

# Dell Telecom Multicloud Foundation with Dell Telecom Infrastructure Blocks

Simplify network disaggregation with a purpose-built multicloud foundation.

## Telecom network disaggregation challenges

- **Interoperability and Integration Challenges:** Integrating different systems, protocols, and technologies from various vendors becomes complex in an open ecosystem, including getting support.
- **Resource Management and Cost Optimization:** Lifecycle management, configuration changes, and managing costs becomes more complex, especially across Day 0 through Day2+ operations.
- **Rapid Technological Changes:** Adopting, integrating, and leveraging the latest technologies in an open telecom ecosystem quickly and efficiently becomes more difficult, impacting your competitive edge.

## Dell Telecom Multicloud Foundation

A fundamentally smarter way to deploy telco clouds.

- **Accelerate the adoption of new technology** by providing fully engineered systems with built in automation that streamlines design, testing and deployment processes.
- **Reduce Risk** by performing continuous integration testing with our cloud platform partners to deliver a robust and performant cloud foundation, all backed by single call support for the entire cloud stack.
- **Simplify Operations** by delivering a fully integrated and engineered system with automation that unlocks the power of zero touch provisioning to streamline Day 0 to Day 2 tasks.

## The telecom evolution

Modern telecom networks are based on cloud-native technologies and employ open standards and open-source software that disaggregate network functions from the underlying hardware and run on industry-standard hardware. Communications service providers (CSPs) are modernizing their networks to reduce costs and achieve the control and agility required to capture new business opportunities. By transforming their networks, CSPs will be able to select the best technologies for their business from an emerging ecosystem of suppliers. This approach will also enable them to manage costs more effectively and meet their customers' demands, while encouraging healthy competition that fosters innovation.

However, building a modern network comes with its own set of challenges. CSPs need move away from familiar siloed infrastructure stacks and collaborate with a range of industry partners to build a modern network that meets SLAs. They must be able automate the deployment and management of a disaggregated network to support geographically distributed environments. Additionally, they need a simple support model that ensures a rapid response and restoration of services should anything go wrong.

## Building your network on a Dell Telecom Multicloud Foundation

Dell Technologies has helped hundreds of customers digitally transform across a range of industries. It recognizes the telecommunications industry is going through a similar transformation and has made significant investments to meet the unique requirements of CSPs.

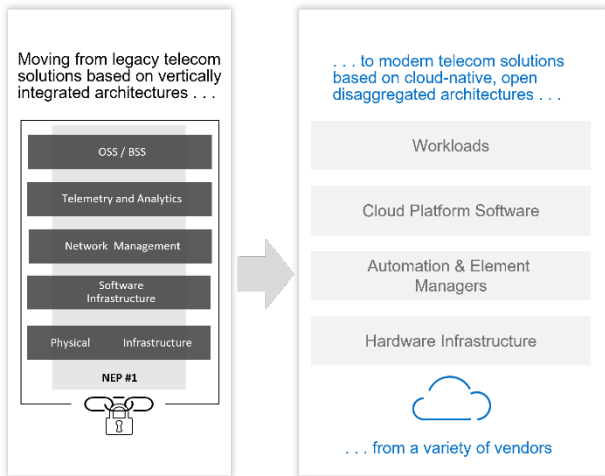


Figure 1: Move from vertically integrated architectures to horizontal cloud-native architectures.

The move from vertically integrated stacks to disaggregated, cloud-native architectures requires a unique approach.

Unlike the clouds built by public cloud providers, the clouds that support 5G networks are geographically distributed across both densely populated and rural areas. These networks require a broad range of compute, storage, and networking technologies to meet the processing, connectivity, power, space, and environmental requirements spread across the networks from core to edge to the RAN. They will also need to continue to meet stringent SLAs for availability and latency while maintaining the highest levels of security. In addition, operators frequently deploy multiple cloud software stacks across their network to meet a range of business and operational priorities, such as those required for RAN (Open RAN / vRAN), OSS/BSS and core telecom workloads. The ability to quickly adopt and

integrate new technologies will be instrumental in maintaining a competitive edge.

This is why Dell Technologies created Dell Telecom Infrastructure Blocks. Telecom Infrastructure Blocks are essential building blocks for transforming telecom networks and provide an efficient approach to deploying telco clouds from leading platform providers. They empower CSPs to quickly and confidently deploy a best-of-breed architecture based upon open telecom standards.

### Dell Telecom Infrastructure Blocks

Dell Telecom Infrastructure Blocks are engineered solutions designed to simplify operations, reduce risks, and increasing agility. They streamline the design, configuration, and management of telco cloud infrastructure, from Day 0 through Day 2 and beyond. Designed to automate the deployment and lifecycle management of the telco cloud stack, Telecom Infrastructure Blocks help to minimize errors, lower operating costs, and fulfill telco-grade SLAs.

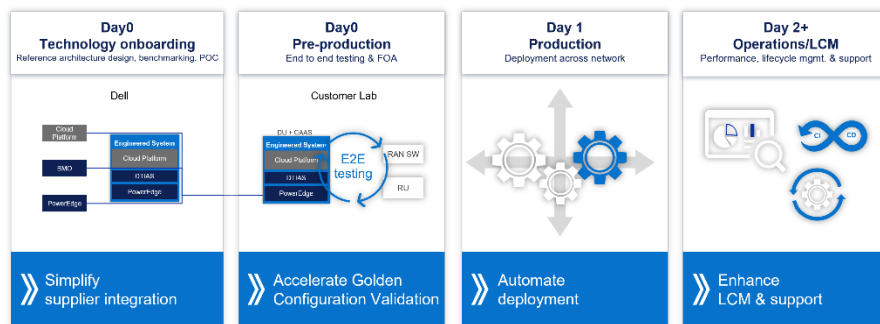


Figure 2: Streamline operations from Day 0 to Day 2 and beyond.

As pre-validated, pre-integrated, engineered systems, they allow CSPs to quickly adopt and deploy new technologies faster and enhance their ability to deliver new services. They consist of Dell PowerEdge servers that have been pre-

integrated and validated to meet specific workload requirements along with licenses for our cloud platform partner's and Dell's infrastructure automation software. Each Telecom Infrastructure Block is co-engineered with our cloud platform partner and includes all the hardware, software and licenses to build and scale-out a network. This reduces the time operators must spend planning and designing the infrastructure to meet current and future workload requirements.

Dell offers two types of Telecom Infrastructure Blocks: Telecom Infrastructure Blocks for Red Hat and Telecom Infrastructure Blocks for Wind River. This provides CSPs with a choice of cloud platforms, giving them the flexibility to choose the best and most cost-effective cloud platform to meet unique workload requirements across their network.

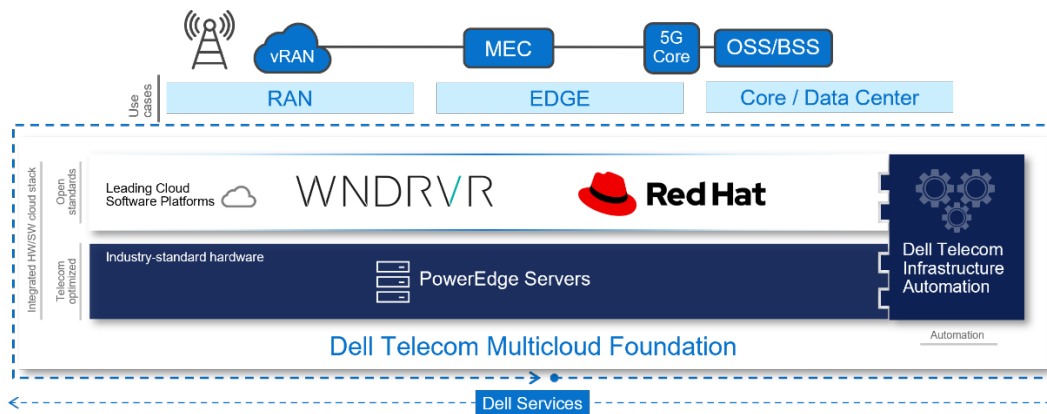


Figure 3: Dell Telecom Multicloud Foundation with Dell Telecom Infrastructure Blocks

#### Dell Telecom Infrastructure Blocks for Wind River:

The Telecom Infrastructure Blocks for Wind River are essential building blocks for building a telco cloud and are purpose built for vRAN and Open RAN networks. They include validated PowerEdge hardware and software licenses for our infrastructure automation software and Wind River Studio. Telecom Infrastructure Blocks for Wind River integrate with Wind River Conductor to simplify the task of managing the lifecycle of hardware and software in a disaggregated network.

Telecom Infrastructure Blocks for Wind River include the vCU/vDU Infrastructure Blocks with Wind River Studio Cloud Platform factory installed on Dell PowerEdge servers specifically designed to support vRAN and Open RAN vCU and vDU use cases. The Worker Node and Controller Node Infrastructure Block configurations support the site controller configuration.

#### Dell Telecom Infrastructure Blocks for Red Hat:

The Telecom Infrastructure Blocks for Red Hat simplify the design, deployment and lifecycle management of Red Hat OpenShift Clusters used to support OSS/BSS, Core and RAN network functions.

The Telecom Infrastructure Blocks for Red Hat integrate Red Hat Advanced Cluster Management for Kubernetes, OpenShift, and OpenShift Data Foundation with Dell's infrastructure automation software to deliver turnkey automation for the deployment and lifecycle management of OpenShift clusters. They are engineered systems codesigned with

Red Hat that come with all the hardware, software and licenses needed to build and scale out Red Hat OpenShift management and compute clusters to support telecom networks.

## Everything you need for your cloud to succeed

Modernizing the telecom network can accelerate the delivery of new services and help control costs. While building a modern network brings its own set of challenges, Dell Telecom Multicloud Foundation with Dell Telecom Infrastructure Blocks helps simplify this process through:

- **Validation:** Dell validates configurations with its cloud platform partners, Red Hat and Wind River, 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's infrastructure automation software integrates with our cloud platform partner's 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, telecom-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 pre-validated, pre-integrated systems optimized to support targeted use cases. This simplifies design, procurement, deployment, and lifecycle management to reduce the time spent configuring telecom cloud hardware.
- **Telecom Services and Carrier Grade Support:** Dell Technologies Services team is standing by with additional services to simplify design and deployment. This includes remote or onsite deployment, network design services and lab validation services. And all Infrastructure Blocks are backed by a unified support model from Dell Technologies with options that meet carrier grade SLAs.
- **Community and Collaboration:** To foster collaboration in the open telecom ecosystem, Dell has created the Open Telecom Ecosystem Community. This community was created to help accelerate the time-to-market of open telecom solutions, foster the development and sharing of ecosystem knowledge, and enable the industry to come together to boost the pace of innovation. Complementing the Open Telecom Ecosystem Community, the Open Telecom Ecosystem Lab provides a secure environment where new solutions can be created, tested, validated, and certified before going to market.

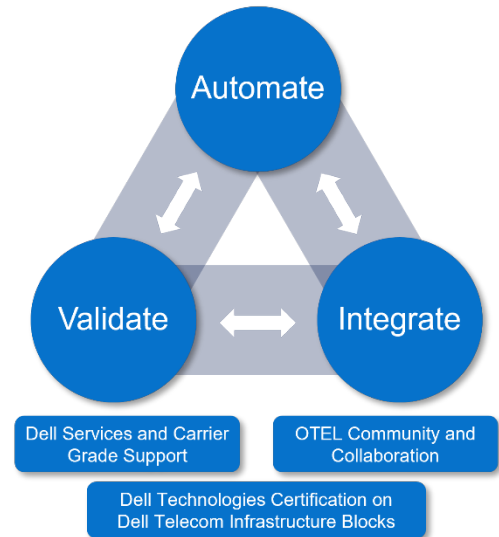


Figure 4: Figure 3: Dell Telecom Infrastructure Blocks provide the validation, automation, integration, services, and collaboration needed to simplify the deployment of telco clouds.

- **Dell Technologies Certification on Dell Telecom Infrastructure Blocks:** This certification program is designed to work with ISVs to validate telecom workloads on Infrastructure Blocks to minimize the amount of integration testing CSPs needs to perform to deploy their workloads with confidence. This certification programs provides a simple and transparent process in our Open Telecom Ecosystem Lab for validating ISV solutions on current and future generations of Telecom Infrastructure Blocks.

## Experience a fundamentally smarter way to deploy telco clouds

Dell Telecom Multicloud Foundation, featuring Telecom Infrastructure Blocks, will make it possible to simplify operations by removing infrastructure silos, automating manual tasks, and minimizing integration requirements. It will also reduce risks by ensuring a consistent, telco-grade deployment or upgrade of the cloud platform that meets stringent performance and availability requirements and is backed by a unified support model from Dell Technologies. Finally, it increases agility by accelerating the introduction of new technology to reduce costs, improve customer experience or support new revenue opportunities—ultimately enhancing your ability to compete.

And you can do this all with the ease of working with a single vertically-integrated solution vendor regardless of which cloud platform you choose—Dell Technologies. To put it simply, it's a fundamentally smarter way to deploy best-of-breed, telco clouds.



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