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Deprecation of MIB Module NAT-MIB:
Managed Objects for Network Address Translators (NATs)

Abstract

This memo deprecates MIB module NAT-MIB, a portion of the Management Information Base (MIB) previously defined in RFC 4008 for devices implementing Network Address Translator (NAT) function. A companion document defines a new version, NATV2-MIB, which responds to deficiencies found in module NAT-MIB and adds new capabilities.

This document obsoletes RFC 4008. All MIB objects specified in RFC 4008 are included in this version unchanged with only the STATUS changed to deprecated.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <http://www.rfc-editor.org/info/rfc7658>.

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1. Introduction

This memo deprecates a portion of the Management Information Base (MIB), MIB module NAT-MIB, for devices implementing the Network Address Translator (NAT) function. New implementations are encouraged to base themselves upon the second version of this MIB module, NATV2-MIB, defined in [RFC7659]. NAT types and their characteristics are defined in [RFC2663]. Traditional NAT function, in particular, is defined in [RFC3022]. Neither NAT-MIB nor NATV2-MIB addresses firewall functions, and neither can be used for configuring or monitoring them.

Section 2 provides references to the Simple Network Management Protocol (SNMP) management framework, which was used as the basis for the original MIB module definition and its deprecation. Section 3 provides motivation for the deprecation of module NAT-MIB and its replacement by module NATV2-MIB. Section 4 has the complete NAT-MIB module definition, with the STATUS of all objects changed to

deprecated. Section 5 describes security considerations relating to NAT-MIB, basically relying on the security considerations in [RFC4008] and [RFC7659].

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

2. The Internet-Standard Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to section 7 of RFC 3410 [RFC3410].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579], and STD 58, RFC 2580 [RFC2580].

3. Motivation For Deprecating NAT-MIB

This section provides the motivation for deprecating the NAT-MIB module and its replacement by a new version.

3.1. Deprecated Features

All objects defined in [RFC4008] have been marked with "STATUS deprecated" for the following reasons:

Writability: Experience with NAT has shown that implementations vary tremendously. The NAT algorithms and data structures have little in common across devices, and this results in wildly incompatible configuration parameters. Therefore, few implementations were ever able to claim full compliance.

Lesson learned: the MIB should be read-only as much as possible.

Exposing configuration parameters: Even in read-only mode, many configuration parameters were exposed by [RFC4008] (e.g., timeouts). Since implementations vary wildly in their sets of configuration parameters, few implementations could claim even basic compliance.

Lesson learned: the NAT-MIB's purpose is not to expose configuration parameters.

Interfaces: Objects from [RFC4008] tie NAT state with interfaces (e.g., the interface table, the way map entries are grouped by interface). Many NAT implementations either never keep track of the interface or associate a mapping to a set of interfaces. Since interfaces are at the core of [RFC4008], many NAT devices were unable to have a proper implementation.

Lesson learned: NAT is a logical function that may be independent of interfaces. Do not tie NAT state with interfaces.

NAT service types: [RFC4008] used four categories of NAT service: basicNat, napt, bidirectionalNat, twiceNat. These are ill-defined, and many implementations either use different categories or do not use categories at all.

Lesson learned: do not try to categorize NAT types.

Limited transport protocol set: The set of transport protocols was defined as: other, icmp, udp, and tcp. Furthermore, the numeric values corresponding to those labels were arbitrary, without relation to the actual standard protocol numbers. This meant that NAT implementations were limited to those protocols and were unable to expose information about DCCP, SCTP, etc.

Lesson learned: use standard transport protocol numbers.

3.2. Desirable New Features

A number of desirable new features have been identified that are not present in NAT-MIB. See the latter part of Section 2 of [RFC7659].

4. Definitions

This MIB module IMPORTs objects from [RFC2578], [RFC2579], [RFC2580], [RFC2863], [RFC3411], and [RFC4001]. It also refers to information in [RFC792], [RFC4443], and [RFC3413].

```
NAT-MIB DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Integer32,
    Unsigned32,
    Gauge32,
    Counter64,
    TimeTicks,
    mib-2,
    NOTIFICATION-TYPE
        FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,
    StorageType,
    RowStatus
        FROM SNMPv2-TC
    MODULE-COMPLIANCE,
    NOTIFICATION-GROUP,
    OBJECT-GROUP
        FROM SNMPv2-CONF
    ifIndex,
    ifCounterDiscontinuityGroup
        FROM IF-MIB
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    InetAddressType,
    InetAddress,
    InetPortNumber
        FROM INET-ADDRESS-MIB;
```

```
natMIB MODULE-IDENTITY
```

```
    LAST-UPDATED "201510020000Z" -- 2 October 2015
    ORGANIZATION
        "IETF Behavior Engineering for Hindrance Avoidance
        (BEHAVE) Working Group"
    CONTACT-INFO
        "Working Group Email: behave@ietf.org

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        Jive Communications
        Quebec, QC
```

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Email: tom.taylor.stds@gmail.com"

DESCRIPTION

"This MIB module defines the generic managed objects for NAT.

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This version of this MIB module is part of RFC 7658; see the RFC itself for full legal notices."

REVISION "201510020000Z" -- 2 October 2015

DESCRIPTION

```

    "Deprecation of all objects, published as RFC 7658.
    See NATV2-MIB in RFC 7659 for recommended replacement."
REVISION      "200503210000Z" -- 21 March 2005
DESCRIPTION
    "Initial version, published as RFC 4008."
 ::= { mib-2 123 }

natMIBObjects OBJECT IDENTIFIER ::= { natMIB 1 }

NatProtocolType ::= TEXTUAL-CONVENTION
    STATUS      deprecated
    DESCRIPTION
        "A list of protocols that support the network
        address translation. Inclusion of the values is
        not intended to imply that those protocols
        need to be supported. Any change in this
        TEXTUAL-CONVENTION should also be reflected in
        the definition of NatProtocolMap, which is a
        BITS representation of this.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    SYNTAX      INTEGER {
        none (1), -- not specified
        other (2), -- none of the following
        icmp (3),
        udp (4),
        tcp (5)
    }

NatProtocolMap ::= TEXTUAL-CONVENTION
    STATUS      deprecated
    DESCRIPTION
        "A bitmap of protocol identifiers that support
        the network address translation. Any change
        in this TEXTUAL-CONVENTION should also be
        reflected in the definition of NatProtocolType.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    SYNTAX      BITS {
        other (0),
        icmp (1),
        udp (2),
        tcp (3)
    }

NatAddrMapId ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS      deprecated
```

DESCRIPTION

"A unique ID that is assigned to each address map by a NAT-enabled device.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatBindIdOrZero ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each bind by a NAT-enabled device. The bind ID will be zero in the case of a Symmetric NAT.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (0..4294967295)

NatBindId ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each bind by a NAT-enabled device.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatSessionId ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each session by a NAT-enabled device.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatBindMode ::= TEXTUAL-CONVENTION

STATUS deprecated

DESCRIPTION

"An indication of whether the bind is an address bind or an address port bind.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX INTEGER {
 addressBind (1),
 addressPortBind (2)}

```
    }

NatAssociationType ::= TEXTUAL-CONVENTION
    STATUS deprecated
    DESCRIPTION
        "An indication of whether the association is
        static or dynamic.
        Deprecated in favor of NATV2-MIB."
    REFERENCE "RFC 7658, RFC 7659"
    SYNTAX INTEGER {
        static (1),
        dynamic (2)
    }

NatTranslationEntity ::= TEXTUAL-CONVENTION
    STATUS deprecated
    DESCRIPTION
        "An indication of a) the direction of a session for
        which an address map entry, address bind, or port
        bind is applicable, and b) the entity (source or
        destination) within the session that is subject to
        translation.
        Deprecated in favor of NATV2-MIB."
    REFERENCE "RFC 7658, RFC 7659"
    SYNTAX BITS {
        inboundSrcEndPoint (0),
        outboundDstEndPoint(1),
        inboundDstEndPoint (2),
        outboundSrcEndPoint(3)
    }

--
-- Default Values for the Bind and NAT Protocol Timers
--

natDefTimeouts OBJECT IDENTIFIER ::= { natMIBObjects 1 }

natNotifCtrl OBJECT IDENTIFIER ::= { natMIBObjects 2 }

--
-- NAT configuration related to Address Bind and Port Bind
--

natBindDefIdleTimeout OBJECT-TYPE
    SYNTAX Unsigned32 (0..4294967295)
    UNITS "seconds"
    MAX-ACCESS read-write
    STATUS deprecated
```

```
DESCRIPTION
    "The default Bind (Address Bind or Port Bind) idle
    timeout parameter.

    If the agent is capable of storing non-volatile
    configuration, then the value of this object must be
    restored after a reinitialization of the management
    system.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
DEFVAL { 0 }
 ::= { natDefTimeouts 1 }

--
-- UDP related NAT configuration
--

natUdpDefIdleTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    UNITS       "seconds"
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION
        "The default UDP idle timeout parameter.

        If the agent is capable of storing non-volatile
        configuration, then the value of this object must be
        restored after a reinitialization of the management
        system.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    DEFVAL { 300 }
    ::= { natDefTimeouts 2 }

--
-- ICMP related NAT configuration
--

natIcmpDefIdleTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    UNITS       "seconds"
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION
        "The default ICMP idle timeout parameter.

        If the agent is capable of storing non-volatile
        configuration, then the value of this object must be
```

```
        restored after a reinitialization of the management
        system.
        Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
DEFVAL     { 300 }
 ::= { natDefTimeouts 3 }

--
-- Other protocol parameters
--

natOtherDefIdleTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    UNITS       "seconds"
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION
        "The default idle timeout parameter for protocols
        represented by the value other (2) in
        NatProtocolType.

        If the agent is capable of storing non-volatile
        configuration, then the value of this object must be
        restored after a reinitialization of the management
        system.
        Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
DEFVAL     { 60 }
 ::= { natDefTimeouts 4 }
```

```
--
-- TCP related NAT Timers
--
```

```
natTcpDefIdleTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    UNITS       "seconds"
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION
        "The default time interval that a NAT session for an
        established TCP connection is allowed to remain
        valid without any activity on the TCP connection.

        If the agent is capable of storing non-volatile
        configuration, then the value of this object must be
        restored after a reinitialization of the management
        system."
```

Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
DEFVAL { 86400 }
 ::= { natDefTimeouts 5 }

natTcpDefNegTimeout OBJECT-TYPE
SYNTAX Unsigned32 (1..4294967295)
UNITS "seconds"
MAX-ACCESS read-write
STATUS deprecated
DESCRIPTION
"The default time interval that a NAT session for a TCP connection that is not in the established state is allowed to remain valid without any activity on the TCP connection.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.
Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
DEFVAL { 60 }
 ::= { natDefTimeouts 6 }

natNotifThrottlingInterval OBJECT-TYPE
SYNTAX Integer32 (0 | 5..3600)
UNITS "seconds"
MAX-ACCESS read-write
STATUS deprecated
DESCRIPTION
"This object controls the generation of the natPacketDiscard notification.

If this object has a value of zero, then no natPacketDiscard notifications will be transmitted by the agent.

If this object has a non-zero value, then the agent must not generate more than one natPacketDiscard 'notification-event' in the indicated period, where a 'notification-event' is the generation of a single notification PDU type to a list of notification destinations. If additional NAT packets are discarded within the throttling period, then notification-events for these changes must be suppressed by the agent until the current throttling period expires.

If natNotifThrottlingInterval notification generation is enabled, the suggested default throttling period is 60 seconds, but generation of the natPacketDiscard notification should be disabled by default.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

The actual transmission of notifications is controlled via the MIB modules in RFC 3413.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natNotifCtrl 1 }

--

-- The NAT Interface Table

--

natInterfaceTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatInterfaceEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This table specifies the attributes for interfaces on a device supporting NAT function.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natMIBObjects 3 }

natInterfaceEntry OBJECT-TYPE

SYNTAX NatInterfaceEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"Each entry in the natInterfaceTable holds a set of parameters for an interface, instantiated by ifIndex. Therefore, the interface index must have been assigned, according to the applicable procedures, before it can be meaningfully used. Generally, this means that the interface must exist.

When natStorageType is of type nonVolatile, however, this may reflect the configuration for an interface whose ifIndex has been assigned but for which the supporting implementation is not currently present.

```

        Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
INDEX      { ifIndex }
 ::= { natInterfaceTable 1 }

NatInterfaceEntry ::= SEQUENCE {
    natInterfaceRealm          INTEGER,
    natInterfaceServiceType   BITS,
    natInterfaceInTranslates  Counter64,
    natInterfaceOutTranslates Counter64,
    natInterfaceDiscards      Counter64,
    natInterfaceStorageType   StorageType,
    natInterfaceRowStatus     RowStatus
}

natInterfaceRealm OBJECT-TYPE
SYNTAX      INTEGER {
                private (1),
                public (2)
            }
MAX-ACCESS  read-create
STATUS      deprecated
DESCRIPTION
    "This object identifies whether this interface is
     connected to the private or the public realm.
     Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
DEFVAL     { public }
 ::= { natInterfaceEntry 1 }

natInterfaceServiceType OBJECT-TYPE
SYNTAX      BITS {
                basicNat (0),
                napt (1),
                bidirectionalNat (2),
                twiceNat (3)
            }
MAX-ACCESS  read-create
STATUS      deprecated
DESCRIPTION
    "An indication of the direction in which new sessions
     are permitted and the extent of translation done within
     the IP and transport headers.
     Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 2 }

natInterfaceInTranslates OBJECT-TYPE

```

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of packets received on this interface that
    were translated.
    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 3 }

natInterfaceOutTranslates OBJECT-TYPE
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of translated packets that were sent out this
    interface.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 4 }

natInterfaceDiscards OBJECT-TYPE
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of packets that had to be rejected/dropped due to
    a lack of resources for this interface.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 5 }

natInterfaceStorageType OBJECT-TYPE
SYNTAX      StorageType
```

```
MAX-ACCESS    read-create
STATUS        deprecated
DESCRIPTION   "The storage type for this conceptual row.
               Conceptual rows having the value 'permanent'
               need not allow write-access to any columnar objects
               in the row.
               Deprecated in favor of NATV2-MIB."
REFERENCE     "RFC 7658, RFC 7659, and Section 2 of RFC 2579
               (Textual Conventions for Conventions for SMIV2)."
```

```
DEFVAL { nonVolatile }
 ::= { natInterfaceEntry 6 }
```

```
natInterfaceRowStatus OBJECT-TYPE
SYNTAX        RowStatus
MAX-ACCESS    read-create
STATUS        deprecated
DESCRIPTION   "The status of this conceptual row.

               Until instances of all corresponding columns are
               appropriately configured, the value of the
               corresponding instance of the natInterfaceRowStatus
               column is 'notReady'.

               In particular, a newly created row cannot be made
               active until the corresponding instance of
               natInterfaceServiceType has been set.

               None of the objects in this row may be modified
               while the value of this object is active(1).
               Deprecated in favor of NATV2-MIB."
REFERENCE     "RFC 7658, RFC 7659, and Section 2 of RFC 2579
               (Textual Conventions for Conventions for SMIV2)."
```

```
 ::= { natInterfaceEntry 7 }
```

```
--
-- The Address Map Table
--
```

```
natAddrMapTable OBJECT-TYPE
SYNTAX        SEQUENCE OF NatAddrMapEntry
MAX-ACCESS    not-accessible
STATUS        deprecated
DESCRIPTION   "This table lists address map parameters for NAT.
               Deprecated in favor of NATV2-MIB."
REFERENCE     "RFC 7658, RFC 7659"
```

```
::= { natMIBObjects 4 }
```

```
natAddrMapEntry OBJECT-TYPE
    SYNTAX      NatAddrMapEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This entry represents an address map to be used for
        NAT and contributes to the dynamic and/or static
        address mapping tables of the NAT device.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    INDEX       { ifIndex, natAddrMapIndex }
    ::= { natAddrMapTable 1 }
```

```
NatAddrMapEntry ::= SEQUENCE {
    natAddrMapIndex          NatAddrMapId,
    natAddrMapName           SnmpAdminString,
    natAddrMapEntryType      NatAssociationType,
    natAddrMapTranslationEntity NatTranslationEntity,
    natAddrMapLocalAddrType  InetAddressType,
    natAddrMapLocalAddrFrom  InetAddress,
    natAddrMapLocalAddrTo    InetAddress,
    natAddrMapLocalPortFrom  InetPortNumber,
    natAddrMapLocalPortTo    InetPortNumber,
    natAddrMapGlobalAddrType InetAddressType,
    natAddrMapGlobalAddrFrom InetAddress,
    natAddrMapGlobalAddrTo   InetAddress,
    natAddrMapGlobalPortFrom InetPortNumber,
    natAddrMapGlobalPortTo   InetPortNumber,
    natAddrMapProtocol        NatProtocolMap,
    natAddrMapInTranslates    Counter64,
    natAddrMapOutTranslates   Counter64,
    natAddrMapDiscards        Counter64,
    natAddrMapAddrUsed        Gauge32,
    natAddrMapStorageType     StorageType,
    natAddrMapRowStatus       RowStatus
}
```

```
natAddrMapIndex OBJECT-TYPE
    SYNTAX      NatAddrMapId
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "Along with ifIndex, this object uniquely
        identifies an entry in the natAddrMapTable.
        Address map entries are applied in the order
        specified by natAddrMapIndex."
```

Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 1 }

natAddrMapName OBJECT-TYPE
SYNTAX SnmpAdminString (SIZE(1..32))
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION
"Name identifying all map entries in the table associated
with the same interface. All map entries with the same
ifIndex MUST have the same map name.
Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 2 }

natAddrMapEntryType OBJECT-TYPE
SYNTAX NatAssociationType
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION
"This parameter can be used to set up static
or dynamic address maps.
Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 3 }

natAddrMapTranslationEntity OBJECT-TYPE
SYNTAX NatTranslationEntity
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION
"The endpoint entity (source or destination) in
inbound or outbound sessions (i.e., first packets) that
may be translated by an address map entry.

Session direction (inbound or outbound) is
derived from the direction of the first packet
of a session traversing a NAT interface.
NAT address (and Transport-ID) maps may be defined
to effect inbound or outbound sessions.

Traditionally, address maps for Basic NAT and NAPT are
configured on a public interface for outbound sessions,
effecting translation of source endpoint. The value of
this object must be set to outboundSrcEndPoint for
those interfaces."

Alternately, if address maps for Basic NAT and NAPT were to be configured on a private interface, the desired value for this object for the map entries would be inboundSrcEndPoint (i.e., effecting translation of source endpoint for inbound sessions).

If twiceNAT were to be configured on a private interface, the desired value for this object for the map entries would be a bitmask of inboundSrcEndPoint and inboundDstEndPoint.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 4 }

natAddrMapLocalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 5 }

natAddrMapLocalAddrFrom OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the first IP address of the range of IP addresses mapped by this translation entry. The value of this object must be less than or equal to the value of the natAddrMapLocalAddrTo object.

The type of this address is determined by the value of the natAddrMapLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 6 }

natAddrMapLocalAddrTo OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the last IP address of the range of IP addresses mapped by this translation entry. If

only a single address is being mapped, the value of this object is equal to the value of natAddrMapLocalAddrFrom. For a static NAT, the number of addresses in the range defined by natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo must be equal to the number of addresses in the range defined by natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo. The value of this object must be greater than or equal to the value of the natAddrMapLocalAddrFrom object.

The type of this address is determined by the value of the natAddrMapLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 7 }

natAddrMapLocalPortFrom OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAT, then the value of this object specifies the first port number in the range of ports being mapped.

The value of this object must be less than or equal to the value of the natAddrMapLocalPortTo object. If the translation specifies a single port, then the value of this object is equal to the value of natAddrMapLocalPortTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natAddrMapEntry 8 }

natAddrMapLocalPortTo OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAT, then the value of this object specifies the last port number in the range of ports being mapped.

The value of this object must be greater than or equal to the value of the natAddrMapLocalPortFrom object. If the translation specifies a single port, then the value of this object is equal to the value of natAddrMapLocalPortFrom.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natAddrMapEntry 9 }

natAddrMapGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 10 }

natAddrMapGlobalAddrFrom OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the first IP address of the range of IP addresses being mapped to. The value of this object must be less than or equal to the value of the natAddrMapGlobalAddrTo object.

The type of this address is determined by the value of the natAddrMapGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 11 }

natAddrMapGlobalAddrTo OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the last IP address of the range of IP addresses being mapped to. If only a single address is being mapped to, the value of this object is equal to the value of natAddrMapGlobalAddrFrom. For a static NAT, the number of addresses in the range defined by natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo

must be equal to the number of addresses in the range defined by natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo. The value of this object must be greater than or equal to the value of the natAddrMapGlobalAddrFrom object.

The type of this address is determined by the value of the natAddrMapGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 12 }

natAddrMapGlobalPortFrom OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NATP, then the value of this object specifies the first port number in the range of ports being mapped to.

The value of this object must be less than or equal to the value of the natAddrMapGlobalPortTo object. If the translation specifies a single port, then the value of this object is equal to the value natAddrMapGlobalPortTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natAddrMapEntry 13 }

natAddrMapGlobalPortTo OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NATP, then the value of this object specifies the last port number in the range of ports being mapped to.

The value of this object must be greater than or equal to the value of the natAddrMapGlobalPortFrom object. If the translation specifies a single port, then the value of this object is equal to the value of

```
        natAddrMapGlobalPortFrom.  
        Deprecated in favor of NATV2-MIB."  
REFERENCE   "RFC 7658, RFC 7659"  
DEFVAL     { 0 }  
 ::= { natAddrMapEntry 14 }  
  
natAddrMapProtocol OBJECT-TYPE  
SYNTAX     NatProtocolMap  
MAX-ACCESS read-create  
STATUS     deprecated  
DESCRIPTION  
    "This object specifies a bitmap of protocol identifiers.  
    Deprecated in favor of NATV2-MIB."  
REFERENCE   "RFC 7658, RFC 7659"  
 ::= { natAddrMapEntry 15 }  
  
natAddrMapInTranslates OBJECT-TYPE  
SYNTAX     Counter64  
MAX-ACCESS read-only  
STATUS     deprecated  
DESCRIPTION  
    "The number of inbound packets pertaining to this address  
    map entry that were translated.  
  
    Discontinuities in the value of this counter can occur  
    at reinitialization of the management system and at  
    other times, as indicated by the value of  
    ifCounterDiscontinuityTime on the relevant interface.  
    Deprecated in favor of NATV2-MIB."  
REFERENCE   "RFC 7658, RFC 7659"  
 ::= { natAddrMapEntry 16 }  
  
natAddrMapOutTranslates OBJECT-TYPE  
SYNTAX     Counter64  
MAX-ACCESS read-only  
STATUS     deprecated  
DESCRIPTION  
    "The number of outbound packets pertaining to this  
    address map entry that were translated.  
  
    Discontinuities in the value of this counter can occur  
    at reinitialization of the management system and at  
    other times, as indicated by the value of  
    ifCounterDiscontinuityTime on the relevant interface.  
    Deprecated in favor of NATV2-MIB."  
REFERENCE   "RFC 7658, RFC 7659"  
 ::= { natAddrMapEntry 17 }
```

natAddrMapDiscards OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of packets pertaining to this address map entry that were dropped due to lack of addresses in the address pool identified by this address map. The value of this object must always be zero in case of a static address map.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 18 }

natAddrMapAddrUsed OBJECT-TYPE

SYNTAX Gauge32
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of addresses pertaining to this address map that are currently being used from the NAT pool. The value of this object must always be zero in the case of a static address map.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 19 }

natAddrMapStorageType OBJECT-TYPE

SYNTAX StorageType
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION

"The storage type for this conceptual row. Conceptual rows having the value 'permanent' need not allow write-access to any columnar objects in the row.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659, and Section 2 of RFC 2579 (Textual Conventions for Conventions for SMIV2)."
DEFVAL { nonVolatile }
 ::= { natAddrMapEntry 20 }

natAddrMapRowStatus OBJECT-TYPE

```
SYNTAX      RowStatus
MAX-ACCESS  read-create
STATUS      deprecated
DESCRIPTION
    "The status of this conceptual row.

    Until instances of all corresponding columns are
    appropriately configured, the value of the
    corresponding instance of the natAddrMapRowStatus
    column is 'notReady'.

    None of the objects in this row may be modified
    while the value of this object is active(1).
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659, and Section 2 of RFC 2579
            (Textual Conventions for Conventions for SMIV2)."
```

```
 ::= { natAddrMapEntry 21 }
```

```
--
-- Address Bind section
--
```

```
natAddrBindNumberOfEntries OBJECT-TYPE
    SYNTAX      Gauge32
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "This object maintains a count of the number of entries
        that currently exist in the natAddrBindTable.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natMIBObjects 5 }
```

```
--
-- The NAT Address BIND Table
--
```

```
natAddrBindTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF NatAddrBindEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This table holds information about the currently
        active NAT BINDS.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natMIBObjects 6 }
```

```

natAddrBindEntry OBJECT-TYPE
    SYNTAX      NatAddrBindEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "Each entry in this table holds information about
        an active address BIND.  These entries are lost
        upon agent restart.

        This row has indexing that may create variables with
        more than 128 subidentifiers.  Implementers of this
        table must be careful not to create entries that would
        result in OIDs that exceed the 128 subidentifier limit.
        Otherwise, the information cannot be accessed using
        SNMPv1, SNMPv2c, or SNMPv3.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"

    INDEX      { ifIndex,
                natAddrBindLocalAddrType,
                natAddrBindLocalAddr }
    ::= { natAddrBindTable 1 }

NatAddrBindEntry ::= SEQUENCE {
    natAddrBindLocalAddrType      InetAddressType,
    natAddrBindLocalAddr         InetAddress,
    natAddrBindGlobalAddrType    InetAddressType,
    natAddrBindGlobalAddr       InetAddress,
    natAddrBindId                NatBindId,
    natAddrBindTranslationEntity NatTranslationEntity,
    natAddrBindType              NatAssociationType,
    natAddrBindMapIndex          NatAddrMapId,
    natAddrBindSessions          Gauge32,
    natAddrBindMaxIdleTime       TimeTicks,
    natAddrBindCurrentIdleTime   TimeTicks,
    natAddrBindInTranslates      Counter64,
    natAddrBindOutTranslates     Counter64
}

natAddrBindLocalAddrType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This object specifies the address type used for
        natAddrBindLocalAddr.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"

```

```
::= { natAddrBindEntry 1 }
```

natAddrBindLocalAddr OBJECT-TYPE

SYNTAX InetAddress (SIZE (4|16))

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object represents the private-realm-specific network-layer address, which maps to the public-realm address represented by natAddrBindGlobalAddr.

The type of this address is determined by the value of the natAddrBindLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 2 }
```

natAddrBindGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrBindGlobalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 3 }
```

natAddrBindGlobalAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the public-realm network-layer address that maps to the private-realm network-layer address represented by natAddrBindLocalAddr.

The type of this address is determined by the value of the natAddrBindGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 4 }
```

natAddrBindId OBJECT-TYPE

SYNTAX NatBindId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents a bind ID that is dynamically assigned to each bind by a NAT-enabled device. Each bind is represented by a bind ID that is unique across both the natAddrBindTable and the natAddrPortBindTable.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 5 }

natAddrBindTranslationEntity OBJECT-TYPE

SYNTAX NatTranslationEntity

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the direction of sessions for which this bind is applicable and the endpoint entity (source or destination) within the sessions that is subject to translation using the BIND.

Orientation of the bind can be a superset of translationEntity of the address map entry that forms the basis for this bind.

For example, if the translationEntity of an address map entry is outboundSrcEndPoint, the translationEntity of a bind derived from this map entry may either be outboundSrcEndPoint or it may be bidirectional (a bitmask of outboundSrcEndPoint and inboundDstEndPoint).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 6 }

natAddrBindType OBJECT-TYPE

SYNTAX NatAssociationType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind is static or dynamic.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 7 }

natAddrBindMapIndex OBJECT-TYPE

SYNTAX NatAddrMapId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object is a pointer to the natAddrMapTable entry (and the parameters of that entry) that was used in creating this BIND. This object, in conjunction with the ifIndex (which identifies a unique addrMapName) points to a unique entry in the natAddrMapTable. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrBindEntry 8 }

natAddrBindSessions OBJECT-TYPE

SYNTAX Gauge32
MAX-ACCESS read-only
STATUS deprecated

DESCRIPTION

"Number of sessions currently using this BIND. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrBindEntry 9 }

natAddrBindMaxIdleTime OBJECT-TYPE

SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated

DESCRIPTION

"This object indicates the maximum time for which this bind can be idle with no sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrBindEntry 10 }

natAddrBindCurrentIdleTime OBJECT-TYPE

SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated

DESCRIPTION

"At any given instance, this object indicates the time that this bind has been idle without any sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 11 }
```

```
natAddrBindInTranslates OBJECT-TYPE
```

```
SYNTAX Counter64
```

```
MAX-ACCESS read-only
```

```
STATUS deprecated
```

```
DESCRIPTION
```

```
"The number of inbound packets that were successfully translated by using this bind entry.
```

```
Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
```

```
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE "RFC 7658, RFC 7659"
```

```
::= { natAddrBindEntry 12 }
```

```
natAddrBindOutTranslates OBJECT-TYPE
```

```
SYNTAX Counter64
```

```
MAX-ACCESS read-only
```

```
STATUS deprecated
```

```
DESCRIPTION
```

```
"The number of outbound packets that were successfully translated using this bind entry.
```

```
Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
```

```
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE "RFC 7658, RFC 7659"
```

```
::= { natAddrBindEntry 13 }
```

```
--
```

```
-- Address Port Bind section
```

```
--
```

```
natAddrPortBindNumberOfEntries OBJECT-TYPE
```

```
SYNTAX Gauge32
```

```
MAX-ACCESS read-only
```

```
STATUS deprecated
```

```
DESCRIPTION
```

```
"This object maintains a count of the number of entries that currently exist in the natAddrPortBindTable.
```

```
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE "RFC 7658, RFC 7659"
```

```
::= { natMIBObjects 7 }
```

--
 --
 --

The NAT Address Port Bind Table

natAddrPortBindTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatAddrPortBindEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This table holds information about the currently active NAPT BINDs.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natMIBObjects 8 }

natAddrPortBindEntry OBJECT-TYPE

SYNTAX NatAddrPortBindEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"Each entry in the this table holds information about a NAPT bind that is currently active.

These entries are lost upon agent restart.

This row has indexing that may create variables with more than 128 subidentifiers. Implementers of this table must be careful not to create entries that would result in OIDs that exceed the 128 subidentifier limit. Otherwise, the information cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

INDEX { ifIndex, natAddrPortBindLocalAddrType,
 natAddrPortBindLocalAddr, natAddrPortBindLocalPort,
 natAddrPortBindProtocol }

::= { natAddrPortBindTable 1 }

NatAddrPortBindEntry ::= SEQUENCE {

natAddrPortBindLocalAddrType InetAddressType,

natAddrPortBindLocalAddr InetAddress,

natAddrPortBindLocalPort InetPortNumber,

natAddrPortBindProtocol NatProtocolType,

natAddrPortBindGlobalAddrType InetAddressType,

natAddrPortBindGlobalAddr InetAddress,

natAddrPortBindGlobalPort InetPortNumber,

natAddrPortBindId NatBindId,

natAddrPortBindTranslationEntity NatTranslationEntity,

natAddrPortBindType NatAssociationType,

```

    natAddrPortBindMapIndex      NatAddrMapId,
    natAddrPortBindSessions      Gauge32,
    natAddrPortBindMaxIdleTime   TimeTicks,
    natAddrPortBindCurrentIdleTime TimeTicks,
    natAddrPortBindInTranslates Counter64,
    natAddrPortBindOutTranslates Counter64
}

```

natAddrPortBindLocalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for
natAddrPortBindLocalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 1 }

natAddrPortBindLocalAddr OBJECT-TYPE

SYNTAX InetAddress (SIZE(4|16))

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object represents the private-realm-specific
network-layer address that, in conjunction with
natAddrPortBindLocalPort, maps to the public-realm
network-layer address and transport ID represented by
natAddrPortBindGlobalAddr and natAddrPortBindGlobalPort,
respectively.

The type of this address is determined by the value of
the natAddrPortBindLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 2 }

natAddrPortBindLocalPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"For a protocol value TCP or UDP, this object represents
the private-realm-specific port number. On the other
hand, for ICMP a bind is created only for query/response-
type ICMP messages such as ICMP echo, Timestamp, and
Information request messages, and this object represents
the private-realm-specific identifier in the ICMP

message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

This object, together with natAddrPortBindProtocol, natAddrPortBindLocalAddrType, and natAddrPortBindLocalAddr, constitutes a session endpoint in the private realm. A bind entry binds a private-realm-specific endpoint to a public-realm-specific endpoint, as represented by the tuple of (natAddrPortBindGlobalPort, natAddrPortBindProtocol, natAddrPortBindGlobalAddrType, and natAddrPortBindGlobalAddr).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 3 }

natAddrPortBindProtocol OBJECT-TYPE

SYNTAX NatProtocolType

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object specifies a protocol identifier. If the value of this object is none(1), then this bind entry applies to all IP traffic. Any other value of this object specifies the class of IP traffic to which this BIND applies.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 4 }

natAddrPortBindGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrPortBindGlobalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 5 }

natAddrPortBindGlobalAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the public-realm-specific network-layer address that, in conjunction with

natAddrPortBindGlobalPort, maps to the private-realm network-layer address and transport ID represented by natAddrPortBindLocalAddr and natAddrPortBindLocalPort, respectively.

The type of this address is determined by the value of the natAddrPortBindGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 6 }

natAddrPortBindGlobalPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"For a protocol value TCP or UDP, this object represents the public-realm-specific port number. On the other hand, for ICMP a bind is created only for query/response-type ICMP messages such as ICMP echo, Timestamp, and Information request messages, and this object represents the public-realm-specific identifier in the ICMP message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

This object, together with natAddrPortBindProtocol, natAddrPortBindGlobalAddrType, and natAddrPortBindGlobalAddr, constitutes a session endpoint in the public realm. A bind entry binds a public-realm-specific endpoint to a private-realm-specific endpoint, as represented by the tuple of (natAddrPortBindLocalPort, natAddrPortBindProtocol, natAddrPortBindLocalAddrType, and natAddrPortBindLocalAddr).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 7 }

natAddrPortBindId OBJECT-TYPE

SYNTAX NatBindId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents a bind ID that is dynamically assigned to each bind by a NAT-enabled device. Each bind is represented by a unique bind ID across both the natAddrBindTable and the natAddrPortBindTable.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 8 }

natAddrPortBindTranslationEntity OBJECT-TYPE

SYNTAX NatTranslationEntity

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the direction of sessions for which this bind is applicable and the entity (source or destination) within the sessions that is subject to translation with the BIND.

Orientation of the bind can be a superset of the translationEntity of the address map entry that forms the basis for this bind.

For example, if the translationEntity of an address map entry is outboundSrcEndPoint, the translationEntity of a bind derived from this map entry may either be outboundSrcEndPoint or may be bidirectional (a bitmask of outboundSrcEndPoint and inboundDstEndPoint).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 9 }

natAddrPortBindType OBJECT-TYPE

SYNTAX NatAssociationType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind is static or dynamic.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 10 }

natAddrPortBindMapIndex OBJECT-TYPE

SYNTAX NatAddrMapId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object is a pointer to the natAddrMapTable entry (and the parameters of that entry) used in creating this BIND. This object, in conjunction with the ifIndex (which identifies a unique addrMapName), points to a unique entry in the natAddrMapTable.

Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 11 }

natAddrPortBindSessions OBJECT-TYPE
SYNTAX Gauge32
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "Number of sessions currently using this BIND.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 12 }

natAddrPortBindMaxIdleTime OBJECT-TYPE
SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "This object indicates the maximum time for
 which this bind can be idle without any sessions
 attached to it.
 The value of this object is of relevance
 only for dynamic NAT.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 13 }

natAddrPortBindCurrentIdleTime OBJECT-TYPE
SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "At any given instance, this object indicates the
 time that this bind has been idle without any sessions
 attached to it.
 The value of this object is of relevance
 only for dynamic NAT.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 14 }

natAddrPortBindInTranslates OBJECT-TYPE
SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated

```
DESCRIPTION
    "The number of inbound packets that were translated as
    per this bind entry.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times, as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 15 }

natAddrPortBindOutTranslates OBJECT-TYPE
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "The number of outbound packets that were translated as
    per this bind entry.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times, as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 16 }

--
-- The Session Table
--

natSessionTable OBJECT-TYPE
SYNTAX      SEQUENCE OF NatSessionEntry
MAX-ACCESS  not-accessible
STATUS      deprecated
DESCRIPTION
    "The (conceptual) table containing one entry for each
    NAT session currently active on this NAT device.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natMIBObjects 9 }

natSessionEntry OBJECT-TYPE
SYNTAX      NatSessionEntry
MAX-ACCESS  not-accessible
STATUS      deprecated
DESCRIPTION
```

"An entry (conceptual row) containing information about an active NAT session on this NAT device. These entries are lost upon agent restart. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

INDEX { ifIndex, natSessionIndex }
 ::= { natSessionTable 1 }

```
NatSessionEntry ::= SEQUENCE {
  natSessionIndex                NatSessionId,
  natSessionPrivateSrcEPBindId   NatBindIdOrZero,
  natSessionPrivateSrcEPBindMode NatBindMode,
  natSessionPrivateDstEPBindId   NatBindIdOrZero,
  natSessionPrivateDstEPBindMode NatBindMode,
  natSessionDirection            INTEGER,
  natSessionUpTime               TimeTicks,
  natSessionAddrMapIndex         NatAddrMapId,
  natSessionProtocolType         NatProtocolType,
  natSessionPrivateAddrType      InetAddressType,
  natSessionPrivateSrcAddr       InetAddress,
  natSessionPrivateSrcPort       InetPortNumber,
  natSessionPrivateDstAddr       InetAddress,
  natSessionPrivateDstPort       InetPortNumber,
  natSessionPublicAddrType       InetAddressType,
  natSessionPublicSrcAddr        InetAddress,
  natSessionPublicSrcPort        InetPortNumber,
  natSessionPublicDstAddr        InetAddress,
  natSessionPublicDstPort        InetPortNumber,
  natSessionMaxIdleTime          TimeTicks,
  natSessionCurrentIdleTime      TimeTicks,
  natSessionInTranslates         Counter64,
  natSessionOutTranslates        Counter64
}
```

natSessionIndex OBJECT-TYPE

SYNTAX NatSessionId
 MAX-ACCESS not-accessible
 STATUS deprecated
 DESCRIPTION

"The session ID for this NAT session.
 Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 1 }

natSessionPrivateSrcEPBindId OBJECT-TYPE

SYNTAX NatBindIdOrZero
 MAX-ACCESS read-only
 STATUS deprecated

```
DESCRIPTION
    "The bind ID associated between private and public
    source endpoints.  In the case of Symmetric-NAT,
    this should be set to zero.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natSessionEntry 2 }

natSessionPrivateSrcEPBindMode OBJECT-TYPE
SYNTAX      NatBindMode
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "This object indicates whether the bind indicated
    by the object natSessionPrivateSrcEPBindId
    is an address bind or an address port bind.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natSessionEntry 3 }

natSessionPrivateDstEPBindId OBJECT-TYPE
SYNTAX      NatBindIdOrZero
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "The bind ID associated between private and public
    destination endpoints.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natSessionEntry 4 }

natSessionPrivateDstEPBindMode OBJECT-TYPE
SYNTAX      NatBindMode
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "This object indicates whether the bind indicated
    by the object natSessionPrivateDstEPBindId
    is an address bind or an address port bind.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natSessionEntry 5 }

natSessionDirection OBJECT-TYPE
SYNTAX      INTEGER {
                inbound (1),
                outbound (2)
            }

```

```
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
    "The direction of this session with respect to the
    local network. 'inbound' indicates that this session
    was initiated from the public network into the private
    network. 'outbound' indicates that this session was
    initiated from the private network into the public
    network.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 6 }

natSessionUpTime OBJECT-TYPE
SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
    "The uptime of this session in hundredths of a
    second.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 7 }

natSessionAddrMapIndex OBJECT-TYPE
SYNTAX NatAddrMapId
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
    "This object is a pointer to the natAddrMapTable entry
    (and the parameters of that entry) used in
    creating this session. This object, in conjunction with
    the ifIndex (which identifies a unique addrMapName),
    points to a unique entry in the natAddrMapTable.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 8 }

natSessionProtocolType OBJECT-TYPE
SYNTAX NatProtocolType
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
    "The protocol type of this session.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 9 }
```

natSessionPrivateAddrType OBJECT-TYPE
SYNTAX InetAddressType
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "This object specifies the address type used for
 natSessionPrivateSrcAddr and natSessionPrivateDstAddr.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 10 }

natSessionPrivateSrcAddr OBJECT-TYPE
SYNTAX InetAddress
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "The source IP address of the session endpoint that
 lies in the private network.

 The value of this object must be zero only when the
 natSessionPrivateSrcEPBindId object has a zero value.
 When the value of this object is zero, the NAT session
 lookup will match any IP address to this field.

 The type of this address is determined by the value of
 the natSessionPrivateAddrType object.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 11 }

natSessionPrivateSrcPort OBJECT-TYPE
SYNTAX InetPortNumber
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "For a protocol value of TCP or UDP, this object
 represents the source port in the first packet of a
 session while in a private realm. On the other hand, when
 the protocol is ICMP, a NAT session is created only for
 query/response-type ICMP messages such as ICMP echo,
 Timestamp, and Information request messages, and this
 object represents the private-realm specific identifier
 in the ICMP message, as defined in RFC 792 for ICMPv4
 and in RFC 4443 for ICMPv6.

 The value of this object must be zero when the
 natSessionPrivateSrcEPBindId object has zero value
 and value of natSessionPrivateSrcEPBindMode is

addressPortBind(2). In such a case, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 12 }

natSessionPrivateDstAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The destination IP address of the session endpoint that lies in the private network.

The value of this object must be zero when the natSessionPrivateDstEPBindId object has a zero value. In such a scenario, the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPrivateAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 13 }

natSessionPrivateDstPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the value of protocol is TCP or UDP, this object represents the destination port in the first packet of session while in private-realm. On the other hand, when the protocol is ICMP, this object is not relevant and should be set to zero.

The value of this object must be zero when the natSessionPrivateDstEPBindId object has a zero value and natSessionPrivateDstEPBindMode is set to addressPortBind(2). In such a case, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object

is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 14 }

natSessionPublicAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natSessionPublicSrcAddr and natSessionPublicDstAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 15 }

natSessionPublicSrcAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The source IP address of the session endpoint that lies in the public network.

The value of this object must be zero when the natSessionPrivateSrcEPBindId object has a zero value. In such a scenario, the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPublicAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 16 }

natSessionPublicSrcPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the protocol value is TCP or UDP, this object represents the source port in the first packet of session while in public-realm. On the other hand, when protocol is ICMP, a NAT session is created only for query/response-type ICMP messages such as ICMP echo, Timestamp, and Information request messages, and this

object represents the public-realm-specific identifier in the ICMP message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

The value of this object must be zero when the natSessionPrivateSrcEPBindId object has a zero value and natSessionPrivateSrcEPBindMode is set to addressPortBind(2). In such a scenario, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 17 }

natSessionPublicDstAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The destination IP address of the session endpoint that lies in the public network.

The value of this object must be non-zero when the natSessionPrivateDstEPBindId object has a non-zero value. If the value of this object and the corresponding natSessionPrivateDstEPBindId object value are zero, then the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPublicAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 18 }

natSessionPublicDstPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the protocol value is TCP or UDP, this object represents the destination port in the first packet of session while in the public realm. On the other hand, when

the protocol is ICMP, this object is not relevant for translation and should be zero.

The value of this object must be zero when the natSessionPrivateDstEPBindId object has a zero value and natSessionPrivateDstEPBindMode is addressPortBind(2). In such a scenario, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 19 }

natSessionMaxIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The max time for which this session can be idle without detecting a packet.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 20 }

natSessionCurrentIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The time since a packet belonging to this session was last detected.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 21 }

natSessionInTranslates OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The number of inbound packets that were translated for this session.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 22 }

natSessionOutTranslates OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of outbound packets that were translated for this session.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 23 }

--

-- The Protocol table

--

natProtocolTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatProtocolEntry
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION

"The (conceptual) table containing per-protocol NAT statistics.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBObjects 10 }

natProtocolEntry OBJECT-TYPE

SYNTAX NatProtocolEntry
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION

"An entry (conceptual row) containing NAT statistics pertaining to a particular protocol.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
INDEX { natProtocol }
 ::= { natProtocolTable 1 }

NatProtocolEntry ::= SEQUENCE {
    natProtocol          NatProtocolType,
    natProtocolInTranslates Counter64,
    natProtocolOutTranslates Counter64,
    natProtocolDiscards Counter64
}

natProtocol OBJECT-TYPE
    SYNTAX      NatProtocolType
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This object represents the protocol pertaining to which
        parameters are reported.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natProtocolEntry 1 }

natProtocolInTranslates OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "The number of inbound packets pertaining to the protocol
        identified by natProtocol that underwent NAT.

        Discontinuities in the value of this counter can occur
        at reinitialization of the management system and at
        other times, as indicated by the value of
        ifCounterDiscontinuityTime on the relevant interface.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natProtocolEntry 2 }

natProtocolOutTranslates OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "The number of outbound packets pertaining to the
        protocol identified by natProtocol that underwent NAT.

        Discontinuities in the value of this counter can occur
        at reinitialization of the management system and at
        other times, as indicated by the value of
```

```
        ifCounterDiscontinuityTime on the relevant interface.
        Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natProtocolEntry 3 }

natProtocolDiscards OBJECT-TYPE
SYNTAX     Counter64
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
    "The number of packets pertaining to the protocol
    identified by natProtocol that had to be
    rejected/dropped due to lack of resources.  These
    rejections could be due to session timeout, resource
    unavailability, lack of address space, etc.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times, as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natProtocolEntry 4 }

--
-- Notifications section
--

natMIBNotifications OBJECT IDENTIFIER ::= { natMIB 0 }

--
-- Notifications
--

natPacketDiscard NOTIFICATION-TYPE
OBJECTS { ifIndex }
STATUS deprecated
DESCRIPTION
    "This notification is generated when IP packets are
    discarded by the NAT function; e.g., due to lack of
    mapping space when NAT is out of addresses or ports.

    Note that the generation of natPacketDiscard
    notifications is throttled by the agent, as specified
    by the 'natNotifThrottlingInterval' object.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natMIBNotifications 1 }
```

```
--
-- Conformance information.
--

natMIBConformance OBJECT IDENTIFIER ::= { natMIB 2 }

natMIBGroups      OBJECT IDENTIFIER ::= { natMIBConformance 1 }
natMIBCompliances OBJECT IDENTIFIER ::= { natMIBConformance 2 }

--
-- Units of conformance
--

natConfigGroup OBJECT-GROUP
  OBJECTS { natInterfaceRealm,
            natInterfaceServiceType,
            natInterfaceStorageType,
            natInterfaceRowStatus,
            natAddrMapName,
            natAddrMapEntryType,
            natAddrMapTranslationEntity,
            natAddrMapLocalAddrType,
            natAddrMapLocalAddrFrom,
            natAddrMapLocalAddrTo,
            natAddrMapLocalPortFrom,
            natAddrMapLocalPortTo,
            natAddrMapGlobalAddrType,
            natAddrMapGlobalAddrFrom,
            natAddrMapGlobalAddrTo,
            natAddrMapGlobalPortFrom,
            natAddrMapGlobalPortTo,
            natAddrMapProtocol,
            natAddrMapStorageType,
            natAddrMapRowStatus,
            natBindDefIdleTimeout,
            natUdpDefIdleTimeout,
            natIcmpDefIdleTimeout,
            natOtherDefIdleTimeout,
            natTcpDefIdleTimeout,
            natTcpDefNegTimeout,
            natNotifThrottlingInterval }
  STATUS deprecated
  DESCRIPTION
    "A collection of configuration-related information
    required to support management of devices supporting
    NAT.
    Deprecated in favor of NATV2-MIB."
  REFERENCE "RFC 7658, RFC 7659"
```

```
::= { natMIBGroups 1 }
```

```
natTranslationGroup OBJECT-GROUP
  OBJECTS { natAddrBindNumberOfEntries,
            natAddrBindGlobalAddrType,
            natAddrBindGlobalAddr,
            natAddrBindId,
            natAddrBindTranslationEntity,
            natAddrBindType,
            natAddrBindMapIndex,
            natAddrBindSessions,
            natAddrBindMaxIdleTime,
            natAddrBindCurrentIdleTime,
            natAddrBindInTranslates,
            natAddrBindOutTranslates,
            natAddrPortBindNumberOfEntries,
            natAddrPortBindGlobalAddrType,
            natAddrPortBindGlobalAddr,
            natAddrPortBindGlobalPort,
            natAddrPortBindId,
            natAddrPortBindTranslationEntity,
            natAddrPortBindType,
            natAddrPortBindMapIndex,
            natAddrPortBindSessions,
            natAddrPortBindMaxIdleTime,
            natAddrPortBindCurrentIdleTime,
            natAddrPortBindInTranslates,
            natAddrPortBindOutTranslates,
            natSessionPrivateSrcEPBindId,
            natSessionPrivateSrcEPBindMode,
            natSessionPrivateDstEPBindId,
            natSessionPrivateDstEPBindMode,
            natSessionDirection,
            natSessionUpTime,
            natSessionAddrMapIndex,
            natSessionProtocolType,
            natSessionPrivateAddrType,
            natSessionPrivateSrcAddr,
            natSessionPrivateSrcPort,
            natSessionPrivateDstAddr,
            natSessionPrivateDstPort,
            natSessionPublicAddrType,
            natSessionPublicSrcAddr,
            natSessionPublicSrcPort,
            natSessionPublicDstAddr,
            natSessionPublicDstPort,
            natSessionMaxIdleTime,
            natSessionCurrentIdleTime,
```

```
        natSessionInTranslates,
        natSessionOutTranslates }
STATUS deprecated
DESCRIPTION
    "A collection of BIND-related objects required to support
    management of devices supporting NAT.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBGroups 2 }

natStatsInterfaceGroup OBJECT-GROUP
OBJECTS { natInterfaceInTranslates,
          natInterfaceOutTranslates,
          natInterfaceDiscards }
STATUS deprecated
DESCRIPTION
    "A collection of NAT statistics associated with the
    interface on which NAT is configured, to aid
    troubleshooting/monitoring of the NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBGroups 3 }

natStatsProtocolGroup OBJECT-GROUP
OBJECTS { natProtocolInTranslates,
          natProtocolOutTranslates,
          natProtocolDiscards }
STATUS deprecated
DESCRIPTION
    "A collection of protocol-specific NAT statistics,
    to aid troubleshooting/monitoring of NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBGroups 4 }

natStatsAddrMapGroup OBJECT-GROUP
OBJECTS { natAddrMapInTranslates,
          natAddrMapOutTranslates,
          natAddrMapDiscards,
          natAddrMapAddrUsed }
STATUS deprecated
DESCRIPTION
    "A collection of address-map-specific NAT statistics,
    to aid troubleshooting/monitoring of NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBGroups 5 }
```

```
natMIBNotificationGroup NOTIFICATION-GROUP
  NOTIFICATIONS { natPacketDiscard }
  STATUS      deprecated
  DESCRIPTION
    "A collection of notifications generated by
    devices supporting this MIB.
    Deprecated in favor of NATV2-MIB."
  REFERENCE  "RFC 7658, RFC 7659"
  ::= { natMIBGroups 6 }

--
-- Compliance statements
--

natMIBFullCompliance MODULE-COMPLIANCE
  STATUS      deprecated
  DESCRIPTION
    "When this MIB is implemented with support for
    read-create, then such an implementation can claim
    full compliance.  Such devices can then be both
    monitored and configured with this MIB.

    The following index objects cannot be added as OBJECT
    clauses but nevertheless have the compliance
    requirements:

    Deprecated in favor of NATV2-MIB."
  REFERENCE  "RFC 7658, RFC 7659"
  -- OBJECT  natAddrBindLocalAddrType
  -- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
  -- DESCRIPTION
  --        "An implementation is required to support
  --        global IPv4 and/or IPv6 addresses, depending
  --        on its support for IPv4 and IPv6."
  -- OBJECT  natAddrBindLocalAddr
  -- SYNTAX  InetAddress (SIZE(4|16))
  -- DESCRIPTION
  --        "An implementation is required to support
  --        global IPv4 and/or IPv6 addresses, depending
  --        on its support for IPv4 and IPv6."
  -- OBJECT  natAddrPortBindLocalAddrType
  -- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
  -- DESCRIPTION
  --        "An implementation is required to support
  --        global IPv4 and/or IPv6 addresses, depending
  --        on its support for IPv4 and IPv6."
```

```
-- OBJECT  natAddrPortBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

MODULE IF-MIB -- The interfaces MIB, RFC2863
  MANDATORY-GROUPS {
    ifCounterDiscontinuityGroup
  }

MODULE -- this module
  MANDATORY-GROUPS { natConfigGroup, natTranslationGroup,
                    natStatsInterfaceGroup }

  GROUP      natStatsProtocolGroup
  DESCRIPTION
    "This group is optional."
  GROUP      natStatsAddrMapGroup
  DESCRIPTION
    "This group is optional."
  GROUP      natMIBNotificationGroup
  DESCRIPTION
    "This group is optional."

  OBJECT  natAddrMapLocalAddrType
  SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
  DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

  OBJECT  natAddrMapLocalAddrFrom
  SYNTAX  InetAddress (SIZE(4|16))
  DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

  OBJECT  natAddrMapLocalAddrTo
  SYNTAX  InetAddress (SIZE(4|16))
  DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

  OBJECT  natAddrMapGlobalAddrType
```

SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrTo
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

OBJECT natSessionPrivateSrcAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

OBJECT natSessionPrivateDstAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

OBJECT natSessionPublicAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

OBJECT natSessionPublicSrcAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

OBJECT natSessionPublicDstAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4
and/or IPv6 addresses, depending on its support
for IPv4 and IPv6."

::= { natMIBCompliances 1 }

natMIBReadOnlyCompliance MODULE-COMPLIANCE
STATUS deprecated
DESCRIPTION

"When this MIB is implemented without support for read-create (i.e., in read-only mode), then such an implementation can claim read-only compliance. Such a device can then be monitored but cannot be configured with this MIB.

The following index objects cannot be added as OBJECT clauses but nevertheless have the compliance requirements:

```

Deprecated in favor of NATV2-MIB."
REFERENCE  "RFC 7658, RFC 7659"
-- OBJECT  natAddrBindLocalAddrType
-- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

-- OBJECT  natAddrBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))

-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

-- OBJECT  natAddrPortBindLocalAddrType
-- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."
-- OBJECT  natAddrPortBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

MODULE IF-MIB -- The interfaces MIB, RFC 2863
  MANDATORY-GROUPS {
    ifCounterDiscontinuityGroup
  }

MODULE -- this module
  MANDATORY-GROUPS { natConfigGroup, natTranslationGroup,
    natStatsInterfaceGroup }

```

```
GROUP          natStatsProtocolGroup
DESCRIPTION
    "This group is optional."
GROUP          natStatsAddrMapGroup
DESCRIPTION
    "This group is optional."
GROUP          natMIBNotificationGroup
DESCRIPTION
    "This group is optional."
OBJECT natInterfaceRowStatus
SYNTAX RowStatus { active(1) }
MIN-ACCESS    read-only
DESCRIPTION
    "Write access is not required, and active is the only
    status that needs to be supported."

OBJECT natAddrMapLocalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
MIN-ACCESS    read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapLocalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS    read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapLocalAddrTo
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS    read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
MIN-ACCESS    read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."
```

OBJECT natAddrMapGlobalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required. An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrTo
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required. An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapRowStatus
SYNTAX RowStatus { active(1) }
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required, and active is the only status that needs to be supported."

OBJECT natAddrBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4

and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateSrcAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateDstAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicSrcAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicDstAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

::= { natMIBCompliances 2 }

END

5. Security Considerations

All objects in this MIB module have been deprecated. As a result, the security considerations in [RFC7659] apply instead. Amongst other matters, these considerations cover the case where both this MIB module and NATV2-MIB are present. In fact, such a situation is unlikely because [RFC4008], as a MIB module oriented toward configuration, was overtaken by events and saw little implementation.

6. IANA Considerations

IANA has assigned object identifier 123 to the natMIB module, with prefix iso.org.dod.internet.mgmt.mib-2 in the Network Management Parameters registry [SMI-NUMBERS].

IANA has marked that identifier as DEPRECATED and updated the reference from [RFC4008] to the present document.

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