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Information processing systems – Open Systems Interconnection – Basic connection oriented session protocol specification

AMENDMENT 3: Additional synchronization functionality

Systèmes de traitement de l'information – Interconnexion de systèmes ouverts – Protocole de session en mode connexion

AMENDEMENT 3: Fonction de synchronisation supplémentaire

Reference number
ISO 8327:1987/Amd. 3:1992 (E)

Foreword

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Amendment 3 to International Standard ISO 8327:1987 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology.*

Information processing systems – Open Systems Interconnection – Basic connection oriented session protocol specification

AMENDMENT 3: Additional synchronization functionality

Introduction to this Amendment

This Amendment introduces the data separation functional unit into the Session Protocol Specification. The data separation functional unit supports the additional functionality of separation of data before and after a minor synchronization point. It should be noted that the page and clause numbering in this Amendment relate to SC 21 N4656 "Revised version of ISO 8327", which is planned to be submitted for publication later this year. This is because this Amendment affects changes introduced by earlier Amendments and Addenda. This Amendment makes no change to any other part of the Session Protocol.

Page 4

Subclause 4.5   Local variables

Insert new items in the list after Vsc as follows

> " V(Ado)   see 5.8.3.5
>
> V(Adi)   see 5.8.3.6"

Page 8

Subclause 5.4.3   Data transfer phase

Insert a new item after 5.4.3 f) as follows and re-letter the subsequent items g) to k) as h) to l)

> "g) data separation is used in association with either minor synchronization or symmetric synchronization. This allows the user to set specific minor synchronization points which have the property of protecting the flow sent before these points from being purged by a subsequent resynchronize. When such a point is set in the data flow, SPDUs received by the requesting SPM before this point has been acknowledged will not be discarded by a subsequent resynchronize."

Page 9

Table 3 — Functional units

Insert a new entry after Symmetric Synchronize as follows

Functional unit	SPDU code	SPDU name	Reference
Data separation		No additional associated SPDUs	

Page 11

Subclause 5.5   Functional units

Insert a new subclause after subclause 5.5.9 and re-number subsequent subclauses 5.5.10 to 5.5.13 as 5.5.11 to 5.5.14:

"5.5.10   Data separation functional unit

The data separation functional unit is always associated with either the minor synchronize functional unit or the symmetric synchronize functional unit. It allows the user to define minor synchronization points which clearly separate the normal flow before and after these points and which are protected against possible discard by a subsequent resynchronize. It is not valid to select both this functional unit and the activity management functional unit for use on the same session connection."

Page 11

Subclause 5.7.1   Negotiation of functional units

Insert a new paragraph at the end of subclause 5.7.1 as follows

"The data separation functional unit can only be proposed if the minor synchronize functional unit or the symmetric synchronize functional unit is proposed."

Page 12

Subclause 5.8.3   Synchronization point variables for use without the symmetric synchronize functional unit

Insert two new subclauses after subclause 5.8.3.4

"5.8.3.5 V(Ado)

V(Ado) is used by the SPM and is the highest synchronization point serial number which was sent in a MINOR SYNCHRONIZATION POINT SPDU with the data separation parameter set to true. Received SPDUs cannot be discarded in case of resynchronization when V(Ado) is greater than or equal to V(A).

5.8.3.6 V(Adi)

V(Adi) is used by the SPM and is the highest synchronization point serial number which was received in a MINOR SYNCHRONIZATION POINT SPDU with the data separation parameter set to true."

Page 29

Subclause 7.20.1 Content of the MINOR SYNC SPDU

Replace item a) by the following

> "a) a Sync Type item which is used to indicate :
>
>> 1) if an explicit confirmation is required;
>>
>> 2) if the data separation is requested."

Page 29

Subclause 7.20.2 Sending the MINOR SYNC SPDU

Add the following before the last sentence

> "If the Sync Type parameter has the value "data separation", V(Ado) is set to V(M)."

Page 32

Subclause 7.24.2.1 Sending the RESYNCHRONIZE SPDU without symmetric synchronization

Replace the last sentence of the first paragraph with the following

> "If the transport expedited flow is available to this session connection and the Data Separation functional unit has not been selected, a PREPARE (RESYNCHRONIZE) SPDU is sent simultaneously, or earlier, on the transport expedited flow. If the transport expedited flow is available to this session connection and the Data Separation functional unit has been selected, one of the following applies:
>
>> a) if a previously sent MINOR SYNCHRONIZATION POINT SPDU with the Sync Type Item having the value "data separation" has not been acknowledged, then a PREPARE (RESYNCHRONIZE) SPDU shall not be sent;
>>
>> b) otherwise, a PREPARE (RESYNCHRONIZE) SPDU may be sent, as a local matter."

Page 32

Subclause 7.24.2.1   Sending the RESYNCHRONIZE SPDU without symmetric synchronization

Replace the second paragraph with the following

"The SPM goes into a state where incoming SPDUs are discarded in the following way :

> a)   if the Data Separation functional unit is not selected or if there is no unacknowledged minor synchronization point with the Sync Type item having the value "data separation" (previously sent by the local SPM), all SPDUs are discarded except : PREPARE (RESYNCHRONIZE), RESYNCHRONIZE, PREPARE (RESYNCHRONIZE ACK), RESYNCHRONIZE ACK, ACTIVITY DISCARD, ACTIVITY INTERRUPT and ABORT SPDUs.

> b)   if the Data Separation functional unit is selected and there are unacknowledged minor synchronization points with the Sync Type item having the value "data separation" (previously sent by the local SPM), only the following SPDUs are discarded : PREPARE (MAJOR SYNC ACK) SPDUs, MAJOR SYNC ACK SPDUs (see the note).

> NOTE — The MAJOR SYNC ACK SPDU is discarded (and therefore does not result in an S-SYNC-MAJOR confirm) because the previously issued S-RESYNC request prevented the completion of the dialogue unit. It is not possible to deliver the S-SYNC-MAJOR confirm because this would cause V(R) to be updated and this may be a later value than that to which the resynchronize is occurring."

Page 32

Subclause 7.24.2.2   Receiving the RESYNCHRONIZE SPDU without symmetric synchronization

Replace the second paragraph with the following

"When the PREPARE(RESYNCHRONIZE) SPDU is received, the SPM goes into a state where incoming SPDUs are discarded in the following way :

> a)   if the Data Separation functional unit is not selected or if there is no outstanding minor synchronization point with the Sync Type item having the value "data separation", all SPDUs are discarded, until the RESYNCHRONIZE SPDU is received, except for ABORT SPDUs.

> b)   if the Data Separation functional unit is selected and there are one or more outstanding minor synchronization points with the Sync Type item having the value "data separation" (previously sent by the SPM), only the following SPDUs are discarded, until the RESYNCHRONIZE SPDU is received : PREPARE (MAJOR SYNC ACK) SPDUs, MAJOR SYNC ACK SPDUs (see the note).

> NOTE — The MAJOR SYNC ACK SPDU is discarded (and therefore does not result in an S-SYNC-MAJOR confirm) because the previously issued S-RESYNC request prevented the completion of the dialogue unit. It is not possible to deliver the S-SYNC-MAJOR confirm because this would cause V(R) to be updated and this may be a later value than that to which the resynchronize is occurring."

Page 35

Subclause 7.25.2.1 Sending the RESYNCHRONIZE ACK SPDU without symmetric synchronization

Add a new paragraph at the end of 7.25.2.1 as follows

"If the Data Separation functional unit has been selected, V(Ado) is set to -1."

Page 35

Subclause 7.25.2.2 Receiving the RESYNCHRONIZE ACK SPDU without symmetric synchronization

Add a new paragraph at the end of 7.25.2.2 as follows

"If the Data Separation functional unit has been selected, V(Adi) is set to -1."

Page 47

Subclause 8.3.1.13

Insert a new item after 8.3.1.13 l) as follows and re-letter the subsequent items m) and n) as n) and o)

"m) bit 13   : data separation functional unit"

Replace "Bits 13-16 are reserved" with "Bits 14-16 are reserved"

Page 56

Subclause 8.3.20.3

Replace the subclause as follows

"8.3.20.3 The Sync Type item PV field, if present, shall indicate the following

    a)   bit 1 = 1   : explicit confirmation not required

           bit 1 = 0   : explicit confirmation required

    b)   bit 2 = 1   : data separation required

           bit 2 = 0   : data separation not required

Bits 3-8 are reserved.

This parameter field shall be absent if an explicit confirmation is required and data separation is not required."

Page 70

Subclause A.5.1 Functional units

Replace the fu-dom expression as follows

> "fu-dom = {FD, HD, EXCEP, TD, NR, SY, SS, DS, MA, RESYN, EX, ACT, CD}"

Add the following to the list of functional units after "SS = Symmetric synchronize functional unit"

> "DS = Data separation functional unit"

Page 73

Subclause A.5.4 Variables

Insert two subclauses after subclause A.5.4.14 and renumber subsequent subclauses A.5.4.15 to A.5.4.18 as A.5.4.17 to A5.4.20

"A.5.4.15 V(Ado)

V(Ado) is used by the SPM and is the highest synchronization point serial number which was sent in a MINOR SYNCHRONIZATION POINT SPDU with the data separation parameter set to true. Received SPDUs cannot be discarded in case of resynchronization when V(Ado) is greater than or equal to V(A).

A.5.4.16 V(Adi)

V(Adi) is used by the SPM and is the highest synchronization point serial number which was received in a MINOR SYNCHRONIZATION POINT SPDU with the data separation parameter set to true."

Page 75

Table 47 — Incoming events

Insert a new entry after SSYNmreq as follows

Abbreviated name	Category	Name and description
SSYNmdreq	SS-user	S-SYNC-MINOR (data separation) request primitive

Page 76

Table 47 — Incoming events

Insert a new entry after MIP as follows

Abbreviated name	Category	Name and description
MIP-d	SPDU	MINOR SYNC POINT (data separation) SPDU

Page 78

Table 49 — Outgoing events

Insert a new entry after SSYNmind as follows

Abbreviated name	Category	Name and description
SSYNmdind	SS-user	S-SYNC-MINOR (data separation) indication primitive

Page 79

Table 49 — Outgoing events

Insert a new entry after MIP as follows

Abbreviated name	Category	Name and description
MIP-d	SPDU	MINOR SYNC POINT (data separation) SPDU

Pages 82, 83

Table 52 — Specific actions

Change the following actions

[5]	insert	Set V(Ado) = -1 Set V(Adi) = -1
[28]	insert	Set V(Ado) = -1 Set V(Adi) = -1
[68]	insert	Set V(Ado) = -1 Set V(Adi) = -1
[71]	insert	Set V(Ado) = -1 Set V(Adi) = -1

Insert new actions as follows

[41]	Set V(Ado) = V(M)
[42]	Set V(Ado) = V(Ms)
[43]	Set V(Ado) = -1 Set V(Adi) = -1
[44]	Set V(Adi) = V(M)
[45]	Set V(Adi) = V(Mr)

Pages 84, 85

Table 53 — Predicates

Replace predicate p35 as follows

p35	FU(RESYN) & [⌐TEXP OR FU(DS)]

Replace predicate p185 as follows

p185	discard-rcv-flow & ⌐p81

Insert new predicates as follows

p80	⌐FU(DS) OR [⌐FU(SS) & V(Adi) < V(A)] OR [FU(SS) & V(Adi) < V(Ar)]
p81	[⌐FU(SS) & V(Ado) ≥ V(A)] OR [FU(SS) & V(Ado) ≥ V(As)]
p82	FU(DS)

After the table insert new note 5 as follows

"5 PR is not sent if p81 is true, or TEXP is false, or, as a local choice, if the data separation functional unit is selected."

Pages 86-1 to 86-44

Tables 54 to 71 — State tables

Replace the state tables with the following pages.

*Editorial note: Any transitions which are possibly missing from the 1990 text are **not** included. The changes are made to both the state tables without the symmetric synchronize functional unit and the state tables with the symmetric synchronize functional unit. However, a number of errors have been discovered in the second set of state tables. No attempt has been made to correct these errors in this Amendment, so the first set of state tables should be regarded as more complete and correct.*

Cells which have been altered are shaded.

Table 54 — Connection establishment state table without the symmetric synchronize functional unit

State Event	STA01 idle no TC	STA01A await AA	STA01B await TCONcnf	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA02B await OA	STA08 await SCONrsp	STA15D wait after PR-AB	STA16 await TDISind
AC	//	STA01A	//	TDISreq STA01		SCONcnf+ [5][11] STA713 [6]			STA15D	STA16
CDO	//		//	TDISreq STA01	¬p202 [50] STA01D p202 SCONind STA08				STA15D	
CN	//	TDISreq [3] STA01	//	¬p01&¬p76&p204 OA [50] STA01D ¬p01&¬p76&¬p204 SCONind STA08 ¬p01&p76&¬p02 RF-nr [4] STA16 ¬p01&p76&p02 RF-r STA01C p01 TDISreq STA01						TDISreq [3] STA01
OA	//		//	TDISreq STA01			CDO [51] STA02A		STA15D	
RF-nr	//	STA01A	//	TDISreq STA01		SCONcnf- TDISreq STA01	SCONcnf- TDISreq STA01			STA16
RF-r	//	STA01A	//	TDISreq STA01		¬p02 SCONcnf- TDISreq STA01 p02 SCONcnf- STA01C	¬p02 SCONcnf- TDISreq STA01 p02 SCONcnf- STA01C			STA16
SCONreq	TCONreq [2] STA01B			p01&p204 CN STA02B p01&¬p204 CN STA02A						
SCONrsp+								AC [5][11] STA713	STA15D	
SCONrsp-								¬p02 RF-nr [4] STA16 p02 RF-r STA01C	[4] STA16	
TCONcnf	//	//	p204 CN STA02B ¬p204 CN STA02A	//	//	//	//	//	//	//
TCONind	TCONrsp [1] STA01C	//	//	//	//	//	//	//	//	//

Table 55 — Data transfer state table without the symmetric synchronize functional unit

State \ Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA
DT	STA01A	TDISreq STA01	TDISreq STA01		p05&p10 SDTind STA03	p05 SDTind STA04A	p05 SDTind STA04B	p05&p185 STA05A p05&¬p185 SDTind STA05A	p05 STA05B
EX	STA01A	TDISreq STA01	TDISreq STA01	[10] STA02A	p09 SEXind STA03	p08 SEXind STA04A	p08 SEXind STA04B	p08&p185 STA05A p08&¬p185 SEXind STA05A	p08 STA05B
TD	STA01A	TDISreq STA01	TDISreq STA01		p06&p10 STDind STA03	p06 STDind STA04A	p06 STDind STA04B	p06&p185 STA05A p06&¬p185 STDind STA05A	p06 STA05B
SDTreq									
SEXreq									
STDreq									

Table 55 (continued)

State \ Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS
DT	p05 STA05C	p05&p185 STA06 p05&¬p185 SDTind STA06				p05&¬p185 SDTind STA11A	p05 SDTind STA15A	p05&p185 STA15B p05&¬p185 SDTind STA15B
EX	p08 STA05C	p08 [10] STA06				p08&¬p185 SEXind STA11A	p08 [10] STA15A	
TD	p06 STA05C	p06&p185 STA06 p06&¬p185 STDind STA06					p06 STDind STA15A	p06&p185 STA15B p06&¬p185 STDind STA15B
SDTreq			p04 DT STA09	p03 DT STA10A	p03 DT STA10B			p03 STA15B
SEXreq			p09 EX STA09	p08 EX STA10A	p08 EX STA10B			p08 STA15B
STDreq			p07 TD STA09	p06 TD STA10A	p06 TD STA10B			p06 STA15B

11

Table 55 *(concluded)*

State / Event	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA21 await CDA	STA713 data transfer
DT	p05&p185 STA15C p05&⌐p185 SDTind STA15C	STA15D	STA16	p70 SDTind STA18	STA19	p05 STA20	p70 SDTind STA21	p05 SDTind STA713
EX	p08 [10] STA15C		STA16	p08 SEXind STA18	p08 STA19	p08 STA20	p08 SEXind STA21	p08 SEXind STA713
TD	p06&p185 STA15C p06&⌐p185 STDind STA15C	STA15D	STA16	p06 STDind STA18	p06 STA19	p06 STA20	p06 STDind STA21	p06 STDind STA713
SDTreq		STA15D		p70 DT STA18				p03 DT STA713
SEXreq		STA15D		p08 EX STA18				p08 EX STA713
STDreq		STA15D		p06 TD STA18				p06 TD STA713

Table 56 — Synchronization state table without the symmetric synchronize functional unit

State \ Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll
MAA/AEA	STA01A	TDISreq STA01	TDISreq STA01	p16&p20 SSYNMcnf [14][22] STA713	p16&p20 SACTEcnf [14][22] STA713	[43] STA05A	[43] STA05B	[43] STA05C	[43] STA06
MAP	STA01A	TDISreq STA01	TDISreq STA01			p12&p185 STA05A p12&¬p178&¬p185 SSYNMind [23] STA05A			p12&p185 STA06 p12&¬p178&¬p185 SSYNMind [23] STA06
PR-MAA	STA01A	TDISreq STA01	TDISreq STA01	STA15A	STA15A	STA05A	STA05B	STA05C	
SSYNMreq									
SSYNMrsp									

Table 56 *(concluded)*

State \ Event	STA10A await SSYNMrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
MAA/AEA		p20&¬p23 SSYNMcnf [14][22] STA713 [6] p20&p23 SACTEcnf [14][22] STA713 [6]	[43] STA15B	[43] STA15C	STA15D	STA16		p20 STA20	
MAP			p12 STA15B	p12&p185 STA15C p12&¬p178&¬p185 SSYNMind [23] STA15C	STA15D	STA16	p12&p19 [31] STA19	p12&p19 [31] STA20	p12&p19 SSYNMind [13][31] STA10A
PR-MAA						STA16			
SSYNMreq			p13 STA15B		STA15D				p13 MAP [13][24] STA04A
SSYNMrsp	PR-MAA(1) MAA [14][22] STA713		STA15B		STA15D				

Table 56 *(continued)*

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA
AE	STA01A	TDISreq STA01	TDISreq STA01				p72 STA05A	
MIA	STA01A	TDISreq STA01	TDISreq STA01	p17&p21 SSYNmcnf [25] STA03	p17&¬p20&p21 SSYNmcnf [25] STA04A	p17&¬p20&p21 SSYNmcnf [25] STA04B	p17&¬p81 STA05A p17&p21&p81 SSYNmcnf [25] STA05A	p17 STA05B
MIP	STA01A	TDISreq STA01	TDISreq STA01				p14&¬p178&p185 STA05A ¬p178&¬p185&p26 SSYNmind [23] STA05A	p14 STA05B
MIP-d	STA01A	TDISreq STA01	TDISreq STA01				p14&p82 [44] STA05A p82&¬p178&¬p185&p26 SSYNmind [44][23] STA05A	p14&p82 [44] STA05B
SACTEreq								
SACTErsp								
SSYNmdreq								
SSYNmreq								
SSYNmrsp								

Table 56 (*continued*)

State / Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA15A wait after PR-MAA
AE		p72 STA06				
MIA	p17 STA05C	p17&¬p81 STA06 p17&p21&p81 SSYNmcnf [25] STA06				p17&¬p20&p21 SSYNmcnf [25] STA15A
MIP	p14 STA05C	p14 STA06 ¬p178&¬p185&p26 SSYNmind [23] STA06				
MIP-d	p14&p82 [44] STA05C	p14&p82 [44] STA06 p82&¬p178&¬p185&p26 SSYNmind [44][23] STA06				
SACTEreq						
SACTErsp					PR-MAA(1) AEA [14][22] STA713	
SSYNmdreq						
SSYNmreq						
SSYNmrsp			p18&p21 MIA [25] STA09	p18&¬p20&p21 MIA [25] STA10A	p18&¬p20&p21 MIA [25] STA10B	

Table 56 *(concluded)*

State \ Event	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
AE	p72 STA15B	p72 STA15C	STA15D	STA16	p72&p19 [31] STA19	p72&p19 [31] STA20	p72&p19 SACTEind [13][31] STA10B
MIA	p17&~p81 STA15B p17&p21&p81 SSYNmcnf [25] STA15B	p17&~p81 STA15C p17&p21&p81 SSYNmcnf [25] STA15C	STA15D	STA16	p17&p21 [25] STA19	p17&p21 STA20	p17&p21 SSYNmcnf [25] STA713
MIP	p14&~p178&p185 STA15B p14&~p178&~p185 SSYNmind [23] STA15B	p14&~p178&p185 STA15C p14&~p178&~p185 SSYNmind [23] STA15C	STA15D	STA16	p14&p19 [23] STA19	p14&p19 [23] STA20	p14&p19 SSYNmind [23] STA713
MIP-d		p14&p82&~p178&p185 [44] STA15C p14&p82&~p178&~p185 SSYNmind [44][23] STA15C	p82 [44] STA15D	p82 [44] STA16	p14&p19&p82 [44][23] STA19	p14&p19&p82 [44][23] STA20	p14&p19&p82 SSYNmind [44][23] STA713
SACTEreq	p71 STA15B		STA15D				p71 AE [13][24] STA04B
SACTErsp			STA15D				
SSYNmdreq	p15&p82 STA15B		STA15D				p15&p82 MIP [41][24] STA713
SSYNmreq	p15 STA15B		STA15D				p15 MIP [24] STA713
SSYNmrsp	p18&p21 STA15B		STA15D				p18&p21 MIA [25] STA713

16

Table 57 — Resynchronization state table without the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA
PR-RA	STA01A	TDISreq STA01	TDISreq STA01					STA15C
PR-RS	STA01A	TDISreq STA01	TDISreq STA01	[10] STA02A	p10&p80 STA15B	p80 STA15B	p80 STA15B	p80 STA06
RA	STA01A	TDISreq STA01	TDISreq STA01					p35&p49 SRSYNcnf [28][11] STA713
RS-a	STA01A	TDISreq STA01	TDISreq STA01		p10&¬p34&p35 [19] SRSYNind(2) [16] STA11A	p35 [19] SRSYNind(2) [16] STA11A	p35 [19] SRSYNind(2) [16] STA11A	p24&p35 STA05A / p24&p35 [19] SRSYNind(2) [16] STA11A
RS-r	STA01A	TDISreq STA01	TDISreq STA01		p10&¬p34&p35&p32 SRSYNind [16] STA11A	p32&p35 SRSYNind [16] STA11A	p32&p35 SRSYNind [16] STA11A	¬p24&p32&p35 STA05A / p24&p32&p35 SRSYNind [16] STA11A
RS-s	STA01A	TDISreq STA01	TDISreq STA01		p10&¬p34&p35 SRSYNind [16] STA11A	p35 SRSYNind [16] STA11A	p35 SRSYNind [16] STA11A	¬p24&p35 STA05A / p24&p35 SRSYNind [16] STA11A
SRSYNreq(a)						p28 PR-RS(5) RS-a [16] STA05A		
SRSYNreq(r)								
SRSYNreq(s)						p28 PR-RS(5) RS-s [16] STA05A		
SRSYNrsp								

Table 57 (continued)

Event \ State	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA15A wait after PR-MAA
PR-RA	STA15C	STA15C	[10] STA06					
PR-RS	STA05B	STA05C	[10] STA06		p80 STA15B	p80 STA15B		[10] STA15A
RA								
RS-a	p28 STA05B	p28 STA05C	¬p24 STA05A [6] p24 [19] SRSYNind(2) [16] STA11A [6]		p35 [19] SRSYNind(2) [16] STA11A			
RS-r	p28 STA05B	p28 STA05C	¬p24&p32 STA05A [6] p24&p32 SRSYNind [16] STA11A [6]					
RS-s	p28 STA05B	p28 STA05C	¬p24 STA05A [6] p24 SRSYNind [16] STA11A [6]		p35 SRSYNind [16] STA11A			
SRSYNreq(a)				p10&p28&¬p34 PR-RS(5) RS-a [16] STA05A	p28 PR-RS(5) RS-a [16] STA05A	p28 PR-RS(5) RS-a [16] STA05A	p24 PR-RS(5) RS-a [16] STA05A	p28&p30 PR-RS(5) RS-a [16] STA05A [6]
SRSYNreq(r)				p10&p25&¬p34&p33 PR-RS(5) RS-r [16] STA05A	p25&p33 PR-RS(5) RS-r [16] STA05A	p25&p33 PR-RS(5) RS-r [16] STA05A	p24&p33 PR-RS(5) RS-r [16] STA05A	
SRSYNreq(s)				p10&p25&¬p34 PR-RS(5) RS-s [16] STA05A	p25 PR-RS(5) RS-s [16] STA05A	p25 PR-RS(5) RS-s [16] STA05A	p24 PR-RS(5) RS-s [16] STA05A	p28&p30 PR-RS(5) RS-s [16] STA05A [6]
SRSYNrsp							p43 PR-RA(1) RA [28][11] STA713	

Table 57 *(concluded)*

Event	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
PR-RA				STA16				
PR-RS		[10] STA15C		STA16	[10] STA18	p80 STA15B	p80 STA15B	p26 STA15B ¬p26 [10] STA713
RA		p36&p49 SRSYNcnf [28][11] STA713 [6]	STA15D	STA16				
RS-a	p29 [19] SRSYNind(2) [16] STA11A		STA15D	STA16		p35 [19] SRSYNind(2) [16] STA11A	p35 [19] SRSYNind(2) [16] STA11A	p26&p35 [19] SRSYNind(2) [16] STA11A
RS-r	p32&p29 SRSYNind [16] STA11A		STA15D	STA16		p32&p35 SRSYNind [16] STA11A	p32&p35 SRSYNind [16] STA11A	p32&p26&p35 SRSYNind [16] STA11A
RS-s	p29 SRSYNind [16] STA11A		STA15D	STA16		p35 SRSYNind [16] STA11A	p35 SRSYNind [16] STA11A	p26&p35 SRSYNind [16] STA11A
SRSYNreq(a)	p27&p28 PR-RS(5) RS-a [16] STA06		STA15D				p28 PR-RS(5) RS-a [16] STA05A	p29 PR-RS(5) RS-a [16] STA05A
SRSYNreq(r)	p25&p27&p33 PR-RS(5) RS-r [16] STA06		STA15D				p25&p33 PR-RS(5) RS-r [16] STA05A	p25&p26&p33 PR-RS(5) RS-r [16] STA05A
SRSYNreq(s)	p25&p27 PR-RS(5) RS-s [16] STA06		STA15D				p25 PR-RS(5) RS-s [16] STA05A	p25&p26 PR-RS(5) RS-s [16] STA05A
SRSYNrsp			STA15D					

19

Table 58 — Activity interrupt and discard state table without the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll
AD	STA01A	TDISreq STA01	TDISreq STA01			p38&p40 SACTDind [16] STA11C			p37&p40 SACTDind [16] STA11C
ADA	STA01A	TDISreq STA01	TDISreq STA01					p38 SACTDcnf [29] STA713	
AI	STA01A	TDISreq STA01	TDISreq STA01			p38&p40 SACTIind [16] STA11B			p37&p40 SACTIind [16] STA11B
AIA	STA01A	TDISreq STA01	TDISreq STA01				p38 SACTIcnf [29] STA713		
SACTDreq				p34&p39 PR-RS(1) AD [16] STA05C	p39 PR-RS(1) AD [16] STA05C				
SACTDrsp									
SACTIreq				p34&p39 PR-RS(1) AI [16] STA05B	p39 PR-RS(1) AI [16] STA05B				
SACTIrsp									

Table 58 (*continued*)

State / Event	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA11B await SACTIrsp	STA11C await SACTDrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS
AD	p38&p40 SACTDind [16] STA11C	p38&p40 SACTDind [16] STA11C					p37&p40 SACTDind [16] STA11C
ADA							
AI	p38&p40 SACTIind [16] STA11B	p38&p40 SACTIind [16] STA11B					p37&p40 SACTIind [16] STA11B
AIA							
SACTDreq			p34&p39 PR-RS(1) AD [16] STA05C			p34&p39 PR-RS(1) AD [16] STA05C [6]	p27&p34&p39 PR-RS(1) AD [16] STA05C
SACTDrsp					PR-RA(1) ADA [30] STA713		
SACTIreq			p34&p39 PR-RS(1) AI [16] STA05B			p34&p39 PR-RS(1) AI [16] STA05B [6]	p27&p34&p39 PR-RS(1) AI [16] STA05B
SACTIrsp				PR-RA(1) AIA [30] STA713			

Table 58 (concluded)

State / Event	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA21 await CDA	STA22 await SCDrsp	STA713 data transfer
AD		STA15D	STA16	p38&p40 SACTDind [16] STA11C	p38&p40 SACTDind [16] STA11C			p38&p40 SACTDind [16] STA11C
ADA	p37&p41 SACTDcnf [29] STA713 [6]	STA15D	STA16					
AI		STA15D	STA16	p38&p40 SACTIind [16] STA11B	p38&p40 SACTIind [16] STA11B		p16 SACTIind [16] STA11B	p38&p40 SACTIind [16] STA11B
AIA	p37&p42 SACTIcnf [29] STA713 [6]	STA15D	STA16					
SACTDreq		STA15D			p34&p11 PR-RS(1) AD [16] STA05C			p34&p39 PR-RS(1) AD [16] STA05C
SACTDrsp		STA15D						
SACTIreq		STA15D			p34&p11 PR-RS(1) AI [16] STA05B	p16 AI [16] STA05B		p34&p39 PR-RS(1) AI [16] STA05B
SACTIrsp		STA15D						

Table 59 — Activity start, resume and capability data state table without the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA05B await PR or AIA	STA15B wait after PR-RS	STA15D wait after PR-AB	STA16 await TDISind	STA21 await CDA	STA22 await SCDrsp	STA713 data transfer
AR	STA01A	TDISreq STA01	TDISreq STA01		p44 SACTRind [12][27] STA15B	STA15D	STA16			p44 SACTRind [12][27] STA713 [6]
AS	STA01A	TDISreq STA01	TDISreq STA01		p44 SACTSind [12][26] STA15B	STA15D	STA16			p44 SACTSind [12][26] STA713 [6]
CD	STA01A	TDISreq STA01	TDISreq STA01			STA15D	STA16			p46 SCDind STA22
CDA	STA01A	TDISreq STA01	TDISreq STA01	p26 STA05B		STA15D	STA16	SCDcnf STA713		
SACTRreq						STA15D				p45 AR [12][27] STA713
SACTSreq										p45 AS [12][26] STA713
SCDreq						STA15D				p47 CD STA21
SCDrsp						STA15D			CDA STA713	

Table 60 — Token management and exceptions state table without the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA
ED	STA01A	TDISreq STA01	TDISreq STA01	p52 SUERind STA20	p48&p03 SUERind STA20 / p48&¬p03 SUERind STA713	p48&p03 SUERind STA20 / p48&¬p03 SUERind STA713	p48 STA05A	p48 STA05B
ER	STA01A	TDISreq STA01	TDISreq STA01	p52 SPERind STA20	p48&p03 SPERind STA20 / p48&¬p03 SPERind STA713	p48&p03 SPERind STA20 / p48&¬p03 SPERind STA713	p48 STA05A	p48 STA05B
GT	STA01A	TDISreq STA01	TDISreq STA01		p59 SGTind [11] STA04A	p59 SGTind [11] STA04B	p59&p185 STA05A / p59&¬p185 SGTind [11] STA05A	p59 STA05B
GTA	STA01A	TDISreq STA01	TDISreq STA01					
GTC	STA01A	TDISreq STA01	TDISreq STA01					
PT	STA01A	TDISreq STA01	TDISreq STA01	p53 SPTind STA03	p53 SPTind STA04A	p53 SPTind STA04B	p53&p185 STA05A / p53&¬p185 SPTind STA05A	p53 STA05B
SCGreq								
SGTreq					p54 GT [11] STA04A	p54 GT [11] STA04B		
SPTreq								
SUERreq								

Table 60 *(continued)*

State / Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA15A wait after PR-MAA	STA15B wait after PR-RS
ED	p48 STA05C	p48 STA06					
ER	p48 STA05C	p48 STA06					
GT	p59 STA05C	p59&p185 STA06 p59&~p185 SGTind [11] STA06		p59 SGTind [11] STA10A	p59 SGTind [11] STA10B	p59 SGTind [11] STA15A	p59&p185 STA15B p59&~p185 SGTind [11] STA15B
GTA							
GTC							
PT	p53 STA05C	p53&p185 STA06 p53&~p185 SPTind STA06				p53 SPTind STA15A	p53&p185 STA15B p53&~p185 SPTind STA15B
SCGreq							
SGTreq				p54 GT [11] STA10A	p54 GT [11] STA10B	p54 GT [11] STA15A	p54 STA15B
SPTreq			p53 PT STA09	p53 PT STA10A	p53 PT STA10B		p53 STA15B
SUERreq			p50 ED STA19	p50 ED STA19	p50 ED STA19		p50 STA15B

23

Table 60 (concluded)

State / Event	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA21 await CDA	STA22 await SCDrsp	STA713 data transfer
ED	p48 STA15C	STA15D	STA16		p50 SUERind STA19				p50 SUERind STA713 p51 SUERind STA20
ER	p48 STA15C	STA15D	STA16		p50 SPERind STA19		p48 SPERind STA20		p50 SPERind STA713 p51 SPERind STA20
GT	p59&p185 STA15C p59&~p185 SGTind [11] STA15C	STA15D	STA16		p60 SGTind [11] STA19 p61 SGTind [11] STA713	p60 SGTind [11] STA20 p61 SGTind [11] STA713	p59 SGTind [11] STA20		p59 SGTind [11] STA713
GTA		STA15D	STA16	STA713 [6]					
GTC		STA15D	STA16						p62 SCGind GTA [11] STA713
PT	p53&p185 STA15C p53&~p185 SPTind STA15C	STA15D	STA16	p53 SPTind STA18	p53 STA19	p53 STA20	p53 SPTind STA21		p53 SPTind STA713
SCGreq		STA15D							p55 GTC [11] STA18
SGTreq		STA15D				p57 GT [11] STA20 p58 GT [11] STA713			p54 GT [11] STA713
SPTreq		STA15D						p53 PT STA22	p53 PT STA713
SUERreq		STA15D							p50 ED STA19

Table 61 — Connection release state table without the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA03 await DN	STA05A await PR or RA	STA06 await RS after coll	STA09 await SRELrsp	STA15B wait after PR-RS
DN	STA01A	TDISreq STA01	TDISreq STA01	p66 SRELcnf+ TDISreq STA01 p66 SRELcnf+ STA01C			p69&¬p01 SRELcnf+ [32] STA09	
FN-nr	STA01A	TDISreq STA01	TDISreq STA01	p65 SRELind [8][18] STA09	p68 STA05A	p68 STA06		
FN-r	STA01A	TDISreq STA01	TDISreq STA01	¬p65&¬p01&p16 SRELind [8][18] STA09	p68&¬p01&p16 STA05A			
NF	STA01A	TDISreq STA01	TDISreq STA01	p67 SRELcnf- STA713				p67 SRELcnf- STA15B
SRELreq							p65 FN-nr [8][18] STA09	p63 STA15B
SRELrsp+							¬p66&p75 DN[4] STA16 p66 DN STA01C p69&p01 DN STA03	
SRELrsp-							p67 NF STA713	

Table 61 (concluded)

State / Event	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
DN			STA16			
FN-nr	p68 STA15C	STA15D	STA16	p68 STA19	p68 STA20	p68 SRELind [8] STA09
FN-r	p68&¬p01&p16 STA15C		STA16	p68&¬p01&p16 STA19	p68&¬p01&p16 STA20	p68&¬p01&p16 SRELind [9] STA09
NF		STA15D	STA16			
SRELreq		STA15D				p63&¬p64 FN-nr [8] STA03 p63&p64 FN-r [7] STA03
SRELrsp+		[4] STA16				
SRELrsp-		STA15D				

25

Table 62 — Abort state table without the symmetric synchronize functional unit

State \\ Event	STA01 idle no TC	STA01A await AA	STA01B await TCONcnf	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA02B await OA	STA03 await DN	STA04A await PR or MAA
AA	//	[3] STA01C	//	TDISreq STA01	TDISreq STA01				
AB-nr	//	[3] TDISreq STA01	//	TDISreq STA01	TDISreq STA01	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA [4] STA16	SxABind(3) TDISreq STA01	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA [4] STA16
AB-r	//	[3] STA01C	//	¬p02 TDISreq STA01 / p02 AA STA01C	¬p02 TDISreq STA01 / p02 AA STA01C	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 / p02 SxABind(3) AA STA01C
PR-AB	//	//	//	TDISreq STA01	//	STA15D	//	STA15D	STA15D
SUABreq			TDISreq STA01			¬p02 PR-AB(4) AB-nr [4] STA16 / p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 / p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 / p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 / p02 AB-r [4] STA01A
TDISind	//	[3] STA01	SPABind STA01	STA01	STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01
TIM	//	TDISreq STA01	//	//	//	//	//	//	//

Table 62 *(continued)*

State / Event	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll	STA08 await SCONrsp	STA09 await SRELrsp	STA10A await SSYNMrsp
AA								
AB-nr	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	SxABind(3) TDISreq STA01	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16
AB-r	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C		p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C
PR-AB	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D
SUABreq	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A
TDISind	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01
TIM	//	//	//	//	//	//	//	//

27

Table 62 (continued)

State / Event	STA10B await SACTErsp	STA11A await SRSYNrsp	STA11B await SACTIrsp	STA11C await SACTDrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS	STA15C wait after PR-RA
AA							
AB-nr	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	SxABind(3) TDISreq STA01	SxABind(3) TDISreq STA01	SxABind(3) TDISreq STA01
AB-r	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C			
PR-AB	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D
SUABreq	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A
TDISind	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01
TIM	//	//	//	//	//	//	//

Table 62 *(concluded)*

State / Event	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA21 await CDA	STA22 await SCDrsp	STA713 data transfer
AA		[3] TDISreq STA01						
AB-nr	SxABind(3) TDISreq STA01	[3] TDISreq STA01	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA [4] STA16
AB-r		[3] TDISreq STA01	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C	¬p02 SxABind(3) TDISreq STA01 p02 SxABind(3) AA STA01C
PR-AB		[3] TDISreq STA01	STA15D	STA15D	STA15D	STA15D	STA15D	STA15D
SUABreq	[4] STA16		¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A	¬p02 PR-AB(4) AB-nr [4] STA16 p02 AB-r [4] STA01A
TDISind	SPABind STA01	[3] STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01	SPABind STA01
TIM	TDISreq STA01	TDISreq STA01	//	//	//	//	//	//

Table 63 — Connection establishment state table with the symmetric synchronize functional unit

Event \ State	STA01 idle no TC	STA01A await AA	STA01B await TCONcnf	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA02B await OA	STA08 await SCONrsp	STA15D wait after PR-AB	STA16 await TDISind
AC	//	STA01A	//	TDISreq STA01		⌐p178 SCONcnf+ [5][11] STA713 [6] p178 SCONcnf+ [71][11] STA713 [6]			STA15D	STA16
CDO	//		//	TDISreq STA01	⌐p202 [50] STA01D p202 SCONind STA08				STA15D	
CN	//	TDISreq [3] STA01	//	⌐p01&⌐p76&p204 OA [50] STA01D ⌐p01&⌐p76&⌐p204 SCONind STA08 ⌐p01&p76&⌐p02 RF-nr [4] STA16 ⌐p01&p76&p02 RF-r STA01C p01 TDISreq STA01						TDISreq [3] STA01
OA	//		//	TDISreq STA01			CDO [51] STA02A		STA15D	
RF-nr	//	STA01A	//	TDISreq STA01		SCONcnf- TDISreq STA01	SCONcnf- TDISreq STA01			STA16
RF-r	//	STA01A	//	TDISreq STA01		⌐p02 SCONcnf- TDISreq STA01 p02 SCONcnf- STA01C	⌐p02 SCONcnf- TDISreq STA01 p02 SCONcnf- STA01C			STA16
SCONreq	TCONreq [2] STA01B			p01&p204 CN STA02B p01&⌐p204 CN STA02A						
SCONrsp+								⌐p178 AC [5][11] STA713 p178 AC [71][11] STA713	STA15D	

State / Event	STA01 idle no TC	STA01A await AA	STA01B await TCONcnf	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA02B await OA	STA08 await SCONrsp	STA15D wait after PR-AB	STA16 await TDISind
SCONrsp-								¬p02 RF-nr [4] STA16 p02 RF-r STA01C	[4] STA16	
TCONcnf	//	//	p204 CN STA02B ¬p204 CN STA02A	//	//	//	//	//	//	//
TCONind	TCONrsp [1] STA01C	//	//	//	//	//	//	//	//	//

31

Table 64 — Data transfer state table with the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA
DT	STA01A	TDISreq STA01	TDISreq STA01		p05&p10 SDTind STA03	p05 SDTind STA04A	p05 SDTind STA04B	p05&p185 STA05A p05&¬p185 SDTind STA05A	p05 STA05B
EX	STA01A	TDISreq STA01	TDISreq STA01	[10] STA02A	p09 SEXind STA03	p08 SEXind STA04A	p08 SEXind STA04B	p08&p185 STA05A p08&¬p185 SEXind STA05A	p08 STA05B
TD	STA01A	TDISreq STA01	TDISreq STA01		p06&p10 STDind STA03	p06 STDind STA04A	p06 STDind STA04B	p06&p185 STA05A p06&¬p185 STDind STA05A	p06 STA05B
SDTreq								p03&¬p186 DT STA05A	
SEXreq								p08&¬p186 EX STA05A	
STDreq								p06&¬p186 TD STA05A	

Table 64 (continued)

State / Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA15A wait after PR-MAA
DT	p05 STA05C	p05&p185 STA06 p05&¬p185 SDTind STA06				p05&¬p185 SDTind STA11A	p05 SDTind STA15A
EX	p08 STA05C	p08 [10] STA06				p08&¬p185 SEXind STA11A	p08 [10] STA15A
TD	p06 STA05C	p06&p185 STA06 p06&¬p185 STDind STA06				p06&¬p185 STDind STA11A	p06 STDind STA15A
SDTreq		p03&p184&p186 STA06 p03&p184&¬p186 DT STA06	p04 DT STA09	p03 DT STA10A	p03 DT STA10B	p03&¬p186 DT STA11A	
SEXreq		p08&p184&p186 STA06 p08&p184&¬p186 EX STA06	p09 EX STA09	p08 EX STA10A	p08 EX STA10B	p08&¬p186 EX STA11A	
STDreq		p06&p184&p186 STA06 p06&p184&¬p186 TD STA06	p07 TD STA09	p06 TD STA10A	p06 TD STA10B	p06&¬p186 TD STA11A	

Table 64 (concluded)

State Event	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA21 await CDA	STA713 data transfer
DT	p05&p185 STA15B p05&¬p185 SDTind STA15B	p05&p185 STA15C p05&¬p185 SDTind STA15C	STA15D	STA16	p70 SDTind STA18	STA19	p05 STA20	p70 SDTind STA21	p05 SDTind STA713
EX	p08&¬p185 [10] STA15B	p08 [10] STA15C		STA16	p08 SEXind STA18	p08 STA19	p08 STA20	p08 SEXind STA21	p08 SEXind STA713
TD	p06&p185 STA15B p06&¬p185 STDind STA15B	p06&p185 STA15C p06&¬p185 STDind STA15C	STA15D	STA16	p06 STDind STA18	p06 STA19	p06 STA20	p06 STDind STA21	p06 STDind STA713
SDTreq	p03&p186 STA15B p03&¬p186 DT STA15B	p03&¬p186 DT STA15C	STA15D		p70 DT STA18				p03 DT STA713
SEXreq	p08&p186 STA15B p08&¬p186 EX STA15B	p08&¬p186 EX STA15C	STA15D		p08 EX STA18				p08 EX STA713
STDreq	p06&p186 STA15B p06&¬p186 TD STA15B	p06&¬p186 TD STA15C	STA15D		p06 TD STA18				p06 TD STA713

Table 65 — Synchronization state table with the symmetric synchronize functional unit

State Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll
MAA/AEA	STA01A	TDISreq STA01	TDISreq STA01	p16&p20 SSYNMcnf [14][22] STA713 p16&p173 SSYNMcnf [14][62][64] STA713	p16&p20 SACTEcnf [14][22] STA713 p16&p173 SACTEcnf [14][62][64] STA713	[43] STA05A	[43] STA05B	[43] STA05C	[43] STA06
MAP	STA01A	TDISreq STA01	TDISreq STA01			p12&p185 STA05A p12&p178&¬p185 SSYNMind [62] STA05A p12&¬p178&¬p185 SSYNMind [23] STA05A			p12&p185 STA06 p12&p178&¬p185 SSYNMind [62] STA06 p12&¬p178&¬p185 SSYNMind [23] STA06
PR-MAA	STA01A	TDISreq STA01	TDISreq STA01	STA15A	STA15A	STA05A	STA05B	STA05C	
SSYNMreq									
SSYNMrsp									

33

Table 65 *(concluded)*

State / Event	STA10A await SSYNMrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
MAA/AEA		p20&¬p23 SSYNMcnf [14][22] STA713 [6] p20&p23 SACTEcnf [14][22] STA713 [6] p174&¬p23 SSYNMcnf [14][62][64] STA713 [6] p174&p23 SACTEcnf [14][62][64] STA713 [6]	[43] STA15B	[43] STA15C	STA15D	STA16		p20 STA20	
MAP			p12 STA15B	p12&p185 STA15C p12&p178&¬p185 SSYNMind [62] STA15C p12&¬p178&¬p185 SSYNMind [23] STA15C	STA15D	STA16	p12&p19 [31] STA19 p12&p177 [62] STA19	p12&p19 [31] STA20 p12&p177 [62] STA20	p12&p19 SSYNMind [13][31] STA10A p12&p177 SSYNMind [13][62] STA10A
PR-MAA						STA16			
SSYNMreq			p13&p186 STA15B p13&¬p186 MAP [63] STA15B		STA15D				p13&¬p178 MAP [13][24] STA04A p13&p178 MAP [13][63] STA04A
SSYNMrsp	¬p178 PR-MAA(1) MAA [14][22] STA713 p178 PR-MAA(1) MAA [14][63][64] STA713		STA15B		STA15D				

Table 65 (continued)

State Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA
AE	STA01A	TDISreq STA01	TDISreq STA01				p72 STA05A	
MIA	STA01A	TDISreq STA01	TDISreq STA01	p17&p21 SSYNmcnf [25] STA03 p17&p176 SSYNmcnf [65] STA03	p17&¬p20&p21 SSYNmcnf [25] STA04A p17&p176 SSYNmcnf [65] STA04A	p17&¬p20&p21 SSYNmcnf [25] STA04B p17&p176 SSYNmcnf [65] STA04B	p17&¬p81&p186 STA05A p17&p21&p81 SSYNmcnf [25] STA05A p17&p176&p81 SSYNmcnf [65] STA05A p17&¬p81&p176&p186 SSYNmcnf [65] STA05A	p17 STA05B
MIP	STA01A	TDISreq STA01	TDISreq STA01	p178&p26 SSYNmind [62] STA03	p178&p26 SSYNmind [62] STA04A	p178&p26 SSYNmind [62] STA04B	p14&¬p178&p185 STA05A p178&p185&p26 STA05A p178&¬p185&p26 SSYNmind [62] STA05A ¬p178&¬p185&p26 SSYNmind [23] STA05A	p14 STA05B p178 STA05B
MIP-d	STA01A	TDISreq STA01	TDISreq STA01	p82&p178&p26 SSYNmind [44][62] STA03	p82&p178&p26 SSYNmind [44][62] STA04A	p82&p178&p26 SSYNmind [44][62] STA04B	p14&p82 [44] STA05A p82&p178&p185&p26 [44] STA05A p82&p178&¬p185&p26 SSYNmind [44][62] STA05A p82&¬p178&¬p185&p26 SSYNmind [44][23] STA05A	p14&p82 [44] STA05B p82&p178 [44] STA05B
SACTEreq								
SACTErsp								
SSYNmdreq							p82&¬p186 MIP [42][63] STA05A	
SSYNmreq							¬p186 MIP [63] STA05A	
SSYNmrsp							p179&¬p185 MIA [66] STA05A	

Table 65 (continued)

State / Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA15A wait after PR-MAA
AE		p72 STA06					
MIA	p17 STA05C	¬p17&¬p81&p186 STA06 ; p17&p21&p81 SSYNmcnf [25] STA06 ; p17&p176&p81 SSYNmcnf [65] STA06 ; p17&¬p81&p176&p186 SSYNmcnf [65] STA06				¬p186 SSYNmcnf [65] STA11A	p17&¬p20&p21 SSYNmcnf [25] STA15A ; p17&p176 SSYNmcnf [65] STA15A
MIP	p14 STA05C ; p178 STA05C	p14 STA06 ; p178&p185&p26 STA06 ; p178&¬p185&p26 SSYNmind [62] STA06 ; ¬p178&¬p185&p26 SSYNmind [23] STA06				¬p185 SSYNmind [62] STA11A	p178 SSYNmind [62] STA15A
MIP-d	p14&p82 [44] STA05C ; p82&p178 [44] STA05C	p14&p82 [44] STA06 ; p82&p178&p185&p26 [44] STA06 ; p82&p178&¬p185&p26 SSYNmind [44][62] STA06 ; p82&¬p178&¬p185&p26 SSYNmind [44][23] STA06					p82&p178 SSYNmind [44][62] STA15A
SACTEreq							
SACTErsp					¬p178 PR-MAA(1) AEA [14][22] STA713 ; p178 PR-MAA(1) AEA [14][62][64] STA713		
SSYNm-dreq		p82&p184&p186 STA06 ; p82&p184&¬p186 MIP [42][63] STA06	p82&p178&p26 MIP [42][63] STA09	p82&p178&p26 MIP [42][63] STA10A	p82&p178&p26 MIP [42][63] STA10B	p82&¬p186 MIP [42][63] STA11A	

36

State / Event	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA15A wait after PR-MAA
SSYNmreq		p184&p186 STA06 p184&¬p186 MIP [63] STA06	p178&p26 MIP [63] STA09	p178&p26 MIP [63] STA10A	p178&p26 MIP [63] STA10B	¬p186 MIP [63] STA11A	
SSYNmrsp		p179&p184&p185 STA06 p179&p184&¬p185 MIA [66] STA06	p18&p21 MIA [25] STA09 p18&p179 MIA [66] STA09	p18&¬p20&p21 MIA [25] STA10A p18&¬p175&p179 MIA [66] STA10A	p18&¬p20&p21 MIA [25] STA10B p18&¬p175&p179 MIA [66] STA10B	p179&¬p185 MIA [66] STA11A	

37

Table 65 *(concluded)*

State / Event	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
AE	p72 STA15B	p72 STA15C	STA15D	STA16	p72&p19 [31] STA19 p72&p177 [62] STA19	p72&p19 [31] STA20 p72&p177 [62] STA20	p72&p19 SACTEind [13][31] STA10B p72&p177 SACTEind [13][62] STA10B
MIA	p17&‾p81&p186 STA15B p17&p21&p81 SSYNmcnf [25] STA15B p17&p176&p81 SSYNmcnf [65] STA15B p17&‾p81&p176&p186 SSYNmcnf [65] STA15B	p17&‾p81&p186 STA15C p17&p21&p81 SSYNmcnf [25] STA15C p17&p176&p81 SSYNmcnf [65] STA15C p17&‾p81&p176&p186 SSYNmcnf [65] STA15C p17&‾p186 SSYNmcnf [65] STA15C	STA15D	STA16	p17&p21 [25] STA19 p17&p176 [65] STA19	p17&p21 STA20 p17&p176 [65] STA20	p17&p21 SSYNmcnf [25] STA713 p17&p176 SSYNmcnf [65] STA713
MIP	p14&‾p178&p185 STA15B p178&p185 STA15B p178&‾p185 SSYNmind [62] STA15B p14&‾p178&‾p185 SSYNmind [23] STA15B	p14&‾p178&p185 STA15C p178&p185 STA15C p178&‾p185 SSYNmind [62] STA15C p14&‾p178&‾p185 SSYNmind [23] STA15C	STA15D	STA16	p14&p19 [23] STA19 p26&p178 [62] STA19	p14&p19 [23] STA20 p26&p178 [62] STA20	p14&p19 SSYNmind [23] STA713 p26&p178 SSYNmind [62] STA713
MIP-d		p14&p82&‾p178&p185 [44] STA15C p14&p82&‾p178&‾p185 SSYNmind [44][23] STA15C p82&p178&p185 [44] STA15C p82&p178&‾p185 SSYNmind [44][62] STA15C	p82 [44] STA15D	p82 [44] STA16	p14&p19&p82 [44][23] STA19 p26&p82&p178 [44][62] STA19	p14&p19&p82 [44][23] STA20 p26&p82&p178 [44][62] STA20	p14&p19&p82 SSYNmind [44][23] STA713 p26&p82&p178 SSYNmind [44][62] STA713
SACTEreq	p71 STA15B		STA15D				p71&‾p178 AE [13][24] STA04B p71&p178 AE [13][63] STA04B
SACTErsp			STA15D				

State / Event	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
SSYNm-dreq	p15&p82 STA15B p82&p178&p186 STA15B p82&‾p186 MIP [42][63] STA15B	p82&‾p186 MIP [42][63] STA15C	STA15D				p15&p82 MIP [41][24] STA713 p82&p178&p26 MIP [42][63] STA713
SSYNmreq	p15 STA15B p178&p186 STA15B ‾p186 MIP [63] STA15B	‾p186 MIP [63] STA15C	STA15D				p15 MIP [24] STA713 p178&p26 MIP [63] STA713
SSYNmrsp	p18&p21 STA15B p179&p185 STA15B p179&‾p185 MIA [66] STA15B	p179&‾p185 MIA [66] STA15C	STA15D				p18&p21 MIA [25] STA713 p26&p179 MIA [66] STA713

Table 66 — Resynchronization state table with the symmetric synchronize functional unit

State Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA02A await AC	STA03 await DN	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA
PR-RA	STA01A	TDISreq STA01	TDISreq STA01					STA15C
PR-RS	STA01A	TDISreq STA01	TDISreq STA01	[10] STA02A	p10&p80 [67] STA15B	p80 [67] STA15B	p80 [67] STA15B	p80 [67] STA06
RA	STA01A	TDISreq STA01	TDISreq STA01					p35&p49 SRSYNcnf [28][11] STA713 p35&p187 SRSYNcnf [68][11] STA713
RS	STA01A	TDISreq STA01			p10&¬p34&p35&p32 [19] SRSYNind(2) [16] STA11A	p35&p32 [19] SRSYNind(2) [16] STA11A	p35&p32 [19] SRSYNind(2) [16] STA11A	¬p24&p35&p32 STA05A [72] p24&p35&p32 [19] SRSYNind(2) [16] STA11A
SRSYNreq						p28&p180 PR-RS(5) RS [16] STA05A		
SRSYNrsp								

ISO 8327:1987/Amd. 3:1992 (E)

Table 66 (continued)

State / Event	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll	STA09 await SRELrsp	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp
PR-RA	STA15C	STA15C	[10] STA06				
PR-RS	STA05B	STA05C	[10] STA06		p80 [67] STA15B	p80 [67] STA15B	
RA							
RS	p35 STA05B	p35 STA05C	¬p24&p32 STA05A [72][6] p24&p32 [19] SRSYNind(2) [16] STA11A [6]		p35&p180 [19] SRSYNind(2) [16] STA11A		
SRSYNreq				p10&p28&¬p34&p32 PR-RS(5) RS [16] STA05A	p28&p32 PR-RS(5) RS [16] STA05A	p28&p32 PR-RS(5) RS [16] STA05A	p24&p32 PR-RS(5) RS [16] STA05A
SRSYNrsp							p43 PR-RA(1) RA [28][11] STA713 p187 PR-RA(1) RA [68][11] STA713

Table 66 (concluded)

State / Event	STA15A wait after PR-MAA	STA15B wait after PR-RS	STA15C wait after PR-RA	STA15D wait after PR-AB	STA16 await TDISind	STA18 await GTA	STA19 await recovery(init)	STA20 await recovery	STA713 data transfer
PR-RA					STA16				
PR-RS	[10] STA15A		[10] STA15C	STA16		[10] STA18	p80 [67] STA15B	p80 [67] STA15B	p26 [67] STA15B ¬p26 [10] STA713
RA			p36&p49 SRSYNcnf [28][11] STA713 [6] p36&p187 SRSYNcnf [68][11] STA713 [6]	STA15D	STA16				
RS		p29&p32 [19] SRSYNind(2) [16] STA11A			STA16		p35&p32 [19] SRSYNind(2) [16] STA11A	p35&p32 [19] SRSYNind(2) [16] STA11A	p26&p35&p32 [19] SRSYNind(2) [16] STA11A
SRSYNreq	p28&p30&p180 PR-RS(5) RS [16] STA05A	p27&p28&p32 PR-RS(5) RS [16] STA06						p28&p32 PR-RS(5) RS [16] STA05A	p29&p32 PR-RS(5) RS [16] STA05A
SRSYNrsp				STA15D					

41

Table 67 — Activity interrupt and discard state table with the symmetric synchronize functional unit

State / Event	STA01A await AA	STA01C idle TC con	STA01D await CDO	STA04A await PR or MAA	STA04B await PR or AEA	STA05A await PR or RA	STA05B await PR or AIA	STA05C await PR or ADA	STA06 await RS after coll
AD	STA01A	TDISreq STA01	TDISreq STA01			p38&p40 SACTDind [16] STA11C			p37&p40 SACTDind [16] STA11C
ADA	STA01A	TDISreq STA01	TDISreq STA01				p38 SACTDcnf [29] STA713		
AI	STA01A	TDISreq STA01	TDISreq STA01			p38&p40 SACTIind [16] STA11B			p37&p40 SACTIind [16] STA11B
AIA	STA01A	TDISreq STA01	TDISreq STA01				p38 SACTIcnf [29] STA713		
SACTDreq				p34&p39 PR-RS(1) AD [16] STA05C	p39 PR-RS(1) AD [16] STA05C				
SACTDrsp									
SACTIreq				p34&p39 PR-RS(1) AI [16] STA05B	p39 PR-RS(1) AI [16] STA05B				
SACTIrsp									

Table 67 (continued)

State / Event	STA10A await SSYNMrsp	STA10B await SACTErsp	STA11A await SRSYNrsp	STA11B await SACTIrsp	STA11C await SACTDrsp	STA15A wait after PR-MAA	STA15B wait after PR-RS
AD	p38&p40 SACTDind [16] STA11C	p38&p40 SACTDind [16] STA11C					p37&p40 SACTDind [16] STA11C
ADA							
AI	p38&p40 SACTIind [16] STA11B	p38&p40 SACTIind [16] STA11B					p37&p40 SACTIind [16] STA11B
AIA							
SACTDreq			p34&p39 PR-RS(1) AD [16] STA05C			p34&p39 PR-RS(1) AD [16] STA05C [6]	p27&p34&p39 PR-RS(1) AD [16] STA05C
SACTDrsp					PR-RA(1) ADA [30] STA713		
SACTIreq			p34&p39 PR-RS(1) AI [16] STA05B			p34&p39 PR-RS(1) AI [16] STA05B [6]	p27&p34&p39 PR-RS(1) AI [16] STA05B
SACTIrsp				PR-RA(1) AIA [30] STA713			

42