The ATM Forum Technical Committee

Implementation Conformance Statement (ICS) Proforma for ATM Trunking using AAL2 for Narrowband Services

AF-VTOA-0120.000

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Addendum to af-vtoa-0113.000, ATM Trunking using AAL2 for Narrowband Services

This addendum adds the following informative Appendix to af-vtoa-0113.000, which was approved by the ATM Forum in March 1999. This Appendix contains the Implementation Conformance Statement (ICS) which is to be used by an implementer to describe compliance with af-vtoa-0113.000.

This Addendum does not make any other modification to that specification and is not intended to change any of the requirements detailed in it. In case of apparent conflict between the statements in the base specification and the annotations of "M" (mandatory) and "O" (optional) in this ICS, the text of the base specification takes precedence.

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Appendix I: ATM Trunking using AAL2 for Narrowband Services Implementation Conformance Statement (ICS) Proforma[1]

This Appendix does not form an integral part of this Specification.

I.1. Introduction

In order 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 an Implementation Conformance Statement (ICS).

I.1.1 Scope

This Appendix provides the ICS proforma for the ATM Trunking using AAL2 for Narrowband Services, as specified in the body of this specification. The format of this Appendix is in compliance with the relevant requirements and guidelines given in ITU-T X.290 and X.296. In most cases, statements contained in notes in the specification, which were intended as information, are not included in the ICS.

I.1.2 Normative References

[1] X.290 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - General concepts | ISO/IEC 9646-1:1994, Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts

[2] X.291 (1995), OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Abstract test suite specification | ISO/IEC 9646-2:1994, Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification

[3] af-vtoa-0113.000, ATM Trunking using AAL2 for Narrowband Services, 1999

I.1.3 Definitions

This Appendix uses the following terms defined in X.290:

- Implementation Conformance Statement (ICS): A statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, and information object ICS.
- ICS proforma: A document, in the form of a questionnaire, which, when completed for an implementation or system, becomes an ICS.

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[1]

I.1.4 Acronyms

C Conditional
ICS Implementation Conformance Statement
IUT Implementation under test
M Mandatory requirements
N/A Not applicable, because the conditions for status are not met
O Optional (may be selected to suit the implementation, provided that any requirements applicable to the options are observed)
O.n Optional, but support is required for at least one of the options in the group labeled with the same numeral "n".
SUT System under test

I.1.5 Conformance

The supplier of an implementation which is claimed to conform to the ATM Forum Specification for ATM Trunking using AAL2 for Narrowband Service is required to complete a copy of the ICS proforma provided in this Annex and is required to provide the information necessary to identify both the supplier and the implementation.

I.2. Identification of the Implementation

Implementation Under Test (IUT) Identification

IUT Name: _____

IUT Version: _____

System Under Test (SUT) Identification

SUT Name: _____

Hardware Configuration: _____

_____

_____

Operating System: _____

Product Supplier

Name: _____

Address: _____

_____

Telephone Number: _____

Facsimile Number: _____

E-mail Address: _____

Additional Information: _____

Client

Name:
_____

Address: _____

_____

Telephone Number: _____

Facsimile Number: _____

e-mail Address: _____

Additional Information: _____

ICS Contact Person

Name: _____

Address: _____

_____

Telephone Number: _____

Facsimile Number: _____

E-mail Address: _____

Additional Information: _____

ICS/System Conformance Statement

Provide the relationship of the ICS with the System Conformance Statement for the system:

_____

_____

Identification of the implementation

This ICS proforma applies to the following:

ATM Forum AAL2 Trunking using AAL2 for Narrowband Services, AF-VTOA-0113.000, (1999)

I.3. ICS Proforma

I.3.1 Global statement of conformance

The implementation described in this ICS meets all of the mandatory requirements of the reference specification.

[ ] YES
[ ] NO

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

I.3.2 Instructions for Completing the ICS Proforma

The ICS Proforma is a fixed-format questionnaire. Answers to the questionnaire should be provided in the rightmost columns, either by simply indicating a choice (such as Yes or No), or by entering a value or a set or range of values. Not applicable (N/A) should be checked for those entries that do not apply due to the "conditions for status" not being met.

A supplier may also provide additional information, categorized as exceptional or supplementary information. These additional information should be provided as items labeled 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 ICS 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 labeled "Reference" gives a pointer to sections of the specification for which the ICS Proforma is being written.

I.3.3 ICS Proforma Questionnaire

The following 9 sections correspond to the requirements in Sections 1 through 9 of specification af-vtoa-0113.000.

I.3.3.1 Introduction

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
Reference Model					
1-INR-1	support the use of SVCs to carry bearer traffic and CAS over AAL2?	O.1		1.4	Yes__No__
1-INR-2	support the use of PVCs to carry bearer traffic and CAS over AAL2?	O.1		1.4	Yes__No__
1-INR-3	support the use of SPVCs to carry bearer traffic and CAS over AAL2?	O.1		1.4	Yes__No__

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
1-INR-4	support the use of SVCs to carry CCS on AAL2?	O		1.4	Yes__No__
1-INR-5	support the use of SVCs to carry CCS on AAL5?	O		1.4	Yes__No__
1-INR-6	support the use of PVCs to carry CCS on AAL2?	O		1.4	Yes__No__
1-INR-7	support the use of PVCs to carry CCS on AAL5?	O		1.4	Yes__No__
1-INR-8	support the use of SPVCs to carry CCS on AAL2?	O		1.4	Yes__No__
1-INR-9	support the use of SPVCs to carry CCS on AAL5?	O		1.4	Yes__No__
	O.1 At least one of these must be supported.				
Trunking Modes					
1-INM-1	support the switched trunking mode?	O.2		1.5.1	Yes__No__
1-INM-2	support the non-switched trunking mode?	O.2		1.5.2	Yes__No__
	O.2 At least one of these must be supported.				
Enhanced Services					
1-INE-1	support the transfer of voice band data through modem detection?	O		1.8	Yes__No__
1-INE-2	support the transfer of FAX data though demodulation and remodulation?	O		1.8	Yes__No__
1-INE-3	support the transfer of N x 64 kbit/s channels?	O		1.8	Yes__No__
1-INE-4	support the transfer of DTMF information through DTMF packets?	O		1.8	Yes__No__
1-INE-5	support the transfer of Frame mode data through SAR functionality?	O		1.8	Yes__No__

I.3.3.2 Interfaces Supported

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
2-INS-1	support narrowband interfaces?	M		2.1	Yes__No__
	(If yes, list narrowband physical layer interface types supported.)			2.1.1	1. 2. 3.
	(If yes, list narrowband CAS systems supported.)			2.1.2.1	1. 2. 3.
	(If yes, list narrowband CCS systems supported.)			2.1.2.2	1. 2. 3.
2-INS-2	support ATM interfaces?	M		2.2	Yes__No__
	(If yes, list ATM physical layer interfaces supported.)			2.2.1	1. 2. 3.
2-INS-3	support UNI 4.0 for IWF-ATM network communication?	O.3	2-INS-2	2.2.2	N/A__Yes__No__
2-INS-4	support PNNI for IWF-ATM network communication?	O.3	2-INS-2	2.2.2	N/A__Yes__No__
2-INS-5	support ITU-T Q.2931 for IWF-ATM network communication?	O.3	2-INS-2	2.2.2	N/A__Yes__No__
2-INS-6	support AAL2 as defined in I.363.2?	M	2-INS-2	2.2.3	N/A__Yes__No__
2-INS-7	support AAL5 as defined in I.363.5?	O	2-INS-2	2.2.3	N/A__Yes__No__
	O.3 At least one of these must be supported				

I.3.3.3 Capabilities Supported

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
Signalling					
3-CSI-1	support termination of CCS on narrowband interface and CCS over AAL2?	O.4	1-INM-1	3.2.1.1 Figure 6	N/A__Yes__No__
3-CSI-2	support termination of CCS on narrowband interface and CCS over AAL5?	O.4	1-INM-1	3.2.1.1 Figure 7	N/A__Yes__No__
3-CSI-3	support termination of CAS with DTMF and interworking to CCS over AAL2?	O.4	1-INM-1	3.2.1.2 Figure 8	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
3-CSI-4	support termination of CAS with DTMF and interworking to CCS over AAL5?	O.4	1-INM-1	3.2.1.2 Figure 9	N/A__Yes__No__
3-CSI-5	support transport of CAS with DTMF without termination?	O	1-INM-2	3.2.2.1 Figure 10	N/A__Yes__No__
3-CSI-6	support transport of CCS without termination over AAL2?	O	1-INM-2	3.2.2.2 Figure 11	N/A__Yes__No__
3-CSI-7	support transport of CCS without termination over AAL5?	O	1-INM-2	3.2.2.2 Figure 12	N/A__Yes__No__
	O.4 At least one of these must be supported				
Routing					
3-CRO-1	provide call-by-call routing?	M	1-INM-1	3.3	N/A__Yes__No__
3-CRO-2	provide routing from the narrowband side to the ATM side?	M	3-CRO-1	3.3	N/A__Yes__No__
3-CRO-3	provide routing from the ATM side to the narrowband side?	M	3-CRO-1	3.3	N/A__Yes__No__
Voice Encoding Support					
3-CVE-1	support any ITU-T standardized algorithms?	O		3.4.1 I.366.2	Yes__No__
	(If yes, list those supported.)				1. 2. 3.
3-CVE-2	support other non-ITU-T standardized algorithms?	O		3.4.1 Annex A	Yes__No__
	(If yes, list those supported.)				1. 2. 3.
3-CVE-3	support at least one profile?	M		3.4.2	Yes__No__
	(If yes, list those supported.)				1. 2. 3.
Idle Channel Suppression					
3-CIC-1	suppress idle channels by determination of call state from CCS in the switched mode?	O	3-CSI-1 or 3-CSI-2	3.5.1	N/A__Yes__No__
3-CIC-2	suppress idle channels by determination of call state from CAS in the switched mode?	O	3-CSI-3 or 3-CSI-4	3.5.1	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
3-CIC-3	suppress idle channels by determination of call state from CAS in the non-switched mode?	O	3-CSI-5	3.5.1	N/A__Yes__No__
3-CIC-4	suppress idle channels by determination of call state from CCS in the non-switched mode?	O	3-CSI-6 or 3-CSI-7	3.5.1	N/A__Yes__No__
3-CIC-5	suppress idle channels by idle code detection?	O		3.5.2	Yes__No__
Silence Detection and Removal					
3-CSD-1	support silence detection and removal?	O		3.6	Yes__No__
Echo cancellation					
3-CEC-1	support echo cancellation?	O		3.7	Yes__No__
Non-control Signalling DTMF Transport					
3-CDT-1	support use of an algorithm that doesn't carry DTMF?	O	3-CVE-1 or 3-CVE-2	3.8	N/A__Yes__No__
3-CDT-2	monitor for the presence of DTMF during a call when an encoding algorithm is being used that does not pass DTMF?	M	3-CDT-1	3.8	N/A__Yes__No__
3-CDT-3	provide for switching to a different encoding?	O.5	3-CDT-2	3.8.1	N/A__Yes__No__
3-CDT-4	provide for transfer of digits via dialed digit packets?	O.5	3-CDT-2	3.8.2	N/A__Yes__No__
3-CDT-5	continue to monitor for the end of DTMF activity and switch back to the lower bit-rate?	M	3-CDT-3	3.8.1	N/A__Yes__No__
	O.5 At least one of these must be supported				
Transport of Voiceband Data					
3-CVD-1	support the use of an algorithm that doesn't carry modem signals?	O	3-CVE-1 or 3-CVE-2	3.9	N/A__Yes__No__
3-CVD-2	provide special facilities to transport voiceband data (modems) by detecting 2100 Hz tone?	O	3-CVD-1	3.9	N/A__Yes__No__
3-CDV-3	monitor for the presence of facsimile information	O	3-CVD-2	3.9	N/A__Yes__No__

I.3.3.4 ATM Signalling Procedures

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
Provisioning PVCs					
4-APP-1	provide AAL2 PVC provisioning procedures to specify AppId, VCCI, SigVCCI, default SSCS type, default SSCS values, and AAL2 CPS parameter values?	M	1-INR-2 or 1-INR-3	4.2	N/A__Yes__No__
4-APP-2	provide AAL5 PVC provisioning procedures to specify AppId, VCCI, and AAL5 parameter values?	M	1-INR-7 or 1-INR-9	4.2	N/A__Yes__No__
Signalling of SVCs					
4-ASS-1	pass the AppId in the B-HLI IE of the SETUP?	M	1-INR-1	4.3.1 C.1.4 C.2.4	N/A__Yes__No__
4-ASS-2	pass the VCCI in the GIT IE of the SETUP?	M	1-INR-1	4.3.2 C.1.5 C.2.5	N/A__Yes__No__
4-ASS-3	pass the SigVCCI in the GIT IE of the SETUP?	M	1-INR-1	4.3.3 C.1.5	N/A__Yes__No__
4-ASS-4	pass the default SSCS type in the AAL parameters IE of the SETUP?	O	1-INR-1	4.3.4 C.1.1	N/A__Yes__No__
4-ASS-5	pass the default SSCS parameter values in the AAL parameters IE of the SETUP?	O	1-INR-1	4.3.5 C.1.1	N/A__Yes__No__
4-ASS-6	pass the AAL2 CPS parameter values in the AAL parameters IE of the SETUP?	O	1-INR-1	4.3.6 C.1.1	N/A__Yes__No__
4-ASS-7	pass the AAL5 parameter values in the AAL parameters IE of the SETUP?	O	1-INR-5	4.3.7 C.2.1	N/A__Yes__No__
4-ASS-8	handle error conditions as described in Section 4.3.8?	M	1-INR-1	4.3.8	N/A__Yes__No__
4-ASS-9	determine if VCC facilities are redundant?	O		4.3.9	Yes__No__
4-ASS-10	determine whether it is the controlling end by comparison of calling and called numbers?	M	4-ASS-9	4.3.9	N/A__Yes__No__
4-ASS-11	release facilities that are redundant?	M	4-ASS-10	4.3.9	N/A__Yes__No__
CID Assignment					
4-ACA-1	provide static CID allocation?	M		4.4.1.1	Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
4-ACA-2	utilize permanent CID association for the non-switched mode?	M	1-INM-2	4.4.1.2	N/A__Yes__No__
4-ACA-3	determine the CID value on a per-call basis for the switched mode?	M	1-INM-1	4.4.1.2	N/A__Yes__No__
4-ACA-4	provide selection of CIDs from lower or higher values based on whether or not this is the controlling IWF?	M	1-INM-1	4.4.1.3	N/A__Yes__No__
User Channel Association Procedures					
4-AUC-1	indicate the selected AAL2 channel by placing the CID value in the Channel ID IE of the narrowband SETUP message?	M	1-INM-1	4.4.2.2	N/A__Yes__No__
4-AUC-2	send this SETUP message on the IWF-IWF signalling channel controlling the AAL2 bearer channel?	M	4-AUC-1	4.4.2.2	N/A__Yes__No__
4-AUC-3	change the statue of the indicated CID to "active" at the receiving side upon receipt of SETUP?	M	1-INM-1	4.4.2.2	N/A__Yes__No__

I.3.3.5 Narrowband Signalling Procedures

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
Channel Associated Signalling					
5-NCA-1	have the capability to receive/transmit CAS signalling bits?	M	3-CSI-3 or 3-CSI-4 or 3-CSI-5	5.1.1	N/A__Yes__No__
5-NCA-2	have the capability to interwork to CCS for IWF-IWF signalling?	O	3-CSI-3 or 3-CSI-4	5.1.1	N/A__Yes__No__
5-NCA-3	have the capability to monitor the CAS supervision signalling?	O	3-CSI-5	5.1.1	N/A__Yes__No__
5-NCA-4	provide for the detection of DTMF tones for address signalling?	O	3-CSI-3 or 3-CSI-4	5.1.2	N/A__Yes__No__
5-NCA-5	provide for the detection of R1 tones for address signalling?	O	3-CSI-3 or 3-CSI-4	5.1.2	N/A__Yes__No__
5-NCA-6	provide for the detection of R2 tones for address signalling?	O	3-CSI-3 or 3-CSI-4	5.1.2	N/A__Yes__No__
5-NCA-7	provide for routing and switching based on the received address information?	M	5-NCA-4 or 5-NCA-5 or 5-NCA-6	5.1.2	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
5-NCA-8	have the capability to transport the CAS address signalling transparently to the other IWF?	O	3-CSI-5	5.1.2	N/A__Yes__No__
Common Channel Signalling					
5-NCC-1	support CCS on the narrowband interface?	O		5.2	Yes__No__
5-NCC-2	support the use of a CCS channel on one narrowband interface to control channels on another interface?	O	5-NCC-1	5.2	N/A__Yes__No__
5-NCC-3	support PSS1 for IWF-IWF signalling?	M	1-INM-1	5.2	N/A__Yes__No__
5-NCC-4	support DSS1 for IWF-IWF signalling?	O	1-INM-1	5.2	N/A__Yes__No__
5-NCC-5	support DPNSS for IWF-IWF signalling?	O	1-INM-1	5.2	N/A__Yes__No__
5-NCC-6	support other CCS systems for IWF-IWF signalling?	O	1-INM-1	5.2	N/A__Yes__No__
	(If yes, list other systems supported.)			5.2	1. 2. 3.
5-NCC-7	support transparent transfer of PSS1?	M	1-INM-2	5.2	N/A__Yes__No__
5-NCC-7	support transparent transfer of DSS1?	O	1-INM-2	5.2	N/A__Yes__No__
5-NCC-7	support transparent transfer of DPNSS?	O	1-INM-2	5.2	N/A__Yes__No__
5-NCC-8	support transparent transfer of other CCS systems?	O	1-INM-2	5.2	N/A__Yes__No__
	(If yes, list other systems supported.)			5.2	1. 2. 3.
Detection/Removal of Idle Channels Based on Signalling					
5-NDR-1	of the originating IWF consider the channel as not idle and begin sending speech encoding or other bearer data upon receipt of PROGRESS, CALL PROCEEDING, ALERTING, or CONNECT?	O	5-NCC-3	5.3.1	N/A__Yes__No__
5-NDR-2	of the originating IWF consider channel as not idle and begin sending speech encoding or other bearer data upon receipt of CONNECT?	M	5-NCC-3	5.3.1	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
5-NDR-3	of the originating IWF consider the channel as idle and stop transmitting on that channel upon sending RELEASE, RELEASE COMPLETE, or DISCONNECT?	M	5-NCC-3	5.3.1	N/A__Yes__No__
5-NDR-4	of the terminating IWF consider the channel as not idle and begin sending speech encoding or other bearer data upon sending PROGRESS, CALL PROCEEDING, ALERTING, or CONNECT?	O	5-NCC-3	5.3.1	N/A__Yes__No__
5-NDR-5	of the terminating IWF consider the channel as not idle and begin sending speech encoding or other bearer data upon sending of CONNECT?	M	5-NCC-3	5.3.1	N/A__Yes__No__
5-NDR-6	of the terminating IWF consider the channel as idle and stop transmitting on that channel upon sending of RELEASE, RELEASE COMPLETE, or DISCONNECT?	M	5-NCC-3	5.3.1	N/A__Yes__No__
5-NDR-7	follow procedures similar to 5-NDR-1 through 5-NDR-6 for other signalling systems?	O	5-NCC-4 or 5-NCC-5 or 5-NCC-6	5.3.1	N/A__Yes__No__
5-NDR-8	have the capability to monitor signalling information non-intrusively to determine the state of the channel?	O	1-INM-2	5.3.2	N/A__Yes__No__
5-NDR-9	have the capability to monitor the operational state of the signalling channel and cease transmission on all bearer channels controlled by a failed channel?	O	1-INM-2	5.3.2	N/A__Yes__No__
Transport of Signalling without Termination					
5-NTS-1	have the capability to transport CAS bits transparently over the same AAL2 channel?	O	3-CSI-5	5.4.1	N/A__Yes__No__
5-NTS-2	provide this capability as defined in Annex L of I.366.2?	M	5-NTS-1	5.4.1	N/A__Yes__No__
5-NTS-3	provide the capability to debounce CAS bits before transport over the ATM interface?	O	5-NTS-1	5.4.1	N/A__Yes__No__
5-NTS-4	transport layer 2 messages transparently?	M	3-CSI-6 or 3-CSI-7	5.4.2	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
5-NTS-5	drop invalid frames?	M	3-CSI-6 or 3-CSI-7	5.4.2	N/A__Yes__No__
5-NTS-6	not interpret SAPI value?	M	3-CSI-6 or 3-CSI-7	5.4.2	N/A__Yes__No__
5-NTS-7	support use of AAL5 without an SSCS layer to transport layer 2 frames?	M	3-CSI-7	5.4.2.1	N/A__Yes__No__
5-NTS-8	use nrt-VBR for the ATM VCC?	M	5-NTS-7	5.4.2.1 C.2.3	N/A__Yes__No__
5-NTS-9	drop invalid frames received from the narrowband side, pass all valid frames without flags, stuff bits, or FCS?	M	5-NTS-7	5.4.2.1	N/A__Yes__No__
5-NTS-10	drop all corrupted AAL5 CPCS-PDUs as defined in I.363.5 and pass all valid messages?	M	5-NTS-7	5.4.2.1	N/A__Yes__No__
5-NTS-11	pass each layer 2 message as a single AAL5 message with CPCS-LP, CPCS-CI, and CPCS-UU set to zero?	M	5-NTS-7	5.4.2.1	N/A__Yes__No__
5-NTS-12	ignore CPCS-LI, CPCS-CI, and CPCS-UU when received?	M	5-NTS-7	5.4.2.1	N/A__Yes__No__
5-NTS-13	support use of AAL2 using the segmentation SSCS I.366.1 to transport layer 2 frames?	M	3-CSI-6	5.4.2.2	N/A__Yes__No__
5-NTS-14	drop invalid frames received from the narrowband side, pass all valid frames without flags, stuff bits, or FCS?	M	5-NTS-13	5.4.2.2	N/A__Yes__No__
5-NTS-15	use the SSSAR and SSTED sublayer as defined in I.366.1?	M	5-NTS-13	5.4.2.2	N/A__Yes__No__
5-NTS-16	pass each layer 2 message from the narrowband side as one STED-info message with SSTED-LO, SSTED-UU, and SSTED-CI set to zero?	M	5-NTS-13	5.4.2.2	N/A__Yes__No__
5-NTS-17	pass each STED-info message from the ATM side, ignoring the SSTED-LP, SSTED-UU, and SSTED-CI, as one layer 2 message?	M	5-NTS-13	5.4.2.2	N/A__Yes__No__
Glare Handling					
5-NGH-1	determine the controlling IWF to be the one which initiated the set up of the SVC containing the IWF-IWF signalling?	M	1-INM-1	5.5	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
5-NGH-2	determine the controlling IWF through provisioning in the case of using a PVC to carry IWF-IWF signalling?	M	1-INM-1	5.5	N/A__Yes__No__

I.3.3.6 Alarms and Status

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
Alarms and Status					
6-AL-1	detect Loss of Signal (LOS), Loss of Frame (LOF), Loss of MultFrame (LOMF), Remote Alarm Indication (RAI), and Alarm Indication Signal (AIS) on narrowband interfaces?	M	2-INS-1	6	N/A__Yes__No__
6-AL-2	generate the corresponding management alarms?	M	6-AL-1	6	N/A__Yes__No__
6-AL-3	detect all physical layer defects and ATM layer defects for the interfaces identified in 2-INS-2,as defined in I.432 and other applicable ATM Forum physical; layer interface specifications?	M	2-INS-2	6	N/A__Yes__No__
6-AL-4	use F5 OAM means to detect ATM VCC connectivity failures as defined in I.610?	O		6	Yes__No__
Alarms and Status - Non-switched trunking mode					
6-ALN-1	upon detection of LOS, LOF, or AIS, send an external AIS alarm packet downstream on each AAL2 bearer channel which is connected to the failed narrowband interface?	M	1-INM-2 & 6-AL-1	6.1.1	N/A__Yes__No__
6-ALN-2	repeat the external AIS alarm packets every one second?	M	6-ALN-1	6.1.1	N/A__Yes__No__
6-ALN-3	cease transmission in the signalling channel in the downstream direction across AAL2 or AAL5?	M	6-ALN-1	6.1.1	N/A__Yes__No__
6-ALN-4	upon detection of LOS, LOF, or AIS, send an RAI in the upstream direction?	M	1-INM-2 & 6-AL-1	6.1.1	N/A__Yes__No__
6-ALN-5	upon detection of an RAI, send an external RAI packet downstream on each AAL2 bearer channel which is connected to the failed narrowband interface?	M	1-INM-2 & 6-AL-1	6.1.1	N/A__Yes__No__
6-ALN-6	repeat the RAI alarm packets every 1 second?	M	6-ALN-5	6.1.1	N/A__Yes__No__

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
6-ALN-7	upon detection of LOMF on an E1 interface with CAS, send an external AIS alarm packet downstream on each AAL2 bearer channel which is connected to the failed narrowband interface?	M	1-INM-2 & 6-AL-1	6.1.1	N/A__Yes__No__
6-ALN-8	repeat the AIS alarm packets every 1 second?	M	6-ALN-7	6.1.1	N/A__Yes__No__
6-ALN-9	upon detection of LOMF on an E1 interface with CAS, send a MFRAI upstream?	M	1-INM-2 & 6-AL-1	6.1.1	N/A__Yes__No__
6-ALN-10	upon receipt of an external AIS alarm packet from the other IWF for an E1 interface, transmit pattern 0xFF on the connected channel on the narrowband side?	M	1-INM-2	6.1.1	N/A__Yes__No__
6-ALN-11	remove the 0xFF pattern when no external alarm packet has been received for 3.5 seconds?	M	6-ALN-10	6.1.1	N/A__Yes__No__
6-ALN-12	remove the 0xFF pattern when valid bearer information has been received?	M	6-ALN-10	6.1.1	N/A__Yes__No__
6-ALN-13	upon receipt of an external AIS alarm packet from the other IWF for a DS1 interface, apply trunk conditioning as described in Bellcore TR-NWT-000170?	M	1-INM-2	6.1.1	N/A__Yes__No__
6-ALN-14	remove trunk conditioning when no external alarm packet has been received for 3.5 seconds?	M	6-ALN-13	6.1.1	N/A__Yes__No__
6-ALN-15	remove trunk conditioning when valid bearer information has been received?	M	6-ALN-13	6.1.1	N/A__Yes__No__
6-ALN-16	follow the procedures of I.610 for ATM fault management?	M	1-INM-2 & 6-AL-3	6.1.3	N/A__Yes__No__
6-ALN-17	upon loss of ATM connectivity on a VCC carrying signalling for an E1 interface, transmit pattern 0xFF on the signalling channel of the narrowband interfaces?	M	1-INM-2 & 6-AL-3	6.1.3	N/A__Yes__No__
6-ALN-18	upon loss of ATM connectivity on a VCC carrying bearer information channels for an E1 interface, transmit pattern 0xFF on all narrowband channels transported over the failed VCC?	M	1-INM-2 & 6-AL-3	6.1.3	N/A__Yes__No__

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
6-ALN-19	upon loss of ATM connectivity on a VCC carrying signalling for a DS1 interface, apply conditioning to the signalling channel on the narrowband interface as described in Bellcore TR-NWT-000170?	M	1-INM-2 & 6-AL-3	6.1.3	N/A__Yes__No__
6-ALN-20	upon loss of ATM connectivity on a VCC carrying bearer information channels for a DS1 interface, apply conditioning as described in Bellcore TR-NWT-000170 to all narrowband channels transported over the failed VCC?	M	1-INM-2 & 6-AL-3	6.1.3	N/A__Yes__No__
6-ALN-21	upon receipt of an RDI on a VCC, apply conditioning on the signalling channels and bearer information channels as described in 6-ALN-17 through 6-ALN-20?	O	1-INM-2	6.1.3	N/A__Yes__No__
Alarms and Status - Switched trunking mode					
6-ALS-1	when LOS, LOF, or AIS is detected, send RAI in the upstream direction?	M	1-INM-1 & 6-AL-1	6.2.1	N/A__Yes__No__
6-ALS-2	when LOS, LOF, or AIS is detected, apply a time-out to each active call and disconnect it after the time-out?	M	1-INM-1 & 6-AL-1	6.2.1	N/A__Yes__No__
6-ALS-3	when LOS, LOF, or AIS is detected, block new call set-ups to that interface?	M	1-INM-1 & 6-AL-1	6.2.1	N/A__Yes__No__
6-ALS-4	when RAI is detected, block new call set-ups to that interface?	M	1-INM-1 & 6-AL-1	6.2.1	N/A__Yes__No__
6-ALS-5	when LOMF is detected, send a MFRAI sent the upstream direction and block new call set-ups?	M	1-INM-1 & 6-AL-1	6.2.1	N/A__Yes__No__
6-ALS-6	when loss of ATM connectivity is detected on a VCC transporting a signalling channel, busy out the idle AAL2 bearer channels and release all calls that are not in the active (stable) state?	M	1-INM-1	6.2.3	N/A__Yes__No__
6-ALS-7	when loss of ATM connectivity is detected on a VCC transporting a signalling channel, start a time-out and release active calls upon expiration of that time-out as defined in the applicable specification?	O	1-INM-1	6.2.3	N/A__Yes__No__

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
6-ALS-8	when loss of ATM connectivity is detected on a VCC carrying bearer, insert 0xff into the downstream direction of each connected channel on the narrowband side and start a time-out and release the affected calls upon expiration of the time-out as defined in the applicable specification?	O	1-INM-1	6.2.3	N/A__Yes__No__

I.3.3.7 Voice Compression Handling Procedures

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
Encoding Algorithms					
7-VEA-1	support profile #1 of I.366.2	M		7.1	Yes__No__
Selection of Encoding					
7-VSE-1	allow designation of a default profile when the IWF is created or configured?	O	3-CVE-3	7.2.1	N/A__Yes__No__
7-VSE-2	allow designation of a default profile when a VCC is created?	O	3-CVE-3	7.2.2	N/A__Yes__No__
Silence Removal and Comfort Noise Generation					
7-VSR-1	support a profile which includes a SID?	O		7.3	Yes__No__
7-VSR-2	provide silence detection and removal?	O	7-VSR-1	7.3	N/A__Yes__No__
7-VSR-3	use the procedures of I.366.2 to send a silence descriptor?	M	7-VSR-2	7.3.2	N/A__Yes__No__
7-VSR-4	generate (at the receiving IWF) the comfort noise as specified in the silence descriptor?	M	7-VSR-1	7.3.2	N/A__Yes__No__
7-VSR-5	provide detection of end of silence and return to normal speech encoding to minimize audio loss?	M	7-VSR-2	7.3.3	N/A__Yes__No__
Inband Signals					
7-VIS-1	detect 2100 Hz tone as defined in V.25 in the direction toward the ATM interface?	M	3-CVD-1	7.4.1	N/A__Yes__No__
7-VIS-2	detect modified, amplitude modulated 2100 Hz tone as defined in V.8 in the direction toward the ATM interface?	M	3-CVD-1	7.4.1	N/A__Yes__No__
7-VIS-3	detect 2100 Hz tone as defined in V.25 in the direction toward the narrowband interface?	O	3-CVD-1	7.4.1	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
7-VIS-4	detect modified, amplitude modulated 2100 Hz tone as defined in V.8 in the direction toward the narrowband interface?	O	3-CVD-1	7.4.1	N/A__Yes__No__
7-VIS-5	change over to a suitable encoding algorithm upon detection of 2100 Hz tone?	M	7-VIS-1 or 7-VIS-2 or 7-VIS-3 or 7-VIS-4	7.4.1	N/A__Yes__No__
7-VIS-6	select subsequent encoding algorithms based on classification of the modem signals	O	7-VIS-1 or 7-VIS-2 or 7-VIS-3 or 7-VIS-4	7.4.1	N/A__Yes__No__
7-VIS-7	send the state control message upon detection of 2100 Hz tone?	M	7-VIS-1 or 7-VIS-2 or 7-VIS-3 or 7-VIS-4	7.4.1	N/A__Yes__No__
7-VIS-8	change over to a suitable encoding algorithm upon receipt of the state control message?	M	3-CVD-1	7.4.1	N/A__Yes__No__
7-VIS-9	monitor for the end of the data transmission and change back to low bit rate?	O	7-VIS-1 or 7-VIS-2 or 7-VIS-3 or 7-VIS-4	7.4.1	N/A__Yes__No__
7-VIS-10	change back to the original encoding upon detection of the end of the modem signal?	O	7-VIS-9	7.4.1	N/A__Yes__No__
7-VIS-11	validate DTMF signals at the originating side according to the applicable requirements?	M	3-CDT-4	7.4.2.1	N/A__Yes__No__
7-VIS-12	ensure that all transitions persist for more than 20 ms?	M	3-CDT-4	7.4.2.1	N/A__Yes__No__
7-VIS-13	ensure that no more than 20 ms of the audio DTMF is transferred through the connection?	M	3-CDT-4	7.4.2.1	N/A__Yes__No__
7-VIS-14	limit the audio DTMF transferred through the connection to 10 ms?	O	3-CDT-4	7.4.2.1	N/A__Yes__No__
7-VIS-15	determine the DTMF signal level at the originating side?	O	3-CDT-4	7.4.2.1	N/A__Yes__No__
7-VIS-16	process the received messages from the originating side according to I.366.2?	M	3-CDT-4	7.4.2.2	N/A__Yes__No__
7-VIS-17	apply any additional timing to the transmitted DTMF tones at the destination side?	O	3-CDT-4	7.4.2.2	N/A__Yes__No__
7-VIS-18	apply the tones at the destination side at the level specified in the message?	M	3-CDT-4	7.4.2.2	N/A__Yes__No__

Item	Does the Implementation …	Status	Conditions for status	Reference	Support
7-VIS-19	cease transmission of any other audio information at the destination side while regenerating the DTMF?	M	3-CDT-4	7.4.2.2	N/A__Yes__No__
7-VIS-20	ensure that DTMF tones echoed back from the connected equipment are not detected?	O	3-CDT-4	7.4.2.2	N/A__Yes__No__

I.3.3.8 Enhanced Transport

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
FAX Demod/Remod					
8-ETD-1	follow the procedures of I.366.2 for FAX Demod?	M	1-INE-2	8.1	N/A__Yes__No__
Circuit Mode Data N x 64 kbit/s					
8-ETN-2	follow the procedures of I.366.2 for circuit mode Nx64 kbit/s?	M	1-INE-3	8.2	N/A__Yes__No__
Frame Mode Data					
8-ETF-1	follow the procedures of I.366.1 using the TED option?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-2	remove flags and restore them at the output?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-3	remove bit stuffing and restore it at the output?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-4	validate and discard the CRC at the input and regenerate it at the output.?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-5	discard invalid frames and invalid PDUs?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-6	set SSTED-LP, SSTED-UU, and SSTED-CI to zero?	M	1-INE-5	8.3	N/A__Yes__No__
8-ETF-7	ignore the SSTED-LP, SSTED-UU, and SSTED-CI upon receipt?	M	1-INE-5	8.3	N/A__Yes__No__

I.3.3.9 Performance Considerations

Item	Does the Implementation…	Status	Conditions for status	Reference	Support
Packet Delay Variation					
9-PTV-1	provide the capability to accommodate delay variations up to 20 ms?	M		9.1	Yes__No__

Timing Considerations					
9-PTC-1	provide a means by which a time source traceable to a Primary Reference Source may be provided to the IWF?	M		9.2	Yes__No__
9-PTC-2	provide a means to provide this timing at the narrowband interfaces?	M	9-PTC-1	9.2	N/A__Yes__No__