



CSPs look to virtualise the benefits of 5G without the costly metal

Communications service providers (CSPs) are looking to run their 5G workloads in an efficient and scalable way to help them achieve 5G monetisation as quickly as possible. Antony Savvas talks to Lakshmi Mandyam, the vice president of service provider product management and partner ecosystem at VMware, to explore a potential way forward

Antony Savvas: How important is the telecoms business to VMware?

Lakshmi Mandyam: VMware has been rooted in the world of hardware disaggregation and cloud-based operations in nearly every industry since our inception. Bringing cloud agility to CSPs is a priority for VMware because CSPs are the glue that holds all other industries together.

AS: Are you embedded in the CSP market in terms of how CSPs are moving to 5G and the provisioning of edge services?

LM: For years, VMware has been enabling cloud and virtualisation capabilities in CSP data centres and core networks. Recently, as CSPs have continued to reap the benefits of a more agile core, they've asked us to extend those benefits to the radio access network (RAN) and edge. Moving to 5G will require CSPs to embrace open methodologies and cloud native approaches. As part of that, our Telco Cloud Platform will allow service providers to unify their siloed environments, to automate service delivery across a highly distributed and multi-cloud network, and to deliver customisable services with end-to-end visibility and ►

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Lakshmi Mandyam,
VMware



managed quality of service. It will also simplify network operations and decrease costs.

AS: VMware works with the cloud hyperscalers in provisioning multi-cloud services generally, but is in competition with them when it comes to the provisioning of next-generation services and edge deployments in the telecoms market, how is VMware doing here?

LM: As the communications industry has continued to transform, a few things have become clear:

1. No single vendor can or should do it all
2. Disaggregation has blurred the lines between technologies
3. CSP business models are going to require much higher levels of operational efficiency

This is why the philosophy we have adopted aligns perfectly with CSPs – we are all-in when it comes to the multi-vendor, multi-cloud approach. While we compete in some ways with many of our partners,

we feel this is the future of the industry – best learn to cooperate and co-innovate quickly. For the hyperscalers specifically, they offer incredible value to CSPs, and it's important to us that we enable our customers to access that value.

This is our sweet spot, we provide them access and flexibility without losing control. VMware will continue to cooperate with our hyperscaler partners, whether they're being used for core functions, RAN functions or to enable edge use.

AS: What do you see as the hot areas in the CSP space, in terms of software development to address CSP needs?

LM: There are a few areas in which we're seeing a lot of development for service provider transformation:

Next-Generation Performance – CSPs are looking to virtualisation to provide the flexibility they will need to enable customisable services. Over the last ▶



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few years, a lot of work has been done to virtualisation to provide carrier grade performance. In fact, RAN workload performance on VMware ESXi hypervisors versus bare metal is the same – there is no performance or latency penalty. Industry-standard cyclic tests and operating system latency (OSlat) performance tests prove this. So now, you get all the decreased footprint, simplified operation and improved security of virtualisation, without taking a hit to performance.

RAN – There is so much happening in the RAN and it's all about disaggregation and programmability. The journey has started for many by virtualising the RAN, but several are on their way to Open RAN. Our Telco Cloud Platform RAN offers a path through virtualisation and Open RAN. One of the most exciting parts of the RAN transformation is what's happening in the RAN intelligent controller (RIC). The RIC is responsible for the control and management functions of the disaggregated Open RAN. Our vendor neutral approach, combined with our RIC's programmability, promotes a best-of-breed RAN architecture, creating a rich and vibrant xApp and rApp ecosystem through the VMware RIC software developer kits (SDKs). While the SDKs elevate the activities of app developers, they also empower CSPs to develop their own xApps and rApps to match their specific business and technology priorities.

Edge – The network is becoming distributed. We're moving resources to where data is produced and consumed. To manage this, we need a balance between centralised and de-centralised architectures. We are providing consistent developer experiences to help build, run and manage applications at the edge, and our multi-cloud approach makes sure the edge isn't built as another silo. We've also been doing a lot of work with the Open Grid Alliance (OGA), a collaboration organisation that produces vendor-neutral strategies to re-architect the internet with grid technologies. Globally distributed, the grid weaves together a public and private fabric of compute, data and intelligence, to enable contextually aware, immersive applications at the edge, on demand.

AS: Open RAN and the disaggregation of the radio access network has been talked about for some years now, with analysts saying there has so far been low take-up across the CSP market. VMware seems to be betting big on it, when the sales activity doesn't seem to be there, why is that?

LM: Based on the requests we manage on a daily basis, from CSPs large and small around the globe, Open RAN is absolutely a priority for most. The transformation is still relatively new, and a

transformation of this significance doesn't happen overnight. We're already seeing early deployments of Open RAN, but we are certainly still on the path to mass adoption.

Many CSPs are still evaluating the readiness of Open RAN, which is why some of these early trials, like **Vodafone's** RIC trial and deployments like those at NTT, are all helping the industry better understand how to continue down the path. We have conducted extensive testing of RAN workloads to help illustrate how disaggregation, programmability, security and openness of the RAN are production-ready.

AS: How does VMware see the CSP ecosystem? Is it good enough to address the needs of service providers and their customers, or do standards and regulatory bodies have to do more to make sure development matches user needs?

LM: The CSP ecosystem will be ever-evolving. In addition to the shifting we're seeing in the existing vendor space, we're also seeing a huge amount of growth from new companies. Just within the RAN, we're working with nearly ten start-ups who have created incredible opportunities for CSPs in the RAN for spectrum efficiencies, device location, assurance, intelligence, and more. While we will continue to see more innovation as the deployments proliferate, I think we've made incredible progress as an industry in spotlighting the value of a multi-vendor approach.

AS: Lastly, what predictions does VMware have for the telecoms industry over the next five years?

LM: Monetisation will be the name of the game over the next five years. As 5G deployments increase and CSPs begin to enable the edge for enterprises, we'll start to see many new revenue generating services popping up. Among those, I believe two of the front-runners will be network slicing and private 5G – two of the leading business cases to enable customisable services for digitally-advanced enterprises.

Beyond monetisation of services however, we do anticipate that our customers will make a concerted effort to take seriously the impact their businesses can have on the environment. At VMware, this has been among our top priorities from the beginning. Arguably, our entire company exists to help businesses reduce energy consumption and waste. That is, after all, one of the main drivers of virtualisation – the ability to grow your business while using less IT hardware. And that applies to CSPs along with everybody else. ■

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