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Information processing systems – Open Systems Interconnection – Basic connection oriented session service definition

AMENDMENT 4: Additional synchronization functionality

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

AMENDEMENT 4: Fonction de synchronisation supplémentaire

Foreword

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Amendment 4 to International Standard ISO 8326:1987 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology.*

Information processing systems – Open Systems Interconnection – Basic connection oriented session service definition

AMENDMENT 4: Additional synchronization functionality

Introduction

This Amendment introduces the data separation functional unit into the Session Service definition. 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 N4657 "Revised version of ISO 8326", 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 Service.

Page 5

Subclause 7.3   Synchronization and dialogue concepts

At the end of the last paragraph add the following

> "A minor synchronization point inserted in association with the data separation service protects all data sent before the minor synchronization point from being discarded by a subsequent resynchronize request."

Page 7

Subclause 8.2   Data transfer phase

Replace the start of the fourth paragraph with the following

> "There are five services associated with synchronization and resynchronization:"

Page 7

Subclause 8.2   Data transfer phase

Insert a new item after 8.2 i) and re-letter the subsequent items j) to r) as k) to s)

> "j)   the data separation service (see 13.8) adds functionality to the minor synchronization point service and the symmetric synchronize service to protect all data sent before the minor synchronization point from being discarded by a subsequent resynchronize request. There are no additional services associated with the data separation functional unit."

Page 8

Table 2 — Services associated with each functional unit

Insert a new entry after Symmetric Synchronize as follows

Functional unit	Service	Reference
Data separation	Data separation (associated with the minor synchronization point service or the symmetric synchronize service)	13.8

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Subclause 9.1   Functional units

Insert a new subclause after subclause 9.1.8 and re-number subsequent subclauses 9.1.9 to 9.1.13 as 9.1.10 to 9.1.14

"9.1.9   Data separation functional unit

The data separation functional unit supports the data separation service and adds functionality to the minor synchronization point service and the symmetric synchronize service.   The data separation functional unit can only be selected when either the minor synchronize functional unit has been selected or the symmetric synchronize functional unit has been selected.   It is not valid to select both this functional unit and the activity management functional unit for use on the same session connection."

Page 9

Subclause 9.2   Subsets

Insert a new item c) as follows

"c)   if the data separation functional unit is included in a subset, one of the minor synchronize functional unit and the symmetric synchronize functional unit is also included in the subset."

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Table 6 — Data transfer phase primitives

Add a new parameter to the minor synchronization point service parameter list after the Type parameter as follows

"Data separation"

Page 22

Clause 11   Introduction to the session service primitives

Insert a new subclause 11.5 as follows

"11.5   Data separation

The data separation service adds functionality to the minor synchronization point service and the symmetric synchronize service to protect data sent before the minor synchronization points from being discarded in the event of a resynchronization.   When the data separation functional unit has been selected, the associated service is invoked by the SS-user by setting the data separation parameter to true in the S-SYNC-MINOR request.

This service has no specific effect on the variables described in 11.4.2.1."

Page 23

Subclause 12.1.2.7

Insert a new item after 12.1.2.7 g) and re-letter the subsequent items h) to l) as i) to m):

"h)   data separation functional unit;"

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Subclause 12.1.2.7

Second paragraph, after the fifth sentence ("If the exceptions functional unit is proposed, the half-duplex functional unit is also proposed."), insert the following

"If the data separation functional unit is proposed by either the requestor or by the acceptor, at least one of the minor synchronize functional unit and the symmetric synchronize functional unit is also proposed. If the data separation functional unit is proposed by the acceptor, the activity management functional unit is not proposed."

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Subclause 13.8.1   Function

Insert a new paragraph at the end of subclause 13.8.1 as follows

"The data separation service adds functionality to the minor synchronization point service and the symmetric synchronize service to protect data sent before the minor synchronization points from being discarded in the event of a resynchronization. When the data separation functional unit has been selected, the associated service is invoked by the SS-user by setting the data separation parameter to true in the S-SYNC-MINOR request.

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Subclause 13.8.2   Types of primitives and their parameters

Insert a new subclause after subclause 13.8.2.1 and re-number subsequent subclauses 13.8.2.2 and 13.8.2.3 as 13.8.2.3 and 13.8.2.4 respectively

"**13.8.2.2**   Data separation is a parameter which indicates whether or not data separation is requested by the SS-user. Its value is one of:

a)   true;

b)   false.

The data separation parameter is set to true to indicate that data separation is requested. The data separation parameter is only present when the data separation functional unit has been selected. The data separation parameter value, if present, is indicated in the indication for information."

Page 29

Table 17 — Minor synchronization point primitives and parameters

Insert a new entry after the Type parameter as follows

Primitive Parameter	S-SYNC-MINOR			
	Request	Indication	Response	Confirm
Data separation	C	C(=)		

Pages 30, 31

Subclause 13.10.1   Function

Replace the text of item c) as follows

"c)   service primitives not yet delivered to the SS-user are treated as follows :

1)   if the data separation functional unit has been selected and an S-RESYNCHRONIZE request has been issued

i)   if all S-SYNC-MINOR requests with the data separation parameter set to true are acknowledged, or no S-SYNC-MINOR requests with the data separation parameter set to true have been issued, all undelivered service primitives are discarded;

ii)   if an S-SYNC-MINOR request with the data separation parameter set to true was issued previously and is unacknowledged, all undelivered service primitives are delivered. After the point where the most recently issued S-SYNC-MINOR request with the data separation parameter set to true is acknowledged, all undelivered service primitives are discarded;

iii) if an S-SYNC-MINOR request with the data separation parameter set to true was issued previously and is unacknowledged, the confirm corresponding to an S-SYNC-MAJOR response and the indications corresponding to subsequent requests issued by the peer SS-user are discarded. The exception to this is that the indication corresponding to a subsequent S-EXPEDITED-DATA request may be delivered.

2)   if neither the data separation functional unit nor the symmetric synchronize functional unit has been selected, after issuing an S-RESYNCHRONIZE request, all undelivered service primitives are discarded;

3)   if the symmetric synchronize functional unit has been selected and an S-RESYNCHRONIZE request has been issued or an S-RESYNCHRONIZE indication has been received, undelivered service primitives are discarded for the requested direction(s) of flow and confirmations of synchronization points for the requested direction(s) of flow are also discarded.

Discarding of undelivered service primitives ends with the receipt of an S-RESYNCHRONIZE confirm, S-U-ABORT indication or S-P-ABORT indication."

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Subclause 13.10.1   Function

Delete the final sentence of item h) "Where there are unacknowledged minor synchronization points..."

Delete the final sentence of item j) "When there are unacknowledged minor synchronization points..."

Page 48

Table 32 — Events generated by the SS-provider

Insert a new entry after SSYNmind as follows

Table 32, add

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

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Table 34 — Events generated by the SS-user

Insert a new entry after SSYNmreq as follows

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

Page 55-1

Table 40 — Data transfer state table without the symmetric synchronize functional unit

Add the following transitions:

State Event	STA05A await SRSYNcnf
SDTind	STA05A
SEXind	STA05A
STDind	STA05A

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Table 41 — Synchronization state table without the symmetric synchronize functional unit

Add the following transitions:

State Event	STA05A await SRSYNcnf	STA713 data transfer
SSYNmdind	[23] STA05A	[23] STA713
SSYNmdreq		p15 [24] STA713

State Event	STA05A await SRSYNcnf
SSYNMind	[31] STA05A
SSYNmcnf	[25] STA05A
SSYNmind	[23] STA05A

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Table 45 — Token management and exceptions state table without the symmetric synchronize functional unit

Replace the following transitions:

State Event	STA05A await SRSYNcnf
SGTind	STA05A
SPTind	STA05A