



Comparison of Contingent Allegiance and Auto Contingent Allegiance

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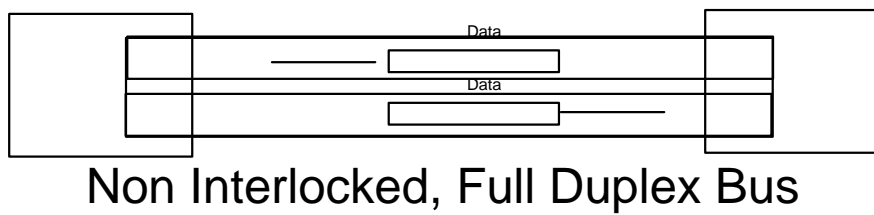
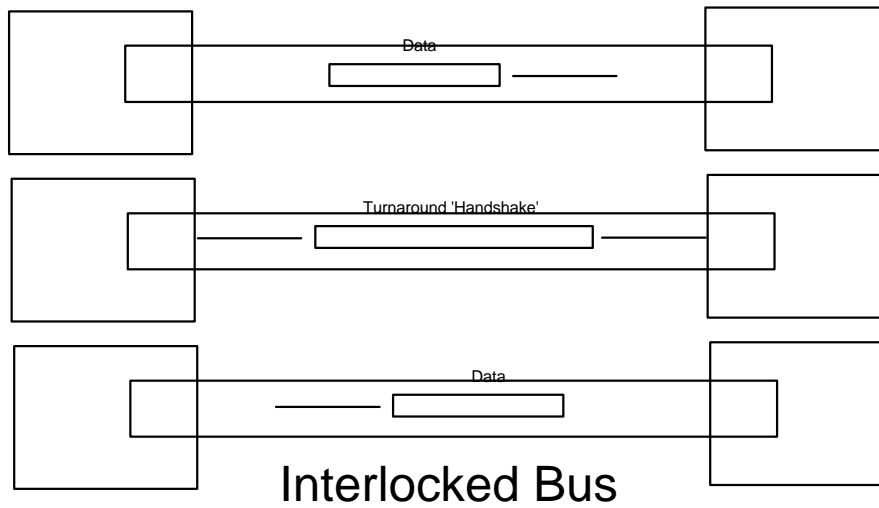
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- ACA
 - An extension of contingent allegiance which allows SCSI protocols to be implemented on non-interlocked, full-duplex I/O busses.
- Autosense
 - The automatic return of sense data whenever a command completes with a status of COMMAND TERMINATED or CHECK CONDITION

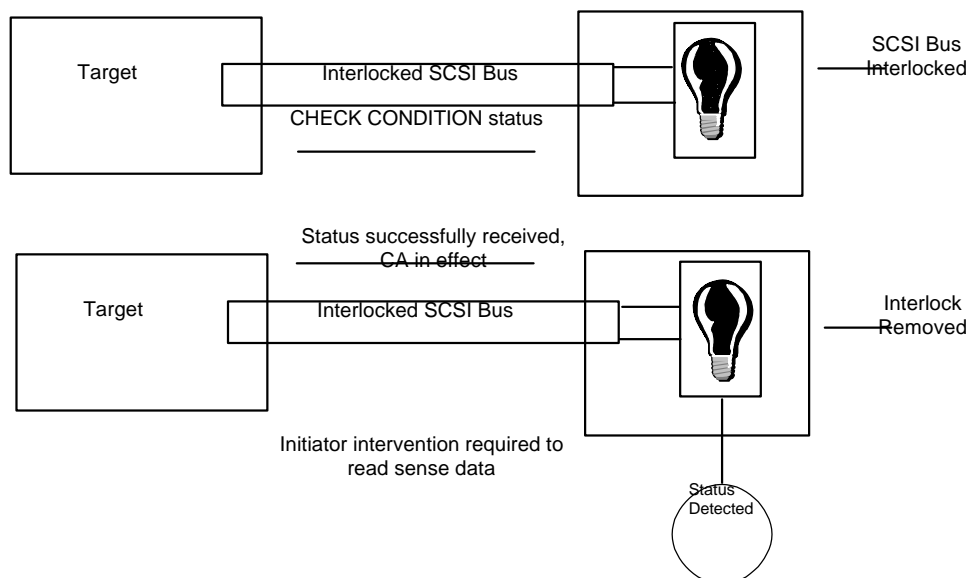
Why ACA?

- Information flow on non-interlocked bus may be full-duplex.
 - Commands and statuses can be 'in transit' simultaneously.
- On full duplex bus, ACA prevents commands in transit from causing:
 - Loss of Sense Data,
 - Other undesirable side effects.

Bidirectional Data Flow in Interlocked and Non-interlocked, Full Duplex Busses

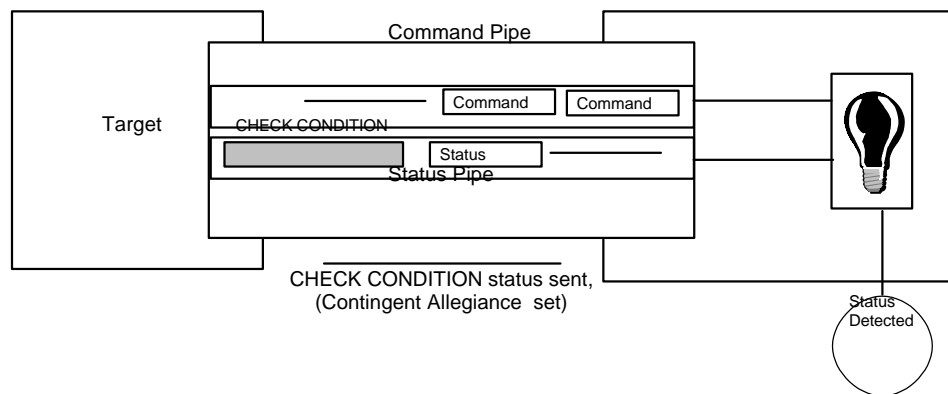


Contingent Allegiance: Interlocked Bus, No autosense



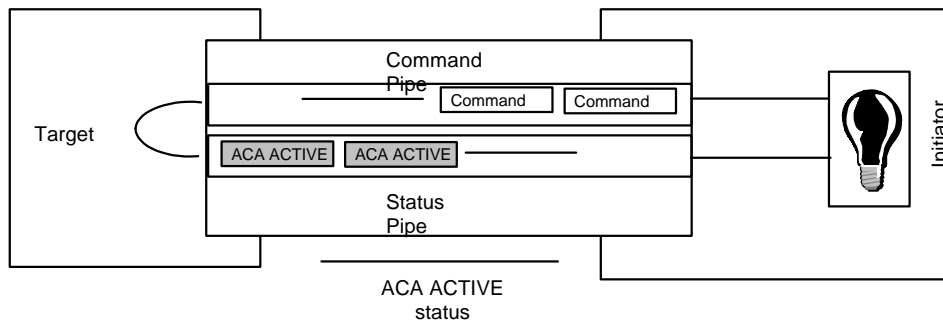
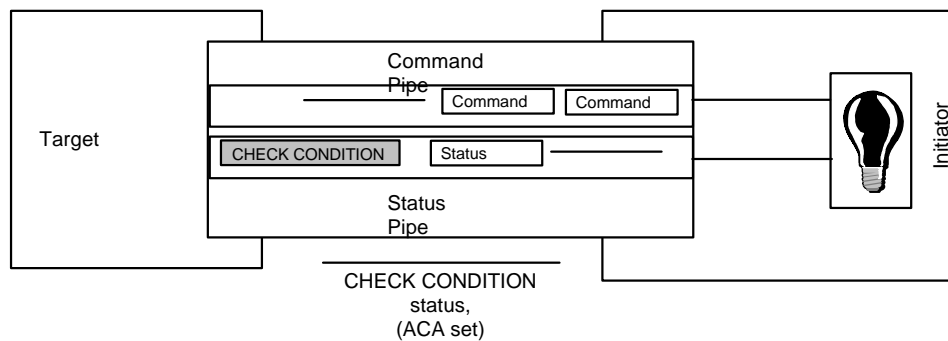
- CA set on successful status transfer
- No more than one command or status 'in transit' at any time.

Contingent Allegiance: No Autosense, Non-Interlocked, Full Duplex bus



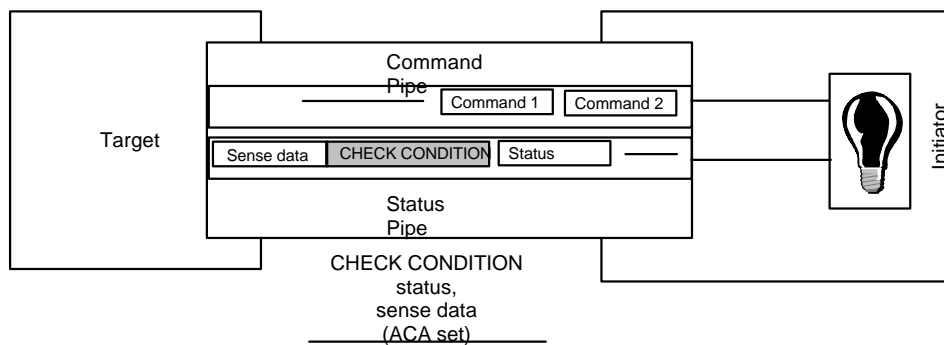
- At any time, several commands and statuses may be in transit.
- CA set when status enters pipe.
- Next command received by logical unit automatically clears CA.
 - Sense data may be lost.
- Initiator may have to back-out effects of commands sent before the CHECK CONDITION status was detected by the initiator.

Auto Contingent Allegiance: No Autosense, Non-Interlocked, Full Duplex Bus



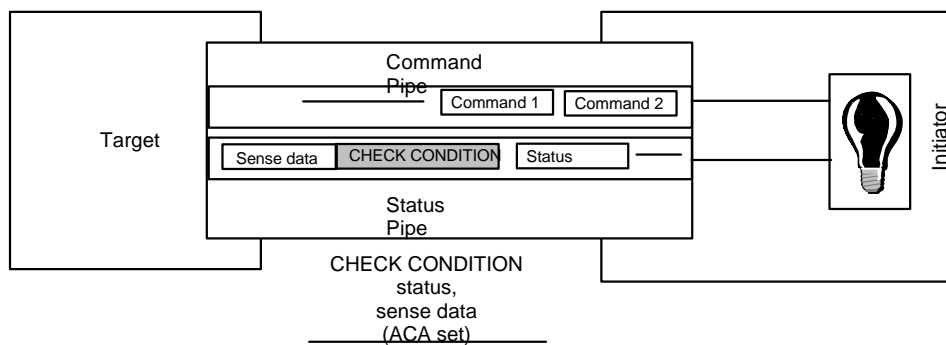
- Commands in the pipe won't clear the ACA condition.
 - ACA must be explicitly cleared by initiator.
- Sense data is preserved.
 - May be retrieved with ACA command.
 - Next ACA command unconditionally clears sense data.
- Commands terminated with ACA ACTIVE status don't cause logical unit side effects that must be 'backed out'.

Contingent Allegiance: Autosense, Non-Interlocked Bus



- Sense data preserved through delivery to initiator.
- More efficient sense data retrieval.
- Initiator may still have to backout the effects of commands sent before the CHECK CONDITION status was detected.
- CA automatically cleared on return of sense data.

Auto Contingent Allegiance: Autosense, Non-interlocked bus



- Commands in the pipe do not clear ACA.
- More efficient sense data retrieval.
- Commands terminated with ACA ACTIVEstatus have no logical unit side effects that must be 'backed out'.
- Initiator must still clear ACA explicitly.

Summary

Condition	Condition Cleared by:	Sense Data Cleared by:
Contingent Allegiance	<ol style="list-style-type: none">1. Next SCSI Command2. Autosense	<ol style="list-style-type: none">1. Next SCSI Command2. Autosense
Auto Contingent Allegiance	<ol style="list-style-type: none">1. CLEAR ACA taskmanagement function	<ol style="list-style-type: none">1. Next ACA command.2. Autosense