



Building a 5G blueprint to speed deployment and time to revenue



Case study: Dell Technologies and WWT jointly invest to accelerate service provider 5G rollout and service delivery



As operators invest in [5G networks](#) and chart a course toward service revenues, scale is a key piece of winning consumer and enterprise business while also realizing the network resource and spectral usage benefits that 5G can unlock. However, achieving scale requires not just a massive investment in technology, but also an investment in rapidly deploying a steadily increasing stack of hardware and software. What that means for a service provider is that time to revenue increases with scale; furthermore costs and complexity can prolong this. In order to capture this market opportunity, operators are well-advised to take a partner-based approach as they strike a careful balance between a rapid, scaled network rollout and delivering the customization necessary to create differentiated services and, following from that, service revenues.

Previous generations of cellular networks have largely seen operators work with a small number of large infrastructure vendors specializing in RAN, core, transport, OSS/BSS and other broad areas of technology. Given this dynamic, vendor consolidation broadened portfolios resulting in a handful of highly-scaled companies offering a full stack of proprietary solutions. However, 5G is serving as a catalyst for adoption of telco cloud and virtualization which, in turn, creates an opportunity for new sets of vendors focused on disaggregating hardware and software to help operators re-think network architectures and economics.

Dell Technologies' Director of Product Management for Service Provider Solutions, [Eric Vallone](#) described an "era of disaggregation" wherein operators are "moving towards building their own architectures that create the differentiation they need to be successful in the markets they see as opportunistic for themselves." This dynamic creates the ongoing need to assemble components, test systems, onboard third parties, develop APIs, move from planning to production, and so forth. He said it's like "starting with a blank sheet of paper every time. And the net result of that would be the dramatically increased time to operationalize deployment and, by proxy of that, time to revenue of the new service offerings."

This leads us to striking the right balance between driving scale and return while containing costs and complexities. It comes back to having an ecosystem to depend on, Vallone said. "They want the ability to build, design, select their own ecosystem and really disaggregate the stack while simultaneously looking for an industry player that's both well respected as well as has the scale to then put it back together into something that's more consumable. I think it's really a catalyst for accelerating how rapidly the industry can consume what is a very complex ecosystem that is built upon an even more complex range of technology."

Building a 5G blueprint

[Joe Wojtal](#), CTO of Global Service Provider business at WWT, said that, given the company's focus on making technology easier for their customers to consume, a partnership with Dell Technologies is a natural fit. By putting together components, validating the interoperability and developing high-impact use cases, WWT and Dell make it easier for service providers "to put in their network infrastructures and start delivering services to their customers."

A key piece of this process is WWT's Advanced Technology Center. "As we define a specific use case in the 5G space, whether it's telco cloud, telco edge, open networking, a lot of those components are already installed in the ATC so it's relatively easy for us to integrate them together in a way that creates a blueprint for our customers."

The ATC, essentially a software-defined data center accessible from anywhere in the world, allows customers to prototype deployments based upon Dell products for inclusion in larger, integrated solutions. There are lab environments available for testing Dell EMC's VxRail, PowerMax, Unisphere Management, Cloud for Microsoft Azure Stack, and Data Protection.

Earlier this year, Dell and WWT furthered their partnership with a new Center of Excellence, announced in February. The CoE will feature blueprint demos, proofs of concept and additional lab-as-a-service facilities for rapid validation. The facility will also support collaboration with the open source community with a focus on edge computing, industrial IoT, telco cloud, data analytics and network function virtualization.

With a blueprint in hand, Wojtal said most customers are about 70% of the way toward deployment, avoiding the costly, time-consuming process of starting with a clean sheet of paper for every project. “It just really accelerates their ability to consume the technology within their infrastructure.”

How do you balance customization and scale?

In the move to 5G, operators need to simultaneously rapidly scale out networks to take advantage of the efficiencies that comes with, while also carefully investing in infrastructure that has an immediate impact while setting the stage for future service-enablement and revenue creation. As such, there’s not a one-size-fits-all approach to buying network equipment. This reality is compounded in an era of disaggregation with software-defined networking and open interfaces slowly gaining ground on single-vendor stacks.

Wojtal mentioned WWT’s ability to get customers around 70% of the way to deployment, but what about the other 30%?

The answer is evident in Dell’s ecosystem approach with WWT and other stakeholders. Vallone said Dell has invested in building an ecosystem of partners and consistent point of view “in terms of how that ecosystem of partners can be on-boarded onto Dell Technologies infrastructure and brought together into complete solutions that address 5G, edge use cases.” The goal, he said, is to use lab capabilities to demonstrate proficiency, then build customer-specific blueprints, and turn those blueprints into deployable solutions. This ecosystem approach is “just the right fit for being able to address the ability to bring together a uniform point of view and then build that last level of 30% customization that’s needed for each customer in this space.”

AT&T, beginning with its Domain 2.0 project, has embraced software-defined networking and the flexibility that comes with using a hybrid-cloud approach to managing virtualized network functions. In 2018, the cloud and development teams began working with the 5G packet core team to build an open source platform to simplify cloud management, speed deployment and lower costs.

That work led to the creation of AT&T’s Network Cloud and Infrastructure organization, which put together the under-cloud platform Airship, designed to automate cloud provisioning and lifecycle management. The enterprise-grade Airship 1.0 was made available to the open source community through the Openstack Foundation in April 2019.

At the Dell/WWT Center of Excellence, there’s a bare metal continuous integration lab dedicated to Airship. The lab serves as a reference environment the community, including AT&T, can use to test new code submissions.

“The creation of this new Airship lab in collaboration with WWT, Dell and Intel will go a long way to helping the Airship community deliver its 2.0 release,” AT&T’s VP of Network Cloud Ryan van Wyk said. “Airship accelerates SDN deployments by removing complexity. Our Network Cloud team at AT&T intends to integrate the outputs from this and similar to facilities into a release that will support Cloud Native Network Functions.”

Faster deployment leads to faster ROI

Building out 5G networks and developing services to ride on that network is a massive exercise in strategic planning, capital allocation and execution. In order to recoup that expense, operators are under pressure to not just transition consumers into new 5G plans but to deliver meaningful solutions that provide clear business value to enterprises. The sooner operators can deliver differentiated enterprise services combining the power of 5G and edge computing, the sooner operators can record meaningful 5G service revenues. A compounding challenge is the ongoing move to disaggregate hardware and software as a way for operators to deliver compelling services combining 5G, edge compute and more.

That's why the Dell, WWT partnership, and facilities like the ATC and CoE, is laser-focused on doing the heavy-lifting on system validation and support for customization--covering the 70% and the 30%, to drive scale and time to revenue. The partner is "really a catalyst for accelerating how rapidly the industry can consume what is a very complex ecosystem and even more complex range of technology," Vallone said.

With their partnership and joint investment, Dell and WWT can help operators streamline validation, procurement and deployment.

"It just really accelerates their ability to get into the market, to start turning up services and generating revenue," Wojtal said. "Dell and WWT are striving to make it simpler for the service providers in terms of getting to the point of delivering new and innovative services to their customers."

Dell Technologies is partnering with CSPs around the world to make emerging technologies like 5G and edge computing opportunity a reality to build new revenue streams and power innovative business models that serve new markets. Our vision is to transform the network through workload virtualization, software-defined infrastructure and open architectures, helping CSPs gain the flexibility and agility they need to compete and win today – and tomorrow.

World Wide Technologies uses a proven and innovative approach to help customers discover, evaluate, architect and implement advanced technology lab testing in the Advanced Technology Center and deploy their solutions rapidly through global integration centers. But what truly sets WWT apart is an extraordinary team of highly certified professionals, every one committed to customers' long-term goals and success.