

May 8, 1988

To: X3T9.2 Committee (SCSI)

From: James Semenak (AT&T)

Subject: Contingent Allegiance  
Document #X3T9.2/87-192 R3

This proposal addresses the issue of returning a BUSY status to all initiators other than the initiator which received the CHECK CONDITION status in the Contingent Allegiance state. This is intended for those targets that do not maintain independent recovery but maintain sense data on a per initiator basis.

In many cases it is beneficial for other initiators to be able to ascertain information as to the state of the target or logical unit that is in the Contingent Allegiance or ECA state. This is especially true if the initiator that received the CHECK CONDITION status implements an extensive error recovery procedure as part of its normal error recovery or as part of ECA.

BUSY status does not provide sufficient information as to the state of the target or logical unit in the Contingent Allegiance or ECA state when other initiators are attempting access to that target or logical unit. Systems implementing sophisticated bus management or system error recovery procedures may be hindered by not being able to obtain information as to the state of the logical unit in this state. BUSY status is used as a catch-all status for many types of command processing and error conditions. Because of this its time can range from a few milli-seconds to many minutes. This makes it difficult for systems to implement software around the BUSY status. Additionally in the ECA condition, the length of the BUSY condition may be determined by the recovery procedure of the initiator which received the CHECK CONDITION. Thus it may prevent the target or logical unit from being accessible by other initiators for long periods of time.

To this end the proposal requests an extension to the Contingent Allegiance state which will allow a target to return a CHECK CONDITION status to all other initiators in addition to the initiator which caused the error. The sense data would indicate a deferred error state, the sense key shall be set to 02h (NOT READY), the additional sense code shall be set to 04h (Logical Unit Not Ready) and the additional sense code qualifier shall be set to 05h (Contingent Allegiance or ECA state pending). Additionally the sense key specific field shall be set to one and the SCSI ID (SID) field shall be set to the SCSI ID of the initiator for which the Contingent Allegiance or ECA state is pending.

I propose the following changes and additions to the SCSI-2 Revision 4 draft.

#### Section 6.8 Contingent Allegiance - Page 6-17

*Those targets that do not maintain independent recovery operations, including sense information, for each logical thread shall respond to any other requests for access to the logical unit from another initiator with a BUSY status. Additionally those targets which do not maintain independent recovery operations but DO maintain sense data for each initiator shall respond to any other requests for access to the logical unit from another initiator with a CHECK CONDITION status. The sense data shall indicate a deferred error state, the sense key shall be set to 02h*

*(NOT READY), the additional sense code shall be set to 04h (Logical Unit Not Ready) and the additional sense code qualifier shall be set to 05h (Contingent Allegiance or ECA state pending). Additionally the sense key specific field shall be set to one and the SCSI ID (SID) field shall be set to the SCSI ID of the initiator for which the Contingent Allegiance or ECA state is pending. Execution of queued commands for the logical unit for which the contingent allegiance condition exists shall be suspended until the contingent allegiance condition is terminated.*

**Section 7.1.15.1 Sense- Key Specific - Page 7-70**

The following addition must be made to the definition of the sense-key specific field for the NOT READY sense key.

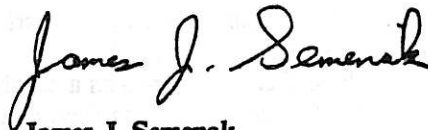
The SCSI ID (SID) field must be added to Byte 15 Bits 2, 1 and 0 of the sense data for the sense-key specific definition of NOT READY sense key. This field is used to indicate the initiator's SCSI ID for which the pending Contingent Allegiance or ECA condition is outstanding.

**Section 7.1.15.2 Deferred Errors - Page 7-71**

Paragraph 4 second sentence on page 7-71 should be changed to:

*If an initiator other than the causing initiator attempts access to the particular function or subset of data associated with the deferred error, the target shall implement contingent allegiance as defined in section 6.8.*

Thank you for the opportunity to present this proposal.



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