

O3b mPOWER: SOLUTIONS FOR THE ENERGY INDUSTRY

THE DIGITAL CHALLENGE

“The oil and gas sector is making significant strides in digitisation ... We are witnessing a proliferation of technologies being deployed in the field, whether it’s the use of so-called digital twins to optimise production or drones carrying out offshore inspections.”

Eirik Rasmussen, PwC 2020

- An offshore platform may include up to 15,000 sensors
- Rigs generate 1-2TB of data per day
- Annual cost savings from digitalisation could approach \$100 billion across the industry in the 2020s

The need for reduced operating costs, increased safety, stringent environmental protection, and 24-hour crew connectivity is driving the digitalisation of the energy sector. But digitalisation places huge demands on networks, with high-volume data exchanges between drilling sites, control rooms, and enterprise WANs. Data traffic typically consists of:

- OT data, driven by IoT technologies and enabling remote analytics for production optimisation, HSE monitoring and cloud compute
- General IT, such as ERP, ordering systems, and email
- Network extension to remote enterprise locations
- Video conferencing for crew collaboration, welfare, and problem solving

Many applications are not only bandwidth intensive, but also latency sensitive. Cost reduction and latency are clearly intrinsically linked, since the failure to provide real-time data back at base forces additional resource and complexity on to platforms.

THE O3b mPOWER SOLUTION

O3b mPOWER is an exponential evolution of our well-established O3b MEO service. O3b MEO already delivers high-performance, low-latency satellite data services to offshore and onshore rigs and mobility platforms. Now O3b mPOWER builds on that success with increased service locations, higher data rates, and more flexibility. With innovative yet proven digital satellite technologies, O3b mPOWER can handle thousands of services in a region at multiple gigabits per second, dynamically allocated so that even mobile installations can remain connected.

O3b mPOWER offers energy-sector partners an SLA-backed managed data service, affording end customers the opportunity to scale their networking capabilities and reap the rewards of the digital oil field.

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KEY BENEFITS

- Ability to support digitalisation roadmaps and crew welfare, with data rate performance up to multiple-gigabits per second
- Flexible bandwidth pools with dynamic control of individual connections over several facilities as demands change
- Operational efficiencies of corporate and cloud-hosted applications with high-end user Quality of Experience (QoE)
- Business process continuity assured by maintaining latency well below the ERP 400ms limit
- Secure, high-performance connections flexibly directed to enterprise networks, cloud service providers, and internet gateways

O3b mPOWER SLA COMMITMENT

- 50Mbps to multiple Gbps+ Carrier Ethernet service, CIR with MIR
- 99.5% availability
- 150ms Round Trip Time (RTT)
- Compliance assurance monitoring

SYSTEM SPECIFICATIONS

- MEF 51.1 OVC/ENNI/UNI Ethernet service attributes
- QoS and CoS traffic management
- 802.3ag connectivity fault measurement
- Y.1731 delay, jitter and loss measurement
- Y.1564 service activation testing

External sources

'Drilling for Data' – Strategy& (PwC) white paper 2020

'Oil Industry Can Save \$100 Billion on Digitalisation' – Rystad Energy press release 2019

'New Realities in Oil and Gas: Data Management and Analytics' – Cisco white paper 2017

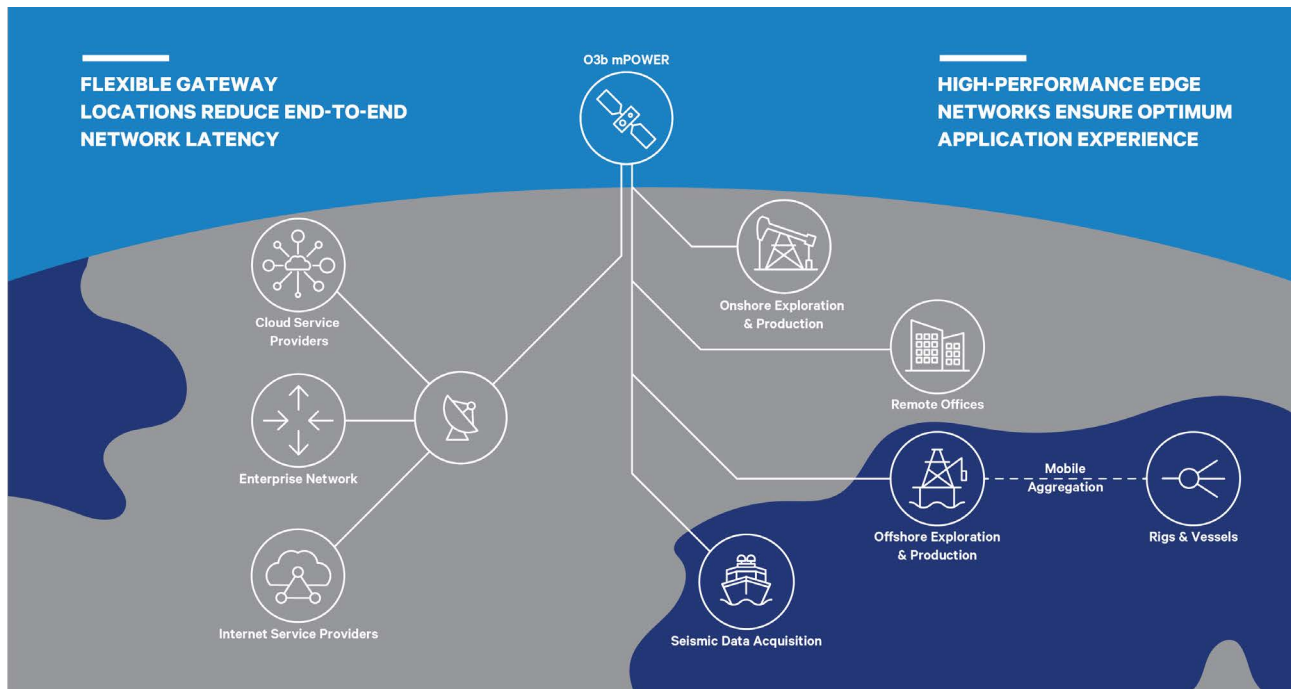


Figure 1: O3b mPOWER Solutions for the Energy Industry

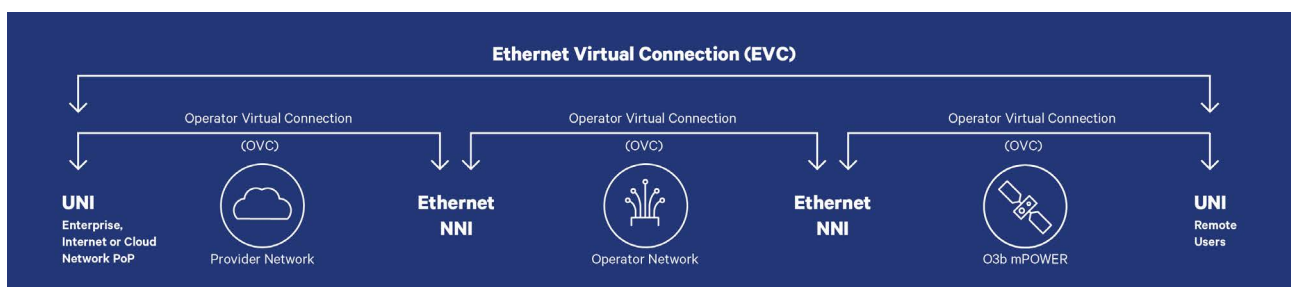


Figure 2: End-to-end MEF Certified Carrier Ethernet Services