R-REQUEST, C-CONFORMATION, P-PARAMETER, RC-REASON CODE

State Type Request/Conformation

Reason

SAS Link Layer to Port Layer Communication

SL0;	R,P	Open Connection	Port layer request link layer to open a connection	
SL1;Arb Sel	R,P	Stop Arb	Port layer request link layer to terminate arbitration	
SL1;SL0	C,P;RC C,P;RC C,P;RC C,P;RC C,P;RC	Arb Lost; OPEN FAILED-WRONG DESTINATION Arb Lost; OPEN FAILED-INVALID LINK RATE Arb Lost; OPEN FAILED-INVALID PROTOCOL TYPE) Arb Lost; OPEN FAILED-RETRY Arb Lost; OPEM FAILED-PATHWAY BLOCKED	IF OPEN_REJECT(WRONG DESTINATION) IF OPEN_REJECT(INVALID LINK RATE) IF OPEN_REJECT(INVALID PROTOCOL TYPE) IF OPEN_REJECT(RETRY) IF OPEN_REJECT(PATHWAY BLOCKED)	
	C,P;RC C,P;RC	Arb Lost; OPEN FAILED-NO DESTINATION Arb Lost; OPEN FAILED-BAD DESTINATION	IF OPEN_REJECT(NO DESTINATION) IF OPEN_REJECT(BAD DESTINATION)	
SL1;SL4	C,P;RC C,P;RC C,P;RC	Connection Opened; SSP LINK OPENED BY ARB SEL Connection Opened; STP LINK OPENED BY ARB SEL Connection Opened; SMP LINK OPENED BY ARB SEL	SSP LINK OPENED BY TX STP LINK OPENED BY TX SMP LINK OPENED BY TX	
SL1;SL6	C,P;RC C,P;RC	Arb Lost; ARBITRATION LOST-PORT LAYER REQUEST Arb Lost; ARBITRATION LOST-OPEN TIME-OUT OCCURED	Arbitration terminated due to port layer Stop Arb request Arbitration terminated due to Open Timeout expired	
SL1;SL7	C,P;RC	Arb Lost; ARBITRATION LOST-BREAK RECEIVED	BREAK received during arbitration	
SL2;Sel	R,P R;P	Reject Opens Accept Opens	Port layer request link layer to reject opens Port layer request link layer to accept opens	
SL2;SL0	C,P;RC C,P;RC C,P;RC C,P;RC	Connection Rejected; CONNECTION REJECTED-RETRY Connection Rejected; CONNECTION REJECTED-INVALID PROTOCOL TYPE Connection Rejected; CONNECTION REJECTED-WRONG DESTINATION Connection Rejected; CONNECTION REJECTED-INVALID LINK RATE	Port layer request link layer to reject opens & open rcved Protocol in open frame not supported destination port in open frame not this SAS port Link rate in open frame not supported	
SL2;SL4	C,P;RC:O) C,P;RC:O) C,P;RC:O)	Connection Opened; SSP LINK OPENED BY SELECTED Connection Opened; STP LINK OPENED BY SELECTED Connection Opened; SMP LINK OPENED BY SELECTED	SSP LINK OPENED by the Receive path STP LINK OPENED by the Receive path SMP LINK OPENED by the Receive path	
SL2;SL7	C,P;RC	BREAK Rev; CONNECTION CLOSED-BREAK RECEIVED	A BREAK was received while connected	
SL4: Connected				
SI4:SL5	C,P	CLOSE Rev	A CLOSE was received while connected	
SL5;D Wait				
SL5 SL5	C,P C,P	CLOSE Rcv CLOSE Txed	A CLOSE has been received A CLOSE has been transmitted	
SL5;SL0	C,P;RC	Connection Closed; CONNECTION CLOSED-NO ERRORS OCCURRED	CLOSE transmitted and received	
SL5;SL6	C,P;RC	Close Time-out; CONNECTION CLOSED-CLOSE TIME-OUT	CLOSE timeout exceeded after CLOSE was transmitted	
SL5;SL7	C,P;RC	BREAK Rev; CONNECTION CLOSED-BREAK RECEIVED	A BREAK was received while trying to close	
SL6;Bk Wait				
SL6;SL0	C,P;RC	Link Broke; CONNECTION CLOSED-LINK BROKE	BREAK timeout exceeded after a BREAK was transmitted	

SSP Link Layer to Port and Transport Layer Communication

SSP_R1; Rc	v C,P;RC	Destination ACK/NAK time-out; DONE(ACK/NAK timeout) Destination credit time-out; DONE(credit time-out) DONE Rcv	ACK/NAK timeout occurred after last transmit Credit unavailable for 1 ms after last tx
SSP_RF1;	C,P; C;P	Protocol Violation; Illegal Frame;	discard frame-4 conditions but no reason codes discard frame-consecutive SOF without intervening EOF
SSP_RF2;	C,P;RC C,P;RC C,P;RC	Frame Received; number ACK/NAK's txed equal to EOFs received Frame Received; number ACK/NAK's txed not equal to EOFs received Failed Frame: frame error(i.e., CRC error)	frame successfully received frame successfully received frame unsuccessfully received
SSP_TF1	R,P;RC R,P, RC R,P	Tx Frame; Interlocked Frame Tx Frame; non-Interlocked Frame Close Connection;	Transmit an Interlocked frame Transmit a Non-Interlocked frame
SSP_TF2	C,P	ACK/NAK time-out:	An ACK or a Nak was not rev within 1 ms from last fm tx
SSP_TF3	C,P	Credit Timeout:	Credit Timeout since last Tx
SSP_TF5	C,P	DONE Transmitted;	a Done was transmitted to close the transmit state

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SSP_D1	C,P	DONE Timeout:	A DONE was not received within 1 ms of a DONE tx
SSP_TIM1	C,P	ACK Received	An ACK was just received (for a frame transmitted)
	C,P	NAK Received	A NAK was just received (for a frame transmitted)

SMP Link Layer to Port and transport Layer Communication Add in SSP Port Connection Layer to Transport Layer Communication

PC_R&Q1	R,P R,P R,P R,P	Open Req (to i): Interlocked Frame Open Req (to i); Non Interlocked Frame Disconnect Request Tx for this Req complete	Request for an interlocked frame tx to be queued Request for a non interlocked frame tx to be queued Request that connection be closed last frame txed, check for next frame to tx
	C,P,RC	Conn Status (to i); CONNECTED-FRAME TRANSMISSION MAY OCCUR	
	C,P,RC	Conn Status (to i); WAIT FOR A CONNECTION	
	C,P,RC	Conn Status (to i); ARB LOST WO RETRY-BAD DESTINATION	
	C,P,RC	Conn Status (to i); ARB LOST WO RETRY-WRONG DESTINATION	
	C,P,RC	Conn Status (to i); ARB LOST WO RETRY-INVALID PROTOCOL TYPE	
	C,P,RC	Conn Status (to i); ARB LOST WO RETRY-TOO MANY STP INITIATORS	
	C,P,RC	Conn Status (to i); ARB LOST AFTER RETRY-NO DESTINATION	
	C,P,RC	Conn Status (to i); ARB LOST AFTER RETRY-INVALID LINK RATE	
	C,P,RC	Conn Status (to i); ARB LOST AFTER RETRY-PHYSICAL NOT READY	
	C,P,RC	Conn Status (to i); ARB LOST AFTER RETRYI T NEXUS LOSS TIMEOUT	
	C,P,RC	Conn Status (to i); ARB LOST –BREAK RECEIVED	
	C,P,RC	Conn Status (to i); ARB LOST -OPEN TO OCCURRED	
	C,P,RC	Conn Status (to i); CONNECTION REJECTED-RETRY	
	C,P,RC	Conn Status (to i); CONNECTION EXITED- INVALID PROTOCOL TYPE	
	C,P,RC	Conn Status (to i); CONNECTION EXITED- WRONG DESTINATION	
	C,P,RC	Conn Status (to i); CONNECTION EXITED- BAD DESTINATION	
	C,P,RC	Conn Status (to i); CONNECTION EXITED- NO DESTINATION	
	C,P,RC	Conn Status (to i); CONNECTION EXITED- INVALID LINK RATE	
	C,P,RC	Conn Status (to i); CONNECTION EXITED-NO ERRORS OCCURRED	
	C,P,RC	Conn Status (to i); CONNECTION EXITED-BREAK RECEIVED	
	C,P,RC	Conn Status (to i); CONNECTION EXITED-CLOSE TINME-OUT	
	C,P,RC	Conn Status (to i); CONNECTION EXITED-LINK BROKE	
	C,P,RC	Conn Status (to i); DISCONNECT IN PROCESS-DISCON/RECON LIMIT EXCEEDE	ED

Physical Layer to Link/Port Layer Communications

SP0	R,P	ULP phy reset	perform a physical general reset
SP13	C,P C,P	Phy Status; PHYRDY Phy Status; -CominitDet&SignalDet	Physical not ready to open a connection Phy reset sequence complete
DWS0	C,P	Dword Sync Status; Receive input invalid	Not in Dword synchronization
DWS3	C,P	Dword Sync Status; Receive input valid	In Dword synchronization