Serial Bus reset detection

(This is a summary of the reset notification process currently in the P1394.1 draft 0.02 document.)

All remote-transaction capable nodes shall implement the RESET_NOTIFICATION and RESET_ACKNOWLEDGE registers.

Sequence of events occur in a network after a bus reset detection

1) When a portal detects a reset on its connected Serial Bus, it shall
    a) update the RESET_NOTIFICATION.bus_ID to its NODE_IDS.bus_ID, increment the RESET_NOTIFICATION.generation_number.
    b) set the quarantine bit to one, thus inhibits the transmission of all asynchronous transactions addressed to its local bus.
    c) discard any response packets queued by the bus for transmission, it shall respond to any request packets queued for the just reset bus with an address error.
    d) The portal shall issue a write request to the bridge manager with the new RESET_NOTIFICATION value.

2) The bridge manager shall propagate the bus reset notification to all bridge portals in the network.

3) A Serial Bus portal that receives a write transaction to its RESET_NOTIFICATION shall
    a) clear the NODE_ENABLE registers, thus disables the transmission of all asynchronous transaction requests initiated by local nodes until individual nodes acknowledge the reset.
    b) Do individual write requests to all local nodes with the new RESET_NOTIFICATION value.
    c) discard any packets queued by the bus for transmission to the remote bus identified by the RESET_NOTIFICATION register, the portal shall respond to any queued packets destined toward the just reset bus with an address error.

4) If a Serial Bus bridge portal receives a write request addressed to the RESET_ACKNOWLEDGE register, and the bus_ID and generation_number values match the current contents of its RESET_NOTIFICATION register, the portal shall re-enable forwarding of asynchronous transactions for the node identified by the source_ID in the write request.