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### Dell PowerEdge.Next servers

Unprecedented performance and sustainability for today's telecom edge workloads

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Dell PowerEdge.Next servers

# New opportunities in an evolving telecom landscape

The next generation of Communication Service Providers (CSPs) will be led by those that harness the power of edge and cloud technology to transform their infrastructure. The communications industry must first overcome several key challenges: modernizing infrastructure, improving operational efficiency, bolstering security and delivering significant advances in sustainability.

Clearly, this is no easy task. Especially with the advent of 5G networks, CSPs require powerful, efficient and purpose-built hardware to gain a strategic edge and provide ubiquitous services to their customers.

Dell is committed to supporting network providers build the future of telecom with ease and simplicity. That's why Dell PowerEdge.Next servers are purpose-built specifically to overcome these challenges. Certified to NEBS Level 3 Class 1 and based on 4th Generation Intel® Scalable Processors, PowerEdge.Next servers offer significant TCO reductions, simplified operations and telecom-specific designs to deliver huge value and sustainability results in the cloud and at the edge.

In this guide, you will discover the design principles behind the latest PowerEdge servers. You will also see the advances we have made to maximize productivity and minimize disruption in integrating new edge and cloud technologies into existing telecom infrastructure.

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### Catalyzing modernization

Telecom modernization requires both a pragmatic and a strategic approach.

Pragmatically, flexible integration with existing telecom infrastructure is essential to avoid disruption and reduce costs.

Strategically, CSPs need to modernize for the long-term, not only to enable the shift to edge computing and the cloud but to also cater for the deployment of Al and eventually 6G.

We've designed the latest generation of PowerEdge servers to deliver on both fronts.

### Purpose-built

Built with flexible PSU options and telecom edge form factors, the latest PowerEdge servers offer slotin replacements rather than major site works — so integrating with existing infrastructure is a simple, painless process.

### Compliance and security

CSPs' greatly expanding edge and shift to the cloud presents a new level of security and compliance challenges. That's why PowerEdge.Next servers are certified to NEBS Level 3, TMP2.0 silicon-based security and cryptogenic root of trust to authenticate BIOS and firmware.

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### Modular design

Avoid obsolescence and only fix what's broken. The PowerEdge XR5610, XR7620 and XR8000 series are thoughtfully designed for less waste, lower costs and the flexibility to expand.

#### Flexible platform

Need to expand? The XR5610, XR7620 and XR8000 series offer multiple PCIe slots, 1U/2U SLEDs and validated 3rd party accelerators for increased flexibility and scalability.

#### Extended support

Hardware that goes the extra mile. PowerEdge.Next servers are designed for Telecom OT-style service lines, with extended support for up to 11 years, so you can get the most out of your hardware investments.

## Accelerating zero-trust adoption

As cyberattacks become increasingly numerous and sophisticated, CSPs need more than just hardened hardware. Protecting telecom and customer data requires a holistic approach to security strategy that ensures protection and resiliency throughout the entire supply chain.

The latest PowerEdge servers are designed to support a zero-trust model that delivers world-class security whilst also reducing complexity and providing peace of mind for network providers.

### Root of Trust

With NSA recognized UEFI Secure Boot, the latest PowerEdge servers are anchored by Root of Trust (RoT) — providing CSPs with a trusted, protected and resilient end-to-end boot cycle.

### Secure supply chain

With PowerEdge.Next servers, you can deploy with confidence in the most security-critical use cases. Dell Technologies manages a global supply chain and tracks every single component, every step of the way.

#### Data protection

PowerEdge.Next servers come with built-in cybersecurity controls and strong encryption to ensure continuous protection, detection and recovery from potential threats, right out of the box.

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### Reinforce your security at the edge with PowerEdge

### 91% less time

for complete system lockdown with iDRAC9 vs HPE iLO

## faster deployment

of security configuration templates with Dell OME vs. HPE OneView

### Secured Compontent Verifications (SCV)

Supply chain security

### NSA recognized

Dell customized UEFI secure boot

### Accelerating sustainability

Today's levels of telecom energy consumption are unacceptable on both cost and environmental grounds. With Mobile Radio Access Networks accounting for more than half of operators' energy consumption, energy efficiency has become a critical requirement for network modernization.

Our latest PowerEdge servers tackle this challenge and deliver results that matter.

Improved energy efficiency brings sustainability and cost benefits



1 watt of server energy use 3.4 BTU of heat per hour

Combining thermal design with multi-vector and liquid cooling enables huge energy efficiencies. Put simply, every watt saved is a watt you don't have to cool.

### Energy efficiency

With EPEAT Silver & Bronze registration and ENERGY STAR® certifications, the PowerEdge portfolio is designed with efficiency in mind.

#### Infrastructure consolidation

Do more with less. Just one PowerEdge.Next server can handle up to three times the work of previous generations.

Plus, telecom-standard form factors enable seamless integration with existing infrastructure — saving time, complexity, cost and truck rolls.



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#### Circular economy

Circularity means less e-waste and damage to the environment. Our systems are refurbished and recycled in accordance with global standards.

### Thermals and smart cooling design

For each watt a server consumes, 3.4 BTU of heat per hour is generated, which requires more energy for cooling. Our PowerEdge servers' multivector and liquid cooling capabilities meet temperature requirements without consuming more energy.

### Dell PowerEdge.Next servers

Built for performance, designed for sustainability

### Increased network capacity

Double your performance per watt and run demanding vRAN workloads with ease and efficiency. The latest 4<sup>th</sup> Gen Intel® Xeon® Scalable processors offer up to 2x the capacity at the same power envelope than previous generations.

### Game changing results with Intel®

To help CSPs accelerate a sustainable transformation, the latest PowerEdge. Next servers incorporate 4th Gen Intel® Xeon® Scalable processors and Accelerator Engines.

### Unbridled performance

Whether it's Al, analytics, storage or HPC, Intel's newest Accelerator Engines and software optimizations drive efficient CPU utilization and higher ROI without increasing power.

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### PowerEdge XR8000

Designed for centralized and distributed RAN workloads, the XR8000 series offers CSPs unprecedented flexibility in the cloud and at the edge.

### Flexible configuration

Address the far-edge, edge and core with just one chassis. The PowerEdge XR8000 series offers four different sled configurations.

#### Agile operation environment range

The PowerEdge XR8000 series is equipped for continuous, undisrupted operation in extreme temperature ranges from -5 to 55C — with optional heater options for environments below -5.

### Sustainable design

Replace sleds without the need to remove chassis or power cables. The XR8000 series' modular design offers simple serviceability and maintenance so components can be reused and recycled.

### Centralized and distributed **RAN** support

The XR8000 series' sled-based design is optimized for both centralized and distributed RAN workloads - perfect for running cloud services and mobile applications at the edge.

### Simplified expansion

With broad I/O expansion support per node and expandable PSUs, the PowerEdge XR8000 series enables customers to scale to meet new performance demands with ease.





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### PowerEdge XR5610

With a ruggedized form factor, the XR5610 series is a 1U server, purpose-built for telecom workloads running in extreme conditions at the edge.

#### Scalable internal storage

Expand internal storage whenever you need to. PowerEdge XR5610 has built-in support for NVMe, SAS and SATA SSDs.

### Rugged form factor

Deploy in the toughest conditions or the tightest spaces. The PowerEdge XR5610 is certified to MIL-STD-810H and NEBS Level 3 standards.

#### High performance accelerators

Thanks to Intel's® 4th Generation Xeon Scalable processor, the XR5610 series supports multiple GPU, O-RAN L1 and vRAN accelerators to run demanding 5G, edge and cloud workloads without any issues.

### PowerEdge XR7620

Purpose-built, compact and powerful. The XR7620 series is an edge-optimized, 2-socket server, ready to support solutions running in the cloud and at the edge.

### 2-socket capable

Accelerate the performance you need with up to two Intel's® 4th Generation Xeon Scalable processor and 32 cores.



#### Compact form factor

With just 450mm from ear-to-rack, the XR7620 series short-depth design brings performance in even the tightest edge environments.

### Find Out More

As CSPs look to edge and cloud technology to accelerate their infrastructure transformation, our latest PowerEdge servers are specifically designed to aid network providers in this journey.

We know that the future of telecoms isn't just about performance and results, it's about the future of the planet. That's why the newest PowerEdge servers are thoughtfully designed with sustainability as a priority.

PowerEdge.Next servers combine performance, security and sustainability into a single solution — providing CSPs with the long-term, efficient results they need to transform and continue innovating into the next era of telecoms.

Find Out More

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