



November 29, 2007

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From: Mr. Lyndon Ong, OIF TC Chair, [lyong@ciena.com](mailto:lyong@ciena.com)

Subject: **Liaison to IETF Regarding 2007 Interop Test Findings**

Dear Adrian and Deborah,

The Optical Internetworking Forum performed interoperability testing from July to September 2007 with the results presented at the ECOC 2007 Conference in Berlin, Germany. In the process of performing these tests, we identified a number of issues that we felt CCAMP could provide guidance on. This liaison provides a description of these issues, and kindly requests CCAMP's thoughts. We request these thoughts be provided by January 20<sup>th</sup>, 2008 so they may be considered at the next meeting of the OIF Technical Committee.

1) One of the features provided in the OIF UNI 2.0 is the ability to non-disruptively modify service attributes associated with an LSP. The modification of the service attributes is limited to LSPs that were initiated using Shared Explicit filter style. Modification is performed by signaling a new LSP that utilizes the same Tunnel ID as the original LSP but with the new service parameters. Once the new LSP state is established, the original LSP state is removed.

Non-disruptive modification was demonstrated in the 2007 interoperability test by modifying the bandwidth of an LSP realized by a SONET/SDH VCAT group. In the process of testing, a number of questions arose regarding the RESV message flow. These questions included:

- How many RESV messages are expected to be generated? Is it one since the resources in use by both LSPs are the same, or two since the LSPs are handled through separate signaling sessions.
- What is the bandwidth amount that should be reflected in the RESV messages? If separate RESV messages are generated for both LSPs, is it the bandwidth requested in the corresponding PATH message? Or is it the actual bandwidth being provided by the connection at the time the RESV message is generated?

In the interop test both approaches were observed. To facilitate the subsequent demonstration, receivers were expected to handle both cases.

2) In the process of testing, we found that not all implementations included Explicit Route Objects (ERO) in PATH messages when performing graceful deletion, even though earlier PATH messages for the LSP had included an ERO. For some intermediate node implementations, the lack of the ERO was seen as removing the “pinned” nature of the connection, causing the node to interpret the PATH message as requiring a new path computation which may end up using a different route. Other implementations utilized the Session and Sender Template to relate the received PATH message with the existing connection thereby identifying the path the message should be forwarded on. This approach was taken by these implementations since inclusion of an ERO is not mandatory. We would appreciate CCAMP’s thoughts on what the behavior should be.

3) In the process of testing, we found cases where the update of a link’s attributes (i.e. available capacity) was not being done by advertising an updated LSA using the same LSAid, but by flushing the old LSA followed by generation of a new LSA with a new LSAid. Since the LSAid for Opaque LSAs is not tied to the resource being advertised (i.e. the resource is identified using TLVs in the Opaque LSA, not using the LSAid as is done with IPv4 OSPF LSAs), this can cause a problem as it causes the order that the LSAs are processed to become important. We would appreciate CCAMP’s thoughts on what the behavior should be.

4) Finally, in the process of testing, we found cases where established connections were deleted based on node restart procedures in RFC 3473. R163 of the OIF Carrier requirements (liaised to IETF in 12/2006) states deletion of established connections as the result of control plane failure (including node restart) shall not occur. It has been identified this could also occur when a number of cascaded nodes restart at the same time. We would appreciate CCAMP’s thoughts on ways to prevent deletion of established connections from occurring when a node restarts.

Thank you.

Sincerely yours,



Lyndon Ong  
OIF Technical Committee Chair