

# Broadcom should not miss the opportunity to shape the future of multi-cloud networking with VMware

June 2022

Gorkem Yigit and Caroline Chappell

Broadcom entered into an agreement on 26 May 2022 to acquire VMware for USD61 billion. The general IT and telecoms industry consensus is that this deal is part of Broadcom's continued M&A financial engineering strategy to buy well-established software companies with steady revenue streams and turn them into rent extraction businesses. This may indeed be the main motivation for the deal, but we believe that there is a substantial opportunity for the combined entity to reshape the USD1.2 trillion enterprise networking market, which Broadcom should not overlook if it wants to maximise the return from its investment.

In this article, we analyse the potential value and synergies that Broadcom could create in the multi-cloud connectivity space by taking advantage of the new cloud and networking software assets and capabilities that will come from combining its main semiconductor business with VMware.

## Multi-cloud connectivity requirements will disrupt the enterprise networking market

Enterprise connectivity services and technology solutions from existing players are not keeping up with the changes to the networking landscape posed by the accelerated adoption of multiple SaaS and public cloud services, hybrid working trends and supply chain transformation and deglobalisation strategies of the post-pandemic era. These trends mean that enterprises will run their future applications across distributed and diverse clouds, including edge clouds.

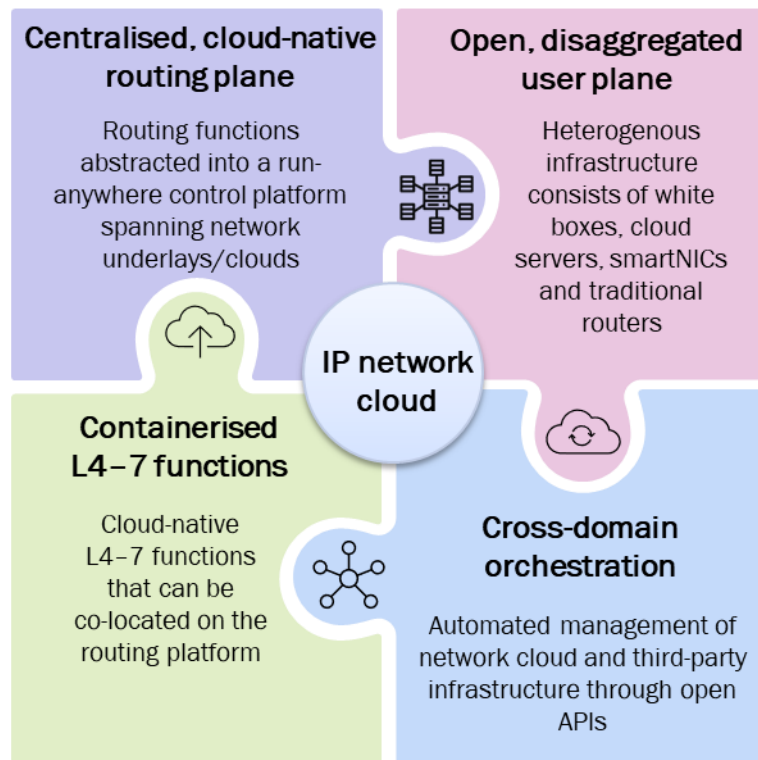
Connecting these clouds, applications and end users to each other is a major challenge because it requires enterprises to stitch together a fragmented set of underlay (enterprise WAN, traditional operators, middle-mile and internet) and overlay networks (SD-WAN and SASE), while also setting up time-consuming service chains between discrete L4–7 applications. Ensuring network and application security and reliability across this highly complex network environment is also becoming increasingly difficult. Furthermore, application developers want to provision connectivity on-demand and integrate the network resources into CI/CD chains. Such changing, diverse requirements signal a major disruption to the existing enterprise connectivity market.

It is clear that there is a strong market demand for new SDN-based solutions that enable enterprises to provision and manage multi-cloud connectivity in a much more rapid, on-demand and frictionless manner. Enterprises and their service providers want to get connectivity to flow anywhere they desire and adapt it to applications and security postures in a completely programmable way. One way in which to achieve this goal is to create an end-to-end connectivity platform that unifies fragmented underlay and overlay networks and converges them with L4–7 application technologies in a single environment.<sup>1</sup> Analysys Mason calls this platform an IP network cloud, and its main pillars are illustrated in Figure 1.

---

<sup>1</sup> For more information, see Analysys Mason's [SDN in the age of multi-cloud connectivity: the case for a converged programmable network](#).

Figure 1: Key pillars of an IP network cloud

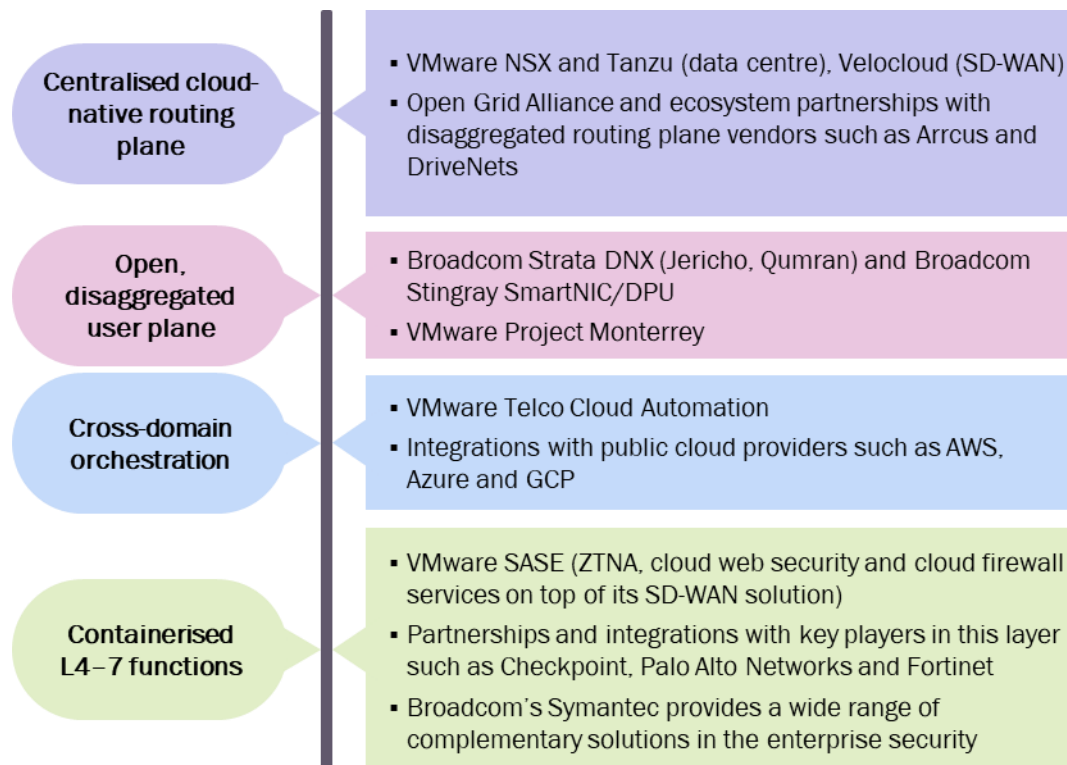


An IP network cloud is a highly disruptive platform vision compared to other approaches such as creating a heavy orchestration/automation layer over the top of multiple networking domains. However, it offers the greatest opportunities for radical network simplification, cost reduction and bringing IT and the network much closer to each other for the benefit of developers. IP network clouds could reset the enterprise connectivity market and set a new benchmark for service velocity. It is likely that the service providers that will be able to implement an IP network cloud will be highly cloud-native and software-capable, and they will be able to cannibalise the connectivity businesses of rivals that decide to implement automation layers on top of a patchwork of existing infrastructure.

## Broadcom will be in a unique position to realise the IP network cloud platform vision following its acquisition of VMware

Converging the four pillars of an IP network cloud onto a single platform requires a series of different cloud, SDN and application-layer components, capabilities and ecosystems to be brought together. There are only a few technology companies in the market today that are capable of achieving this; the combined Broadcom/VMware entity would be the frontrunner among them. The new entity's key assets and ecosystems map strongly onto IP network cloud platform architecture, as Figure 2 shows.

Figure 2: Mapping of the Broadcom/VMware assets and ecosystem partnerships onto the IP network cloud pillars



Source: Analysys Mason

Beyond its core cloud computing software assets, VMware has been focusing on expanding its cloud networking portfolio via acquisitions, and has been integrating its acquired assets using common, cloud-native technologies. VMware also launched Open Grid Alliance in 2021. The aim of this group is to rearchitect the IP network as an open, cloud-based platform, and members include key pioneers of disaggregated routing technologies such as Arrcus and DriveNets. All of these factors mean that VMware has the necessary capabilities and ecosystem access to become the cloud-native substrate for centralised control planes and offer a large catalogue of components that others can build from.

An IP network cloud will run on a variety of user plane infrastructure options including white boxes, cloud servers and SmartNICs/DPUs. Broadcom has a stronghold in this market; it is the Intel of disaggregated networking. Its Strata DNX series chipsets are the de facto standards in the white-box hardware space, and they support a wide range of disaggregated WAN implementations. Broadcom is also active in the SmartNIC/DPU market with its Stingray product. In addition, VMware has been working on Project Monterrey, which focuses on extending the cloud into heterogenous hardware infrastructure that consists of xPUs and FPGAs. This could enable Broadcom to bring other chipset partners into its platform and provide openness and choice.

Overall, if the acquisition goes through, Broadcom will be in a unique position to support a new ecosystem of highly disruptive multi-cloud network platform builders. It will possess the strategic building blocks for the control and user planes of an IP network cloud and will be able to compete much more strongly with established vendors that have traditionally developed their own routing chipsets. However, this will require Broadcom to take a longer-term view and make more R&D investments than it usually does for its acquisitions, but we believe that the pay-off, which is potentially dominance of the cloud networking market, could be big enough to justify the initial costs.