

# RSVP-TE Signaling Extensions in support of Flexible Grid

CCAMP WG, IETF 83rd, Paris, France

draft-zhang-ccamp-flexible-grid-rsvp-te-ext-01

Fatai Zhang

[zhangfatai@huawei.com](mailto:zhangfatai@huawei.com)

Oscar Gonzalez de Dios

[ogondio@tid.es](mailto:ogondio@tid.es)

Daniele Ceccarelli

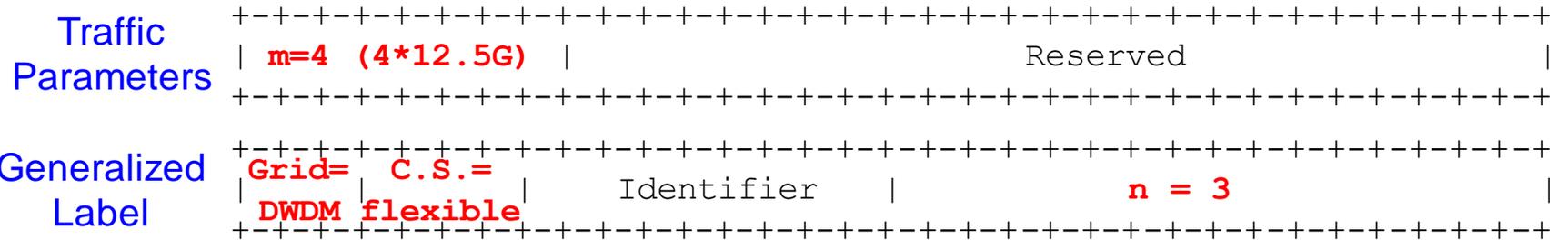
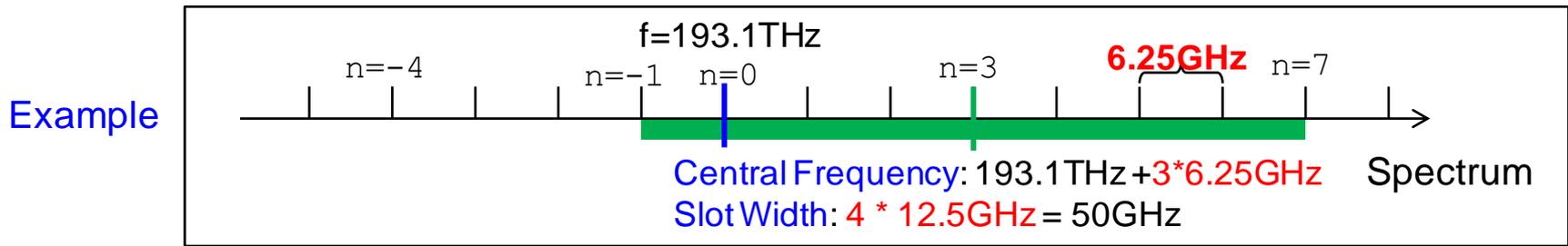
[daniele.ceccarelli@ericsson.com](mailto:daniele.ceccarelli@ericsson.com)

# Changes from Version 00

- Refined to make it consistent with <draft-zhang-ccamp-sson-framework>
  - Referring to framework draft for the terminologies and requirements
- Changed the C.S. value for flexible grid to make it consistent with G.697v2.1
  - C.S. = 5 represents "flexible grid", instead of "6.25GHz"
- Added an example to describe the usage of the SSON label

# Flexible Grid Label Usage

- **Traffic parameters:** indicates how much spectrum resource is requested
- **Label:** uses the same format as RFC6205 to indicate the central frequency
  - With new Channel Spacing (C.S.) = "Flexible Grid" to indicate the flexible grid, which is consistent with G.697v2.1



Note: According to G.697, for the case "C.S. = Flexible grid", a channel spacing of 6.25 GHz should be used for calculating the frequency

# Discussion 1: Values of Grid & C.S.

- ITU-T has adopted to use **Grid = 1 (DWDM)** and **C.S. = "Flexible Grid"** for Flexible Grid (Ref. to **G.697 v2.1**) at the last SG15 plenary meeting

Grid	Value
<b>DWDM</b>	<b>1</b>
CWDM	2
Reserved	Other

C.S.	Value
100 GHz	1
50 GHz	2
25 GHz	3
12.5 GHz	4
<b>Flexible Grid</b>	<b>5</b>
Reserved	Other

This table is from G.697V2.1 for describing parameter encoding

Fixed and flexible grid for DWDM can be differentiated by C.S.

The reasons for this approach are:

- (1) This has been discussed and accepted by ITU-T
- (2) The parameter encoding defined in G.697 is not only for concept clarification but also used by MP (and CP)
- (3) To make it consistent with ITU-T rec
- (4) No need to introduce confusion and possible further issues

# Discussion 2: Where to Carry "m"

- The roles of traffic parameters
  - To indicate the bandwidth or capacity for a connection request
  - Should be meaningful and examined by the end nodes and intermediate nodes
- Where to carry "m" value?
  - "m" represents how much spectrum or resource is requested for an LSP
  - It should be examined by the end nodes and intermediate nodes to allocate the spectrum correctly
  - Therefore, "m" should be carried in traffic parameters
- Once the "m" value is carried in traffic parameters, it's not necessary to repeat it in other objects (e.g., label object)
  - When discussing the ODU label format for G.709v3, CCAMP agreed to remove the "LO ODUj" filed in the ODU label for exactly the same reason "the LO ODUj filed has been carried in traffic parameters"

# Next Steps

- Coordinate with the authors of other related drafts
- Refine it according to the feedback from the meeting or mailing list