

DLAG

Distributed Link Aggregation

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Document structure

The following structure for the DRNI document was proposed in “bq-nfinn-AXbq-editing-0311-v01.pptx”:

1. Overview
2. Normative references
3. Definitions
4. Acronyms and abbreviations
5. Link Aggregation
- 6. Distributed Resilient Network Interconnect**
7. Management
- 8. PICS**
 - A (inform) Collection and Distribution functions
 - B (inform) LACP standby link selection and dynamic key management
 - C (norm) SNMP MIB definitions for LinkAgg and DRNI

A dedicated chapter with separate descriptions of the distributed and non-distributed functionality

(need to change the numbers in the AXbq document from 7 to 6)

Distributed Resilient Network Interconnect

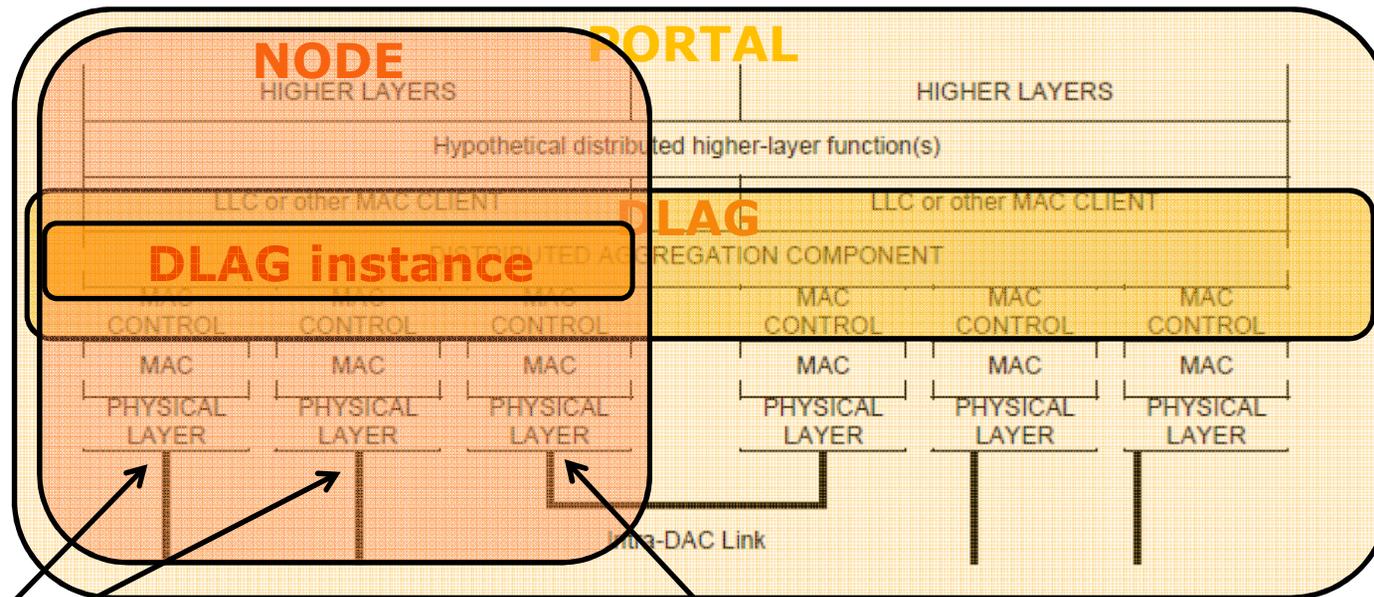


Figure 7-1—One end of a Distributed Resilient Network Interconnect

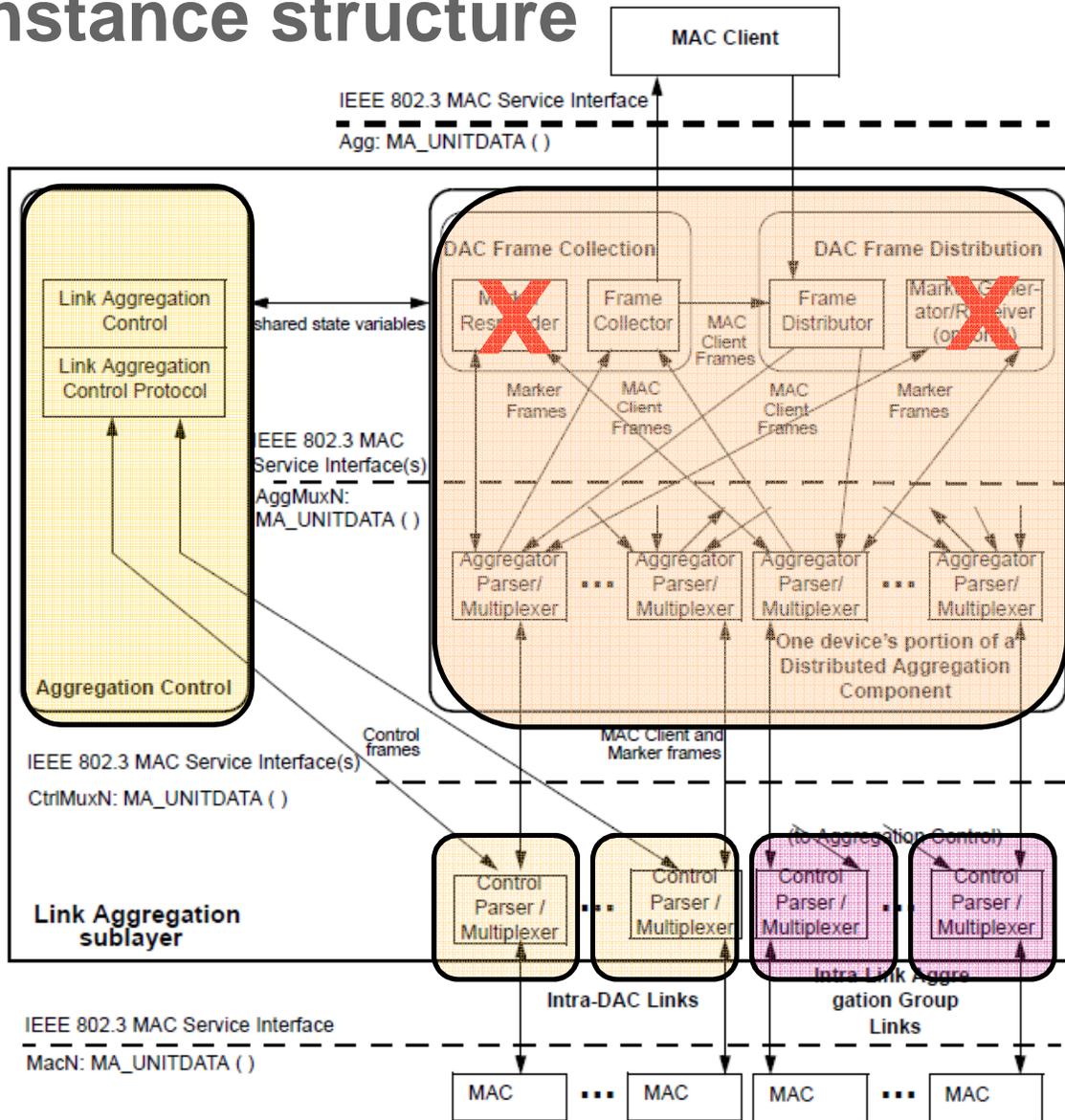
DLAG External Ports.
Exchange frames between portals

DLAG Internal Ports.
Exchange frames inside the portal

The DLAG is a distributed, logical component comprising all the DLAG instances.

DLAG instance structure

DLAG control



DLAG

Removes the marker components

Indicates two types of ports/links:

- 1) **External ports/links exchange frames between portals, as in standard non-distributed LAG.**
- 2) **Internal ports/links for connectivity inside the portal**

Figure 7-2—Link Aggregation sublayer block diagram with DAC

DLAG instance functionality

At any given time, only one of the DLAG instances belonging to a specific DLAG acts as the Service Gateway.

- Service Gateway DLAG instance – receives traffic frames from the MAC client / DLAG ports (external or internal) and forwards them to one of the DLAG ports / MAC client
- Non-Service Gateway DLAG instance – frames received from the MAC client are dropped. Frames received from a DLAG internal / external port are forwarded to a DLAG internal / external port.

DLAG instance

Frame flow

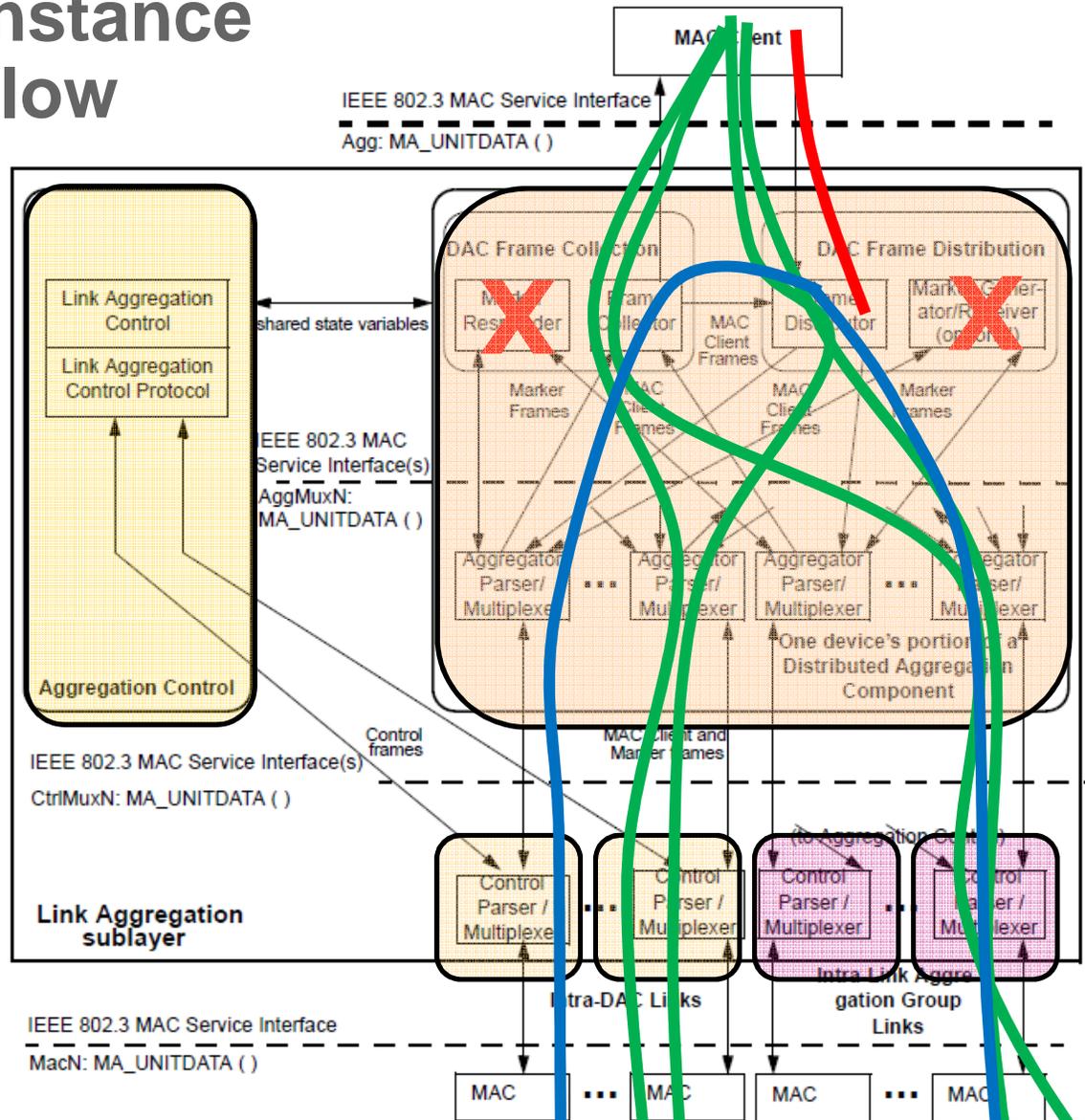


Figure 7-2—Link Aggregation sublayer block diagram with DAC

DLAG states per service

The DLAG instance is in one of the following states:

State	Forwarding Status of	DLAG State	DLAG external Port (x)	DLAG Internal Port (y)
IDLE (Not SG and do not convey traffic)		down	standby	standby
ExtP(x) (SG using LAG (External) Port x)		up (SG)	active	standby
IntP(y) (SG using DLAG (Internal) port y)		up (SG)	standby	active
TNL (x,y) (Not SG tunnel between DLAG (Internal) port X and LAG (External) port Y)		tunnel	active	active

For each service, the DLAG state is communicated over the DLAG's internal and external ports.

DLAG instance Control flow

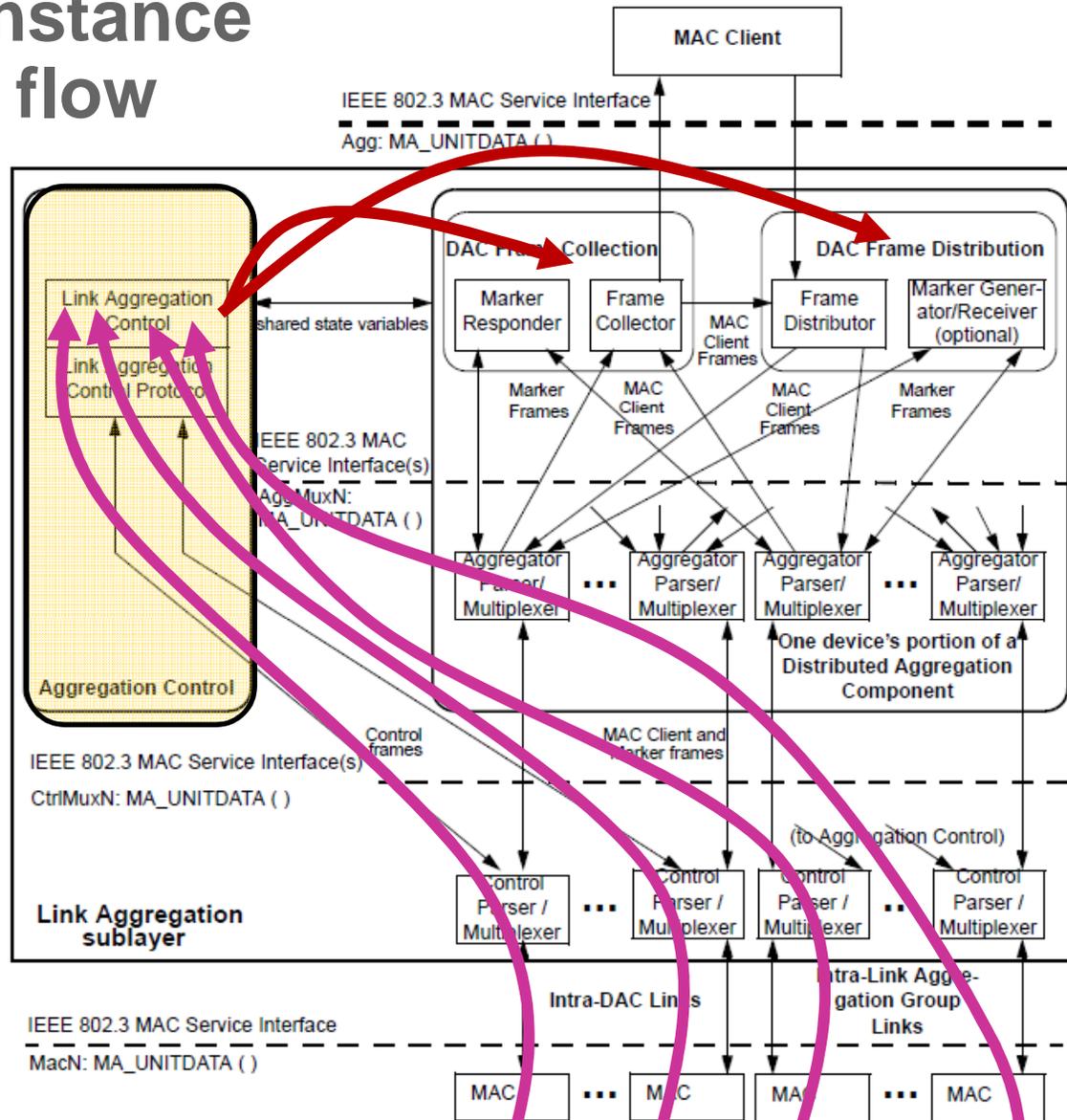


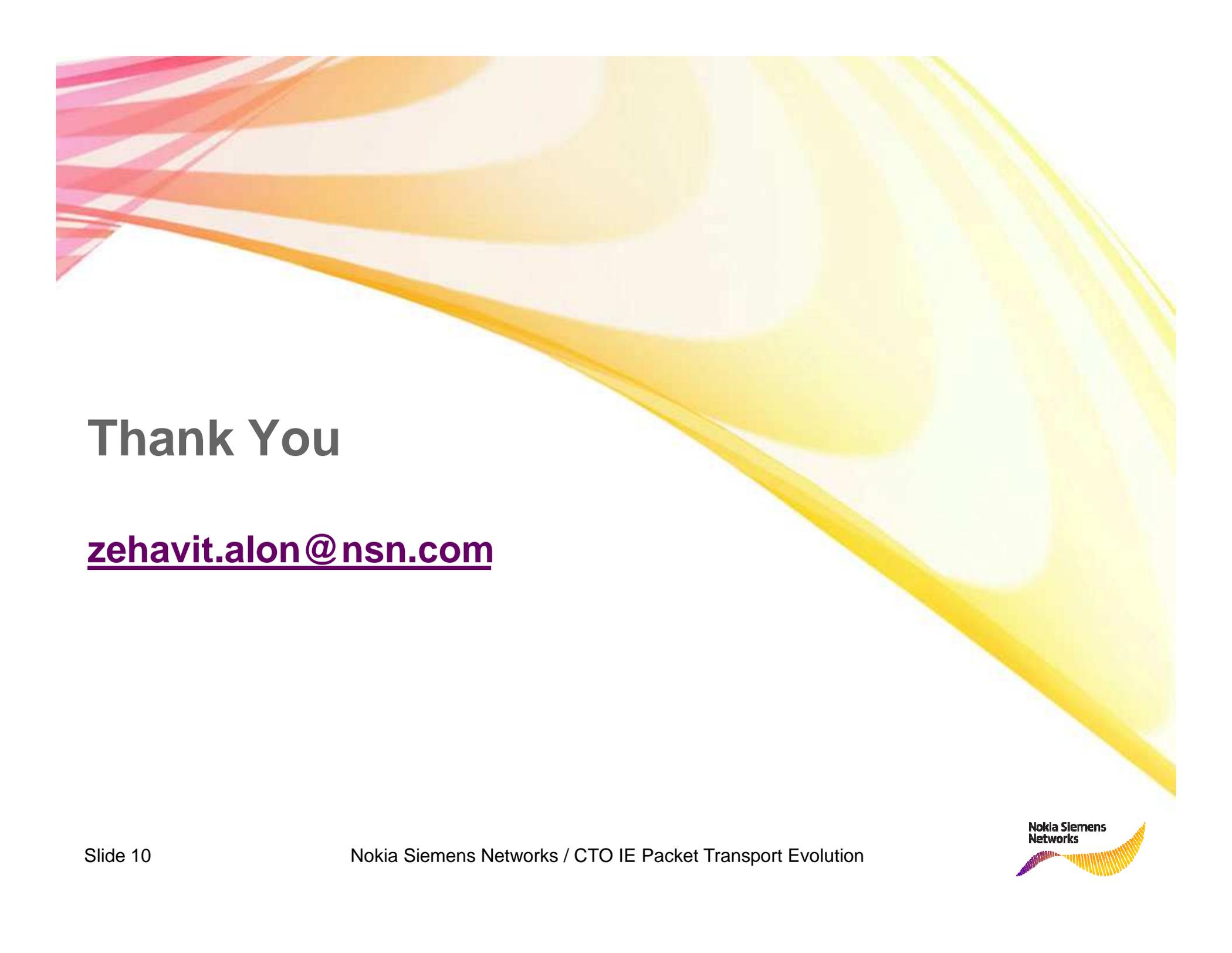
Figure 7-2—Link Aggregation sublayer block diagram with DAC

DLAG instance – possible configurations

The DLAG control in each DLAG instance receives control messages from all the DLAG ports (internal and external) and determines the state of the DLAG instance collector and distributor.

The DLAG instance must function correctly with the following port configurations:

1. Two external ports and one internal port (full mesh)
2. One internal port and one external port (ring)
3. Two external ports (hourglass)



Thank You

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