

# BIER OAM

Greg Mirsky

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# What we have

- BIER Ping
- BIER Path MTU Discovery
- BIER BFD
- BIER Performance Measurement

# BIER Ping

- The mechanism and basic BIER OAM packet format that can be used to perform failure detection and isolation on the BIER data plane

0	1	2	3
0 1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1
+-----+-----+-----+-----+			
Ver   Message Type   Proto   Reserved			
+-----+-----+-----+-----+			
OAM Message Length			
+-----+-----+-----+-----+			
~ Message Type Dependent Data ~			
+-----+-----+-----+-----+			

0	1	2	3
0 1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1
+-----+-----+-----+-----+			
Ver   Echo Req/Rep   Proto   Reserved			
+-----+-----+-----+-----+			
QTF   RTF   Reply mode   Return Code   Reserved			
+-----+-----+-----+-----+			
Sender's Handle			
+-----+-----+-----+-----+			
Sequence Number			
+-----+-----+-----+-----+			
TimeStamp Sent			
+-----+-----+-----+-----+			
TimeStamp Sent			
+-----+-----+-----+-----+			
TimeStamp Received			
+-----+-----+-----+-----+			
TimeStamp Received			
+-----+-----+-----+-----+			
~ TLVs ~			
+-----+-----+-----+-----+			

- The last version addresses the Shepherd review
- Ready for the next step

# BIER Path MTU Discovery

- Use BIER Ping with Data TLV as a payload
- Upon the PMTUD convergence, the size of the last probe indicates the MTU size that can be used for all BFERs in the initial Bit Map String without incurring fragmentation

Ready for the next step

# BIER BFD

- BIER BFD (RFC 8562) – BFERs can monitor the BFIR
- BIER BFD with Active Tails (RFC 8563) – BFERs monitor the distribution tree; BFIR can discover or is notified of a network failure

Ready for the WG LC

# Hybrid Performance Measurement in BIER

- Use the Alternate Marking method (RFC 9341 and RFC 9342 are now on the Standard Track) to perform packet loss and delay measurements
- The updated version addresses AD's comments

Ready for the next step