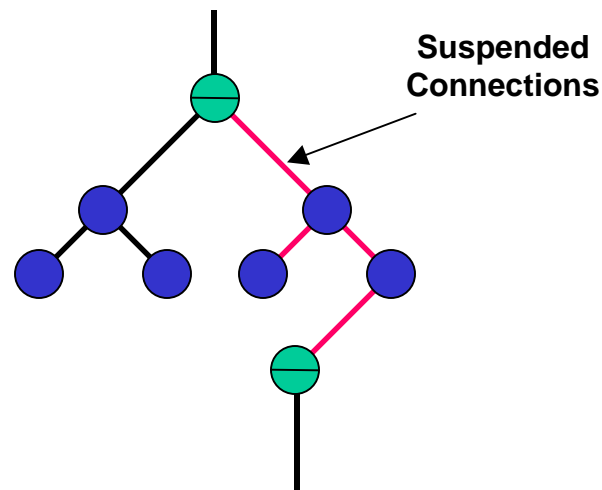


Suspend/Resume and Bridges

David Wooten
Compaq Fellow
Compaq Computer Corp

Can Links to Bridges Be Suspended?



- When connection is suspended, bus reset generated.
- No selfID packets are available for nodes on suspended connections.
- So, portal loses contact, right?

Not Necessarily

- When selfID generated, bridge can check to see if connection was really lost or if port is suspended.
- If port is simply suspended, bridge can keep the virtual nodeID of the node on the other side of the suspended port handy and mark the mapping.
- When a request shows up for one of the suspended nodes, the portal sends a response_tardy to the requestor, and sends a resume to the suspended port.

Suspended Connections Between Bridges

When a portal knows that a connection to another portal is suspended, it needs to be more aggressive about how it deals with `ack_missing` for something destined for another bus.

After an `ack_missing`, the portal should verify that a bridge is available to take the address. This is done with a special packet that asks if any portal is set up to respond to the particular address (map inquiry).

If no portal indicates that it is responsible for forwarding the packet, the portal sends an `response_tardy` and then sends a `resume` to any suspended portals.

Suspended Connections Between Bridges (continued)

After the suspended segment resumes, the portal can inquire about the address again. If there still is no response, then the address is unmapped.

When/if the request comes back, the address will either be invalid (response code will indicate that connection lost) or the connection will be made.

Map Inquiry Request

Need two types

- One simply causes portal to return `ack_pending` if it has a mapping for the bus identified in the destination ID field. The packet is formatted such that it will then be thrown away by the portal.
- Second type is similar to first but response is returned indicating the node ID of the portal. This second type is needed when there is a reset between the missing ack and the inquiry command. If the portal that has the mapping is one that was not present before the reset but is present after, then the packet can be retried (don't need to send a `response_tardy`).