

AUTOMATING NETWORK FABRICS FOR A WEBSCALE WORLD

THE MIDDLE EAST IS SEEING GROWING DEMAND FOR ADVANCED SERVICES, A TREND THAT IS ONLY SET TO CONTINUE. **MANOLO ORTIZ**, NOKIA'S HEAD FOR THE EMEA REGION IN THE WEBSCALE BUSINESS, WRITES ON THE NEED FOR DYNAMIC INTERCONNECTION FABRICS TO CATER FOR THESE CHANGES.



Manolo Ortiz, head of webscale business, EMEA, Nokia

The Middle East is seeing increased demand for digital services and cloud-based applications, and this trend will only increase in a post-pandemic world. At the same time, we are witnessing the rapid deployment of 5G, IoT and Industry 4.0 applications.

These trends are changing the way that reliable and secure cloud data centres and the network infrastructure that interconnects them need to be designed.

Webscale operators – including carriers, data centre operators, interconnection providers and subsea operators – must consider how their networks can best support cloud providers and cloud-based applications. With regard to this, network automation will be essential.

Cengiz Oztelcan, CEO at Gulf Bridge International (GBI), a global cloud, connectivity and content enabler, says: “During the past two years, GBI has witnessed an explosive growth in traffic volumes and increasingly dynamic usage patterns. Automation of our GBI Smart Network has enabled us to continue to be the bridge between the East and West through the Middle East and provide the network scalability and resilience that our customers require.”

Cloud-optimised architecture

Edge clouds used to serve latency-sensitive, real-time applications close to end users will result in dynamic network traffic. Today, applications that require high bandwidth, best-effort services or dynamic applications that require high connectivity but low bandwidth, such as IoT applications, are best processed in central data centres.

However, some applications, such as robotics and financial trading, require ultra-low and ultra-reliable latency with redundant routes, and are best colocated and processed in edge data centres.

“More dynamic applications requiring rapid provisioning of networking resources need a new cloud-optimised network fabric

that links data centres in a much more scalable, agile and dynamic way,” says Michael Ourabah, CEO at BSO, a global pioneering infrastructure and connectivity provider. “Our experts work closely with customers to create network solutions that meet the detailed and specific needs of their applications, providing the latency, resilience and security they require regardless of location.”

Automating multi-layer fabrics

Fast automation of network fabric is critical. This needs to be optimised and efficient, with the ability to interconnect data centres using multiple infrastructures, such as illuminated or dark fibre, managed wavelengths and multi-technology networks.

The challenge is that while today's network infrastructure is reliable, resilient and secure, it is enabled by IP and optical layers with little or no integration between them. Typically, this means that each layer is over-engineered for the actual traffic demands.

“Today's static multi-layer networks are costly and need to be more integrated and dynamic,” says Mahesh Jaishankar, CEO of ARC Solutions, a managed network and ICT infrastructure solution provider in the Middle East. “Our platform offers customers robust, resilient and flexible connectivity between key Middle East data centre locations. Our goal is to automate this multi-layered interconnection fabric to allow customers to connect dynamically to networks, points of presence, data centre infrastructure and subsea systems.”

IXPs and interconnection critical

With the growth of cloud services and applications, regional internet exchange providers (IXPs) are seeing a huge demand for internet connectivity at higher speeds, driving the need to scale the capacity and reach of their interconnection platforms.

Richard Petrie, LINX CTO, says, “We started our strategic partnership with stc back in 2018 to launch JEDIX, powered by LINX. Jeddah is a key interconnection point for the Middle East, being one of the main landing stations for both African and Asian subsea cable routes. Over the past nine months, traffic at JEDIX has really increased and we are now just short of the 200Gbps mark. This makes the facility even more attractive to global content networks, ISPs, cloud providers and more.”

Creating dynamic fabric

Data centre interconnection fabrics require cloud-centric network infrastructure that offers scalable, intelligent IP networking and interconnection with capabilities such as traffic engineering and network automation. It also needs agile and flexible optical networking that spans terrestrial and subsea, providing multi-terabit capacity while making more efficient use of fibre resources.

Finally, such fabrics require multi-layered automation and control to reduce operating costs and improve efficiency for new cloud services.

As the move to cloud gathers pace, a single, integrated and adaptable network fabric provides a solution to fulfil the requirements of the webscale world. 