



How to Resolve 4 Comments in One Easy Step

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Issues

- Certain corner cases that need to be covered
 1. Inability to source control packets needed to complete protection or throttle (S/W)
 2. Wrapped packets are killed before protection state advances from IDLE (W)
 3. Incorrect packets are present and circulate a while (SA does not exist) (S/W)
 4. If incorrect packets are present and do not disappear (wrong ring id and system is NOT in wrap) (S/W)



1) Inability to source control packets needed to complete protection or throttle

- The system is self correcting since protection messages are keepalive messages and failure to receive within a reasonable time triggers a condition equivalent to a SF



2) Wrapped packets are killed before protection state advances from IDLE

- This is a performance issue, but not a correctness issue and occurs in the current draft



3) & 4) Incorrect Packets

- Should insure that these packets do not circulate forever
 - Cannot really stop delivery because these packets are correctly formed
 - Nothing can be done about the packet on the correct ring with the SA since we moved the consistency check logic to the receive path BUT ttl will eventually decrement to 0
 - Have to insure the packet does not circulate forever if it is on the wrong ring and the protection state has stabilized
 - Current draft has sufficient protection for steering rings and should only be changed for wrapping systems



Solution to 2), 3), 4)

- (START) When a packet with a wrong RI arrives and the protection state is IDLE
 - Signal the protection sub-layer which starts a timer
 - If the protect sub-layer does not leave the IDLE state before the timer expires
 - Turn on containment for wrong ri packets at that station and start another timer for 10 seconds
 - Based on OC-3 ring with dual TBs (smaller for higher speeds)
 - When the timer expires, or the protection state transitions to wrap containment for wrong ri packets is turned off
 - Return to START



Analysis of 2) & 4)

- If the packet was the wave front of a wrap event, the protection state will advance once the firmware has processed the protection frame
 - No packets are deleted unnecessarily
- If the packet was an incorrect packet
 - It will either be killed in the transit buffer of a node or it will whip around the ring and be killed in the receive path of the first node that detected it



Impact

- The containment of wrong ri packets in both the receive path and transit buffer is already in the draft
 - Currently triggered by protection transitioning to IDLE
- Control sub-layer already triggers on wrong ri and protection packet
 - Small additional change to existing HW



Motion

- To resolve comments 362, 363, 370, 373, based on this presentation and to authorize the section 1, 6, 11 editors to modify their sections of the draft accordingly.
- M Mike Takefman
- S David James
- Y N A