TSG RAN Meeting #23 **RP-040061**
Phoenix, Arizona, USA, 10 - 12 March 2004

Title **CRs (Rel-5 and Rel-6 Category A) to TS 25.424, TS 25.434 on Inclusion of HSDPA**
Source **TSG RAN WG3**
Agenda Item **7.4.6**

RAN3 Tdoc	CR.	Rev.	Cat	Spec.	curr. Vers.	new Vers.	REL	Work Item	Title
R3-040357	29	-	F	25.434	5.3.0	5.4.0	REL-5	HSDPA -IubIur	Inclusion of HSDPA
R3-040358	30	-	A	25.434	6.0.0	6.1.0	REL-6	HSDPA -IubIur	Inclusion of HSDPA
R3-040415	27	-	F	25.424	5.3.0	5.2.0	REL-5	HSDPA -IubIur	Inclusion of HSDPA
R3-040416	28	-	A	25.424	6.0.0	6.1.0	REL-6	HSDPA -IubIur	Inclusion of HSDPA

3GPP TSG- RAN WG3 Meeting #41 **R3-040415**
Malaga, Spain, 16 – 20 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.424** **CR** **27** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Inclusion of HSDPA
Source:	⌘	RAN3
Work item code:	⌘	HSDPA-Iublur
Date:	⌘	11/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	HS-DSCH transport channel is missing from sections 3.1, 5.1 and 5.2
Summary of change:	⌘	Introduction of HS-DSCH on ATM transport option section.
Consequences if not approved:	⌘	No provision of Iur data transport for HS-DSCH

Clauses affected:	⌘	3.1, 5.1, 5.2

Other specs affected:	⌘	Y	N		⌘
		X		Other core specifications	25.424CR28,25.434CR29, 25.434CR30
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3.1 Definitions

Common Transport Channels are defined as transport channels that are shared by several users i.e. RACH, CPCH [FDD], FACH ~~and~~ DSCH and HS-DSCH.

/* partly omitted */

5 I_{ur} Data Transport for Common Transport Channel Data Streams

5.1 Introduction

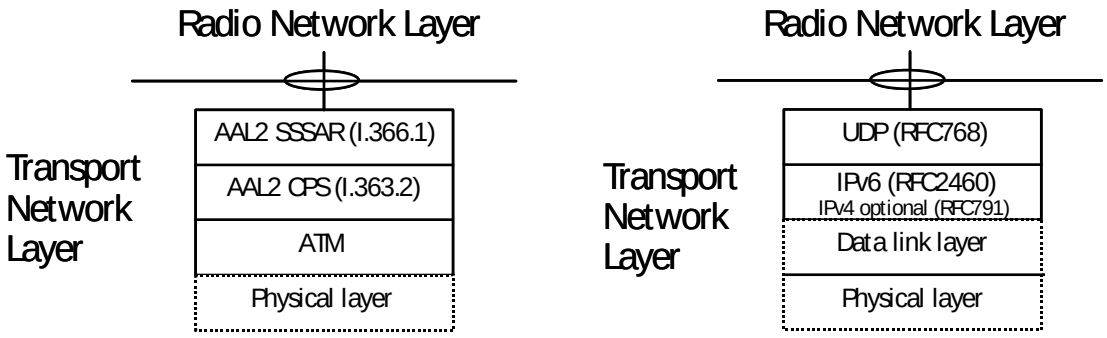
This clause specifies the transport layers that support Common Channels (FACH, RACH, CPCH [FDD], DSCH, HS-DSCH, USCH [TDD]) Iur data streams.

There are two options for the transport layer of the Common Channels data streams in Iur and Iub:

1) ATM based Transport (ATM transport option)

2) IP based Transport (IP transport option)

The following figure shows the protocol stacks of the two options.



Protocol stack for ATM transport option

Protocol stack for IP transport option

Figure 1: Transport network layer for DCH data streams over Iur and Iub interfaces

5.2 ATM Transport Option

ATM [1], AAL type 2 (ITU-T Recommendations I.363.2 [2] and I.366.1 [3]) is used as the standard transport layer for RACH, CPCH [FDD], FACH, USCH [TDD] ~~and~~ DSCH and HS-DSCH Iur data streams.

These AAL2 connections are established via the transport signalling protocol described in clause 5.

Figure 1 shows the protocol stack for the transport of RACH, CPCH [FDD], FACH, USCH [TDD] ~~and~~ DSCH and HS-DSCH Iur data streams using the ATM Transport Option. Service Specific Segmentation and Re-assembly (SSSAR) is used for the segmentation and re-assembly of AAL2 SDUs (i.e. SSSAR is only considered from ITU-T Recommendation I.366.1 [3]).

/* partly omitted */

3GPP TSG- RAN WG3 Meeting #41 **R3-040416**
Malaga, Spain, 16 – 20 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.424** **CR** **28** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Inclusion of HSDPA
Source:	⌘	RAN3
Work item code:	⌘	HSDPA-IuBIur
Date:	⌘	11/02/2004
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	HS-DSCH transport channel is missing from sections 3.1, 5.1 and 5.2
Summary of change:	⌘	Introduction of HS-DSCH on ATM transport option section.
Consequences if not approved:	⌘	No provision of Iur data transport for HS-DSCH

Clauses affected:	⌘	3.1, 5.1, 5.2

Other specs affected:	⌘	Y	N		⌘
		X		Other core specifications	25.424CR27, 25.434CR29, 25.434CR30
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:
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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3.1 Definitions

Common Transport Channels are defined as transport channels that are shared by several users i.e. RACH, CPCH [FDD], FACH ~~and~~ DSCH and HS-DSCH.

/* partly omitted */

5 I_{ur} Data Transport for Common Transport Channel Data Streams

5.1 Introduction

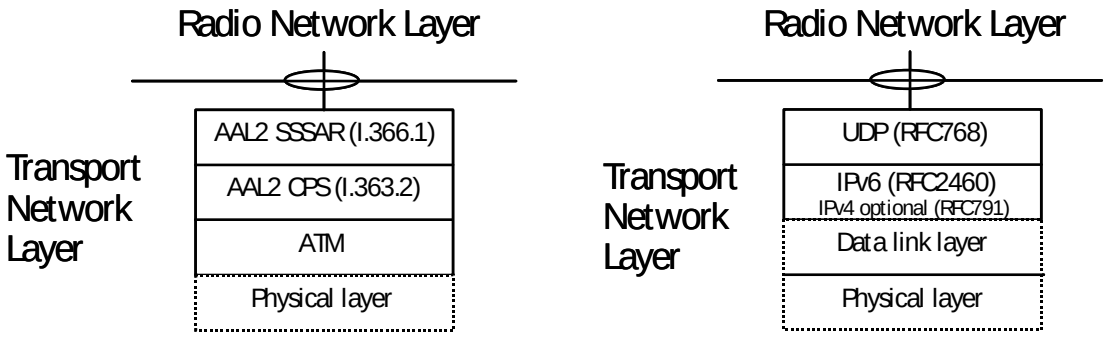
This clause specifies the transport layers that support Common Channels (FACH, RACH, CPCH [FDD], DSCH, HS-DSCH, USCH [TDD]) Iur data streams.

There are two options for the transport layer of the Common Channels data streams in Iur and Iub:

1) ATM based Transport (ATM transport option)

2) IP based Transport (IP transport option)

The following figure shows the protocol stacks of the two options.



Protocol stack for ATM transport option

Protocol stack for IP transport option

Figure 1: Transport network layer for DCH data streams over Iur and Iub interfaces

5.2 ATM Transport Option

ATM [1], AAL type 2 (ITU-T Recommendations I.363.2 [2] and I.366.1 [3]) is used as the standard transport layer for RACH, CPCH [FDD], FACH, USCH [TDD] ~~and~~ DSCH and HS-DSCH Iur data streams.

These AAL2 connections are established via the transport signalling protocol described in clause 5.

Figure 1 shows the protocol stack for the transport of RACH, CPCH [FDD], FACH, USCH [TDD] ~~and~~ DSCH and HS-DSCH Iur data streams using the ATM Transport Option. Service Specific Segmentation and Re-assembly (SSSAR) is used for the segmentation and re-assembly of AAL2 SDUs (i.e. SSSAR is only considered from ITU-T Recommendation I.366.1 [3]).

/* partly omitted */

3GPP TSG- RAN WG3 Meeting #41 **R3-040357**
Malaga, Spain, 16 – 20 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.434** **CR** **29** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Inclusion of HSDPA
Source:	⌘	RAN3
Work item code:	⌘	HSDPA-IuBlur
Date:	⌘	11/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	HS-DSCH transport channel is missing from figure 1 and sections 5.2 and 5.3
Summary of change:	⌘	Introduction of HS-DSCH on figure 1 and on IP & ATM transport option sections.
Consequences if not approved:	⌘	No provision of Iub data transport for HS-DSCH

Clauses affected:	⌘	5.1, 5.2, 5.3

Other specs affected:	⌘	Y	N		⌘
		X		Other core specifications	25.434CR30, 25.424CR27, 25.424CR28
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5 I_{ub} Data Transport for Common Transport Channel Data Streams

5.1 Introduction

This subclause specifies the transport layers that support Common Transport Channel (FACH, RACH, CPCH [FDD], PCH, DSCH, HS-DSCH, USCH [TDD]) data streams.

There are two options for protocol suites for transport of RACH, CPCH [FDD], FACH, USCH [TDD], ~~and~~ DSCH and HS-DSCH Iub data streams:

1) ATM Transport Option

2) IP Transport Option

The following figure 1 shows the protocol stacks of these two options:

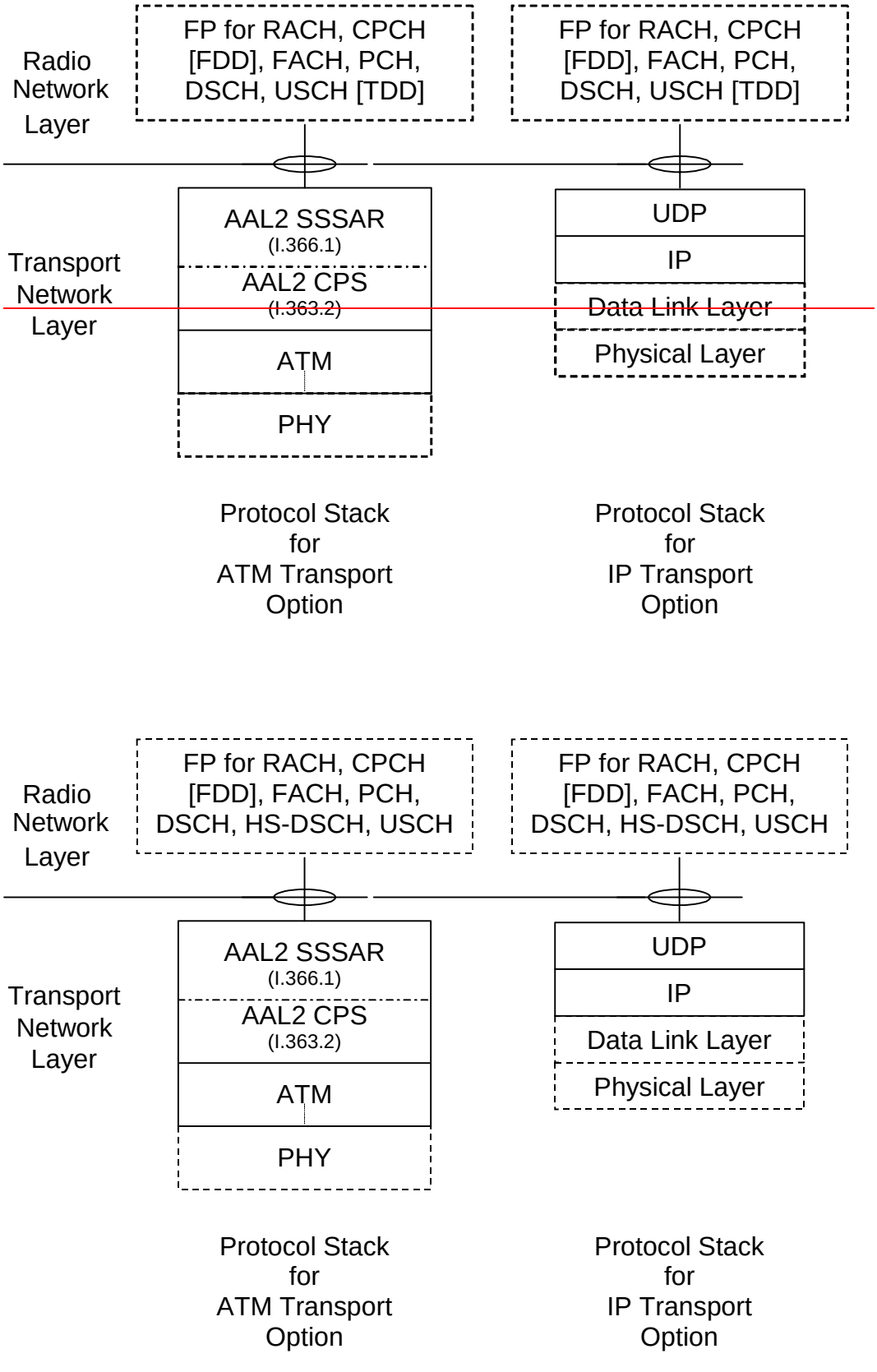

Figure 1: Protocol stack for the transport of RACH, CPCH [FDD], FACH, PCH, DSCH HS-DSCH and USCH [TDD] Iub data streams

5.2 ATM Transport Option

ATM and AAL2 (I.363.2 [1] and I.366.1 [2]) are used at the standard transport layer for Iub RACH, CPCH [FDD] FACH, PCH, DSCH, HS-DSCH, USCH [TDD] data streams.

The Service Specific Segmentation and Reassembly (SSSAR) sublayer is used for the segmentation and reassembly of AAL2 SDUs (i.e. SSSAR is only considered from ITU-T Recommendation I.366.1).

5.3 IP Transport Option

UDP [12] over IP shall be supported as the transport for RACH, CPCH [FDD], FACH, PCH, DSCH, HS-DSCH and USCH [TDD] data streams on Iub Interface. The data link layer is as specified in chapter 4.2

An IP UTRAN node shall support IPv6 [13]. The support of IPv4 [14] is optional.

NOTE: This does not preclude single implementation and use of IPv4.

IP dual stack is recommended for the potential transition period from IPv4 to IPv6 in the transport network.

The transport bearer is identified by the UDP port number and the IP address (source UDP port number, destination UDP port number, source IP address, destination IP address).

IP Differentiated Services code point marking [15] shall be supported. The mapping between traffic categories and Diffserv code points shall be configurable by O&M for each traffic category. Traffic categories are implementation-specific and may be determined from the application parameters.

/* partly omitted */

3GPP TSG- RAN WG3 Meeting #41 **R3-040358**
Malaga, Spain, 16 – 20 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.434** **CR** **30** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Inclusion of HSDPA
Source:	⌘	RAN3
Work item code:	⌘	HSDPA-IublIur
Date:	⌘	11/02/2004
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
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Use one of the following releases:

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R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	HS-DSCH transport channel is missing from figure 1 and sections 5.2 and 5.3
Summary of change:	⌘	Introduction of HS-DSCH on figure 1 and on IP & ATM transport option sections.
Consequences if not approved:	⌘	No provision of Iub data transport for HS-DSCH

Clauses affected:	⌘	5.1, 5.2, 5.3			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	25.434CR29, 25.424CR27, 25.424CR28
		X /	Other core specifications		
		/ **X**	Test specifications		
		/ **X**	O&M Specifications		
Other comments:	⌘				

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5 I_{ub} Data Transport for Common Transport Channel Data Streams

5.1 Introduction

This subclause specifies the transport layers that support Common Transport Channel (FACH, RACH, CPCH [FDD], PCH, DSCH, HS-DSCH, USCH [TDD]) data streams.

There are two options for protocol suites for transport of RACH, CPCH [FDD], FACH, USCH [TDD], ~~and~~ DSCH and HS-DSCH Iub data streams:

1) ATM Transport Option

2) IP Transport Option

The following figure 1 shows the protocol stacks of these two options:

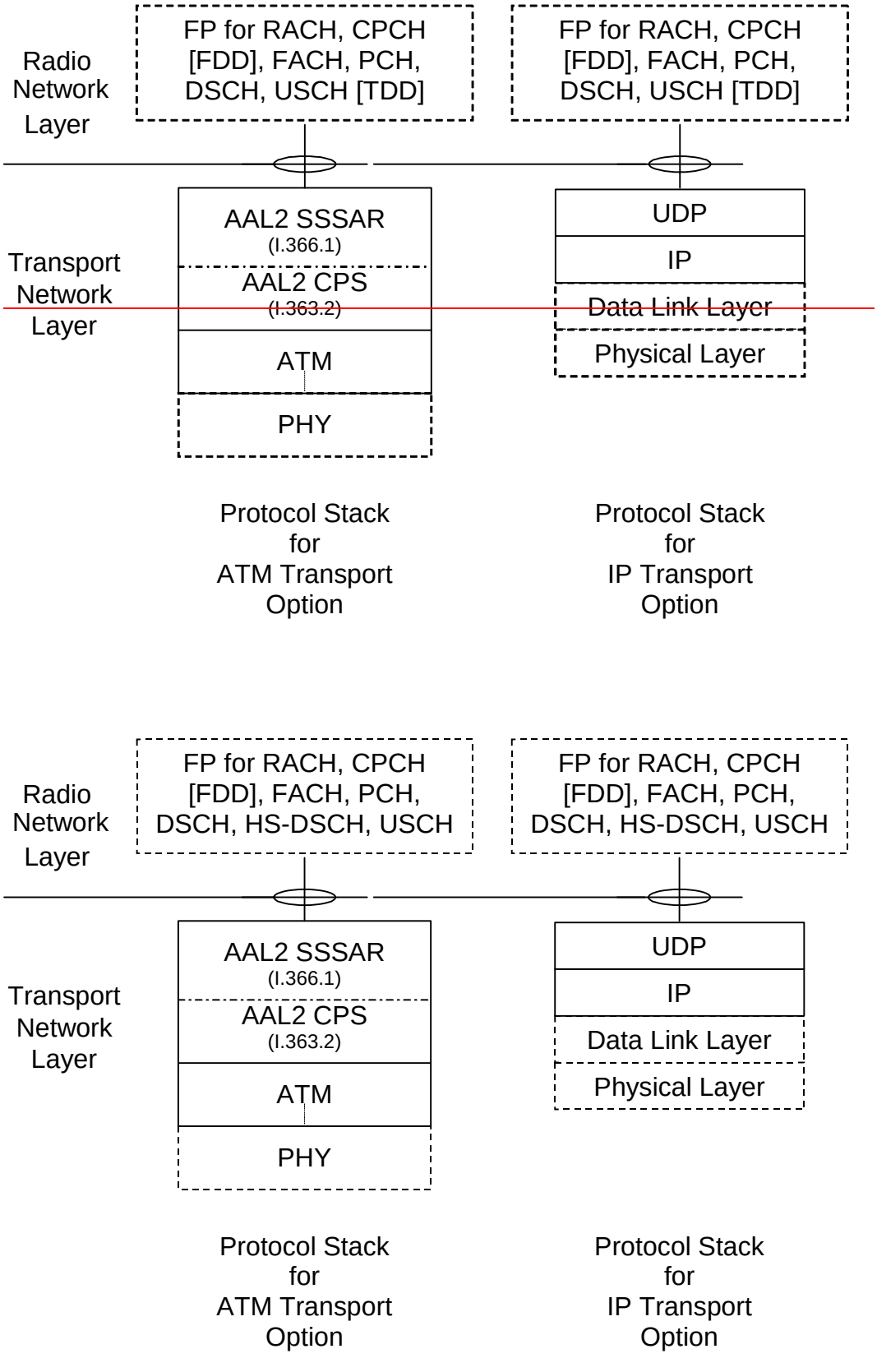

Figure 1: Protocol stack for the transport of RACH, CPCH [FDD], FACH, PCH, DSCH HS-DSCH and USCH [TDD] Iub data streams

5.2 ATM Transport Option

ATM and AAL2 (I.363.2 [1] and I.366.1 [2]) are used at the standard transport layer for Iub RACH, CPCH [FDD] FACH, PCH, DSCH, HS-DSCH, USCH [TDD] data streams.

The Service Specific Segmentation and Reassembly (SSSAR) sublayer is used for the segmentation and reassembly of AAL2 SDUs (i.e. SSSAR is only considered from ITU-T Recommendation I.366.1).

5.3 IP Transport Option

UDP [12] over IP shall be supported as the transport for RACH, CPCH [FDD], FACH, PCH, DSCH, HS-DSCH and USCH [TDD] data streams on Iub Interface. The data link layer is as specified in chapter 4.2

An IP UTRAN node shall support IPv6 [13]. The support of IPv4 [14] is optional.

NOTE: This does not preclude single implementation and use of IPv4.

IP dual stack is recommended for the potential transition period from IPv4 to IPv6 in the transport network.

The transport bearer is identified by the UDP port number and the IP address (source UDP port number, destination UDP port number, source IP address, destination IP address).

IP Differentiated Services code point marking [15] shall be supported. The mapping between traffic categories and Diffserv code points shall be configurable by O&M for each traffic category. Traffic categories are implementation-specific and may be determined from the application parameters.

/* partly omitted */