Flex-grid Framework: Requirements and use cases

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Agenda

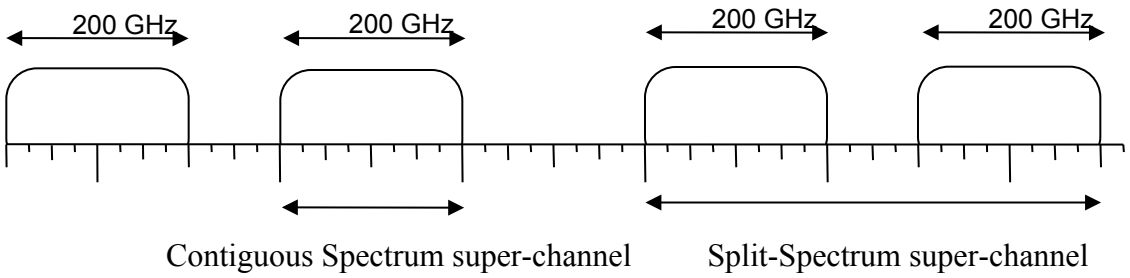
- Definitions
- Requirements
- Use cases

Definitions (1)

- Frequency Slot:
  - A frequency range allocated to a given channel and unavailable to other channels within the same flexible grid
  - A frequency slot is defined by its nominal central frequency and its slot width
- Spectral Slice:
  - The minimum granularity of a frequency slot (e.g. 12.5GHz).
- Slot width:
  - The full width of a frequency slot in a flexible grid.
  - The slot width is equal to number of spectral slices in the slot times the width of spectral slice.

Definitions (2)

- Super-channel:
  - Super-channel is a collection of one or more frequency slots to be treated as unified entity for management and control plane.
- Contiguous Spectrum Super-channel:
  - Contiguous spectrum super-channel is a super-channel with a single frequency slot.
- Split-Spectrum super-channel:
  - Split-Spectrum super-channel is a super-channel with multiple frequency slots.



Requirements (1)

- R1: Flexible size of super-channel
  - Flexible number of slices and granularity
- R2: Flexible mapping of super-channel
  - Map to any spectrum location in the ITU Grid

Requirements (2)

- R6: Fixed vs. Flexible Grid interworking
  - to introduce flex-grid systems into existing fixed-grid network(s).
  - to deploy flex-grid system in certain segments of fixed grid network

Requirements (3)

- R9: Resizing
  - increase/decrease of super-channel bandwidth
- R10: Restoration
  - pick different frequency slots, keeping the number and size of slices the same

Next Steps

- Requesting for review and comments
- Submit text version with figures
- Discuss merge options with other contributions

Questions?

Backup slides

Super-channel & OTN hierarchy