



OAM in RPR

Leon Bruckman
Corrigent Systems
leonb@corrigent.com

Angela Tozzi Faber
Telcordia Technologies
afaber@telcordia.com



OAM Frames

- Fault Management
 - Fault Management frames are used to indicate loss of continuity and to perform Loopback operations.
- Performance Management
 - Performance Management frames are used to measure packet loss/misrouted
- Protection Coordination
 - Protection Coordination frames are used to convey information regarding the protection states in a ring

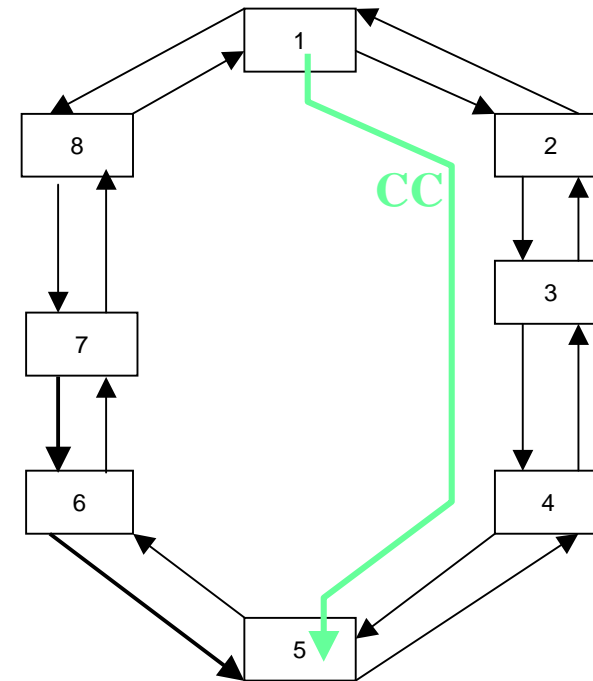


OAM frames (continued)

- Activation/Deactivation
 - Activation/Deactivation frames are used to Activate or Deactivate the transmission of Performance Management and Continuity Check frames. These frames allow coordinating the transmission and reception to avoid the generation of undesired alarm indications.
- Topology Discovery
 - TBD

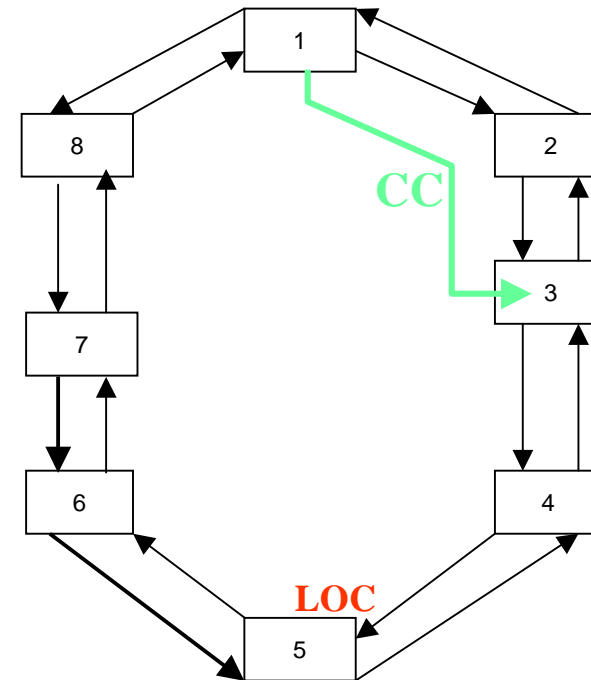
Fault Management - CC

- Continuity Check activated from N1 to N5



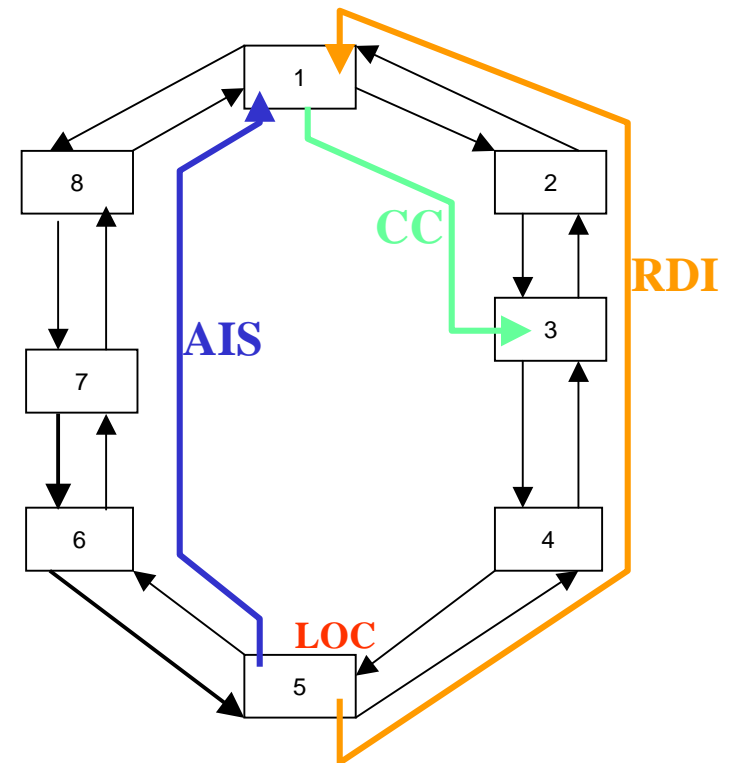
Fault Management - Failure

- N3 “steals” N5 frames
- N5 does not receive CC frames
- N5 declares Loss Of Continuity (LOC)



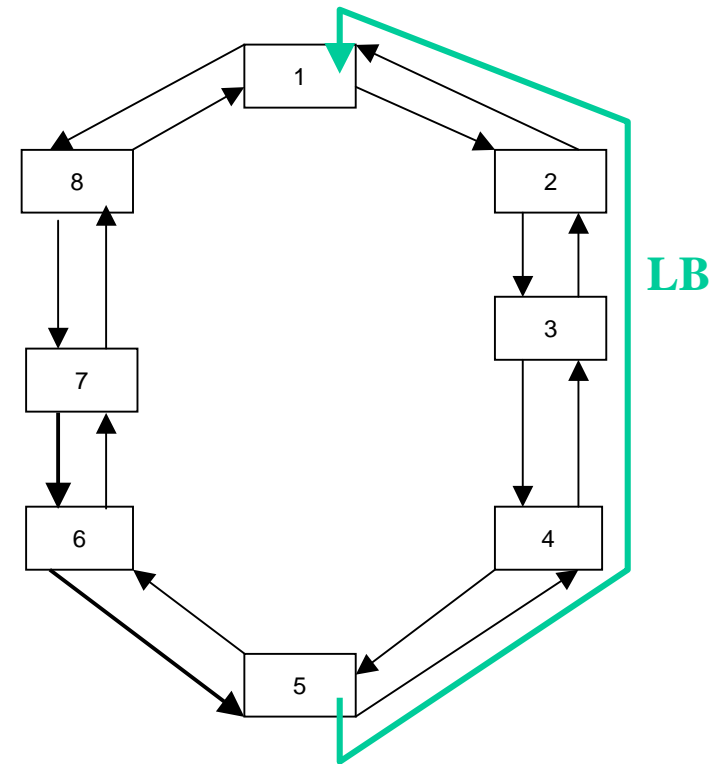
Fault Management - Failure

- N5 sends AIS frames through Inner ring
- N5 sends frames RDI through Outer ring
- N1 may decide to steer N1 to N5 flow



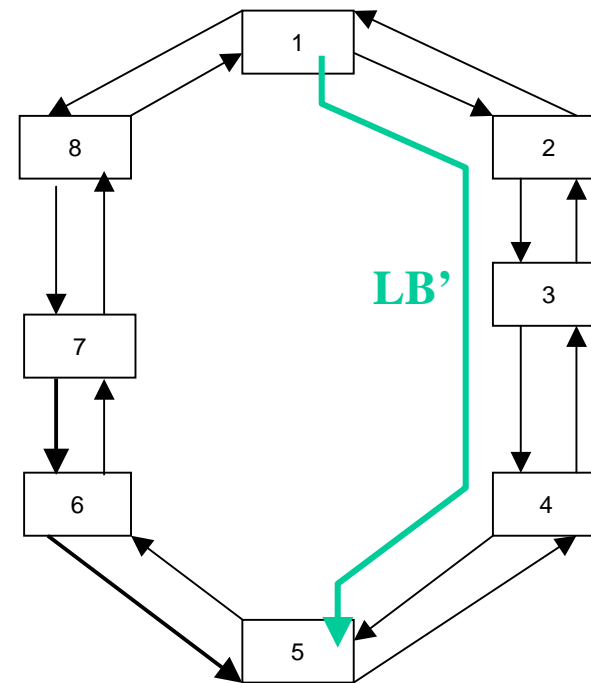
Fault Management - Loopback

- N5 sends Loopback frame to N1 through Outer ring



Fault Management - Loopback

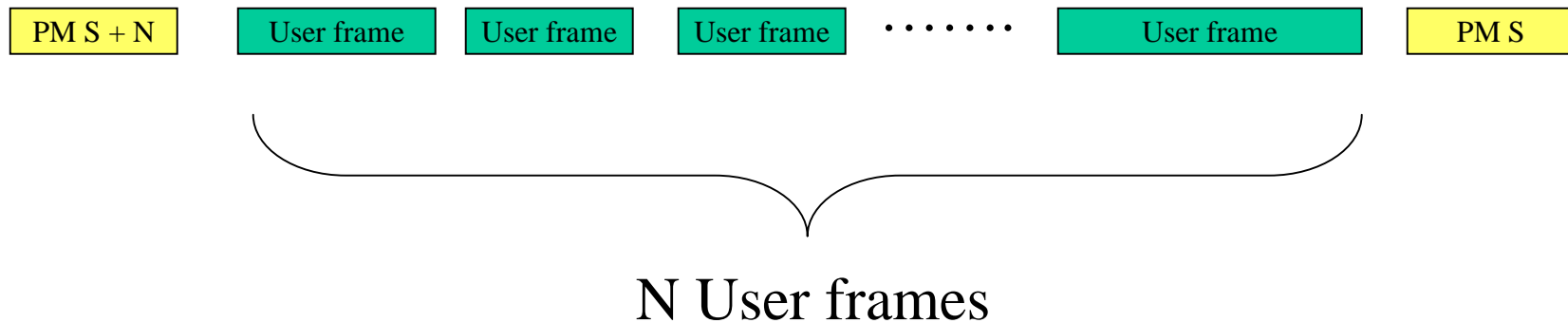
- N1 sends back to N5 a modified Loopback frame through the Inner ring





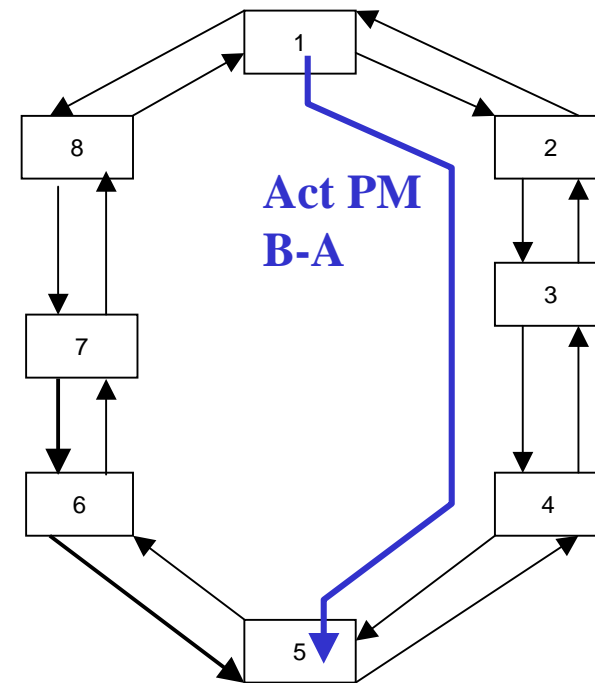
Performance Monitoring

- Used to convey Packet lost information
- Per flow, per CoS



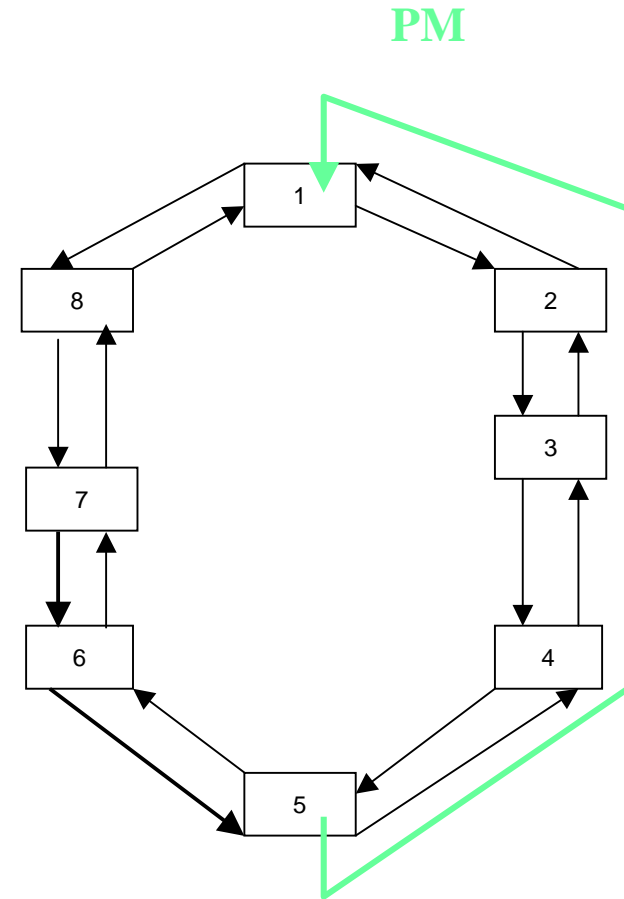
Activation

- Activate B-A PM sent from N1 to N5



PM Active

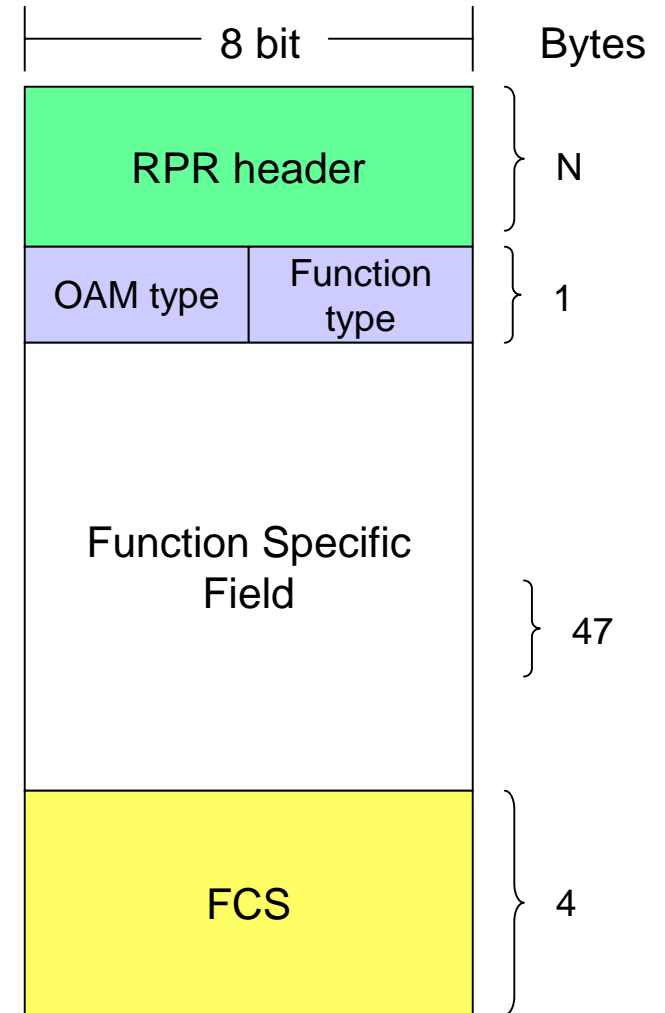
- N5 starts sending PM frames towards N1





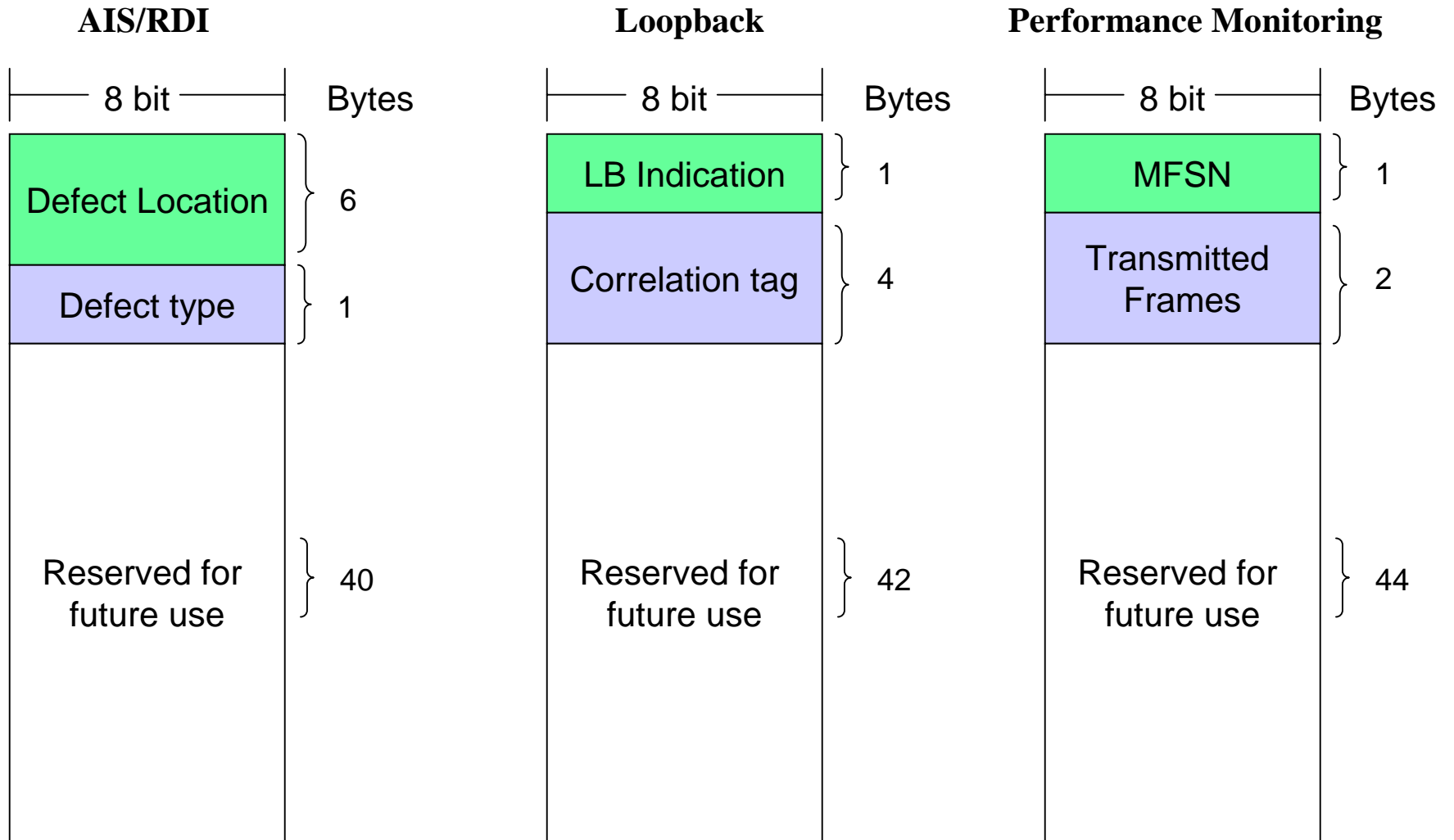
OAM Frame

- Fixed length 48 payload bytes frame
- Common OAM header
- Specific payload
- FCS





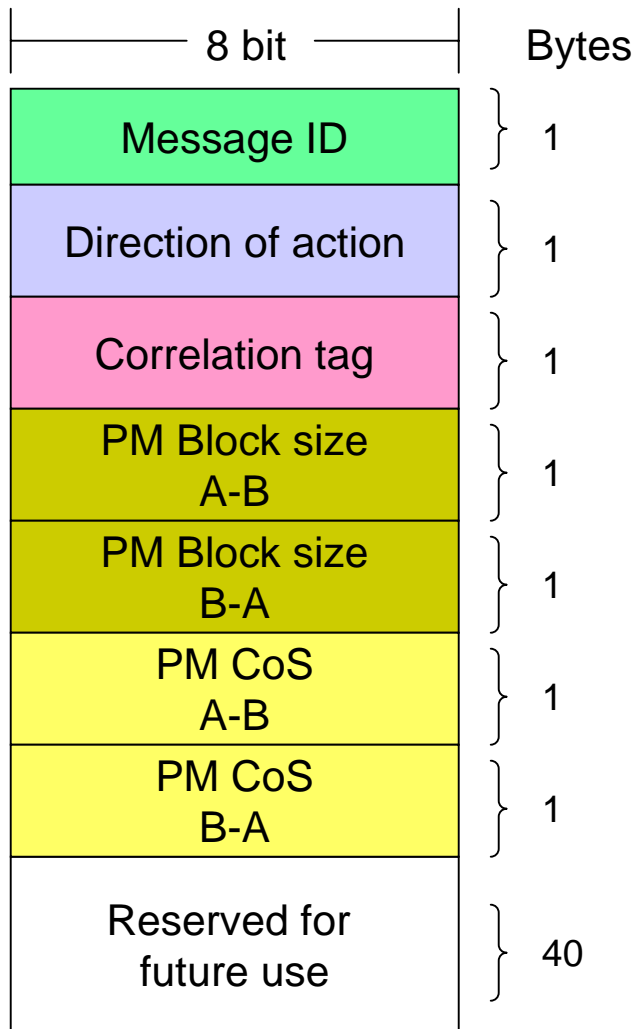
OAM Frame types





OAM Frame types (continued)

Activation/Deactivation



Protection Coordination

