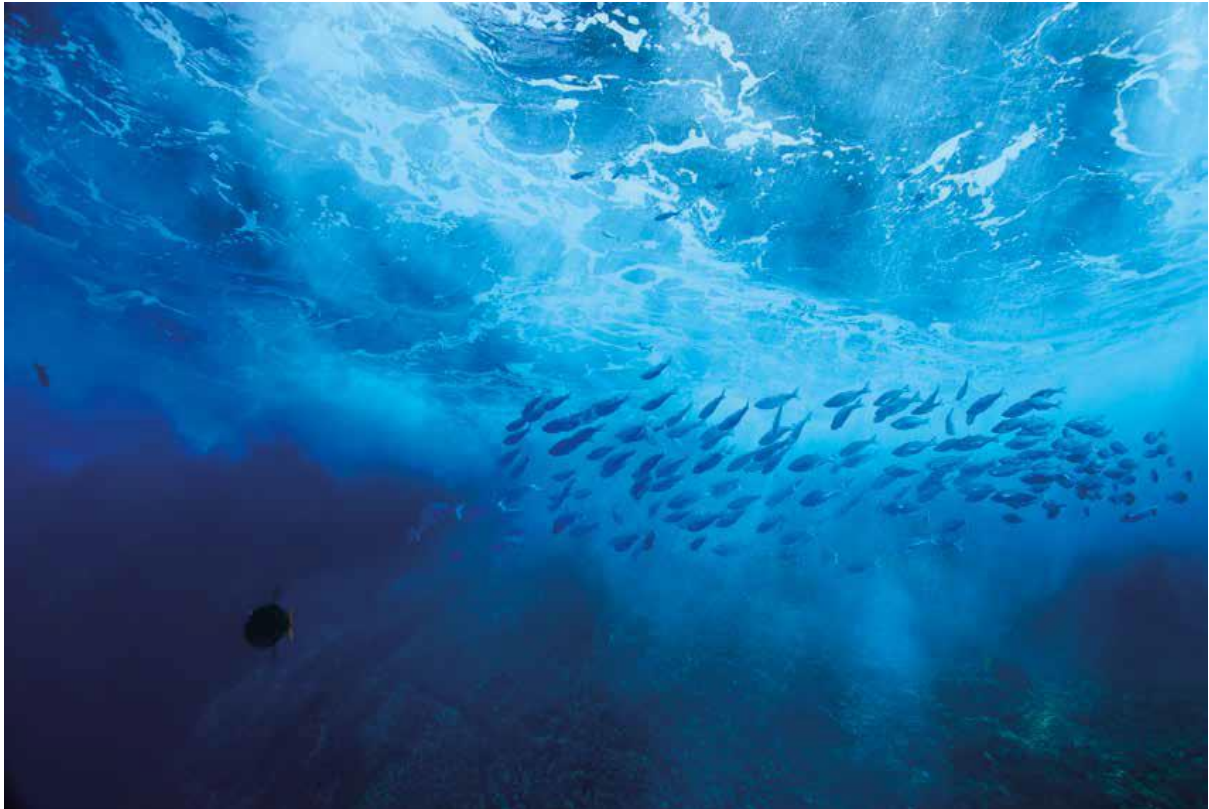


Delivering

- > Agility
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Open Systems and Spectrum Sharing

This document describes a family of products designed to allow third-party terminal equipment to be connected to submarine cable systems supplied by Xtera.

Please note that product specifications are liable to change and this description does not represent a contractual commitment.

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Xtera Open System Gateway

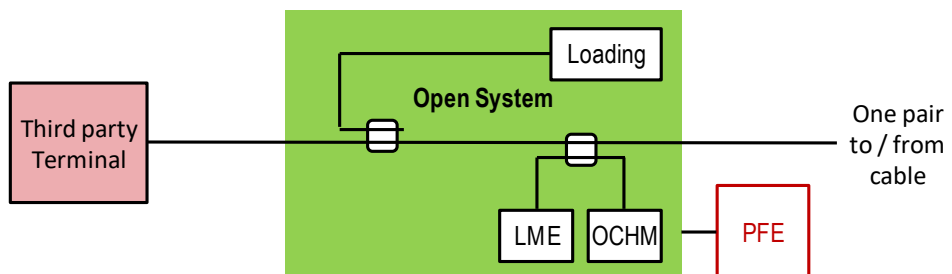
The Xtera Open System Gateway (OSG) is a single-box solution to permit truly open access to Xtera subsea systems.



The OSG allows any third-party terminal equipment completely transparent access to the subsea cable, without requiring it to supply submarine-specific functionality such as Line Monitoring or loading and allows management of the cable system independent of its users.

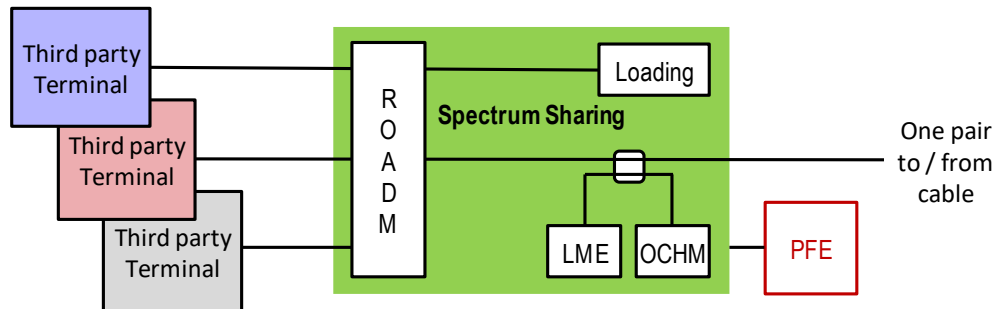
Open Systems and Spectrum Sharing

The OSG includes Line Monitor Equipment (LME) which communicates with Xtera repeaters and branching units and it also monitors the Power Feed Equipment (PFE). It can also supply loading channels, if required.





The OSG can also be configured to allow the connection of up to 8 third-party terminals, each having access to a defined part of the overall spectrum.

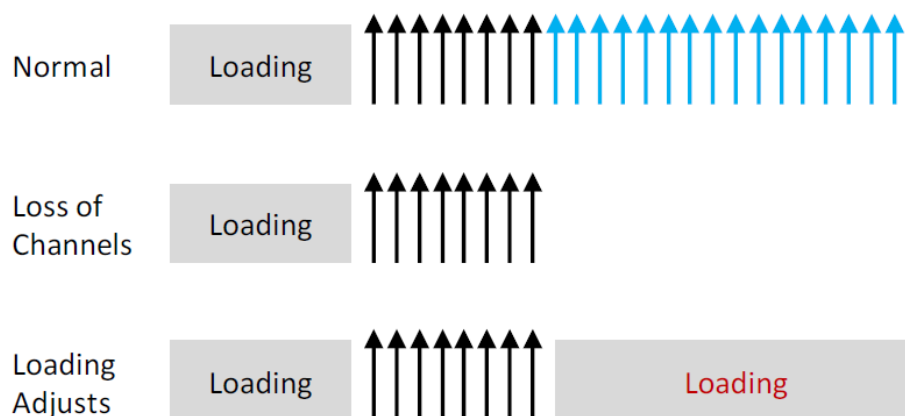


It contains optics to control a user's access to just their assigned part of the spectrum and it also includes features to isolate one user from the actions of another and to ensure privacy – effectively a "virtual fibre pair." The overall spectrum can be shared in any way desired; there is no requirement for the different terminals to have access to the same amount of bandwidth.

Spectrum Management

In the transmit direction the third-party terminal(s) connect via a ROADM port which is configured to transmit traffic channels within the allowed bandwidth. Loading channels are inserted to fill unused spectrum as required

The transmit spectrum is sampled by an Optical Channel Monitor (OCHM) which checks that the spectrum is as expected. In the event that the input changes, it can modify the loading to ensure that transmission remains good; this is particularly important where there are multiple terminals.





Management System

The OSG provides an open REST-based API for north-bound integration with third-party management systems.

The OSG is also fully supported by the Xtera NMS system. The management interface supports the Monitoring / Control of subsea repeaters, Branching Units and the Spellman PFE. It also includes features to control the access to system information / configuration that any individual user is allocated, thus making it well-suited to an environment with multiple terminals with different owners.