



Terms and Definition

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Agenda

- **Goals**
- **Common Terms**

Goals

- Define terms so we all understand what we agree or disagree on
- Not use terms that leads to assumption and confusions due to members' wide background
- Clear Terms in Objectives
- Define functional blocks
- Ease of communication to 802 and public
- Help new comers

Content

List Terms and definition at 5 design levels in logical and physical concept

- 1. Concept**
- 2. Network**
- 3. Ring**
- 4. Station**
- 5. MAC**

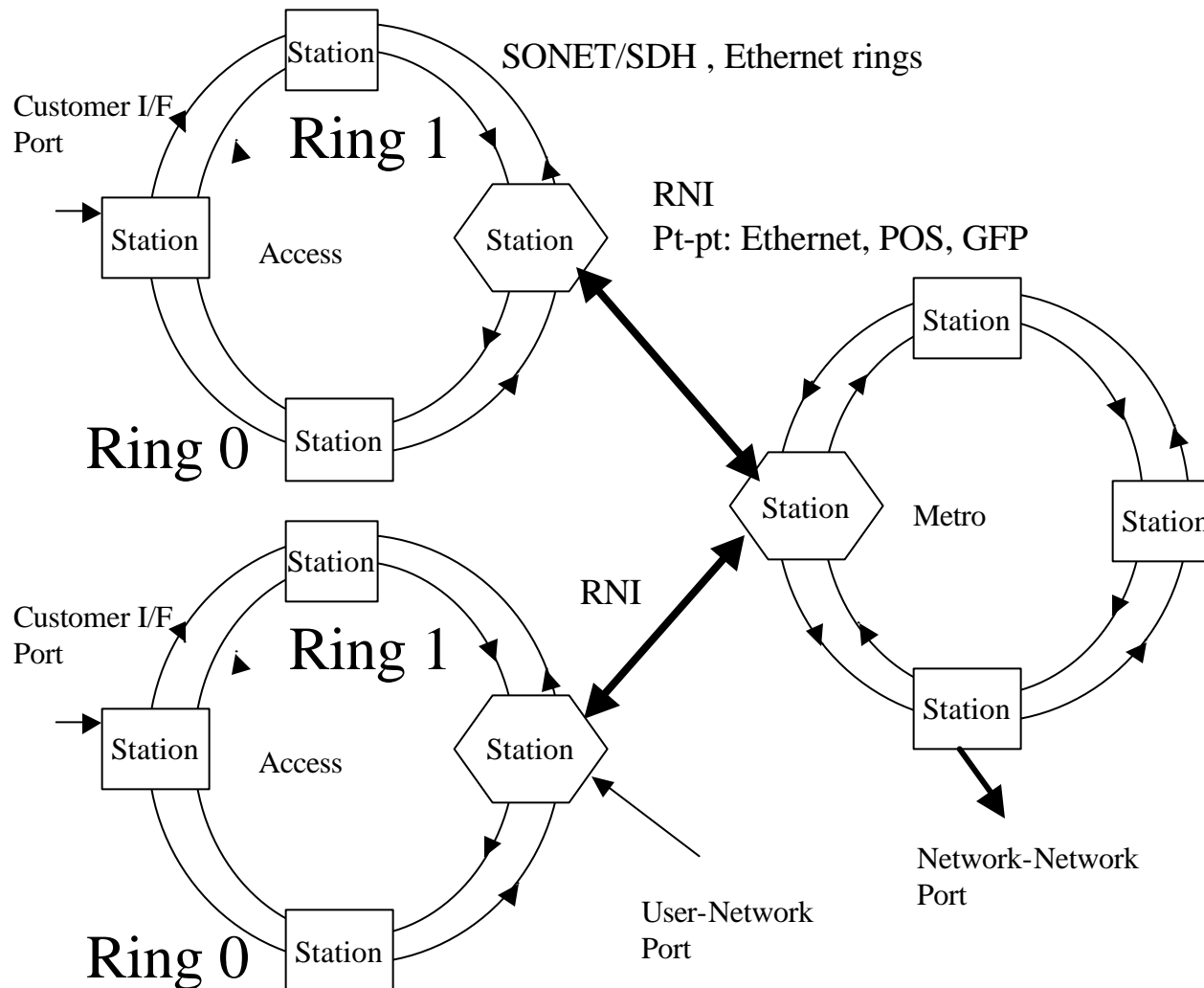
Concept: Ring Identification

- **Support generic Ring naming provide flexible Ring architecture**
 - Single ring
 - Ring_x and Ring_y forms as a dual counter rotating pair
 - Logical rings: Channelization
 - Multiple Physical rings
 - Protection rings
- **Ring configurations Affect Fairness messaging schemes**

Proposal

1. **Ring are identified by a number. Ring can be associated as a pair to form a dual counter rotating rings**

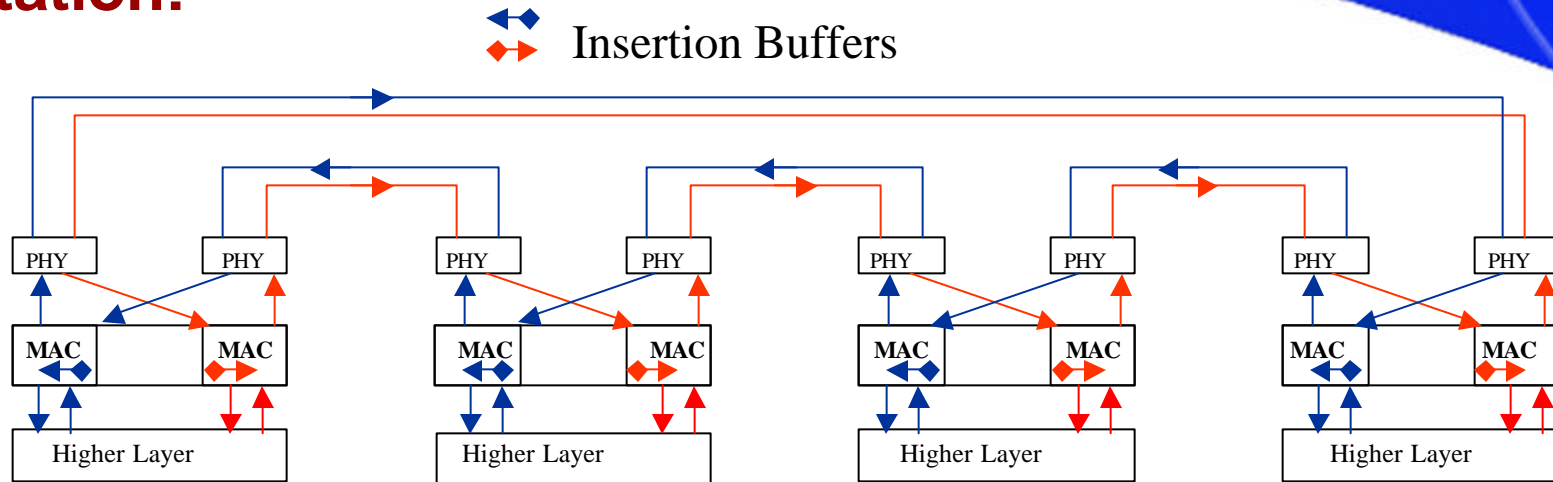
Network: Inter-ring



Identify Port Types

- **User Network Interface (UNI)**
 - Customer access
 - Provider demarcation
- **Ring Network I/F (RNI)**
 - Customer separation (Service label) identification can be passed across the ring elements w/o moving up the stack
 - Bridging: Maintain L2 mapping
- **Network Network Interface (NNI)**
 - Peer to Peer

Station:



Intra-Ring MAC Element receives and transmit on SAME ring

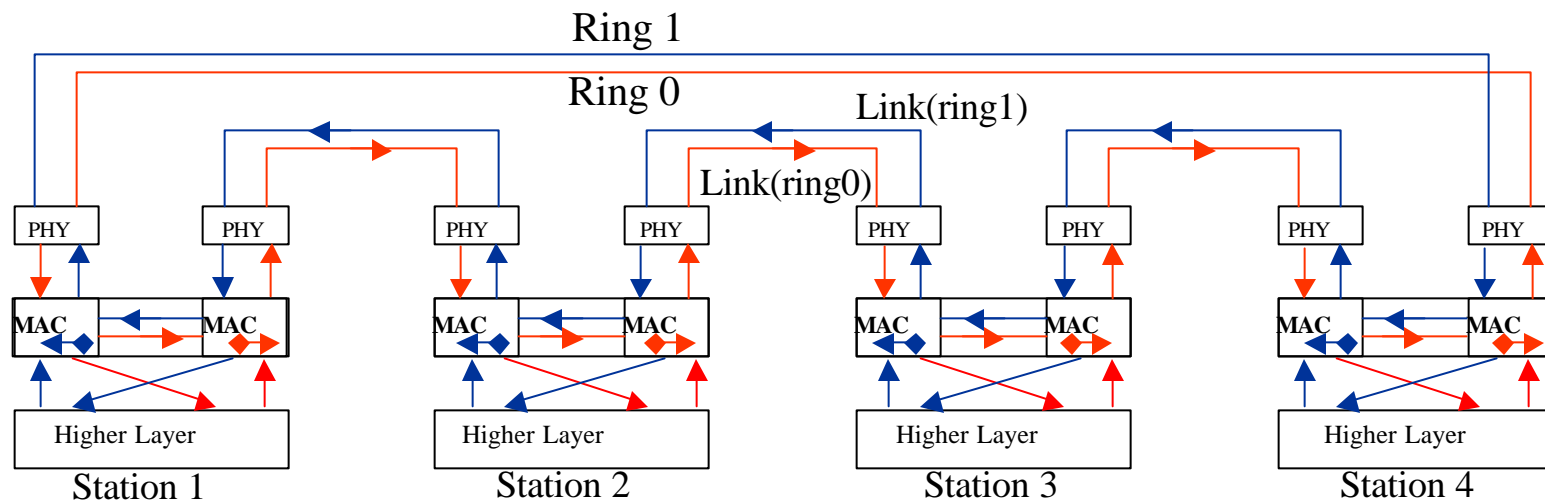
- Maintain PHY remote defect status
- Consistent with single ring architecture
- Media Access protocol must send across MAC entities for Dual counter rotating rings
- One logical MAC client interface: 2x the physical rate
- Concern physical pin location: Internal routed to MAC entity

Dual Counter Rotating Ring:

MAC has two physical interfaces and one logical client interface

Station:

  Insertion Buffers



Intra-Ring MAC Element receives and transmit on DIFFERENT Ring

Terms and Definitions

1. **Station**: A Station is uniquely identified on the ring by an address. A Station can add PDUs on the ring, remove PDU from the ring, and pass PDU from upstream Station to the downstream Station.
2. **Spatial Reuse**: The concept of reuse bandwidth on a ring that allows multiple conversation to co-exist at any give time. Separation of the conversation is in the space domain. Spatial reuse is achieved by destination strip of a packet.
3. **Source Station**: Each PDU on the ring has an entry point. The source Station is the one that adds the PDU on the ring.
4. **Destination Station**: A unicast PDU on the ring has a specific destination address. The Station address that matches the destination address is the destination Station.
5. **Conversation**: Logical path of a PDU between the source station and the destination station.

Terms and Definitions (Cont'd)

- 1. Ring network are consists of actual physical ring(s). All stations on the ring share the same physical rings**
 1. Single ring
 2. Dual counter rotating ring
 3. DWDM λ -rings

Terms and Definitions (Cont'd)

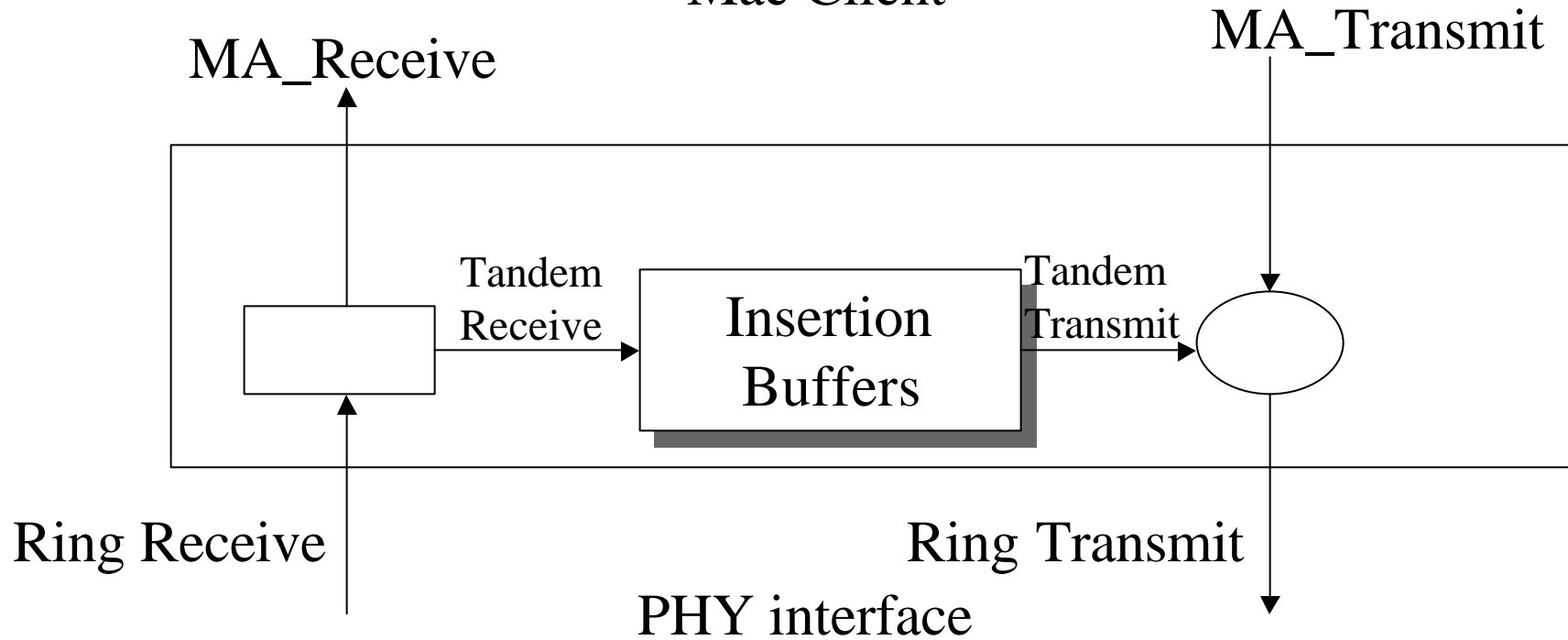
- **Discard**: a method where a packet is not forwarded due to error detected in forwarding procedure such as: source removal, header error, no time to live
 - Dropped in SONET is used for data forward to the NE
- **Global Fairness**
- **Local Fairness**
- **Access Delay**
- **Over subscription**
- **Statistical Multiplexed**

Terms and Definitions (Cont'd)

- **Close Loop Control**
- **Interwork**
- **interoperable**
- **Ring Transit delay**
- **Access Delay**
- **Priority Preservation:** Ring must maintain priority of client PDU at egress point. L2 has 8 priority this must be mapped into 802.17 priority field. How the priority is handle must be consistent with service agreement

MAC Element (version 1)

Mac Client



- **MA_receive**
- **MA_transmit**
- **Ring_receive**
- **Ring_transmit**

- **Insertion Buffer**
- **Tandem_receive**
- **Tandem_transmit**

Functional Blocks

- **Transmit encapsulation Module: Adds ring header to MA client data PDU**
 - Logical functions
 - for adding/translating destination address to 802.17 MAC destination address
 - mapping packet class to 802.17 class bits
 - Classify packet type identification fields
- **Transmit Media Management**
 - Schedules tandem, transmit, and control message to Ring_transmit interface
 - Initiates MA_requests

802 Terminologies Cont'd

1. **MAC: media access controller**

1. MAC: The portion of the data station that controls and mediates the access to the ring
 1. Relaying and filtering
2. PDU protocol data unit. Information delivered as a unit between peer entities that consists of control information and optionally data.

2. **PHY**

3.



What's Next

Use the Reflector to consolidate more terms and Definitions



Questions and Answers

References

- **Harmen VonAs**
 - List of terms

MAC Element (version 2)

Mac Client

