Partner with Dell's Global Transformation Office to transform your network and business into a single, consistent cloud environment.

Telecom Cloud Transformation

Since 2016, Dell Technologies' Global Transformation Office has partnered with over 150 of the world's largest businesses on their transformation journeys. These businesses have asked Dell Technologies to help them adopt a cloud operating model that enables their IT organization to act with the same flexibility and agility as public cloud offerings at a fraction of the cost. We have developed a proven methodology inclusive of transforming our customer's workloads, cloud platforms & infrastructure and IT operating model to better align with the business outcome of lowering their cost to serve, providing more secure & resilient IT services and unleashing innovation through business agility. Within Dell's Global Transformation Office, we have developed a Telco & Edge practice which is a dedicated team of IT and Telecom specialists that help communications service providers (CSPs) plan and execute their transformation from legacy, siloed systems to an end-to-end telco cloud environment that enhances capabilities (flexibility, agility, innovation) while lowering costs and providing resiliency. There are many, many reasons to transform, including:

- $ Drive down network TCO
- ☑ Automate to overcome increasing complexity
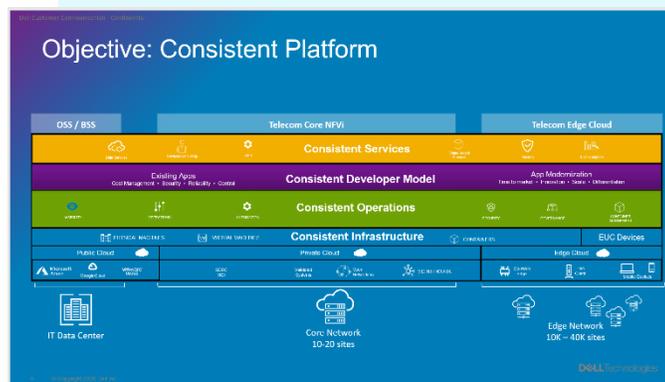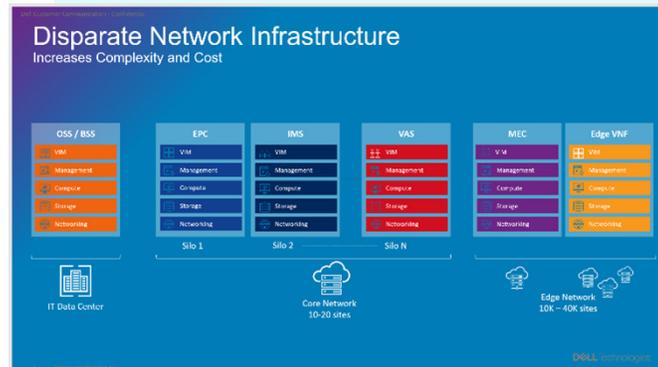- 🕐 Improve returns by becoming more flexible and agile

The current state of telecom transformation

Transformation is already underway within telecom but it's a decades-long process that will involve, among other things, a shift away from vertical integration and custom hardware and a move toward modern applications and open hardware solutions operating in a multi-cloud, container-based architecture running cloud-native apps and operating models. Key factors in the pace of transformation include regulations across different regions as well as the amount of technical debt that needs to be handled.
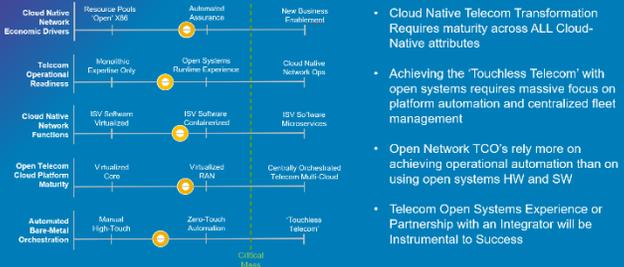
Another challenge with transformation is that it is not a process that will happen at the same rate in every part of a CSP's business. BSS, OSS, Edge, Core and RAN are all at different stages of transformation, with OSS/BSS & Core being the farthest along, Private 5G and edge deployments gaining traction and Open RAN/V-RAN just getting started. Regardless of pacing, transformation efforts are largely headed toward an end state where today's silos are replaced by a single horizontal telco multi-cloud platform running cloud-native apps and operating models on COTS and supporting each of the pillars of a CSP. The elimination of silos (see diagram) is essential, as lessons from over twenty years of IT transformation, virtualization and automation have shown that silos are the enemy of automation, efficiency, and operational resilience.

Dell's vision for telecom cloud transformation

We believe that CSPs need to think about pursuing a model (see image) that pools today's siloed resources and enables a consistent experience from the network all the way through to the IT data center, including public cloud infrastructure, private cloud, and edge clouds within telecom networks. Such a model is not dissimilar from the IT-centric multi-cloud transformation that has been underway for over a decade where enterprises have taken advantage of Moore's law economics by adopting an open x86 platform with optimized accelerators. With a common resource pool, under a common cloud management platform environment, CSP's can leverage consistent operating models and consistent developer experiences regardless of where apps live to increase agility, reduce time to market for new services, and drive efficiency. In addition, workloads can be orchestrated across the enterprise and the telecom network, enabling a consistent model for delivering services to the right place at the time so they create the most value for the end customer. The ecosystem to support telecom cloud transformation is still maturing but the direction is clear.

Telecom Industry Transformation – Industry Readiness

Cloud Native Network Economic Drivers	Resource Pools 'Open' X86	Automated Assurance	New Business Enablement	
Telecom Operational Readiness	Monolithic Expertise Only	Open Systems Runtime Experience	Cloud Native Network Ops	
Cloud Native Network Functions	ISV Software Virtualized	ISV Software Containerized	ISV Software Microservices	
Open Telecom Cloud Platform Maturity	Virtualized Core	Virtualized RAN	Centrally Orchestrated Telecom Multi-Cloud	
Automated Bare-Metal Orchestration	Manual High-Touch	Zero-Touch Automation	'Touchless Telecom'	

Critical Mass

- Cloud Native Telecom Transformation Requires maturity across ALL Cloud-Native attributes
- Achieving the 'Touchless Telecom' with open systems requires massive focus on platform automation and centralized fleet management
- Open Network TCO's rely more on achieving operational automation than on using open systems HW and SW
- Telecom Open Systems Experience or Partnership with an Integrator will be Instrumental to Success

Is the telecom industry ready for transformation?

Cloud transformation in the telecom industry requires a collective shift towards cloud-native, platform-centric open systems, which is more than an effort to virtualize or containerize network function worklods and the ability for them to to run on X86 hardware. It requires a top-down comittment to digital transformation and the adoption of a cloud operating model.

For the industry to truly capture the potential value created by this shift in operating models, we need critical mass across multiple areas of readiness (see image), and when objectives align across infrastructure, platform maturity, function vendors, and operational readiness, the business drivers will push the whole ecosystem to its desired end state. This journey will take years to materialize but the groundwork we set now is essential to our success over time. Key considerations for telecom cloud transformation include:

Zero touch automation and touchless ops are critical foundational elements to modern networks because managing X86 systems and cloud operating systems at scale in a telecom network is highly complex and task-intensive.

Centrally orchestrated multi-cloud platforms are where the real value of cloud transformation becomes apparent. Simply virtualizing workloads on commodity hardware does not provide significant value.

Operational readiness is not simply about buying platforms. There are huge teams in telecom who are inexperienced with open and cloud-native operating models, so as we shift toward CI/CD, DevSecOps, SRE, etc., those competencies and the organizational structures to take advantage of them become essential to achieving critical mass in cloud transformation.

Leveraging containers requires that applications be rearchitected as microservices, and that functions like app-based security and load balancing must be written into the architecture of the applications to derive full value from cloud-native apps.

Life cycle management needs to be embedded into the horizontal cloud platform which enables the CSP to accelerate the introduction of a new good known state across the entire stack while lowering the risk and potential disruption of such changes.

Security and Business resiliency will be table stakes in the development of a horizontal telco cloud with principles of zero trust security, high availability, data protection and cyber-resiliency need to be built into the architecture.

Partner with Dell Technologies on your cloud transformation journey

At its most elemental, the cloud transformation process is a progression from application-centric / monolithic architectures though virtualization to software defined and ultimately to cloud-native. Dell Technologies has deep experience in guiding enterprise organizations through this journey and the lessons we have learned will be valuable to CSPs embarking on the same journey. Over the last 8 years, Dell Technologies has driven over 150 multi-year IT transformations across our Fortune 500 customer base resulting in a significant reduction in the cost to serve while dramatically fueling business agility. We understand that network infrastructure systems are more complex than IT (for reasons of network complexity, operational requirements, and assurance tools), but there are many parallels; in addition, the business drivers (resource pooling, automation, etc.) and blockers (technical debt, talent, budget, etc.) are largely the same. Dell can act as a Telecom Cloud Platform integrator reducing the complexity that such a Telco Transformation entails. Our experience has shown us that cloud-native telecom transformation will require a comprehensive approach in which:

- Applications and Data drive Multi-Cloud Platforms
- Multi-Cloud Platforms drive New Operating Models
- Applications and Data Services drive Cloud Placement
- Implementation of Multi-Cloud Platform & Infrastructure to Support Multi-Cloud Services
- Operational Focus on Multi-Cloud Services Experience

To help you on your cloud transformation journey, Dell Technologies offers:

- Telecom Cloud Assessment service
- Cloud application and developer enablement
- Cloud ops, orchestration and AAS enablement
- Repeatable multi-cloud reference architectures in partnership with leading cloud platform vendors
- Engineered or Validated Telecom Cloud Platforms that leverage our lift-shift cloud platform development capabilities using Dell Technologies second touch facilities to pre-engineer and pre-configure
- Open Telecom Ecosystem Lab to help offset required testing for the onboarding and ongoing lifecycle management of a Telco Cloud Platform
- Design/Build/Operate/Transfer services to help accelerate your transformation
- Flexible Consumption Models