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Solution Brief

Transform your Cloud Core with the power of Dell PowerEdge R6715 and AMD

Efficient, resilient performance driving telecom innovation

Solution Highlights

The Dell PowerEdge R6715, equipped with 5th Generation AMD EPYC[™] Processors, is designed to meet the rigorous demands of modern telecom environments. It empowers Communications Service Providers (CSPs) to optimize performance, efficiency, and scalability. Here's how the R6715 delivers value:

- Optimize telecom operations with highdensity computing and superior power efficiency, reducing energy use and server footprints.
- Ensure resilient performance in extreme conditions with NEBS Level 3 certification, supporting seamless deployments in diverse environments.
- Simplify management and enhance security with advanced tools like iDRAC10, OpenManage, and a cyberresilient architecture.

The telecom industry demands efficient, high-performance solutions to keep pace with growing workloads and market expectations. For Communications Service Providers (CSPs), choosing the right infrastructure can mean the difference between thriving and lagging behind in an intensely competitive environment. The Dell PowerEdge R6715 server, powered by the latest 5th Generation AMD EPYC[™] Processors, emerges as a resilient and efficient choice for telecom deployments, standing strong beside its sibling, the PowerEdge R7615. Here's how the R6715 excels in key areas like density per rack, NEBS certification, and power efficiency, and why it's a game-changer for telecom environments.

PowerEdge R6715 vs. R7615: A Focused Comparison

While the <u>PowerEdge R7615</u> made waves with its compute density and NEBS certification for telecom environments, the PowerEdge R6715 offers a differentiated, targeted approach. Designed to optimize density and power efficiency, the R6715 refines the single-socket, telecom-optimized server formula with some compelling advantages.



Figure 1: Dell PowerEdge R6715 Server

Built upon the advancements introduced with the R7615, the R6715 but goes beyond by offering a denser server and rack configuration. Equipped with the 5th Generation AMD EPYC[™] Processors, the R6715 supports up to 160 cores in a single socket, removing the need for dual-socket configurations. This design not only maximizes performance but also consolidates server footprints, allowing CSPs to host more compute power in a smaller physical space. For CSPs looking to optimize operations, the R6715 helps scale processing capacity efficiently, reducing the number of servers and racks required for high-demand workloads.

NEBS Level 3 certification is included in both the R7615 and R6715 (coming soon), but it's worth emphasizing just how critical this feature is for telecom environments. For CSPs operating in rigorous field conditions, NEBS Level 3 ensures resilience under extreme circumstances, from operating reliably between -5°C and +55°C to surviving seismic events. This certification ensures seamless deployments in central offices, delivering non-throttled performance and high availability even under external pressures.

For the R6715, this means telecom providers can trust their cloud Cores, OSS/BSS and network functions to operate consistently, even in geographically challenging conditions.

Let's look at some additional advantages of the PowerEdge R6715:

1. Superior Power Efficiency

The transition from dual-socket to single-socket architecture, enabled by the processing power of AMD EPYC[™] processors, ensures the R6715 delivers significant savings on power consumption. The streamlined single-socket design reduces energy consumption while maintaining top-tier performance, offering CSPs a path to more sustainable operations; for additional insights into energy-efficient advancements, explore how improved performance meets smaller footprints <u>here</u>.

2. Compute Density with a Minimal Footprint

A single 1U R6715 server, harnessing 4nm and 3nm lithography technology, boasts a high core density that previously would have required multiple servers. This provides the benefit of fewer servers overall, which translates into lower capital expenditures, reduced rack space usage, and more streamlined maintenance. The R6715 is particularly well-suited for memory-intensive applications and workloads such as content delivery networks and Al inferencing, with **support for up to 3TB of DDR5 memory and PCIe Gen5 connectivity**, offering an industry leading 2 DIMMs per Channel (2DPC) and up to 24 memory DIMMs per server. This allows for dense memory configurations without the need to pay a premium for the densest DIMM modules.

3. Ruggedized for Telecom Resilience

Reliability is non-negotiable in telecom operations. The R6715 is ruggedized for essential telecom services, ensuring steady performance despite environmental challenges. Whether deployed in a central office or at the edge, the R6715's NEBS certification offers peace of mind for network operators who need their servers operational even during extreme weather conditions or other disruptions.



Figure 2: PowerEdge R6715's Superior Thermal Design

4. Simplified Management and Advanced Security

Managing the R6715 is seamless thanks to Dell's **iDRAC10** (Integrated Dell Remote Access Controller), which enables local and remote server management without additional software. Its **RESTful API with Redfish** supports scalable automation, while **OpenManage Enterprise** (**OME**) provides comprehensive infrastructure oversight, integrating with tools like VMware vCenter and Microsoft System Center. Additional tools like **OpenManage Mobile** and **CloudIQ for PowerEdge** enhance monitoring and predictive maintenance.

Security is robust, with a **cyber-resilient architecture** featuring a silicon-based root of trust, signed firmware, drift detection, and BIOS recovery. Dell's **protected supply chain** ensures factory-to-site integrity, and features like **Multi-Factor Authentication (MFA)** and role-based access controls safeguard operations. These measures make the R6715 a trusted choice for sensitive workloads.

Driving Telecom Sustainability and Performance

Efficiency and sustainability are two cornerstones of modern telecom operations. The R6715 addresses both with aggressive reductions in energy consumption and innovative architectural design. Compared to older

multi-socket systems, the R6715 delivers measurable savings through lower energy use, supporting telecom operators in reducing their carbon footprints and operational costs.

The single-socket configuration also improves total cost of ownership (TCO) by simplifying deployment and upkeep. By consolidating workloads into fewer servers, CSPs achieve not just cost efficiency but also enhanced resource use, aligning with sustainability goals while gaining a competitive edge.

Why the R6715 is the ideal choice for CSPs

The Dell PowerEdge R6715 combines cutting-edge performance, flexibility, and efficiency in a compact 1U package. Its 5th Gen AMD EPYC Processors, DDR5 memory, and PCIe Gen5 connectivity deliver exceptional compute power, while its modular design supports diverse workloads. With robust management tools, enterprise-grade security, and a focus on sustainability, it's a future-proof solution for data centers of all sizes.

Whether modernizing cloud-native operations, implementing AI workloads, or optimizing legacy network functions, the Dell PowerEdge R6715 provides the perfect blend of performance, cost-effectiveness, and sustainability. It's not just a server; it's a commitment to empowering telecom operators with solutions that support progress and transformation at every step.

For the next step in telecom innovation, the PowerEdge R6715 is ready to deliver. Visit the <u>PowerEdge</u> <u>R6715 page</u> for the configurations, pricing, or to connect with a Dell representative.



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