Operators need to embrace new processes to benefit fully from SD-WAN technology

March 2019

Catherine Hammond and Tom Rebbeck

Major operators began launching SD-WAN solutions in 2015, but more recently, there has been a large number of roll-outs of the technology, especially from smaller operators (Figure 1). Initial fears about the impact of SD-WAN are subsiding; few enterprises are opting for DIY solutions from OTT providers or are replacing MPLS with Internet connectivity (which is probably a greater threat to revenue).

Indeed, SD-WAN is quickly becoming a standard way of doing business, and builds on existing hybrid networks to better use connectivity that, in the past, was deployed primarily for redundancy. The differences between operator strategies, and between the underlying technologies used, are hard to distinguish.

However, SD-WAN developments so far are just the first steps towards offering more network services as software, rather than as physical equipment. The ultimate test of SD-WAN will be how well operators are able to adapt to this change; it requires a change in attitude that some operators will struggle to make.

This comment follows the publication of our review of the strategies of 13 operators of varying size and reach, Approaches to SD-WAN: 13 operator case studies.

Figure 1: Year in which SD-WAN solution was launched, by operator[1]

Operator	Operator type	SD-WAN launch year
Verizon	Incumbent	2015
CenturyLink	Global operator	2016
Colt	Global operator	2016
Tata Communications	Global operator	2016
ngena	Global operator	2017
Telefónica	Incumbent	2017
Telstra	Incumbent	2017
Vodafone	Domestic challenger	2017
Fastweb	Domestic challenger	2018
PCCW Global	Global operator	2018
Virgin Media	Domestic challenger	2018
Claranet	Domestic challenger	2019
Gamma	Domestic challenger	2019

Source: Analysys Mason, 2019

---

[1] The table includes all of the operators that are covered in our case studies report, rather than all of the operators that offer SD-WAN.

The similarity of most approaches is striking

The details and timings of operators' SD-WAN deployments differ, but the thinking from different operators regarding the technology itself is strikingly similar.

- **Performance and flexibility are seen as the key selling points, rather than cost savings (which may be minimal).** Operators believe that most enterprises will not be able to realise significant cost savings from using SD-WAN. MPLS costs are often already low and, even with SD-WAN, broadband connections are no match for dedicated circuits for some types of traffic (for example, voice and mission critical-applications). Cost benefits may come later if customers can use SD-WAN to avoid future bandwidth upgrades.

- **Few players consider DIY solutions to be a big threat.** Operators and vendors have told us that the share of SD-WAN contracts using a DIY solution is small; a large and growing share of SD-WAN contracts are being won by service providers, even in the USA, where DIY solutions have been popular historically.

- **Significant effort is needed to educate clients.** SD-WAN solutions can improve application performance and potentially minimise future spending. These attributes are valuable, but lack the immediate appeal of cutting costs. Operators are working hard to help enterprises understand the real benefits of SD-WAN.

- **Many operators are following a similar product roadmap.** Operators typically launch SD-WAN on dedicated CPE with virtual firewalls from key vendors (such as Fortinet and Palo Alto Networks). The longer-term aim is to offer uCPE with a wide range of optional virtualised network functions (VNFs).

- **Many operators are making similar technology choices despite a multiplicity of vendors.** The SD-WAN vendor market is relatively fragmented, but all of the operators that we profiled have adopted similar technology choices based on a small set of vendors. Larger operators tend to include at least one Cisco solution in their portfolio.

- **Many operators are initially targeting large enterprises with customised solutions.** Operators' first SD-WAN customers tend to be large enterprises and MNCs, for whom a customised approach to delivering SD-WAN makes commercial sense. Many operators aspire to develop a more standardised approach in order to sell to smaller enterprises, but few have achieved this yet (with the exception of solutions such as Cisco Meraki that offer SD-WAN as an extension to existing CPE services).

- **Retail, manufacturing and financial services are key verticals.** Businesses in all three of these verticals have many sites and can benefit from a flexible SD-WAN solution. Logistics was also mentioned by some operators as a sector that is interested in SD-WAN.

The similarity between operators' approaches means that differentiation is a challenge. Operators are typically offering SD-WAN to keep pace with their competitors, rather than to gain market share. However, some operators, such as Vodafone, consider an SD-WAN solution to be an essential part of being more competitive with the incumbent.

The implementation of SD-WAN requires operators to adopt a new way of working, even if the short-term disruption is limited

The disruption from SD-WAN has been limited. There is no evidence of the mass adoption of DIY networks or of enterprises 'trading down' from dedicated connections to broadband lines. Enterprises may be able to avoid future costs (for example, by delaying network upgrades) or may be content to use a broadband connection for a secondary connection, but the impact on operator revenue or market structure is relatively small.

Because the disruption has been limited, the nature of competition between operators has been largely unchanged. Challenger operators can use SD-WAN to help them gain market share provided that they move faster than the incumbents and offer more features. However, the fundamental basis of competition is the same; enterprises are still most likely to pick an operator based on the traditional criteria (for example, the quality and reach of the network, existing relationships and price) rather than on differences in the SD-WAN product.

SD-WAN is, instead, part of a more significant change for operators, and it is a change that they need to embrace. MPLS networks were updated two or three times in a decade, whereas SD-WAN can be updated every six weeks. SD-WAN allows other services (such as firewalls, Wi-Fi management and WAN optimisation) to be provisioned and managed remotely as VNFs. New processes are required to offer these services. SD-WAN technology will not realise its potential if only bespoke custom SD-WAN solutions are used (as offered by many operators currently), and its reach will not extend beyond a relatively small base of corporate customers. Nor will it be adopted by the mass market of SMEs. Operators that understand and embrace the changes that come with SD-WAN are most likely to be successful and disruptive in the longer term.