INTERNET-DRAFT
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Electronic Data Interchange MIB (EDIMIB)
Version 1

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Status of this Memo

Abstract

This memo defines a MIB for use with managing EDI systems. The term EDI systems includes large scale systems providing translator functions such as the US federal government's Electronic Commerce Processing Node (ECPN) for which this MIB was specifically designed, as well as smaller Value Added Network (VAN) systems. Because of the desire for scalability variable names are deliberately vague, so that a channel may represent a single user, a group of users that use the same network entry point or that are defined by the implementor as functionally similar, or (as in the case of the ECPN) a connection to a third party network. This MIB does not address management of client systems which connect to the various EDI systems.

Table of Contents

1 The Network Management Framework

The Internet-standard Network Management Framework consists of three components. They are:

RFC 1155 [1] which defines the Structure of Management Information (SMI), the mechanisms for describing and naming objects for the purpose of management. RFC 1212 [2] defines a more concise description mechanism, which is wholly consistent with the SMI.

RFC 1213 [3] which defines MIB-II, the core set of managed objects for the Internet suite of protocols.

RFC 1157 [4] which defines the Simple Network Management Protocol (SNMP), the protocol used for network access to managed objects.

The Network Management Framework permits new objects to be defined for the purpose of experimentation and evaluation.

2 Objects

Managed objects are accessed via a virtual information store, termed the Management Information Base (MIB). Within a given MIB module, objects are defined using RFC 1212's OBJECT-TYPE macro. At a minimum, each object has a name, a syntax, an access-level, and an implementation status.

The name is an object identifier, an administratively assigned name, which specifies an object type. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the object descriptor, to also refer to the object type.

The syntax of an object type defines the abstract data structure corresponding to that object type. The Abstract Syntax Notation 1 (ASN.1)[5] language is used for this purpose. However, RFC 1155 purposefully restricts the ASN.1 constructs which may be used.

These restrictions are explicitly made for simplicity.

The access-level of an object type defines whether it makes "protocol sense" to read and/or write the value of an instance of the object type. (This access-level is independent of any administrative authorization policy.)

The implementation-status of an object type indicates whether the object is mandatory, optional, obsolete, or deprecated.

The encoding of an object type is simply how that object is represented using the object type's syntax. Implicitly tied to the notion of an object type's syntax and encoding is how the object type is represented when being transmitted on the network.

The SMI specifies the use of the basic encoding rules (BER) of ASN.1, subject to the additional requirements imposed by the SNMP.

3 Format of Definitions

Section 4 contains the specification of all object types contained in this MIB module. These object types are defined using the conventions defined in [1] and [2].

4 Definitions

```
EDI-MIB DEFINITIONS ::= BEGIN

--
-- EDI MIB - used for EDI management
--
-- Only contains fault and performance monitoring variables at present

IMPORTS
   OBJECT-TYPE         FROM RFC-1212
   DisplayString       FROM RFC1213-MIB
   TimeTicks, Counter
   Guage               FROM RFC1155-SMI;

-- At current time the edi tree is placed beneath MITRE's enterprise OID
-- this would move beneath MIBII

internet      OBJECT IDENTIFIER ::= { iso(1) org(3) dod(6) internet(1) }
enterprises   OBJECT IDENTIFIER ::= { internet private(4) 1 }
mitre         OBJECT IDENTIFIER ::= { enterprises 115 }
edi           OBJECT IDENTIFIER ::= { mitre int(1) test(2) 8 }

ediProg       OBJECT IDENTIFIER ::= { edi 1 }
siteInfo      OBJECT IDENTIFIER ::= { edi 2 }
```

4.1 The EDI program group

```
ediUptime  OBJECT-TYPE
      SYNTAX TimeTicks
```

```
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
                "Timestamp to show how long the edi process has been
                        running"
        ::= { ediProg 1 }

ediVersion OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
                "Displays the version number of the edi software"
              ::= { ediProg 2 }

ediLastrev OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-only
        STATUS mandatory
        DESCRIPTION
                "Displays the last time the edi software has been
                        updated"
              ::= { ediProg 3 }

ediAdministrator OBJECT-TYPE
        SYNTAX DisplayString
        ACCESS read-write
        STATUS mandatory
        DESCRIPTION
                "Displays information about the edi administrator"
              ::= { ediProg 4 }
```

4.2 The Site channels group

```
siteChannels OBJECT-TYPE
              SYNTAX SiteChannels
              ACCESS not-accessible
              STATUS mandatory
              DESCRIPTION
                      "This is the compound data type containing the
                      number of channels and the table containing more
                      detailed info."
              ::= { siteInfo 1 }

SiteChannels ::=
              SEQUENCE {
                      siteNumChannels INTEGER,
                      siteChanTable SiteChanTable
                      }

siteNumChannels               OBJECT-TYPE
              SYNTAX INTEGER
              ACCESS read-only
              STATUS mandatory
```

```
        DESCRIPTION
                "Number of channels configured at current time"
        ::= { siteChannels 1 }

siteErrors OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The total number of errors received relating to
            all channels on this site."
        ::= { siteChannels 2 }

siteInQueueLen OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of messages received that are in the
                input queue relating to all channels at this site."
        ::= { siteChannels 3 }

siteInKbytes OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of kilobytes of messages transmitted
                on the input queue relating to all channels at
         this site."
        ::= { siteChannels 4 }

siteOutQueueLen OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of messages received that are in
                the output queue of all channels at this site."
        ::= { siteChannels 5 }

siteOutKbytes OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of kilobytes transmitted on the
                output queue relating to all channels at this
         site."
        ::= { siteChannels 6 }

SiteChanTable     OBJECT-TYPE
        SYNTAX          SEQUENCE OF siteChanEntry
        ACCESS          not-accessible
        STATUS          mandatory
```

```
        DESCRIPTION
                "List of channels and information associated with
                them."
        ::= { siteChannels 7 }

siteChanEntry     OBJECT-TYPE
        SYNTAX          SiteChanEntry
        ACCESS          not-accessible
        STATUS          mandatory
        DESCRIPTION
                "This macro documents the column that uniquely
                describes each row."
        INDEX { siteChanIndex }
        ::= { SiteChanTable 1 }

SiteChanEntry ::=
  SEQUENCE {
        siteChanIndex INTEGER,
        siteChanDescription DisplayString,
        siteChanType INTEGER,
        siteChanSpeed DisplayString,
        siteChanErrors Counter,
        siteChanInQueueLen Counter,
        siteChanInKbytes Counter,
        siteChanInThroughTable SiteChanInThroughTable,
        siteChanOutQueueLen Counter,
        siteChanOutKbytes Counter,
        siteChanOutThroughTable SiteChanOutThroughTable,
        siteChanLastIn TimeTicks,
        siteChanLastOut TimeTicks,
        siteChanConnections SiteConnectionTable,
        siteChanOldestOutMessage TimeTicks
        }

siteChanIndex  OBJECT-TYPE
        SYNTAX  INTEGER
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
                "The index value which uniquely identifies the
         channel to which this entry is applicable."
        ::= { siteChanEntry 1 }
```

4.3 The Channel Entry group

```
siteChanDescription  OBJECT-TYPE
        SYNTAX  DisplayString
    ACCESS  read-only
    STATUS  mandatory
    DESCRIPTION
                "The textual description of the channel."
        ::= { siteChanEntry 2 }

siteChanType OBJECT-TYPE
        SYNTAX  INTEGER {
```

```
                ftp(1),    -- file transfer protocol
                smtp(2), -- simple mail transfer protocol
                x.400(3), -- x.400 mail message
                kermit(4),
                zmodem(5),
                cleo(6)
                                        }
           ACCESS  read-only
       STATUS  mandatory
              DESCRIPTION
                     "The protocol that this channel communicates with."
           ::= { siteChanEntry 3 }

siteChanSpeed   OBJECT-TYPE
       SYNTAX DisplayString
       ACCESS read-only
       STATUS mandatory
       DESCRIPTION
            "A textual description of factors that may affect
                     the speed of transmission through the channel
                     (e.g. baud rate for modem comms)"
           ::= { siteChanEntry 4 }

siteChanErrors OBJECT-TYPE
           SYNTAX  Counter
           ACCESS  read-only
           STATUS  mandatory
           DESCRIPTION
                     "The total number of errors received relating to
                this channel."
           ::= { siteChanEntry 5 }
```

4.4 The Channel Input group

```
siteChanInQueueLen OBJECT-TYPE
           SYNTAX  Counter
           ACCESS  read-only
           STATUS  mandatory
           DESCRIPTION
                     "The number of messages received that are in the
                     input queue relating to this channel."
           ::= { siteChanEntry 6 }

siteChanInKbytes OBJECT-TYPE
           SYNTAX  Counter
           ACCESS  read-only
           STATUS  mandatory
           DESCRIPTION
                     "The number of kilobytes of messages transmitted
                     on the input queue relating to this channel."
           ::= { siteChanEntry 7 }

siteChanInThroughTable   OBJECT-TYPE
           SYNTAX          SiteChanInThroughTable
           ACCESS          not-accessible
```

```
        STATUS          mandatory
        DESCRIPTION
                "This macro documents the column that uniquely
                describes each row."
        ::= { siteChanEntry 8 }
```

4.5 Channel Incoming Throughput group

```
SiteChanInThroughTable ::=
  SEQUENCE {
        siteChanISAIn Counter,
        siteChanGSIn Counter,
        siteChanPublicIn Counter,
        siteChanSTIn Counter,
        }

siteChanISAIn OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of ISA messages received that are in the
                input queue relating to this channel."
        ::= { siteChanInThroughTable 1 }

siteChanGSIn OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of GS messages received that are in the
                input queue relating to this channel."
        ::= { siteChanInThroughTable 2 }

siteChanPublicIn OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of public messages received that are
                in the input queue relating to this channel."
        ::= { siteChanInThroughTable 3 }

siteChanSTIn OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of ST messages received that are
                in the input queue relating to this channel."
        ::= { siteChanInThroughTable 4 }
```

4.6 The Channel Output group

```
siteChanOutQueueLen OBJECT-TYPE
```

```
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of messages received that are in
                the output queue relating to this channel."
        ::= { siteChanEntry 9 }

siteChanOutKbytes OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of kilobytes transmitted on the
                output queue relating to this channel."
        ::= { siteChanEntry 10 }

siteChanOutThroughTable OBJECT-TYPE
        SYNTAX          SiteChanOutThroughTable
        ACCESS          not-accessible
        STATUS          mandatory
        DESCRIPTION
                "The table that shows the types of outgoing
                messages for the channel."
        ::= { siteChanEntry 11 }
```

4.7 The Outgoing Throughput group

```
SiteChanOutThroughTable ::=
  SEQUENCE {
        siteChanISAOut Counter,
        siteChanGSOut Counter,
        siteChanPublicOut Counter,
        siteChanSTOut Counter,
        }

siteChanISAOut OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of ISA messages received that are
                in the input queue relating to this channel."
        ::= { siteChanOutThroughTable 1 }

siteChanGSOut OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of GS messages received that are
                in the input queue relating to this channel."
        ::= { siteChanOutThroughTable 2 }

siteChanPublicOut OBJECT-TYPE
```

```
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of public messages received that are
                in the input queue relating to this channel."
        ::= { siteChanOutThroughTable 3 }

siteChanSTOut OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The number of ST messages received that are
                in the input queue relating to this channel."
        ::= { siteChanOutThroughTable 4 }
```

4.8 Channel Activity statistics

```
siteChanLastIn OBJECT-TYPE
        SYNTAX  TimeTicks
    ACCESS  read-only
    STATUS  mandatory
        DESCRIPTION
                "The time (in hundredths of a second) since the
            last message was placed in the input queue."
        ::= { siteChanEntry 12 }

siteChanLastOut OBJECT-TYPE
        SYNTAX  TimeTicks
    ACCESS  read-only
    STATUS  mandatory
        DESCRIPTION
                "The time (in hundredths of a second) since the
            last message was placed in the output queue."
        ::= { siteChanEntry 13 }

siteChanOldestOut OBJECT-TYPE
        SYNTAX  TimeTicks
    ACCESS  read-only
    STATUS  mandatory
        DESCRIPTION
                "The time (in hundredths of a second) that the
            oldest message has resided in the output queue."
        ::= { siteChanEntry 14 }
```

4.9 The Site Connection statistics group

```
siteConnectionTable         OBJECT-TYPE
        SYNTAX              SiteConnectionTable
        ACCESS              not-accessible
        STATUS              mandatory
        DESCRIPTION
                "This table describes the connections and connection
                attempts for this channel."
```

```
          ::= { siteChanEntry 15 }

SiteConnectionTable ::=
  SEQUENCE {
    siteConnLastIn TimeTicks,
    siteConnLastOut TimeTicks,
    siteConnLastFailedIn TimeTicks,
    siteConnLastFailedOut TimeTicks,
    siteConnIn Counter,
    siteConnOut Counter,
    siteConnFailedIn Counter,
    siteConnFailedOut Counter,
       }

siteConnLastIn OBJECT-TYPE
          SYNTAX  TimeTicks
      ACCESS  read-only
      STATUS  mandatory
          DESCRIPTION
                    "The time (in hundredths of a second) since the
               last successful inbound connection attempt."
          ::= { siteConnectionTable 1 }

siteConnLastOut OBJECT-TYPE
          SYNTAX  TimeTicks
      ACCESS  read-only
      STATUS  mandatory
          DESCRIPTION
                    "The time (in hundredths of a second) since the
               last successful outbound connection attempt."
          ::= { siteConnectionTable 2 }

siteConnLastFailedIn OBJECT-TYPE
          SYNTAX  TimeTicks
      ACCESS  read-only
      STATUS  mandatory
          DESCRIPTION
                    "The time (in hundredths of a second) since the
               last unsuccessful inbound connection attempt."
          ::= { siteConnectionTable 3 }

siteConnLastFailedOut OBJECT-TYPE
          SYNTAX  TimeTicks
      ACCESS  read-only
      STATUS  mandatory
          DESCRIPTION
                    "The time (in hundredths of a second) since the
               last unsuccessful outbound connection attempt."
          ::= { siteConnectionTable 4 }

siteConnIn OBJECT-TYPE
          SYNTAX  Counter
          ACCESS  read-only
          STATUS  mandatory
          DESCRIPTION
```

```
                "The total number of inbound connections received
            on this channel."
        ::= { siteConnectionTable 5 }

siteConnOut OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The total number of outbound connections recieved
            on this channel."
        ::= { siteConnectionTable 6 }

siteConnFailedIn OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The total number of failed inbound connection
            attempts on this channel."
        ::= { siteConnectionTable 7 }

siteConnFailedOut OBJECT-TYPE
        SYNTAX  Counter
        ACCESS  read-only
        STATUS  mandatory
        DESCRIPTION
                "The total number of failed outbound connection
            attempts on this channel."
        ::= { siteConnectionTable 8 }

END
```

5. References

[1] Rose M. and McCloghrie K., "Structure and Identification of Management Information for TCP/IP-based Internets", STD 16, RFC 1155, Performance Systems International, Hughes LAN Systems, May 1990.

[2] Rose M. and K. McCloghrie, Editors, "Concise MIB Definitions", STD 16, RFC 1212, Performance Systems International, Hughes LAN Systems, March 1991.

[3] McCloghrie K. and Rose M., Editors, "Management Information Base for Network Management of TCP/IP-based Internets", STD 17, RFC 1213, Performance Systems International, March 1991.

[4] Case J., Fedor M., Schoffstall M., and Davin J., "Simple Network Management Protocol", STD 15, RFC 1157, SNMP Research, Performance Systems International, Performance Systems International, MIT Laboratory for Computer Science, May 1990.

6. Security Considerations

Security issues are not discussed in this memo.

7. Authors' Addresses

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