



To: Mr. Adrian Farrel, WG Co-Chair for IETF CCAMP
Mr. Kireeti Kompella, WG Co-Chair for IETF CCAMP

Copy to Alex Zinin and Bill Fenner, IETF Routing Area Directors

From: Jim Jones, OIF Technical Committee Chair

July 25, 2005

Dear Adrian and Kireeti,

The OIF recently concluded a worldwide interoperability demonstration at Supercomm in June 2005 that successfully focused on dynamic setup of Ethernet Private Line service over an ASON enabled SONET/SDH network. A number of issues were encountered during testing that were felt to be of possible interest to the IETF CCAMP WG, and OIF invites the review and comment of IETF CCAMP on these issues. They include the following:

1. Use of the NCC and RCC fields for STS-3c/VC-4 connections

During OIF testing it was noted that some ambiguity exists in the specification of encoding of NCC, RCC and NVC for certain types of connections:

NCC and RCC for an STS-3c/VC-4 connection can be set to 0 or to 1 depending on which example of RFC 3946 is followed. Clarification is requested from IETF CCAMP as to which setting is considered correct, or if both settings should be accepted (this procedure was used during testing at Supercomm).

2. Setting of NVC for VCAT connections

It was also noted that the setting of NVC may be somewhat ambiguous for the case where diverse connections are used within a single VCAT group. Each individual RSVP session controls a single connection, but the connection is part of a larger VCAT group and carries VCAT encoding of the H4 byte. Clarification is requested from IETF CCAMP and ITU-T Q.14/15 as to the correct setting of NVC for this case (0 or 1?). It should be noted that this case may occur with a VCAT group with only a single initial member, and that the NVC may provide an indication that VCAT encoding of the H4 byte is in use for the connection.

3. Length of the Interface Switching Capability TLV

Although the Interface Switching Capability TLV defined by CCAMP for SONET/SDH connections was not used for the testing, it was noted that the text describing the length of the Interface Switching Capability TLV defined in draft-ietf-ccamp-ospf-gmpls-extensions-12.txt may be slightly ambiguous due to the use of padding bytes.

RFC 3630 states that “The TLV is padded to four-octet alignment; padding is not included in the length field (so a three octet value would have a length of three, but the total size of the TLV would be eight octets).”

Reading of the encoding in draft-ietf-ccamp-ospf-gmpls-extensions-12.txt specifies that the length of the TLV for TDM is 41 bytes plus 3 bytes of padding, and should be given in the length field as 41 bytes rather than 44. OIF requests verification of this interpretation from the experts in IETF CCAMP group.

4. Use of ADMIN_STATUS in an initial PATH message

Some implementations sent an ADMIN_STATUS object with no flags set in the initial PATH message, i.e., when no status change was being requested. Although this did not serve any particular function, it was believed that this could be accepted as RFC3473, sect. 7.2 (page 18) states:

“The absence of the object is equivalent to receiving an object containing values all set to zero (0).”

It was our interpretation based on this text that a node should accept an ADMIN_STATUS object with no flags set in the same way as if the object was missing. Comment on this interpretation is welcome.

5. Handling of multiple received ResvConf Request objects

When a connection desires a confirmation that the service (i.e. connection) requested is in place, a RESV_CONF_REQ object is included in the RESV message. As this object is received by the remote end of the reservation, it will send a RESV_CONF message back to the requester. However, it is unclear whether it is necessary to send a RESV_CONF message when the RSVP connection state is refreshed by subsequent RESV. This becomes potentially burdensome, especially when the reservation is being rapidly refreshed. Therefore we ask: should the remote end send a RESV_CONF message for subsequent RESV messages that still include the RESV_CONF_REQ object? Or is it required that the requestor of the reservation remove the RESV_CONF_REQ object to prevent the generation of further RESV_CONF messages? Comment on this issue from IETF CCAMP is requested.

6. Symmetry of Refresh Reduction usage

During interop testing, we ran into a conflict caused by varying interpretations of RFC2961, regarding the use of SRefresh messages and the Refresh Reduction capabilities of the two ends of a given link.

One interpretation of RFC2961 indicates that setting the Refresh Reduction Capability flag in the RSVP header indicates that that interface shall be capable of receiving messages related to Refresh Reduction – including the SRefresh message. This would be true even if the other end of the link for that interface were NOT indicating Refresh Reduction Capability, since the RFC makes no statement about symmetry in this matter.

Another interpretation is that both ends of an interface must indicate Refresh Reduction Capability before either end can use such messages, i.e, use of Refresh Reduction on a link is symmetric. Comment from CCAMP WG on the correct interpretation is requested.

7. Sending of ACKs bundled with the RSVP HELLO

During interop testing, it was observed that Message Acks were piggybacked onto RSVP Hello messages, when the receiving end was not using the Hello protocol. In this situation, the incoming Hello's were discarded and the Acks were lost.

We believe that Message Acks should only be piggybacked onto mandatory messages, and not on Hello messages because of this problem. Comment on this interpretation is requested.

8. TSPEC format to be used for Ethernet connections

For the interoperability demonstration, the INTSERV SENDER_TSPEC format was used. However, it appears to us that the INTSERV SENDER_TSPEC defined in RFC 2210 is not sufficient to support the Ethernet Private Line described in MEF and ITU-T documents as the MEF and ITU-T specifications provide a bandwidth profile description for Ethernet Private Line connections that includes six parameters described below, and the INTSERV format does not have fields that correspond with all six parameters.

MEF6 [2] specifies that the Ethernet Bandwidth Profile is specified in terms of the following parameters: CIR, CBS, EIR, EBS, CM, CF.

MEF10 [3] and G.8011 Am1 [1] define the parameters, summarized below:

CIR (Committed Information Rate): Maximum rate required under normal conditions, service level guaranteed.

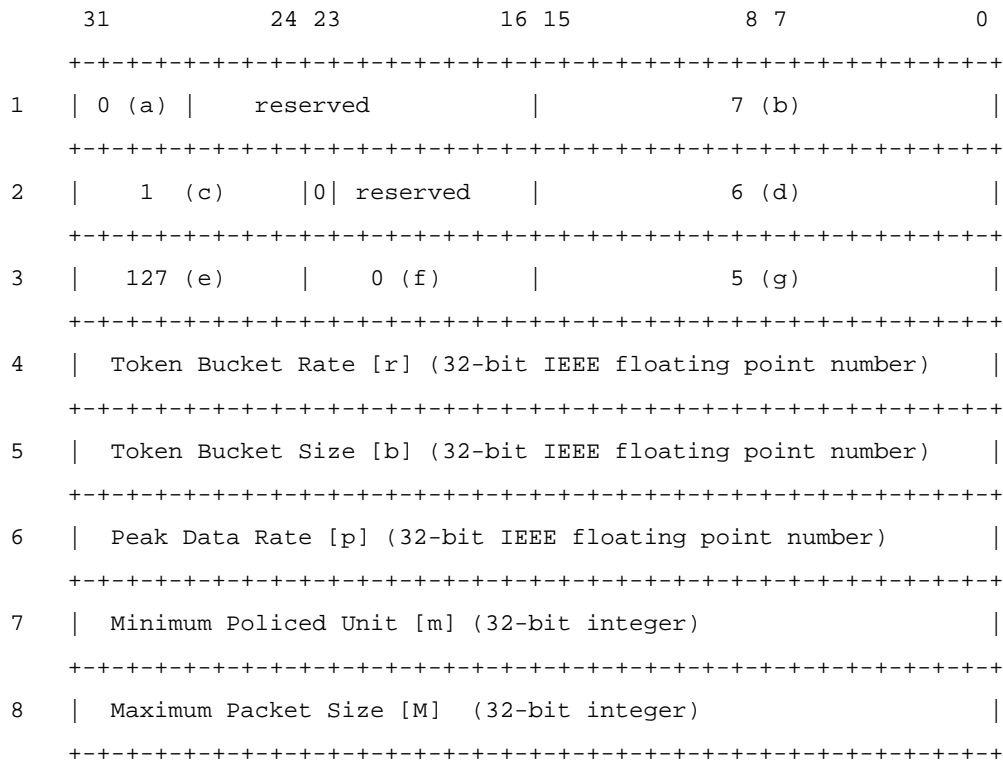
CBS (Committed Burst Size): Limits the number of bytes for a burst while conforming to CIR.

EIR (Excess Information Rate): Maximum rate required under burst conditions, no guarantee of performance.

EBS (Excess Burst Size): Limits the number of bytes for a burst while conforming to EIR.

CF (Coupling Flag) and **CM** (Colour Mode): Give a choice for different modes of operation.

RFC2210 defines the following SENDER_TSPEC format for Ethernet Traffic Parameters as follows:



- (a) - Message format version number (0)
- (b) - Overall length (7 words not including header)
- (c) - Service header, service number 1 (default/global information)
- (d) - Length of service 1 data, 6 words not including header
- (e) - Parameter ID, parameter 127 (Token_Bucket_TSpec)
- (f) - Parameter 127 flags (none set)
- (g) - Parameter 127 length, 5 words not including header

Advice of the IETF CCAMP WG or other experts within IETF is solicited regarding what TSPEC format if any is suitable to be used for setup of Ethernet connections.

OIF greatly appreciates the input of the IETF CCAMP WG and other IETF experts in order to reach conclusion on these issues.

Best regards,

A handwritten signature in black ink that reads "James D. Jones". The signature is written in a cursive style with a large initial 'J' and a distinct 'D'.

Jim Jones, OIF Technical Committee Chair

cc: Trey Malpass, Lyndon Ong

References:

- [1] ITU-T Recommendation G.8011/Y.1307 (2004), Am. 1 (2005), "Ethernet Services Framework"
- [2] Metro Ethernet Forum, MEF 6 - Ethernet Services Definition, Phase 1, Jun3 2004
- [3] Metro Ethernet Forum, MEF.10 - Ethernet Services Attributes Phase 1, Nov. 2004