

# Framework and Requirements for GMPLS-based control of Flexi-grid DWDM networks

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# Updates from -02 version

- Full editorial review
- Added missing abbreviations, such as FSC, SSON, etc.
- Added the terms OTSi and OTSiG, Effective Freq Slot (G870)
- Elaborated on the Concepts of OTSi
- Section on Composite Media Channels
- Changes in the use of Och-p
- New section on Security considerations
- New Manageability section
- Added reference RFC4202
- Updated some contributors' affiliations & order of contributors.
- Grammar & typo fixes.

# Composite Media Channels

- It is possible to construct an end-to-end media channel as a composite of more than one network media channels.
- A **composite media channel** carries a group of OTSi (i.e., OTSiG).
- Each OTSi is carried by one network media channel. This group of OTSi should be carried over a **single fibre**.
- Effective frequency slots may be contiguous or non-contiguous.
- It is not currently envisaged that such composite media channels may be constructed from slots carried on different fibers.
- How signal is carried across such groups is out of scope

# Security Considerations

- Control plane and data plane aspects of a flexi-grid system are fundamentally the same as a fixed grid system
- [RFC5920](#) security considerations for GMPLS control plane
- RFC6163 includes security considerations for WSON
  - Can be applied to SSON
  - attacker might be able to cause small variations in the use of the network or the available and so trigger the routing protocol to make new flooding announcements
  - Mitigated by requirements to routing

# Manageability considerations

- Management tools available for GMPLS
- MIB modules ([\[RFC4802\]](#), [\[RFC4803\]](#)) and early work in YANG available.
- GMPLS fault detection and recovery mechanisms enough for flexi-grid
- GMPLS protocol extensions to report faults can be extended with SSON technology specific error cases.
- Link Management Protocol [\[RFC4204\]](#) can be easily extended to support flexi-grid

## Next steps

- Authors believe document is ready for Last Call
- IPR Polling is ongoing