

CONNECTING THE EDGE

Microsoft Azure and SES Networks

Case Study

Industry

Cloud

Location

Global

SES 



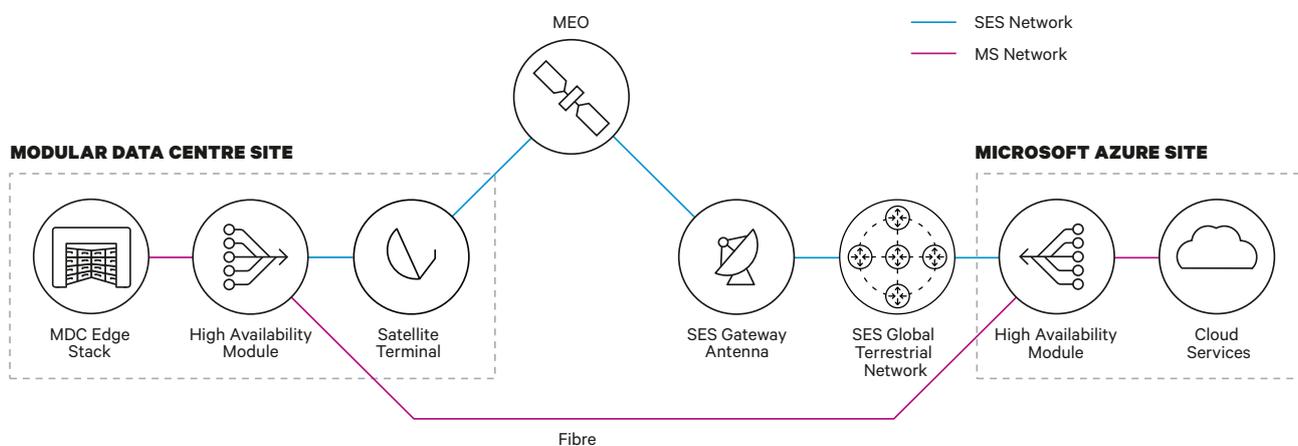
Together with Microsoft, we're connecting intelligent edge nodes, including modular data centres (MDCs), to Microsoft Azure Cloud with a managed, high availability networking solution via our O3b Medium Earth Orbit (MEO) constellation—ensuring resilient, cloud-scale performance anywhere.

The units save on the time, costs, and resources required to deploy edge compute functionality, and their rugged design ensures they will work in the field.

The rollout of digital transformation initiatives is pushing more essential data processing to the edge. According to Gartner, edge compute adoption is on the rise, as 75% of enterprise-generated data will be created and processed outside of a centralised data centre by 2025.¹ As a result, cloud service providers such as Microsoft expect accelerating demand for services originating at the edge, and therefore more MDC deployments. This applies to defense and civil government use cases, as well as humanitarian aid and disaster response.

MDCs are self-contained data centres housed inside a hardened unit with dimensions similar to a shipping container. Designed to be mobile, rugged, and secure, MDCs bring scalable IT infrastructure to the field to meet the emerging requirement to process high volumes of data anywhere it's needed. The units save on the time, costs, and resources required to deploy edge compute functionality, and their rugged design ensures they will work in the field—including in challenging environments.

Connecting an MDC to an Azure data centre



¹ <https://www.gartner.com/smarterwithgartner/what-edge-computing-means-for-infrastructure-and-operations-leaders/>

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1

Gbps
throughput

30

day deployment

Supported by a software-defined wide area networking (SD-WAN) based "high availability module," our solution enables the network to route traffic securely over a fibre connection when one is available, and seamlessly switch to satellite connectivity in the event of a disruption. For our live demonstration, an Azure ExpressRoute service was provisioned over fibre between an MDC on the US west coast and a major Azure data centre on the east coast. Once the fibre connection was severed, traffic continued at fibre-equivalent speeds over the O3b MEO satellite link with 700Mbps of throughput on the forward path, and 300Mbps on the return path—while maintaining fibre-like latency of less than 150ms.

The solution was deployed via two 2.4m antennas installed on the MDC, as well as modem and networking systems. The entire deployment of the satellite link—including ordering, shipping, configuration, testing, and activation—took only 30 days.

As edge compute applications promise transformational change for organisations worldwide, our service demonstration establishes what's possible today via our existing O3b MEO constellation. Launching in 2021, our O3b mPOWER system will deliver multi-gigabit, dedicated cloud-connect services, leveraging the ability to land traffic directly at gateways co-located at Microsoft Azure data centres.

The co-location of O3b mPOWER gateways and telemetry, tracking and command (TT&C) systems within Azure data centres ensures "one-hop" connectivity from any remote site or edge compute node to Azure. Benefits to enterprise and government organisations include superior cloud application performance, fast and easy deployments of revenue-generating, Azure-hosted applications, and the scalability required to meet rapidly growing traffic volume demands from the edge.



For additional information on this project,
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