

Overview of bridging ad-hoc

November 2002



Bridging ad-hoc pillars

1. Basic bridging compliance

- Conformance to 802.1D and 802.1Q MAC bridging requirements

2. Frame transmission adherence to 802.1 MAC service requirements

- Reordering of frames with a given priority and SA/DA pair is not permitted
- Duplication of frames are not permitted
- No guarantee that user frames are delivered

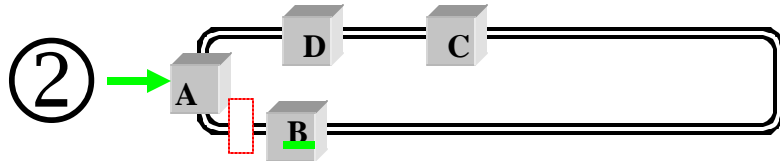
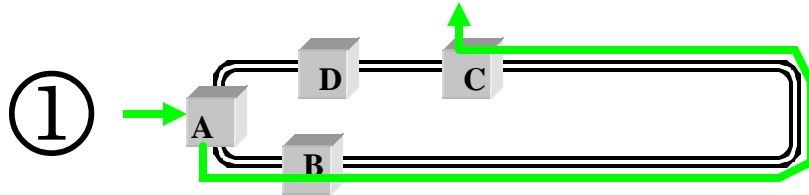
3. Frame structure

- Identification of requirements on RPR frame structure
- Provide frame structure options that can support BAH requirements

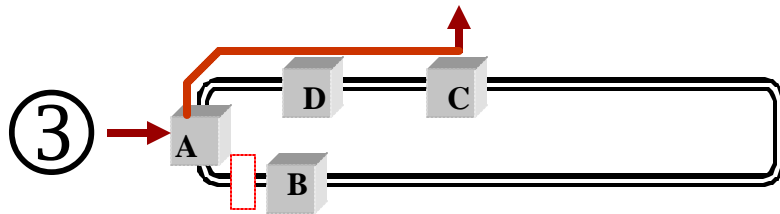
BAH focus

- Groups focus has been on addressing 802.1 MAC service requirements (i.e., frame reorder prevention, duplication prevention, loss permitted)
- Identification of requirements on frame structure to support BAH requirements

Reorder scenario example



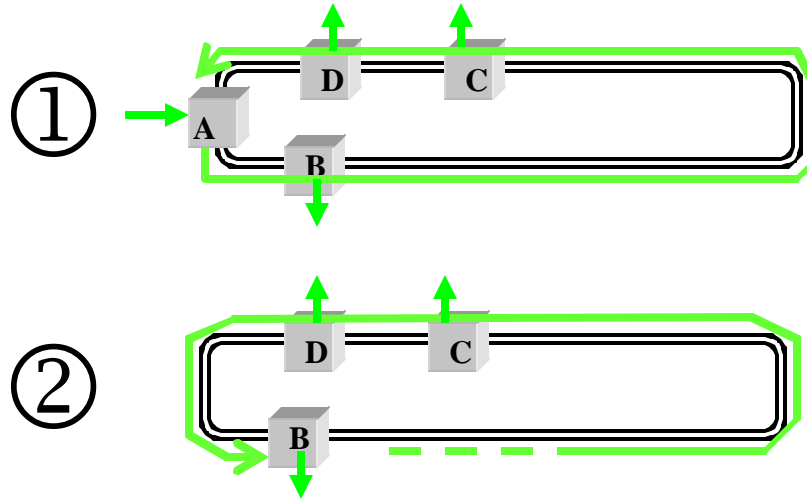
Source station A uses updated topology database to transmit flooded packets



Scenario Walk-thru

- At step 1, station A is sending unicast traffic destined to station C
- At step 2, link AB fails, a protection event is detected and protection control packets are launched
- At step 3, station A launches frames using new image
- However, if frame sent by station A at step 1 reaches stations C after a frame launched by station A at step 1, reorder can occur

Duplication scenario example



Scenario Walk-thru

- At step 1, station A is sending flooding (unidirectional) frame over the ring
- At step 2, station A disappears from ring while in-flight frames are traversing the ring
- In this case, station B could potentially see the same copy of the frame twice, thus frame duplication

BAH proposals

- Bridging ad-hoc has formulated 3 proposals to address the 802.1 MAC service requirements
- Common aspects of proposal
 - A frame purging mechanism is used to prevent reordering on steering systems
 - Hop count based consistency checking is performed at each station for packets traveling on the primary ringlet
 - Adherence to the above 802.1 MAC service requirements can be achieved

Next steps

- Provide update on changes to Annex F to support basic bridging
- Share with WG overview of proposals
 1. Proposal presented by David James and Anoop Ghanwani
 2. Proposal presented by Marc Holness
 3. Proposal presented by Robert Castellano
- Monday evening session arranged to go over the details of each proposal