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2. 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[14]. However, the original OBJECT IDENTIFIERs have
been preserved.

This memo does not specify a standard for the Internet
community.
3. Definitions

ATM-TC-MIB DEFINITIONS ::= BEGIN

IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY,
Integer32, TimeTicks, mib-2
FROM SNMPv2-SMI
TEXTUAL-CONVENTION
FROM SNMPv2-TC;

atmTCMIB MODULE-IDENTITY
LAST-UPDATED "9701080200Z"
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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

Expires 7/8/97  [Page 3]
-- See [14].

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

AtmAddr ::= TEXTUAL-CONVENTION
  DISPLAY-HINT "1x"
  STATUS current
  DESCRIPTION
    "The ATM address used by the network entity.
    The address types are: no address (0 octets),
    E.164 (8 octets), and NSAP (20 octets).
    Note: The E.164 address is encoded in BCD
    format."
  SYNTAX OCTET STRING (SIZE(0|8|20))

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:
    - 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 use of call control. The use is as follows:
  pvc(1)  Virtual link of a PVC. Should not be used in an PVC/SVC (i.e., SPVC)
           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 SPVC setup.
  spvcTarget(5)  Virtual link at the PVC side of an SVC/PVC crossconnect, where the switch is the target of the SPVC setup.

An spvcInitiator is always cross-connected to an svcOutgoing, and an spvcTarget is always cross-connected to an svcIncoming."
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 ILMI 4.0 Section 9,
ATM Forum UNI Signalling 4.0 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:

ATM Forum UNI 3.0:
ATM Forum, ATM User-Network Interface, Version 3.0 (UNI 3.0) Specification,
ATM Forum UNI 3.1:

ATM Forum UNI Signalling 4.0:
ATM Forum, ATM User-Network Interface (UNI) Signalling Specification Version 4.0, af-sig-0061.000 (June 1996) [7].

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) [10].

ATM Forum PNNI 1.0:

ATM Forum B-ICI:

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),

AtmServiceCategory ::= TEXTUAL-CONVENTION
  STATUS current
  DESCRIPTION
  "The service category for a connection."
  REFERENCE
  "ATM Forum Traffic Management 4.0."
  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

Expires 7/8/97
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 1 to 255. 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 this 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 [14].

atmTrafficDescriptorTypes OBJECT IDENTIFIER ::= {mib-2 37 1 1} -- atmMIBObjects
    -- See [14].

-- All other and new OBJECT IDENTITIES go here:

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: CDVT in tenths of microseconds
Parameter 3: not used
Parameter 4: not used

Expires 7/8/97
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 [3,4]. These CBR connections differ from CBR.1 connections [13] 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 [13].

::= {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: 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 [3,4]. These VBR connections differ from VBR.1 connections [13] in that the CLR objective applies only to the CLP=0 cell flow."
::= {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: CDVT in tenths of microseconds
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the VBR.2 conformance definition [13]."
::= {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: CDVT in tenths of microseconds
Parameter 5: not used.

This traffic descriptor type is applicable to connections following the VBR.3 conformance definition [13]."

::= {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.

This traffic descriptor type is applicable to connections following the ABR conformance definition [13]."

::= {atmTrafficDescriptorTypes 8}

atmClpTransparentNoScr OBJECT-IDENTITY
STATUS current
DESCRIPTION "This traffic descriptor type is for the CLP-transparent model [13] 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 [13].

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.

::= {atmTrafficDescriptorTypes 9}

atmClpTransparentScr OBJECT-IDENTITY
STATUS current
DESCRIPTION
"This traffic descriptor type is for the CLP-transparent model [13] 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 [13].

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.

::= (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 [13]."

::= {atmTrafficDescriptorTypes 11}
4. Acknowledgments

This document is a product of the AToMMIB Working Group.
5. References


Call/connection Control", May 1995.


6. Security Considerations

Security issues are not discussed in this memo.

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