



To: Adrian Farrel and Deborah Brungard, IETF CCAMP WG Co-Chairs
From: Jim Jones, OIF TC Chair
Copy: Ross Callon and Bill Fenner, IETF Routing Area Directors
Subject: Liaison to IETF CCAMP WG on 1:N Protection

Dear Adrian and Deborah,

Future updates to OIF UNI and E-NNI signaling may include a feature for 1:N connection protection. The attached document presents requirements for these features. Recently a review was completed of RFCs 4426, 4427 and 4428 and IETF drafts that may be able to implement this function (including draft-ietf-ccamp-gmpls-recovery-e2e-signaling-03 and draft-ietf-ccamp-gmpls-segment-recovery-02). It appears that the abstract messages from RFC 4426 provide much of this functionality, however several questions resulted from this review. OIF would appreciate review and comments from IETF CCAMP on the following items.

- 1.) OIF would appreciate knowing if there are protocol features in other IETF documents relevant to 1:N protection .
- 2.) RFC 4426 section 2.5.2 says “it MAY be possible for the LSPs on the working link to be mapped to the protection link without re-signaling each individual LSP” and “it MAY be possible to change the component links without needing to re-signal each individual LSP”. OIF would like to know what signaling messages and objects can be used to accomplish this.
- 3.) It is suggested that the Failure Indication Message (or equivalent) from RFC 4426 can be triggered not only from a failure but also a command from a management system.
- 4.) A goal of the 1:N protection is to use a bulk notification and recovery procedure, based on RFC 4427 section 4.15. However, that RFC states the corresponding recovery switching actions are performed at the LSP level. It would be useful to know if bulk processing could be applied to recovery of individual connection segments on the failed span, not entire LSPs.
- 5.) RFC 4426 refers to three abstract messages involved in the reversion sequence:
 - A Bridge and Switch Request message from the source node after it has bridged traffic back to both working and protection links.
 - A Bridge and Switch Response message from the destination node after it has bridged traffic back to both working and protection links and changed its selector to the working link.

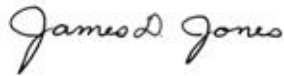
- A Bridge and Switch Completed message from the source node after it has changed its selector to the working link and stopped sending traffic on the protection link (so the destination can stop transmitting on protection).

Since RFC 4426 covers these Bridge and Switch messages briefly, more details should be specified on the operation and behavior in this reversion process. Further, it would be helpful to understand why the actions are performed by source and destination nodes rather than master and slave nodes. It may be appropriate to reuse the master/slave roles in the reversion process just as is done in the switchover process.

In addition, RFC 4426 does not include an abstract message similar to the Failure Indication Message to request the beginning of the reversion procedure. It may be beneficial to include a message from the slave device to initiate reversion, just as there is a Failure Indication Message to initiate switchover. (RFC 4426 states that the Failure Indication Message may not be needed when the transport plane technology itself provides such a notification. The same may apply when a failure is cleared; however, there should still be an optional message to trigger the reversion process.)

The OIF would appreciate the review and feedback of the CCAMP working group on these items.

Best regards,



Jim Jones
OIF Technical Committee Chair

Attachments

- 1.) Update for 1:N Protection capability: Control Plane assisted 1:N link connection protection (oif2006.031.01)