The ATM Forum

Technical Committee

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Acknowledgments

The Control and Signaling working group was chaired by Gert Öster. Sirak Bahlbi was the editor for the specifications of the signalling support for the Call Processing Priority feature. The minutes at related working group meetings were recorded by Thomas Cornély and Dave Paw. Following people have made significant technical contributions to these specifications.

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This specification uses three levels for indicating the degree of compliance necessary for specific functions, procedures or coding. They are indicated by the use of key words as follows:

- **Requirement:** "Shall" indicates a required function, procedure or coding necessary for compliance. The word "shall" used in text indicates a conditional requirement when the operation described is dependent on whether or not an objective or option is chosen.
- **Objective:** "Should" indicates an objective which is not required for compliance, but which is considered desirable.
- **Option:** "May" indicates an optional operation without implying a desirability of one operation over another. That is, it identifies an operation that is allowed while still maintaining compliance.

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1 Introduction
[Informative]

This document contains the description and specification of the Call Processing Priority feature for UNI, PNNI and AINI interfaces.

Section 2 specifies the coding requirements and sections 3, 4 and 5 specify signalling procedures and messages necessary to associate a Call Processing Priority level to a connection at the UNI, PNNI and AINI interfaces, respectively. Annexes A, B and C contain the PICS Proformas for the Call Processing Priority feature at the UNI, PNNI and AINI interfaces, respectively.

1.1 Scope
[Normative]

The Call Processing Priority feature is an optional capability of [SIG 4.1], [PNNI 1.1] and [AINI].

The procedures specified in this document provide for the association of a Call Processing Priority level to a call during call establishment . The Call Processing Priority level specified during call establishment applies to subsequent messages for that call, including call clearing messages. The decision of whether to assign a given priority level to a call is outside the scope of this specification.

A node supporting the Call Processing Priority feature shall implement the procedures for point-to-point and point-to-multipoint calls. A node shall support the association of a priority level with calls for a virtual channel connection (SVCC, soft PVCC) and calls for a virtual path connection (SVPC, soft PVPC).

A node supporting the Call Processing Priority feature shall differentiate a call's access to call processing resources using the priority level in signalling messages.

A switch supporting Call Processing Priority at the UNI, PNNI or AINI shall be capable of forwarding the Priority services information element with Call Processing Priority. A switch supporting Call Processing Priority at the UNI, Inter domain PNNI or AINI may also be capable of generating a ‘network-generated’ Priority services information element with Call Processing Priority.

The Call Processing Priority level may be mapped at administrative boundaries. Procedures how to map the Call Processing Priority level are beyond the scope of this specification.

As an option, the Call Processing Priority feature also provides a mechanism to transport transparently across a network a user provided Priority information element as specified in the Call Priority ITU-T recommendation (Q.2959). A node supporting this option that receives a Q.2959 Priority information element shall not alter this information element or directly use it to prioritize the call . The node may use the Priority information element to derive a Call Processing Priority level which will in turn be used to prioritize the call through the network.

Support of priority for pre-emption of already established calls is outside the scope of this document.

1.1.1 Applicability to PNNI 1.0

A device supporting PNNI 1.0 [PNNI 1.0] may implement functionality defined in this addendum by treating this addendum as if it were an optional addendum to PNNI 1.0 [PNNI 1.0] and PNNI 1.0 Errata and PICS[PNNI ERR].

1.1.2 Applicability to SIG 4.0

A device supporting SIG 4.0 [SIG 4.0] may implement functionality defined in this addendum by treating this addendum as if it were an optional addendum to SIG 4.0 [SIG 4.0].

1.2 Overview [Informative]

The Call Processing Priority feature enables a service provider to give preferential access to call processing resources for higher priority calls. This prioritization is effective during call setup, clearing and reroute.

This specification defines priority differentiation during call processing. This should not be confused with existing ATM capabilities in the user plane. For example, in the user plane, CBR connections have priority of access to resources over all other ATM Service Categories.

The Call Processing Priority is specified in the first signalling message for a given point-to-point or point-to-multipoint call (e.g. SETUP message), and applies to subsequent messages for that call. For each type of message, messages for calls of a higher priority are processed preferentially compared to messages of the same type for calls of a lower priority.

If the network receives a SETUP message across an administrative boundary for a call and the message does not indicate a Call Processing Priority, then the receiving network can optionally associate a Call Processing Priority with the call before forwarding the call across the network. This allows the network to implement priority-based policies even when users do not specify a Call Processing Priority in the SETUP message.

This specification also provides the mechanisms to transport the Priority information element defined in ITU-T Recommendation Q.2959, which is different from the Priority services information element with Call Processing Priority defined in this specification. If a user includes the Priority information element defined in Q.2959 in a SETUP message, the network forwards the information element transparently end to end without any alterations. This provides the user the ability to deliver the Priority information element to the called user. The procedures that are specified in Q.2959 are not supported in this specification. The Q.2959 Priority information element may be used to derive the Call Processing Priority level in the Priority services information element with Call Processing Priority, thus influencing the priority of a call inside the network.

1.3 References

[SIG 4.1] ATM Forum Technical Committee, *User-Network Interface (UNI) Signalling Specification*, Version 4.1, af-sig-0061.002, March 2002.

[SIG 4.0] ATM Forum Technical Committee, *ATM User-Network Interface (UNI) Signalling Specification, Version 4.0*, af-sig-0061.000 , July1996.

[PNNI 1.1] ATM Forum Technical Committee, *Private Network-Network Interface Specification v1.1*, af-pnni-0055.002, March 2002

[PNNI 1.0] ATM Forum Technical Committee, *Private Network-Network Interface Specification Version 1.0*, af-pnni-0055.000, March 1996.

[PNNI ERR] ATM Forum Technical Committee, *PNNI v1.0 Errata and PICS*, af-pnni-0081.000, May 1997.

[AINI] ATM Forum Technical Committee, *ATM Inter-Network Interface (AINI) Specifications*, ATM Forum af-cs-0125.000, April 1999

[Q.2959] ITU-T Recommendation Q.2959 (1996), *Digital Subscriber Signalling System No. 2 – Call Priority.*

[Q.2726.2] ITU-T Recommendation Q.2726.2(1996) *B-ISDN user part – Call priority*

[DBR] ATM Forum Technical Committee, *Domain-based rerouting for active point-to-point calls version 1.0*, af-cs-0173.000, August 2001

1.4 Acronyms

AINI	ATM Inter-network Interface
B-ISUP	Broadband ISDN User Part
CPP	Call Processing Priority
CBR	Continuous Bit Rate
DBR	Domain-Based Rerouting
PICS	Protocol Implementation Conformance Statement
PNNI	Private Network-Network Interface
soft PVC	Soft Permanent Virtual Connection
SVC	Switched Virtual Connection
UNI	User-Network Interface

1.5 Definition

Call Processing Resources	Control plane resources that are used to process the offered signalling and call control load. This includes signalling link transmission bandwidth, internal switch message queues, CPU real-time and memory resources. Call Processing Resources do not include resources needed for data transfer.

2 Coding Requirements
[Normative]

2.1 Priority Services Information Element

The Priority services information element shall be coded as shown in Figure 2.1.

Bits 8	7	6	5	4	3	2	1	Octets
Priority Services Information Element identifier								
1	1	1	1	0	1	1	1	1
1 Ext	Coding Standard		Information Element Instruction Field: Flag	Pass along	Information Element Action Indicator			2
Length of Priority Services information element contents								3
Length of Priority Services information element contents (continued)								4
Call Processing Priority identifier								5* (Note1)
0	0	0	0	0	0	0	1	
Origin								5.1*
Spare					Call Processing Priority			5.2*

Note 1 - Although octet group 5 (Call Processing Priority) is optional within the context of the information element, its inclusion is mandatory within the context of this specification.

Figure (2.1) Priority services information element

Coding standard (octet 2)

Bits 7 6	Meaning
1 1	ATM Forum specific

Origin (octet 5.1)

Indicates the origin of this information element.

Bits 8 7 6 5 4 3 2 1	Meaning
0 0 0 0 0 0 0 0	Originating user
0 0 0 0 0 0 0 1	Network generated

Originating user: If the origin field is set to ‘originating user’, the field indicates that the Call Processing Priority level either was supplied by the originating user, or was mapped by networks in ways that preserve the meaning of the priority.

Network generated: If the origin field is set to ‘network generated’, the field indicates that the Call Processing Priority level either was generated by the network without regard to any priority level specified by the originating user, or was mapped by networks without preserving the meaning of the priority.

Call Processing Priority (Octet 5.2)

The Call Processing Priority level for a given point-to-point or point-to-multipoint call is indicated in the first signalling message for that call (e.g. SETUP message), and applies to the first signalling message and to all subsequent messages for that call. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

Four binary coded bits indicating priority coded as follows:

Bits 4	3	2	1	Meaning
0	0	0	0	Level 1 (highest priority)
0	0	0	1	Level 2
0	0	1	0	Level 3
0	0	1	1	Level 4
0	1	0	0	Level 5
				….
				….
1	1	1	0	Level 15
1	1	1	1	Level 16 (lowest priority)

If this information element is received with unrecognized content or the information element exceeds its maximum length, it shall be treated as an unrecognized information element.

2.2 Priority Information Element

Refer to section 8.2.1/Q.2959.

3 UNI Support of Call Processing Priority

[Normative]

3.1 Additions to UNI Signalling Messages

3.1.1 Basic Point-to-Point Call at the UNI

Add the following to section 2.0/UNI 4.1 Basic point-to-point call:

3.1.7/Q.2931 SETUP:
Add the following to Table 3-8/Q.2931:

Information Element name	Reference	Direction	Type	Length
Priority services	Section 2.1	both	O (Note 1)	7
Priority	8.2.1/Q.2959	both	O	10

Note 1: This information element may occur up to 5 times. At most one instance may contain a Call Processing Priority identifier and the other four instances are for future use.

4.5.1/Q.2931 Coding Rules

Add the following to Table 2-1/UNI 4.1:

Bits		Information Element	Max Length	Min Length	Max no of Occurrences	Reference
8 7 6 5	4 3 2 1					
1 1 1 1	0 1 1 1	Priority services	7	7	5	2.1
1 0 0 0	1 0 0 0	Priority	10	10	1	8.2.1/Q.2959

3.1.2 Point-to-Multipoint calls at the UNI

Add the following to section 5/UNI 4.1 Point-to-Multipoint Calls:

8.1.2.1/Q.2971 ADD PARTY:
Add the following to Table 8-10/Q.2971:

Information Element name	Reference	Direction	Type	Length
Priority services	Section 2.1	both	O (Note 1)	7
Priority	8.2.1/Q.2959	both	O	10

Note 1: This information element may occur up to 5 times. At most one instance may contain a Call Processing Priority identifier and the other four instances are for future use.

3.2 Signalling procedures for Call Processing Priority for SIG 4.1

The procedures for basic call control in section 2/SIG 4.1 and section 5/SIG 4.1 shall apply . This section contains additional procedures related to the handling of the Priority services information element with Call Processing Priority .

The following procedures also provide, as an option, the mechanism to transport a user provided Q.2959 specified Priority information element transparently across networks.

3.2.1 Procedures at the Originating UNI interface

3.2.1.1 Procedures at the User Side

3.2.1.1.1 Procedures at the S_B and Coincident S_B and T_B Reference Points

If the calling user wishes to associate a Call Processing Priority level with a call, the calling user shall include a Priority services information element with Call Processing Priority formatted as defined in section 2 in the SETUP or ADD PARTY message sent to the network. The range of the Call Processing Priority value may be based on user subscription (e.g. different ranges for SVCs and soft PVCs). The origin field shall be set to “originating user”.

In an ADD PARTY message, the Call Processing Priority level shall be set to the level signalled in the original SETUP message for the same call. If no Priority services information element with Call Processing Priority was included in the original SETUP message, then no Priority services information element with Call Processing Priority shall be included in the ADD PARTY message.

In addition , the calling user may include a Q.2959 Priority information element as defined in section 2.2 in the SETUP or ADD PARTY message sent to the network.

3.2.1.1.2 Procedures at the T_B Reference Points

The procedures of section 3.2.2.1 shall apply changing “network” to “user”, except the terms “network specific” and “network generated”, which shall remain unchanged.

3.2.1.2 Procedures at the Network Side

If the network side receives a SETUP message containing a Priority services information element with Call Processing Priority and the origin field set to “originating user”, then if the call is progressed, the network shall include the received Priority services information element with Call Processing Priority in the forwarded setup indication. The Call Processing Priority level included in the forwarded setup indication shall be set to either:

- The received Call Processing Priority level, or
- As a network option, a level resulting from local mapping of the received Call Processing Priority level in a way that preserves the meaning of the priority. The origin field shall remain unaltered.

If the received Call Processing Priority level in the Priority services information element with Call Processing Priority exceeds the user’s highest allowed Call Processing Priority level, the Call Processing Priority level shall be defaulted to the user’s highest allowed Call Processing Priority level.

If the network side receives a SETUP message containing a Priority services information element with a Call Processing Priority with the origin field set to “network generated”, then the network side shall take

one of the following actions:

- Discard the Priority services information element with a Call Processing Priority and progress the message as if the Priority services information element with a Call Processing Priority was not present,
- Replace the received Priority services information element with a Call Processing Priority with a new Priority services information element with a Call Processing Priority in the forwarded message (with the origin field set to “network generated”), or
- Forward unchanged the received Priority services information element with a Call Processing Priority.

If the network receives a SETUP message for a call that does not contain a Priority services information element with a Call Processing Priority, then if the call is progressed, the network may include a Priority services information element with a Call Processing Priority with the origin field set to “network generated” in the forwarded setup indication.

The network shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the network shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

Upon reception of an ADD PARTY message, the following procedures shall apply:

- If the forwarded setup indication did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.
- If the forwarded setup indication contained a Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.

If the network receives a SETUP or ADD PARTY message containing a Q.2959 Priority information element and the network supports transport of the Q.2959 Priority information element, then if the call is progressed, the network shall include the received Priority information element in the forwarded setup or add party indication without any alterations.

3.2.2 Procedure at the Destination UNI

3.2.2.1 Procedures at the Network Side

Upon receiving a setup request, the network shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the network shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

If the network side receives a setup request containing a Priority services information element with Call Processing Priority and the origin field set to “originating user”, then if the call is progressed the network shall include the received Priority services information element with Call Processing Priority in the forwarded message. The Call Processing Priority level included within the forwarded message shall be set to either :

- The received Call Processing Priority level, or

- As a network option, a level resulting from local mapping of the received Call Processing Priority level in a way that preserves the meaning of the priority. The origin field shall remain unaltered.

If the network side receives a setup request containing a Priority services information element with a Call Processing Priority with the origin field set to “network generated”, then the network side shall take one of the following actions before progressing the message:

- Discard the Priority services information element with Call Processing Priority,
- Replace the received Priority services information element with Call Processing Priority with a new Priority services information element with Call Processing Priority in the forwarded message (with the origin field set to “network generated”), or
- Forward unchanged the received Priority services information element with Call Processing Priority.

Upon reception of an add party request, the following procedures shall apply:

- If the forwarded SETUP message did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the forwarded ADD PARTY message.
- If the forwarded SETUP message contained a Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the forwarded ADD PARTY message.

If the network side receives a setup or add party request containing a Q.2959 Priority information element and the network supports transport of the Q.2959 Priority information element, then if the call is progressed, the network shall include the received Priority information element in the forwarded message without any alterations.

3.2.2.2 Procedures at the User Side

3.2.2.2.1 Procedures at the S_B and Coincident S_B and T_B Reference Points

Upon receiving the SETUP message, the called user shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the called user shall treat this call as if it contains a Call Processing Priority level equal to a configurable level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

3.2.2.2.2 Procedures at the T_B Reference Point

The procedures of section 3.2.1.2 shall apply changing “network” to “user”, except the terms “network generated” and “network specific”, which shall remain unchanged.
Add the following statement at the end of the second paragraph:

The user may apply other criteria or checks on the received level, including any possible association with the originating user.

3.3 Compatibility with Nodes Not Supporting This Feature

Upon receiving a SETUP or ADD PARTY message containing the Priority services information element with Call Processing Priority, nodes not supporting this feature will treat the Priority services information element with Call Processing Priority as an unrecognized information element.

Nodes supporting the Call Processing Priority capability shall set the IE instruction field in the Priority services information element with Call Processing Priority as follows:

- The IE instruction flag field (bit 5 of octet 2) shall be set to "follow explicit instructions", and
- The action indicator (bits 1-3 of octet 2) shall be set to "discard information element and proceed" or "discard information element, proceed, and report status".

With these settings, nodes that do not support the Call Processing Priority capability will treat the calls/connections that include the Priority services information element with Call Processing Priority the same as any other calls/connections that do not include the Priority services information element with Call Processing Priority .

4 PNNI Support of Call Processing Priority

[Normative]

4.1 Additions to PNNI Signalling Messages

In section 6.4.5.1/PNNI 1.1, add the following to Table 6-5:

Bits		Information Element	Max Length	Min Length	Max no of Occurences	Reference
8 7 6 5	4 3 2 1					
1 1 1 1	0 1 1 1	Priority services	7	7	5	2.1
1 0 0 0	1 0 0 0	Priority	10	10	1	8.2.1/Q.2959

4.1.1 SETUP

The following information elements are added to Figure 6-8 in 6.3.1.6/PNNI 1.1:

Information Element	Reference	Type	Length
Priority services	Section 2.1	O (Note)	7
Priority	8.2.1/Q.2959	O	10

Note: This information element may occur up to 5 times. At most one instance may contain a Call Processing Priority identifier and the other four instances are for future use.

4.1.2 ADDPARTY

The following information elements are added to Figure 6-19 in 6.4.3.1/PNNI 1.1:

Information Element	Reference	Type	Length
Priority services	Section 2.1	O (Note)	7
Priority	8.2.1/Q.2959	O	10

Note: This information element may occur up to 5 times. At most one instance may contain a Call Processing Priority identifier and the other four instances are for future use.

4.2 Signalling Procedures for Call Processing Priority for PNNI

The procedures for basic call control in section 6.5/PNNI 1.1 and section 6.6/PNNI 1.1 shall apply. This section describes additional procedures to handle calls/connections that specify a Priority services

information element with Call Processing Priority and procedures to transport the Q.2959 Priority information element end-to-end.

4.2.1 Call Processing Priority Feature for Intra-Domain PNNI

4.2.1.1 Preceding Side

Upon receiving a setup request, the node shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the node shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

If the preceding side receives a setup or add party request containing a Priority services information element with Call Processing Priority, then if the call is progressed, the preceding side shall include the received Priority services information element with Call Processing Priority in the forwarded message.

If the preceding side receives a setup or add party request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, the preceding side shall include the received Priority information element in the forwarded message without any alterations.

4.2.1.2 Succeeding Side

If the succeeding side receives a SETUP message containing a Priority services information element with Call Processing Priority, then if the call is progressed, the succeeding side shall include the received Priority services information element with Call Processing Priority in the forwarded setup indication.

The node shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the node shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

Upon reception of an ADD PARTY message , the following procedures shall apply:

- If the forwarded setup indication did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.
- If the forwarded setup indication contained a Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.

If the succeeding side receives a SETUP or ADD PARTY message containing a Q.2959 Priority information element and the succeeding side supports transport of the Q.2959 Priority information element, then if the call is progressed, the succeeding side shall include the received Priority information element in the forwarded setup or add party indication without modification.

4.2.2 Call Processing Priority feature for Inter-Domain PNNI

4.2.2.1 Preceding Side

Upon receiving a setup request, the node shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the node shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

If the preceding side receives a setup request containing a Priority services information element with Call Processing Priority with the origin field set to "originating user", then if the call is progressed, the preceding side shall include the received Priority services information element with Call Processing Priority in the forwarded message. The Call Processing Priority level included within the forwarded message shall be set to either :

- The received Call Processing Priority level, or
- As a network option, a level resulting from local mapping of the received Call Processing Priority level in a way that preserves the meaning of the priority. The origin field shall remain unaltered.

If the preceding side receives a setup request containing a Priority services information element with Call Processing Priority with the origin field set to "network generated", then the preceding side shall take one of the following actions before progressing the message:

- Discard the Priority services information element with Call Processing Priority,
- Replace the received Priority services information element with Call Processing Priority with a new Priority services information element with Call Processing Priority in the forwarded message (with the origin field set to "network generated"), or
- Forward unchanged the received Priority services information element with Call Processing Priority.

Upon reception of an add party request, the following procedures shall apply:

- If the forwarded SETUP message did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the forwarded ADD PARTY message.
- If the forwarded SETUP message contained a Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the forwarded ADD PARTY message.

If the preceding side receives a setup or add party request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, the preceding side shall include the received Priority information element in the forwarded message without any alterations.

4.2.2.2 Succeeding Side

If the succeeding side receives a SETUP message containing a Priority services information element with Call Processing Priority and the origin field set to "originating user", then if the call is progressed, the succeeding side shall include the received Priority services information element with Call Processing Priority in the forwarded setup indication. The Call Processing Priority level included in the forwarded setup indication shall be set to either:

- The received Call Processing Priority level, or
- As a network option, a level resulting from local mapping of the received Call Processing Priority

level in a way that preserves the meaning of the priority. The origin field shall remain unaltered.

If the received Call Processing Priority level in the Priority services information element with Call Processing Priority exceeds the highest allowed Call Processing Priority level, the Call Processing Priority level shall be defaulted to the highest allowed Call Processing Priority level.

If the succeeding side receives a SETUP message containing a Priority services information element with Call Processing Priority with the origin field set to “network generated”, then the succeeding side shall take one of the following actions:

- Discard the Priority services information element with Call Processing Priority and process the message as if the Priority services information element with Call Processing Priority was not present,
- Replace the received Priority services information element with Call Processing Priority with a new Priority services information element with Call Processing Priority in the forwarded message (with the origin field set to “network generated”), or
- Forward unchanged the received Priority services information element with Call Processing Priority.

If the succeeding side receives a SETUP message for a call that does not contain a Priority services information element with a Call Processing Priority, then if the call is progressed, the succeeding side may optionally include a Priority services information element with Call Processing Priority with the origin field set to “network generated” in the forwarded setup indication.

The network shall take specific local actions to prioritize this message and all subsequent signalling messages for this call according to the indicated Call Processing Priority level. If no Call Processing Priority level is indicated, the node shall treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level. For each type of message, messages for calls of a higher priority level shall be processed preferentially compared to messages of the same type for calls of a lower priority level.

Upon reception of an ADD PARTY message, the following procedures shall apply:

- If the forwarded setup indication did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.
- If the forwarded setup indication contained Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the forwarded add party indication.

If the succeeding side receives a SETUP or ADD PARTY message containing a Q.2959 Priority information element and the succeeding side supports transport of the Q.2959 Priority information element, then if the call is progressed, the succeeding side shall include the received Priority information element in the forwarded setup or add party indication without any alterations.

4.3 Compatibility with Nodes Not Supporting This Feature

Upon receiving a SETUP or ADD PARTY message containing Priority services information element with Call Processing Priority nodes not supporting this feature will treat the Priority services information element with Call Processing Priority as an unrecognized information element.

Nodes supporting the Call Processing Priority capability shall set the IE instruction field in the Priority services information element with Call Processing Priority as follows:

- The IE instruction flag field (bit 5 of octet 2) shall be set to "follow explicit instructions",

- The action indicator (bits 1-3 of octet 2) shall be set to "discard information element and proceed" or "discard information element, proceed, and report status", and
- The pass along request field (bit 4 of octet 2) shall be set to "pass along request".

With these settings, at nodes that do not support the Call Processing Priority capability, calls/connections that include the Priority services information element with Call Processing Priority shall be treated the same as any other calls/connections that do not include the Priority services information element with Call Processing Priority .

4.4 Feature Interactions with DBR

For nodes implementing both this specification and DBR [DBR] the following procedures shall apply:

Whenever a DBR reroute setup request is initiated:

- If the setup request progressed by call control to establish the initial connection did not contain a Priority services information element with Call Processing Priority, then no Priority services information element with Call Processing Priority shall be included in the DBR reroute setup request.
- If the setup request progressed by call control to establish the initial connection contained a Priority services information element with Call Processing Priority, the same Priority services information element with Call Processing Priority shall be included in the DBR reroute setup request.

5 AINI Support of Call Processing Priority

5.1 AINI Signalling

5.1.1 Additions to AINI Signalling Messages

The message coding defined in section 4.1 shall apply.

5.1.2 Signalling procedures for Call Processing Priority for AINI

The procedures specified in Section 4.2.2 shall apply.

5.1.3 Compatibility with Nodes Not Supporting This Feature

The procedures in section 4.3 shall apply.

5.2 Interworking between AINI and B-ISUP

Add the following rows and notes to the table in section 4.1.1.2.1.1/AINI:

AINI	**to** **B-ISUP**
SETUP	**IAM**
Priority services	Not Carried (Note 1)
Priority	Priority (according to Q.2726.2) (Note 2)

Note 1: The actions specified in the action indicator of this information element shall be applied except that no status needs to be returned.

Note 2: At a node providing interworking to B-ISDN ISUP, the information from the Q.2959 Priority information element shall be placed unchanged into the Priority parameter as defined in Q.2726.2 for inclusion in the IAM.

Modify the following row and add a note in the table in section 4.1.1.2.1.2/AINI:
Note for the editor: fix arrows in the below and use the same format as in the first table

BISUP ——————————— AINI	
IAM	**SETUP**
Priority (according to Q.2726.2) (Note1)	Priority (Note 1)

Note 1: At a node performing interworking from B-ISUP, the processing of the IAM containing this parameter shall be as described in Q.2726.2 for an Intermediate exchange. The Priority parameter from the IAM shall be placed unchanged into a Q.2959 Priority information element as defined in Q.2959 for transparent transport across the UNI, PNNI, or AINI signalling system.

Add the following rows and notes to the table in section 4.1.4.2.1.2/AINI:
Note for the editor: fix arrows in the below and use the same format as in the first table

AINI ——————————— B-ISUP	
ADD PARTY	**IAM**
Priority services	Not Carried (Note 1)
Priority	Priority (according to Q.2726.2) (Note 2)

Note 1: The actions specified in the action indicator of this information element shall be applied except that no status needs to be returned

Note 2: At a node providing interworking to B-ISDN ISUP, the information from the Q.2959 Priority information element shall be placed unchanged into the Priority parameter as defined in Q.2726.2 for inclusion in the IAM.

B-ISUP	**to** **AINI**
IAM	**ADD PARTY**
Priority (according to Q.2726.2) (Note 1)	Priority (Note 1)

Note 1: At a node performing interworking from B-ISUP, the processing of the IAM containing this parameter shall be as described in Q.2726.2 for an Intermediate exchange. The Priority parameter from the IAM shall be placed unchanged into a Q.2959 Priority information element as defined in Q.2959 for transparent transport across the UNI, PNNI, or AINI signalling system.

5.3 Interworking between AINI and PNNI

The procedures of section 4.2/AINI apply (i.e. information elements and messages are mapped to their equivalent counterparts).

6 Protocol Implementation Conformance Statement (PICS) for the UNI Signalling 4.1 Component of Call Processing Priority feature.

6.1 Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

6.1.1 Scope

This document provides the PICS proforma for the UNI Signalling 4.1 component Call Processing Priority capability, defined in [1] in compliance with the relevant requirements, and in accordance with the relevant guidelines, given in ISO/IEC 9646-7. In most cases, statements contained in notes in the specification, which were intended as information, are not included in the PICS.

6.1.2 Normative References

[1] Call Processing Priority Version 1 , af-cs-0182.000, ATM Forum Technical Committee, March 2002.

[2] ISO/IEC 9646-1:1994, Information technology – Open systems interconnection – Conformance testing methodology and framework – Part 1: General Concepts (See also ITU Recommendation X.290 (1995)).

[3] ISO/IEC 9646-7:1995, Information technology – Open systems interconnection – Conformance testing methodology and interconnection – Part 7: Implementation Conformance Statements (See also ITU telecommunication X.296 (1995)).

[4] ISO/IEC 9646-3:1998, Information technology – Open systems interconnection – Conformance testing methodology and interconnection – Part 3: The Tree and Tabular Combined Notation (TTCN) (See also ITU telecommunication X.292 (1998)).

6.1.3 Definitions

Terms defined in [1]
Terms defined in ISO/IEC 9646-1 and in ISO/IEC 9646-7
In particular, the following terms defined in ISO/IEC 9646-1 apply:
Protocol Implementation Conformance Statement (PICS): A statement made by the supplier of an implementation or system, stating which capabilities have been implemented for a given protocol.
PICS proforma: A document, in the form of a questionnaire, designed by the protocol specifier or conformance test suite specifier, which when completed for an implementation or system becomes the PICS.

6.1.4 Acronyms

ASN.1 Abstract Syntax Notation One
ATS Abstract Test Suite
IUT Implementation Under Test
PICS Protocol Implementation Conformance Statement
SUT System Under Test

6.1.5 Conformance

The PICS does not modify any of the requirements detailed in Call Processing Priority capability. In case of apparent conflict between the statements in the base specification and in the annotations of “M”

(mandatory) and “O” (optional) in the PICS, the text of the base specification takes precedence.
The supplier of a protocol implementation, which is claimed to conform to the UNI Signalling 4.1 component of Call Processing Priority capability, is required to complete a copy of the PICS proforma provided in this document and is required to provide the information necessary to identify both the supplier and the implementation.

6.2 Identification of the Implementation

Identification of the Implementation Under Test (IUT) and system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.
The product supplier information and client information should both be filled in if they are different.
A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

6.2.1 Date of Statement

_____

6.2.2 Implementation Under Test (IUT) Identification

IUT Name: _____

_____

_____

IUT Version: _____

6.2.3 System Under Test (IUT) Identification

SUT Name: _____

_____

Hardware Configuration: _____

_____

_____

Operating System: _____

6.2.4 Product Supplier

Name: _____

Address: _____

_____

_____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

6.2.5 Client

Name: _____

Address: _____

_____

_____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

6.2.6 PICS Contact Person

(A person to contact if there are any queries concerning the content of the PICS)

Name: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

Identification of the Protocol Specification
This PICS proforma applies to the following specification:
[1] Call Processing Priority Capability, af-cs-0xxx.000, ATM Forum Technical Committee, 2001.

6.3 PICS Proforma

6.3.1 Global statement of conformance

The implementation described in this PICS meets all of the mandatory requirements of the reference protocol.
[ ] YES
[ ] NO

Note: Answering "No" indicates non-conformance to the specified protocol. Non-supported mandatory

capabilities are to be identified in the following tables, with an explanation by the implementor explaining why the implementation is non-conforming.

6.3.2 Instructions for Completing the PICS Proforma

The PICS Proforma is a fixed-format questionnaire. Answers to the questionnaire should be provided in the rightmost columns, either by simply indicating a restricted choice (such as Yes or No), or by entering a value or a set of range of values.

The following notations, defined in ISO/IEC 9647-7, are used for the support column:

Yes supported by the implementation
No not supported by the implementation

The following notations, defined in ISO/IEC 9647-7, are used for the status column:

M mandatory – the capability is required to be supported.
O optional – the capability may be supported or not.
O.i qualified optional – for mutually exclusive or selectable options from a set. “i” is an integer which identifies a unique group of related optional items and the logic of their selection is defined immediately following the table.

A supplier may also provide additional information, categorised as exceptional or supplementary information. These additional information should be provided as items labelled X.<i> for exceptional information, or S.<i> for supplemental information, respectively, for cross reference purposes, where <i> is any unambiguous identification for the item. The exception and supplementary information are not mandatory and the PICS is complete without such information. The presence of optional supplementary or exception information should not affect test execution, and will in no way affect interoperability verification. The column labelled ‘Reference’ gives a pointer to sections of the protocol specification for which the PICS Proforma is being written.

6.4 PICS for the support of Call Processing Priority at the UNI

6.4.1 Major Capability at UNI (MCU)

Item Number	Item Description	Status	Condition for Status	Reference	Support
MCU 1	Does the IUT support Call Processing Priority for point-to-point calls?	M		1.1	Yes__ No__
MCU 2	Does the IUT support Call Processing Priority for point-to-multipoint calls?	M	**Note 1**	1.1	Yes__ No__
MCU 3	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual channel connections (SVCC)?	M		1.1	Yes__ No__
MCU 4	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual path connections (SVPC)?	M	**Note 2**	1.1	Yes__ No__
MCU 5	Does the IUT differentiate call's access to call processing resources using Call Processing Priority level in signalling messages?	M		1.1	Yes__ No__
MCU 6	Does the IUT support forwarding Priority services information element with Call Processing Priority level?	M		1.1	Yes__ No__
MCU 7	Is the IUT capable of generating a Priority services information element with a Call Processing Priority level and with the origin field set to "network generated"?	O	MCU11 or MCU10.2	1.1	Yes__ No__
MCU 8	Does the IUT support mapping of the Call Processing Priority level at administrative boundaries?	O	MCU11 or MCU10.2	1.1	Yes__ No__
MCU 9	Does the IUT support the end-to-end transport of Q.2959-specified Priority information element across the network transparently?	O	MCU11 or MCU 10.2	1.1,3.2	Yes__No__
MCU 10	Does the IUT support Call Processing Priority at the user side?	O.1		3.2.1.1, 3.2.2.2	Yes__ No__
MCU 10.1	Does the IUT support Call Processing Priority at the user side of the S_B or coincident S_B and T_B reference point?	O.2	MCU10	3.2.1.1.1, 3.2.2.2.1	Yes__ No__
MCU 10.2	Does the IUT support Call Processing Priority at the user side of the T_B reference point?	O.2	MCU10	3.2.1.1.2, 3.2.2.2.2	Yes__ No__
MCU 11	Does the IUT support Call Processing Priority at the network side?	O.1		3.2.1.2, 3.2.2.1	Yes__ No__

Comments: O.1: At least one of MCU 10 or MCU 13 must be supported O.2: At least one of MCU 11 or MCU 12 must be supported Note 1: If point-to-multipoint is supported at the UNI Note 2 : If switched VPCs are supported

6.4.2 Supported Information Elements at UNI (SIEU)

Item Number	Item Description	Status	Condition for status	Reference	Support
SIEU 1	Does the IUT support the Priority services information element with a Call Processing Priority level in the SETUP message as coded in section 2?	M		2	Yes__ No__
SIEU 2	Does the IUT support the Priority services information element with a Call Processing Priority level in the ADD PARTY message as coded in section 2?	M	MCU2	2	Yes__ No__
SIEP 3	Does the IUT support Q.2959 Priority information element in the SETUP message as specified in section 2?	M	MCU9	2	Yes__ No__
SIEP 4	Does the IUT support Q.2959 Priority information element in the ADD PARTY message as specified in section 2?	M	MCU2 and MCU9	2	Yes__ No__
SIEP 5	Does the IUT set the action indicator (bits 1-3 of octet 2) of the Priority services information element with a Call Processing Priority level to "discard information element and proceed" or "discard information element, proceed, and report status", and the IE instruction flag field (bit 5 of octet 2) to "follow explicit instructions"?	M		3.3	Yes__ No__
Comments:					

6.4.3 Signalling Procedures at the Originating Interface (SPOI)

6.4.3.1 Signalling Procedures at the User Side of the S_B and Coincident S_B and T_B Reference Points

Item Number	Item Description	Status	Condition for status	Reference	Support
SPOI 1	Is the IUT capable of sending a SETUP message to the network side that includes a Priority services information element with Call Processing Priority level, and the origin field set to "originating user"?	M	MCU10.1	3.2.1.1.1	Yes__ No__
SPOI 2	Is the IUT capable of sending an ADD PARTY message to the network side that includes a Priority services information element with a Call Processing Priority level as defined in section 2, and the origin field set to "originating user"?	M	MCU2 and MCU10.1	3.2.1.1.1	Yes__ No__
SPOI 3	Does the IUT set the Call Processing Priority level in the Priority services information element with Call Processing Priority level in the ADD PARTY message to be the same as those signalled in the initial SETUP message?	M	MCU2 and MCU10.1	3.2.1.1.1	Yes__ No__
SPOI 4	Does the IUT send ADD PARTY without a Priority Services information element with a Call Processing Priority level when the original SETUP did not include the Priority services information element ?	M	MCU2 and MCU10.1	3.2.1.1.1	Yes__ No__
SPOI 5	Is the IUT capable of including a Q.2959 Priority information element as defined in section 2 in the SETUP message sent to the network?	M	MCU9 and MCU10.1	3.2.1.1.1	Yes__ No__
SPOI 6	Is the IUT capable of including a Q.2959 Priority information element as defined in section 2 in the ADD PARTY message sent to the network?	M	MCU2 and MCU9 and MCU 10.1	3.2.1.1.1	Yes__ No__
Comments:					

6.4.3.2 Signalling Procedures at the User Side of the T_B Reference Point

Item Number	Item Description	Status	Condition for Status	Reference	Support
SPOI 7	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type	M	MCU5 and MCU10.2	3.2.1.1.2	Yes__ No__

	with lower Call Processing Priority level?				
SPOI 8	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M	MCU10.2	3.2.1.1.2	Yes__No__
SPOI 9	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element with the received Call Processing Priority level in the forwarded message?	M	MCU10.2	3.2.1.1.2	Yes__ No__
SPOI 10	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level in a way that preserves the meaning of the priority?	O	MCU10.2	3.2.1.1.2	Yes__ No__
SPOI 11	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the received Priority services information element with Call Processing Priority level?	O1	MCU10.2	3.2.1.1.2	Yes__ No__
SPOI 12	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the received Priority services information element with Call Processing Priority level in the forwarded message with a new Priority services information element with Call Processing Priority level in the forwarded message?	O1	MCU10.2	3.2.1.1.2	Yes__ No__
SPOI 13	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of forwarding the	O1	MCU10.2	3.2.1.1.2	Yes__ No__

	received Priority services information element with Call Processing Priority level unchanged in the forwarded message?				
SPOI 14	If the IUT forwarded SETUP message that did not contain a Priority services information element with a Call Processing Priority level, does the IUT not include any Priority services information element with a Call Processing Priority level in the forwarded message?	M	MCU10.2 and MCU11	3.2.1.2	Yes__ No__
SPOI 15	If the IUT forwarded a SETUP message contained a Priority services information element with a Call Processing Priority level, does the IUT include the same Priority services information element with a Call Processing Priority level in the forwarded message?	M	MCU10.2 and MCU11	3.2.1.2	Yes__ No__
SPOI 16	If the IUT receives a setup request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded message?	M	MCU9 and MCU10.2	3.2.1.1.2	Yes__ No__
SPOI 17	If the IUT receives an add party request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded message?	M	MCU2 and MCU9 and MCU10.2	3.2.1.1.2	Yes__ No__
Comments: O.1: At least one of SPOI 11, SPOI 12 or SPOI 13 must be supported.					

6.4.3.3 Signalling Procedures at the Network Side

Item Number	Item Description	Status	Condition for Status	Reference	Support
SPOI 18	If the IUT receives a SETUP message containing a Priority services information element with a Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element with Call Processing Priority level in the forwarded setup indication?	M	MCU11	3.2.1.2	Yes__ No__
SPOI 19	If the IUT receives a SETUP message	M	MCU8 and	3.2.1.2	Yes__ No__

	containing a Priority services information element with a Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level before including the received Priority services information element in the forwarded setup indication?		MCU11		
SPOI 20	If the IUT receives a Priority services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of defaulting the Call Processing Priority level to the user’s highest allowed level if the user exceeds the highest allowed level?	M	MCU11	3.2.1.2	Yes__No__
SPOI 21	If the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element with Call Processing Priority level and processing the message as if the Priority services information element with a Call Processing Priority level were not present?	O.1	MCU11	3.2.1.2	Yes__ No__
SPOI 22	If the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the Priority services information element with Call Processing Priority level in the forwarded message with a new Priority services information element with Call Processing Priority level (with the origin field set to “network generated”)?	O.1	MCU11	3.2.1.2	Yes__ No__
SPOI 23	If the IUT receives a SETUP message containing a Priority services information element with a Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of forwarding the received Priority services information element with a Call Processing Priority level in the forwarded message?	O.1	MCU11	3.2.1.2	Yes__ No__
SPOI 24	If the IUT receives a SETUP message for a call that does not contain a Priority	M	MCU7 and MCU11	3.2.1.2	Yes__ No__

	services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of including a Priority services information element with Call Processing Priority level and with the origin field set to “network generated” in the forwarded setup indication?				
SPOI 25	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M	MCU11	3.2.1.2	Yes__No__
SPOI 26	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M	MCU11	3.2.1.2	Yes__No__
SPOI 27	If the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent add party indications for that call?	M	MCU2 and MCU11	3.2.1.2	Yes__ No__
SPOI 28	If the IUT did not forward a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent add party indications for that call?	M	MCU2 and MCU11	3.2.1.2	Yes__No__
SPOI 29	If the IUT receives a SETUP message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded setup indication?	M	MCU9 and MCU11	3.2.1.2	Yes__No__
SPOI 30	If the IUT receives an ADD PARTY message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded add	M	MCU2 and MCU9 and MCU11	3.2.1.2	Yes__No__

	party indication?				
Comments: O.1: At least one of SPOI 21, SPOI 22 or SPOI 23 must be supported					

6.4.4 Signalling Procedures at the Destination Interface (SPDI)

6.4.4.1 Signalling Procedures at the Network Side

Item Number	Item Description	Status	Condition for Status	Reference	Support
SPDI 1	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M	MCU11	3.2.2.1	Yes__ No__
SPDI 2	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M	MCU11	3.2.2.1	Yes__No__
SPDI 3	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded message?	M	MCU11	3.2.2.1	Yes__ No__
SPDI 4	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level in a way that preserves the meaning of the priority level ?	M	MCU8 and MCU11	3.2.2.1	Yes__ No__
SPDI 5	If the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element?	O.1	MCU11	3.2.2.1	Yes__ No__
SPDI 6	If the IUT when acting as the network receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network	O.1	MCU11	3.2.2.1	Yes__ No__

	generated", is the IUT capable of replacing the Priority services information element?				
SPDI 7	If the IUT receives a setup request containing a Priority information element with Call Processing Priority and with the origin field set to "network generated", then if the call is progressed, is the IUT capable of including the received Priority information element in the forwarded message?	O.1	MCU11	3.2.2.1	Yes__ No__
SPDI 8	If the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent ADD PARTY message for that call?	M	MCU2 and MCU11	3.2.2.1	Yes__ No__
SPDI 9	If the IUT does not forward a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent ADD PARTY message for that call?	M	MCU2 and MCU11	3.2.2.1	Yes__No__
SPDI 10	If the IUT receives a setup request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded message?	M	MCU9 and MCU11	3.2.2.1	Yes__No__
SPDI 11	If the IUT receives an add party request message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded message?	M	MCU2 and MCU9 and MCU11	3.2.2.1	Yes__No__
Comments: O.1: At least one of SPDI 5, SPDI 6 or SPDI 7 must be supported.					

6.4.4.2 Signalling Procedures at the User Side of the S_B and Coincident S_B and T_B Reference Points

SPDI 12	For each type of message that supports Call Processing Priority feature, does the	M	MCU10.1	3.2.2.2.1	Yes__ No__

	IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?				
SPDI 13	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M	MCU10.1	3.2.2.2.1	Yes__No__
Comments:					

6.4.4.3 Signalling Procedures at the User Side of the T_B Reference Point

Item Number	Item Description	Status	Condition for Status	Reference	Support
SPDI 14	If the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded setup indication?	M	MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 15	If the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level before including the received Priority services information element in the forwarded setup indication?	O	MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 16	If the IUT receives a Priority services information element with Call Processing Priority level , then if the call is progressed, is the IUT capable of defaulting the Call Processing Priority level to the users highest allowed level if the user exceeds the highest allowed Call Processing Priority level?	M	MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 17	If the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element	O1	MCU10.2	3.2.2.2.2	Yes__ No__

	with Call Processing Priority level and processing the message as if the Priority services information element were not present?				
SPDI 18	If the user side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the Priority services information element with Call Processing Priority level with a new Priority services information element (with the origin field set to “network generated”)?	O1	MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 19	If the IUT receives a SETUP message containing a Priority services information element with a Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of forwarding the received Priority services information element with a Call Processing Priority level in the forwarded message?	O1	MCU10.2	3.2.2.2.2	Yes__No__
SPDI 20	If the IUT receives a SETUP message for a call that does not contain a Priority services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of including a Priority services information element with Call Processing Priority level and with the origin field set to “network generated” in the forwarded setup indication?	M	MCU7 and MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 21	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M	MCU5 and MCU10.2	3.2.2.2.2	Yes__ No__
SPDI 22	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M	MCU10.2	3.2.2.2.2	Yes__No__
SPDI 23	If the IUT forwards a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent add party	M	MCU10.2 and MCU11	3.2.2.2.2	Yes__ No__

	indications for that call?				
SPDI 24	If the IUT does not forward a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent add party indications for that call?	M	MCU10.2 and MCU11	3.2.2.2.2	Yes__ No__
SPDI 25	If the IUT receives a SETUP message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded setup indication?	O	MCU9 and MCU10.2	3.2.2.2.2	Yes__No__
SPDI 26	If the IUT receives an ADD PARTY message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded add party indication?	O	MCU2 and MCU9 and MCU10.2	3.2.2.2.2	Yes__No__
Comments: O.1: At least one of SPDI 17, SPDI 18 or SPDI 19 must be supported.					

7 Protocol Implementation Conformance Statement (PICS) for the PNNI 1.1 Component of Call Processing Priority feature

Note to the editor: to be changed as outlined in the UNI section.

7.1 Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

7.1.1 Scope

This document provides the PICS proforma for the PNNI 1.1 component of Call Processing Priority capability, defined in [1] in compliance with the relevant requirements, and in accordance with the relevant guidelines, given in ISO/IEC 9646-7. In most cases, statements contained in notes in the specification, which were intended as information, are not included in the PICS.

7.1.2 Normative References

[1] Call Processing Priority Version 1, af-cs-0182.000, ATM Forum Technical Committee, March 2002.

[2] ISO/IEC 9646-1: 1994, Information technology – Open systems interconnection – Conformance testing methodology and framework – Part 1: General Concepts (See also ITU Recommendation X.290 (1995)).

[3] ISO/IEC 9646-7: 1995, Information technology – Open systems interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements (See also ITU Recommendation X.296 (1995)).

[4] ISO/IEC 9646-3:1998, Information technology – Open systems interconnection – Conformance testing methodology and interconnection – Part 3: The Tree and Tabular Combined Notation (TTCN) (See also ITU telecommunication X.292 (1998)).

7.1.3 Definitions

Terms defined in [1].
Terms defined in ISO/IEC 9646-1 and in ISO/IEC 9646-7.
In particular, the following terms defined in ISO/IEC 9646-1 apply:
Protocol Implementation Conformance Statement (PICS): A statement made by the supplier of an implementation or system, stating which capabilities have been implemented for a given protocol.
PICS proforma: A document, in the form of a questionnaire, designed by the protocol specifier or conformance test suite specifier, which when completed for an implementation or system becomes the PICS.

7.1.4 Acronyms

ASN.1 Abstract Syntax Notation One
ATS Abstract Test Suite
IUT Implementation Under Test
PICS Protocol Implementation Conformance Statement
SUT System Under Test

7.1.5 Conformance

The PICS does not modify any of the requirements detailed in Call Processing Priority Capability. In case of apparent conflict between the statements in the base specification and in the annotations of “M” (mandatory) and “O” (optional) in the PICS, the text of the base specification takes precedence.
The supplier of a protocol implementation, which is claimed to conform to the PNNI 1.1 component of Call Processing Priority, is required to complete a copy of the PICS proforma provided in this document and is required to provide the information necessary to identify both the supplier and the implementation.

7.2 Identification of the Implementation

Identification of the Implementation Under Test (IUT) and system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.
The product supplier information and client information should both be filled in if they are different.
A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

7.2.1 Date of Statement

_____

7.2.2 Implementation Under Test (IUT) Identification

IUT Name: _____

IUT Version: _____

7.2.3 System Under Test (SUT) Identification

SUT Name: _____

Hardware Configuration: _____

Operating System: _____

7.2.4 Product Supplier

Name: _____

Address: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

7.2.5 Client

Name: _____

Address: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

7.2.6 PICS Contact Person

(A person to contact if there are any queries concerning the content of the PICS)

Name: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

Identification of the Protocol Specification
This PICS proforma applies to the following specification:

[1] Call Processing Priority Version 1, af-cs-0xxx.000, ATM Forum Technical Committee, 2002.

7.3 PICS Proforma

7.3.1 Global statement of conformance

The implementation described in this PICS meets all of the mandatory requirements of the reference protocol.
[ ] YES
[ ] NO

Note: Answering "No" indicates non-conformance to the specified protocol. Non-supported mandatory capabilities are to be identified in the following tables, with an explanation by the implementor explaining why the implementation is non-conforming.

7.3.2 Instructions for Completing the PICS Proforma

The PICS Proforma is a fixed-format questionnaire. Answers to the questionnaire should be provided in the rightmost columns, either by simply indicating a restricted choice (such as Yes or No), or by entering a value or a set of range of values.

The following notations, defined in ISO/IEC 9647-7, are used for the support column:

Yes supported by the implementation
No not supported by the implementation

The following notations, defined in ISO/IEC 9647-7, are used for the status column:

M mandatory – the capability is required to be supported.
O optional – the capability may be supported or not.
O.i qualified optional – for mutually exclusive or selectable options from a set. “i” is an integer which identifies a unique group of related optional items and the logic of their selection is defined immediately following the table.

A supplier may also provide additional information, categorised as exceptional or supplementary information. These additional information should be provided as items labelled X.<i> for exceptional information, or S.<i> for supplemental information, respectively, for cross reference purposes, where <i> is any unambiguous identification for the item. The exception and supplementary information are not mandatory and the PICS is complete without such information. The presence of optional supplementary or exception information should not affect test execution, and will in no way affect interoperability verification. The column labelled ‘Reference’ gives a pointer to sections of the protocol specification for which the PICS Proforma is being written.

7.4 PICS for the support Call Processing Priority at the PNNI

7.4.1 Major Capability at PNNI (MCP)

Item Number	Item Description	Status	Condition for status	Reference	Support
MCP 1	Does the IUT support Call Processing Priority for point-to-point calls?	M		4	Yes__ No__
MCP 2	Does the IUT support Call Processing Priority for point-to-multipoint calls?	M		4	Yes__ No__
MCP 3	Is the IUT capable of generating a Priority services information element with Call Processing Priority level and with the origin field set to "network generated"?	O	MCP5	4	Yes__ No__
MCP 4	Does the IUT support the end to end transport of Q.2959 Priority information element across the network ?	O		4	Yes__No__
MCP 5	Does the IUT support Call Processing Priority at the Inter-domain PNNI interface?	O		4	Yes__No__
MCP 6	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual channel connections (SVCC)?	M		4	Yes__ No__
MCP 7	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual path connections (SVPC)?	M		4	Yes__ No__
MCP 8	Does the IUT differentiate call's access to call processing resources using Call Processing Priority level in signalling messages?	M		4	Yes__No__
MCP 9	Does the IUT support forwarding Priority services information element with Call Processing Priority level?	M		4	Yes__No__
MCP 10	Does the IUT support mapping of the Call Processing Priority level at administrative boundaries?	O	MCP5	4	Yes__No__
Comments:					

7.4.2 Supported Information Elements at PNNI (SIEP)

Item	Item Description	Status	Condition for status	Reference	Support
SIEP 1	Does the IUT support Call Processing Priority level in the Priority services information element in the SETUP message as coded in section 2?	M		2	Yes__ No__

SIEP 2	Does the IUT support a Call Processing Priority in the Priority services information element in the ADD PARTY message as coded in section 2?	M		2	Yes__ No__
SIEP 3	Does the IUT support Q.2959 Priority information element in the SETUP message as specified in section 2?	M	MCP4	2	Yes__ No__
SIEP 4	Does the IUT support Q.2959 Priority information element in the ADD PARTY message as specified in section 2?	M	MCP2 and MCP4	2	Yes__ No__
SIEP 5	Does the IUT set the action indicator (bits 1-3 of octet 2) of the Priority services information element with Call Processing Priority level to "discard information element and proceed" or "discard information element, proceed, and report status", the IE instruction flag field (bit 5 of octet 2) to "follow explicit instructions" and the pass along request field (bit 4 of octet 2) to "pass along request"?	M		4.3	Yes__ No__
Comments					

7.4.3 Signalling Procedures for Intra-Domain PNNI (SPIP)

Item	Item Description	Status	Condition for status	Reference	Support
SPIP 1	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		4.2.1.1	Yes__ No__
SPIP 2	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		4.2.1.1	Yes__ No__
SPIP 3	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded message?	M		4.2.1.1	Yes__ No__
SPIP 4	If the preceding side of the IUT receives an add party request containing a Priority services information element with Call Processing Priority level, then if the party is progressed, does the IUT include the received Priority services information element in the forwarded message?	M		4.2.1.1	Yes__ No__
SPIP 5	If the IUT receives a setup request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the Priority information element in the forwarded message?	M	MCP4	4.2.1.1	Yes__ No__
SPIP 6	If the IUT receives a add party request containing a Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the Priority information element in the forwarded message?	M	MCP4	4.2.1.1	Yes__ No__
SPIP 7	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level, then if the call is progressed, does the	M		4.2.1.2	Yes__ No__

	IUT include the received Priority services information element in the forwarded setup indication?				
SPIP 8	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		4.2.1.2	Yes__ No__
SPIP 9	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		4.2.1.2	Yes__No__
SPIP 10	If the succeeding side of the IUT does not forward a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent add party indications for that call?	M		4.2.1.2	Yes__ No__
SPIP 11	If the succeeding side of the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent add party indications for that call?	M		4.2.1.2	Yes__ No__
SPIP 12	If the succeeding side of the IUT receives a SETUP message containing a Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded setup indication ?	M	MCP4	4.2.1.2	Yes__ No__
SPIP 13	If the succeeding side of the IUT receives an ADD PARTY message containing a Priority information element and the IUT supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded add party indication ?	M	MCP4	4.2.1.2	Yes__ No__
Comments					

7.4.4 Call Processing Priority feature for Inter-Domain PNNI

Item	Item Description	Status	Condition for status	Reference	Support
SPIP 14	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		4.2.2.1	Yes__No__
SPIP 15	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		4.2.2.1	Yes__No__
SPIP 16	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded message?	M		4.2.2.1	Yes__ No__
SPIP 17	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level in a way that preserves the meaning of the priority before including the received Priority services information element in the forwarded message?	O		4.2.2.1	Yes__ No__
SPIP 18	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element with Call Processing Priority?	O.1		4.2.2.1	Yes__ No__
SPIP 19	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the Priority services information element with Call Processing Priority level with a new Priority services information element (with the origin field set to “network generated”)?	O.1		4.2.2.1	Yes__No__
SPIP 20	If the preceding side of the IUT receives a setup request containing a Priority services information element with a Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of forwarding the received Priority services information element with a Call Processing Priority level in the forwarded message?	O.1		4.2.2.1	Yes__No__

SPIP 21	If the preceding side of the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent ADD PARTY messages for that call?	M		4.2.2.1	Yes__No__
SPIP 22	If the preceding side of the IUT did not forward a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent ADD PARTY message for that call?	M		4.2.2.1	Yes__No__
SPIP 23	If the preceding side of the IUT receives a setup request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded message ?	M	MCP4	4.2.2.1	Yes__ No__
SPIP 24	If the preceding side of the IUT receives an add party request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded message?	M	MCP4	4.2.2.1	Yes__ No__
SPIP 25	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded setup indication?	M		4.2.2.2	Yes__ No__
SPIP 26	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level in a way that preserves the meaning of the priority before including the received Priority services information element in the forwarded setup indication?	O	MCP10	4.2.2.2	Yes__ No__
SPIP 27	If the IUT receives a Priority services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of defaulting the Call Processing Priority level to the user’s highest allowed level if the user exceeds the highest allowed level?	M		4.2.2.2	Yes__ No__
SPIP 28	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and	O.2		4.2.2.2	Yes__ No__

	with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element with Call Processing Priority level and processing the message as if the Priority services information element with Call Processing Priority level was not present?				
SPIP 29	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the Priority services information element with Call Processing Priority level with a new Priority services information element with Call Processing Priority level (with the origin field set to “network generated”)?	O.2		4.2.2.2	Yes__ No__
SPIP 30	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable forwarding the received Priority services information element with Call Processing Priority level unchanged?	O.2		4.2.2.2	Yes__No__
SPIP 31	If the received SETUP message at the succeeding side of the IUT for a call does not contain a Priority services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of including a Priority services information element with Call Processing Priority level and with the origin field set to “network generated” before forwarding the call/connection?	M		4.2.2.2	Yes__ No__
SPIP 32	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		4.2.2.2	Yes__No__
SPIP 33	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		4.2.2.2	Yes__No__
SPIP 34	If the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent add party indications for that call?	M		4.2.2.2	Yes__No
SPIP 35	If the IUT did not forward a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent add party indications for that call?	M		4.2.2.2	Yes__No
SPIP 36	If the IUT receives a SETUP message containing a Q.2959 Priority information element and the IUT	M	MCP4	4.2.2.2	Yes__No

	supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded indication?				
SPIP 37	If the IUT receives an add party request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded indication?	M	MCP4	4.2.2.2	Yes__No__
Comments O.1: At least one of SPIP 18, SPIP 19 or SPIP 20 must be supported. O.2: At least one of SPIP 28, SPIP 29 or SPIP 30 must be supported.					

8 Protocol Implementation Conformance Statement (PICS) for the AINI Component Call Processing Priority feature

Note to the editor: to be changed as outlined in the UNI section.

8.1 Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

8.1.1 Scope

This document provides the PICS proforma for the AINI component of Call Processing Priority capability, defined in [1] in compliance with the relevant requirements, and in accordance with the relevant guidelines, given in ISO/IEC 9646-7. In most cases, statements contained in notes in the specification, which were intended as information, are not included in the PICS.

8.1.2 Normative References

[1] Call Processing Priority Version 1, af-cs-0182.000, ATM Forum Technical Committee, March 2002.

[2] ISO/IEC 9646-1: 1994, Information technology – Open systems interconnection – Conformance testing methodology and framework – Part 1: General Concepts (See also ITU Recommendation X.290 (1995)).

[3] ISO/IEC 9646-7: 1995, Information technology – Open systems interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements (See also ITU Recommendation X.296 (1995)).

[4] ISO/IEC 9646-3:1998, Information technology – Open systems interconnection – Conformance testing methodology and interconnection – Part 3: The Tree and Tabular Combined Notation (TTCN) (See also ITU telecommunication X.292 (1998)).

8.1.3 Definitions

Terms defined in [1]
Terms defined in ISO/IEC 9646-1 and in ISO/IEC 9646-7
In particular, the following terms defined in ISO/IEC 9646-1 apply:

Protocol Implementation Conformance Statement (PICS): A statement made by the supplier of an implementation or system, stating which capabilities have been implemented for a given protocol.
PICS proforma: A document, in the form of a questionnaire, designed by the protocol specifier or conformance test suite specifier, which when completed for an implementation or system becomes the PICS.

8.1.4 Acronyms

ASN.1 Abstract Syntax Notation One
ATS Abstract Test Suite
IUT Implementation Under Test
PICS Protocol Implementation Conformance Statement
SUT System Under Test

8.1.5 Conformance

The PICS does not modify any of the requirements detailed Call Processing Priority capability specification. In case of apparent conflict between the statements in the base specification and in the annotations of “M” (mandatory) and “O” (optional) in the PICS, the text of the base specification takes precedence.
The supplier of a protocol implementation, which is claimed to conform to the AINI component of Call Processing Priority capability, is required to complete a copy of the PICS proforma provided in this document and is required to provide the information necessary to identify both the supplier and the implementation.

8.2 Identification of the Implementation

Identification of the Implementation Under Test (IUT) and system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.
The product supplier information and client information should both be filled in if they are different.
A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

8.2.1 Date of Statement

_____

8.2.2 Implementation Under Test (IUT) Identification

IUT Name: _____

_____

_____

IUT Version: _____

8.2.3 System Under Test (SUT) Identification

SUT Name: _____

_____

Hardware Configuration: _____

_____

Operating System: _____

8.2.4 Product Supplier

Name: _____

Address: _____

_____

_____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

8.2.5 Client

Name: _____

Address: _____

_____

_____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

_____

8.2.6 PICS Contact Person

(A person to contact if there are any queries concerning the content of the PICS)

Name: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

Additional Information: _____

_____

Identification of the Protocol Specification
This PICS proforma applies to the following specification:
[1] Call Processing Priority capability, af-cs-0xxx.000, ATM Forum Technical Committee, 2002.

8.3 PICS Proforma

8.3.1 Global statement of conformance

The implementation described in this PICS meets all of the mandatory requirements of the reference protocol.
[ ] YES
[ ] NO

Note: Answering "No" indicates non-conformance to the specified protocol. Non-supported mandatory capabilities are to be identified in the following tables, with an explanation by the implementor explaining why the implementation is non-conforming.

8.3.2 Instructions for Completing the PICS Proforma

The PICS Proforma is a fixed-format questionnaire. Answers to the questionnaire should be provided in the rightmost columns, either by simply indicating a restricted choice (such as Yes or No), or by entering a value or a set of range of values.

The following notations, defined in ISO/IEC 9647-7, are used for the support column:

Yes supported by the implementation
No not supported by the implementation

The following notations, defined in ISO/IEC 9647-7, are used for the status column:

M mandatory – the capability is required to be supported.
O optional – the capability may be supported or not.
O.i qualified optional – for mutually exclusive or selectable options from a set. “i” is an integer which identifies a unique group of related optional items and the logic of their selection is defined immediately following the table.

A supplier may also provide additional information, categorised as exceptional or supplementary information. These additional information should be provided as items labelled X.<i> for exceptional information, or S.<i> for supplemental information, respectively, for cross reference purposes, where <i> is any unambiguous identification for the item. The exception and supplementary information are not mandatory and the PICS is complete without such information. The presence of optional supplementary or exception information should not affect test execution, and will in no way affect interoperability verification. The column labelled ‘Reference’ gives a pointer to sections of the protocol specification for which the PICS Proforma is being written.

8.4 PICS for the support of Call Processing Priority at the AINI

8.4.1 Major Capability at AINI (MCA)

Item Number	Item Description	Status	Condition for status	Reference	Support
MCA 1	Does the IUT support Call Processing Priority for point-to-point calls?	M		1.1, 5	Yes__ No__
MCA 2	Does the IUT support Call Processing Priority for point-to-multipoint calls?	M		1.1, 5	Yes__ No__
MCA 3	Is the IUT capable of generating a Priority services information element with Call Processing Priority level and with the origin field set to "network generated"?	O		1.1, 5.1.2	Yes__ No__
MCA 4	Does the IUT support the end to end transport of Q.2959 Priority information element across the network?	O		1.1	Yes__No__
MCA 5	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual channel connections (SVCC)?	M		5	Yes__ No__
MCA 6	Does the IUT support the association of a Call Processing Priority level with calls for switched virtual path connections (SVPC)?	M		5	Yes__ No__
MCA 7	Does the IUT differentiate call's access to call processing resources using Call Processing Priority level in signalling messages?	M		5	Yes__No__
MCA 8	Does the IUT support forwarding Priority services information element with Call Processing Priority level?	M		5	Yes__No__
MCA 9	Does the IUT support mapping of the Call Processing Priority level at administrative boundaries?	O		5	Yes__No__
Comments:					

8.4.2 Supported Information Elements at AINI (SIEA)

Item	Item Description	Status	Condition for status	Reference	Support
SIEA 1	Does the IUT support Call Processing Priority level in the Priority services information element in the SETUP message as coded in section 2?	M		2	Yes__ No__
SIEA 2	Does the IUT support a Call Processing Priority level in the Priority services information element in the ADD	M		2	Yes__ No__

	PARTY message as coded in section 2?				
SIEA 3	Does the IUT support Q.2959 Priority information element in the SETUP message as specified in section 2?	M	MCA4	2	Yes__ No__
SIEA 4	Does the IUT support Q.2959 Priority information element in the ADD PARTY message as specified in section 2?	M	MCA4	2	Yes__No__
Comments					

8.4.3 Signalling Procedures for Call Processing Priority at AINI (SPBA)

Item	Item Description	Status	Condition for status	Reference	Support
SPBA 1	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		5.1.2	Yes__No__
SPBA 2	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		5.1.2	Yes__No__
SPBA 3	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded message?	M		5.1.2	Yes__ No__
SPBA 4	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level in a way that preserves the meaning of the priority before including the received Priority services information element in the forwarded message?	O	MCA9	5.1.2	Yes__ No__
SPBA 5	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of discarding the Priority services information element?	O.1		5.1.2	Yes__No__
SPBA 6	If the preceding side of the IUT receives a setup request containing a Priority services information element with Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of replacing the Priority services	O.1		5.1.2	Yes__No__

	information element with Call Processing Priority level with a new Priority services information element (with the origin field set to “network generated”)?				
SPBA 7	If the preceding side of the IUT receives a setup request containing a Priority services information element with a Call Processing Priority level and with the origin field set to “network generated”, is the IUT capable of forwarding the received Priority services information element with a Call Processing Priority level in the forwarded message?	O.1		5.1.2	Yes__No__
SPBA 8	If the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent ADD PARTY messages for that call?	M		5.1.2	Yes__No
SPBA 9	If the IUT did not forward a Priority services information element with a Call Processing Priority level in the initial SETUP message, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent ADD PARTY message for that call?	M		5.1.2	Yes__No__
SPBA 10	If the preceding side of the IUT receives a setup request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded message ?	M	MCA4	5.1.2	Yes__ No__
SPBA 11	If the preceding side of the IUT receives an add party request containing a Q.2959 Priority information element and the preceding side supports transport of the Q.2959 Priority information element, then if the call is progressed, does the IUT include the received Priority information element in the forwarded message?	M	MCA4	5.1.2	Yes__ No__
SPBA 12	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, does the IUT include the received Priority services information element in the forwarded setup indication?	M		5.1.2	Yes__ No__
SPBA 13	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to “originating user”, then if the call is progressed, is the IUT capable of mapping the Call Processing Priority level before including the received Priority services information element in the forwarded setup indication?	O		5.1.2	Yes__ No__
SPBA 14	If the IUT receives a Priority services information	M		5.1.2	Yes__ No__

	element with Call Processing Priority level, then if the call is progressed, is the IUT capable of defaulting the Call Processing Priority level to the user's highest allowed level if the user exceeds the highest allowed level?				
SPBA 15	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to "network generated", is the IUT capable of discarding the Priority services information element with Call Processing Priority level and processing the message as if the Priority services information element with Call Processing Priority level were not present?	O.2		5.1.2	Yes__ No__
SPBA 16	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to "network generated", is the IUT capable of replacing the Priority services information element with Call Processing Priority level with a new Priority services information element (with the origin field set to "network generated")?	O.2		5.1.2	Yes__ No__
SPBA 17	If the succeeding side of the IUT receives a SETUP message containing a Priority services information element with Call Processing Priority level and with the origin field set to "network generated", is the IUT capable forwarding the received Priority services information element with Call Processing Priority level unchanged?	O.2		5.1.2	Yes__No__
SPBA 18	If the received SETUP message at the succeeding side of the IUT for a call does not contain a Priority services information element with Call Processing Priority level, then if the call is progressed, is the IUT capable of including a Priority services information element with Call Processing Priority level and with the origin field set to "network generated" before forwarding the call/connection?	O		5.1.2	Yes__No__
SPBA 19	For each type of message that supports Call Processing Priority feature, does the IUT process messages with higher Call Processing Priority level preferentially compared to messages of the same type with lower Call Processing Priority level?	M		5.1.2	Yes__No__
SPBA 20	If no Call Processing Priority level is indicated in a call, does the IUT treat this call as if it contains a Call Processing Priority level equal to a configurable, network specific level.	M		5.1.2	Yes__No__
SPBA 21	If the IUT forwarded a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT include the same Priority services information element with a Call Processing Priority level in all subsequent add party indications for that call?	M		5.1.2	Yes__No__

SPBA 22	If the IUT did not forward a Priority services information element with a Call Processing Priority level in the initial setup indication, does the IUT not include Priority services information element with Call Processing Priority level in all subsequent add party indications for that call?	M		5.1.2	Yes__No__
SPBA 23	If the IUT receives a SETUP message containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded indication?	M	MCA4	5.1.2	Yes__No__
SPBA 24	If the IUT receives an add party request containing a Q.2959 Priority information element and the IUT supports transport of the Q.2959, then if the call is progressed, does the IUT include the received Q.2959 Priority information element unaltered in the forwarded indication?	M	MCA4	5.1.2	Yes__No__
Comments O.1: At least one of SPBA 5, SPBA 6 or SPBA 7 must be supported. O.2: At least one of SPBA 15, SPBA 16 or SPBA 17 must be supported.					