

RSVP Management Information Base
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1. Status of this Memo

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2. Abstract

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in TCP/IP-based internets. In particular, it defines objects for managing the Resource Reservation Protocol (RSVP) within the interface attributes defined in the Integrated Services Model. Thus, the Integrated Services MIB is directly relevant to and cross-referenced by this MIB. Comments should be made to the RSVP Working Group, rsvp@isi.edu.

This memo does not, in its draft form, specify a standard for the Internet community.

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3. The SNMPv2 Network Management Framework

The SNMPv2 Network Management Framework consists of four major components. They are:

- o [RFC 1441](#) which defines the SMI, the mechanisms used for describing and naming objects for the purpose of management.
- o [RFC 1213](#) defines MIB-II, the core set of managed objects for the Internet suite of protocols.
- o [RFC 1445](#) which defines the administrative and other architectural aspects of the framework.
- o [RFC 1448](#) which defines the protocol used for network access to managed objects.

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

3.1. Object Definitions

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) defined in the SMI. In particular, each object type is named by an OBJECT IDENTIFIER, an administratively assigned name. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the descriptor, to refer to the object type.

[4.](#) Overview

[4.1.](#) Textual Conventions

Several new data types are introduced as a textual convention in this MIB document. These textual conventions enhance the readability of the specification and can ease comparison with other specifications if appropriate. It should be noted that the introduction of these textual conventions has no effect on either the syntax nor the semantics of any managed

objects. The use of these is merely an artifact of the explanatory method used. Objects defined in terms of one of these methods are always encoded by means of the rules that define the primitive type. Hence, no changes to the SMI or the SNMP are necessary to accommodate these textual conventions which are adopted merely for the convenience of readers and writers in pursuit of the elusive goal of clear, concise, and unambiguous MIB documents.

[4.2.](#) Structure of MIB

The MIB is composed of the following sections:

- General Objects
- Session Statistics Table
- Session Sender Table
- Reservation Requests Received Table
- Reservation Requests Forwarded Table
- RSVP Interface Attributes Table
- RSVP Neighbor Table

As a general rule, it is difficult in SNMP to describe arbitrarily long or complex messages; this MIB therefore seeks to describe the Path State Database and the Reservation State Database as though each flow and filter description received in an aggregate message had been received in a separate reservation message.

Thus, if a RESV message is received for session 224.1.2.3+UDP+4455 with two filter/flow spec groups describing

a sender 1.2.3.4 and another sender 1.2.7.8, these two will show in the MIB as two separate rows: one for 224.1.2.3+UDP+4455 from 1.2.3.4 and the other for 224.1.2.3+UDP+4455 from 1.2.7.8.

[4.3.](#) Semantics of Writing the Path and Reservation State Databases

The path and reservation state tables are writeable. Writing into the Path and Reservation State databases allows one to perform RSVP reservations without authenticating through RSVP mechanisms, but rather through SNMP mechanisms. State created in this way by SNMP does not time out and cannot be deleted by receiving an RSVP teardown message; it can only be deleted by SNMP. Deletion is accomplished by writing 'destroy' to the associated Row Status object, and this will initiate a

teardown message as if the state had timed out.

[4.4.](#) Intended use of Flow Notifications

[4.4.1.](#) The lostFlow Notification

The Lost Flow notification is an asynchronous event that signifies that a flow is no longer being observed.

[4.4.2.](#) The newFlow Notification

The newFlow Notification defined in this MIB can be used to advise a network management system of the state of a flow.

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[5.](#) Definitions

RSVP-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE, Gauge32,
NOTIFICATION-TYPE, Integer32, mib-2

FROM SNMPv2-SMI

TEXTUAL-CONVENTION, TruthValue, RowStatus,
TimeStamp, TestAndIncr, TimeInterval

FROM SNMPv2-TC

MODULE-COMPLIANCE, OBJECT-GROUP,
NOTIFICATION-GROUP

FROM SNMPv2-CONF

Port, SessionNumber, SessionType,
Protocol, QoSService, intSrvFlowStatus,
MessageSize, BitRate, BurstSize
ifIndex, InterfaceIndex

FROM INTEGRATED-SERVICES-MIB
FROM IF-MIB;

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rsvp MODULE-IDENTITY

LAST-UPDATED "9710071901Z" -- Tue Oct 7 12:01:03 PDT 1997

ORGANIZATION "IETF RSVP Working Group"

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DESCRIPTION

"The MIB module to describe the RSVP Protocol"
 ::= { mib-2 51 }

| | |
|-------------------------|--|
| rsvpObjects | OBJECT IDENTIFIER ::= { rsvp 1 } -- tables |
| rsvpGenObjects | OBJECT IDENTIFIER ::= { rsvp 2 } -- global objects |
| rsvpNotificationsPrefix | OBJECT IDENTIFIER ::= { rsvp 3 } -- traps |
| rsvpConformance | OBJECT IDENTIFIER ::= { rsvp 4 } -- conformance |

RsvpEncapsulation ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This indicates the encapsulation that an RSVP
Neighbor is perceived to be using."

SYNTAX INTEGER {
 ip (1), -- IP Protocol 46
 udp (2), -- UDP Encapsulation
 both (3) -- neighbor is using both encapsulations
}

RefreshInterval ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS current

DESCRIPTION

"The number of milliseconds that are expected

to elapse between refreshes of path or reservation state. Unrefreshed Path or reservation state is removed after a small multiple of this period."

SYNTAX INTEGER (0..'7FFFFFFF'h)

```
-- The RSVP Session Statistics Database displays statistics
-- relating to the number of senders and receivers in each
-- session.
```

```
rsvpSessionTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF RsvpSessionEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table of all sessions seen by a given sys-
        tem."
    ::= { rsvpObjects 1 }
```

```
rsvpSessionEntry OBJECT-TYPE
    SYNTAX      RsvpSessionEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A single session seen by a given system."
    INDEX { rsvpSessionNumber }
    ::= { rsvpSessionTable 1 }
```

```
RsvpSessionEntry ::=
    SEQUENCE {
        rsvpSessionNumber      SessionNumber,
        rsvpSessionType        SessionType,
        rsvpSessionDestAddr    OCTET STRING,
        rsvpSessionDestAddrLength  INTEGER,
        rsvpSessionProtocol    Protocol,
        rsvpSessionPort        Port,
        rsvpSessionSenders     Gauge32,
        rsvpSessionReceivers   Gauge32,
        rsvpSessionRequests    Gauge32
    }
```

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```
rsvpSessionNumber OBJECT-TYPE
    SYNTAX      SessionNumber
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The number of this session. This is for SNMP
        Indexing purposes only and has no relation to
        any protocol value."
    ::= { rsvpSessionEntry 1 }

rsvpSessionType OBJECT-TYPE
    SYNTAX      SessionType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The type of session (IP4, IP6, IP6 with flow
        information, etc)."
```

```
 ::= { rsvpSessionEntry 2 }

rsvpSessionDestAddr OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(4..16))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The destination address used by all senders in
        this session. This object may not be changed
        when the value of the RowStatus object is 'ac-
        tive'."
```

```
 ::= { rsvpSessionEntry 3 }

rsvpSessionDestAddrLength OBJECT-TYPE
    SYNTAX      INTEGER(0..128)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The CIDR prefix length of the session address,
        which is 32 for IP4 host and multicast ad-
        dresses, and 128 for IP6 addresses. This ob-
        ject may not be changed when the value of the
        RowStatus object is 'active'."
```

::= { rsvpSessionEntry 4 }

rsvpSessionProtocol OBJECT-TYPE

SYNTAX Protocol

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The IP Protocol used by this session. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpSessionEntry 5 }

rsvpSessionPort OBJECT-TYPE

SYNTAX Port

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The UDP or TCP port number used as a destination port for all senders in this session. If the IP protocol in use, specified by rsvpSenderProtocol, is 50 (ESP) or 51 (AH), this represents a virtual destination port number. A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpSessionEntry 6 }

rsvpSessionSenders OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of distinct senders currently known to be part of this session."

::= { rsvpSessionEntry 7 }

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rsvpSessionReceivers OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of reservations being requested of
this system for this session."

::= { rsvpSessionEntry 8 }

rsvpSessionRequests OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of reservation requests this system
is sending upstream for this session."

::= { rsvpSessionEntry 9 }

rsvpBadPackets OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object keeps a count of the number of bad
RSVP packets received."

::= { rsvpGenObjects 1 }

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```
-- The RSVP Session Sender Database contains the information
-- displayed by senders regarding their potential contribution
-- to session data content. It is in essence a list of the
-- valid PATH messages that the RSVP Router or Host is receiving.
```

```
rsvpSenderNewIndex OBJECT-TYPE
```

```
SYNTAX TestAndIncr
```

```
MAX-ACCESS read-write
```

```
STATUS current
```

```
DESCRIPTION
```

```
"This object is used to assign values to
rsvpSenderNumber as described in 'Textual Con-
ventions for SNMPv2'. The network manager
reads the object, and then writes the value
back in the SET that creates a new instance of
rsvpSenderEntry. If the SET fails with the
code 'inconsistentValue', then the process must
be repeated; If the SET succeeds, then the ob-
ject is incremented, and the new instance is
created according to the manager's directions."
```

```
::= { rsvpGenObjects 2 }
```

```
rsvpSenderTable OBJECT-TYPE
```

SYNTAX SEQUENCE OF RsvpSenderEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"Information describing the state information
displayed by senders in PATH messages."
 ::= { rsvpObjects 2 }

rsvpSenderEntry OBJECT-TYPE
SYNTAX RsvpSenderEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"Information describing the state information
displayed by a single sender's PATH message."
INDEX { rsvpSessionNumber, rsvpSenderNumber }
 ::= { rsvpSenderTable 1 }

RsvpSenderEntry ::=

SEQUENCE {
 rsvpSenderNumber SessionNumber,
 rsvpSenderType SessionType,
 rsvpSenderDestAddr OCTET STRING,
 rsvpSenderAddr OCTET STRING,
 rsvpSenderDestAddrLength INTEGER,
 rsvpSenderAddrLength INTEGER,
 rsvpSenderProtocol Protocol,
 rsvpSenderDestPort Port,
 rsvpSenderPort Port,
 rsvpSenderFlowId INTEGER,
 rsvpSenderHopAddr OCTET STRING,
 rsvpSenderHopLih Integer32,
 rsvpSenderInterface InterfaceIndex,
 rsvpSenderTSpecRate BitRate,
 rsvpSenderTSpecPeakRate BitRate,
 rsvpSenderTSpecBurst BurstSize,
 rsvpSenderTSpecMinTU MessageSize,
 rsvpSenderTSpecMaxTU MessageSize,

| | |
|--------------------------------------|------------------|
| rsvpSenderInterval | RefreshInterval, |
| rsvpSenderRSVPHop | TruthValue, |
| rsvpSenderLastChange | TimeStamp, |
| rsvpSenderPolicy | OCTET STRING, |
| rsvpSenderAdspecBreak | TruthValue, |
| rsvpSenderAdspecHopCount | INTEGER, |
| rsvpSenderAdspecPathBw | BitRate, |
| rsvpSenderAdspecMinLatency | Integer32, |
| rsvpSenderAdspecMtu | INTEGER, |
| rsvpSenderAdspecGuaranteedSvc | TruthValue, |
| rsvpSenderAdspecGuaranteedBreak | TruthValue, |
| rsvpSenderAdspecGuaranteedCtot | Integer32, |
| rsvpSenderAdspecGuaranteedDtot | Integer32, |
| rsvpSenderAdspecGuaranteedCsum | Integer32, |
| rsvpSenderAdspecGuaranteedDsum | Integer32, |
| rsvpSenderAdspecGuaranteedHopCount | INTEGER, |
| rsvpSenderAdspecGuaranteedPathBw | BitRate, |
| rsvpSenderAdspecGuaranteedMinLatency | Integer32, |
| rsvpSenderAdspecGuaranteedMtu | INTEGER, |
| rsvpSenderAdspecCtrlLoadSvc | TruthValue, |
| rsvpSenderAdspecCtrlLoadBreak | TruthValue, |
| rsvpSenderAdspecCtrlLoadHopCount | INTEGER, |
| rsvpSenderAdspecCtrlLoadPathBw | BitRate, |
| rsvpSenderAdspecCtrlLoadMinLatency | Integer32, |
| rsvpSenderAdspecCtrlLoadMtu | INTEGER, |
| rsvpSenderStatus | RowStatus, |

```

    rsvpSenderTTL                INTEGER
}

rsvpSenderNumber OBJECT-TYPE
    SYNTAX          SessionNumber
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "The number of this sender.  This is for SNMP
        Indexing purposes only and has no relation to
        any protocol value."
    ::= { rsvpSenderEntry 1 }

```


rsvpSenderType OBJECT-TYPE
SYNTAX SessionType
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The type of session (IP4, IP6, IP6 with flow
information, etc)."
::= { rsvpSenderEntry 2 }

rsvpSenderDestAddr OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The destination address used by all senders in
this session. This object may not be changed
when the value of the RowStatus object is 'ac-
tive'. "
::= { rsvpSenderEntry 3 }

rsvpSenderAddr OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The source address used by this sender in this
session. This object may not be changed when

the value of the RowStatus object is 'active'."
 ::= { rsvpSenderEntry 4 }

rsvpSenderDestAddrLength OBJECT-TYPE

SYNTAX INTEGER(0..128)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The length of the destination address in bits.
 This is the CIDR Prefix Length, which for IP4
 hosts and multicast addresses is 32 bits. This
 object may not be changed when the value of the
 RowStatus object is 'active'."

::= { rsvpSenderEntry 5 }

rsvpSenderAddrLength OBJECT-TYPE

SYNTAX INTEGER(0..128)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The length of the sender's address in bits.
 This is the CIDR Prefix Length, which for IP4
 hosts and multicast addresses is 32 bits. This
 object may not be changed when the value of the
 RowStatus object is 'active'."

::= { rsvpSenderEntry 6 }

SYNTAX Protocol
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The IP Protocol used by this session. This object may not be changed when the value of the RowStatus object is 'active'.
::= { rsvpSenderEntry 7 }

rsvpSenderDestPort OBJECT-TYPE

SYNTAX Port
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The UDP or TCP port number used as a destination port for all senders in this session. If the IP protocol in use, specified by rsvpSenderProtocol, is 50 (ESP) or 51 (AH), this represents a virtual destination port number. A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'.
::= { rsvpSenderEntry 8 }

rsvpSenderPort OBJECT-TYPE

SYNTAX Port
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The UDP or TCP port number used as a source port for this sender in this session. If the IP protocol in use, specified by rsvpSenderProtocol is 50 (ESP) or 51 (AH), this represents a generalized port identifier (GPI). A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'.
::= { rsvpSenderEntry 9 }

```
rsvpSenderFlowId OBJECT-TYPE
    SYNTAX      INTEGER (0..16777215)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The flow ID that this sender is using, if
        this is an IPv6 session."
    ::= { rsvpSenderEntry 10 }
```

```
rsvpSenderHopAddr OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(4..16))
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The address used by the previous RSVP hop
        (which may be the original sender)."
    ::= { rsvpSenderEntry 11 }
```

```
rsvpSenderHopLih OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The Logical Interface Handle used by the pre-
        vious RSVP hop (which may be the original
        sender)."
    ::= { rsvpSenderEntry 12 }
```

```
rsvpSenderInterface OBJECT-TYPE
    SYNTAX      InterfaceIndex
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The ifIndex value of the interface on which
        this PATH message was most recently received."
    ::= { rsvpSenderEntry 13 }
```

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rsvpSenderTSpecRate OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"The Average Bit Rate of the sender's data stream. Within a transmission burst, the arrival rate may be as fast as rsvpSenderTSpecPeakRate (if supported by the service model); however, averaged across two or more burst intervals, the rate should not exceed rsvpSenderTSpecRate.

Note that this is a prediction, often based on the general capability of a type of codec or particular encoding; the measured average rate may be significantly lower."

::= { rsvpSenderEntry 14 }

rsvpSenderTSpecPeakRate OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"The Peak Bit Rate of the sender's data stream. Traffic arrival is not expected to exceed this rate at any time, apart from the effects of jitter in the network. If not specified in the TSpec, this returns zero or noSuchValue."

::= { rsvpSenderEntry 15 }

rsvpSenderTSpecBurst OBJECT-TYPE

SYNTAX BurstSize
UNITS "bytes"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"The size of the largest burst expected from
the sender at a time."
 ::= { rsvpSenderEntry 16 }

rsvpSenderTSpecMinTU OBJECT-TYPE

SYNTAX MessageSize

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The minimum message size for this flow. The
policing algorithm will treat smaller messages
as though they are this size."

::= { rsvpSenderEntry 17 }

rsvpSenderTSpecMaxTU OBJECT-TYPE

SYNTAX MessageSize

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The maximum message size for this flow. The
admission algorithm will reject TSpecs whose
Maximum Transmission Unit, plus the interface
headers, exceed the interface MTU."

::= { rsvpSenderEntry 18 }

rsvpSenderInterval OBJECT-TYPE

SYNTAX RefreshInterval

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The interval between refresh messages as ad-
vertised by the Previous Hop."

::= { rsvpSenderEntry 19 }

rsvpSenderRSVPHop OBJECT-TYPE

SYNTAX TruthValue

```
MAX-ACCESS    read-create
STATUS        current
DESCRIPTION
    "If TRUE, the node believes that the previous
    IP hop is an RSVP hop.  If FALSE, the node be-
    lieves that the previous IP hop may not be an
    RSVP hop."
 ::= { rsvpSenderEntry 20 }
```

```
rsvpSenderLastChange OBJECT-TYPE
SYNTAX          TimeStamp
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The time of the last change in this PATH mes-
    sage; This is either the first time it was re-
    ceived or the time of the most recent change in
    parameters."
 ::= { rsvpSenderEntry 21 }
```

```
rsvpSenderPolicy OBJECT-TYPE
SYNTAX          OCTET STRING (SIZE(4..65536))
MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
    "The contents of the policy object, displayed
    as an uninterpreted string of octets, including
    the object header.  In the absence of such an
    object, this should be of zero length."
 ::= { rsvpSenderEntry 22 }
```

```
rsvpSenderAdspecBreak OBJECT-TYPE
SYNTAX          TruthValue
MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
```

"The global break bit general characterization parameter from the ADSPEC. If TRUE, at least one non-IS hop was detected in the path. If FALSE, no non-IS hops were detected."
 ::= { rsvpSenderEntry 23 }

rsvpSenderAdspecHopCount OBJECT-TYPE

SYNTAX INTEGER (0..65535)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The hop count general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set

the parameter was not present"

::= { rsvpSenderEntry 24 }

rsvpSenderAdspecPathBw OBJECT-TYPE

SYNTAX BitRate

UNITS "bits per second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The path bandwidth estimate general characterization parameter from the ADSPEC. A return of

zero or noSuchValue indicates one of the following conditions:

```
    the invalid bit was set
    the parameter was not present"
 ::= { rsvpSenderEntry 25 }
```

rsvpSenderAdspecMinLatency OBJECT-TYPE

SYNTAX Integer32

UNITS "microseconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The minimum path latency general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

```
    the invalid bit was set
    the parameter was not present"
 ::= { rsvpSenderEntry 26 }
```

rsvpSenderAdspecMtu OBJECT-TYPE

SYNTAX INTEGER (0..65535)
UNITS "bytes"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "The composed Maximum Transmission Unit general
 characterization parameter from the ADSPEC. A
 return of zero or noSuchValue indicates one of
 the following conditions:

 the invalid bit was set
 the parameter was not present"
 ::= { rsvpSenderEntry 27 }

rsvpSenderAdspecGuaranteedSvc OBJECT-TYPE

SYNTAX TruthValue
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "If TRUE, the ADSPEC contains a Guaranteed Ser-
 vice fragment. If FALSE, the ADSPEC does not
 contain a Guaranteed Service fragment."
 ::= { rsvpSenderEntry 28 }

rsvpSenderAdspecGuaranteedBreak OBJECT-TYPE

SYNTAX TruthValue
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "If TRUE, the Guaranteed Service fragment has
 its 'break' bit set, indicating that one or
 more nodes along the path do not support the
 guaranteed service. If FALSE, and rsvpSen-
 derAdspecGuaranteedSvc is TRUE, the 'break' bit
 is not set.

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns FALSE or noSuchValue."
 ::= { rsvpSenderEntry 29 }

rsvpSenderAdspecGuaranteedCtot OBJECT-TYPE

SYNTAX Integer32
UNITS "bytes"
MAX-ACCESS read-create
STATUS current
DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the end-to-end composed value for the guaranteed service 'C' parameter. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."
 ::= { rsvpSenderEntry 30 }

rsvpSenderAdspecGuaranteedDtot OBJECT-TYPE

SYNTAX Integer32
UNITS "microseconds"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the end-to-end composed value for the guaranteed service 'D' parameter. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 31 }

rsvpSenderAdspecGuaranteedCsum OBJECT-TYPE

SYNTAX Integer32
UNITS "bytes"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the composed value for the guaranteed service 'C' parameter since the last reshaping point. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 32 }

rsvpSenderAdspecGuaranteedDsum OBJECT-TYPE

SYNTAX Integer32
UNITS "microseconds"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the composed value for the guaranteed service 'D' parameter since the last reshaping point. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 33 }

rsvpSenderAdspecGuaranteedHopCount OBJECT-TYPE

SYNTAX INTEGER (0..65535)
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the service-specific override of the hop count general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 34 }

Internet Draft

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July 1997

rsvpSenderAdspecGuaranteedPathBw OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the service-specific override of the path bandwidth estimate general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 35 }

rsvpSenderAdspecGuaranteedMinLatency OBJECT-TYPE

SYNTAX Integer32
UNITS "microseconds"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the service-specific override of the minimum path latency general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 36 }

Internet Draft

RSVP MIB

July 1997

rsvpSenderAdspecGuaranteedMtu OBJECT-TYPE

SYNTAX INTEGER (0..65535)

UNITS "bytes"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If rsvpSenderAdspecGuaranteedSvc is TRUE, this is the service-specific override of the composed Maximum Transmission Unit general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecGuaranteedSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 37 }

rsvpSenderAdspecCtrlLoadSvc OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If TRUE, the ADSPEC contains a Controlled Load Service fragment. If FALSE, the ADSPEC does not contain a Controlled Load Service fragment."

::= { rsvpSenderEntry 38 }

Internet Draft

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rsvpSenderAdspecCtrlLoadBreak OBJECT-TYPE

SYNTAX TruthValue
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If TRUE, the Controlled Load Service fragment has its 'break' bit set, indicating that one or more nodes along the path do not support the controlled load service. If FALSE, and rsvpSenderAdspecCtrlLoadSvc is TRUE, the 'break' bit is not set.

If rsvpSenderAdspecCtrlLoadSvc is FALSE, this returns FALSE or noSuchValue."

::= { rsvpSenderEntry 39 }

rsvpSenderAdspecCtrlLoadHopCount OBJECT-TYPE

SYNTAX INTEGER (0..65535)
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecCtrlLoadSvc is TRUE, this is the service-specific override of the hop count general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecCtrlLoadSvc is FALSE, this returns zero or noSuchValue."
 ::= { rsvpSenderEntry 40 }

rsvpSenderAdspecCtrlLoadPathBw OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"If rsvpSenderAdspecCtrlLoadSvc is TRUE, this is the service-specific override of the path bandwidth estimate general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecCtrlLoadSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 41 }

rsvpSenderAdspecCtrlLoadMinLatency OBJECT-TYPE

SYNTAX Integer32
UNITS "microseconds"
MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If rsvpSenderAdspecCtrlLoadSvc is TRUE, this is the service-specific override of the minimum path latency general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecCtrlLoadSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 42 }

rsvpSenderAdspecCtrlLoadMtu OBJECT-TYPE

SYNTAX INTEGER (0..65535)

UNITS "bytes"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If rsvpSenderAdspecCtrlLoadSvc is TRUE, this is the service-specific override of the composed Maximum Transmission Unit general characterization parameter from the ADSPEC. A return of zero or noSuchValue indicates one of the following conditions:

the invalid bit was set
the parameter was not present

If rsvpSenderAdspecCtrlLoadSvc is FALSE, this returns zero or noSuchValue."

::= { rsvpSenderEntry 43 }

rsvpSenderId OBJECT-TYPE
SYNTAX RowStatus
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "'active' for all active PATH messages. This
 object may be used to install static PATH in-
 formation or delete PATH information."
 ::= { rsvpSenderId 44 }

rsvpSenderTTL OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The TTL value in the RSVP header that was last
 received."
 ::= { rsvpSenderTTL 45 }

rsvpSenderOutInterfaceTable OBJECT-TYPE
SYNTAX SEQUENCE OF RsvpSenderOutInterfaceEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "List of outgoing interfaces that PATH messages
 use. The ifIndex is the ifIndex value of the
 egress interface."
 ::= { rsvpObjects 3 }

rsvpSenderOutInterfaceEntry OBJECT-TYPE
SYNTAX RsvpSenderOutInterfaceEntry

```
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
    "List of outgoing interfaces that a particular
    PATH message has."
INDEX { rsvpSessionNumber, rsvpSenderNumber, ifIndex }
 ::= { rsvpSenderOutInterfaceTable 1 }
```

```
RsvpSenderOutInterfaceEntry ::=
SEQUENCE {
    rsvpSenderOutInterfaceStatus RowStatus
}
```

```
rsvpSenderOutInterfaceStatus OBJECT-TYPE
SYNTAX RowStatus
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "'active' for all active PATH messages."
 ::= { rsvpSenderOutInterfaceEntry 1 }
```

```
-- The RSVP Reservation Requests Received Table contains the
-- information displayed by receivers regarding their needs with
-- respect to sessions and senders. It is in essence a list of the
-- valid RESV messages that the RSVP Router or Host is receiving.
```

```
rsvpResvNewIndex OBJECT-TYPE
```

SYNTAX TestAndIncr
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "This object is used to assign values to rsvpResvNumber as described in 'Textual Conventions for SNMPv2'. The network manager reads the object, and then writes the value back in the SET that creates a new instance of rsvpResvEntry. If the SET fails with the code 'inconsistentValue', then the process must be repeated; If the SET succeeds, then the object is incremented, and the new instance is created according to the manager's directions."
 ::= { rsvpGenObjects 3 }

rsvpResvTable OBJECT-TYPE
SYNTAX SEQUENCE OF RsvpResvEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "Information describing the state information displayed by receivers in RESV messages."
 ::= { rsvpObjects 4 }

rsvpResvEntry OBJECT-TYPE
SYNTAX RsvpResvEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "Information describing the state information displayed by a single receiver's RESV message concerning a single sender."
INDEX { rsvpSessionNumber, rsvpResvNumber }
 ::= { rsvpResvTable 1 }

```

SEQUENCE {
    rsvpResvNumber          SessionNumber,
    rsvpResvType            SessionType,
    rsvpResvDestAddr        OCTET STRING,
    rsvpResvSenderAddr      OCTET STRING,
    rsvpResvDestAddrLength  INTEGER,
    rsvpResvSenderAddrLength INTEGER,
    rsvpResvProtocol        Protocol,
    rsvpResvDestPort        Port,
    rsvpResvPort            Port,
    rsvpResvHopAddr         OCTET STRING,
    rsvpResvHopLih          Integer32,
    rsvpResvInterface       InterfaceIndex,
    rsvpResvService         QosService,
    rsvpResvTSpecRate       BitRate,
    rsvpResvTSpecPeakRate   BitRate,
    rsvpResvTSpecBurst      BurstSize,
    rsvpResvTSpecMinTU      MessageSize,
    rsvpResvTSpecMaxTU      MessageSize,
    rsvpResvRSpecRate       BitRate,
    rsvpResvRSpecSlack      Integer32,
    rsvpResvInterval        RefreshInterval,
    rsvpResvScope           OCTET STRING,
    rsvpResvShared          TruthValue,
    rsvpResvExplicit        TruthValue,
    rsvpResvRSVPHop         TruthValue,
    rsvpResvLastChange      TimeStamp,
    rsvpResvPolicy          OCTET STRING,
    rsvpResvStatus          RowStatus,
    rsvpResvTTL             INTEGER,
    rsvpResvFlowId          INTEGER
}

```

rsvpResvNumber OBJECT-TYPE

```

SYNTAX      SessionNumber
MAX-ACCESS  not-accessible
STATUS      current

```

DESCRIPTION

"The number of this reservation request. This is for SNMP Indexing purposes only and has no relation to any protocol value."

```
 ::= { rsvpResvEntry 1 }
```

rsvpResvType OBJECT-TYPE

SYNTAX SessionType

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The type of session (IP4, IP6, IP6 with flow information, etc)."

::= { rsvpResvEntry 2 }

rsvpResvDestAddr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4..16))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The destination address used by all senders in this session. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 3 }

rsvpResvSenderAddr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4..16))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The source address of the sender selected by this reservation. The value of all zeroes indicates 'all senders'. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 4 }

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rsvpResvDestAddrLength OBJECT-TYPE

SYNTAX INTEGER(0..128)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The length of the destination address in bits. This is the CIDR Prefix Length, which for IP4 hosts and multicast addresses is 32 bits. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 5 }

rsvpResvSenderAddrLength OBJECT-TYPE

SYNTAX INTEGER(0..128)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The length of the sender's address in bits. This is the CIDR Prefix Length, which for IP4 hosts and multicast addresses is 32 bits. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 6 }

rsvpResvProtocol OBJECT-TYPE

SYNTAX Protocol

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The IP Protocol used by this session. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 7 }

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July 1997

rsvpResvDestPort OBJECT-TYPE

SYNTAX Port
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"The UDP or TCP port number used as a destination port for all senders in this session. If the IP protocol in use, specified by rsvpResvProtocol, is 50 (ESP) or 51 (AH), this represents a virtual destination port number. A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 8 }

rsvpResvPort OBJECT-TYPE

SYNTAX Port
MAX-ACCESS read-create
STATUS current

DESCRIPTION

"The UDP or TCP port number used as a source port for this sender in this session. If the IP protocol in use, specified by rsvpResvProtocol is 50 (ESP) or 51 (AH), this represents a generalized port identifier (GPI). A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvEntry 9 }

rsvpResvHopAddr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "The address used by the next RSVP hop (which
 may be the ultimate receiver)."
 ::= { rsvpResvEntry 10 }

rsvpResvHopLih OBJECT-TYPE
 SYNTAX Integer32
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "The Logical Interface Handle received from the
 previous RSVP hop (which may be the ultimate
 receiver)."
 ::= { rsvpResvEntry 11 }

rsvpResvInterface OBJECT-TYPE
 SYNTAX InterfaceIndex
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "The ifIndex value of the interface on which
 this RESV message was most recently received."
 ::= { rsvpResvEntry 12 }

rsvpResvService OBJECT-TYPE
 SYNTAX QosService
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "The QoS Service classification requested by
 the receiver."
 ::= { rsvpResvEntry 13 }

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rsvpResvTSpecRate OBJECT-TYPE

SYNTAX BitRate

UNITS "bits per second"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The Average Bit Rate of the sender's data stream. Within a transmission burst, the arrival rate may be as fast as rsvpResvTSpecPeakRate (if supported by the service model); however, averaged across two or more burst intervals, the rate should not exceed rsvpResvTSpecRate.

Note that this is a prediction, often based on the general capability of a type of codec or particular encoding; the measured average rate may be significantly lower."

::= { rsvpResvEntry 14 }

rsvpResvTSpecPeakRate OBJECT-TYPE

SYNTAX BitRate

UNITS "bits per second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The Peak Bit Rate of the sender's data stream.
Traffic arrival is not expected to exceed this
rate at any time, apart from the effects of
jitter in the network. If not specified in the
TSpec, this returns zero or noSuchValue."
 ::= { rsvpResvEntry 15 }

rsvpResvTSpecBurst OBJECT-TYPE
SYNTAX BurstSize
UNITS "bytes"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The size of the largest burst expected from
the sender at a time.

If this is less than the sender's advertised
burst size, the receiver is asking the network
to provide flow pacing beyond what would be
provided under normal circumstances. Such pac-
ing is at the network's option."
 ::= { rsvpResvEntry 16 }

rsvpResvTSpecMinTU OBJECT-TYPE
SYNTAX MessageSize
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "The minimum message size for this flow. The
 policing algorithm will treat smaller messages
 as though they are this size."
 ::= { rsvpResvEntry 17 }

rsvpResvTSpecMaxTU OBJECT-TYPE
SYNTAX MessageSize
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "The maximum message size for this flow. The
 admission algorithm will reject TSpecs whose
 Maximum Transmission Unit, plus the interface
 headers, exceed the interface MTU."
 ::= { rsvpResvEntry 18 }

rsvpResvRSpecRate OBJECT-TYPE
SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-create
STATUS current
DESCRIPTION
 "If the requested service is Guaranteed, as
 specified by rsvpResvService, this is the
 clearing rate that is being requested. Other-
 wise, it is zero, or the agent may return
 noSuchValue."

```
::= { rsvpResvEntry 19 }
```

```
rsvpResvRSpecSlack OBJECT-TYPE
```

```
SYNTAX      Integer32  
UNITS       "microseconds"  
MAX-ACCESS  read-create  
STATUS      current  
DESCRIPTION
```

```
    "If the requested service is Guaranteed, as  
    specified by rsvpResvService, this is the delay  
    slack. Otherwise, it is zero, or the agent may  
    return noSuchValue."
```

```
::= { rsvpResvEntry 20 }
```

```
rsvpResvInterval OBJECT-TYPE
```

```
SYNTAX      RefreshInterval  
MAX-ACCESS  read-create  
STATUS      current  
DESCRIPTION
```

```
    "The interval between refresh messages as ad-  
    vertised by the Next Hop."
```

```
::= { rsvpResvEntry 21 }
```

```
rsvpResvScope OBJECT-TYPE
```

```
SYNTAX      OCTET STRING (SIZE(0..65536))  
MAX-ACCESS  read-create  
STATUS      current  
DESCRIPTION
```

"The contents of the scope object, displayed as an uninterpreted string of octets, including the object header. In the absence of such an object, this should be of zero length.

If the length is non-zero, this contains a series of IP4 or IP6 addresses."

```
::= { rsvpResvEntry 22 }
```

rsvpResvShared OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If TRUE, a reservation shared among senders is requested. If FALSE, a reservation specific to this sender is requested."

```
::= { rsvpResvEntry 23 }
```

rsvpResvExplicit OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"If TRUE, individual senders are listed using Filter Specifications. If FALSE, all senders are implicitly selected. The Scope Object will contain a list of senders that need to receive this reservation request for the purpose of routing the RESV message."

```
::= { rsvpResvEntry 24 }
```

rsvpResvRSVPHop OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"If TRUE, the node believes that the previous IP hop is an RSVP hop. If FALSE, the node believes that the previous IP hop may not be an RSVP hop."
 ::= { rsvpResvEntry 25 }

rsvpResvLastChange OBJECT-TYPE
SYNTAX TimeStamp
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The time of the last change in this reservation request; This is either the first time it was received or the time of the most recent change in parameters."
 ::= { rsvpResvEntry 26 }

rsvpResvPolicy OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(0..65536))
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The contents of the policy object, displayed as an uninterpreted string of octets, including the object header. In the absence of such an object, this should be of zero length."
 ::= { rsvpResvEntry 27 }

Internet Draft

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```
rsvpResvStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "'active' for all active RESV messages.  This
        object may be used to install static RESV in-
        formation or delete RESV information."
    ::= { rsvpResvEntry 28 }

rsvpResvTTL OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The TTL value in the RSVP header that was last
        received."
    ::= { rsvpResvEntry 29 }

rsvpResvFlowId OBJECT-TYPE
    SYNTAX      INTEGER (0..16777215)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The flow ID that this receiver is using, if
        this is an IPv6 session."
    ::= { rsvpResvEntry 30 }
```

Internet Draft

RSVP MIB

July 1997

```
--      The RSVP Reservation Requests Forwarded Table contains the
--      information displayed by receivers regarding their needs with
--      respect to sessions and senders. It is in essence a list of the
--      valid RESV messages that the RSVP Router or Host is sending
--      to its upstream neighbors.
```

```
rsvpResvFwdNewIndex OBJECT-TYPE
```

```
SYNTAX      TestAndIncr
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This object is used to assign values to
rsvpResvFwdNumber as described in 'Textual Con-
ventions for SNMPv2'. The network manager
reads the object, and then writes the value
back in the SET that creates a new instance of
rsvpResvFwdEntry. If the SET fails with the
code 'inconsistentValue', then the process must
be repeated; If the SET succeeds, then the ob-
ject is incremented, and the new instance is
created according to the manager's directions."
```

```
::= { rsvpGenObjects 4 }
```

```
rsvpResvFwdTable OBJECT-TYPE
```

```
SYNTAX      SEQUENCE OF RsvpResvFwdEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Information describing the state information
displayed upstream in RESV messages."
```

```
::= { rsvpObjects 5 }
```

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```
rsvpResvFwdEntry OBJECT-TYPE
    SYNTAX      RsvpResvFwdEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Information describing the state information
         displayed upstream in an RSVP message concern-
         ing a single sender."
    INDEX { rsvpSessionNumber, rsvpResvFwdNumber }
    ::= { rsvpResvFwdTable 1 }
```

```
RsvpResvFwdEntry ::=
  SEQUENCE {
    rsvpResvFwdNumber          SessionNumber,
    rsvpResvFwdType            SessionType,
    rsvpResvFwdDestAddr        OCTET STRING,
    rsvpResvFwdSenderAddr      OCTET STRING,
    rsvpResvFwdDestAddrLength  INTEGER,
    rsvpResvFwdSenderAddrLength INTEGER,
    rsvpResvFwdProtocol        Protocol,
    rsvpResvFwdDestPort        Port,
    rsvpResvFwdPort            Port,
    rsvpResvFwdHopAddr         OCTET STRING,
    rsvpResvFwdHopLih          Integer32,
    rsvpResvFwdInterface       InterfaceIndex,
    rsvpResvFwdService          QosService,
    rsvpResvFwdTSpecRate        BitRate,
    rsvpResvFwdTSpecPeakRate    BitRate,
    rsvpResvFwdTSpecBurst       BurstSize,
    rsvpResvFwdTSpecMinTU       MessageSize,
    rsvpResvFwdTSpecMaxTU       MessageSize,
    rsvpResvFwdRSpecRate        BitRate,
    rsvpResvFwdRSpecSlack       Integer32,
    rsvpResvFwdInterval         RefreshInterval,
    rsvpResvFwdScope            OCTET STRING,
    rsvpResvFwdShared           TruthValue,
```

| | |
|-----------------------|---------------|
| rsvpResvFwdExplicit | TruthValue, |
| rsvpResvFwdRSVPHop | TruthValue, |
| rsvpResvFwdLastChange | TimeStamp, |
| rsvpResvFwdPolicy | OCTET STRING, |
| rsvpResvFwdStatus | RowStatus, |
| rsvpResvFwdTTL | INTEGER, |
| rsvpResvFwdFlowId | INTEGER |

}

rsvpResvFwdNumber OBJECT-TYPE
SYNTAX SessionNumber
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "The number of this reservation request. This
 is for SNMP Indexing purposes only and has no
 relation to any protocol value."
 ::= { rsvpResvFwdEntry 1 }

rsvpResvFwdType OBJECT-TYPE
SYNTAX SessionType
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The type of session (IP4, IP6, IP6 with flow
 information, etc)."
 ::= { rsvpResvFwdEntry 2 }

rsvpResvFwdDestAddr OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The destination address used by all senders in
 this session. This object may not be changed
 when the value of the RowStatus object is 'ac-
 tive'."

```
::= { rsvpResvFwdEntry 3 }
```

rsvpResvFwdSenderAddr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4..16))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The source address of the sender selected by this reservation. The value of all zeroes indicates 'all senders'. This object may not be changed when the value of the RowStatus object is 'active'."

```
::= { rsvpResvFwdEntry 4 }
```

rsvpResvFwdDestAddrLength OBJECT-TYPE

SYNTAX INTEGER(0..128)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The length of the destination address in bits. This is the CIDR Prefix Length, which for IP4 hosts and multicast addresses is 32 bits. This object may not be changed when the value of the RowStatus object is 'active'."

```
::= { rsvpResvFwdEntry 5 }
```

rsvpResvFwdSenderAddrLength OBJECT-TYPE
SYNTAX INTEGER(0..128)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The length of the sender's address in bits.
This is the CIDR Prefix Length, which for IP4
hosts and multicast addresses is 32 bits. This
object may not be changed when the value of the
RowStatus object is 'active'.
::= { rsvpResvFwdEntry 6 }

rsvpResvFwdProtocol OBJECT-TYPE
SYNTAX Protocol
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The IP Protocol used by a session. for secure
sessions, this indicates IP Security. This ob-
ject may not be changed when the value of the
RowStatus object is 'active'.
::= { rsvpResvFwdEntry 7 }

rsvpResvFwdDestPort OBJECT-TYPE
SYNTAX Port
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The UDP or TCP port number used as a destina-
tion port for all senders in this session. If

the IP protocol in use, specified by rsvpResvFwdProtocol, is 50 (ESP) or 51 (AH), this represents a virtual destination port number. A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvFwdEntry 8 }

rsvpResvFwdPort OBJECT-TYPE

SYNTAX Port
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The UDP or TCP port number used as a source port for this sender in this session. If the IP protocol in use, specified by rsvpResvFwdProtocol is 50 (ESP) or 51 (AH), this represents a generalized port identifier (GPI). A value of zero indicates that the IP protocol in use does not have ports. This object may not be changed when the value of the RowStatus object is 'active'."

::= { rsvpResvFwdEntry 9 }

rsvpResvFwdHopAddr OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The address of the (previous) RSVP that will receive this message."

::= { rsvpResvFwdEntry 10 }

rsvpResvFwdHopLih OBJECT-TYPE

SYNTAX Integer32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The Logical Interface Handle sent to the (pre-
vious) RSVP that will receive this message."
 ::= { rsvpResvFwdEntry 11 }

rsvpResvFwdInterface OBJECT-TYPE
SYNTAX InterfaceIndex
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The ifIndex value of the interface on which
this RESV message was most recently sent."
 ::= { rsvpResvFwdEntry 12 }

rsvpResvFwdService OBJECT-TYPE
SYNTAX QoSService
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The QoS Service classification requested."
 ::= { rsvpResvFwdEntry 13 }

rsvpResvFwdTSpecRate OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The Average Bit Rate of the sender's data stream. Within a transmission burst, the arrival rate may be as fast as rsvpResvFwdTSpecPeakRate (if supported by the service model); however, averaged across two or more burst intervals, the rate should not exceed rsvpResvFwdTSpecRate.

Note that this is a prediction, often based on the general capability of a type of codec or particular encoding; the measured average rate may be significantly lower."

::= { rsvpResvFwdEntry 14 }

rsvpResvFwdTSpecPeakRate OBJECT-TYPE

SYNTAX BitRate
UNITS "bits per second"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The Peak Bit Rate of the sender's data stream. Traffic arrival is not expected to exceed this rate at any time, apart from the effects of jitter in the network. If not specified in the TSpec, this returns zero or noSuchValue."

::= { rsvpResvFwdEntry 15 }

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rsvpResvFwdTSpecBurst OBJECT-TYPE

SYNTAX BurstSize

UNITS "bytes"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The size of the largest burst expected from the sender at a time.

If this is less than the sender's advertised burst size, the receiver is asking the network to provide flow pacing beyond what would be provided under normal circumstances. Such pacing is at the network's option."

::= { rsvpResvFwdEntry 16 }

rsvpResvFwdTSpecMinTU OBJECT-TYPE

SYNTAX MessageSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The minimum message size for this flow. The policing algorithm will treat smaller messages as though they are this size."

::= { rsvpResvFwdEntry 17 }

rsvpResvFwdTSpecMaxTU OBJECT-TYPE

SYNTAX MessageSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The maximum message size for this flow. The admission algorithm will reject TSpecs whose Maximum Transmission Unit, plus the interface headers, exceed the interface MTU."

::= { rsvpResvFwdEntry 18 }

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rsvpResvFwdRSpecRate OBJECT-TYPE

SYNTAX BitRate
UNITS "bytes per second"
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"If the requested service is Guaranteed, as specified by rsvpResvService, this is the clearing rate that is being requested. Otherwise, it is zero, or the agent may return noSuchValue."

::= { rsvpResvFwdEntry 19 }

rsvpResvFwdRSpecSlack OBJECT-TYPE

SYNTAX Integer32
UNITS "microseconds"
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"If the requested service is Guaranteed, as specified by rsvpResvService, this is the delay slack. Otherwise, it is zero, or the agent may return noSuchValue."

::= { rsvpResvFwdEntry 20 }

rsvpResvFwdInterval OBJECT-TYPE

SYNTAX RefreshInterval
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"The interval between refresh messages advertised to the Previous Hop."

::= { rsvpResvFwdEntry 21 }

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rsvpResvFwdScope OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(0..65536))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The contents of the scope object, displayed as an uninterpreted string of octets, including the object header. In the absence of such an object, this should be of zero length."

::= { rsvpResvFwdEntry 22 }

rsvpResvFwdShared OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"If TRUE, a reservation shared among senders is requested. If FALSE, a reservation specific to this sender is requested."

::= { rsvpResvFwdEntry 23 }

rsvpResvFwdExplicit OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"If TRUE, individual senders are listed using

Filter Specifications. If FALSE, all senders are implicitly selected. The Scope Object will contain a list of senders that need to receive this reservation request for the purpose of routing the RESV message."
 ::= { rsvpResvFwdEntry 24 }

rsvpResvFwdRSVPHop OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"If TRUE, the node believes that the next IP hop is an RSVP hop. If FALSE, the node believes that the next IP hop may not be an RSVP hop."

::= { rsvpResvFwdEntry 25 }

rsvpResvFwdLastChange OBJECT-TYPE

SYNTAX TimeStamp

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The time of the last change in this request; This is either the first time it was sent or the time of the most recent change in parameters."

::= { rsvpResvFwdEntry 26 }

rsvpResvFwdPolicy OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(0..65536))
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The contents of the policy object, displayed
as an uninterpreted string of octets, including
the object header. In the absence of such an
object, this should be of zero length."
 ::= { rsvpResvFwdEntry 27 }

rsvpResvFwdStatus OBJECT-TYPE
SYNTAX RowStatus
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"'active' for all active RESV messages. This
object may be used to delete RESV information."
 ::= { rsvpResvFwdEntry 28 }

rsvpResvFwdTTL OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The TTL value in the RSVP header that was last
received."
 ::= { rsvpResvFwdEntry 29 }

rsvpResvFwdFlowId OBJECT-TYPE
SYNTAX INTEGER (0..16777215)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The flow ID that this receiver is using, if
this is an IPv6 session."

```
::= { rsvpResvFwdEntry 30 }
```

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```
-- The RSVP Interface Attributes Database contains the
-- RSVP-specific information for an interface. Information
-- that is shared with other reservation procedures such
-- as ST-II is in the Integrated Interface Attributes
-- Database.
```

```
rsvpIfTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF RsvpIfEntry
    MAX-ACCESS  not-accessible
    STATUS      current
```


DESCRIPTION

"The RSVP-specific attributes of the system's interfaces."

::= { rsvpObjects 6 }

rsvpIfEntry OBJECT-TYPE

SYNTAX RsvpIfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The RSVP-specific attributes of the a given interface."

INDEX { ifIndex }

::= { rsvpIfTable 1 }

RsvpIfEntry ::=

SEQUENCE {

| | |
|-------------------------------|---------------|
| rsvpIfUdpNbrs | Gauge32, |
| rsvpIfIpNbrs | Gauge32, |
| rsvpIfNbrs | Gauge32, |
| rsvpIfEnabled | TruthValue, |
| rsvpIfUdpRequired | TruthValue, |
| rsvpIfRefreshBlockadeMultiple | INTEGER, |
| rsvpIfRefreshMultiple | INTEGER, |
| rsvpIfTTL | INTEGER, |
| rsvpIfRefreshInterval | TimeInterval, |
| rsvpIfRouteDelay | TimeInterval, |
| rsvpIfStatus | RowStatus |

}

rsvpIfUdpNbrs OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

```
    "The number of neighbors perceived to be using
    only the RSVP UDP Encapsulation."
 ::= { rsvpIfEntry 1 }
```

```
rsvpIfIpNbrs OBJECT-TYPE
    SYNTAX      Gauge32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The number of neighbors perceived to be using
        only the RSVP IP Encapsulation."
 ::= { rsvpIfEntry 2 }
```

```
rsvpIfNbrs OBJECT-TYPE
    SYNTAX      Gauge32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The number of neighbors currently perceived;
        this will exceed rsvpIfIpNbrs + rsvpIfUdpNbrs
        by the number of neighbors using both encapsu-
        lations."
 ::= { rsvpIfEntry 3 }
```

```
rsvpIfRefreshBlockadeMultiple OBJECT-TYPE
    SYNTAX      INTEGER (1..65536)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The value of the RSVP value 'Kb', Which is the
        minimum number of refresh intervals that
        blockade state will last once entered."
    DEFVAL      { 4 }
 ::= { rsvpIfEntry 4 }
```

rsvpIfRefreshMultiple OBJECT-TYPE

SYNTAX INTEGER (1..65536)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of the RSVP value 'K', which is the number of refresh intervals which must elapse (minimum) before a PATH or RESV message which is not being refreshed will be aged out."

DEFVAL { 3 }

::= { rsvpIfEntry 5 }

rsvpIfTTL OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of SEND_TTL used on this interface for messages this node originates. If set to zero, the node determines the TTL via other means."

DEFVAL { 0 } -- which is to say, no override

::= { rsvpIfEntry 6 }

rsvpIfRefreshInterval OBJECT-TYPE

SYNTAX TimeInterval

UNITS "milliseconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The value of the RSVP value 'R', which is the minimum period between refresh transmissions of a given PATH or RESV message on an interface."

DEFVAL { 3000 } -- 30 seconds

::= { rsvpIfEntry 7 }

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```
rsvpIfRouteDelay OBJECT-TYPE
    SYNTAX      TimeInterval
    UNITS        "hundredths of a second"
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "The approximate period from the time a route
         is changed to the time a resulting message ap-
         pears on the interface."
    DEFVAL      { 200 } -- 2 seconds
    ::= { rsvpIfEntry 8 }

rsvpIfEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "If TRUE, RSVP is enabled on this Interface.
         If FALSE, RSVP is not enabled on this inter-
         face."
    ::= { rsvpIfEntry 9 }

rsvpIfUdpRequired OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS   read-create
    STATUS       current
    DESCRIPTION
        "If TRUE, manual configuration forces the use
         of UDP encapsulation on the interface. If
         FALSE, UDP encapsulation is only used if rsvpI-
         fUdpNbrs is not zero."

    ::= { rsvpIfEntry 10 }
```

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```
rsvpIfStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "'active' on interfaces that are configured for
        RSVP."
    ::= { rsvpIfEntry 11 }
```

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```
--      The RSVP Neighbor Database lists the neighbors the RSVP
--      process currently is receiving messages from.
```

```
rsvpNbrTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF RsvpNbrEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Information describing the Neighbors of an
        RSVP system."
    ::= { rsvpObjects 7 }
```

```
rsvpNbrEntry OBJECT-TYPE
    SYNTAX      RsvpNbrEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Information describing a single RSVP Neighbor."
    INDEX { ifIndex, rsvpNbrAddress }
    ::= { rsvpNbrTable 1 }
```

```
RsvpNbrEntry ::=
    SEQUENCE {
        rsvpNbrAddress      OCTET STRING,
        rsvpNbrProtocol     RsvpEncapsulation,
        rsvpNbrStatus       RowStatus
    }
```

rsvpNbrAddress OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(4..16))
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"The IP4 or IP6 Address used by this neighbor.
This object may not be changed when the value
of the RowStatus object is 'active'.
::= { rsvpNbrEntry 1 }

rsvpNbrProtocol OBJECT-TYPE
SYNTAX RsvpEncapsulation
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"The encapsulation being used by this neighbor."
::= { rsvpNbrEntry 2 }

rsvpNbrStatus OBJECT-TYPE
SYNTAX RowStatus
MAX-ACCESS read-create
STATUS current
DESCRIPTION
"'active' for all neighbors. This object may
be used to configure neighbors. In the pres-
ence of configured neighbors, the implemen-
tation may (but is not required to) limit the set
of valid neighbors to those configured."
::= { rsvpNbrEntry 3 }

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--
--
--

Notifications used to signal events

rsvpNotifications OBJECT IDENTIFIER ::= { rsvpNotificationsPrefix 0 }

newFlow NOTIFICATION-TYPE

OBJECTS {

intSrvFlowStatus, rsvpSessionDestAddr,
rsvpResvFwdStatus, rsvpResvStatus, rsvpSenderStatus

}

STATUS current

DESCRIPTION

"The newFlow trap indicates that the originating system has installed a new flow in its classifier, or (when reservation authorization is in view) is prepared to install such a flow in the classifier and is requesting authoriza-

tion. The objects included with the Notification may be used to read further information using the Integrated Services and RSVP MIBs. Authorization or non-authorization may be enacted by a write to the variable intSrvFlowStatus."

```
::= { rsvpNotifications 1 }
```

```
lostFlow NOTIFICATION-TYPE
```

```
OBJECTS {
```

```
    intSrvFlowStatus, rsvpSessionDestAddr,  
    rsvpResvFwdStatus, rsvpResvStatus, rsvpSenderStatus
```

```
}
```

```
STATUS current
```

```
DESCRIPTION
```

```
"The lostFlow trap indicates that the originating system has removed a flow from its classifier."
```

```
::= { rsvpNotifications 2 }
```

```
-- conformance information
```

```
rsvpGroups OBJECT IDENTIFIER ::= { rsvpConformance 1 }
```

```
rsvpCompliances OBJECT IDENTIFIER ::= { rsvpConformance 2 }
```

```
-- compliance statements
```

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rsvpCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"The compliance statement. Note that the implementation of this module requires implementation of the Integrated Services MIB as well."

MODULE -- this module

```
MANDATORY-GROUPS {
    rsvpSessionGroup, rsvpSenderGroup, rsvpResvGroup,
    rsvpIfGroup, rsvpNbrGroup,
    rsvpGenObjectsGroup, rsvpSenderOutInterfaceGroup
}
```

```
GROUP rsvpResvFwdGroup
```

```
DESCRIPTION
```

```
"The Reservation Requests table is appropriate
in implementations that store upstream reserva-
tion messages, but not appropriate in implemen-
tations which calculate them on each transmis-
sion."
```

```
GROUP rsvpNotificationGroup
```

```
DESCRIPTION
```

```
"The notifications in this module may be used to
advise a network management station of changes in
flow status, and are required when this use is in
view."
```

```
OBJECT      rsvpSessionRequests
```

```
MIN-ACCESS not-accessible
```

```
DESCRIPTION
```

```
"This object is optional."
```

```
OBJECT      rsvpSenderType
```

```
MIN-ACCESS read-only
```

```
DESCRIPTION
```

```
"read-create access is not required. This may be
read-only."
```

```
OBJECT      rsvpSenderDestAddr
```

```
MIN-ACCESS read-only
```

```
DESCRIPTION
```

```
"read-create access is not required. This may be
read-only."
```

```
OBJECT      rsvpSenderAddr
```

MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderDestAddrLength
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderAddrLength
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderProtocol
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderDestPort
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderPort
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderHopAddr
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderHopLih
MIN-ACCESS read-only
DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderInterface

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderTSpecRate

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderTSpecPeakRate

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderTSpecBurst

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderTSpecMinTU

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderTSpecMaxTU

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

OBJECT rsvpSenderInterval

MIN-ACCESS read-only

DESCRIPTION

"read-create access is not required. This may be read-only."

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OBJECT rsvpSenderRSVPHop
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderPolicy
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecBreak
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecHopCount
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecPathBw
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecMinLatency
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecMtu
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpSenderAdspecGuaranteedSvc
MIN-ACCESS not-accessible
DESCRIPTION

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"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedBreak
MIN-ACCESS not-accessible
DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedCtot
MIN-ACCESS not-accessible
DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedDtot
MIN-ACCESS not-accessible
DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedCsum
MIN-ACCESS not-accessible
DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedDsum
MIN-ACCESS read-only
DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedHopCount
MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedPathBw

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedMinLatency

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecGuaranteedMtu

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Guaranteed Service."

OBJECT rsvpSenderAdspecCtrlLoadSvc

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderAdspecCtrlLoadBreak

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderAdspecCtrlLoadHopCount

MIN-ACCESS not-accessible

DESCRIPTION

"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderAdspecCtrlLoadPathBw
MIN-ACCESS not-accessible
DESCRIPTION
"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderAdspecCtrlLoadMinLatency
MIN-ACCESS not-accessible
DESCRIPTION
"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderAdspecCtrlLoadMtu
MIN-ACCESS not-accessible
DESCRIPTION

"This may be not-accessible if the system does not support Controlled Load."

OBJECT rsvpSenderStatus
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpSenderFlowId
MIN-ACCESS not-accessible
DESCRIPTION
"This object is needed only in a system that implements IPv6."

OBJECT rsvpResvType
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvDestAddr

MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvSenderAddr
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvDestAddrLength
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvSenderAddrLength
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvProtocol
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvDestPort
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvPort
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be read-only."

OBJECT rsvpResvHopAddr
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvHopLih
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvInterface
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvService
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvTSpecRate
MIN-ACCESS read-only
DESCRIPTION

"read-create access is not required. This may be
read-only."

OBJECT rsvpResvTSpecPeakRate
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvTSpecBurst
MIN-ACCESS read-only

DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvTSpecMinTU
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvTSpecMaxTU
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvRSpecRate
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvRSpecSlack
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvInterval
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvScope
MIN-ACCESS read-only
DESCRIPTION
"read-create access is not required. This may be
read-only."

OBJECT rsvpResvShared
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be
 read-only."

OBJECT rsvpResvExplicit
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be
 read-only."

OBJECT rsvpResvRSVPHop
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be
 read-only."

OBJECT rsvpResvPolicy
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be
 read-only."

OBJECT rsvpResvStatus
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be
 read-only."

OBJECT rsvpResvFlowId
MIN-ACCESS not-accessible
DESCRIPTION
 "This object is needed only in a system that imple-
 ments IPv6."

OBJECT rsvpResvFwdStatus
MIN-ACCESS read-only
DESCRIPTION
 "read-create access is not required. This may be

```
    read-only."
OBJECT      rsvpResvFwdFlowId
MIN-ACCESS not-accessible
DESCRIPTION
    "This object is needed only in a system that imple-
    ments IPv6."

::= { rsvpCompliances 1 }
```

```
rsvpSessionGroup OBJECT-GROUP
    OBJECTS {
        rsvpSessionType, rsvpSessionDestAddr,
        rsvpSessionDestAddrLength, rsvpSessionProtocol,
        rsvpSessionPort, rsvpSessionSenders, rsvpSessionReceivers,
        rsvpSessionRequests
    }
    STATUS current
    DESCRIPTION
        "These objects are required for RSVP Systems."
    ::= { rsvpGroups 1 }
```

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rsvpSenderGroup OBJECT-GROUP

OBJECTS {

```
rsvpSenderType, rsvpSenderDestAddr, rsvpSenderAddr,
rsvpSenderDestAddrLength, rsvpSenderAddrLength,
rsvpSenderProtocol, rsvpSenderDestPort, rsvpSenderPort,
rsvpSenderFlowId, rsvpSenderTTL,
rsvpSenderHopAddr, rsvpSenderHopLih, rsvpSenderInterface,
rsvpSenderTSpecRate, rsvpSenderTSpecPeakRate,
rsvpSenderTSpecBurst, rsvpSenderTSpecMinTU,
rsvpSenderTSpecMaxTU, rsvpSenderInterval, rsvpSenderLastChange,
rsvpSenderStatus, rsvpSenderRSVPHop, rsvpSenderPolicy,
rsvpSenderAdspecBreak, rsvpSenderAdspecHopCount,
rsvpSenderAdspecPathBw, rsvpSenderAdspecMinLatency,
rsvpSenderAdspecMtu, rsvpSenderAdspecGuaranteedSvc,
rsvpSenderAdspecGuaranteedBreak,
rsvpSenderAdspecGuaranteedCtot, rsvpSenderAdspecGuaranteedDtot,
rsvpSenderAdspecGuaranteedCsum, rsvpSenderAdspecGuaranteedDsum,
rsvpSenderAdspecGuaranteedHopCount,
rsvpSenderAdspecGuaranteedPathBw,
rsvpSenderAdspecGuaranteedMinLatency,
rsvpSenderAdspecGuaranteedMtu, rsvpSenderAdspecCtrlLoadSvc,
rsvpSenderAdspecCtrlLoadBreak,
rsvpSenderAdspecCtrlLoadHopCount,
rsvpSenderAdspecCtrlLoadPathBw,
rsvpSenderAdspecCtrlLoadMinLatency,
rsvpSenderAdspecCtrlLoadMtu, rsvpSenderNewIndex
```

}

STATUS current

DESCRIPTION

"These objects are required for RSVP Systems."

::= { rsvpGroups 2 }

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rsvpResvGroup OBJECT-GROUP

OBJECTS {

rsvpResvType, rsvpResvDestAddr, rsvpResvSenderAddr,
rsvpResvDestAddrLength, rsvpResvSenderAddrLength,
rsvpResvProtocol, rsvpResvDestPort, rsvpResvPort,
rsvpResvHopAddr, rsvpResvHopLih, rsvpResvInterface,
rsvpResvService, rsvpResvTSpecRate, rsvpResvTSpecBurst,
rsvpResvTSpecPeakRate, rsvpResvTSpecMinTU, rsvpResvTSpecMaxTU,
rsvpResvRSpecRate, rsvpResvRSpecSlack, rsvpResvInterval,
rsvpResvScope, rsvpResvShared, rsvpResvExplicit,
rsvpResvRSVPHop, rsvpResvLastChange, rsvpResvPolicy,
rsvpResvStatus, rsvpResvNewIndex, rsvpResvTTL, rsvpResvFlowId

}

STATUS current

DESCRIPTION

"These objects are required for RSVP Systems."

::= { rsvpGroups 3 }

rsvpResvFwdGroup OBJECT-GROUP

OBJECTS {

rsvpResvFwdType, rsvpResvFwdDestAddr, rsvpResvFwdSenderAddr,
rsvpResvFwdDestAddrLength, rsvpResvFwdSenderAddrLength,
rsvpResvFwdProtocol, rsvpResvFwdDestPort, rsvpResvFwdPort,
rsvpResvFwdHopAddr, rsvpResvFwdHopLih, rsvpResvFwdInterface,
rsvpResvFwdNewIndex, rsvpResvFwdService,
rsvpResvFwdTSpecPeakRate, rsvpResvFwdTSpecMinTU,
rsvpResvFwdTSpecMaxTU, rsvpResvFwdTSpecRate,
rsvpResvFwdTSpecBurst, rsvpResvFwdRSpecRate,
rsvpResvFwdRSpecSlack, rsvpResvFwdInterval, rsvpResvFwdScope,
rsvpResvFwdShared, rsvpResvFwdExplicit, rsvpResvFwdRSVPHop,
rsvpResvFwdLastChange, rsvpResvFwdPolicy, rsvpResvFwdStatus,
rsvpResvFwdTTL, rsvpResvFwdFlowId

}

STATUS current

DESCRIPTION

"These objects are optional, used for some RSVP


```
Systems."  
 ::= { rsvpGroups 4 }
```

```
rsvpIfGroup OBJECT-GROUP  
  OBJECTS {  
    rsvpIfUdpNbrs, rsvpIfIpNbrs, rsvpIfNbrs, rsvpIfEnabled,  
    rsvpIfUdpRequired, rsvpIfRefreshBlockadeMultiple,  
    rsvpIfRefreshMultiple, rsvpIfRefreshInterval, rsvpIfTTL,  
    rsvpIfRouteDelay, rsvpIfStatus  
  }  
  STATUS current  
  DESCRIPTION  
    "These objects are required for RSVP Systems."  
 ::= { rsvpGroups 5 }
```

```
rsvpNbrGroup OBJECT-GROUP  
  OBJECTS {  
    rsvpNbrProtocol, rsvpNbrStatus  
  }  
  STATUS current  
  DESCRIPTION  
    "These objects are required for RSVP Systems."  
 ::= { rsvpGroups 6 }
```

```
rsvpGenObjectsGroup OBJECT-GROUP  
  OBJECTS {  
    rsvpBadPackets  
  }  
  STATUS current  
  DESCRIPTION  
    "This objects are required for RSVP Systems."  
 ::= { rsvpGroups 7 }
```

```
rsvpSenderOutInterfaceGroup OBJECT-GROUP
  OBJECTS {
    rsvpSenderOutInterfaceStatus
  }
  STATUS current
  DESCRIPTION
    "These objects are required for RSVP Systems."
 ::= { rsvpGroups 8 }
```

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```
rsvpNotificationGroup NOTIFICATION-GROUP
  NOTIFICATIONS { newFlow, lostFlow }
  STATUS current
  DESCRIPTION
    "This notification is required for Systems sup-
      porting the RSVP Policy Module using an SNMP
      interface to the Policy Manager."
 ::= { rsvpGroups 9 }
```

END

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6. Security Issues

The use of an SNMP SET results in an RSVP or Integrated Services reservation under rules that are different compared to if the reservation was negotiated using RSVP. However, no other security considerations exist other than those imposed by SNMP itself.

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8. Acknowledgements

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9. References

- [1] M.T. Rose (editor), Management Information Base for Network Management of TCP/IP-based internets, Internet Working Group Request for Comments 1213. Network Information Center, SRI International, Menlo Park, California, (May, 1990).

- [2] Information processing systems - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1), International Organization for Standardization. International Standard 8824, (December, 1987).

[3] Information processing systems - Open Systems
Interconnection - Specification of Basic Encoding Rules
for Abstract Notation One (ASN.1), International
Organization for Standardization. International Standard
8825, (December, 1987).

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