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Electronic Data Interchange MIB (EDIMIB)
Version 1

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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.

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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,
 siteChanGSOOut 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 }

siteChanGSOOut 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 received
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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