



Encapsulation vs. timesharing in DRNI intra-DAC links

Rev. 1

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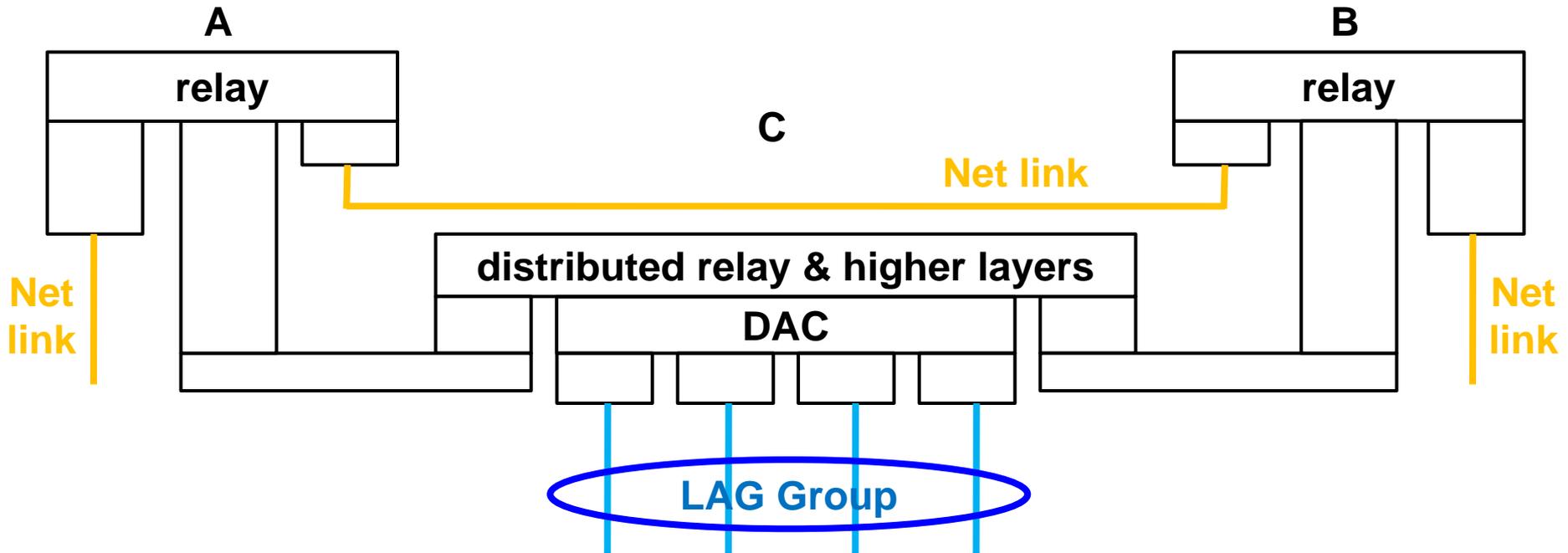
Where we seem to be with timesharing

- By timesharing an intra-Portal link, we can avoid having to encapsulate frames to distinguish between network and intra-DAS traffic.
- However, events in the other network can force this network to change gateways, which can trigger a transient flush/flood/learn event that affects this whole network.
- And, we may have to share learned address information.
- And there are cases where I need the encapsulation, after all.

So ...

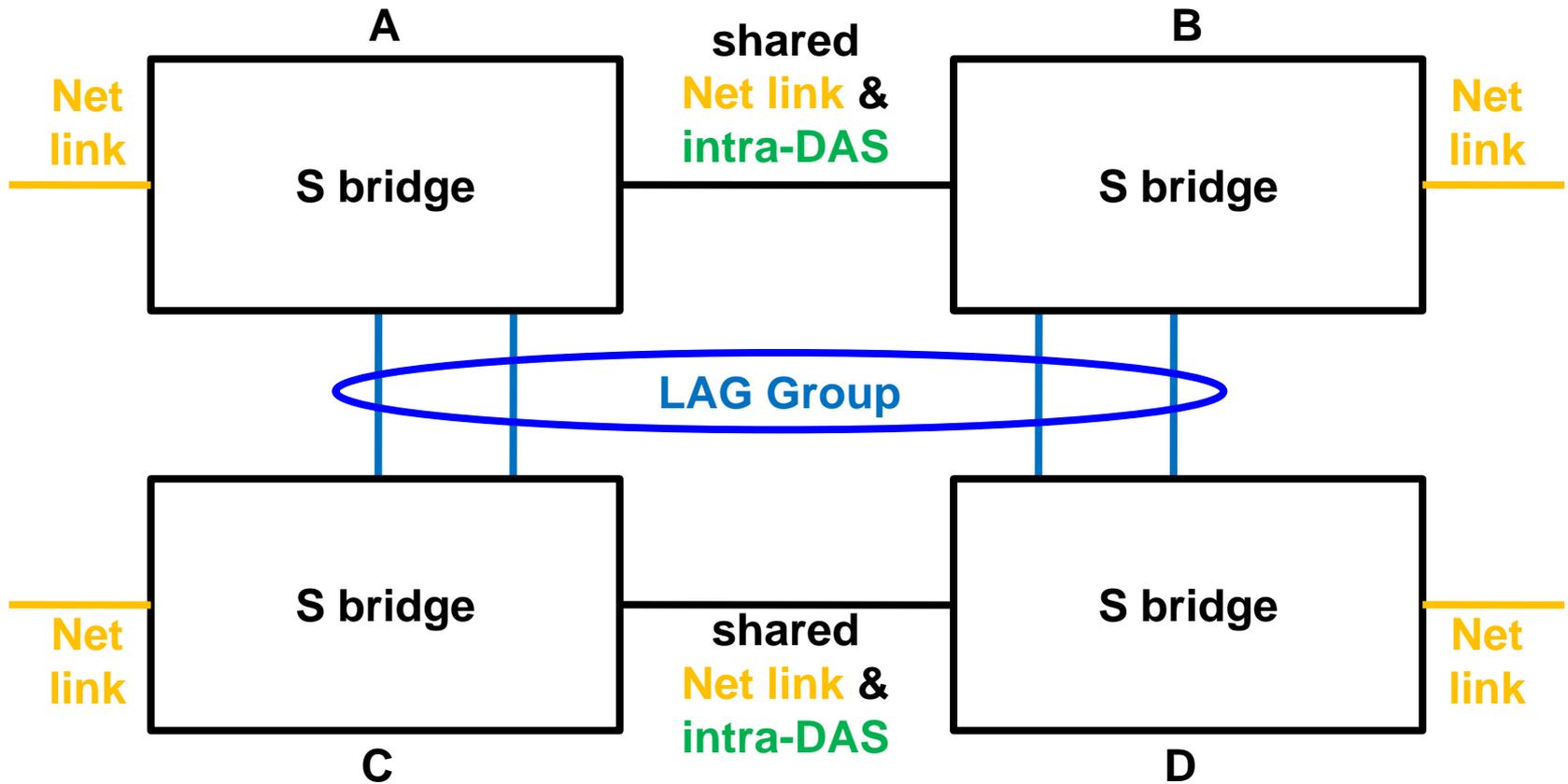
- Let's rewind a few months, and assume that we have some encapsulation plan so that we can distinguish network traffic from intra-DAS traffic on an intra-Portal link.
- And, let's take advantage of what we've learned about the problems of B-components and I-components in the discussion of time sharing.
- The result, I think, is that we can get a good solution without sharing learned MAC address information.

Reminder: Logical view



- In the logical view, the intra-DAS link is not apparent

Reminder: Component view



- **A** and **B** belong to one network, **C** and **D** to another.

So, why did we explore timesharing?

Some very good reasons:

- Selecting/inventing/using an encapsulation is painful.
- The bandwidth requirements for the intra-Portal link were unpleasant.
- There is a philosophical objection to using bandwidth in my network to make up for failures in your network.
- There is the possibility of a frame bouncing back and forth between the left and right sides of the two Portals several times in one transit between networks.

But what do we know, now?

- Encapsulation is necessary, after all.
- The **same scenarios** that lead to back-and-forth hops and bandwidth wastage in the encapsulation plan cause flush/flood/learn events in the timesharing plan.
- One can avoid most bouncing back and forth with a judicious selection of gateways.
- If one uses the encapsulation scheme, a network **can still choose to change gateways** and accept the pain of a flush/flood/learn event instead of the pain of bandwidth wastage.

My conclusion

- Forget timesharing, and pick and/or invent one or more encapsulations.