TSG RAN Meeting #18 **RP-020742**
New Orleans, Louisiana, USA, 3 - 6 December, 2002

Title **CRs (R99 and Rel-4/Rel-5 Category A) to TS 25.414**
Source **TSG RAN WG3**
Agenda Item **7.3.3**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
R3-022292	25.414	3.11.0	3.12.0	R99	041	-	F	Correction to Iu-ps IP/ATM	TEI
R3-022293	25.414	4.4.0	4.4.0	REL-4	042	-	A	Correction to Iu-ps IP/ATM	TEI
R3-022294	25.414	5.2.0	5.3.0	REL-5	043	-	A	Correction to Iu-ps IP/ATM	TEI

3GPP TSG-RAN WG3 Meeting #33 ***R3-022292***
Sophia Antipolis, France, 11-15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.414** **CR** **041** ⌘ **rev** **-** ⌘ Current version: **3.11.0** ⌘

*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 **X** Core Network **X**

Title:	⌘	Correction to Iu-ps IP/ATM
Source:	⌘	RAN WG3
Work item code:	⌘	TEI
Date:	⌘	01/11/2002
Category:	⌘	**F**
Release:	⌘	R99

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: ⌘

TS 25.414 sections 6.1.4 and 6.1.5 specify the protocol stack to use for the Iu-ps user plane.
Section 6.1.4 specifies two ways of making the association between a VC and the IP addresses that are related to this VC in the peer node side, when PVCs are used: either via O&M or via ATM Inverse ARP.

However, section 6.1.5
- only specifies the case with "Classical IP and ARP over ATM" (RFC 2225) therefore the ATM Inverse ARP case,

- but does not specify the O&M association case i.e. whether not to use any multiplexing layer or to use of Multiprotocol Encapsulation over AAL5 (RFC 2684) together with the option to be used : "VC multiplexing" or "LLC encapsulation".

This may lead to important interoperability problems between vendors, and it is proposed to specify the O&M case.

Although there is no need to use of any multiplexing layer in the case of O&M option, and although it is not efficient from bandwidth point of view, it is proposed to use "Multiprotocol Encapsulation over AAL5" (RFC 2684) with the "LLC encapsulation" option for homogeneity reasons with the case of "ATM Inverse ARP" association.

Moreover the " Classical IP over ATM" wording is wrong and should be changed into " Classical IP and ARP over ATM" which is the correct name of RFC 2225.

Summary of change: ⌘

Specification of the protocol stack to use in case of VC/IP-addresses association via O&M is added. It mandates the use of Multiprotocol Encapsulation over AAL5 (RFC 2684) with LLC/SNAP encapsulation option for both O&M association and

		ATM Inverse ARP association, when PVCs are used. Moreover the " Classical IP over ATM" wording is changed into " Classical IP and ARP over ATM". <u>Impact assessment towards the previous version of the specification (same release):</u> This CR has isolated impact towards the previous version of the specification (same release). This CR has an impact under protocol point of view. The impact can be considered isolated because it only affects the IP/ATM protocol stack of the Iu-ps user plane.
Consequences if not approved:	⌘	If this CR is not agreed, it is possible either not to use any multiplexing layer, or to use Multiprotocol Encapsulation over AAL5 (RFC 2684) with or without LLC/SNAP encapsulation option in the O&M association. That may lead to vendor interoperability problems.

Clauses affected:	⌘	6.1.4, 6.1.5			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ TS 25.414 v4.4.0 CR042 TS 25.414 v5.2.0 CR043
affected:			**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 <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

6.1.4 ATM Adaptation Layer Type 5 (I.363.5)

AAL5 shall be used according to ITU-T Recommendation I.363.5 [3].

AAL5 virtual circuits shall be used to transport the IP packets across the Iu interface toward the packet switched domain. Multiple VCs may be used over the interface. An association shall be made between a VC and the IP addresses that are related to this VC in the peer node side. This association shall be made using O&M or using "ATM Inverse ARP" ~~according to Classical IP over ATM~~ when PVCs are used.

When PVCs are used, quality of service differentiation shall only be performed at the IP layer using differentiated services [19].

6.1.5 IP/ATM

When the association mentioned in 6.1.4 is made using 0&M, the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used.

When the association mentioned in 6.1.4 is made using "ATM Inverse ARP", "Classical IP and ARP over ATM" protocols and the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used. "Classical IP and ARP over ATM" is specified in RFC 2225 [15]. "Multiprotocol Encapsulation over AAL5" is specified in RFC 2684 [14].

"Classical IP and ARP over ATM" allows routers to be members of one or more LISs. The CN side of the Iu interface shall provide IP routing functionalities. The RNC side of the Iu interface may provide routing functionalities. If the RNC side of the Iu interface does not provide routing functionalities, the RNC routing tables shall include default route entries.

3GPP TSG-RAN WG3 Meeting #33 ***R3-022293***
Sophia Antipolis, France, 11-15 November 2002

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CHANGE REQUEST

⌘ **25.414** **CR** **042** ⌘ **rev** **-** ⌘ Current version: **4.4.0** ⌘

*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 **X** Core Network **X**

Title:	⌘	Correction to Iu-ps IP/ATM
Source:	⌘	RAN WG3
Work item code:	⌘	TEI
Date:	⌘	01/11/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

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)*
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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: ⌘

TS 25.414 sections 6.1.4 and 6.1.5 specify the protocol stack to use for the Iu-ps user plane.
Section 6.1.4 specifies two ways of making the association between a VC and the IP addresses that are related to this VC in the peer node side, when PVCs are used: either via O&M or via ATM Inverse ARP.

However, section 6.1.5
- only specifies the case with "Classical IP and ARP over ATM" (RFC 2225) therefore the ATM Inverse ARP case,

- but does not specify the O&M association case i.e. whether not to use any multiplexing layer or to use of Multiprotocol Encapsulation over AAL5 (RFC 2684) together with the option to be used : "VC multiplexing" or "LLC encapsulation".

This may lead to important interoperability problems between vendors, and it is proposed to specify the O&M case.

Although there is no need to use of any multiplexing layer in the case of O&M option, and although it is not efficient from bandwidth point of view, it is proposed to use "Multiprotocol Encapsulation over AAL5" (RFC 2684) with the "LLC encapsulation" option for homogeneity reasons with the case of "ATM Inverse ARP" association.

Moreover the " Classical IP over ATM" wording is wrong and should be changed into " Classical IP and ARP over ATM" which is the correct name of RFC 2225.

Summary of change: ⌘

Specification of the protocol stack to use in case of VC/IP-addresses association via O&M is added. It mandates the use of Multiprotocol Encapsulation over AAL5 (RFC 2684) with LLC/SNAP encapsulation option for both O&M association and

		ATM Inverse ARP association, when PVCs are used. Moreover the " Classical IP over ATM" wording is changed into " Classical IP and ARP over ATM". <u>Impact assessment towards the previous version of the specification (same release):</u> This CR has isolated impact towards the previous version of the specification (same release). This CR has an impact under protocol point of view. The impact can be considered isolated because it only affects the IP/ATM protocol stack of the Iu-ps user plane.
Consequences if not approved:	⌘	If this CR is not agreed, it is possible either not to use any multiplexing layer, or to use Multiprotocol Encapsulation over AAL5 (RFC 2684) with or without LLC/SNAP encapsulation option in the O&M association. That may lead to vendor interoperability problems.

Clauses affected:	⌘	6.1.4, 6.1.5				
		Y	**N**			
Other specs	⌘	**X**		Other core specifications	⌘	TS 25.414 v3.11.0 CR041 TS 25.414 v5.2.0 CR043
affected:			**X**	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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When PVCs are used, quality of service differentiation shall only be performed at the IP layer using differentiated services [19].

6.1.5 IP/ATM

When the association mentioned in 6.1.4 is made using 0&M, the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used.

When the association mentioned in 6.1.4 is made using "ATM Inverse ARP", "Classical IP and ARP over ATM" protocols and the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used. "Classical IP and ARP over ATM" is specified in RFC 2225 [15]. "Multiprotocol Encapsulation over AAL5" is specified in RFC 2684 [14].

"Classical IP and ARP over ATM" allows routers to be members of one or more LISs. The CN side of the Iu interface shall provide IP routing functionalities. The RNC side of the Iu interface may provide routing functionalities. If the RNC side of the Iu interface does not provide routing functionalities, the RNC routing tables shall include default route entries.

3GPP TSG-RAN WG3 Meeting #33 ***R3-022294***
Sophia Antipolis, France, 11-15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.414** **CR** **043** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	Correction to Iu-ps IP/ATM		
Source:	⌘	RAN WG3		
Work item code:	⌘	TEI	***Date:*** ⌘	01/11/2002
Category:	⌘	**A**	***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: ⌘

TS 25.414 sections 6.1.4 and 6.1.5 specify the protocol stack to use for the Iu-ps user plane.
Section 6.1.4 specifies two ways of making the association between a VC and the IP addresses that are related to this VC in the peer node side, when PVCs are used: either via O&M or via ATM Inverse ARP.

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Clauses affected:	⌘	6.1.2.4, 6.1.2.5			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ TS 25.414 v3.11.0 CR041 TS 25.414 v4.4.0 CR042
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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6.1.2.5 IP/ATM

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