ISO/CCITT and Internet Management Coexistence (IIMC):

Translation of Internet MIB-II (RFC1213) to ISO/CCITT GDMO MIB

(IIMCMIB-II)

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Status of this Memo

This document provides information to the network and systems management community. This document is intended as a contribution to ongoing work in the area of multi-protocol management coexistence and interworking. This document is part of a package; see also [IIMCOMIBTRANS] [IIMCIMIBTRANS] [IIMCPROXY] and [IIMCSEC]. Distribution of this document is unlimited. Comments should be sent to the Network Management Forum IIMC working group (iimc@thumper.bellcore.com).

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Abstract

This document is intended to facilitate the multi-protocol management coexistence and interworking for networks that are managed using the ISO/CCITT Common Management Information Protocol (CMIP) and networks that are managed using the Internet Simple Network Management Protocol (SNMP). This document contains the ISO/CCITT GDMO definition and registration of MIB-II as derived from the Internet MIB-II [14], according to the procedures defined in "Translation of Internet MIBs to ISO/CCITT GDMO MIBs" [19]. In addition, this document includes a translated IPForwarding Table as derived from the Internet definition in [15].

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REVISION HISTORY

Issue 1.0, October 1993

This is the first issue of this document. The internet draft <draft-labarre-iimc-mibii-04>, dated February, 1994, is identical in content to Issue 1.0, October 1993. It has been reformatted for posting as an internet draft.

1. INTRODUCTION

This section provides an overview of ISO/CCITT and Internet Management Coexistence (IIMC) activities, insight into the problem being addressed by IIMC, and a brief introduction to the strategy adopted by IIMC: use of translated MIBs in either a proxy or native implementation. The section concludes by describing the scope of this document, and terms and conventions used by this document.

1.1 PROBLEM STATEMENT

The need for enterprise network management has been addressed by development of network management standards within various communities, most notably the ISO/CCITT and Internet communities.

* The ISO/CCITT community developed the Common Management

Information Protocol (CMIP) [5], and related SMI documents [7,8,9].

* The Internet community developed the Simple Network Management Protocol (SNMP) [12], and its successor, SNMPv2 [18]. The Internet SMI is defined in [11] and [17].

These standards share a nearly common management model, but diverge due to differing management philosophies. Although functionally similar, the Internet and ISO/CCITT protocols and SMIs differ in terms of their complexity and specific operations. Business requirements for end-to-end enterprise management include the need to integrate the management of many different devices, potentially owned or administered by many independent organizations. This requires components to be accessed by ISO/CCITT management, Internet management, and proprietary management mechanisms in a manner which presents a unified view of the network, despite protocol and SMI differences.

For example, many telecommunications and computer vendors, represented by organizations such as the Network Management Forum (NMF), and the U.S. government, as specified in the Government Network Management Profile (GNMP) Version 1.0 [24], have based their enterprise management model on the ISO/CCITT management model. These organizations are particularly interested in integrated management of devices that use the Internet management. This interest is primarily due to the widespread commercial implementation and use of

such devices, especially devices that use the Internet TCP/IP protocol suite.

1.2 OVERVIEW OF IIMC

The ISO/CCITT and Internet Management Coexistence (IIMC) package includes the following documents.

IIMCIMIBTRANS Translation of Internet MIBs to ISO/CCITT GDMO MIBs [19]

IIMCOMIBTRANS	Translation of ISO/CCITT GDMO MIBs to Internet MIBs [22]
IIMCMIB-II	Translation of Internet MIB-II (RFC1213) to ISO/CCITT GDMO MIB
IIMCPROXY	ISO/CCITT to Internet Management Proxy [20]
IIMCSEC	ISO/CCITT to Internet Management Security[21]

These documents together comprise a package aimed at integrating ISO/CCITT-based and Internet-based management systems.

IIMC specifications address the problem that end-to-end management requires an integrated, unified view of the managed network, despite differences in management protocol and information structure. Integrated management can be facilitated by the development of "proxy" mechanisms which translate between functionally equivalent service, protocol, and SMI differences to create this unified view. MIB translation procedures can be used to support proxy management, as well as to take advantage of existing MIB definition and avoid duplication of effort. In this way, commercial investment in both ISO/CCITT and Internet-based management technologies can be preserved through deployment of common methods and tools which support integration.

This overall strategy was outlined in a joint publication developed by the NM Forum and X/Open entitled "ISO/CCITT and Internet Management: Coexistence and Interworking Strategy" [23]. The documents included in the IIMC package are the next level of detailed specifications which implement several of the methodologies identified in the strategy. Additional specifications may be defined in the future.

1.3 MIB TRANSLATION PROCEDURES

The foundation of IIMC is provided by a pair of Management

Information Base (MIB) translation procedures.

* IIMCIMIBTRANS [19] specifies translation procedures for converting MIBs from Internet MIB macro format into ISO/CCITT GDMO template format.

* IIMCOMIBTRANS [22] specifies translation procedures for converting MIBs from ISO/CCITT GDMO template format into Internet MIB macro format.

The IIMC approach is to specify direct translation procedures which yield a pair of functionally-equivalent MIBs, as shown in Figure 1.

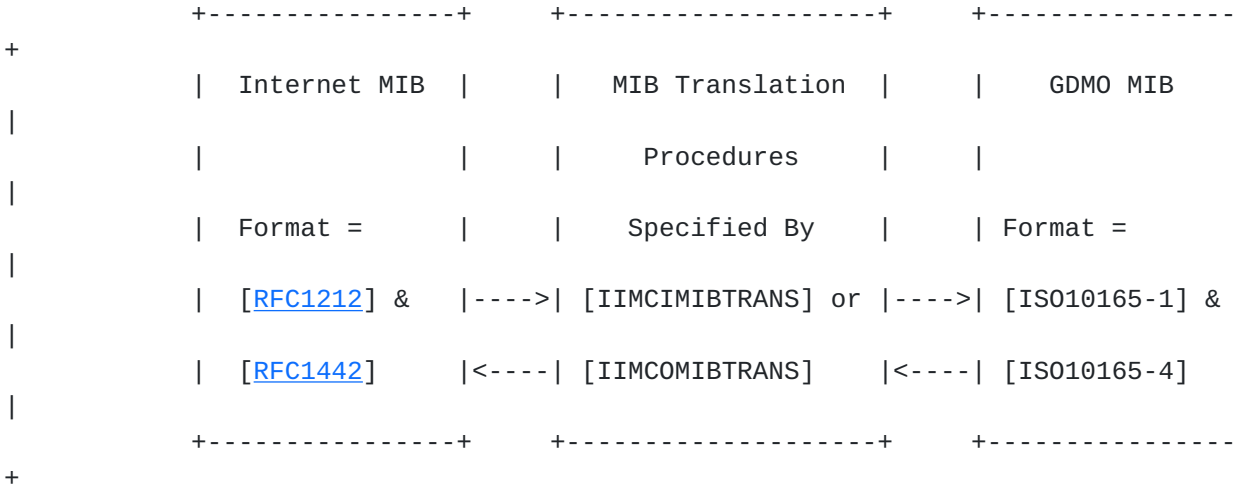


Figure 1. MIB translation.

MIBs translated by these procedures may be used to take advantage of existing MIB definitions when business needs require deployment in a different management environment. Translated MIBs may also be used to provide uniformity when multiple management environments are supported by a single system (e.g., dual stack managers). Finally, IIMC MIB translation procedures may be used to support service emulation by a proxy.

1.4 NATIVE MANAGEMENT MODEL

The basic model for ISO/CCITT and Internet management is illustrated in the following diagram.

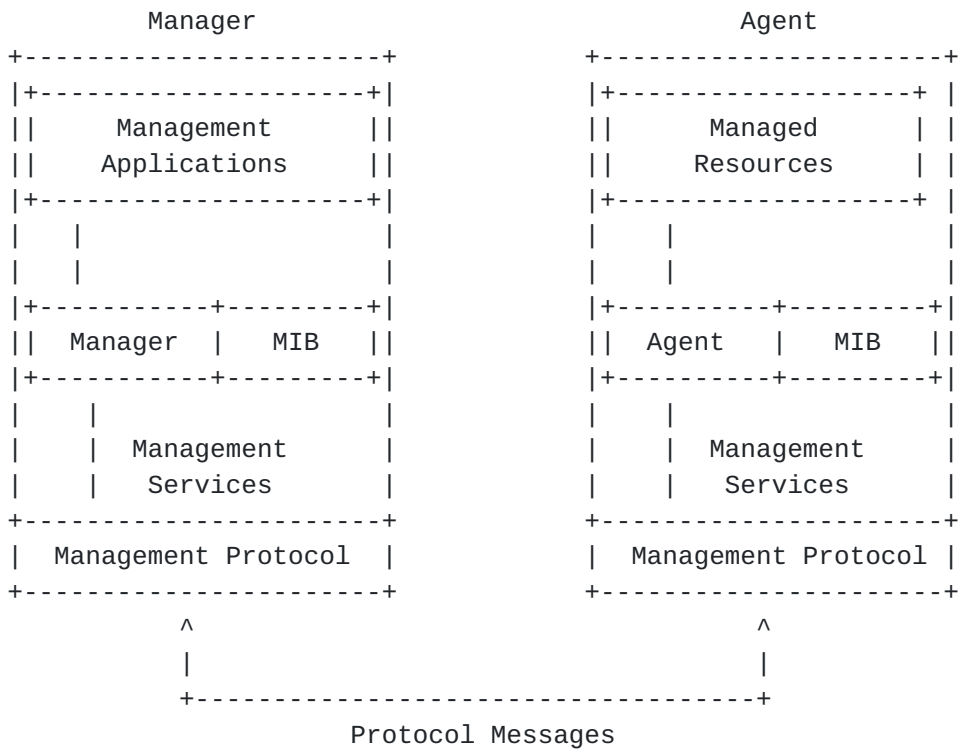
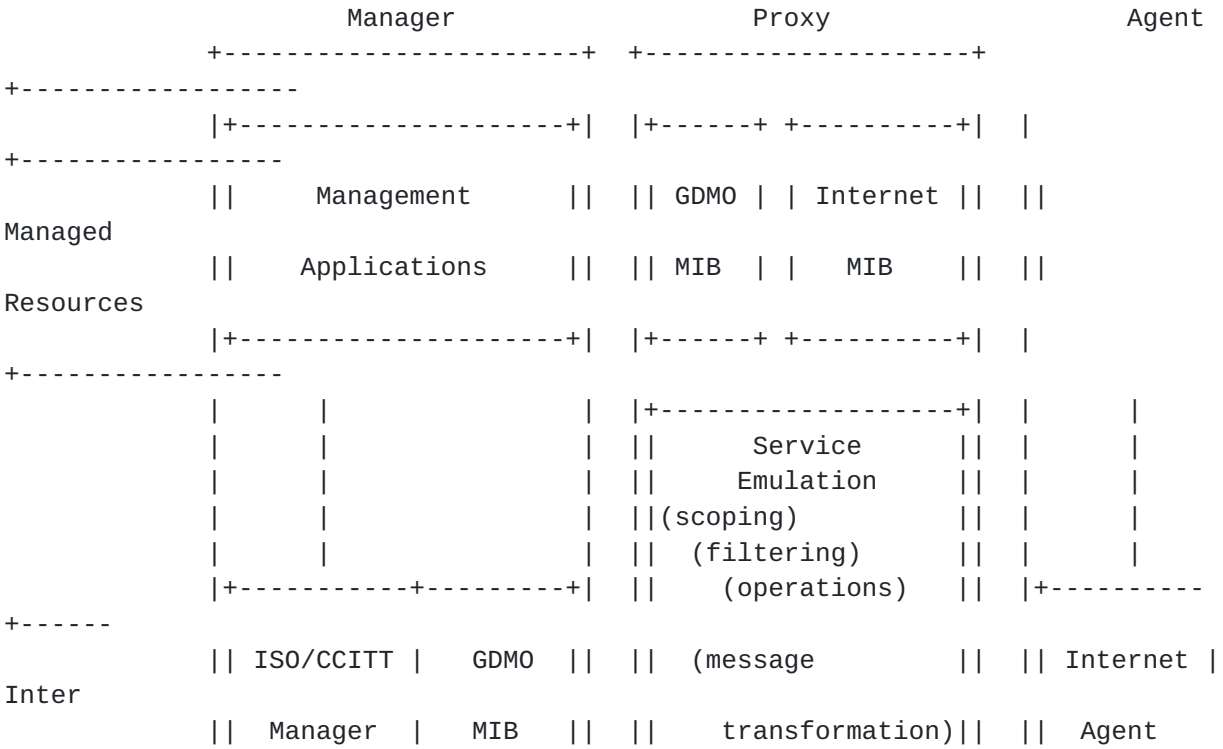


Figure 2. Native management.

Within IIMC documents, this model is referred to as the "native" management model. MIBs translated using IIMC procedures can be used by "native" agent implementations. For example, an ISO/CCITT agent can make visible TCP/IP managed resources using the translated GDMO version of the Internet MIB-II [14] specified by [19]. Dual-stack managers or agents may also be implemented which support both the original MIB and the translated MIB generated using IIMC-specified procedures.

1.5 PROXY MANAGEMENT MODEL

The basic model for ISO/CCITT to Internet proxy management is illustrated in the following diagram. This proxy is specified by [20]. A similar approach could also be taken to specify an Internet to ISO/CCITT proxy, although no such IIMC document is currently specified.



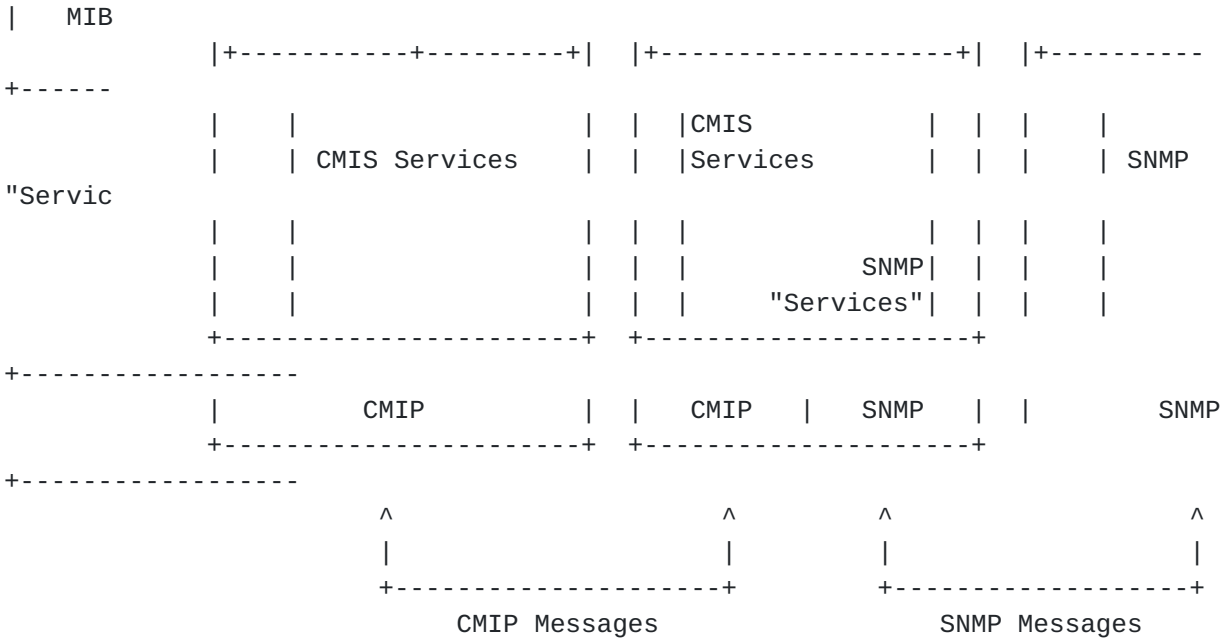


Figure 3. Proxy management.

This ISO/CCITT to Internet proxy provides emulation of CMIS services by mapping to the corresponding SNMP message(s) necessary to carry out the service request. The service emulation allows management of Internet objects by an ISO/CCITT manager. The left hand side of the proxy behaves like an ISO/CCITT agent, communicating with the ISO/CCITT manager using CMIP protocols. The right hand side of the proxy behaves like an Internet manager, communicating with the Internet agent using SNMP protocols.

The proxy relies on the existence of a pair of directly-related MIB definitions, where the Internet MIB has been translated into ISO/CCITT GDMO using the procedures specified in IIMCIMIBTRANS. The proxy uses these MIB definitions and rules to provide run-time translation of

management information carried in service requests and responses.

The proxy is designed with a specified interface between the proxy and the underlying protocol stacks, and so deals primarily in terms of CMIS services and SNMP "services". The proxy emulates services such as CMIS scoping and filtering,

processing of CMIP operations, and forwarding/logging of CMIS notifications by performing a mapping process which must be tailored for each protocol (for example, SNMPv1 and SNMPv2 are variants of the same protocol mapping process).

1.6 SCOPE OF THIS DOCUMENT

A major reason for the rapid commercialization of devices manageable via the Internet management protocol is due to the speed with which the vendors in the Internet community have been able to develop MIBs based on the Internet SMI. To capitalize on this continuing Internet MIB development and their deployment in commercial devices, communities interested in integrated management via CMIP/SNMP proxies, and communities interested in using native CMIP agents to manage TCP/IP resources, require the translation of Internet MIBs defined according to the Internet Structure of Management Information (SMI) [11] [17] into MIBs defined according to the ISO SMI [7] and Guidelines for the Definition of Managed Objects (GDMO) [9]. Procedures for such translations are described in [19].

This document (IIMCMIB-II) applies the procedures described in [19] to the translation and registration of the Internet MIB-II as defined in [14], and to the IP Forwarding Table defined in [15].

This document assumes that the reader is familiar with the ISO/CCITT SMI and terminology as well as the Internet to SMI translation defined in [19].

1.7 TERMS AND CONVENTIONS

This document assumes that the reader is familiar with the ISO/CCITT SMI and Internet SMI, and the terminology of each. The term SNMP will be used throughout the document to indicate either SNMPv1 or SNMPv2, unless a distinction needs to be made.

Other terms and conventions used throughout this document include the following.

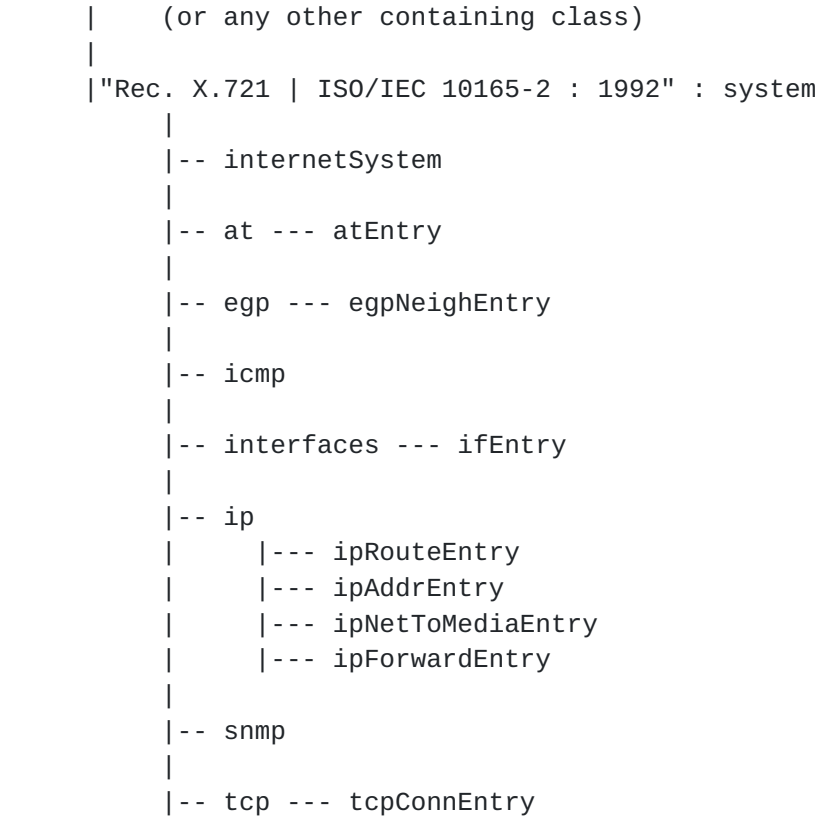
Proxy: An intermediate process that provides protocol and SMI translation between two management services and SMIs.

2. IIMCMIB-II MIB

The Internet MIB-II objects [14] are recast into ISO/CCITT GDMO templates as defined in [9], and registered, using the procedures defined in [19].

Name Binding templates that define the containment hierarchy for the ISO/CCITT MIB-II managed object classes are listed. A proxy implementation would have multiple instances of the ISO/CCITT system managed object, one for each Internet agent, and one for the proxy itself.

A Naming Tree diagram for IIMC MIB-II managed object classes is illustrated below.



```
          |
          |-- udp --- udpEntry
```

The GDMO templates and ASN.1 modules are included here in one section to facilitate automated processing. Comments and subsection headers are included in the form of ASN.1 comments, i.e., preceded by "--".

This document (IIMCMIB-II) is allocated the following registration identifier for purposes of referencing material contained herein.


```
               iimcRFC12131354 OBJECT IDENTIFIER
                ::= {iimcAutoDocument 1213 1354}


-- 2.1  IIMCMIB-II GDMO TEMPLATES


-- 2.1.1  IIMCMIB-II Managed Object Classes


at  MANAGED OBJECT CLASS
    DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
    CHARACTERIZED BY
          atPkg PACKAGE
                   BEHAVIOUR
          atPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the at group
          with object id {mib-2 3} in RFC1213.!!;
          DESCRIPTION
          !!Note however that this group is deprecated by
          MIB-II. That is, it is being included solely for
          compatibility with MIB-I nodes, and will most
          likely be excluded from MIB-III nodes. From MIB-II
          and onwards, each network protocol group contains
          its own address translation tables.

          The Address Translation group contains one table
          which is the union across all interfaces of the
```

```
          translation tables for converting a NetworkAddress
          (e.g., an IP address) into a subnetwork-specific
          address. For lack of a better term, this document
          refers to such a subnetwork-specific address as a
          `physical' address.

          Examples of such translation tables are: for
          broadcast media where ARP is in use, the
          translation table is equivalent to the ARP cache;
          or, on an X.25 network where non-algorithmic
          translation to X.121 addresses is required, the
          translation table contains the NetworkAddress to
          X.121 address equivalences.!!;
          ENDPARSE!;;
          ATTRIBUTES
          atId GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 3 };

atEntry  MANAGED OBJECT CLASS
    DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
         CHARACTERIZED BY
              atEntryPkg PACKAGE
```



```
                   BEHAVIOUR
          atEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to atEntry object
          with object id {atTable 1} in RFC1213.!!;
          DESCRIPTION
          !!Each entry contains one NetworkAddress to
          `physical' address equivalence. The delete value
          is the null string.!!;
          INDEX     RFC1213-MIB.atIfIndex,
               RFC1213-MIB.atNetAddress;
          ENDPARSE!;;
          ATTRIBUTES
          atEntryId           GET,
          atIfIndex           GET,
          atPhysAddress       GET-REPLACE,
          atNetAddress        GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 3 1 1 };
```

```
egp MANAGED OBJECT CLASS
     DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
          CHARACTERIZED BY
               egpPkg PACKAGE
                   BEHAVIOUR
          egpPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to egp group with
          object id {mib-2 8} in RFC 1213.!!;
          ENDPARSE!;;
          ATTRIBUTES
           egpId         GET,
           egpInMsgs     GET,
           egpInErrors   GET,
           egpOutMsgs    GET,
           egpOutErrors  GET,
           egpAs         GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 8 };

egpNeighEntry MANAGED OBJECT CLASS
     DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
          CHARACTERIZED BY
               egpNeighEntryPkg PACKAGE
                   BEHAVIOUR
          egpNeighEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to egpNeighEntry
          object with object id {egpNeighTable 1} in RFC
          1213.!!;
```



```
          DESCRIPTION
          !!Information about this entity's relationship
          with a particular EGP neighbor.!!;
          INDEX RFC1213-MIB.egpNeighAddr;
          ENDPARSE!;;
          ATTRIBUTES
     egpNeighEntryId     GET,
     egpNeighState       GET,
     egpNeighAddr        GET,
     egpNeighAs          GET,
```

```
     egpNeighInMsgs      GET,
     egpNeighInErrs      GET,
     egpNeighOutMsgs     GET,
     egpNeighOutErrs     GET,
     egpNeighInErrMsgs   GET,
     egpNeighOutErrMsgs  GET,
     egpNeighStateUps    GET,
     egpNeighStateDowns       GET,
     egpNeighIntervalHello    GET,
     egpNeighIntervalPoll     GET,
     egpNeighMode             GET,
     egpNeighEventTrigger     GET-REPLACE;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 };

icmp MANAGED OBJECT CLASS
     DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
          CHARACTERIZED BY
          icmpPkg PACKAGE
               BEHAVIOUR
          icmpPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the icmp group
          with object id {mib-2 5} in RFC 1213.!!;
          ENDPARSE!;;
          ATTRIBUTES
          icmpId                        GET,
          icmpInMsgs                    GET,
          icmpInErrors                  GET,
          icmpInDestUnreachs            GET,
          icmpInTimeExcds               GET,
          icmpInParmProbs               GET,
          icmpInSrcQuenchs              GET,
          icmpInRedirects               GET,
          icmpInEchos                   GET,
          icmpInEchoReps                GET,
          icmpInTimestamps              GET,
          icmpInTimestampReps           GET,
          icmpInAddrMasks               GET,
          icmpInAddrMaskReps            GET,
          icmpOutMsgs                   GET,
          icmpOutErrors                 GET,
          icmpOutDestUnreachs           GET,
```

```
          icmpOutTimeExcds              GET,
          icmpOutParmProbs              GET,
          icmpOutSrcQuenchs             GET,
          icmpOutRedirects              GET,
          icmpOutEchos                  GET,
          icmpOutEchoReps               GET,
          icmpOutTimestamps             GET,
          icmpOutTimestampReps          GET,
          icmpOutAddrMasks              GET,
          icmpOutAddrMaskReps           GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 5 };

ifEntry   MANAGED OBJECT CLASS
     DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
          CHARACTERIZED BY ifEntryPkg PACKAGE
     BEHAVIOUR
          ifEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the ifEntry
          object with object id {ifTable 1} in RFC 1213.!!;
          DESCRIPTION
          !!An interface entry containing objects at the
          subnetwork layer and below for a particular
          interface. The Interfaces table contains
          information on the entity's interfaces.  Each
          interface is thought of as being attached to a
          `subnetwork'.  Note that this term should not be
          confused with `subnet' which refers to an
          addressing partitioning scheme used in the
          Internet suite of protocols.!!;
          INDEX RFC1213-MIB.ifIndex;
          ENDPARSE!;;
          ATTRIBUTES
     ifEntryId           GET,
     ifIndex             GET,
     ifDescr             GET,
     ifType              GET,
     ifMtu               GET,
     ifSpeed             GET,
     ifPhysAddress       GET,
     ifAdminStatus       GET-REPLACE,
     ifOperStatus        GET,
     ifLastChange        GET,
     ifInOctets          GET,
     ifInUcastPkts       GET,
     ifInNUcastPkts      GET,
     ifInDiscards        GET,
     ifInErrors          GET,
```

```
     ifInUnknownProtos   GET,
     ifOutOctets         GET,
     ifOutUcastPkts      GET,
     ifOutNUcastPkts     GET,
```



```
     ifOutDiscards       GET,
     ifOutErrors         GET,
     ifOutQLen           GET,
     ifSpecific          GET;;;
REGISTERED AS  {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 };

interfaces MANAGED OBJECT CLASS
     DERIVED FROM  "Rec. X.721 | ISO/IEC 10165-2:1992":top;
          CHARACTERIZED BY interfacesPkg PACKAGE BEHAVIOUR
     interfacesPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the interface
          group with object id {mib-2 2} in RFC 1213.!!;
          ENDPARSE!;;
          ATTRIBUTES
          interfacesId        GET,
          ifNumber            GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 2 };

internetSystem MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY internetSystemPkg PACKAGE
     BEHAVIOUR
     internetSystemPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the Internet
          system group with object id {mib-2 1} in RFC
          1213.!!;
          DESCRIPTION
          !!If an agent is not configured to have a value
          for any of these variables, a string of length 0
          is returned.

          When this object class is implemented in a managed
          system for use with the ISO/CCITT management
```

```
          protocol (CMIP), this object class shall emit the
          internetAlarm notification in place of SNMP
          traps/notifications which are reported using the
          unconfirmed service, and in place of
          InformRequests which are reported using the
          confirmed service.

          When this object class is implemented in an
          ISO/CCITT-Internet proxy, the internetAlarm shall
          be emitted upon receipt of SNMP
          traps/notifications which are reported using the
          unconfirmed service, and emitted upon receipt of
          InformRequests which are reported using the
          confirmed service.!!;
          ENDPARSE!;;
```



```
          ATTRIBUTES
     internetSystemId              GET,
     sysDescr                      GET,
     sysObjectID                   GET,
     sysUpTime                     GET,
     sysContact                    GET-REPLACE,
     sysName                       GET-REPLACE,
     sysLocation                   GET-REPLACE,
     sysServices                   GET;
     NOTIFICATIONS
     {iimcIIMCIMIBTRANS}:internetAlarm;;;
REGISTERED AS   {iimcAutoObjAndAttr 1 3 6 1 2 1 1};

ip MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY ipPkg PACKAGE
     BEHAVIOUR
     ipPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the ip group
          with object id {mib-2 4} in RFC 1213. It includes
          the ipForwardNumber attribute from RFC1354.!!;
          DESCRIPTION
          !!This object class extends the MIB-II ip group by
          including the ipForwardNumber attribute which is
          derived from the ipForwardNumber Internet object
```

```
          in RFC1354.!!;
          ENDPARSE!;;
     ATTRIBUTES
          ipId                          GET,
          ipForwarding                  GET-REPLACE,
          ipDefaultTTL                  GET-REPLACE,
          ipInReceives                  GET,
          ipInHdrErrors                 GET,
          ipInAddrErrors                GET,
          ipForwDatagrams               GET,
          ipInUnknownProtos             GET,
          ipInDiscards                  GET,
          ipInDelivers                  GET,
          ipOutRequests                 GET,
          ipOutDiscards                 GET,
          ipOutNoRoutes                 GET,
          ipReasmTimeout                GET,
          ipReasmReqds                  GET,
          ipReasmOKs                    GET,
          ipReasmFails                  GET,
          ipFragOKs                     GET,
          ipFragFails                   GET,
          ipFragCreates                 GET,
          ipRoutingDiscards             GET,
          ipForwardNumber               GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 4};
```



```
ipAddrEntry MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY ipAddrEntryPkg PACKAGE
     BEHAVIOUR
     ipAddrEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the
          ipAddrEntry object with object id {ipAddrTable 1}
          in RFC 1213.!!;
          DESCRIPTION
          !!The addressing information for one of this
          entity's IP addresses.!!;
          INDEX RFC1213-MIB.ipAdEntAddr;
          ENDPARSE!;;
```

```
          ATTRIBUTES
     ipAddrEntryId            GET,
     ipAdEntAddr              GET,
     ipAdEntIfIndex           GET,
     ipAdEntNetMask           GET,
     ipAdEntBcastAddr         GET,
     ipAdEntReasmMaxSize      GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1};

ipForwardEntry  MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY ipForwardEntryPkg PACKAGE
     BEHAVIOUR
     ipForwardEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the
          ipForwardEntry with object id {ipForwardTable 1}
          in RFC 1354.!!;
          DESCRIPTION
          !!A particular route to a particular destination,
          under a particular policy.!!;
          INDEX   RFC1354-MIB.ipForwardDest,
                  RFC1354-MIB.ipForwardProto,
                  RFC1354-MIB.ipForwardPolicy,
                  RFC1354-MIB.ipForwardNextHop;
          ENDPARSE!;;
          ATTRIBUTES
     ipForwardEntryId         GET,
     ipForwardDest            GET,
     ipForwardMask            DEFAULT VALUE
                 IIMCRFC12131354ASN1.c-ipForwardMask
                 GET-REPLACE,
     ipForwardPolicy          GET,
     ipForwardNextHop         GET,
     ipForwardIfIndex         DEFAULT VALUE
```



```
                 IIMCRFC12131354ASN1.c-ipForwardIfIndex
                 GET-REPLACE,
     ipForwardType            DEFAULT VALUE
                 IIMCRFC12131354ASN1.c-ipForwardType
                 GET-REPLACE,
     ipForwardProto           GET,
```

```
     ipForwardAge             DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardAge
               GET,
     ipForwardInfo            DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardInfo
               GET-REPLACE,
     ipForwardNextHopAS       DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardNextHopAS
               GET-REPLACE,
     ipForwardMetric1         DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardMetric1
               GET-REPLACE,
     ipForwardMetric2         DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardMetric2
               GET-REPLACE,
     ipForwardMetric3         DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardMetric3
               GET-REPLACE,
     ipForwardMetric4         DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardMetric4
               GET-REPLACE,
     ipForwardMetric5         DEFAULT VALUE
               IIMCRFC12131354ASN1.c-ipForwardMetric5
               GET-REPLACE;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2 1};

ipNetToMediaEntry       MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY ipNetToMediaEntryPkg PACKAGE
     BEHAVIOUR
     ipNetToMediaEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the
          ipNetToMediaEntry object with object id
          {ipNetToMediaTable 1} in RFC 1213.!!;
          DESCRIPTION
          !!Each entry contains one IpAddress to `physical'
          address equivalence.!!;
          INDEX     RFC1213-MIB.ipNetToMediaIfIndex,
               RFC1213-MIB.ipNetToMediaNetAddress;
          ENDPARSE!;;
          ATTRIBUTES
     ipNetToMediaEntryId      GET,
     ipNetToMediaIfIndex      GET,
     ipNetToMediaPhysAddress  GET-REPLACE,
     ipNetToMediaNetAddress   GET,
```

```
     ipNetToMediaType         GET-REPLACE;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 4 22 1};

ipRouteEntry MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY ipRouteEntryPkg PACKAGE
     BEHAVIOUR ipRouteEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the
          ipRouteEntry object with object id {ipRouteTable
          1} in RFC 1213.!!;
          DESCRIPTION
          !!A route to a particular destination.!!;
          INDEX RFC1213-MIB.ipRouteDest;
          ENDPARSE!;;
     ATTRIBUTES
     ipRouteEntryId           GET,
     ipRouteDest              GET,
     ipRouteIfIndex           GET-REPLACE,
     ipRouteMetric1           GET-REPLACE,
     ipRouteMetric2           GET-REPLACE,
     ipRouteMetric3           GET-REPLACE,
     ipRouteMetric4           GET-REPLACE,
     ipRouteNextHop           GET-REPLACE,
     ipRouteType              GET-REPLACE,
     ipRouteProto             GET,
     ipRouteAge               GET-REPLACE,
     ipRouteMask              GET-REPLACE,
     ipRouteMetric5           GET-REPLACE,
     ipRouteInfo              GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1};

snmp MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY
     snmpPkg PACKAGE
     BEHAVIOUR snmpPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the snmp group
          with object id {mib-2 11} in RFC 1213.!!;
          DESCRIPTION
          !!Some of the attributes defined below will be
```

```
          zero-valued in those SNMP implementations that are
          optimized to support only those functions specific
          to either a management agent or a management
          station. In particular, it should be observed that
          the attributes below refer to an SNMP entity, and
          there may be several SNMP entities residing on a
          managed node (e.g., if the node is hosting acting
          as a management station).!!;
```



```
          ENDPARSE!;;
          ATTRIBUTES
     snmpId                   GET,
     snmpInPkts               GET,
     snmpOutPkts              GET,
     snmpInBadVersions        GET,
     snmpInBadCommunityNames  GET,
     snmpInBadCommunityUses   GET,
     snmpInASNParseErrs       GET,
     snmpInTooBigs            GET,
     snmpInNoSuchNames        GET,
     snmpInBadValues          GET,
     snmpInReadOnlys          GET,
     snmpInGenErrs            GET,
     snmpInTotalReqVars       GET,
     snmpInTotalSetVars       GET,
     snmpInGetRequests        GET,
     snmpInGetNexts           GET,
     snmpInSetRequests        GET,
     snmpInGetResponses       GET,
     snmpInTraps              GET,
     snmpOutTooBigs           GET,
     snmpOutNoSuchNames       GET,
     snmpOutBadValues         GET,
     snmpOutGenErrs           GET,
     snmpOutGetRequests       GET,
     snmpOutGetNexts          GET,
     snmpOutSetRequests       GET,
     snmpOutGetResponses      GET,
     snmpOutTraps             GET,
     snmpEnableAuthenTraps    GET-REPLACE;;;
REGISTERED AS  {iimcAutoObjAndAttr 1 3 6 1 2 1 11};

tcp MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
```

```
     CHARACTERIZED BY
     tcpPkg PACKAGE
     BEHAVIOUR
     tcpPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the tcp group
          with object id {mib-2 6} in RFC 1213.!!;
          DESCRIPTION
          !!Note that instances that represent information
          about a particular TCP connection are transient;
          they persist only as long as the connection in
          question.!!;
          ENDPARSE!;;
          ATTRIBUTES
     tcpId                    GET,
     tcpRtoAlgorithm          GET,
     tcpRtoMin                GET,
```



```
     tcpRtoMax                GET,
     tcpMaxConn               GET,
     tcpActiveOpens           GET,
     tcpPassiveOpens          GET,
     tcpAttemptFails          GET,
     tcpEstabResets           GET,
     tcpCurrEstab             GET,
     tcpInSegs                GET,
     tcpOutSegs               GET,
     tcpRetransSegs           GET,
     tcpInErrs                GET,
     tcpOutRsts               GET;;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 6 };

tcpConnEntry MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY tcpConnEntryPkg PACKAGE
     BEHAVIOUR
     tcpConnEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the
          tcpConnEntry object with object id {tcpConnTable
```

```
          1} in RFC 1213.!!;
          DESCRIPTION
          !!Information about a particular current TCP
          connection. An object of this type is transient,
          in that it ceases to exist when (or soon after)
          the connection makes the transition to the CLOSED
          state.!!;
          INDEX     RFC1213-MIB.tcpConnLocalAddress,
               RFC1213-MIB.tcpConnLocalPort,
               RFC1213-MIB.tcpConnRemAddress,
               RFC1213-MIB.tcpConnRemPort;
          ENDPARSE!;;
     ATTRIBUTES
     tcpConnEntryId               GET,
     tcpConnState                 GET-REPLACE,
     tcpConnLocalAddress          GET,
     tcpConnLocalPort             GET,
     tcpConnRemAddress            GET,
     tcpConnRemPort               GET;;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1};

udp MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
     CHARACTERIZED BY udpPkg PACKAGE
     BEHAVIOUR
     udpPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```



```
          !!This managed object class maps to the udp group
          with object id {mib-2 7} in RFC 1213.!!;
          ENDPARSE!;;
          ATTRIBUTES
     udpId                    GET,
     udpInDatagrams           GET,
     udpNoPorts               GET,
     udpInErrors              GET,
     udpOutDatagrams          GET;;;
REGISTERED AS  { iimcAutoObjAndAttr 1 3 6 1 2 1 7};

udpEntry MANAGED OBJECT CLASS
     DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2:1992":top;
```

```
     CHARACTERIZED BY udpEntryPkg PACKAGE
     BEHAVIOUR
     udpEntryPkgBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This managed object class maps to the udpEntry
          object with object id {udpTable 1} in RFC 1213.!!;
          DESCRIPTION
          !!Information about a particular current UDP
          listener. The UDP listener table contains
          information about this entity's UDP end-points on
          which a local application is currently accepting
          datagrams.!!;
          INDEX     RFC1213-MIB.udpLocalAddress,
               RFC1213-MIB.udpLocalPort;
          ENDPARSE!;;
     ATTRIBUTES
     udpEntryId                    GET,
     udpLocalAddress               GET,
     udpLocalPort                  GET;;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 7 5 1};


-- 2.1.2  IIMCMIB-II Attributes


atEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.AtEntryIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          atEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class atEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 3 1 1};

atId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.AtIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
```



```
          atIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class at.!;;
```

```
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 3};

atIfIndex ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
          BEHAVIOUR
          atIfIndexBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to atIfIndex with object id
          {atEntry 1} in RFC1213.;!!
          DESCRIPTION
          !!The interface on which this entry's equivalence
          is effective. The interface identified by a
          particular value of this index is the same
          interface as identified by the same value of
          ifIndex.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 3  1 1 1};

atNetAddress ATTRIBUTE
     DERIVED FROM  {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          atNetAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to atNetAddress with object
          id {atEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The NetworkAddress (e.g., the IP address)
          corresponding to the media-dependent `physical'
          address.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 3  1 1 3};

atPhysAddress ATTRIBUTE
     DERIVED FROM  {iimcIIMCIMIBTRANS}:physAddress;
     BEHAVIOUR
          atPhysAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to atPhysAddress with object
          id {atEntry 2} in RFC1213.!!;
          DESCRIPTION
          !!The media-dependent `physical' address. Setting
          this attribute to a null string (one of zero
          length) has the effect of invalidating the
          corresponding atEntry. That is, it effectively
```

```
          disassociates the interface identified with said
          entry from the mapping identified with said entry.
          It is an implementation-specific matter as to
          whether the agent removes an invalidated entry
          from the table. Accordingly, management stations
          must be prepared to receive tabular information
          from agents that corresponds to entries not
          currently in use. Proper interpretation of such
          entries requires examination of the relevant
          atPhysAddress attribute.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 3  1 1 2};

egpAs   ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpAsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpAs with object id {egp
          6} in RFC1213.!!;
          DESCRIPTION
          !!The autonomous system number of this EGP
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 6};

egpId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.EgpIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          egpIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class egp.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 8};

egpInErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}:counter32;
          BEHAVIOUR
          egpInErrorsBehaviour BEHAVIOUR
          DEFINED AS
```

```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpInErrors with object
          id {egp 2} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP messages received that proved
          to be in error.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 2};

egpInMsgs  ATTRIBUTE
```



```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpInMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpInMsgs with object id
          {egp 1} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP messages received without
          error.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 1};

egpNeighAddr    ATTRIBUTE
     DERIVED FROM  {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          egpNeighAddrBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighAddr with object
          id {egpNeighEntry 2} in RFC1213.!!;
          DESCRIPTION
          !!The IP address of this entry's EGP neighbor.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 2};

egpNeighAs      ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
```

```
          egpNeighAsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighAs with object id
          {egpNeighEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The autonomous system of this EGP peer. Zero
          should be specified if the autonomous system
          number of the neighbor is not yet known.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 3};

egpNeighEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.EgpNeighEntryIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          egpNeighEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
egpNeighEntry.!;;
```



```
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 8 5 1};

egpNeighEventTrigger    ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.EgpNeighEventTrigger;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpNeighEventTriggerBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighEventTrigger with
          object id {egpNeighEntry 15} in RFC1213.!!;
          DESCRIPTION
          !!A control variable used to trigger operator-
          initiated Start and Stop events. When read, this
          variable always returns the most recent value that
          egpNeighEventTrigger was set to. If it has not
          been set since the last initialization of the
          network management subsystem on the node, it
          returns a value of `stop'.
```

```
          When set, this variable causes a Start or Stop
          event on the specified neighbor, as specified on
          pages 8-10 of RFC 904. Briefly, a Start event
          causes an Idle peer to begin neighbor acquisition
          and a non-Idle peer to reinitiate neighbor
          acquisition. A stop event causes a non-Idle peer
          to return to the Idle state until a Start event
          occurs, either via egpNeighEventTrigger or
          otherwise.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 15};

egpNeighInErrMsgs       ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighInErrMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighInErrMsgs with
          object id {egpNeighEntry 8} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP-defined error messages
          received from this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 8};

egpNeighInErrs  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighInErrsBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighInErrs with
          object id {egpNeighEntry 5} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP messages received from this
          EGP peer that proved to be in error (e.g., bad EGP
          checksum).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 5};
```

```
egpNeighInMsgs  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighInMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighInMsgs with
          object id {egpNeighEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP messages received without
          error from this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 4};

egpNeighIntervalHello   ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpNeighIntervalHelloBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the egpNeighIntervalHello
          with object id {egpNeighEntry 12} in RFC1213.!!;
          DESCRIPTION
          !!The interval between EGP Hello command
          retransmissions (in hundredths of a second). This
          represents the t1 timer as defined in RFC 904.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 12};

egpNeighIntervalPoll    ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpNeighIntervalPollBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighIntervalPoll with
          object id {egpNeighEntry 13} in RFC1213.!!;
          DESCRIPTION
```

```
          !!The interval between EGP poll command
          retransmissions (in hundredths of a second). This
          represents the t3 timer as defined in RFC 904.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 13};

egpNeighMode    ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.EgpNeighMode;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpNeighModeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE !!This attribute maps to egpNeighMode
          with object id {egpNeighEntry 14} in RFC1213.!!;
          DESCRIPTION
          !!The polling mode of this EGP entity, either
          passive or active.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 14};

egpNeighOutErrMsgs      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighOutErrMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighOutErrMsgs with
          object id {egpNeighEntry 9} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP-defined error messages sent to
          this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 9};

egpNeighOutErrs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighOutErrsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighOutErrs with
          object id {egpNeighEntry 7} in RFC1213.!!;
          DESCRIPTION
          !!The number of locally generated EGP messages not
          sent to this EGP peer due to resource limitations
          within an EGP entity.!!;
          ENDPARSE!;;
```

```
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 7};

egpNeighOutMsgs ATTRIBUTE
```



```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighOutMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighOutMsgs with
          object id {egpNeighEntry 6} in RFC1213.!!;
          DESCRIPTION
          !!The number of locally generated EGP messages to
          this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 6};

egpNeighState ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.EgpNeighState;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          egpNeighStateBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpNeighState
          with object id {egpNeighEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The EGP state of the local system with respect
          to this entry's EGP neighbor. Each EGP state is
          represented by a value that is one greater than
          the numerical value associated with said state in
          RFC 904.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 1};

egpNeighStateDowns      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighStateDownsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to egpNeighStateDowns with
          object id {egpNeighEntry 11} in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP state transitions from the UP
          state to any other state with this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 11};

egpNeighStateUps        ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpNeighStateUpsBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          REFERENCE !!This attribute maps to
          egpNeighStateUps with object id {egpNeighEntry 10}
          in RFC1213.!!;
          DESCRIPTION
          !!The number of EGP state transitions to the UP
          state with this EGP peer.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 5 1 10};

egpOutErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpOutErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE !!This attribute maps to egpOutErrors
          with object id {egp 4} in RFC1213.!!;
          DESCRIPTION
          !!The number of locally generated EGP messages not
          sent due to resource limitations within an EGP
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 4};

egpOutMsgs  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          egpOutMsgsBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to egpOutMsgs with object id
          {egp 3} in RFC1213.!!;
          DESCRIPTION
          !!The total number of locally generated EGP
          messages.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 8 3};

icmpId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.IcmpIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          icmpIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class icmp.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 5};

icmpInAddrMaskReps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInAddrMaskRepsBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInAddrMaskReps with
          object id {icmp 13} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Address Mask Reply messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 13};

icmpInAddrMasks ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInAddrMasksBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInAddrMasks with
```

```
          object id {icmp 12} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Address Mask Request messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 12};

icmpInDestUnreachs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInDestUnreachsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInDestUnreachs with
          object id {icmp 3} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Destination Unreachable
          messages received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 3};

icmpInEchoReps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInEchoRepsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInEchoReps with
          object id {icmp 9} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Echo Reply messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 9};
```



```
icmpInEchos  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInEchosBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to icmpInEchos with object
          id {icmp 8} in RFC 1213.!!;
          DESCRIPTION
          !!The number of ICMP Echo (request) messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 8};

icmpInErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInErrors with object
          id {icmp 2} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP messages which the entity
          received but determined as having ICMP-specific
          errors (bad ICMP checksums, bad length, etc.).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 2};

icmpInMsgs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInMsgs with object id
          {icmp 1} in RFC1213.!!;
          DESCRIPTION
          !!The total number of ICMP messages which the
          entity received. Note that this counter includes
          all those counted by icmpInErrors.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 1};

icmpInParmProbs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInParmProbsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to icmpInParmProbs with
          object id {icmp 5} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Parameter Problem messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 5};

icmpInRedirects ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInRedirectsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInRedirects with id
          {icmp 7} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Redirect messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 7};

icmpInSrcQuenchs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInSrcQuenchsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInSrcQuenchs with
          object id {icmp 6} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Source Quench messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 6};

icmpInTimeExcds ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInTimeExcdsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInTimeExcds with
```

```
          object id {icmp 4} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Time Exceeded messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 4};
```



```
icmpInTimestampReps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInTimestampRepsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInTimestampReps with
          object id {icmp 11} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Timestamp Reply messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 11};

icmpInTimestamps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpInTimeStampsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpInTimestamps with
          object id {icmp 10} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Timestamp (request) messages
          received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 10};

icmpOutAddrMaskReps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutAddrMaskRepsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to icmpOutAddrMaskReps with
          object id {icmp 26} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Timestamp (request) messages
          received. The number of ICMP Address Mask Reply
          messages sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 26};

icmpOutAddrMasks ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutAddrMasksBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```



```
          !!This attribute map to icmpOutAddrMasks with
          object id {icmp 25} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Address Mask Request messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 25};

icmpOutDestUnreachs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutDestUnreachsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutDestUnreachs with
          object id {icmp 16} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Destination Unreachable
          messages sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 16};

icmpOutEchoReps  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
```

```
          icmpOutEchoRepsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutEchoReps with
          object id {icmp 22} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Echo Reply messages sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 22};

icmpOutEchos ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutEchosBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutEchos with object
          id {icmp 21} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Echo (request) messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 21};

icmpOutErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
```



```
     BEHAVIOUR
          icmpOutErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutErrors with object
          id {icmp 15} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP messages which this entity
          did not send due to problems discovered within
          ICMP such as a lack of buffers. This value should
          not include errors discovered outside the ICMP
          layer such as the inability of IP to route the
          resultant datagram. In some implementations there
          may be no types of error which contribute to this
```

```
          counter's value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 15};

icmpOutMsgs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutMsgsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutMsgs with object
          id {icmp 14} in RFC1213.!!;
          DESCRIPTION
          !!The total number of ICMP messages which this
          entity attempted to send. Note that this counter
          includes all those counted by icmpOutErrors.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 14};

icmpOutParmProbs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutParmProbsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutParmProbs with
          object id{icmp 18} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Parameter Problem messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 18};

icmpOutRedirects ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutRedirectsBehaviour BEHAVIOUR
```



```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutRedirects with
```

```
          object id {icmp 20} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Redirect messages sent. For a
          host, this attribute will always be zero, since
          hosts do not send redirects.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 20};

icmpOutSrcQuenchs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutSrcQuenchsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutSrcQuenchs with
          object id {icmp 19} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Source Quench messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 19};

icmpOutTimeExcds ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutTimeExcdsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutTimeExcds with
          object id {icmp 17} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Time Exceeded messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 17};

icmpOutTimestampReps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutTimestampRepsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutTimestampReps with
          object id {icmp 24} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Timestamp Reply messages
          sent.!!;
```

```
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 24};

icmpOutTimestamps ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          icmpOutTimestampsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to icmpOutTimestamps with
          object id {icmp 23} in RFC1213.!!;
          DESCRIPTION
          !!The number of ICMP Timestamp (request) messages
          sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 5 23};

ifAdminStatus ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
          IIMCRFC12131354ASN1.IfAdminStatus;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifAdminStatusBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifAdminStatus with object
          id {ifEntry 7} in RFC1213.!!;
          DESCRIPTION
          !!The desired state of the interface. The
          testing(3) state indicates that no operational
          packets can be passed.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 7};

ifDescr ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}:displayString;
     BEHAVIOUR
          ifDescrBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifDescr with object id
```

```
          {ifEntry 2} in RFC 1213.!!;
          DESCRIPTION
          !!A textual string containing information about
          the interface. This string should include the name
          of the manufacturer, the product name and the
          version of the hardware interface.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 2};

ifEntryId ATTRIBUTE
```



```
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IfEntryIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          ifEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class ifEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 2 2 1};

ifIndex    ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifIndexBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifIndex with object id
          {ifEntry 1} in RFC 1213.!!;
          DESCRIPTION
          !!A unique value for each interface. Its value
          ranges between 1 and the value of ifNumber. The
          value for each interface must remain constant at
          least from one re-initialization of the entity's
          network management system to the next re-
          initialization.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 1};

ifInDiscards ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInDiscardsBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifInDiscards with object
          id {ifEntry 13} in RFC1213.!!;
          DESCRIPTION
          !!The number of inbound packets which were chosen
          to be discarded even though no errors had been
          detected to prevent their being deliverable to a
          higher-layer protocol. One possible reason for
          discarding such a packet could be to free up
          buffer space.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 13};

ifInErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```



```
          REFERENCE
          !!This attribute maps to ifInErrors with object id
          {ifEntry 14} in RFC1213.!!;
          DESCRIPTION
          !!The number of inbound packets that contained
          errors preventing them from being deliverable to a
          higher-layer protocol.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 14};

ifInNUcastPkts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInNUcastPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifInNUcastPkts with
          object id {ifEntry 12} in RFC1213.!!;
          DESCRIPTION
          !!The number of non-unicast (i.e., subnetwork-
          broadcast or subnetwork-multicast) packets
```

```
          delivered to a higher-layer protocol.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 12};

ifInOctets ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInOctetsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifInOctets with object id
          {ifEntry 10} in RFC1213.!!;
          DESCRIPTION
          !!The total number of octets received on the
          interface, including framing characters.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 10};

ifInUcastPkts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInUcastPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifInUcastPkts with object
          id {ifEntry 11} in RFC1213.!!;
          DESCRIPTION
          !!The number of subnetwork-unicast packets
          delivered to a higher-layer protocol.!!;
          ENDPARSE!;;
```



```
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 11};

ifInUnknownProtos ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifInUnknownProtosBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifInUnknownProtos with
          object id {if Entry 15} in RFC1213.!!;
```

```
          DESCRIPTION
          !!The number of packets received via the interface
          which were discarded because of an unknown or
          unsupported protocol.!!;
          ENDPARSE!;;
REGISTERED AS { iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 15};

ifLastChange ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: timeTicks;
     BEHAVIOUR
          ifLastChangeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifLastChange with object
          id {ifEntry 9} in RFC1213.!!;
          DESCRIPTION
          !!The value of sysUpTime at the time the interface
          entered its current operational state. If the
          current state was entered prior to the last re-
          initialization of the local network management
          subsystem, then this attribute contains a zero
          value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 9};

ifMtu ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifMtuBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifMtu with object id
          {ifEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!The size of the largest datagram which can be
          sent/received on the interface, specified in
          octets. For interfaces that are used for
          transmitting network datagrams, this is the size
          of the largest network datagram that can be sent
          on the interface.!!;
```

```
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 4};

ifNumber  ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifNumberBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifNumber with object id
          {interfaces 1} in RFC1213.!!;
          DESCRIPTION
          !!The number of network interfaces (regardless of
          their current state) present on this system.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 1};

ifOperStatus ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IfOperStatus;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifOperStatusBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOperStatus with object
          id {ifEntry 8} in RFC1213.!!;
          DESCRIPTION
          !!The current operational state of the interface.
          The testing(3) state indicates that no operational
          packets can be passed.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 8};

ifOutDiscards ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifOutDiscardsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOutDiscards with object
          id {ifEntry 19} in RFC1213.!!;
          DESCRIPTION
          !!The number of outbound packets which were chosen
          to be discarded even though no errors had been
          detected to prevent their being transmitted. One
          possible reason for discarding such a packet could
```

```
          be to free up buffer space.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 19};
```



```
ifOutErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifOutErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOutErrors with object
          id {ifEntry 20} in RFC1213.!!;
          DESCRIPTION
          !!The number of outbound packets that could not be
          transmitted because of errors.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 20};

ifOutNUcastPkts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifOutNUcastPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOutNUcastPkts with
          object id {ifEntry 18} in RFC1213.!!;
          DESCRIPTION
          !!The total number of packets that higher-level
          protocols requested be transmitted to a non-
          unicast (i.e., a subnetwork-broadcast or
          subnetwork-multicast) address, including those
          that were discarded or not sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 18};

ifOutOctets ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifOutOctetsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to ifOutOctets with object
          id {ifEntry 16} in RFC1213.!!;
          DESCRIPTION
          !!The total number of octets transmitted out of
          the interface, including framing characters.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 16};

ifOutQLen ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: gauge32;
     BEHAVIOUR
          ifOutQLenBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOutQLen with object id
          {ifEntry 21} in RFC1213.!!;
          DESCRIPTION
          !!The length of the output packet queue (in
          packets).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 21};

ifOutUcastPkts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ifOutUcastPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifOutUcastPkts with
          object id {ifEntry 17} in RFC1213.!!;
          DESCRIPTION
          !!The total number of packets that higher-level
          protocols requested be transmitted to a
          subnetwork-unicast address, including those that
          were discarded or not sent.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 17};

ifPhysAddress ATTRIBUTE
     DERIVED FROM  {iimcIIMCIMIBTRANS}:physAddress;
```

```
     BEHAVIOUR
          ifPhysAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifPhysAddress with object
          id {ifEntry 6} in RFC 1213.!!;
          DESCRIPTION
          !!The interface's address at the protocol layer
          immediately `below' the network layer in the
          protocol stack. For interfaces which do not have
          such an address (e.g., a serial line), this
          attribute should contain an octet string of zero
          length.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 6};

ifSpecific ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.ObjectIdentifier;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifSpecificBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```



```
          REFERENCE
          !!This attribute maps to ifSpecific with object id
          {ifEntry 22} in RFC1213.!!;
          DESCRIPTION
          !!A reference to MIB definitions specific to the
          particular media being used to realize the
          interface. For example, if the interface is
          realized by an ethernet, then the value of this
          attribute refers to a document defining attributes
          specific to ethernet. If this information is not
          present, its value should be set to the OBJECT
          IDENTIFIER { 0 0 }, which is a syntactically valid
          object identifier, and any conformant
          implementation of ASN.1 and BER must be able to
          generate and recognize this value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 22};
```

```
ifSpeed ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}:gauge32;
     BEHAVIOUR
          ifSpeedBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifSpeed with object id
          {ifEntry 5} in RFC 1213.!!;
          DESCRIPTION
          !!An estimate of the interface's current bandwidth
          in bits per second. For interfaces which do not
          vary in bandwidth or for those where no accurate
          estimation can be made, this attribute should
          contain the nominal bandwidth.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 5};

ifType ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.IfType;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ifTypeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ifType with object id
          {ifEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The type of interface, distinguished according
          to the physical/link protocol(s) immediately
          `below' the network layer in the protocol
          stack.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 2 2 1 3};
```



```
interfacesId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.InterfacesIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          interfacesIdBehaviour BEHAVIOUR
          DEFINED AS
```

```
          !The naming attribute for object class
interfaces.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 2};

internetSystemId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.InternetSystemIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          internetSystemIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
internetSystem.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 1};

ipAddrEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpAddrEntryIdValue;
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          ipAddrEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
ipAddrEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 4 20 1};

ipAdEntAddr ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipAdEntAddrBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipAdEntAddr with object
          id {ipAddrEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The IP address to which this entry's addressing
          information pertains.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1 1};

ipAdEntBcastAddr ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipAdEntBcastAddrBehaviour BEHAVIOUR
          DEFINED AS
```

```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipAdEntBcastAddr with
          object id {ipAddrEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!The value of the least-significant bit in the IP
          broadcast address used for sending datagrams on
          the (logical) interface associated with the IP
          address of this entry. For example, when the
          Internet standard all-ones broadcast address is
          used, the value will be 1. This value applies to
          both the subnet and network broadcasts addresses
          used by the entity on this (logical) interface.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1 4};

ipAdEntIfIndex ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipAdEntIfIndexBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipAdEntIfIndex with
          object id {ipAddrEntry 2} in RFC1213.!!;
          DESCRIPTION
          !!The index value which uniquely identifies the
          interface to which this entry is applicable. The
          interface identified by a particular value of this
          index is the same interface as identified by the
          same value of ifIndex.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1 2};

ipAdEntNetMask ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipAdEntNetMaskBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipAdEntNetMask with
          object id {ipAddrEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The subnet mask associated with the IP address
          of this entry. The value of the mask is an IP
```

```
          address with all the network bits set to 1 and all
          the hosts bits set to 0.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1 3};

ipAdEntReasmMaxSize ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer64k;
```



```
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipAdEntReasmMaxSizeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipAdEntReasmMaxSize with
          object id {ipAddrEntry 5} in RFC1213.!!;
          DESCRIPTION
          !!The size of the largest IP datagram which this
          entity can re-assemble from incoming IP fragmented
          datagrams received on this interface.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 20 1 5};

ipDefaultTTL ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipDefaultTTLBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipDefaultTTL with object
          id {ip 2} in RFC1213.!!;
          DESCRIPTION
          !!The default value inserted into the Time-To-Live
          field of the IP header of datagrams originated at
          this entity, whenever a TTL value is not supplied
          by the transport layer protocol.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 2};

ipForwardAge ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR    EQUALITY, ORDERING;
```

```
     BEHAVIOUR
          ipForwardAgeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardAge with object
          id {ipForwardEntry 8} in RFC1354.!!;
          DESCRIPTION
          !!The number of seconds since this route was last
          updated or otherwise determined  to be correct.
          Note that no semantics of  `too  old' can  be
          implied except through knowledge of the routing
          protocol by which the route was learned.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 8};

ipForwardDest ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: ipAddress;
```



```
     BEHAVIOUR
          ipForwardDestBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardDest with object
          id {ipForwardEntry 1} in RFC1354.!!;
          DESCRIPTION
          !!The destination IP address of this route. An
          entry  with  a value of 0.0.0.0 is considered a
          default route.

          This attribute may not take a Multicast (Class  D)
          address value.

          Any assignment (implicit or  otherwise) of  an
          instance of this attribute to a value x must be
          rejected if the bitwise logical-AND of x with the
          value of the corresponding instance of the
          ipForwardMask attribute is not equal to x.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 1};

ipForwardEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpForwardEntryIdValue;
```

```
     MATCHES FOR      EQUALITY;
          BEHAVIOUR
          ipForwardEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
ipForwardEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 4 24 2 1};

ipForwardIfIndex ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR  EQUALITY, ORDERING;
     BEHAVIOUR
          ipForwardIfIndexBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardIfIndex with
          object id {ipForwardEntry 5} in RFC1354.!!;
          DESCRIPTION
          !!The ifIndex value which identifies  the  local
          interface  through  which  the next hop of this
          route should be reached.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 5};

ipForwardInfo ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.ObjectIdentifier;
```



```
     MATCHES FOR EQUALITY, ORDERING;
     BEHAVIOUR
          ipForwardInfoBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardInfo with object
          id {ipForwardEntry 9} in RFC1354.!!;
          DESCRIPTION
          !!A reference to MIB definitions specific to the
          particular routing protocol which is responsible
          for this route, as determined by the value
          specified  in the route's ipForwardProto value. If
          this information is not present, its value should
          be set to the OBJECT IDENTIFIER {0 0 }, which is a
```

```
          syntactically valid object identifier, and any
          implementation conforming to ASN.1 and the Basic
          Encoding Rules must be able to generate and
          recognize this value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 9};

ipForwarding ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpForwarding;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipForwardingBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwarding with object
          id {ip 1} in RFC 1213.!!;
          DESCRIPTION
          !!The indication of whether this entity is acting
          as an IP gateway in respect to the forwarding of
          datagrams received by, but not addressed to, this
          entity. IP gateways forward datagrams. IP hosts do
          not (except those source-routed via the host).

          Note that for some managed nodes, this attribute
          may take on only a subset of the values possible.
          Accordingly, it is appropriate for an agent to
          return a `badValue' response if a management
          station attempts to change this attribute to an
          inappropriate value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 1};

ipForwardMask ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: ipAddress;
     BEHAVIOUR
          ipForwardMaskBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMask with object
          id {ipForwardEntry 2} in RFC1354.!!;
```

```
          DESCRIPTION
          !!Indicate the mask to be logical- ANDed with the
          destination  address  before being compared to the
          value  in  the ipForwardDest  field. For those
          systems  that do  not support arbitrary subnet
          masks, an agent constructs the value of the
          ipForwardMask by reference to the IP Address
          Class.

          Any assignment (implicit or otherwise) of an
          instance of this  attribute to a value x must be
          rejected if the bitwise logical-AND of x with the
          value of the corresponding instance of the
          ipForwardDest attribute is not equal to
          ipForwardDest.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 2};

ipForwardNextHop ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: ipAddress;
     BEHAVIOUR
          ipForwardNextHopBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardNextHop with
          object id {ipForwardEntry 4} in RFC1354.!!;
          DESCRIPTION
          !!On remote routes, the address of the next system
          en route; Otherwise, 0.0.0.0.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 4};

ipForwardNextHopAS ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardNextHopASBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardNextHopAS with
          object id {ipForwardEntry 10} in RFC1354.!!;
          DESCRIPTION
          !!The Autonomous System Number of the Next Hop.
          When this is unknown or not relevant to the
          protocol indicated by ipForwardProto, zero.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 10};
```

```
ipForwardNumber ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: gauge32;
     BEHAVIOUR
          ipForwardNumberBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardNumber with
          object id {ipForward 1} in RFC1354.!!;
          DESCRIPTION
          !!The number of current ipForward entries that are
          not invalid.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 1};

ipForwardMetric1 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
     BEHAVIOUR
          ipForwardMetric1Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMetric1 with
          object id {ipForwardEntry 11} in RFC1354.!!;
          DESCRIPTION
          !!The primary routing  metric  for  this  route.
          The semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipForwardProto  value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 11};

ipForwardMetric2 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardMetric2Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMetric2 with
          object id {ipForwardEntry 12} in RFC1354.!!;
```

```
          DESCRIPTION
          !!An alternate routing metric  for  this  route.
          The  semantics of this metric are determined by
          the routing-protocol specified in  the route's
          ipForwardProto  value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 12};

ipForwardMetric3 ATTRIBUTE
```



```
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardMetric3Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMetric3 with
          object id {ipForwardEntry 13} in RFC1354.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipForwardProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 13};

ipForwardMetric4 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardMetric4Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMetric4 with
          object id {ipForwardEntry 14} in RFC1354.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipForwardProto value. If this metric is not used,
```

```
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 14};

ipForwardMetric5 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardMetric5Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardMetric5 with
          object id {ipForwardEntry 15} in RFC1354.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in  the route's
          ipForwardProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
```



```
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 15};

ipForwardPolicy ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardPolicyBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardPolicy with
          object id {ipForwardEntry 3} in RFC1354.!!;
          DESCRIPTION
          !!The general set of conditions that would cause
          the selection of one multipath route (set of next
          hops for a given destination) is  referred to as
          'policy'.

          Unless the mechanism indicated by ipForwardProto
          specifies otherwise, the policy specifier is the
          IP TOS Field.  The encoding of IP TOS is as
          specified  by  the  following convention.  Zero
```

```
          indicates the default path if no more  specific
          policy applies.

          IP TOS                          IP TOS
          Field    Policy                 Field        Policy
          Contents Code                   Contents     Code
          0 0 0 0  ==>   0                0 0 0 1  ==>   2
          0 0 1 0  ==>   4                0 0 1 1  ==>   6
          0 1 0 0  ==>   8                0 1 0 1  ==>  10
          0 1 1 0  ==>  12                0 1 1 1  ==>  14
          1 0 0 0  ==>  16                1 0 0 1  ==>  18
          1 0 1 0  ==>  20                1 0 1 1  ==>  22
          1 1 0 0  ==>  24                1 1 0 1  ==>  26
          1 1 1 0  ==>  28                1 1 1 1  ==>  30

          Protocols defining 'policy' otherwise must  either
          define a set of values which are valid for this
          attribute or must implement an integer-instanced
          policy table for which this attribute's value acts
          as an index.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 3};

ipForwardProto ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpForwardProto;
     MATCHES FOR EQUALITY, ORDERING;
          BEHAVIOUR
          ipForwardProtoBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```



```
          !!This attribute maps to ipForwardProto with
          object id {ipForwardEntry 7} in RFC1354.!!;
          DESCRIPTION
          !!The routing mechanism via which this route was
          learned. Inclusion of values for gateway routing
          protocols is not intended to imply that hosts
          should support those protocols.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 7};

ipForwardType ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
```

```
IIMCRFC12131354ASN1.IpForwardType;
     MATCHES FOR EQUALITY, ORDERING;
     BEHAVIOUR
          ipForwardTypeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwardType with object
          id {ipForwardEntry 6} in RFC1354.!!;
          DESCRIPTION
          !!The type of route.  Note that local(3)  refers
          to  a route for which the next hop is the final
          destination; remote(4) refers to a route for which
          the next hop is not the final destination.

          Setting this attribute to the value invalid(2) has
          the  effect of invalidating the corresponding
          ipForwardEntry. That is, it effectively
          disassociates the destination identified with said
          entry from the route identified with said entry.
          It is an implementation-specific matter as to
          whether the agent removes an invalidated entry
          from the table. Accordingly, management stations
          must be prepared to receive tabular information
          from agents that corresponds to entries not
          currently in use.  Proper interpretation of such
          entries requires examining the relevant
          ipForwardType attribute.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 24 2  1 6};

ipForwDatagrams ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipForwDatagramsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipForwDatagrams with
          object id {ip 6} in RFC1213.!!;
          DESCRIPTION
```



```
          !!The number of input datagrams for which this
```

```
          entity was not their final IP destination, as a
          result of which an attempt was made to find a
          route to forward them to that final destination.
          In entities which do not act as IP Gateways, this
          counter will include only those packets which were
          Source-Routed via this entity, and the Source-
          Route option processing was successful.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 6};


ipFragCreates ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipFragCreatesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipFragCreates with object
          id {ip 19} in RFC1213.!!;
          DESCRIPTION
          !!The number of IP datagram fragments that have
          been generated as a result of fragmentation at
          this entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 19};

ipFragFails ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipFragFailsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipFragFails with object
          id {ip 18} in RFC1213.!!;
          DESCRIPTION
          !!The number of IP datagrams that have been
          discarded because they needed to be fragmented at
          this entity but could not be, e.g., because their
          Don't Fragment flag was set.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 18};

ipFragOKs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipFragOKsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```

```
          !!This attribute maps to ipFragOKs with object id
          {ip 17} in RFC1213.!!;
```



```
          DESCRIPTION
          !!The number of IP datagrams that have been
          successfully fragmented at this entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 17};

ipId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.IpIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          ipIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class ip.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 4};

ipInAddrErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipInAddrErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInAddrErrors with
          object id {ip 5} in RFC1213.!!;
          DESCRIPTION
          !!The number of input datagrams discarded because
          the IP address in their IP header's destination
          field was not a valid address to be received at
          this entity. This count includes invalid addresses
          (e.g., 0.0.0.0) and addresses of unsupported
          Classes (e.g., Class E). For entities which are
          not IP Gateways and therefore do not forward
          datagrams, this counter includes datagrams
          discarded because the destination address was not
          a local address.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 5};

ipInDelivers ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
```

```
          ipInDeliversBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInDelivers with object
          id {ip 9} in RFC1213.!!;
          DESCRIPTION
          !!The total number of input datagrams successfully
          delivered to IP user-protocols (including
          ICMP).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 9};
```



```
ipInDiscards ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipInDiscardsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInDiscards with object
          id {ip 8} in RFC1213.!!;
          DESCRIPTION
          !!The number of input IP datagrams for which no
          problems were encountered to prevent their
          continued processing, but which were discarded
          (e.g., for lack of buffer space). Note that this
          counter does not include any datagrams discarded
          while awaiting re-assembly.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 8};

ipInHdrErrors ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipInHdrErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInHdrErrors with object
          id {ip 4} in RFC1213.!!;
          DESCRIPTION
          !!The number of input datagrams discarded due to
```

```
          errors in their IP headers, including bad
          checksums, version number mismatch, other format
          errors, time-to-live exceeded, errors discovered
          in processing their IP options, etc.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 4};

ipInReceives ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipInReceivesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInReceives with object
          id {ip 3} in RFC1213.!!;
          DESCRIPTION
          !!The total number of input datagrams received
          from interfaces, including those received in
          error.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 3};

ipInUnknownProtos ATTRIBUTE
```



```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipInUnknownProtosBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipInUnknownProtos with
          object id {ip 7} in RFC1213.!!;
          DESCRIPTION
          !!The number of locally-addressed datagrams
          received successfully but discarded because of an
          unknown or unsupported protocol.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 7};

ipNetToMediaEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpNetToMediaEntryIdValue;
     MATCHES FOR      EQUALITY;
```

```
     BEHAVIOUR
          ipNetToMediaEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
          ipNetToMediaEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 4 22 1};

ipNetToMediaIfIndex ATTRIBUTE
     WITH ATTRIBUTE SYNTAX    IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipNetToMediaIfIndexBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipNetToMediaIfIndex with
          object id {ipNetToMediaEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The interface on which this entry's equivalence
          is effective. The interface identified by a
          particular value of this index is the same
          interface as identified by the same value of
          ifIndex.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 22 1 1};

ipNetToMediaNetAddress ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipNetToMediaNetAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```



```
          !!This attribute maps to ipNetToMediaNetAddress
          with object id {ipNetToMediaEntry 3} in
          RFC1213.!!;
          DESCRIPTION
          !!The IpAddress corresponding to the media-
          dependent `physical' address.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 22 1 3};
```

```
ipNetToMediaPhysAddress ATTRIBUTE
     DERIVED FROM  {iimcIIMCIMIBTRANS}:physAddress;
     BEHAVIOUR
          ipNetToMediaPhysAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipNetToMediaPhysAddress
          with object id {ipNetToMediaEntry 2} in
          RFC1213.!!;
          DESCRIPTION
          !!The media-dependent `physical' address.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 22 1 2};

ipNetToMediaType ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpNetToMediaType;
          MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipNetToMediaTypeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipNetToMediaType with
          object id {ipNetToMediaEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!The type of mapping. Setting this attribute to
          the value invalid(2) has the effect of
          invalidating the corresponding entry in the
          ipNetToMediaTable. That is, it effectively
          disassociates the interface identified with said
          entry from the mapping identified with said entry.
          It is an implementation-specific matter as to
          whether the agent removes an invalidated entry
          from the table. Accordingly, management stations
          must be prepared to receive tabular information
          from agents that corresponds to entries not
          currently in use. Proper interpretation of such
          entries requires examination of the relevant
          ipNetToMediaType attribute.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 22 1 4};

ipOutDiscards ATTRIBUTE
```

```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipOutDiscardsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipOutDiscards with object
          id ip 11} in RFC1213.!!;
          DESCRIPTION
          !!The number of output IP datagrams for which no
          problem was encountered to prevent their
          transmission to their destination, but which were
          discarded (e.g., for lack of buffer space). Note
          that this counter would include datagrams counted
          in ipForwDatagrams if any such packets met this
          (discretionary) discard criterion.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 11};

ipOutNoRoutes ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipOutNoRoutesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipOutNoRoutes with object
          id {ip 12} in RFC1213.!!;
          DESCRIPTION
          !!The number of IP datagrams discarded because no
          route could be found to transmit them to their
          destination. Note that this counter includes any
          packets counted in ipForwDatagrams which meet this
          `no-route' criterion. Note that this includes any
          datagrams which a host cannot route because all of
          its default gateways are down.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 12};

ipOutRequests ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipOutRequestsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipOutRequests with object
          id {ip 10}.!!;
          DESCRIPTION
```

```
          !!The total number of IP datagrams which local IP
          user-protocols (including ICMP) supplied to IP in
          requests for transmission. Note that this counter
          does not include any datagrams counted in
          ipForwDatagrams.!!;
```



```
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 10};

ipReasmFails ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipReasmFailsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipReasmFails with objects
          id {ip 16} in RFC1213.!!;
          DESCRIPTION
          !!The number of failures detected by the IP re-
          assembly algorithm (for whatever reason: timed
          out, errors, etc). Note that this is not
          necessarily a count of discarded IP fragments
          since some algorithms (notably the algorithm in
          RFC 815) can lose track of the number of fragments
          by combining them as they are received.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 16};

ipReasmOKs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipReasmOKsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipReasmOKs with object id
          {ip 15} in RFC1213.!!;
          DESCRIPTION
          !!The number of IP datagrams successfully re-
          assembled.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 15};
```

```
ipReasmReqds ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipReasmReqdsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipReasmReqds with object
          id {ip 4} in RFC1213.!!;
          DESCRIPTION
          !!The number of IP fragments received which needed
          to be reassembled at this entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 14};

ipReasmTimeout ATTRIBUTE
```



```
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipReasmTimeoutBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipReasmTimeout with
          object id {ip 13} in RFC1213.!!;
          DESCRIPTION
          !!The maximum number of seconds which received
          fragments are held while they are awaiting
          reassembly at this entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 13};

ipRouteAge ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteAgeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteAge with object id
          {ipRouteEntry 10} in RFC1213.!!;
          DESCRIPTION
```

```
          !!The number of seconds since this route was last
          updated or otherwise determined to be correct.
          Note that no semantics of `too old' can be implied
          except through knowledge of the routing protocol
          by which the route was learned.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 10};

ipRouteDest ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipRouteDestBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteDest with object
          id {ipRouteEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The destination IP address of this route. An
          entry with a value of 0.0.0.0 is considered a
          default route. Multiple routes to a single
          destination can appear in the table, but access to
          such multiple entries is dependent on the table-
          access mechanisms defined by the network
          management protocol in use.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 1};
```



```
ipRouteEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpRouteEntryIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          ipRouteEntryIdBehaviour BEHAVIOUR
          DEFINED AS !The naming attribute for object class
ipRouteEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 4 21 1};

ipRouteIfIndex ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
          MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteIfIndexBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteIfIndex with
          object id {ipRouteEntry 2} in RFC1213.!!;
          DESCRIPTION
          !!The index value which uniquely identifies the
          local interface through which the next hop of this
          route should be reached. The interface identified
          by a particular value of this index is the same
          interface as identified by the same value of
          ifIndex.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 2};

ipRouteInfo ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.ObjectIdentifier;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteInfoBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteInfo with object
          id {ipRouteEntry 13} in RFC1213.!!;
          DESCRIPTION
          !!A reference to MIB definitions specific to the
          particular routing protocol which is responsible
          for this route, as determined by the value
          specified in the route's ipRouteProto value. If
          this information is not present, its value should
          be set to the OBJECT IDENTIFIER { 0 0 }, which is
          a syntactically valid object identifier, and any
          conformant implementation of ASN.1 and BER must be
          able to generate and recognize this value.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 13};
```



```
ipRouteMask ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipRouteMaskBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMask with object
          id {ipRouteEntry 11} in RFC1213.!!;
          DESCRIPTION
          !!Indicate the mask to be logical-ANDed with the
          destination address before being compared to the
          value in the ipRouteDest field. For those systems
          that do not support arbitrary subnet masks, an
          agent constructs the value of the ipRouteMask by
          determining whether the value of the correspondent
          ipRouteDest field belong to a class-A, B, or C
          network, and then using one of:

          mask           network
          255.0.0.0                  class-A
          255.255.0.0                class-B
          255.255.255.0              class-C

          If the value of the ipRouteDest is 0.0.0.0 (a
          default route), then the mask value is also
          0.0.0.0. It should be noted that all IP routing
          subsystems implicitly use this mechanism.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 11};

ipRouteMetric1 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteMetric1Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMetric1 with
          object id {ipRouteEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The primary routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipRouteProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 3};

ipRouteMetric2 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
          MATCHES FOR      EQUALITY, ORDERING;
```

```
     BEHAVIOUR
          ipRouteMetric2Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMetric with object
          id {ipRouteEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipRouteProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 4};

ipRouteMetric3 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
          MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteMetric3Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMetric3 with
          object id {ipRouteEntry 5} in RFC1213.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipRouteProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 5};

ipRouteMetric4 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
          MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteMetric4Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMetric4 with
          object id {ipRouteEntry 6} in RFC1213.!!;
```

```
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipRouteProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 6};
```



```
ipRouteMetric5 ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteMetric5Behaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteMetric5 with
          object id {ipRouteEntry 12} in RFC1213.!!;
          DESCRIPTION
          !!An alternate routing metric for this route. The
          semantics of this metric are determined by the
          routing-protocol specified in the route's
          ipRouteProto value. If this metric is not used,
          its value should be set to -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 12};

ipRouteNextHop ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          ipRouteNextHopBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteNextHop with
          object id {ipRouteEntry 7} in RFC1213.!!;
          DESCRIPTION
          !!The IP address of the next hop of this route.
          (In the case of a route bound to an interface
          which is realized via a broadcast media, the value
          of this field is the agent's IP address on that
          interface.)!!;
```

```
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 7};

ipRouteProto ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.IpRouteProto;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteProtoBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteProto with object
          id {ipRouteEntry 9} in RFC1213.!!;
          DESCRIPTION
          !!The routing mechanism via which this route was
          learned. Inclusion of values for gateway routing
          protocols is not intended to imply that hosts
          should support those protocols.!!;
          ENDPARSE!;;
```



```
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 9};

ipRouteType ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.IpRouteType;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          ipRouteTypeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRouteType with object
          id {ipRouteEntry 8} in RFC1213.!!;
          DESCRIPTION
          !!The type of route. Note that the values
          direct(3) and indirect(4) refer to the notion of
          direct and indirect routing in the IP
          architecture.

          Setting this attribute to the value invalid(2) has
          the effect of invalidating the corresponding
          ipRouteEntry. That is, it effectively
          disassociates the destination identified with said
          entry from the route identified with said entry.
```

```
          It is an implementation-specific matter as to
          whether the agent removes an invalidated entry
          from the table. Accordingly, management stations
          must be prepared to receive tabular information
          from agents that corresponds to entries not
          currently in use. Proper interpretation of such
          entries requires examination of the relevant
          ipRouteType attribute.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 21 1 8};

ipRoutingDiscards ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          ipRoutingDiscardsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to ipRoutingDiscards with
          object id {ip 23} in RFC1213.!!;
          DESCRIPTION
          !!The number of routing entries which were chosen
          to be discarded even though they are valid. One
          possible reason for discarding such an entry could
          be to free-up buffer space for other routing
          entries.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 4 23};

snmpEnableAuthenTraps   ATTRIBUTE
```



```
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.SnmpEnableAuthenTraps;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          snmpEnableAuthenTrapsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpEnableAuthenTraps
          with object id {snmp 30} in RFC1213.!!;
          DESCRIPTION
          !!Indicates whether the SNMP agent process is
```

```
          permitted to generate authentication-failure
          traps. The value of this attribute overrides any
          configuration information; as such, it provides a
          means whereby all authentication-failure traps may
          be disabled.

          Note that it is strongly recommended that this
          attribute be stored in non-volatile memory so that
          it remains constant between re-initializations of
          the network management system.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 30};

snmpId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.SnmpIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          snmpIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class snmp.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 11};

snmpInASNParseErrs      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInASNParseErrsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInASNParseErrs with
          object id {snmp 6} in RFC1213.!!;
          DESCRIPTION
          !!The total number of ASN.1 or BER errors
          encountered by the SNMP protocol entity when
          decoding received SNMP Messages.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 6};

snmpInBadCommunityNames ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInBadCommunityNamesBehaviour BEHAVIOUR
```



```
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to snmpInBadCommunityNames
          with object id {snmp 4} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Messages delivered to
          the SNMP protocol entity which used a SNMP
          community name not known to said entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 4};

snmpInBadCommunityUses  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInBadCommunityUsesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInBadCommunityUses
          with object id {snmp 5} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Messages delivered to
          the SNMP protocol entity which represented an SNMP
          operation which was not allowed by the SNMP
          community named in the Message.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 5};

snmpInBadValues ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInBadValuesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInBadValues with
          object id {snmp 10} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          delivered to the SNMP protocol entity and for
          which the value of the error-status field is
          `badValue'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 10};

snmpInBadVersions       ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInBadVersionsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```

```
          !!This attribute maps to the snmpInBadVersions
          with object id {snmp 3} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Messages which were
          delivered to the SNMP protocol entity and were for
          an unsupported SNMP version.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 3};

snmpInGenErrs   ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInGenErrsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInGenErrs with
          object id {snmp 12} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          delivered to the SNMP protocol entity and for
          which the value of the error-status field is
          `genErr'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 12};

snmpInGetNexts  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInGetNextsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInGetNexts with
          object id {snmp 16} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Get-Next PDUs which
          have been accepted and processed by the SNMP
          protocol entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 16};

snmpInGetRequests       ATTRIBUTE
```

```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInGetRequestsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInGetRequests
          with object id {snmp 15} in RFC1213.!!;
          DESCRIPTION
```



```
          !!The total number of SNMP Get-Request PDUs which
          have been accepted and processed by the SNMP
          protocol entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 15};

snmpInGetResponses      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInGetResponsesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInGetResponses
          with object id {snmp 18} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Get-Response PDUs which
          have been accepted and processed by the SNMP
          protocol entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 18};

snmpInNoSuchNames       ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInNoSuchNamesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInNoSuchNames
          with object id {snmp 9} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
```

```
          delivered to the SNMP protocol entity and for
          which the value of the error-status field is
          `noSuchName'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 9};

snmpInPkts      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInPkts with object id
          {snmp 1} in RFC1213.!!;
          DESCRIPTION
          !!The total number of Messages delivered to the
          SNMP entity from the transport service.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 1};
```



```
snmpInReadOnlys ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInReadOnlysBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to the snmpInReadOnlys with
          object id {snmp 11} in RFC1213.!!;
          DESCRIPTION
          !!The total number valid SNMP PDUs which were
          delivered to the SNMP protocol entity and for
          which the value of the error-status field is
          `readOnly'. It should be noted that it is a
          protocol error to generate an SNMP PDU which
          contains the value `readOnly' in the error-status
          field, as such this attribute is provided as a
          means of detecting incorrect implementations of
          the SNMP.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 11};
```

```
snmpInSetRequests       ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInSetRequestsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInSetRequests with
          object id {snmp 17} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Set-Request PDUs which
          have been accepted and processed by the SNMP
          protocol entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 17};

snmpInTooBigs   ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInTooBigsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInTooBigs with object
          id {snmp 8} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          delivered to the SNMP protocol entity and for
          which the value of the error-status field is
          `tooBig'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 8};
```



```
snmpInTotalReqVars      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInTotalReqVarsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInTotalReqVars with
          object id {snmp 13} in RFC1213.!!;
          DESCRIPTION
```

```
          !!The total number of MIB objects which have been
          retrieved successfully by the SNMP protocol entity
          as the result of receiving valid SNMP Get-Request
          and Get-Next PDUs.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 13};

snmpInTotalSetVars      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInTotalSetVarsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInTotalSetVars with
          object id {snmp 14} in RFC1213.!!;
          DESCRIPTION
          !!The total number of MIB objects which have been
          altered successfully by the SNMP protocol entity
          as the result of receiving valid SNMP Set-Request
          PDUs.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 14};

snmpInTraps     ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpInTrapsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpInTraps with object
          id {snmp 19}.!!;
          DESCRIPTION
          !!The total number of SNMP Trap PDUs which have
          been accepted and processed by the SNMP protocol
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 19};

snmpOutBadValues        ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
```

```
          snmpOutBadValuesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutBadValues with
          object id {snmp 22} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          generated by the SNMP protocol entity and for
          which the value of the error-status field is
          `badValue'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 22};

snmpOutGenErrs  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutGenErrsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutGenErrs with
          object id {snmp 24} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          generated by the SNMP protocol entity and for
          which the value of the error-status field is
          `genErr'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 24};

snmpOutGetNexts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutGetNextsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutGetNexts with
          object id {snmp 26} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Get-Next PDUs which
          have been generated by the SNMP protocol
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 26};

snmpOutGetRequests      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutGetRequestsBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```



```
          !!This attribute maps to snmpOutGetRequests with
          object id {snmp 25} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Get-Request PDUs which
          have been generated by the SNMP protocol
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 25};

snmpOutGetResponses     ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutGetResponsesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutGetResponses with
          object id {snmp 28} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Get-Response PDUs which
          have been generated by the SNMP protocol
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 28};

snmpOutNoSuchNames      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutNoSuchNamesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutNoSuchNames with
          object id {snmp 21} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          generated by the SNMP protocol entity and for
          which the value of the error-status is
          `noSuchName'.!!;
          ENDPARSE!;;
```

```
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 21};

snmpOutPkts     ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutPktsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutPkts with object
          is {snmp 2} in RFC1213.!!;
          DESCRIPTION
```



```
          !!The total number of SNMP Messages which were
          passed from the SNMP protocol entity to the
          transport service.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 2};

snmpOutSetRequests      ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutSetRequestsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attributes maps to snmpOutSetRequests with
          object id {snmp 27} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Set-Request PDUs which
          have been generated by the SNMP protocol
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 27};

snmpOutTooBigs  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutTooBigsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutTooBigs with
```

```
          object id {snmp 20} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP PDUs which were
          generated by the SNMP protocol entity and for
          which the value of the error-status field is
          `tooBig.'!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 20};

snmpOutTraps    ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          snmpOutTrapsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to snmpOutTraps with object
          id {snmp 29} in RFC1213.!!;
          DESCRIPTION
          !!The total number of SNMP Trap PDUs which have
          been generated by the SNMP protocol entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 11 29};
```



```
sysContact ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :displayString;
     BEHAVIOUR
          sysContactBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysContact with object id
          {system 4} in RFC1213.!!;
          DESCRIPTION
          !!The textual identification of the contact person
          for this managed node, together with information
          on how to contact this person.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 4};

sysDescr ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :displayString;
     BEHAVIOUR
```

```
          sysDescrBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysDescr with object id
          {system 1} in RFC1213.!!;
          DESCRIPTION
          !!A textual description of the entity. This value
          should include the full name and version
          identification of the system's hardware type,
          software operating-system, and networking
          software. It is mandatory that this only contain
          printable ASCII characters.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 1};

sysLocation     ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :displayString;
     BEHAVIOUR
          sysLocationBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysLocation with object
          id {system 6} in RFC 1213.!!;
          DESCRIPTION
          !!The physical location of this node (e.g.,
          `telephone closet, 3rd floor').!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 6};

sysName         ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :displayString;
     BEHAVIOUR
          sysNameBehaviour BEHAVIOUR
```



```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysName with object id
          {system 5} in RFC1213.!!;
          DESCRIPTION
          !!An administratively-assigned name for this
          managed node. By convention, this is the node's
```

```
          fully-qualified domain name.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 5};

sysObjectID     ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.ObjectIdentifier;
     MATCHES FOR  EQUALITY, ORDERING;
     BEHAVIOUR
          sysObjectIDBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysObjectID with object
          id {system 2} in RFC1213.!!;
          DESCRIPTION
          !!The vendor's authoritative identification of the
          network management subsystem contained in the
          entity. This value is allocated within the SMI
          enterprises subtree (1.3.6.1.4.1) and provides an
          easy and unambiguous means for determining `what
          kind of box' is being managed. For example, if
          vendor `Flintstones, Inc.' was assigned the
          subtree 1.3.6.1.4.1.4242, it could assign the
          identifier 1.3.6.1.4.1.4242.1.1 to its `Fred
          Router'.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 2};

sysServices     ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer128;
     MATCHES FOR  EQUALITY, ORDERING;
     BEHAVIOUR
          sysServicesBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysServices with object
          id {system 7}.!!;
          DESCRIPTION
          !!A value which indicates the set of services that
          this entity primarily offers.

          The value is a sum. This sum initially takes the
          value zero, Then, for each layer, L, in the range
          1 through 7, that this node performs transactions
```

```
          for, 2 raised to (L - 1) is added to the sum. For
          example, a node which performs primarily routing
          functions would have a value of 4 (2^(3-1)). In
          contrast, a node which is a host offering
          application services would have a value of 72
          (2^(4-1) + 2^(7-1)). Note that in the context of
          the Internet suite of protocols, values should be
          calculated accordingly:

          layer               functionality
          1              physical (e.g., repeaters)
          2              datalink/subnetwork (e.g., bridges)
          3              internet (e.g., IP gateways)
          4              end-to-end (e.g., IP hosts)
          7              applications (e.g., mail relays)

          For systems including OSI protocols, layers 5 and
          6 may also be counted.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 7};

sysUpTime       ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: timeTicks;
     BEHAVIOUR
          sysUpTimeBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to sysUpTime with object id
          {system 3} in RFC1213.!!;
          DESCRIPTION
          !!The time (in hundredths of a second) since the
          network management portion of the system was last
          re-initialized.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 1 3};

tcpActiveOpens ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpActiveOpensBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpActiveOpens with
          object id {tcp 5} in RFC1213.!!;
          DESCRIPTION
          !!The number of times TCP connections have made a
```

```
          direct transition to the SYN-SENT state from the
          CLOSED state!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 5};

tcpAttemptFails  ATTRIBUTE
```



```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpAttemptFailsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpAttemptFails with
          object id {tcp 7} in RFC1213.!!;
          DESCRIPTION
          !!The number of times TCP connections have made a
          direct transition to the CLOSED state from either
          the SYN-SENT state or the SYN-RCVD state, plus the
          number of times TCP connections have made a direct
          transition to the LISTEN state from the SYN-RCVD
          state.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 7};

tcpConnEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.TcpConnEntryIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          tcpConnEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
tcpConnEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 6 13 1};

tcpConnLocalAddress ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          tcpConnLocalAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpConnLocalAddress with
```

```
          object id {tcpConnEntry 2} in RFC1213.!!;
          DESCRIPTION
          !!The local IP address for this TCP connection. In
          the case of a connection in the listen state which
          is willing to accept connections for any IP
          interface associated with the node, the value
          0.0.0.0 is used.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1 2};

tcpConnLocalPort ATTRIBUTE
    WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer64k;
    MATCHES FOR      EQUALITY, ORDERING;
    BEHAVIOUR
          tcpConnLocalPortBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```



```
          REFERENCE
          !!This attribute maps to tcpConnLocalPort with
          object id {tcpConnEntry 3} in RFC1213.!!;
          DESCRIPTION
          !!The local port number for this TCP
          connection.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1 3};

tcpConnRemAddress ATTRIBUTE
    DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
    BEHAVIOUR
          tcpConnRemAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpConnRemAddress with
          object id {tcpConnEntry 4} in RFC1213.!!;
          DESCRIPTION
          !!The remote IP address for this TCP
          connection.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1 4};

tcpConnRemPort  ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.Integer64k;
```

```
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpConnRemPortBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpConnRemPort with
          object id {tcpConnEntry 5} in RFC1213.!!;
          DESCRIPTION
          !!The remote port number for this TCP
          connection.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1 5};

tcpConnState ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.TcpConnState;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpConnStateBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpConnState with object
          id {tcpConnEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The state of this TCP connection. The only value
          which may be set by a management station is
          deleteTCB(12). Accordingly, it is appropriate for
```



```
          an agent to return a `badValue' response if a
          management station attempts to set this attribute
          to any other value. If a management station sets
          this attribute to the value deleteTCB(12), then
          this has the effect of deleting the TCB (as
          defined in RFC 793) of the corresponding
          connection on the managed node, resulting in
          immediate termination of the connection. As an
          implementation-specific option, a RST segment may
          be sent from the managed node to the other TCP
          endpoint (note however that RST segments are not
          sent reliably).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 13 1 1};
```

```
tcpCurrEstab ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS}: gauge32;
     BEHAVIOUR
          tcpCurrEstabBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpCurrEstab with object
          id {tcp 9} in RFC1213.!!;
          DESCRIPTION
          !!The number of TCP connections for which the
          current state is either ESTABLISHED or CLOSE-
          WAIT.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 9};

tcpEstabResets ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpEstabResetsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpEstabResets with
          object id {tcp 8} in RFC1213.!!;
          DESCRIPTION
          !!The number of times TCP connections have made a
          direct transition to the CLOSED state from either
          the ESTABLISHED state or the CLOSE-WAIT state.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 8};

tcpId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX IIMCRFC12131354ASN1.TcpIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          tcpIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class tcp.!;;
```



```
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 6};

tcpInErrs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
```

```
     BEHAVIOUR
          tcpInErrsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpInErrs with object id
          {tcp 14} in RFC1213.!!;
          DESCRIPTION
          !!The total number of segments received in error
          (e.g., bad TCP checksums).!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 14};

tcpInSegs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpInSegsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpInSegs with object id
          {tcp 10} in RFC1213.!!;
          DESCRIPTION
          !!The total number of segments received, including
          those received in error. This count includes
          segments received on currently established
          connections.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 10};

tcpMaxConn ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpMaxConnBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpMaxConn with object id
          {tcp 4} in RFC1213.!!;
          DESCRIPTION
          !!The limit on the total number of TCP connections
          the entity can support. In entities where the
          maximum number of connections is dynamic, this
          attribute should contain the value -1.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 4};

tcpOutRsts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
```

```
     BEHAVIOUR
          tcpOutRstsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpOutRsts with object id
          {tcp 15} in RFC1213.!!;
          DESCRIPTION
          !!The number of TCP segments sent containing the
          RST flag.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 15};

tcpOutSegs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpOutSegsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpOutSegs with object id
          {tcp 11} in RFC1213.!!;
          DESCRIPTION
          !!The total number of segments sent, including
          those on current connections but excluding those
          containing only retransmitted octets.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 11};

tcpPassiveOpens  ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpPassiveOpensBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpPassiveOpens with
          object id {tcp 6} in RFC1213.!!;
          DESCRIPTION
          !!The number of times TCP connections have made a
          direct transition to the SYN-RCVD state from the
          LISTEN state.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 6};
```

```
tcpRetransSegs ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          tcpRetransSegsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpRetransSegs with
          object id {tcp 12} in RFC1213.!!;
```



```
          DESCRIPTION
          !!The total number of segments retransmitted -
          that is, the number of TCP segments transmitted
          containing one or more previously transmitted
          octets.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 12};

tcpRtoAlgorithm ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.TcpRtoAlgorithm;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpRtoAlgorithmBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpRtoAlgorithm with
          object id {tcp 1} in RFC1213.!!;
          DESCRIPTION
          !!The algorithm used to determine the timeout
          value used for retransmitting unacknowledged
          octets.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 1};

tcpRtoMax  ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpRtoMaxBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
```

```
          REFERENCE
          !!This attribute maps to tcpRtoMax with object id
          {tcp 3} in RFC1213.!!;
          DESCRIPTION
          !!The maximum value permitted by a TCP
          implementation for the retransmission timeout,
          measured in milliseconds. More refined semantics
          for attributes of this type depend upon the
          algorithm used to determine the retransmission
          timeout. In particular, when the timeout algorithm
          is rsre(3), an attribute of this type has the
          semantics of the UBOUND quantity described in RFC
          793.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 3};

tcpRtoMin ATTRIBUTE
     WITH ATTRIBUTE SYNTAX  IIMCRFC12131354ASN1.Integer;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          tcpRtoMinBehaviour BEHAVIOUR
```



```
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to tcpRtoMin with object id
          {tcp 2} in RFC1213.!!;
          DESCRIPTION
          !!The minimum value permitted by a TCP
          implementation for the retransmission timeout,
          measured in milliseconds. More refined semantics
          for attributes of this type depend upon the
          algorithm used to determine the retransmission
          timeout. In particular, when the timeout algorithm
          is rsre(3), an attribute of this type has the
          semantics of the LBOUND quantity described in RFC
          793.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 6 2};

udpEntryId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX
IIMCRFC12131354ASN1.UdpEntryIdValue;
     MATCHES FOR      EQUALITY;
```

```
     BEHAVIOUR
          udpEntryIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class
udpEntry.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 7 5 1};

udpId ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.UdpIdValue;
     MATCHES FOR      EQUALITY;
     BEHAVIOUR
          udpIdBehaviour BEHAVIOUR
          DEFINED AS
          !The naming attribute for object class udp.!;;
REGISTERED AS {iimcAutoName 1 3 6 1 2 1 7};

udpInDatagrams ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          udpInDatagramsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to udpInDatagrams with
          object id {udp 1} in RFC1213.!!;
          DESCRIPTION
          !!The total number of UDP datagrams delivered to
          UDP users.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 1};

udpInErrors ATTRIBUTE
```



```
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          udpInErrorsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to udpInErrors with object
          id {udp 3} in RFC1213.!!;
          DESCRIPTION
          !!The number of received UDP datagrams that could
          not be delivered for reasons other than the lack
```

```
          of an application at the destination port.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 3};

udpLocalAddress ATTRIBUTE
     DERIVED FROM   {iimcIIMCIMIBTRANS}:ipAddress;
     BEHAVIOUR
          udpLocalAddressBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to udpLocalAddress with
          object id {udpEntry 1} in RFC1213.!!;
          DESCRIPTION
          !!The local IP address for this UDP listener. In
          the case of a UDP listener which is willing to
          accept datagrams for any IP interface associated
          with the node, the value 0.0.0.0 is used.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 5 1 1};

udpLocalPort ATTRIBUTE
     WITH ATTRIBUTE SYNTAX   IIMCRFC12131354ASN1.Integer64k;
     MATCHES FOR      EQUALITY, ORDERING;
     BEHAVIOUR
          udpLocalPortBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to udpLocalPort with object
          id {udpEntry 2} in RFC 1213.!!;
          DESCRIPTION
          !!The local port number for this UDP listener.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 5 1 2};

udpNoPorts ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          udpNoPortsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
```

```
          !!This attribute maps to udpNoPorts with object id
          {udp 2} in RFC1213.!!;
          DESCRIPTION
          !!The total number of received UDP datagrams for
          which there was no application at the destination
          port.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 2};

udpOutDatagrams ATTRIBUTE
     DERIVED FROM {iimcIIMCIMIBTRANS} :counter32;
     BEHAVIOUR
          udpOutDatagramsBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          REFERENCE
          !!This attribute maps to udpOutDatagrams with
          object id {udp 4} in RFC1213.!!;
          DESCRIPTION
          !!The total number of UDP datagrams sent from this
          entity.!!;
          ENDPARSE!;;
REGISTERED AS {iimcAutoObjAndAttr 1 3 6 1 2 1 7 4};


-- 2.1.3  IIMCMIB-II Name Bindings


at-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     at   AND SUBCLASSES ;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE  atId;
     BEHAVIOUR
     at-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 3 };

atEntry-atNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     atEntry   AND SUBCLASSES ;
     NAMED BY SUPERIOR OBJECT CLASS  at   AND SUBCLASSES;
     WITH ATTRIBUTE  atEntryId;
     BEHAVIOUR
          atEntry-atNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     RFC1213-MIB.atIfIndex,
```

```
                RFC1213-MIB.atNetAddress;
           DELETEATT atPhysAddress;
           DELETEVALUE ''h;
```



```
           ENDPARSE!;;
      CREATE    WITH-AUTOMATIC-INSTANCE-NAMING,
                WITH-REFERENCE-OBJECT;
      DELETE    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 3 1 1};

egp-systemNB  NAME BINDING
      SUBORDINATE OBJECT CLASS     egp AND SUBCLASSES;
      NAMED BY SUPERIOR OBJECT CLASS
           "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
           AND SUBCLASSES;
      WITH ATTRIBUTE  egpId;
      BEHAVIOUR
      egp-systemNBBehaviour BEHAVIOUR
           DEFINED AS
           !BEGINPARSE
           INDEX     NULL;
           ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 8 };

egpNeighEntry-egpNB  NAME BINDING
      SUBORDINATE OBJECT CLASS egpNeighEntry  AND SUBCLASSES;
      NAMED BY SUPERIOR OBJECT CLASS  egp  AND SUBCLASSES;
      WITH ATTRIBUTE egpNeighEntryId;
      BEHAVIOUR
           egpNeighEntry-egpNBBehaviour BEHAVIOUR
           DEFINED AS
           !BEGINPARSE
           INDEX RFC1213-MIB.egpNeighAddr;
           ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 8 5 1};

icmp-systemNB  NAME BINDING
      SUBORDINATE OBJECT CLASS     icmp  AND SUBCLASSES;
      NAMED BY SUPERIOR OBJECT CLASS
           "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
           AND SUBCLASSES;
      WITH ATTRIBUTE icmpId;
      BEHAVIOUR
      icmp-systemNBBehaviour BEHAVIOUR
```

```
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 5 };

ifEntry-interfacesNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ifEntry AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS   interfaces AND
SUBCLASSES;
     WITH ATTRIBUTE ifEntryId;
     BEHAVIOUR
          ifEntry-interfacesNBBehaviour BEHAVIOUR
          DEFINED AS
```



```
          !BEGINPARSE
          INDEX RFC1213-MIB.ifIndex;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 2 2 1};

interfaces-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     interfaces AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE interfacesId;
     BEHAVIOUR
     interfaces-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 2 };

internetSystem-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     internetSystem  AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE internetSystemId;
     BEHAVIOUR
     internetSystem-systemNBBehaviour BEHAVIOUR
          DEFINED AS
```

```
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 1 };

ip-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ip AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE ipId;
     BEHAVIOUR
     ip-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 4};

ipAddrEntry-ipNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ipAddrEntry AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  ip AND SUBCLASSES;
     WITH ATTRIBUTE ipAddrEntryId;
     BEHAVIOUR
```



```
          ipAddrEntry-ipNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX RFC1213-MIB.ipAdEntAddr;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 4 20 1};

ipForwardEntry-ipNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ipForwardEntry AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  ip AND SUBCLASSES;
     WITH ATTRIBUTE ipForwardEntryId;
     BEHAVIOUR
          ipForwardEntry-ipNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     RFC1354-MIB.ipForwardDest,
                    RFC1354-MIB.ipForwardProto,
```

```
                    RFC1354-MIB.ipForwardPolicy,
                    RFC1354-MIB.ipForwardNextHop;
          DELETEATT ipForwardType;
          DELETEVALUE 2;
          ENDPARSE!;;
     CREATE    WITH-AUTOMATIC-INSTANCE-NAMING,
               WITH-REFERENCE-OBJECT;
     DELETE    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 4 24 2  1};

ipNetToMediaEntry-ipNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ipNetToMediaEntry  AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  ip  AND SUBCLASSES;
     WITH ATTRIBUTE ipNetToMediaEntryId;
     BEHAVIOUR
          ipNetToMediaEntry-ipNBBehaviour
          BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     RFC1213-MIB.ipNetToMediaIfIndex,
               RFC1213-MIB.ipNetToMediaNetAddress;
          DELETEATT ipNetToMediaType;
          DELETEVALUE 2;
          ENDPARSE!;;
     CREATE    WITH-AUTOMATIC-INSTANCE-NAMING,
               WITH-REFERENCE-OBJECT;
     DELETE    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 4 22 1};

ipRouteEntry-ipNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     ipRouteEntry AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  ip AND SUBCLASSES;
     WITH ATTRIBUTE ipRouteEntryId;
     BEHAVIOUR
```



```
          ipRouteEntry-ipNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX RFC1213-MIB.ipRouteDest;
          DELETEATT ipRouteType;
          DELETEVALUE 2;
          ENDPARSE!;;
```

```
     CREATE    WITH-AUTOMATIC-INSTANCE-NAMING,
               WITH-REFERENCE-OBJECT;
     DELETE    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 4 21 1};

snmp-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     snmp AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE snmpId;
     BEHAVIOUR
     snmp-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 11};

tcp-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     tcp AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE tcpId;
     BEHAVIOUR
     tcp-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 6 };

tcpConnEntry-tcpNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     tcpConnEntry AND
SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  tcp AND SUBCLASSES;
     WITH ATTRIBUTE tcpConnEntryId;
     BEHAVIOUR
          tcpConnEntry-tcpNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX      RFC1213-MIB.tcpConnLocalAddress,
                RFC1213-MIB.tcpConnLocalPort,
                RFC1213-MIB.tcpConnRemAddress,
                RFC1213-MIB.tcpConnRemPort;
          ENDPARSE!;;
```

```
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 6 13 1};

udp-systemNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     udp  AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS
          "Rec. X.721 | ISO/IEC 10165-2 : 1992" :system
          AND SUBCLASSES;
     WITH ATTRIBUTE udpId;
     BEHAVIOUR
     udp-systemNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     NULL;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 7};

udpEntry-udpNB  NAME BINDING
     SUBORDINATE OBJECT CLASS     udpEntry   AND SUBCLASSES;
     NAMED BY SUPERIOR OBJECT CLASS  udp  AND SUBCLASSES;
     WITH ATTRIBUTE udpEntryId;
     BEHAVIOUR
          udpEntry-udpNBBehaviour BEHAVIOUR
          DEFINED AS
          !BEGINPARSE
          INDEX     RFC1213-MIB.udpLocalAddress,
               RFC1213-MIB.udpLocalPort;
          ENDPARSE!;;
REGISTERED AS {iimcAutoNameBinding 1 3 6 1 2 1 7 5 1};



-- 2.2  IIMCMIB-II ASN.1 MODULE

IIMCRFC12131354ASN1 {iso(1) member-body(2) 124 forum(360501)
iimcAutoTrans(14)
iimcAutoModule(0) 1213 1354} DEFINITIONS IMPLICIT TAGS ::=
BEGIN
IMPORTS
          iimcAutoDocument, iimcAutoModule,
iimcAutoObjAndAttr,
          iimcAutoNameBinding, iimcAutoName
               FROM IimcAssignedOIDs
               {iso(1) member-body(2) 124 forum(360501)
               iimcManual(15) iimcModule(0) 1}
          Integer, Integer128, Integer64k, ObjectIdentifier
               FROM IimcCommonDef
               {iso(1) member-body(2) 124 forum(360501)
```

```
               iimcManual(15) iimcModule(0) 2}
          IpAddress
               FROM SNMPv2-SMI;

--  The following registration identifier is assigned to
--  this document using procedures defined in [19]:
```



```
iimcRFC12131354 OBJECT IDENTIFIER ::=  {iimcAutoDocument 1213
1354}

AtEntryIdValue ::=  SEQUENCE {
                    atIfIndex [1] Integer,
                    atNetAddress   [2] IpAddress
                    }

AtIdValue      ::=  NULL

c-ipForwardMask          IpAddress ::= '00000000'H
c-ipForwardIfIndex       Integer ::= 0
c-ipForwardType          IPForwardType ::= 2 -- invalid
c-ipForwardAge           Integer ::= 0
c-ipForwardInfo               ObjectIdentifier ::= { 0 0 }
c-ipForwardNextHopAS          Integer ::= 0
c-ipForwardMetric1       Integer ::= -1
c-ipForwardMetric2       Integer ::= -1
c-ipForwardMetric3       Integer ::= -1
c-ipForwardMetric4       Integer ::= -1
c-ipForwardMetric5       Integer ::= -1

EgpIdValue     ::=  NULL

EgpNeighEntryIdValue     ::=  SEQUENCE {
                    egpNeighAddr   [1] IpAddress
                    }

EgpNeighEventTrigger     ::= INTEGER    {
                              start(1),
                              stop(2)
                              }

EgpNeighMode    ::= INTEGER   {
                 active(1),
                 passive(2)
                }
```

```
EgpNeighState   ::= INTEGER   {
                 idle(1),
                 acquisition(2),
                 down(3),
                 up(4),
                 cease(5)
                 }

IcmpIdValue    ::=  NULL

IfAdminStatus   ::= INTEGER {
                  up(1),  -- ready to pass packets
                  down(2),
                  testing(3)  -- in some test mode
                   }
```



```
IfEntryIdValue ::=  SEQUENCE {
                    ifIndex        [1] Integer
                    }

IfOperStatus    ::= INTEGER   {
                         up(1),-- ready to pass packets
                         down(2),
                         testing(3)-- in some test mode
                    }

IfType ::=     INTEGER   {
               other(1),  -- none of the following
               regular1822(2),
               hdh1822(3),
               ddn-x25(4),
               rfc877-x25(5),
               ethernet-csmacd(6),
               iso88023-csmacd(7),
               iso88024-tokenBus(8),
               iso88025-tokenRing(9),
               iso88026-man(10),
               starLan(11),
               proteon-10Mbit(12),
               proteon-80Mbit(13),
               hyperchannel(14),
               fddi(15),
               lapb(16),
```

```
                sdlc(17),
                ds1(18),
                e1(19),-- european equivalent of T-1
                basicISDN(20),
                primaryISDN(21),-- proprietary serial
                propPointToPointSerial(22),
                ppp(23),
                softwareLoopback(24),
                eon(25),  -- CLNP over IP
                ethernet-3Mbit(26),
                nsip(27),  -- XNS over IP
                slip(28),  -- generic SLIP
                ultra(29),  -- ULTRA technologies
                ds3(30),  -- T-3
                sip(31),  -- SMDS
                frame-relay(32)
                }

InterfacesIdValue ::=    NULL

InternetSystemIdValue ::=   NULL

IpAddrEntryIdValue ::=   SEQUENCE {
                    ipAdEntAddr    [1] IpAddress
                    }

IpForwardEntryIdValue ::=
```



```
                    SEQUENCE {
                    ipForwardDest       [1] IpAddress,
                    ipForwardProto      [2] IpForwardProto,
                    ipForwardPolicy          [3] Integer,
                    ipForwardNextHop    [4] IpAddress
                    }

IpForwarding    ::= INTEGER   {
                forwarding(1),-- acting as a gateway
                not-forwarding(2)-- NOT acting as a gateway
                    }

IpForwardType ::= INTEGER {
                other    (1), -- not specified by this MIB
                invalid  (2), -- logically deleted
                local    (3), -- local interface
                remote   (4)  -- remote destination
```

```
                    }

IpForwardProto ::=  INTEGER {
            other     (1),  -- not specified
            local     (2),  -- local interface
            netmgmt   (3),  -- static route
            icmp      (4),  -- result of ICMP Redirect
                    -- the following are all dynamic
                    -- routing protocols
            egp       (5), -- Exterior Gateway Protocol
            ggp       (6),  -- Gateway-Gateway Protocol
            hello     (7),  -- FuzzBall HelloSpeak
            rip       (8),  -- Berkeley RIP or RIP-II
            is-is     (9),  -- Dual IS-IS
            es-is     (10), -- ISO 9542
            ciscoIgrp (11), -- Cisco IGRP
            bbnSpfIgp (12), -- BBN SPF IGP
            ospf      (13), -- Open Shortest Path First
            bgp       (14), -- Border Gateway Protocol
            idpr      (15) -- InterDomain Policy Routing
     }

IpIdValue ::=  NULL

IpNetToMediaEntryIdValue ::=
                    SEQUENCE {
                    ipNetToMediaIfIndex      [1] Integer,
                    ipNetToMediaNetAddress   [2] IpAddress
                              }

IpNetToMediaType ::= INTEGER {
              other(1),  -- none of the following
              invalid(2),-- an invalidated mapping
              dynamic(3),
              static(4)
                }
```



```
IpRouteEntryIdValue ::=  SEQUENCE {
                         ipRouteDest    [1] IpAddress
                         }

IpRouteProto    ::= INTEGER   {
              other(1),   -- none of the following
```

```
            local(2),   -- configured entries
            netmgmt(3),   -- mgmt protocol
            icmp(4),    -- obtained via ICMP,
                          -- e.g., redirect
            egp(5),
            ggp(6),
            hello(7),
            rip(8),
            is-is(9),
            es-is(10),
            ciscoIgrp(11),
            bbnSpfIgp(12),
            ospf(13),
            bgp(14)
             }

IpRouteType     ::= INTEGER   {
     other(1),      -- none of the following
     invalid(2),    -- an invalidated route
     direct(3), -- route to directly connected subnetwork
     indirect(4) -- route to a non-local host/network/subnet
              }


SnmpEnableAuthenTraps ::= INTEGER  {
                              enabled   (1),
                              disabled  (2)
                              }

SnmpIdValue ::=     NULL

TcpConnEntryIdValue ::=
                    SEQUENCE {
                    tcpConnLocalAddress      [1] IpAddress,
                    tcpConnLocalPort         [2] Integer64k,
                    tcpConnRemoteAddress     [3] IpAddress,
                    tcpConnRemotePort        [4] Integer64k
                    }

TcpConnState    ::= INTEGER {
                    closed(1),
                    listen(2),
                    synSent(3),
                    synReceived(4),
                    established(5),
                    finWait1(6),
                    finWait2(7),
```

```
                    closeWait(8),
                    lastAck(9),
                    closing(10),
                    timeWait(11),
                    deleteTCP(12) }

TcpIdValue ::= NULL

TcpRtoAlgorithm  ::= INTEGER  {
                other(1),     -- none of the following
                constant(2), -- a constant rto
                rsre(3),      -- MIL-STD-1778, Appendix B
                vanj(4)  -- Van Jacobsons alg.
               }

UdpEntryIdValue ::= SEQUENCE {
                        udpLocalAddress     [1] IpAddress,
                        udpLocalPort        [2] Integer64k
                        }

UdpIdValue ::= NULL

END
```

3. CONFORMANCE

An implementation claiming conformance to the translated ISO/CCITT GDMO MIB-II {iimcRFC12131354} shall conform to the all of the requirements stated in the corresponding MOCS proforma specified by Annex A.

ANNEX A (NORMATIVE): MANAGED OBJECT CONFORMANCE STATEMENTS (MOCS)

This section available only in Postscript Format.

ANNEX B: GLOSSARY

ASN.1	Abstract Syntax Notation One
CCITT	Consultative Committee on Telephony and Telegraphy
CMIP	Common Management Information Protocol
CMIS	Common Management Information Service
GDMO	Guidelines for the Definition of Managed Objects
GNMP	Government Network Management Profile
IIMC	ISO/CCITT and Internet Management Coexistence
ISO	International Standards Organization
MIB	Management Information Base
MOCS	Managed Object Conformance Statement
NMF	Network Management Forum
OID	Object Identifier
OSI	Open Systems Interconnection
PDU	Protocol Data Unit
RFC	Request For Comments
SMI	Structure of Management Information
SNMP	Simple Network Management Protocol
SNMPv1	Simple Network Management Protocol Version 1
SNMPv2	Simple Network Management Protocol Version 2
TCP/IP	Transmission Control Protocol/Internetwork Protocol

ANNEX C: REFERENCES

1) CCITT Recommendation X.700, Management Framework Definition for Open Systems Interconnection (OSI).

ISO/IEC 7498-4: 1989, Information Processing Systems -- Open Systems Interconnection -Basic Reference Model Part 4 -- Management Framework.

2) ISO/IEC 8824: Information Technology -- Open System Interconnection -- Specification of Abstract Syntax Notation One (ASN.1),1990.

3) CCITT Recommendation X.209 (1988), Specification of basic encoding rules for abstract syntax notation one (ASN.1).

ISO/IEC 8825: 1990, Information Technology -- Open System

Interconnection -- Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).

4) CCITT Recommendation X.710, (1991), Common Management Information Service Definition for CCITT Applications.

ISO/IEC 9595: 1991, Information Technology -- Open System Interconnection -- Common Management Information Service Definition.

5) CCITT Recommendation X.711 | ISO/IEC 9596-1: 1991, Information Technology -- Open Systems Interconnection -- Common Management Information Protocol -- Part 1: Specification.

6) CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4: 1992, Information Technology -- Open Systems Interconnection -- Systems Management -- Part 4: Alarm Reporting Function.

7) CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1: 1992, Information Technology -- Open Systems Interconnection -- Structure of Management Information -- Part 1: Management Information Model.

8) CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2: 1992, Information Technology -- Open Systems Interconnection -- Structure of Management Information -- Part 2: Definition of Management Information.

9) CCITT Recommendation X.721 (1992) | ISO/IEC 10165-4: 1992, Information Technology -- Open Systems Interconnection -- Structure of Management Information -- Part 4: Guidelines for the Definition of Managed Objects.

10) CCITT Recommendation X.723 (1993) | ISO/IEC 10165-6: 1993, Information Technology -- Open Systems Interconnection -- Structure of Management Information -- Part 6: Requirements and Guidelines for Implementation Conformance Statement Proformas associated with OSI Management.

11) RFC1155, M. Rose and K. McCloghrie, Structure and Identification of Management Information for TCP/IP based internets, May 1990.

12) RFC1157, J.D. Case, M.S. Fedor, M.L. Schoffstall,C. Davin, Simple Network Management Protocol (SNMP), May 1990.

13) RFC1212, M. Rose, K. McCloghrie -- Editors, Concise MIB Definitions, March 1991.

14) RFC1213, K. McCloghrie and M. Rose -- Editors, Management Information Base for Network Management of TCP/IP-based internets: MIB-II, March 1991.

15) RFC1354, F. Baker - Editor, IP Forwarding Table MIB, July, 1992.

16) RFC1441, J.D. Case, K. McCloghrie, M.T. Rose, S.L.Waldbusser, Introduction to version 2 of the Internet-standard Network Management Framework, April 1993.

17) RFC1442, J.D. Case, K. McCloghrie, M.T. Rose, S.L.Waldbusser, Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2), April 1993.

18) RFC1448, J.D. Case, K. McCloghrie, M.T. Rose, S.L.Waldbusser, Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2), April 1993.

19) Network Management Forum: Forum 026, Translation of Internet MIBs to ISO/CCITT GDMO MIBs, Issue 1.0, October 1993.

20) Network Management Forum: Forum 028, ISO/CCITT to Internet Management Proxy, Issue 1.0, 1993.

21) Network Management Forum: Forum 027, ISO/CCITT to Internet Management Security, Issue 1.0, October 1993.

22) Network Management Forum: Forum 030, Translation of ISO/CCITT GDMO MIBs to Internet MIBs, Issue 1.0, October 1993.

23) NM Forum and X/Open, ISO/CCITT and Internet Management: Coexistence and Interworking Strategy, Issue 1.0,

October, 1992.

24) Federal Information Processing Standards Publication 179 -- Government Network Management Profile v1.0, December 1992.