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The distributed enterprise and the connected edge

The 451 Take

Digital transformation is disaggregating the enterprise. The components of enterprise IT – the servers and storage that used to reside in the enterprise datacentre – have distributed outward to the cloud. Applications that drive the business might now be provided in software-as-a-service (SaaS) form – another type of cloud. Even customer and supplier relationships have migrated online.

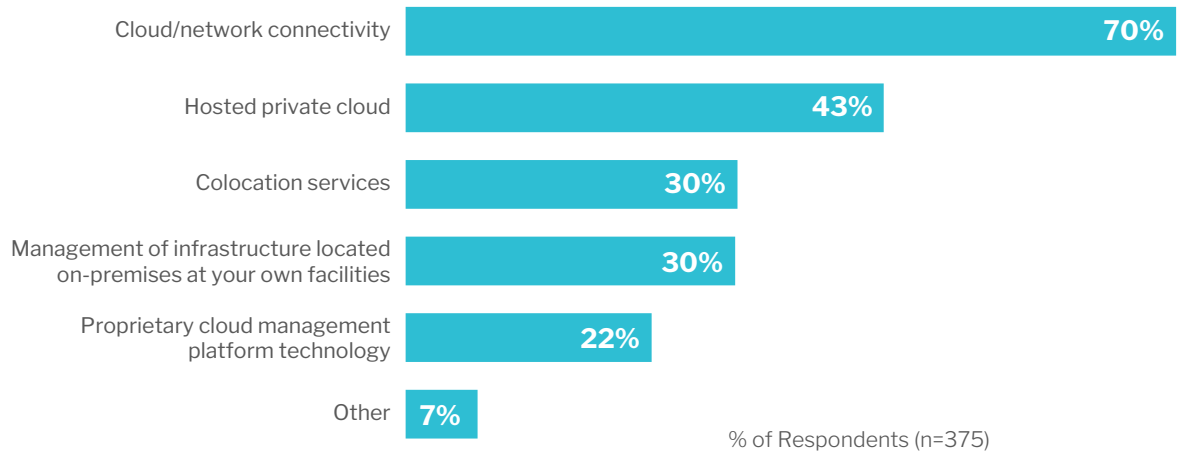
The corresponding change to the network has been less innovative. In many cases, the response has been to replace the enterprise network with the internet, an answer that creates a gap, a loss of control over the connectivity experience. With the enterprise becoming reliant on multiple clouds, it seems networking should be considered in a more strategic light. Rather than extend ad hoc tendrils to different clouds, the enterprise should begin considering connectivity as a whole, establishing a hub that can plug into the wider connected community of clouds, SaaS providers, suppliers and customers.

Enterprises seem to be aware of the growing importance of networking. A poll carried out for 451 Research's Voice of the Enterprise: Cloud, Hosting and Managed Services asked hundreds of businesses what they would look for in a cloud-enablement provider. By far, connectivity topped the list, cited by 70% of respondents.

One factor to consider is the number of destinations to connect to. The survey data (see Figure 1) shows that a majority of enterprises are moving toward hybrid IT – adopting public clouds while retaining a private cloud, one that might not be housed on-premises. Add to that the use of SaaS services such as Salesforce, and it becomes clear that the enterprise's operations are becoming dependent on multiple connections to a wide range of destinations.

Figure 1. Important Cloud-Enablement Provider Capabilities

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Vendor Evaluations 2019



Even if end users have grown accustomed to the internet's best-effort operations, that kind of performance is substandard considering the importance of the work being hosted in the cloud. For internal applications, such as back-office functions or employee productivity applications, a loss of performance means a loss of productivity. For customer-facing applications, downtime can lead to a damaged reputation and dissatisfied customers. MPLS lines can provide secure, private connectivity, but they are expensive – hence the interest in the software-defined wide-area network (SD-WAN). But for many enterprises, SD-WAN simply optimises the MPLS/internet balance, often by sending more traffic over the internet.

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The 451 Take (continued)

Rather than puzzle out the connectivity options separately for each cloud or SaaS platform, the enterprise can opt for more of a hub-and-spoke approach. This can be accomplished through colocation – deploying into a multi-tenant datacentre (MTDC) that also hosts on-ramps to clouds and service providers. Establishing a presence there, the enterprise can join this connected community and tap into all these services with relative ease. The result is a *connected edge*, a home base for a framework of connectivity to multiple clouds and service provider networks, based on cross-connects (possibly virtual cross-connects) within the datacentre.

As an alternative to other connectivity options, particularly the internet, this intra-datacentre networking gives the connected edge several advantages:

- *Reliability.* The connection would be more stable than the internet's best-effort operations.
- *Performance.* Using these private connections, the enterprise should see improved latency compared to the internet. Moreover, the MTDC could host edge computing in those cases where functions are better kept out of the cloud and a little closer to end users.
- *Security.* Traffic traverses distances without being exposed to the public internet. The MTDC can also provide services such as distributed denial-of-service (DDoS) protection.
- *Agility.* Enterprises can set up a new connectivity 'relationship' with a cloud provider or service provider rapidly.
- *Flexibility.* Cloud migration is a difficult decision, and the connected edge can be a useful step. The enterprise can siphon workloads out of the legacy datacentre and into the colocation facility, thus shifting spending toward opex before having to finalise decisions about cloud migration.

Business Impact

THE CLOUD PUSHES ENTERPRISE IT OUTWARD. Functions that previously ran in the enterprise data-centre are being migrated to public clouds and SaaS providers. Even the private cloud, which in many cases will continue to exist, might not be housed on-premises.

TIME TO RETHINK NETWORKING. Connectivity to these entities is vital, but many enterprises rely on ad hoc strategies for managing that connectivity.

THE CONNECTED EDGE. An MTDC already acts as the hub for connecting clouds, SaaS providers and service providers. By establishing a colocation presence, an enterprise can take part in this connected community and regain control over its networking performance and reliability.

Looking Ahead

Networking is an overlooked component of digital transformation. As the enterprise migrates applications and workloads into various types of clouds, it must find a way to similarly advance its approach to networking. The establishment of a connected edge, housed inside an MTDC that already hosts a community of connectivity among clouds and service providers, could simplify that networking strategy while moving mission-critical traffic to more reliable, more performant connections.

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