



Marlink - Enterprise VSAT. Photo courtesy Marlink ●●●

Enterprise satellite edges towards network as a service

New approaches to network design are making possible the technology changes that support remote working and cloud applications. With the events of the last two years, never before has there been such a push towards enabling these technologies.

Alexandre de Luca, President, Enterprise, Marlink

If the last 12 months have demonstrated anything to users of enterprise satellite services, it is that remote working was not just practical and possible, it was essential for maintenance and delivery of vital services.

A year when service technicians and relief staff struggled to reach remote sites stretched that capability to the limit, creating a notable increase in bandwidth demand and pushing the capability of installed networks to the limit.

It's long been a problem for NGOs; installing IT environments in remote locations comes with layers of risk. For oil and gas or mining customers, downtime is dollars; and for IGOs and governments, uptime is everything. Even with hopes high of a return to some normal working, a watershed has been passed in terms of what enterprise satellite users expect from providers and how the providers respond to the challenge.

As a result, the enterprise market is moving from a focus on product to a focus on services; where the network,

infrastructure, software, and hardware are managed by the provider on the customer's behalf.

Demand changes

To put the changes in context, Marlink saw traffic from enterprise customers increase by 68 percent in the last 12 months, with new customer contracts driving record installation numbers.

In the same period, more than 400 new VSAT sites were installed for major operators in the IGO, NGO and energy sectors including provision of high capacity, lower latency services from medium Earth orbit (MEO) and GEO satellite constellations. The installations in this period represented data traffic of more than 4.5Gbps from VSAT including several MEO-based installations representing more than 500Mbps in total.

Some of the reasons are obvious but others reflect some specific changes and a general acceleration of trends we already observed to be happening.

It makes sense that an NGO can reduce the headcount exposed to frontline risk and call on expertise to keep a network running. Energy companies can access input from specialised personnel who could be servicing multiple onshore and offshore sites from a single location; the same is true for IGOs needing to consult experts without having to fly them in.

In particular the demand for standardised collaboration tools will test the performance boundaries of geostationary satellite network unless the network is designed from the



Marlink NW Server Room. Photo courtesy Marlink ●●●

ground up with tasks and applications in mind. More and more users have grown used to using Teams and Zoom, regardless that these applications were not designed with satellite in mind.

The result is that the corporate network, regardless of the business it services, has to do more. For IT managers the requirement is increasing to move from disparate, often unconsolidated systems towards an industrialised approach to communications technology.

New approaches

Making this jump certainly requires higher bandwidth and throughput, but also decisions on which applications are key to the business and how the network needs to be designed to minimise latency. Increasing efficiency can also drive process automation, reducing the compliance burden while maintaining physical safety and cyber security.

It also suggests a move away from systems of components built up over years and prone to end-of-life issues. Remove this burden and replace it with managed services and you have a means of outsourcing the process and concentrating instead on achieving business goals.

Instead, each network can be constructed as a bespoke service, each one reflecting the market vertical it will serve. The Network as a Service (NaaS) concept considers the network and computing resources as a single holistic entity; it allows companies to hand over the day-to-day burden of running their network solution directly to a specialist provider.

Software-defined network technology (SD-WAN) forms part of this process, splitting transport layers and assigning key applications to different connectivity links, traffic prioritization and load balancing. As a result, applications can be configured to be delivered as a service rather than as installed programs subject to performance and connectivity issues.

NaaS also makes the provider responsible for overall network management meaning they have Key Performance Indicators and Service Level Agreements to meet, ensuring

agreed quality standards are met. It allows for more flexible optimization and allocation of resources by the company and enables it to concentrate on its core business or activity.

Cloud computing and higher levels of mobility have redefined how users see mobile networks. By understanding what these changes mean and responding with new solutions, providers can deliver higher throughput with lower latency over a stabilised and optimized link. Replacing local physical networks with a virtual network, designed from the ground up around user needs will come to be seen as the natural choice.

Making cloud possible

A major humanitarian relief organisation was seeking to improve the performance of their hybrid connectivity network, increase cyber security and manage local networks at remote premises. Marlink was able to meet these needs by providing a customised NaaS solution, acting as a single supplier of managed IT & network services and cloud access.

Application-based routing management enables traffic prioritization and load sharing for more efficient bandwidth use and increased network capacity. Network management is centralised so traffic priorities, configurations, and network policies can easily be applied remotely across all sites in different geographic locations, which can grow as more human resources are added.

SD-WAN enables an intelligent assignment of key applications to different connectivity links including VSAT, MSS, fibre, 4G/LTE as well as Internet connections to ISPs. Based on the traffic priorities set by application, the network load is balanced, and path routing is defined to ensure optimized performance.

Latency-critical services such as ERP, videoconferencing, cloud services and collaboration tools are prioritized and will not be interrupted. Network security was applied to protect critical data and eliminate unwanted traffic through intrusion prevention systems, firewalling, antivirus, DNS filtering, SSL inspection and web filtering.



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