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Definitions of Textual Conventions and OBJECT-IDENTITIES for ATM Management

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

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Table of Contents

1 Introduction	2
2 Definitions	3
3 Acknowledgments	17
4 References	17
5 Security Considerations	17
6 Authors' Addresses	18
7 Intellectual Property	19
8 Full Copyright Statement	20

Abstract

This memo describes Textual Conventions and OBJECT-IDENTITIES used for managing ATM-based interfaces, devices, networks and services.

1. Introduction

This memo describes Textual Conventions and OBJECT-IDENTITIES used for managing ATM-based interfaces, devices, networks and services.

When designing a MIB module, it is often useful to define new types similar to those defined in the SMI. In comparison to a type defined in the SMI, each of these new types has a different name, a similar syntax, but a more precise semantics. These newly defined types are termed textual conventions, and are used for the convenience of humans reading the MIB module. This is done through Textual Conventions as defined in RFC1903 [1]. It is the purpose of this document to define the set of textual conventions available to ATM MIB modules.

When designing MIB modules, it is also often useful to register further properties with object identifier assignments so that they can be further used by other MIB modules. This is done through the OBJECT-IDENTITY macro defined in RFC1902 [2]. This document defines OBJECT-IDENTITIES available to ATM MIB modules.

Note that for organizational purposes OBJECT IDENTITIES previously defined in RFC1695 have been moved to this specification and no longer appear in the revision of RFC1695 [3]. However, the original OBJECT IDENTIFIERS have been preserved.

For an introduction to the concepts of ATM connections, see [3].

2. Definitions

```
ATM-TC-MIB DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
    MODULE-IDENTITY, OBJECT-IDENTITY,  
    TimeTicks, mib-2
```

```
    FROM SNMPv2-SMI
```

```
    TEXTUAL-CONVENTION
```

```
    FROM SNMPv2-TC;
```

```
atmTCMIB MODULE-IDENTITY
```

```
    LAST-UPDATED "9810190200Z"
```

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DESCRIPTION

"This MIB Module provides Textual Conventions
and OBJECT-IDENTITY Objects to be used by
ATM systems."

::= { mib-2 37 3 } -- atmMIB 3 (see [3])

-- The Textual Conventions defined below are organized
-- alphabetically

AtmAddr ::= TEXTUAL-CONVENTION

DISPLAY-HINT "1x"

STATUS current

DESCRIPTION

"An ATM address. The semantics are implied by
the length. The address types are: - no
address (0 octets) - E.164 (8 octets) - NSAP
(20 octets) In addition, when subaddresses
are used the AtmAddr may represent the
concatenation of address and subaddress. The
associated address types are: - E.164, E.164
(16 octets) - E.164, NSAP (28 octets) - NSAP,
NSAP (40 octets) Address lengths other than
defined in this definition imply address
types defined elsewhere. Note: The E.164
address is encoded in BCD format."

SYNTAX OCTET STRING (SIZE(0..40))

AtmConnCastType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The type of topology of a connection (point-

to-point, point-to-multipoint). In the case of point-to-multipoint, the orientation of this VPL or VCL in the connection.

On a host:

- p2mpRoot indicates that the host is the root of the p2mp connection.
- p2mpLeaf indicates that the host is a leaf of the p2mp connection.

On a switch interface:

- p2mpRoot indicates that cells received by the switching fabric from the interface are from the root of the p2mp connection.
- p2mpLeaf indicates that cells transmitted to the interface from the switching fabric are to the leaf of the p2mp connection."

```
SYNTAX  INTEGER {  
    p2p(1),  
    p2mpRoot(2),  
    p2mpLeaf(3)  
}
```

AtmConnKind ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The type of call control used for an ATM connection at a particular interface. The use is as follows:

pvc(1)

Virtual link of a PVC. Should not be used for an PVC/SVC (i.e., Soft PVC) crossconnect.

svcIncoming(2)

Virtual link established after a received signaling request to setup an SVC.

svcOutgoing(3)

Virtual link established after a transmitted or forwarded signaling request to setup an SVC.

spvcInitiator(4)

Virtual link at the PVC side of an SVC/PVC crossconnect, where the switch is the initiator of the Soft PVC setup.

spvcTarget(5)

Virtual link at the PVC side of an SVC/PVC crossconnect, where the switch is the target of the Soft PVC

setup.

For PVCs, a pvc virtual link is always cross-connected to a pvc virtual link.

For SVCs, an svcIncoming virtual link is always cross-connected to an svcOutgoing virtual link.

For Soft PVCs, an spvcInitiator is either cross-connected to an svcOutgoing or an spvcTarget, and an spvcTarget is either cross-connected to an svcIncoming or an spvcInitiator."

```
SYNTAX  INTEGER {  
    pvc(1),  
    svcIncoming(2),  
    svcOutgoing(3),  
    spvcInitiator(4),  
    spvcTarget(5)  
}
```

AtmIlmiNetworkPrefix ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"A network prefix used for ILMI address registration. In the case of ATM endsystem addresses (AESAs), the network prefix is the first 13 octets of the address which includes the AFI, IDI, and HO-DSP fields. In the case of native E.164 addresses, the network prefix is the entire E.164 address encoded in 8 octets, as if it were an E.164 IDP in an ATM endsystem address structure."

REFERENCE

"ATM Forum, Integrated Local Management Interface (ILMI) Specification, Version 4.0, af-ilmi-0065.000, September 1996, [Section 9](#)
ATM Forum, ATM User-Network Interface Signalling Specification, Version 4.0 (UNI 4.0), af-sig-0061.000, June 1996, [Section 3](#)"

SYNTAX OCTET STRING (SIZE(8|13))

AtmInterfaceType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The connection setup procedures used for the identified interface.

Other: Connection setup procedures other than those listed below.

Auto-configuration:

Indicates that the connection setup procedures are to be determined dynamically, or that determination has not yet been completed. One such mechanism is via ATM Forum ILMI auto-configuration procedures.

ITU-T DSS2:

- ITU-T Recommendation Q.2931, Broadband Integrated Service Digital Network (B-ISDN) Digital Subscriber Signalling System No.2 (DSS2) User-Network Interface (UNI) Layer 3 Specification for Basic Call/Connection Control (September 1994)
- ITU-T Draft Recommendation Q.2961, B-ISDN DSS 2 Support of Additional Traffic Parameters (May 1995)
- ITU-T Draft Recommendation Q.2971, B-ISDN DSS 2 User Network Interface Layer 3 Specification for Point-to-multipoint Call/connection Control (May 1995)

ATM Forum UNI 3.0:

ATM Forum, ATM User-Network Interface, Version 3.0 (UNI 3.0) Specification, (1994).

ATM Forum UNI 3.1:

ATM Forum, ATM User-Network Interface, Version 3.1 (UNI 3.1) Specification, (November 1994).

ATM Forum UNI Signalling 4.0:

ATM Forum, ATM User-Network Interface (UNI) Signalling Specification Version 4.0, af-sig-0061.000 (June 1996).

ATM Forum IISP (based on UNI 3.0 or UNI 3.1) :

Interim Inter-switch Signaling Protocol (IISP) Specification, Version 1.0, af-pnni-0026.000, (December 1994).

ATM Forum PNNI 1.0 :

ATM Forum, Private Network-Network Interface Specification, Version 1.0, af-pnni-0055.000, (March 1996).

ATM Forum B-ICI:

ATM Forum, B-ICI Specification, Version 2.0,
af-bici-0013.002, (November 1995).

ATM Forum UNI PVC Only:

An ATM Forum compliant UNI with the
signalling disabled.

ATM Forum NNI PVC Only:

An ATM Forum compliant NNI with the
signalling disabled."

```
SYNTAX  INTEGER {
    other(1),
    autoConfig(2),
    ituDss2(3),
    atmfUni3Dot0(4),
    atmfUni3Dot1(5),
    atmfUni4Dot0(6),
    atmfIispUni3Dot0(7),
    atmfIispUni3Dot1(8),
    atmfIispUni4Dot0(9),
    atmfPnni1Dot0(10),
    atmfBici2Dot0(11),
    atmfUniPvcOnly(12),
    atmfNniPvcOnly(13) }
```

AtmServiceCategory ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The service category for a connection."

REFERENCE

"ATM Forum Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."

```
SYNTAX  INTEGER {
    other(1),    -- none of the following
    cbr(2),      -- constant bit rate
    rtVbr(3),    -- real-time variable bit rate
    nrtVbr(4),   -- non real-time variable bit rate
    abr(5),      -- available bit rate
    ubr(6)       -- unspecified bit rate
}
```

AtmSigDescrParamIndex ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The value of this object identifies a row in the
atmSigDescrParamTable. The value 0 signifies that
none of the signalling parameters defined in the
atmSigDescrParamTable are applicable."

SYNTAX INTEGER (0..2147483647)

AtmTrafficDescrParamIndex ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The value of this object identifies a row in the atmTrafficDescrParamTable. The value 0 signifies that no row has been identified."

SYNTAX INTEGER (0..2147483647)

AtmVcIdentifier ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The VCI value for a VCL. The maximum VCI value cannot exceed the value allowable by atmInterfaceMaxVciBits defined in ATM-MIB."

SYNTAX INTEGER (0..65535)

AtmVpIdentifier ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The VPI value for a VPL or VCL. The value VPI=0 is only allowed for a VCL. For ATM UNIs supporting VPCs the VPI value ranges from 0 to 255. The VPI value 0 is supported for ATM UNIs conforming to the ATM Forum UNI 4.0 Annex 8 (Virtual UNIs) specification. For ATM UNIs supporting VCCs the VPI value ranges from 0 to 255. For ATM NNIs the VPI value ranges from 0 to 4095. The maximum VPI value cannot exceed the value allowable by atmInterfaceMaxVpiBits defined in ATM-MIB."

SYNTAX INTEGER (0..4095)

AtmVorXAdminStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The value determines the desired administrative status of a virtual link or cross-connect. The up and down states indicate that the traffic flow is enabled or disabled respectively on the virtual link or cross-connect."

SYNTAX INTEGER {
 up(1),
 down(2)
}

AtmVorXLastChange ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The value of MIB II's sysUpTime at the time a virtual link or cross-connect entered its current operational state. If the current state was entered prior to the last re-initialization of the agent then this object contains a zero value."

SYNTAX TimeTicks

AtmVorXOperStatus ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The value determines the operational status of a virtual link or cross-connect. The up and down states indicate that the traffic flow is enabled or disabled respectively on the virtual link or cross-connect. The unknown state indicates that the state of it cannot be determined. The state will be down or unknown if the supporting ATM interface(s) is down or unknown respectively."

SYNTAX INTEGER {
up(1),
down(2),
unknown(3)
}

-- OBJECT-IDENTITIES:

-- The following atmTrafficDescriptorTypes has been moved
-- from RFC1695 and no longer appear in the revision of
-- RFC1695[3].

atmTrafficDescriptorTypes OBJECT IDENTIFIER ::= {mib-2 37 1 1}
-- atmMIBObjects
-- See [3].

-- All other and new OBJECT IDENTITIES
-- are defined under the following subtree:

atmObjectIdentities OBJECT IDENTIFIER ::= {atmTCMIB 1}

-- The following values are defined for use as
-- possible values of the ATM traffic descriptor type.

atmNoTrafficDescriptor OBJECT-IDENTITY
STATUS deprecated

DESCRIPTION

"This identifies the no ATM traffic descriptor type. Parameters 1, 2, 3, 4, and 5 are not used. This traffic descriptor type can be used for best effort traffic."

::= {atmTrafficDescriptorTypes 1}

atmNoClpNoScr OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for no CLP and no Sustained Cell Rate. The use of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic

Parameter 2: not used

Parameter 3: not used

Parameter 4: not used

Parameter 5: not used."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.

ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994."

::= {atmTrafficDescriptorTypes 2}

atmClpNoTaggingNoScr OBJECT-IDENTITY

STATUS deprecated

DESCRIPTION

"This traffic descriptor is for CLP without tagging and no Sustained Cell Rate. The use of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic

Parameter 2: peak cell rate in cells/second
for CLP=0 traffic

Parameter 3: not used

Parameter 4: not used

Parameter 5: not used."

::= {atmTrafficDescriptorTypes 3}

atmClpTaggingNoScr OBJECT-IDENTITY

STATUS deprecated

DESCRIPTION

"This traffic descriptor is for CLP with tagging and no Sustained Cell Rate. The use of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic
Parameter 2: peak cell rate in cells/second
for CLP=0 traffic, excess
tagged as CLP=1
Parameter 3: not used
Parameter 4: not used
Parameter 5: not used."
 ::= {atmTrafficDescriptorTypes 4}

atmNoClpScr OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for no CLP
with Sustained Cell Rate. The use of the
parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic
Parameter 2: sustainable cell rate in cells/second
for CLP=0+1 traffic
Parameter 3: maximum burst size in cells
Parameter 4: not used
Parameter 5: not used."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994."

::= {atmTrafficDescriptorTypes 5}

atmClpNoTaggingScr OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for CLP with
Sustained Cell Rate and no tagging. The use
of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic
Parameter 2: sustainable cell rate in cells/second
for CLP=0 traffic
Parameter 3: maximum burst size in cells
Parameter 4: not used
Parameter 5: not used."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,

```

    Version 3.1 (UNI 3.1) Specification,
    November 1994."
 ::= {atmTrafficDescriptorTypes 6}

atmClpTaggingScr OBJECT-IDENTITY
  STATUS current
  DESCRIPTION
    "This traffic descriptor type is for CLP with
    tagging and Sustained Cell Rate. The use of
    the parameter vector for this type:
    Parameter 1: peak cell rate in cells/second
                  for CLP=0+1 traffic
    Parameter 2: sustainable cell rate in cells/second
                  for CLP=0 traffic, excess tagged as
                  CLP=1
    Parameter 3: maximum burst size in cells
    Parameter 4: not used
    Parameter 5: not used."
  REFERENCE
    "ATM Forum, ATM User-Network Interface,
    Version 3.0 (UNI 3.0) Specification, 1994.
    ATM Forum, ATM User-Network Interface,
    Version 3.1 (UNI 3.1) Specification,
    November 1994."
 ::= {atmTrafficDescriptorTypes 7}

atmClpNoTaggingMcr OBJECT-IDENTITY
  STATUS current
  DESCRIPTION
    "This traffic descriptor type is for CLP with
    Minimum Cell Rate and no tagging. The use of
    the parameter vector for this type:
    Parameter 1: peak cell rate in cells/second
                  for CLP=0+1 traffic
    Parameter 2: CDVT in tenths of microseconds
    Parameter 3: minimum cell rate in cells/second
    Parameter 4: unused
    Parameter 5: unused."
  REFERENCE
    "ATM Forum, ATM User-Network Interface,
    Version 3.0 (UNI 3.0) Specification, 1994.
    ATM Forum, ATM User-Network Interface,
    Version 3.1 (UNI 3.1) Specification,
    November 1994."
 ::= {atmTrafficDescriptorTypes 8}

atmClpTransparentNoScr OBJECT-IDENTITY
  STATUS current
```

DESCRIPTION

"This traffic descriptor type is for the CLP-transparent model and no Sustained Cell Rate. The use of the parameter vector for this type:
Parameter 1: peak cell rate in cells/second
 for CLP=0+1 traffic
Parameter 2: CDVT in tenths of microseconds
Parameter 3: not used
Parameter 4: not used
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the CBR.1 conformance definition.

Connections specifying this traffic descriptor type will be rejected at UNI 3.0 or UNI 3.1 interfaces. For a similar traffic descriptor type that can be accepted at UNI 3.0 and UNI 3.1 interfaces, see atmNoClpNoScr."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994.
ATM Forum, Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."

::= {atmTrafficDescriptorTypes 9}

atmClpTransparentScr OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for the CLP-transparent model with Sustained Cell Rate. The use of the parameter vector for this type:
Parameter 1: peak cell rate in cells/second
 for CLP=0+1 traffic
Parameter 2: sustainable cell rate in cells/second
 for CLP=0+1 traffic
Parameter 3: maximum burst size in cells
Parameter 4: CDVT in tenths of microseconds
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the VBR.1 conformance definition.

Connections specifying this traffic descriptor type will be rejected at UNI 3.0 or UNI 3.1 interfaces. For a similar traffic descriptor type that can be accepted at UNI 3.0 and UNI 3.1 interfaces, see atmNoClpScr."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994.
ATM Forum, Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."
::= {atmTrafficDescriptorTypes 10}

atmNoClpTaggingNoScr OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for no CLP with tagging and no Sustained Cell Rate. The use of the parameter vector for this type:
Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic
Parameter 2: CDVT in tenths of microseconds
Parameter 3: not used
Parameter 4: not used
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the UBR.2 conformance definition ."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994.
ATM Forum, Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."
::= {atmTrafficDescriptorTypes 11}

atmNoClpNoScrCdvt OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for no CLP and no Sustained Cell Rate. The use of the parameter vector for this type:
Parameter 1: peak cell rate in cells/second

for CLP=0+1 traffic
Parameter 2: CDVT in tenths of microseconds
Parameter 3: not used
Parameter 4: not used
Parameter 5: not used.

This traffic descriptor type is applicable to CBR connections following the UNI 3.0/3.1 conformance definition for PCR CLP=0+1. These CBR connections differ from CBR.1 connections in that the CLR objective applies only to the CLP=0 cell flow.

This traffic descriptor type is also applicable to connections following the UBR.1 conformance definition."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994.
ATM Forum, Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."
::= {atmTrafficDescriptorTypes 12}

atmNoClpScrCdvT OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for no CLP with Sustained Cell Rate. The use of the parameter vector for this type:
Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic
Parameter 2: sustainable cell rate in cells/second
for CLP=0+1 traffic
Parameter 3: maximum burst size in cells
Parameter 4: CDVT in tenths of microseconds
Parameter 5: not used.

This traffic descriptor type is applicable to VBR connections following the UNI 3.0/3.1 conformance definition for PCR CLP=0+1 and SCR CLP=0+1. These VBR connections differ from VBR.1 connections in that the CLR objective applies only to the CLP=0 cell flow."

REFERENCE

```
"ATM Forum,ATM User-Network Interface,
  Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
  Version 3.1 (UNI 3.1) Specification,
  November 1994.
ATM Forum, Traffic Management Specification,
  Version 4.0, af-tm-0056.000, June 1996."
::= {atmTrafficDescriptorTypes 13}
```

atmClpNoTaggingScrCdvT OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for CLP with Sustained Cell Rate and no tagging. The use of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic

Parameter 2: sustainable cell rate in cells/second
for CLP=0 traffic

Parameter 3: maximum burst size in cells

Parameter 4: CDVT in tenths of microseconds

Parameter 5: not used.

This traffic descriptor type is applicable to connections following the VBR.2 conformance definition."

REFERENCE

"ATM Forum,ATM User-Network Interface,
 Version 3.0 (UNI 3.0) Specification, 1994.

ATM Forum, ATM User-Network Interface,
 Version 3.1 (UNI 3.1) Specification,
 November 1994.

ATM Forum, Traffic Management Specification,
 Version 4.0, af-tm-0056.000, June 1996."

```
::= {atmTrafficDescriptorTypes 14}
```

atmClpTaggingScrCdvT OBJECT-IDENTITY

STATUS current

DESCRIPTION

"This traffic descriptor type is for CLP with tagging and Sustained Cell Rate. The use of the parameter vector for this type:

Parameter 1: peak cell rate in cells/second
for CLP=0+1 traffic

Parameter 2: sustainable cell rate in cells/second
for CLP=0 traffic, excess tagged as
CLP=1

Parameter 3: maximum burst size in cells

Parameter 4: CDVT in tenths of microseconds
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the VBR.3 conformance definition."

REFERENCE

"ATM Forum, ATM User-Network Interface,
Version 3.0 (UNI 3.0) Specification, 1994.
ATM Forum, ATM User-Network Interface,
Version 3.1 (UNI 3.1) Specification,
November 1994.
ATM Forum, Traffic Management Specification,
Version 4.0, af-tm-0056.000, June 1996."
::= {atmTrafficDescriptorTypes 15}

END

3. Acknowledgments

This document is a product of the AToMMIB Working Group.

4. References

- [1] Case, J., McCloghrie, K., Rose, M. and S. Waldbusser, "Textual Conventions for Version 2 of the Simple Network Management Protocol (SNMPv2)", [RFC 1903](#), January 1996.
- [2] Case, J., McCloghrie, K., Rose, M. and S. Waldbusser, "Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2)", [RFC 1902](#), January 1996.
- [3] Tesink, K., Editor, "Definitions of Managed Objects for ATM Management", [RFC 2515](#), February 1999.

5. Security Considerations

This memo defines textual conventions and object identities for use in ATM MIB modules. Security issues for these MIB modules are addressed in the memos defining those modules.

6. Authors' Addresses

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