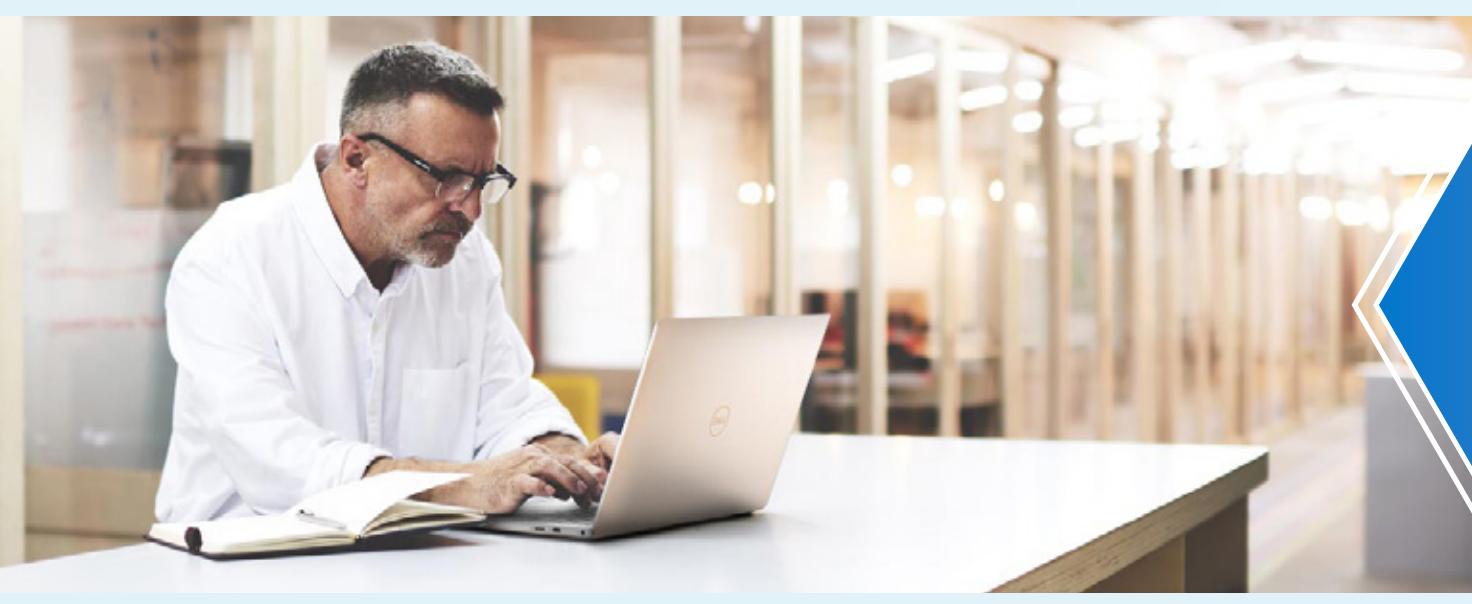
A secure product begins with a secure supply chain and Dell Technologies has had a robust Supply Chain Assurance Program for many years. As the threat landscape becomes more complex and sophisticated, Dell Technologies continues to enhance system protection and control measures to meet the challenge.

First server vendor

with a cross-portfolio solution for cryptographically verified hardware and hardware integrity⁴⁹

Assurance

of product integrity from order fulfillment at the Dell Technologies factory through to end-user delivery⁵⁰



UEFI Secure Boot

Customization

UEFI Secure Boot

UEFI Secure Boot

As security breaches are becoming more frequent, system administrators must employ a wider variety of defenses. Cyberattackers find the pre-boot environment lucrative and use firmware rootkits to hide malware in device or system firmware. Dell UEFI Secure Boot mode offers enhanced security to combat these persistent firmware threats.

First server vendor

to enable eliminating dependence
on third-party certificates⁵¹

Eliminates

a major security void⁵²

Build your continuous innovation engine with Dell Technologies.

Dell Technologies can help you drive innovation into new frontiers with technologies and solutions that deliver critical capabilities across your environment. With Dell Technologies as your partner, you can forge ahead with solutions that help you rapidly adapt to evolving business demands and harness data from edge to core to cloud, leverage intelligence and automation to free IT for higher-value activities and build in proactive resilience to protect against cyberthreats.

Learn More

[Dell.com/PowerEdge](https://www.dell.com/PowerEdge)

¹ Based on Dell analysis of publicly available data, October 2020. Available on PowerEdge 14G and newer, except for PowerEdge XE7100, XE7420, XE7220, C6420 and C6525.

² Dell Technologies is the only vendor to offer the ability to dynamically enable and disable system lockdown once your server is provisioned and in production without having to reboot. Based on Dell analysis of publicly available data, October 2020.

³ PowerEdge [T150](#) and [R250](#) servers using Intel Xeon E-2300 processors, compared to the Intel Xeon E-2200 processor family.

⁴ Supported UDIMM speeds have increased by 20% to 3200MT/s from [T150](#) to [R250](#).

⁵ Support for PCIe Gen4 will double I/O throughput from 8GT/s ([T150](#)) to 16GT/s ([R250](#)).

⁶ PowerEdge [T350](#) populated with Rocket Lake CPUs, SPECrate 2017_int_base scores saw between 14.8%–32.3% performance gains when compared to previous generation T340 populated with Coffee Lake CPU.

⁷ PowerEdge [R350](#) servers using Intel Xeon E-2300 processors, compared to the Intel Xeon E-2200 processor family.

⁸ Average of 49.08% less RAM to process video streams recording a varying number of retail consumers when compared to the PowerEdge [T640](#).

⁹ Compared to the PowerEdge [R640](#).

¹⁰ Compared to the PowerEdge [740xd](#).

¹¹ With 16 VMs, compared to the PowerEdge R730xd with 2 VMs, all it could handle with this workload. Source: A Principled Technologies report, [Analyze more data, faster, by upgrading to latest-generation Dell PowerEdge R750 servers](#), June 2021.

¹² Compared to a previous world record for a 1TB database. Source: Dell Technologies internal testing, July 2022.

¹³ Compared to the previous world record result for a 2-socket 4x node VMware® vSAN™ configuration. Source: Dell Technologies internal testing, July 2022.

¹⁴ Compared to the previous world record TPCx-V result. Source: Dell Technologies internal testing, July 2022.

¹⁵ This configuration is a powerhouse because six of the eight slots support SATA, SAS and NVMe drives. This provides the flexibility to populate the configuration based on maximum NVMe capacity or maximum NVMe bandwidth. Source: Dell Technologies white paper, [NVMe and I/O Topologies for Next-Generation Dell PowerEdge Servers](#), February 2022.

¹⁶ Prowess white paper, [Newer Dell PowerEdge Servers Significantly Increase Microsoft® SQL Server® Performance](#), 2021.

¹⁷ Compared to last generation [PowerEdge MX servers](#), while also lowering application response time.

¹⁸ PowerEdge MX750c server compared to MX740c server. Source: A Principled Technologies report, [Reap better SQL Server OLTP performance with next-generation Dell PowerEdge MX servers](#), April 2021.

¹⁹ Average processed frames per second of 5.945081 (real time) using GPU accelerators. Source: Dell Technologies reference architecture technical paper, [Edge Computing for Retail](#), September 2020.

²⁰ Leveraging 2x Milan CPUs and 4x NVIDIA A100 SXM4 GPUs, all conducted with standard air cooling. Source: Dell Technologies white paper, [XE8545 Posts Fastest Per-Accelerator MLPerf Inference Speeds](#), June 2021.

²¹ Third Generation Intel Xeon Scalable processors delivered an average of up to 62% more performance on a range of broadly deployed network and 5G workloads over the prior generation. Source: Dell Technologies white paper, [Bringing high performance and reliability to the edge with rugged Dell PowerEdge XR servers](#), February 2022.

²² At just 16 inches, the chassis is less than half the depth of a standard server. Source: Dell Technologies blog, [Debuting the Rugged PowerEdge XR11 & XR12 Servers](#), April 2021.

²³ Compared to the previous generation. Source: Dell Technologies Direct from Development, [Intel Xeon E-2300 Processor Series, and How They Improve Performance, Features, and Security For Next-Generation PowerEdge Rack and Tower Servers](#), 2021.

²⁴ Comparing a PowerEdge R7525 with an AMD EPYC 7502 processor with an HPE ProLiant DL380 Gen10 server powered by an Intel Xeon Gold 6240 processor. The R7525 had a performance/cost ratio of 0.128FPS per dollar while the HPE server ratio was 0.055FPS per dollar. Source: A Principled Technologies report, [Finish machine learning preparation tasks on Kubernetes containers in less time with the Dell PowerEdge R7525](#), 2022.

²⁵ For the [NVIDIA A40 GPU](#).

²⁶ Dell Technologies Direct from Development, [Analyzing How Gen4 NVMe Drive Performance Scales on the PowerEdge R7525](#), 2020.

²⁷ Used for fan speed control and power management. Source: Dell Technologies Direct from Development, [Multi Vector Cooling2.0 for Next-Generation PowerEdge Server](#), 2021.

²⁸ Dell Technologies Direct from Development, [Next-Generation PowerEdge Servers: Thoughtful Thermal Design](#), 2021.

²⁹ Compared to air cooling. Source: Dell Technologies Direct from Development, [Dell Technologies Direct Liquid Cooling Support for New PowerEdge Servers](#), 2021.

³⁰ Achieved by mixing DRAM and PMEM quantities to optimize the \$/GB for server needs. Source: Dell Technologies Direct from Development, [Persistent Memory for PowerEdge Servers](#), 2021.

³¹ With 24 memory slots occupied by 128GB DRAM, populating the remaining 24 memory slots with 512GB PMEM. Source: Dell Technologies Direct from Development, [Persistent Memory for PowerEdge Servers](#), 2021.

³² Random 4KiB 70/30 IOPS. Source: Dell Technologies Direct from Development, [NVMe, SAS, and SATA](#), April 2021.

³³ Performance testing on PowerEdge R650 compared to the PowerEdge R640. Source: Dell Technologies Direct from Engineering, [NVMe Performance increases for Next-Generation PowerEdge Servers with PERC11 Controller](#), 2021.

³⁴ RDMA iWARP and RoCEv2 support provides high-speed and low-latency connectivity by eliminating three major sources of overhead; TCP/IP stack process, memory copies and application context switches. Source: Dell Technologies Direct from Development, [Intel Ethernet 800 Series Network Adapters for New PowerEdge Servers with 3rd Generation Intel Xeon Scalable Processors](#), 2021.

³⁵ PCIe Gen4 support allows network bandwidth to increase by ~2x. Source: Dell Technologies Direct from Development, [Intel Ethernet 800 Series Network Adapters for New PowerEdge Servers with 3rd Generation Intel Xeon Scalable Processors](#), 2021.

³⁶ Amount of admin time required to update firmware in multiple servers compared to manual effort. Source: A Principled Technologies report, [Automate high-touch server lifecycle management tasks with OpenManage Enterprise integrations and plugins](#), March 2021.

³⁷ OpenManage Enterprise server-initiated discovery and profile deployment compared to manual effort. Source: A Principled Technologies report, [Automate high-touch server lifecycle management tasks with OpenManage Enterprise integrations and plugins](#), March 2021.

³⁸ Estimated time and effort required to find [power zombies](#) over 180 days using OpenManage Enterprise Power Manager compared to using a manual iDRAC search.

³⁹ A Principled Technologies report, [Improve sustainability through energy insights with Dell OpenManage Enterprise Power Manager 3.0](#), May 2022.

⁴⁰ Dell Direct from Development, [iDRAC9 System Lockdown: Preventing Unintended Server Changes](#), 2020.

⁴¹ For 1,000 servers over three years with a three-month renewal period. Source: A Principled Technologies report, [Eliminate the need to schedule, track, and maintain iDRAC SSL certificate renewals with a new feature in iDRAC9 v4.0](#), February 2020.

⁴² When you order new PowerEdge servers with zero-touch provisioning enabled, hands-on deployment time drops to nothing. Source: A Principled Technologies report, [Reduce hands-on deployment times to near zero with iDRAC9 automation](#), February 2020.

⁴³ Tolly test report commissioned by Dell Technologies, [iDRAC9 Telemetry Streaming](#), February 2020.

⁴⁴ With telemetry streaming, a 24-hour report can be collected via a single HTTP request compared with a per-report best case of 17,280 HTTP requests to collect a single report daily. Source: Tolly test report commissioned by Dell Technologies, [iDRAC9 Telemetry Streaming](#), February 2020.

⁴⁵ A Principled Technologies report, [Dell CloudIQ provides a single console for proactive monitoring and had negligible impact on network bandwidth in our tests](#), April 2022.

⁴⁶ Average transferred over the network (with two hosts) over a one-hour test period. Source: A Principled Technologies report, [Dell CloudIQ provides a single console for proactive monitoring and had negligible impact on network bandwidth in our tests](#), April 2022.

⁴⁷ Dell Technologies infographic, [Dell PowerEdge Cyber Resilient Architecture 2.0](#), May 2021.

⁴⁸ Dell Technologies infographic, [Zero Trust. Verified Trust](#), January 2021.

⁴⁹ Dell Technologies press release, [Dell Technologies Powers AI and Edge Computing with Next Generation PowerEdge Servers](#), March 2021.

⁵⁰ NCC Group white paper, [Secured Component Verification](#), April 2021.

⁵¹ Dell Technologies Direct from Development, [Dell PowerEdge UEFI Secure Boot Customization: Reduce Attack Surface with Complete Control of Certificates](#), 2020.

⁵² Dell Technologies Direct from Development, [Dell PowerEdge UEFI Boot: Enhanced Security to Combat Persistent Firmware Threats](#), 2021.