

Dell Telecom Multi-Cloud Foundation

A fundamentally smarter way to deploy and manage best-of-breed, telco clouds

Summary

The cloud is the future of telecom networks. Communications service providers (CSPs) can't afford to be locked into a single-vendor vision of the future. They need a trusted, open foundation on which to build the multivendor networks of tomorrow, which is why we've developed the Dell Telecom Multi-Cloud Foundation. Dell Technologies is partnering with Red Hat and Wind River to co-engineer and integrate complete 5G telecom cloud solutions that combine hardware, software, automation, and services into pre-integrated, pre-validated, and optimized packages.

Solution Highlights

Every CSP's cloud journey is unique. Dell Telecom Multi-Cloud Foundation enables CSPs to choose the journey that's right for them, benefit from a strong head start, and work with an experienced partner along the way. We've done the hard work up front so that CSPs can have an easier time deploying, managing, and maintaining a best-of-breed cloud environment:

- Optimized, pre-integrated Dell Telecom Infrastructure Blocks featuring all the hardware, software, and services you need to deploy specific use cases
- Reduced deployment time and risk with pre-integrated and validated solutions that are co-developed by Dell Technologies and its cloud software partners
- Simplified management of your telco cloud that features easy-to-use, built-in automation and orchestration tools

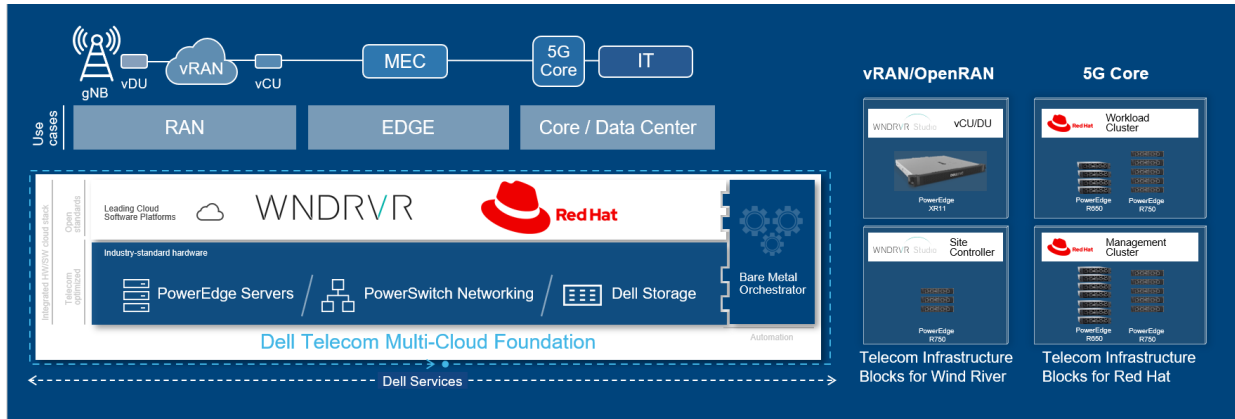
Building your cloud future on a trusted foundation

In the coming years, the way that telecommunications networks are built will fundamentally change. Instead of proprietary, single-vendor systems and purpose-built appliances, CSPs are shifting to cloud-native core networks, cloud-based edge services, vRAN and Open RAN solutions that mix virtualized software and industry-standard servers from a variety of vendors. These cloud-based networks will scale effortlessly, automate day-to-day operations, and adapt quickly to new market opportunities while reducing costs.

Although these solutions will share many common characteristics with enterprise clouds, telco clouds will continue to have unique requirements around performance, latency, security, and the services they support. To meet these requirements across a variety of use cases, CSPs will need to mix and match solutions from different vendors across the edge, core, and RAN. This introduces the potential for complexity and risk, particularly as CSPs look to integrate multivendor solutions and manage them effectively over the solution lifecycle. In order to accelerate the deployment, simplify management, and reduce the risk of multivendor telecom networks, Dell Technologies is partnering with Red Hat and Wind River, global leaders in cloud platform software for telecom networks, to create Dell Telecom Multi-Cloud Foundation featuring Dell Telecom Infrastructure Blocks.

Everything you need for your cloud to succeed

Dell Technologies is uniquely qualified to help CSP's modernize their network. We have helped hundreds of companies across a broad range of industries with their digital transformation. We are making significant investments to help CSP's transform their networks. We partner with the leading cloud platform software providers to perform continuous integration testing that helps operators plan and deploy a telco cloud that meets the stringent SLAs of the telecommunications industry. Dell Telecom Multi-Cloud Foundation integrates our cloud platform partners' software with Dell Bare Metal Orchestrator management software to deliver a fully integrated cloud stack with automated deployment and lifecycle management.



Dell Telecom Multi-Cloud Foundation

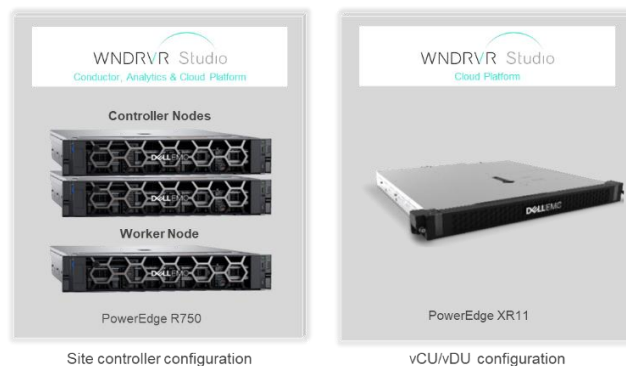
Bare Metal Orchestrator gives CSPs the ability to identify bare metal servers and accelerate deployment of software across multi premises, reducing operational costs by orchestrating lifecycle management across hundreds of thousands of devices.

Dell Telecom Infrastructure Blocks – building blocks for your telco cloud

Dell Telecom Infrastructure Blocks are critical components of this solution. An Infrastructure Block is a foundational building block designed for use with Telecom Multi-Cloud Foundation that streamlines the design, configuration, and delivery of cloud infrastructure to efficiently accelerate the deployment of new services. It is integrated in Dell's factory and has been co-engineered with cloud platform partners to include all the hardware and software required to meet the needs of a specific workload across a range of scale points. It also includes Bare Metal Orchestrator Modules that provide all the scripts, APIs and configurations files needed to integrate Bare Metal Orchestrator with the cloud platform partner's software. They also encapsulate all of the configuration guidance obtained from the continuous integration testing Dell Technologies performs with its software partners to ensure the cloud stack consistently meets telecom SLAs. And, if anything ever goes wrong, Dell's world class support team provides a unified support experience that meets carrier grade SLAs for the entire cloud stack.

Dell Telecom Infrastructure Blocks for Wind River

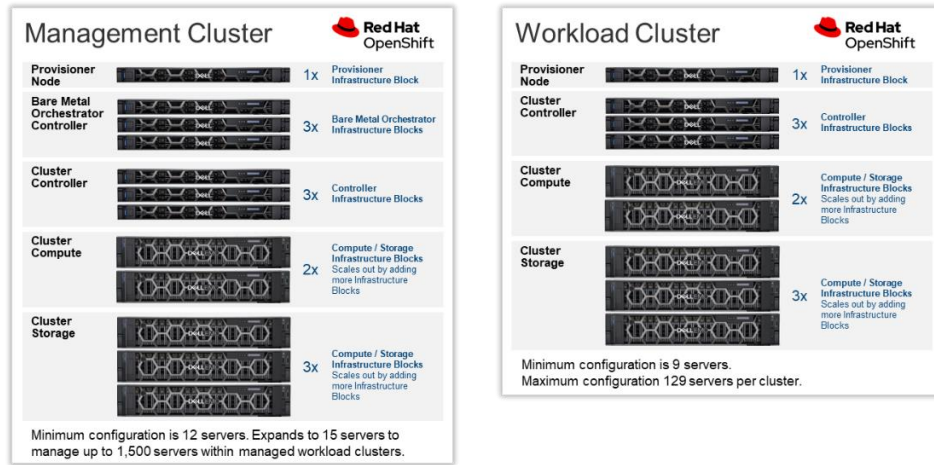
Our first Infrastructure Blocks are based on Wind River Studio. Dell and Wind River have partnered to integrate PowerEdge servers, Bare Metal Orchestrator management software and Wind River Studio into a seamless hardware/software solution that simplifies the deployment and lifecycle management of a telco cloud at scale. The first use cases supported include virtual Centralized and Distributed Units (vCU/vDU) for vRAN and Open RAN and management clusters for the Telecom Multi-Cloud Foundation site controller, with more to come in the future.



Dell Telecom Infrastructure Blocks for Wind River

Dell Telecom Infrastructure Blocks for Red Hat

Our next Telecom Infrastructure Blocks are for Red Hat. These Infrastructure Blocks integrate Red Hat Advanced Cluster Management with Dell Bare Metal Orchestrator to automate the deployment and lifecycle management of Red Hat OpenShift management and workload clusters on bare metal. These engineered systems are optimized to support 5G Core network functions running in national and regional data centers.



Dell Telecom Infrastructure Blocks for Red Hat

Building your network on Dell Telecom Multi-Cloud Foundation

A best-of-breed architecture is the best way to build a telco cloud. Yet this can be a challenge for CSPs because it requires the ability to bring together and manage an ecosystem of partners to continuously validate a multitude of hardware and software combinations to support a broad set of use cases. Dell Telecom Multi-Cloud Foundation simplifies this process by providing an integrated solution that is ready for production traffic while offering a wide variety of options for cloud customization. Dell Telecom Multi-Cloud Foundation has several important benefits for CSPs derived through *validation*, *automation*, and *integration*.

Validation

Dell validates configurations with its cloud platform partners by performing continuous integration testing that reduces operator integration costs while ensuring a telco-grade deployment or upgrade of the cloud platform's hardware/software stack that meets the stringent performance, availability, and security requirements of the telecommunications industry.

Automation

Dell Telecom Multi-Cloud Foundation integrates with our partners' software to enable CSPs to automate the deployment and lifecycle management of hundreds of thousands of servers across their network. This lowers operating costs by eliminating manual tasks. It also ensures a consistent, telcom-grade deployment of the full hardware/software stack, which reduces configuration errors so that less time is spent on fault, configuration, and security management.

Integration

Dell Telecom Infrastructure Blocks are factory-integrated systems that are optimized and ready for deployment and will be offered in a variety of use cases. This simplifies design, procurement, deployment, and lifecycle management and reduces the time spent configuring telecom cloud hardware and software by providing a single integrated and validated solution purpose built for specific telecom use cases. And, it's all backed by a unified support model from Dell Technologies that meets carrier grade SLAs.

Dell Technologies is the telecom industry's partner of choice

As CSPs evolve their network architectures for 5G, proprietary and appliance-based networks will give way to best-of-breed, multivendor cloud networks. Dell Technologies is uniquely suited to lead this network transformation. We combine deep experience in digital transformation and cloud technology with a long history of open partnerships and a commitment to building telecom-grade solutions.

Beyond our technical expertise and growing telecom solutions portfolio, Dell Technologies brings a global reach that few companies can match. Today, we have over 25 manufacturing facilities, 50 distribution and configuration centers, and over 750 parts distribution centers located around the world. We manage a supply chain that is the envy of the industry as well as local services teams that can support customers nearly anywhere in the world. At Dell Technologies, we recognize that CSPs have a choice in who they partner with in the future and our goal is to keep it that way.

To learn more about Dell Technologies' solutions for the telecommunications industry, visit us at www.delltechnologies.com/telecom.