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Definitions of Managed Objects for  
Service Level Agreements  
Performance Monitoring  
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Abstract

This memo defines a Management Information Base (MIB) for performance monitoring of Service Level Agreements (SLAs) defined via policy definitions. The MIB defined herein focuses on defining a set of objects for monitoring SLAs and not on replication of the content of the policy definitions being monitored. The goal of the MIB defined within this document is to define statistics related to a policy rule definition for reporting on the effect that a policy rule has on a



Policy Framework Working Group in the IETF. The content of the MIB defined within this memo has evolved along with the Policy Framework Working Group schema definitions.

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## [2.0](#) The SNMP Network Management Framework

The SNMP Management Framework presently consists of five major components:

- o An overall architecture, described in [RFC 2571](#) [7].
- o Mechanisms for describing and naming objects and events for the purpose of management. The first version of this Structure of Management Information (SMI) is called SMIV1 and described in [RFC 1155](#) [14], [RFC 1212](#) [15] and [RFC 1215](#) [16]. The second version, called SMIV2, is described in [RFC 2578](#) [3], [RFC 2579](#) [4] and [RFC 2580](#) [5].
- o Message protocols for transferring management information. The first version of the SNMP message protocol is called SNMPv1 and described in [RFC 1157](#) [1]. A second version of the SNMP message protocol, which is not an Internet standards track protocol, is called SNMPv2c and described in [RFC 1901](#) [17] and [RFC 1906](#) [18]. The third version of the message protocol is called SNMPv3 and described in [RFC 1906](#) [18], [RFC 2572](#) [8] and [RFC 2574](#) [10].
- o Protocol operations for accessing management information. The first set of protocol operations and associated PDU formats is described in [RFC 1157](#) [1]. A second set of protocol operations and associated PDU formats is described in [RFC 1905](#) [6].
- o A set of fundamental applications described in [RFC 2573](#) [9] and the view-based access control mechanism described in [RFC 2575](#) [11].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the mechanisms defined in the SMI.

This memo specifies a MIB module that is compliant to the SMIV2. A MIB conforming to the SMIV1 can be produced through the appropriate translations. The resulting translated MIB must be semantically equivalent, except where objects or events are omitted because no translation is possible (use of Counter64). Some machine readable information in SMIV2 will be converted into textual descriptions in SMIV1 during the translation process. However, this loss of machine

readable information is not considered to change the semantics of the MIB.

### [3.0](#) Structure of the MIB

The SLAPM-MIB consists of the following components:

- o scalar objects
- o slapmPolicyNameTable

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- o slapmPolicyRuleStatsTable (equivalent to the deprecated slapmPolicyStatsTable)
- o slapmPRMonTable (equivalent to the deprecated slapmPolicyMonitorTable)
- o slapmSubcomponentTable

Refer to the compliance statement defined within SLAPM-MIB for a definition of what objects and notifications **MUST** be implemented by all systems as opposed to those that **MUST** be implemented by end systems only.

Initially most of the tables defined by the MIB module within this document were directly indexed using a policy's name and a subordinate traffic profile name. Over time the structure and resulting naming has grown more complex and as such has exceeded the capacity of being used as a direct MIB table index. As a result of this the original tables (slapmPolicyStatsTable and slapmPolicyMonitorTable) have been deprecated and replaced with new tables that use an Unsigned32 index element instead of "names". A new table has been defined, slapmPolicyNameTable, that maps the Unsigned32 index to a unique name associated with a given policy rule definition.

### [3.1](#) Scalar objects

Global objects defined within SLAPM-MIB:

- o slapmSpinLock

Enables multiple management application access to SLAPM-MIB. An agent **MUST** implement the slapmSpinLock object to enable management applications to coordinate their use of the SLAPM-MIB. Management application use of slapmSpinLock is **OPTIONAL**.

- o slapmPolicyCountQueries, slapmPolicyCountAccesses, slapmPolicyCountSuccessAccesses, and slapmPolicyCountNotFounds

Basic statistics on the amount of policy directory access that has occurred at a system.

- o slapmPolicyPurgeTime

Used to prevent the entries in various SLAPM-MIB tables that relate to a policy definition from immediately being deleted when the corresponding policy definition no longer exists. This gives management applications time to discover this condition and close out any polled based interval data that may be being collected. All dependent slapmPRMonTable entries are also deleted when its parent slapmPolicyRuleStatsEntry is removed. Refer to the OBJECT description for slapmPolicyPurgeTime for a more precise description of this function.

- o slapmPolicyTrapEnable

This object enables or suppresses generation of slapmPolicyRuleDeleted or slapmPolicyRuleMonDeleted notifications.

- o slapmPolicyTrapFilter

This object enables suppression of slapmSubcMonitorNotOkay notifications.

### [3.2](#) slapmPolicyNameTable

The slapmPolicyNameTable maps a Unsigned32 index to a unique name associated with a given policy rule definition.

Currently, the core schema definition being worked on within the Policy Framework working group defines five general classes: policyGroup, policyRule, policyCondition, policyTimePeriodCondition, and policyAction. "Policies can either be used in a stand-alone fashion or aggregated into policy groups to perform more elaborate functions. Stand-alone policies are called policy rules. Policy groups are aggregations of policy rules, or aggregations of policy groups, but not both." Each policy rule consists of a set of conditions and a set of actions. Policy rules may be aggregated into policy groups.

"Instances in a directory are identified by distinguished names (DNs),

which provide the same type of hierarchical organization that a file system provides in a computer system. A distinguished name is a sequence of relative distinguished names (RDNs), where an RDN provides a unique identifier for an instance within the context of its immediate superior, in the same way that a filename provides a unique identifier for a file within the context of the folder in which it resides."

Each of these instances can also be named to fit in with the existing DEN practice with a commonName (cn) attribute as oppose to the classes name attribute.

"The cn, or commonName, attribute is an X.500 attribute. It stands for commonName. It specifies a user-friendly name by which the object is commonly known. This name may be ambiguous by itself. This name is used in a limited scope (such as an organization). It conforms to the naming conventions of the country or culture with which it is associated. CN is used universally in DEN as the naming attribute for a class."

An slapmPolicyNameEntry contains a single object, slapmPolicyNameOfRule, that contains the unique name associated with a policy rule instance. An slapmPolicyNameEntry is indexed by a Unsigned32 index, slapmPolicyNameIndex, that is assigned by the implementation of this MIB.

### [3.3](#) slapmPolicyRuleStatsTable

This table is functionally equivalent to the deprecated slapmPolicyStatsTable. The slapmPolicyStatsTable uses the name of both a policy definition and a traffic profile name to index an entry. The slapmPolicyRuleStatsTable uses an slapmPolicyNameEntry index (Unsigned32) instead.

The slapmPolicyRuleStatsTable is the main table defined by SLAPM-MIB. The primary index for this table is slapmPolicyNameSystemAddress that enables support of multiple systems from a single policy agent. The index element, slapmPolicyNameSystemAddress, value must be either the zero-length octet string when at a policy agent only a single system is being support, 4 octets for a ipv4 address, or 16 octets for a ipv6 address.

It is possible that on a single system multiple policy agent instances exists. The Entity MIB, refer to [[19](#)], should be used to handle the resulting MIBs.

With respect to `slapmPolicyNameSystemAddress` one `slapmPolicyRuleStatsEntry` exists for each policy rule instance. Entries in this table are not administered via SNMP. An agent implementation for this table MUST reflect its current set of policy rule instances via table entries. The mechanisms for policy administration are outside of the scope of this memo.

### [3.4](#) `slapmPRMonTable`

This table is functionally equivalent to the deprecated `slapmPolicyMonitorTable`. The `slapmPolicyMonitorTable` uses the name of both a policy definition and a traffic profile name to index an entry. The `slapmPRMonTable` uses an `slapmPolicyNameEntry` index (Unsigned32) instead.

The `slapmPRMonTable` provides a method of monitoring the effect of SLA policy being used at a system. A management application creates an `slapmPRMonEntry` for each collection that it requires. The value of the BITS `slapmPRMonControl` object determines what type of monitoring occurs, at what level to monitor and whether trap support is enabled:

- o `monitorMinRate(0)`

Use the value of `slapmPRMonInterval` as the interval to determine current traffic in and out rates, using `slapmPRMonCurrentInRate` and `slapmPRMonCurrentOutRate`, that can be compared to `slapmPRMonMinRateLow` for determining when to generate a `slapmPolicyRuleMonNotOkay` notification. The notification `slapmPolicyRuleMonOkay` is generated when the problem is resolved. This can be determined by comparing the current rates to `slapmPRMonMinRateHigh`.

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- o `monitorMaxRate(1)`

Use the value of `slapmPRMonInterval` as the interval to determine current traffic in and out rate, using `slapmPRMonCurrentInRate` and `slapmPRMonCurrentOutRate`, that can be compared to `slapmPRMonMaxRateHigh` for determining when to generate a `slapmPolicyRuleMonNotOkay` notification. The notification `slapmPolicyRuleMonOkay` is generated when the problem is resolved. This can be determined by comparing the current rates to `slapmPRMonMaxRateLow`.

- o `monitorMaxDelay(2)`

Use the value of `slapmPRMonInterval` as the interval to determine the current delay. This can be calculated on an aggregate level by averaging the round trip times for all TCP connections associated with the policy definition. For an individual subcomponent its round trip time can be used directly. Compare this value to `slapmPRMonMaxDelayHigh` for determining when to generate a `slapmPolicyRuleMonNotOkay` notification. The notification `slapmPolicyRuleMonOkay` is generated when the problem is resolved. This can be determined by comparing the current rates to `slapmPRMonMaxDelayLow`.

UDP subcomponents don't support max delay monitoring.

- o `enableAggregateTraps(3)`

The `slapmPRMonitorControl` BITS setting, `enableAggregateTraps(3)`, MUST be set in order for any notifications relating to `slapmPolicyRuleStatsTable` monitoring to be generated.

- o `enableSubcomponentTraps(4)`

This `slapmPRMonControl` BITS setting MUST be set in order for any notifications relating to `slapmSubcomponentTable` monitoring to be generated. The `slapmPRMonControl` BITS setting `monitorSubcomponents(5)` MUST be selected in order for this setting to be allowed.

- o `monitorSubcomponents(5)`

If selected monitor `slapmSubcomponentTable` entries individually.  
Note: aggregate policy rule monitoring is always enabled.

The index element `slapmPRMonOwnerIndex` is used as the first index in `slapmPRMonTable` in order to enable SNMP VACM security control. The `slapmPRMonTable` is the only table that supports SNMP RowStatus operations.

### [3.5](#) `slapmSubcomponentTable`

Entries are made into this table for the protocol entities (policy

traffic profile subcomponents) to indicate actual policy rule usage, provide general statistics at either a TCP connection or UDP listener level, and enable subcomponent monitoring.

## 4.0 Definitions

SLAPM-MIB DEFINITIONS ::= BEGIN

### IMPORTS

```
MODULE-IDENTITY, OBJECT-TYPE,
experimental, Integer32, NOTIFICATION-TYPE,
Gauge32, Counter32, Unsigned32
    FROM SNMPv2-SMI                -- RFC2578
TEXTUAL-CONVENTION, RowStatus,
TestAndIncr, DateAndTime
    FROM SNMPv2-TC                -- RFC2579
MODULE-COMPLIANCE, OBJECT-GROUP,
NOTIFICATION-GROUP
    FROM SNMPv2-CONF              -- RFC2580
SnmpAdminString
    FROM SNMP-FRAMEWORK-MIB;      -- RFC2571
```

### slapmMIB MODULE-IDENTITY

```
LAST-UPDATED "9910130000Z"
ORGANIZATION "Internet Engineering Task Force (IETF)"
CONTACT-INFO
    "Kenneth White
```

```
International Business Machines Corporation
Network Computing Software Division
Research Triangle Park, NC, USA
```

```
E-mail: wkenneth@us.ibm.com"
```

### DESCRIPTION

```
"The Service Level Agreement Performance Monitoring MIB
(SLAPM-MIB) provides data collection and monitoring
capabilities for Service Level Agreements (SLAs)
policy definitions."
```

```
-- Revision history
```

```
REVISION      "9910130000Z"          -- 13 Oct. 1999
```

### DESCRIPTION

```
"This version published as RFC xxxx."
-- RFC-editor assigns xxxx
```

```
::= { experimental 88 }
```

```
-- Textual Conventions
```

```
SlapmNameType ::= TEXTUAL-CONVENTION
STATUS deprecated
```

## DESCRIPTION

"The textual convention for naming entities within this MIB. The actual contents of an object defined using this textual convention should consist of the distinguished name portion of a name. This is usually the right-most portion of the name. This convention is necessary, since names within this MIB can be used as index items and an instance identifier is limited to 128 subidentifiers.

This textual convention has been deprecated. All of the tables defined within this MIB that use this textual convention have been deprecated as well since the method of using a portion of the name (either of a policy definition or of a traffic profile) has been replaced by using an Unsigned32 index. The new slapmPolicyNameTable would then map the Unsigned32 index to a real name."

SYNTAX SnmpAdminString (SIZE(0..32))

SlapmStatus ::= TEXTUAL-CONVENTION

STATUS current

## DESCRIPTION

"The textual convention for defining the various slapmPRMonTable (or old slapmPolicyMonitorTable) and the slapmSubcomponentTable states for actual policy rule traffic monitoring."

SYNTAX BITS {  
    slaMinInRateNotAchieved(0),  
    slaMaxInRateExceeded(1),  
    slaMaxDelayExceeded(2),  
    slaMinOutRateNotAchieved(3),  
    slaMaxOutRateExceeded(4),  
    monitorMinInRateNotAchieved(5),  
    monitorMaxInRateExceeded(6),  
    monitorMaxDelayExceeded(7),  
    monitorMinOutRateNotAchieved(8),  
    monitorMaxOutRateExceeded(9)  
}

SlapmPolicyRuleName ::= TEXTUAL-CONVENTION

DISPLAY-HINT "1024t"

STATUS current

## DESCRIPTION

"To facilitate internationalization, this TC represents information taken from the ISO/IEC IS 10646-1 character set, encoded as an octet string using the UTF-8 character encoding scheme described

in [RFC 2044](#). For strings in 7-bit US-ASCII,  
there is no impact since the UTF-8 representation  
is identical to the US-ASCII encoding."  
SYNTAX OCTET STRING (SIZE (0..1024))

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-- Top-level structure of the MIB

```
slapmNotifications OBJECT IDENTIFIER ::= { slapmMIB 0 }
slapmObjects        OBJECT IDENTIFIER ::= { slapmMIB 1 }
slapmConformance   OBJECT IDENTIFIER ::= { slapmMIB 2 }
```

-- All scalar objects

```
slapmBaseObjects   OBJECT IDENTIFIER ::= { slapmObjects 1 }
```

-- Scalar Object Definitions

```
slapmSpinLock OBJECT-TYPE
  SYNTAX      TestAndIncr
  MAX-ACCESS  read-write
  STATUS      current
  DESCRIPTION
```

"An advisory lock used to allow cooperating applications to coordinate their use of the contents of this MIB. This typically occurs when an application seeks to create a new entry or alter an existing entry in slapmPRMonTable (or old slapmPolicyMonitorTable). A management implementation MAY utilize the slapmSpinLock to serialize its changes or additions. This usage is not required. However, slapmSpinLock MUST be supported by agent implementations."

```
::= { slapmBaseObjects 1 }
```

```
slapmPolicyCountQueries OBJECT-TYPE
```

```
  SYNTAX      Counter32
  MAX-ACCESS  read-only
  STATUS      current
  DESCRIPTION
```

"The total number of times that a policy lookup occurred with respect to a policy agent. This is the number of times that a reference was made to a policy definition at a system and includes the number of times that a policy repository was accessed, slapmPolicyCountAccesses. The object slapmPolicyCountAccesses should be less than

```
    slapmPolicyCountQueries when policy definitions are
    cached at a system."
 ::= { slapmBaseObjects 2 }
```

```
slapmPolicyCountAccesses OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Total number of times that a policy repository was
    accessed with respect to a policy agent.
```

```
    The value of this object should be less than
```

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```
    slapmPolicyCountQueries, since typically policy entries
    are cached to minimize repository accesses."
 ::= { slapmBaseObjects 3 }
```

```
slapmPolicyCountSuccessAccesses OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Total number of successful policy repository accesses
    with respect to a policy agent."
```

```
 ::= { slapmBaseObjects 4 }
```

```
slapmPolicyCountNotFounds OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Total number of policy repository accesses,
    with respect to a policy agent, that
    resulted in an entry not being located."
```

```
 ::= { slapmBaseObjects 5 }
```

```
slapmPolicyPurgeTime OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..3600)  -- maximum of 1 hour
```

```
UNITS       "seconds"
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "The purpose of this object is to define the amount
    of time (in seconds) to wait before removing an
    slapmPolicyRuleStatsEntry (or old slapmPolicyStatsEntry)
```

when a system detects that the associated policy definition has been deleted. This gives any polling management applications time to complete their last poll before an entry is removed. An `slapmPolicyRuleStatsEntry` (or old `slapmPolicyStatsEntry`) enters the `deleteNeeded(3)` state via `slapmPolicyRuleStatsOperStatus` (or old `slapmPolicyStatsOperStatus`) when a system first detects that the entry needs to be removed.

Once `slapmPolicyPurgeTime` has expired for an entry in `deleteNeeded(3)` state it is removed along with any dependent `slapmPRMonTable` (or `slapmPolicyMonitorTable`) entries.

A value of 0 for this option disables this function and results in the automatic purging of `slapmPRMonTable` (or `slapmPolicyTable`) entries upon transition into `deleteNeeded(3)` state.

A `slapmPolicyRuleDeleted` (or `slapmPolicyProfileDeleted`) notification is sent when an `slapmPolicyRuleStatsEntry` (or

`slapmPolicyStatsEntry`) is removed. Dependent `slapmPRMonTable` (or `slapmPolicyMonitorTable`) deletion results in a `slapmPolicyRuleMonDeleted` (or `slapmPolicyMonitorDeleted`) notification being sent. These notifications are suppressed if the value of `slapmPolicyTrapEnable` is `disabled(2)`."

DEFVAL { 900 } -- 15 minute default purge time  
 ::= { slapmBaseObjects 6 }

`slapmPolicyTrapEnable` OBJECT-TYPE

SYNTAX INTEGER { enabled(1), disabled(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indicates whether `slapmPolicyRuleDeleted` and `slapmPolicyRuleMonDeleted` (or `slapmPolicyProfileDeleted` and `slapmPolicyMonitorDeleted`) notifications should be generated by this system."

DEFVAL { disabled }

::= { slapmBaseObjects 7 }

`slapmPolicyTrapFilter` OBJECT-TYPE

SYNTAX Integer32 (0..64)

UNITS "intervals"  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"The purpose of this object is to suppress unnecessary  
slapmSubcMonitorNotOkay (or  
slapmSubcomponentMonitoredEventNotAchieved), for example,  
notifications. Basically, a monitored event has to  
not meet its SLA requirement for the number of  
consecutive intervals indicated by the value of this  
object."  
DEFVAL { 3 }  
 ::= { slapmBaseObjects 8 }

slapmTableObjects OBJECT IDENTIFIER ::= { slapmObjects 2 }

-- Sla Performance Monitoring Policy Statistics Table

slapmPolicyStatsTable OBJECT-TYPE  
SYNTAX SEQUENCE OF SlapmPolicyStatsEntry  
MAX-ACCESS not-accessible  
STATUS deprecated  
DESCRIPTION  
"Provides statistics on all policies known at a  
system.  
  
This table has been deprecated and replaced with  
the slapmPolicyRuleStatsTable. Older implementations of  
this MIB are expected to continue their support of this

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table."  
 ::= { slapmTableObjects 1 }

slapmPolicyStatsEntry OBJECT-TYPE  
SYNTAX SlapmPolicyStatsEntry  
MAX-ACCESS not-accessible  
STATUS deprecated  
DESCRIPTION  
"Defines an entry in the slapmPolicyStatsTable. This table  
defines a set of statistics that is kept on a per system,  
policy and traffic profile basis. A policy can be  
defined to contain multiple traffic profiles that map to  
a single action.

Entries in this table are not created or deleted via SNMP

but reflect the set of policy definitions known at a system."

```

INDEX {
    slapmPolicyStatsSystemAddress,
    slapmPolicyStatsPolicyName,
    slapmPolicyStatsTrafficProfileName
}
 ::= { slapmPolicyStatsTable 1 }

```

```

SlapmPolicyStatsEntry ::=
SEQUENCE {
    slapmPolicyStatsSystemAddress      OCTET STRING,
    slapmPolicyStatsPolicyName         SlapmNameType,
    slapmPolicyStatsTrafficProfileName SlapmNameType,
    slapmPolicyStatsOperStatus         INTEGER,
    slapmPolicyStatsActiveConns        Gauge32,
    slapmPolicyStatsTotalConns         Counter32,
    slapmPolicyStatsFirstActivated     DateAndTime,
    slapmPolicyStatsLastMapping        DateAndTime,
    slapmPolicyStatsInOctets           Counter32,
    slapmPolicyStatsOutOctets          Counter32,
    slapmPolicyStatsConnectionLimit    Integer32,
    slapmPolicyStatsCountAccepts       Counter32,
    slapmPolicyStatsCountDenies        Counter32,
    slapmPolicyStatsInDiscards         Counter32,
    slapmPolicyStatsOutDiscards        Counter32,
    slapmPolicyStatsInPackets          Counter32,
    slapmPolicyStatsOutPackets         Counter32,
    slapmPolicyStatsInProfileOctets    Counter32,
    slapmPolicyStatsOutProfileOctets   Counter32,
    slapmPolicyStatsMinRate            Integer32,
    slapmPolicyStatsMaxRate            Integer32,
    slapmPolicyStatsMaxDelay           Integer32
}

```

```

slapmPolicyStatsSystemAddress OBJECT-TYPE
SYNTAX      OCTET STRING (SIZE(0 | 4 | 16))
MAX-ACCESS  not-accessible
STATUS      deprecated

```

#### DESCRIPTION

"Address of a system that an Policy definition relates to. A zero length octet string must be used to indicate that only a single system is being represented. Otherwise, the length of the octet string must be 4 for an ipv4 address or 16 for an ipv6 address."

```
::= { slapmPolicyStatsEntry 1 }
```

```
slapmPolicyStatsPolicyName OBJECT-TYPE  
SYNTAX      SlapmNameType  
MAX-ACCESS  not-accessible  
STATUS      deprecated  
DESCRIPTION  
    "Policy name that this entry relates to."  
 ::= { slapmPolicyStatsEntry 2 }
```

```
slapmPolicyStatsTrafficProfileName OBJECT-TYPE  
SYNTAX      SlapmNameType  
MAX-ACCESS  not-accessible  
STATUS      deprecated  
DESCRIPTION  
    "The name of a traffic profile that is associated with  
    a policy."  
 ::= { slapmPolicyStatsEntry 3 }
```

```
slapmPolicyStatsOperStatus OBJECT-TYPE  
SYNTAX      INTEGER {  
                inactive(1),  
                active(2),  
                deleteNeeded(3)  
            }  
MAX-ACCESS  read-only  
STATUS      deprecated  
DESCRIPTION  
    "The state of a policy entry:  
  
    inactive(1)    - An policy entry was either defined  
                    by local system definition or  
                    discovered via a directory search  
                    but has not been activated (not  
                    currently being used).  
    active(2)      - Policy entry is being used to affect  
                    traffic flows.  
    deleteNeeded(3) - Either through local implementation  
                    dependent methods or by discovering  
                    that the directory entry corresponding  
                    to this table entry no longer  
                    exists and slapmPolicyPurgeTime needs  
                    to expire before attempting to remove  
                    the corresponding slapmPolicyStatsEntry  
                    and any dependent slapmPolicyMonitor  
                    table entries.
```

Note: a policy traffic profile in a state other than

active(1) is not being used to affect traffic flows."  
 ::= { slapmPolicyStatsEntry 4 }

slapmPolicyStatsActiveConns OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The number of active TCP connections that are  
affected by the corresponding policy entry."

::= { slapmPolicyStatsEntry 5 }

slapmPolicyStatsTotalConns OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The number of total TCP connections that are  
affected by the corresponding policy entry."

::= { slapmPolicyStatsEntry 6 }

slapmPolicyStatsFirstActivated OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The timestamp for when the corresponding policy entry  
is activated. The value of this object serves as  
the discontinuity event indicator when polling entries  
in this table. The value of this object is updated on  
transition of slapmPolicyStatsOperStatus into the active(2)  
state."

DEFVAL { '0000000000000000'H }

::= { slapmPolicyStatsEntry 7 }

slapmPolicyStatsLastMapping OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The timestamp for when the last time  
that the associated policy entry was used."

DEFVAL { '0000000000000000'H }

::= { slapmPolicyStatsEntry 8 }

slapmPolicyStatsInOctets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS deprecated  
DESCRIPTION  
"The number of octets that was received by IP for an  
entity that map to this entry."  
::= { slapmPolicyStatsEntry 9 }

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slapmPolicyStatsOutOctets OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of octets that was transmitted by IP for an  
entity that map to this entry."  
::= { slapmPolicyStatsEntry 10 }

slapmPolicyStatsConnectionLimit OBJECT-TYPE  
SYNTAX Integer32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The limit for the number of active TCP connections that  
are allowed for this policy definition. A value of zero  
for this object implies that a connection limit has not  
been specified."  
::= { slapmPolicyStatsEntry 11 }

slapmPolicyStatsCountAccepts OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"This counter is incremented when a policy action's  
Permission value is set to Accept and a session  
(TCP connection) is accepted."  
::= { slapmPolicyStatsEntry 12 }

slapmPolicyStatsCountDenies OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"This counter is incremented when a policy action's  
Permission value is set to Deny and a session is denied,  
or when a session (TCP connection) is rejected due to a  
policy's connection limit (slapmPolicyStatsConnectLimit)

being reached."  
 ::= { slapmPolicyStatsEntry 13 }

slapmPolicyStatsInDiscards OBJECT-TYPE

SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"This counter counts the number of in octets discarded.  
This occurs when an error is detected. Examples of this  
are buffer overflow, checksum error, or bad packet  
format."

::= { slapmPolicyStatsEntry 14 }

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slapmPolicyStatsOutDiscards OBJECT-TYPE

SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"This counter counts the number of out octets discarded.  
Examples of this are buffer overflow, checksum error, or  
bad packet format."

::= { slapmPolicyStatsEntry 15 }

slapmPolicyStatsInPackets OBJECT-TYPE

SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"This counter counts the number of in packets received  
that relate to this policy entry from IP."

::= { slapmPolicyStatsEntry 16 }

slapmPolicyStatsOutPackets OBJECT-TYPE

SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"This counter counts the number of out packets sent  
by IP that relate to this policy entry."

::= { slapmPolicyStatsEntry 17 }

slapmPolicyStatsInProfileOctets OBJECT-TYPE

SYNTAX Counter32  
MAX-ACCESS read-only

STATUS deprecated  
DESCRIPTION  
"This counter counts the number of in octets that are determined to be within profile."  
::= { slapmPolicyStatsEntry 18 }

slapmPolicyStatsOutProfileOctets OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"This counter counts the number of out octets that are determined to be within profile."  
::= { slapmPolicyStatsEntry 19 }

slapmPolicyStatsMinRate OBJECT-TYPE  
SYNTAX Integer32  
UNITS "Kilobits per second"  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

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"The minimum transfer rate defined for this entry."  
::= { slapmPolicyStatsEntry 20 }

slapmPolicyStatsMaxRate OBJECT-TYPE  
SYNTAX Integer32  
UNITS "Kilobits per second"  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The maximum transfer rate defined for this entry."  
::= { slapmPolicyStatsEntry 21 }

slapmPolicyStatsMaxDelay OBJECT-TYPE  
SYNTAX Integer32  
UNITS "milliseconds"  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The maximum delay defined for this entry."  
::= { slapmPolicyStatsEntry 22 }

-- SLA Performance Monitoring Policy Monitor Table

```

slapmPolicyMonitorTable OBJECT-TYPE
    SYNTAX SEQUENCE OF SlapmPolicyMonitorEntry
    MAX-ACCESS not-accessible
    STATUS deprecated
    DESCRIPTION
        "Provides a method of monitoring policies and their
        effect at a system.

        This table has been deprecated and replaced with
        the slapmPRMonTable. Older implementations of
        this MIB are expected to continue their support
        of this table."
    ::= { slapmTableObjects 2 }

```

```

slapmPolicyMonitorEntry OBJECT-TYPE
    SYNTAX SlapmPolicyMonitorEntry
    MAX-ACCESS not-accessible
    STATUS deprecated
    DESCRIPTION
        "Defines an entry in the slapmPolicyMonitorTable. This
        table defines which policies should be monitored on a
        per policy traffic profile basis."
    INDEX {
        slapmPolicyMonitorOwnerIndex,
        slapmPolicyMonitorSystemAddress,
        slapmPolicyMonitorPolicyName,
        slapmPolicyMonitorTrafficProfileName
    }
    ::= { slapmPolicyMonitorTable 1 }

```

```

SlapmPolicyMonitorEntry ::=
    SEQUENCE {
        slapmPolicyMonitorOwnerIndex          SnmpAdminString,
        slapmPolicyMonitorSystemAddress       OCTET STRING,
        slapmPolicyMonitorPolicyName         SlapmNameType,
        slapmPolicyMonitorTrafficProfileName SlapmNameType,
        slapmPolicyMonitorControl            BITS,
        slapmPolicyMonitorStatus              SlapmStatus,
        slapmPolicyMonitorInterval           Integer32,
        slapmPolicyMonitorIntTime            DateAndTime,
        slapmPolicyMonitorCurrentInRate      Gauge32,
        slapmPolicyMonitorCurrentOutRate     Gauge32,
        slapmPolicyMonitorMinRateLow         Integer32,
        slapmPolicyMonitorMinRateHigh        Integer32,
        slapmPolicyMonitorMaxRateHigh        Integer32,

```

```

    slapmPolicyMonitorMaxRateLow           Integer32,
    slapmPolicyMonitorMaxDelayHigh        Integer32,
    slapmPolicyMonitorMaxDelayLow         Integer32,
    slapmPolicyMonitorMinInRateNotAchieves Counter32,
    slapmPolicyMonitorMaxInRateExceeds    Counter32,
    slapmPolicyMonitorMaxDelayExceeds     Counter32,
    slapmPolicyMonitorMinOutRateNotAchieves Counter32,
    slapmPolicyMonitorMaxOutRateExceeds   Counter32,
    slapmPolicyMonitorCurrentDelayRate    Gauge32,
    slapmPolicyMonitorRowStatus           RowStatus
}

```

slapmPolicyMonitorOwnerIndex OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(0..16))

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"To facilitate the provisioning of access control by a security administrator using the View-Based Access Control Model ([RFC 2575](#), VACM) for tables in which multiple users may need to independently create or modify entries, the initial index is used as an 'owner index'. Such an initial index has a syntax of SnmpAdminString, and can thus be trivially mapped to a securityName or groupName as defined in VACM, in accordance with a security policy.

All entries in that table belonging to a particular user will have the same value for this initial index. For a given user's entries in a particular table, the object identifiers for the information in these entries will have the same subidentifiers (except for the 'column' subidentifier) up to the end of the encoded owner index. To configure VACM to permit access to this portion of the table, one would create vacmViewTreeFamilyTable entries with the value of vacmViewTreeFamilySubtree including the owner index portion, and vacmViewTreeFamilyMask

'wildcarding' the column subidentifier. More elaborate configurations are possible."

```
 ::= { slapmPolicyMonitorEntry 1 }
```

slapmPolicyMonitorSystemAddress OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(0 | 4 | 16))

MAX-ACCESS not-accessible

STATUS deprecated  
DESCRIPTION  
"Address of a system that an Policy definition relates to.  
A zero length octet string can be used to indicate that  
only a single system is being represented.  
Otherwise, the length of the octet string should be  
4 for an ipv4 address and 16 for an ipv6 address."  
::= { slapmPolicyMonitorEntry 2 }

slapmPolicyMonitorPolicyName OBJECT-TYPE  
SYNTAX SlapmNameType  
MAX-ACCESS not-accessible  
STATUS deprecated  
DESCRIPTION  
"Policy name that this entry relates to."  
::= { slapmPolicyMonitorEntry 3 }

slapmPolicyMonitorTrafficProfileName OBJECT-TYPE  
SYNTAX SlapmNameType  
MAX-ACCESS not-accessible  
STATUS deprecated  
DESCRIPTION  
"The corresponding Traffic Profile name."  
::= { slapmPolicyMonitorEntry 4 }

slapmPolicyMonitorControl OBJECT-TYPE  
SYNTAX BITS {  
monitorMinRate(0),  
monitorMaxRate(1),  
monitorMaxDelay(2),  
enableAggregateTraps(3),  
enableSubcomponentTraps(4),  
monitorSubcomponents(5)  
}  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION  
"The value of this object determines the type and level  
of monitoring that is applied to a policy/profile. The  
value of this object can't be changed once the table  
entry that it is a part of is activated via a  
slapmPolicyMonitorRowStatus transition to active state.  
  
monitorMinRate(0) - Monitor minimum transfer rate.  
monitorMaxRate(1) - Monitor maximum transfer rate.  
monitorMaxDelay(2) - Monitor maximum delay."

enableAggregateTraps(3) - The enableAggregateTraps(3) BITS setting enables notification generation when monitoring a policy traffic profile as an aggregate using the values in the corresponding slapmPolicyStatsEntry. By default this function is not enabled.

enableSubcomponentTraps(4) - This BITS setting enables notification generation when monitoring all subcomponents that are mapped to an corresponding slapmPolicyStatsEntry. By default this function is not enabled.

monitorSubcomponents(5) - This BITS setting enables monitoring of each subcomponent (typically a TCP connection or UDP listener) individually."

```
DEFVAL    { { monitorMinRate, monitorMaxRate,
              monitorMaxDelay } }
 ::= { slapmPolicyMonitorEntry 5 }
```

#### slapmPolicyMonitorStatus OBJECT-TYPE

SYNTAX SlapmStatus

MAX-ACCESS read-only

STATUS deprecated

#### DESCRIPTION

"The value of this object indicates when a monitored value has not meet a threshold or isn't meeting the defined service level. The SlapmStatus TEXTUAL-CONVENTION defines two levels of not meeting a threshold. The first set:

```
slaMinInRateNotAchieved(0),
slaMaxInRateExceeded(1),
slaMaxDelayExceeded(2),
slaMinOutRateNotAchieved(3),
slaMaxOutRateExceeded(4)
```

are used to indicate when the SLA as an aggregate is not meeting a threshold while the second set:

```
monitorMinInRateNotAchieved(5),
monitorMaxInRateExceeded(6),
monitorMaxDelayExceeded(7),
monitorMinOutRateNotAchieved(8),
monitorMaxOutRateExceeded(9)
```

indicate that at least one subcomponent is not meeting a threshold."

```
::= { slapmPolicyMonitorEntry 6 }
```

#### slapmPolicyMonitorInterval OBJECT-TYPE

SYNTAX Integer32 (15..86400) -- 15 second min, 24 hour max  
UNITS "seconds"  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION

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"The number of seconds that defines the sample period."  
DEFVAL {20} -- 20 seconds  
::= { slapmPolicyMonitorEntry 7 }

slapmPolicyMonitorIntTime OBJECT-TYPE

SYNTAX DateAndTime  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"The timestamp for when the last interval ended."  
DEFVAL { '0000000000000000'H }  
::= { slapmPolicyMonitorEntry 8 }

slapmPolicyMonitorCurrentInRate OBJECT-TYPE

SYNTAX Gauge32  
UNITS "kilobits per second"  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"Using the value of the corresponding  
slapmPolicyMonitorInterval, slapmPolicyStatsInOctets  
is sampled and then divided by slapmPolicyMonitorInterval  
to determine the current in transfer rate."  
::= { slapmPolicyMonitorEntry 9 }

slapmPolicyMonitorCurrentOutRate OBJECT-TYPE

SYNTAX Gauge32  
UNITS "kilobits per second"  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION

"Using the value of the corresponding  
slapmPolicyMonitorInterval, slapmPolicyStatsOutOctets  
is sampled and then divided by slapmPolicyMonitorInterval  
to determine the current out transfer rate."  
::= { slapmPolicyMonitorEntry 10 }

slapmPolicyMonitorMinRateLow OBJECT-TYPE

SYNTAX Integer32

UNITS "kilobits per second"  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION

"The threshold for generating a slapmMonitoredEventNotAchieved notification, signalling that a monitored minimum transfer rate has not been meet.

A slapmMonitoredEventNotAchieved notification is not generated again for an slapmPolicyMonitorEntry until the minimum transfer rate exceeds slapmPolicyMonitorMinRateHigh (a slapmMonitoredEventOkay notification is then transmitted) and then fails below slapmPolicyMonitorMinRateLow. This

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behavior reduces the slapmMonitoredEventNotAchieved notifications that are transmitted.

A value of zero for this object is returned when the slapmPolicyMonitorControl monitorMinRate(0) is not enabled. When enabled the default value for this object is the min rate value specified in the associated action definition minus 10%. If the action definition doesn't have a min rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMinRate(0) is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPolicyMonitorEntry 11 }

slapmPolicyMonitorMinRateHigh OBJECT-TYPE

SYNTAX Integer32  
UNITS "kilobits per second"  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION

"The threshold for generating a slapmMonitoredEventOkay notification, signalling that a monitored minimum transfer rate has increased to an acceptable level.

A value of zero for this object is returned when the

slapmPolicyMonitorControl monitorMinRate(0) is not enabled. When enabled the default value for this object is the min rate value specified in the associated action definition plus 10%. If the action definition doesn't have a min rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMinRate(0) is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

```
::= { slapmPolicyMonitorEntry 12 }
```

slapmPolicyMonitorMaxRateHigh OBJECT-TYPE

SYNTAX Integer32

UNITS "kilobits per second"

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"The threshold for generating a slapmMonitoredEventNotAchieved notification, signalling

that a monitored maximum transfer rate has been exceeded.

A slapmMonitoredEventNotAchieved notification is not generated again for an slapmPolicyMonitorEntry until the maximum transfer rate falls below slapmPolicyMonitorMaxRateLow (a slapmMonitoredEventOkay notification is then transmitted) and then raises above slapmPolicyMonitorMaxRateHigh. This behavior reduces the slapmMonitoredEventNotAchieved notifications that are transmitted.

A value of zero for this object is returned when the slapmPolicyMonitorControl monitorMaxRate(1) is not enabled. When enabled the default value for this object is the max rate value specified in the associated action definition plus 10%. If the action definition doesn't have a max rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxRate(1) is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPolicyMonitorEntry 13 }

slapmPolicyMonitorMaxRateLow OBJECT-TYPE

SYNTAX Integer32  
UNITS "kilobits per second"  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION

"The threshold for generating a slapmMonitoredEventOkay notification, signalling that a monitored maximum transfer rate has fallen to an acceptable level.

A value of zero for this object is returned when the slapmPolicyMonitorControl monitorMaxRate(1) is not enabled. When enabled the default value for this object is the max rate value specified in the associated action definition minus 10%. If the action definition doesn't have a max rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxRate(1) is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPolicyMonitorEntry 14 }

slapmPolicyMonitorMaxDelayHigh OBJECT-TYPE

SYNTAX Integer32  
UNITS "milliseconds"  
MAX-ACCESS read-create  
STATUS deprecated  
DESCRIPTION

"The threshold for generating a slapmMonitoredEventNotAchieved notification, signalling that a monitored maximum delay rate has been exceeded.

A slapmMonitoredEventNotAchieved notification is not generated again for an slapmPolicyMonitorEntry until the maximum delay rate falls below

slapmPolicyMonitorMaxDelayLow (a slapmMonitoredEventOkay notification is then transmitted) and raises above slapmPolicyMonitorMaxDelayHigh. This behavior reduces the slapmMonitoredEventNotAchieved notifications that are transmitted.

A value of zero for this object is returned when the slapmPolicyMonitorControl monitorMaxDelay(4) is not enabled. When enabled the default value for this object is the max delay value specified in the associated action definition plus 10%. If the action definition doesn't have a max delay defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxDelay(4) is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

```
::= { slapmPolicyMonitorEntry 15 }
```

slapmPolicyMonitorMaxDelayLow OBJECT-TYPE

```
SYNTAX      Integer32
UNITS       "milliseconds"
MAX-ACCESS  read-create
STATUS      deprecated
```

DESCRIPTION

"The threshold for generating a slapmMonitoredEventOkay notification, signalling that a monitored maximum delay rate has fallen to an acceptable level.

A value of zero for this object is returned when the slapmPolicyMonitorControl monitorMaxDelay(4) is not enabled. When enabled the default value for this object is the max delay value specified in the associated action definition minus 10%. If the action definition doesn't have a max delay defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxDelay(4)

is selected.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected

in order for any notification relating to this entry to potentially be generated."  
::= { slapmPolicyMonitorEntry 16 }

slapmPolicyMonitorMinInRateNotAchieves OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of times that a minimum transfer in rate was not achieved."  
::= { slapmPolicyMonitorEntry 17 }

slapmPolicyMonitorMaxInRateExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of times that a maximum transfer in rate was exceeded."  
::= { slapmPolicyMonitorEntry 18 }

slapmPolicyMonitorMaxDelayExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of times that a maximum delay in rate was exceeded."  
::= { slapmPolicyMonitorEntry 19 }

slapmPolicyMonitorMinOutRateNotAchieves OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of times that a minimum transfer out rate was not achieved."  
::= { slapmPolicyMonitorEntry 20 }

slapmPolicyMonitorMaxOutRateExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS deprecated  
DESCRIPTION  
"The number of times that a maximum transfer out rate was exceeded."  
::= { slapmPolicyMonitorEntry 21 }

slapmPolicyMonitorCurrentDelayRate OBJECT-TYPE

SYNTAX Gauge32

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The current delay rate for this entry. This is calculated by taking the average of the TCP round trip times for all associating slapmSubcomponentTable entries within a interval."

::= { slapmPolicyMonitorEntry 22 }

slapmPolicyMonitorRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object allows entries to be created and deleted in the slapmPolicyMonitorTable. An entry in this table is deleted by setting this object to destroy(6).

Removal of a corresponding (same policy and traffic profile names) slapmPolicyStatsEntry has the side effect of the automatic deletion an entry in this table."

::= { slapmPolicyMonitorEntry 23 }

-- Subcomponent Table

slapmSubcomponentTable OBJECT-TYPE

SYNTAX SEQUENCE OF SlapmSubcomponentEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Defines a table to provide information on the individually components that are mapped to a policy rule (or old traffic profile).

The indexing for this table is designed to support the use of an SNMP GET-NEXT operation using only the remote address and remote port as a way for a management station to retrieve the table entries relating to a particular client."

::= { slapmTableObjects 3 }

slapmSubcomponentEntry OBJECT-TYPE

SYNTAX SlapmSubcomponentEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Describes a particular subcomponent entry. This table does not have an OwnerIndex as part of its indexing since this table's contents

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is intended to span multiple users."

```
INDEX {
    slapmSubcomponentRemAddress,
    slapmSubcomponentRemPort,
    slapmSubcomponentLocalAddress,
    slapmSubcomponentLocalPort
}
 ::= { slapmSubcomponentTable 1 }
```

SlapmSubcomponentEntry ::=

```
SEQUENCE {
    slapmSubcomponentRemAddress      OCTET STRING,
    slapmSubcomponentRemPort         Integer32,
    slapmSubcomponentLocalAddress    OCTET STRING,
    slapmSubcomponentLocalPort       Integer32,
    slapmSubcomponentProtocol        INTEGER,
    slapmSubcomponentSystemAddress   OCTET STRING,
    slapmSubcomponentPolicyName      SlapmNameType,
    slapmSubcomponentTrafficProfileName SlapmNameType,
    slapmSubcomponentLastActivity    DateAndTime,
    slapmSubcomponentInOctets        Counter32,
    slapmSubcomponentOutOctets       Counter32,
    slapmSubcomponentTcpOutBufferedOctets Counter32,
    slapmSubcomponentTcpInBufferedOctets Counter32,
    slapmSubcomponentTcpReXmts       Counter32,
    slapmSubcomponentTcpRoundTripTime Integer32,
    slapmSubcomponentTcpRoundTripVariance Integer32,
    slapmSubcomponentInPdus          Counter32,
    slapmSubcomponentOutPdus         Counter32,
    slapmSubcomponentApplName        SnmpAdminString,
    slapmSubcomponentMonitorStatus   SlapmStatus,
    slapmSubcomponentMonitorIntTime  DateAndTime,
    slapmSubcomponentMonitorCurrentInRate Gauge32,
    slapmSubcomponentMonitorCurrentOutRate Gauge32,
    slapmSubcomponentPolicyRuleIndex Unsigned32
}
```

slapmSubcomponentRemAddress OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(0 | 4 | 16))

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Indicate the remote address of a subcomponent.  
A remote address can be either an ipv4 address in which case 4 octets are required or as an ipv6 address that requires 16 octets. The value of this subidentifier is a zero length octet string when this entry relates to a UDP listener."

::= { slapmSubcomponentEntry 1 }

slapmSubcomponentRemPort OBJECT-TYPE

SYNTAX Integer32(0..65535)

MAX-ACCESS not-accessible

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STATUS current

DESCRIPTION

"Indicate the remote port of a subcomponent.  
The value of this subidentifier  
is 0 when this entry relates to a UDP listener."

::= { slapmSubcomponentEntry 2 }

slapmSubcomponentLocalAddress OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(4 | 16))

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Indicate the local address of a subcomponent.  
A local address can be either an ipv4 address in which case 4 octets are required or as an ipv6 address that requires 16 octets."

::= { slapmSubcomponentEntry 3 }

slapmSubcomponentLocalPort OBJECT-TYPE

SYNTAX Integer32(0..65535)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Indicate the local port of a subcomponent."

::= { slapmSubcomponentEntry 4 }

slapmSubcomponentProtocol OBJECT-TYPE

SYNTAX INTEGER {  
udpListener(1),  
tcpConnection(2)

```
    }
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Indicate the protocol in use that identifies the
    type of subcomponent."
 ::= { slapmSubcomponentEntry 5 }
```

```
slapmSubcomponentSystemAddress OBJECT-TYPE
SYNTAX        OCTET STRING (SIZE(0 | 4 | 16))
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Address of a system that an Policy definition relates to.
    A zero length octet string can be used to indicate that
    only a single system is being represented.
    Otherwise, the length of the octet string should be
    4 for an ipv4 address and 16 for an ipv6 address."
 ::= { slapmSubcomponentEntry 6 }
```

```
slapmSubcomponentPolicyName OBJECT-TYPE
SYNTAX        SlapmNameType
```

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```
MAX-ACCESS    read-only
STATUS        deprecated
DESCRIPTION
    "Policy name that this entry relates to.

    This object, along with slapmSubcomponentTrafficProfileName,
    have been replaced with the use of an unsigned integer
    index that is mapped to an slapmPolicyNameEntry to actually
    identify policy naming."
 ::= { slapmSubcomponentEntry 7 }
```

```
slapmSubcomponentTrafficProfileName OBJECT-TYPE
SYNTAX        SlapmNameType
MAX-ACCESS    read-only
STATUS        deprecated
DESCRIPTION
    "The corresponding traffic profile name.

    This object, along with slapmSubcomponentProfileName,
    have been replaced with the use of an unsigned integer
    index that is mapped to an slapmPolicyNameEntry to
    actually identify policy naming."
```

```
::= { slapmSubcomponentEntry 8 }
```

```
slapmSubcomponentLastActivity OBJECT-TYPE
```

```
SYNTAX      DateAndTime
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "The number of 100ths of seconds since this entry  
    was last used."
```

```
DEFVAL { '0000000000000000'H }
```

```
::= { slapmSubcomponentEntry 9 }
```

```
slapmSubcomponentInOctets OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "The number of octets received from IP for this  
    connection."
```

```
::= { slapmSubcomponentEntry 10 }
```

```
slapmSubcomponentOutOctets OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "The number of octets sent to IP for this connection."
```

```
::= { slapmSubcomponentEntry 11 }
```

```
slapmSubcomponentTcpOutBufferedOctets OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Number of outgoing octets buffered. The value  
    of this object is zero when the entry is not  
    for a TCP connection."
```

```
::= { slapmSubcomponentEntry 12 }
```

```
slapmSubcomponentTcpInBufferedOctets OBJECT-TYPE
```

```
SYNTAX      Counter32
```

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

```
STATUS      current
```

```
DESCRIPTION
```

"Number of incoming octets buffered. The value of this object is zero when the entry is not for a TCP connection."  
 ::= { slapmSubcomponentEntry 13 }

slapmSubcomponentTcpReXmts OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of retransmissions. The value of this object is zero when the entry is not for a TCP connection."

::= { slapmSubcomponentEntry 14 }

slapmSubcomponentTcpRoundTripTime OBJECT-TYPE

SYNTAX Integer32

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The amount of time that has elapsed, measured in milliseconds, from when the last TCP segment was transmitted by the TCP Stack until the ACK was received."

The value of this object is zero when the entry is not for a TCP connection."

::= { slapmSubcomponentEntry 15 }

slapmSubcomponentTcpRoundTripVariance OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Round trip time variance."

The value of this object is zero when the entry is not for a TCP connection."

::= { slapmSubcomponentEntry 16 }

slapmSubcomponentInPdus OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of protocol related data units transferred inbound:

slapmSubcomponentProtocol	PDU Type
udpListener(1)	UDP datagrams
tcpConnection(2)	TCP segments"

::= { slapmSubcomponentEntry 17 }

slapmSubcomponentOutPdus OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of protocol related data units transferred outbound:

slapmSubcomponentProtocol	PDU Type
udpListener(1)	UDP datagrams
tcpConnection(2)	TCP segments"

::= { slapmSubcomponentEntry 18 }

slapmSubcomponentApplName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(0..32))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The application name associated with this entry if known, otherwise a zero-length octet string is returned as the value of this object."

::= { slapmSubcomponentEntry 19 }

slapmSubcomponentMonitorStatus OBJECT-TYPE

SYNTAX SlapmStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of this object indicates when a monitored value has exceeded a threshold or isn't meeting the defined service level. Only the following SlapmStatus BITS setting can be reported here:

monitorMinInRateNotAchieved(5),  
monitorMaxInRateExceeded(6),  
monitorMaxDelayExceeded(7),  
monitorMinOutRateNotAchieved(8),

## monitorMaxOutRateExceeded(9)

This object only has meaning when an corresponding slapmPolicyMonitorEntry exists with the slapmPolicyMonitorControl BITS setting monitorSubcomponents(5) enabled."

::= { slapmSubcomponentEntry 20 }

## slapmSubcomponentMonitorIntTime OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The timestamp for when the last interval ended.

This object only has meaning when an corresponding slapmPRMonEntry (or old slapmPolicyMonitorEntry) exists with the slapmPRMonControl (or slapmPolicyMonitorControl) BITS setting monitorSubcomponents(5) enabled. All of the octets returned when monitoring is not in effect must be zero."

DEFVAL { '0000000000000000'H }

::= { slapmSubcomponentEntry 21 }

## slapmSubcomponentMonitorCurrentInRate OBJECT-TYPE

SYNTAX Gauge32

UNITS "kilobits per second"

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Using the value of the corresponding slapmPRMonInterval (or slapmPolicyMonitorInterval), slapmSubcomponentStatsInOctets is divided by slapmSubcomponentMonitorInterval to determine the current in transfer rate.

This object only has meaning when an corresponding slapmPRMonEntry (or slapmPolicyMonitorEntry) exists with the slapmPRMonControl (or slapmPolicyMonitorControl) BITS setting monitorSubcomponents(5) enabled. The value of this object is zero when monitoring is not in effect."

::= { slapmSubcomponentEntry 22 }

## slapmSubcomponentMonitorCurrentOutRate OBJECT-TYPE

SYNTAX Gauge32

UNITS "kilobits per second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Using the value of the corresponding slapmPRMonInterval (or slapmPolicyMonitorInterval), slapmSubcomponentStatsOutOctets

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is divided by slapmPRMonInterval (or slapmPolicyMonitorInterval) to determine the current out transfer rate.

This object only has meaning when an corresponding slapmPRMonEntry (or slapmPolicyMonitorEntry) exists with the slapmPRMonControl (or slapmPolicyMonitorControl) BITS setting monitorSubcomponents(5) enabled. The value of this object is zero when monitoring is not in effect."

::= { slapmSubcomponentEntry 23 }

slapmSubcomponentPolicyRuleIndex OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Points to an slapmPolicyNameEntry when combined with slapmSubcomponentSystemAddress to indicate the policy naming that relates to this entry."

::= { slapmSubcomponentEntry 24 }

-- Table that maps an unsigned integer index to whatever

-- names a policy rule.

slapmPolicyNameTable OBJECT-TYPE

SYNTAX SEQUENCE OF SlapmPolicyNameEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Provides the mapping between a policy index as a unsigned 32 bit integer and the unique name associated with a policy rule."

::= { slapmTableObjects 4 }

slapmPolicyNameEntry OBJECT-TYPE

SYNTAX SlapmPolicyNameEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

```
    "Defines an entry in the slapmPolicyNameTable."
INDEX {
    slapmPolicyNameSystemAddress,
    slapmPolicyNameIndex
}
 ::= { slapmPolicyNameTable 1 }
```

```
SlapmPolicyNameEntry ::=
SEQUENCE {
    slapmPolicyNameSystemAddress  OCTET STRING,
    slapmPolicyNameIndex          Unsigned32,
    slapmPolicyNameOfRule         SlapmPolicyRuleName
}
```

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```
slapmPolicyNameSystemAddress OBJECT-TYPE
SYNTAX      OCTET STRING (SIZE(0 | 4 | 16))
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "Address of a system that an Policy rule definition relates
    to.  A zero length octet string must be used to indicate
    that only a single system is being represented.
    Otherwise, the length of the octet string must be
    4 for an ipv4 address or 16 for an ipv6 address."
 ::= { slapmPolicyNameEntry 1 }
```

```
slapmPolicyNameIndex OBJECT-TYPE
SYNTAX      Unsigned32 (1..4294967295)
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "A locally arbitrary, but unique identifier associated
    with this table entry.  This value is not expected to
    remain constant across reIPLs."
 ::= { slapmPolicyNameEntry 2 }
```

```
slapmPolicyNameOfRule OBJECT-TYPE
SYNTAX      SlapmPolicyRuleName
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The unique name that identifies a policy rule definition."
 ::= { slapmPolicyNameEntry 3 }
```

-- Sla Performance Monitoring Policy Rule Statistics Table

```

slapmPolicyRuleStatsTable OBJECT-TYPE
    SYNTAX SEQUENCE OF SlapmPolicyRuleStatsEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Provides statistics on a per system and a per policy
        rule basis."
    ::= { slapmTableObjects 5 }

```

```

slapmPolicyRuleStatsEntry OBJECT-TYPE
    SYNTAX SlapmPolicyRuleStatsEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Defines an entry in the slapmPolicyRuleStatsTable.
        This table defines a set of statistics that is kept
        on a per system and per policy rule basis."

```

Entries in this table are not created or deleted via SNMP

```

        but reflect the set of policy rule definitions known
        at a system."
INDEX {
    slapmPolicyNameSystemAddress,
    slapmPolicyNameIndex
}
::= { slapmPolicyRuleStatsTable 1 }

```

```

SlapmPolicyRuleStatsEntry ::=
    SEQUENCE {
        slapmPolicyRuleStatsOperStatus      INTEGER,
        slapmPolicyRuleStatsActiveConns     Gauge32,
        slapmPolicyRuleStatsTotalConns      Counter32,
        slapmPolicyRuleStatsLActivated      DateAndTime,
        slapmPolicyRuleStatsLastMapping     DateAndTime,
        slapmPolicyRuleStatsInOctets        Counter32,
        slapmPolicyRuleStatsOutOctets       Counter32,
        slapmPolicyRuleStatsConnLimit       Unsigned32,
        slapmPolicyRuleStatsCountAccepts    Counter32,
        slapmPolicyRuleStatsCountDenies     Counter32,
        slapmPolicyRuleStatsInDiscards      Counter32,
        slapmPolicyRuleStatsOutDiscards     Counter32,
        slapmPolicyRuleStatsInPackets       Counter32,
        slapmPolicyRuleStatsOutPackets      Counter32,

```

```

    slapmPolicyRuleStatsInProOctets      Counter32,
    slapmPolicyRuleStatsOutProOctets     Counter32,
    slapmPolicyRuleStatsMinRate          Unsigned32,
    slapmPolicyRuleStatsMaxRate          Unsigned32,
    slapmPolicyRuleStatsMaxDelay         Unsigned32,
    slapmPolicyRuleStatsTotalRsvpFlows   Counter32,
    slapmPolicyRuleStatsActRsvpFlows     Gauge32
}

```

slapmPolicyRuleStatsOperStatus OBJECT-TYPE

```

SYNTAX      INTEGER {
                inactive(1),
                active(2),
                deleteNeeded(3)
            }

```

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The state of a policy entry:

- inactive(1) - An policy entry was either defined by local system definition or discovered via a directory search but has not been activated (not currently being used).
- active(2) - Policy entry is being used to affect traffic flows.
- deleteNeeded(3) - Either though local implementation dependent methods or by discovering

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that the directory entry corresponding to this table entry no longer exists and slapmPolicyPurgeTime needs to expire before attempting to remove the corresponding slapmPolicyStatsEntry and any dependent slapmPolicyMonitor table entries.

Note: a policy rule in a state other than active(2) is not being used to affect traffic flows."

```
 ::= { slapmPolicyRuleStatsEntry 1 }
```

slapmPolicyRuleStatsActiveConns OBJECT-TYPE

```
SYNTAX      Gauge32
```

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of active TCP connections that are affected by the corresponding policy entry."

::= { slapmPolicyRuleStatsEntry 2 }

slapmPolicyRuleStatsTotalConns OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of total TCP connections that are affected by the corresponding policy entry."

::= { slapmPolicyRuleStatsEntry 3 }

slapmPolicyRuleStatsLActivated OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The timestamp for when the corresponding policy entry was last activated. The value of this object serves as the discontinuity event indicator when polling entries in this table. The value of this object is updated on transition of slapmPolicyRuleStatsOperStatus into the active(2) state."

DEFVAL { '0000000000000000'H }

::= { slapmPolicyRuleStatsEntry 4 }

slapmPolicyRuleStatsLastMapping OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The timestamp for when the last time that the associated policy entry was used."

DEFVAL { '0000000000000000'H }

::= { slapmPolicyRuleStatsEntry 5 }

slapmPolicyRuleStatsInOctets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets that was received by IP for an entity that map to this entry."

```

 ::= { slapmPolicyRuleStatsEntry 6 }

slapmPolicyRuleStatsOutOctets OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The number of octets that was transmitted by IP for an
        entity that map to this entry."
    ::= { slapmPolicyRuleStatsEntry 7 }

slapmPolicyRuleStatsConnLimit OBJECT-TYPE
    SYNTAX      Unsigned32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The limit for the number of active TCP connections that
        are allowed for this policy definition.  A value of zero
        for this object implies that a connection limit has not
        been specified."
    ::= { slapmPolicyRuleStatsEntry 8 }

slapmPolicyRuleStatsCountAccepts OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This counter is incremented when a policy action's
        Permission value is set to Accept and a session
        (TCP connection) is accepted."
    ::= { slapmPolicyRuleStatsEntry 9 }

slapmPolicyRuleStatsCountDenies OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This counter is incremented when a policy action's
        Permission value is set to Deny and a session is denied,
        or when a session (TCP connection) is rejected due to a
        policy's connection limit (slapmPolicyRuleStatsConnectLimit)
        being reached."
    ::= { slapmPolicyRuleStatsEntry 10 }

slapmPolicyRuleStatsInDiscards OBJECT-TYPE
    SYNTAX      Counter32

```

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter counts the number of in octets discarded. This occurs when an error is detected. Examples of this are buffer overflow, checksum error, or bad packet format."

::= { slampPolicyRuleStatsEntry 11 }

slampPolicyRuleStatsOutDiscards OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter counts the number of out octets discarded. Examples of this are buffer overflow, checksum error, or bad packet format."

::= { slampPolicyRuleStatsEntry 12 }

slampPolicyRuleStatsInPackets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter counts the number of in packets received that relate to this policy entry from IP."

::= { slampPolicyRuleStatsEntry 13 }

slampPolicyRuleStatsOutPackets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter counts the number of out packets sent by IP that relate to this policy entry."

::= { slampPolicyRuleStatsEntry 14 }

slampPolicyRuleStatsInProOctets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This counter counts the number of in octets that are determined to be within profile."

::= { slampPolicyRuleStatsEntry 15 }

slampPolicyRuleStatsOutProOctets OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only  
STATUS current  
DESCRIPTION

"This counter counts the number of out octets that are determined to be within profile."

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::= { slappmPolicyRuleStatsEntry 16 }

slappmPolicyRuleStatsMinRate OBJECT-TYPE

SYNTAX Unsigned32

UNITS "Kilobits per second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The minimum transfer rate defined for this entry."

::= { slappmPolicyRuleStatsEntry 17 }

slappmPolicyRuleStatsMaxRate OBJECT-TYPE

SYNTAX Unsigned32

UNITS "Kilobits per second"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The maximum transfer rate defined for this entry."

::= { slappmPolicyRuleStatsEntry 18 }

slappmPolicyRuleStatsMaxDelay OBJECT-TYPE

SYNTAX Unsigned32

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The maximum delay defined for this entry."

::= { slappmPolicyRuleStatsEntry 19 }

slappmPolicyRuleStatsTotalRsvpFlows OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Total number of RSVP flows that have be activated."

::= { slappmPolicyRuleStatsEntry 20 }

slappmPolicyRuleStatsActRsvpFlows OBJECT-TYPE

SYNTAX Gauge32

```
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Current number of active RSVP flows."
 ::= { slampPolicyRuleStatsEntry 21 }
```

-- SLA Performance Monitoring Policy Rule Monitor Table

```
slampPRMonTable OBJECT-TYPE
SYNTAX SEQUENCE OF SlampPRMonEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
```

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```
    "Provides a method of monitoring policies and their
    effect at a system."
 ::= { slampTableObjects 6 }
```

```
slampPRMonEntry OBJECT-TYPE
SYNTAX SlampPRMonEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
    "Defines an entry in the slampPRMonTable. This
    table defines which policies should be monitored on a
    per policy rule basis."
INDEX {
    slampPRMonOwnerIndex,
    slampPRMonSystemAddress,
    slampPRMonIndex
}
 ::= { slampPRMonTable 1 }
```

```
SlampPRMonEntry ::=
SEQUENCE {
    slampPRMonOwnerIndex          SnmpAdminString,
    slampPRMonSystemAddress       OCTET STRING,
    slampPRMonIndex               Unsigned32,
    slampPRMonControl             BITS,
    slampPRMonStatus              SlampStatus,
    slampPRMonInterval           Unsigned32,
    slampPRMonIntTime            DateAndTime,
    slampPRMonCurrentInRate      Gauge32,
    slampPRMonCurrentOutRate     Gauge32,
    slampPRMonMinRateLow         Unsigned32,
```

```

    slapmPRMonMinRateHigh      Unsigned32,
    slapmPRMonMaxRateHigh     Unsigned32,
    slapmPRMonMaxRateLow      Unsigned32,
    slapmPRMonMaxDelayHigh    Unsigned32,
    slapmPRMonMaxDelayLow     Unsigned32,
    slapmPRMonMinInRateNotAchieves Counter32,
    slapmPRMonMaxInRateExceeds Counter32,
    slapmPRMonMaxDelayExceeds Counter32,
    slapmPRMonMinOutRateNotAchieves Counter32,
    slapmPRMonMaxOutRateExceeds Counter32,
    slapmPRMonCurrentDelayRate Gauge32,
    slapmPRMonRowStatus       RowStatus
}

```

slapmPRMonOwnerIndex OBJECT-TYPE

```

SYNTAX      SnmpAdminString (SIZE(0..16))
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION

```

"To facilitate the provisioning of access control by a security administrator using the View-Based Access Control Model ([RFC 2575](http://www.ietf.org/rfc/rfc2575.txt), VACM) for tables in which

multiple users may need to independently create or modify entries, the initial index is used as an 'owner index'. Such an initial index has a syntax of SnmpAdminString, and can thus be trivially mapped to a securityName or groupName as defined in VACM, in accordance with a security policy.

All entries in that table belonging to a particular user will have the same value for this initial index. For a given user's entries in a particular table, the object identifiers for the information in these entries will have the same subidentifiers (except for the 'column' subidentifier) up to the end of the encoded owner index. To configure VACM to permit access to this portion of the table, one would create vacmViewTreeFamilyTable entries with the value of vacmViewTreeFamilySubtree including the owner index portion, and vacmViewTreeFamilyMask 'wildcarding' the column subidentifier. More elaborate configurations are possible."

```
 ::= { slapmPRMonEntry 1 }
```

slapmPRMonSystemAddress OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(0 | 4 | 16))  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"Address of a system that an Policy definition relates to.  
A zero length octet string can be used to indicate that  
only a single system is being represented.  
Otherwise, the length of the octet string should be  
4 for an ipv4 address and 16 for an ipv6 address."  
::= { slapmPRMonEntry 2 }

slapmPRMonIndex OBJECT-TYPE  
SYNTAX Unsigned32  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"An slapmPolicyNameTable index, slapmPolicyNameIndex,  
that points to the unique name associated with a  
policy rule definition."  
::= { slapmPRMonEntry 3 }

slapmPRMonControl OBJECT-TYPE  
SYNTAX BITS {  
monitorMinRate(0),  
monitorMaxRate(1),  
monitorMaxDelay(2),  
enableAggregateTraps(3),  
enableSubcomponentTraps(4),  
monitorSubcomponents(5)  
}  
MAX-ACCESS read-create

STATUS current  
DESCRIPTION  
"The value of this object determines the type and level  
of monitoring that is applied to a policy rule. The  
value of this object can't be changed once the table  
entry that it is a part of is activated via a  
slapmPRMonRowStatus transition to active state.  
  
monitorMinRate(0) - Monitor minimum transfer rate.  
monitorMaxRate(1) - Monitor maximum transfer rate.  
monitorMaxDelay(2) - Monitor maximum delay.  
enableAggregateTraps(3) - The enableAggregateTraps(3)  
BITS setting enables notification generation

when monitoring a policy rule as an aggregate using the values in the corresponding slapmPRMonStatsEntry. By default this function is not enabled.

enableSubcomponentTraps(4) - This BITS setting enables notification generation when monitoring all subcomponents that are mapped to an corresponding slapmPRMonStatsEntry. By default this function is not enabled.

monitorSubcomponents(5) - This BITS setting enables monitoring of each subcomponent (typically a TCP connection or UDP listener) individually."

```
DEFVAL    { { monitorMinRate, monitorMaxRate,
              monitorMaxDelay } }
 ::= { slapmPRMonEntry 4 }
```

slapmPRMonStatus OBJECT-TYPE

SYNTAX SlapmStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of this object indicates when a monitored value has not meet a threshold or isn't meeting the defined service level. The SlapmStatus TEXTUAL-CONVENTION defines two levels of not meeting a threshold. The first set:

```
slaMinInRateNotAchieved(0),
slaMaxInRateExceeded(1),
slaMaxDelayExceeded(2),
slaMinOutRateNotAchieved(3),
slaMaxOutRateExceeded(4)
```

are used to indicate when the SLA as an aggregate is not meeting a threshold while the second set:

```
monitorMinInRateNotAchieved(5),
monitorMaxInRateExceeded(6),
monitorMaxDelayExceeded(7),
monitorMinOutRateNotAchieved(8),
monitorMaxOutRateExceeded(9)
```

indicate that at least one subcomponent is not meeting a threshold."

```
::= { slapmPRMonEntry 5 }
```

```
slapmPRMonInterval OBJECT-TYPE
    SYNTAX      Unsigned32 (15..86400) -- 15 second min, 24 hour max
    UNITS       "seconds"
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The number of seconds that defines the sample period."
    DEFVAL     {20}      -- 20 seconds
    ::= { slapmPRMonEntry 6 }
```

```
slapmPRMonIntTime OBJECT-TYPE
    SYNTAX      DateAndTime
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The timestamp for when the last interval ended."
    DEFVAL     { '0000000000000000'H }
    ::= { slapmPRMonEntry 7 }
```

```
slapmPRMonCurrentInRate OBJECT-TYPE
    SYNTAX      Gauge32
    UNITS       "kilobits per second"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Using the value of the corresponding
        slapmPRMonInterval, slapmPolicyRuleStatsInOctets
        is sampled and then divided by slapmPRMonInterval
        to determine the current in transfer rate."
    ::= { slapmPRMonEntry 8 }
```

```
slapmPRMonCurrentOutRate OBJECT-TYPE
    SYNTAX      Gauge32
    UNITS       "kilobits per second"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Using the value of the corresponding
        slapmPolicyMonInterval, slapmPolicyRuleStatsOutOctets
        is sampled and then divided by slapmPRMonInterval
        to determine the current out transfer rate."
    ::= { slapmPRMonEntry 9 }
```

```
slapmPRMonMinRateLow OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "kilobits per second"
    MAX-ACCESS  read-create
    STATUS      current
```

## DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonNotOkay notification, signalling that a monitored minimum transfer rate has not been meet.

A slapmPolicyRuleMonNotOkay notification is not generated again for an slapmPRMonEntry until the minimum transfer rate exceeds slapmPRMonMinRateHigh (a slapmPolicyRuleMonOkay notification is then transmitted) and then fails below slapmPRMonMinRateLow. This behavior reduces the slapmPolicyRuleMonNotOkay notifications that are transmitted.

A value of zero for this object is returned when the slapmPRMonControl monitorMinRate(0) is not enabled. When enabled the default value for this object is the min rate value specified in the associated action definition minus 10%. If the action definition doesn't have a min rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMinRate(0) is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

```
::= { slapmPRMonEntry 10 }
```

## slapmPRMonMinRateHigh OBJECT-TYPE

```
SYNTAX      Unsigned32
UNITS       "kilobits per second"
MAX-ACCESS  read-create
STATUS      current
```

## DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonOkay notification, signalling that a monitored minimum transfer rate has increased to an acceptable level.

A value of zero for this object is returned when the slapmPRMonControl monitorMinRate(0) is not enabled. When enabled the default value for this object is the min rate value specified in the associated action definition plus 10%. If the action definition doesn't have a min rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMinRate(0)

is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to

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potentially be generated."  
 ::= { slapmPRMonEntry 11 }

slapmPRMonMaxRateHigh OBJECT-TYPE

SYNTAX Unsigned32  
UNITS "kilobits per second"  
MAX-ACCESS read-create  
STATUS current

DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonNotOkay notification, signalling that a monitored maximum transfer rate has been exceeded.

A slapmPolicyRuleNotOkay notification is not generated again for an slapmPRMonEntry until the maximum transfer rate fails below slapmPRMonMaxRateLow (a slapmPolicyRuleMonOkay notification is then transmitted) and then raises above slapmPRMonMaxRateHigh. This behavior reduces the slapmPolicyRuleMonNotOkay notifications that are transmitted.

A value of zero for this object is returned when the slapmPRMonControl monitorMaxRate(1) is not enabled. When enabled the default value for this object is the max rate value specified in the associated action definition plus 10%. If the action definition doesn't have a max rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxRate(1) is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPRMonEntry 12 }

slapmPRMonMaxRateLow OBJECT-TYPE

SYNTAX Unsigned32  
UNITS "kilobits per second"  
MAX-ACCESS read-create  
STATUS current

DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonOkay notification, signalling that a monitored maximum transfer rate has fallen to an acceptable level.

A value of zero for this object is returned when the slapmPRMonControl monitorMaxRate(1) is not enabled. When enabled the default value for this object is the max rate value specified in the associated action definition minus 10%. If the action definition

doesn't have a max rate defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxRate(1) is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPRMonEntry 13 }

slapmPRMonMaxDelayHigh OBJECT-TYPE

SYNTAX Unsigned32  
UNITS "milliseconds"  
MAX-ACCESS read-create  
STATUS current

DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonNotOkay notification, signalling that a monitored maximum delay rate has been exceeded.

A slapmPolicyRuleMonNotOkay notification is not generated again for an slapmPRMonEntry until the maximum delay rate falls below slapmPRMonMaxDelayLow (a slapmPolicyRuleMonOkay notification is then transmitted) and raises above slapmPRMonMaxDelayHigh. This behavior reduces the slapmPolicyRuleMonNotOkay notifications that are transmitted.

A value of zero for this object is returned when the slapmPRMonControl monitorMaxDelay(4) is not enabled. When enabled the default value for this object is the max delay value specified in the associated action definition plus 10%. If the action definition doesn't have a max delay defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxDelay(4) is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPRMonEntry 14 }

slapmPRMonMaxDelayLow OBJECT-TYPE

SYNTAX Unsigned32

UNITS "milliseconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The threshold for generating a slapmPolicyRuleMonOkay

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notification, signalling that a monitored maximum delay rate has fallen to an acceptable level.

A value of zero for this object is returned when the slapmPRMonControl monitorMaxDelay(4) is not enabled. When enabled the default value for this object is the max delay value specified in the associated action definition minus 10%. If the action definition doesn't have a max delay defined then there is no default for this object and a value MUST be specified prior to activating this entry when monitorMaxDelay(4) is selected.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for any notification relating to this entry to potentially be generated."

::= { slapmPRMonEntry 15 }

slapmPRMonMinInRateNotAchieves OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The number of times that a minimum transfer in rate  
    was not achieved."  
 ::= { slapmPRMonEntry 16 }

slapmPRMonMaxInRateExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The number of times that a maximum transfer in rate  
    was exceeded."  
 ::= { slapmPRMonEntry 17 }

slapmPRMonMaxDelayExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The number of times that a maximum delay in rate  
    was exceeded."  
 ::= { slapmPRMonEntry 18 }

slapmPRMonMinOutRateNotAchieves OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The number of times that a minimum transfer out rate  
    was not achieved."

::= { slapmPRMonEntry 19 }

slapmPRMonMaxOutRateExceeds OBJECT-TYPE  
SYNTAX Counter32  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The number of times that a maximum transfer out rate  
    was exceeded."  
 ::= { slapmPRMonEntry 20 }

slapmPRMonCurrentDelayRate OBJECT-TYPE

SYNTAX Gauge32  
UNITS "milliseconds"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"The current delay rate for this entry. This is  
calculated by taking the average of the TCP  
round trip times for all associating  
slapmSubcomponentTable entries within a interval."  
 ::= { slapmPRMonEntry 21 }

slapmPRMonRowStatus OBJECT-TYPE  
SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"This object allows entries to be created and deleted  
in the slapmPRMonTable. An entry in this table  
is deleted by setting this object to destroy(6).  
  
Removal of an corresponding (same policy index)  
slapmPolicyRuleStatsEntry has the side effect of the  
automatic deletion an entry in this table."  
 ::= { slapmPRMonEntry 22 }

-- Notifications

slapmMonitoredEventNotAchieved NOTIFICATION-TYPE  
OBJECTS {  
slapmPolicyMonitorIntTime,  
slapmPolicyMonitorControl,  
slapmPolicyMonitorStatus,  
slapmPolicyMonitorStatus,  
slapmPolicyMonitorCurrentInRate,  
slapmPolicyMonitorCurrentOutRate,  
slapmPolicyMonitorCurrentDelayRate  
}  
STATUS deprecated  
DESCRIPTION  
"This notification is generated when an monitored event

is not achieved with respect to threshold. This  
applies only towards monitoring a policy traffic  
profile as an aggregate via an associating  
slapmPolicyStatsEntry. The value

of slapmPolicyMonitorControl can be examined to determine what is being monitored. The first slapmPolicyMonitorStatus value supplies the current monitor status while the 2nd value supplies the previous status.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for this notification to potentially be generated."

```
::= { slapmNotifications 1 }
```

slapmMonitoredEventOkay NOTIFICATION-TYPE

```
OBJECTS {
    slapmPolicyMonitorIntTime,
    slapmPolicyMonitorControl,
    slapmPolicyMonitorStatus,
    slapmPolicyMonitorStatus,
    slapmPolicyMonitorCurrentInRate,
    slapmPolicyMonitorCurrentOutRate,
    slapmPolicyMonitorCurrentDelayRate
}
```

STATUS deprecated

DESCRIPTION

"This notification is generated when a monitored event has improved to an acceptable level. This applies only towards monitoring a policy traffic profile as an aggregate via an associating slapmPolicyStatsEntry. The value of slapmPolicyMonitorControl can be examined to determine what is being monitored. The first slapmPolicyMonitorStatus value supplies the current monitor status while the 2nd value supplies the previous status.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableAggregateTraps(3), MUST be selected in order for this notification to potentially be generated."

```
::= { slapmNotifications 2 }
```

slapmPolicyProfileDeleted NOTIFICATION-TYPE

```
OBJECTS {
    slapmPolicyStatsActiveConns,
    slapmPolicyStatsTotalConns,
    slapmPolicyStatsFirstActivated,
    slapmPolicyStatsLastMapping,
    slapmPolicyStatsInOctets,
    slapmPolicyStatsOutOctets,
}
```

```
        slapmPolicyStatsConnectionLimit,
        slapmPolicyStatsCountAccepts,
        slapmPolicyStatsCountDenies,
        slapmPolicyStatsInDiscards,
        slapmPolicyStatsOutDiscards,
        slapmPolicyStatsInPackets,
        slapmPolicyStatsOutPackets,
        slapmPolicyStatsInProfileOctets,
        slapmPolicyStatsOutProfileOctets,
        slapmPolicyStatsMinRate,
        slapmPolicyStatsMaxRate,
        slapmPolicyStatsMaxDelay
    }
    STATUS deprecated
    DESCRIPTION
        "A slapmPolicyDeleted notification is sent when a
        slapmPolicyStatsEntry is deleted if the value of
        slapmPolicyTrapEnable is enabled(1)."
```

::= { slapmNotifications 3 }

slapmPolicyMonitorDeleted NOTIFICATION-TYPE

```
    OBJECTS {
        slapmPolicyMonitorStatus,
        slapmPolicyMonitorInterval,
        slapmPolicyMonitorIntTime,
        slapmPolicyMonitorCurrentInRate,
        slapmPolicyMonitorCurrentOutRate,
        slapmPolicyMonitorCurrentDelayRate,
        slapmPolicyMonitorMinRateLow,
        slapmPolicyMonitorMinRateHigh,
        slapmPolicyMonitorMaxRateHigh,
        slapmPolicyMonitorMaxRateLow,
        slapmPolicyMonitorMaxDelayHigh,
        slapmPolicyMonitorMaxDelayLow,
        slapmPolicyMonitorMinInRateNotAchieves,
        slapmPolicyMonitorMaxInRateExceeds,
        slapmPolicyMonitorMaxDelayExceeds,
        slapmPolicyMonitorMinOutRateNotAchieves,
        slapmPolicyMonitorMaxOutRateExceeds
    }
    STATUS deprecated
    DESCRIPTION
        "A slapmPolicyMonitorDeleted notification is sent when a
        slapmPolicyMonitorEntry is deleted if the value of
        slapmPolicyTrapEnable is enabled(1)."
```

::= { slapmNotifications 4 }

slapmSubcomponentMonitoredEventNotAchieved NOTIFICATION-TYPE

```
OBJECTS {
    slapmSubcomponentSystemAddress,
    slapmSubcomponentPolicyName,
    slapmSubcomponentTrafficProfileName,
    slapmSubcomponentMonitorStatus,
```

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```
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorIntTime,
    slapmSubcomponentMonitorCurrentInRate,
    slapmSubcomponentMonitorCurrentOutRate,
    slapmSubcomponentTcpRoundTripTime
}
```

STATUS deprecated

DESCRIPTION

"This notification is generated when a monitored value does not achieved a threshold specification. This applies only towards monitoring the individual components of a policy traffic profile. The value of the corresponding slapmPolicyMonitorControl can be examined to determine what is being monitored. The first slapmSubcomponentMonitorStatus value supplies the current monitor status while the 2nd value supplies the previous status.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableSubcomponentTraps(4), MUST be selected in order for this notification to potentially be generated."

::= { slapmNotifications 5 }

slapmSubcomponentMonitoredEventOkay NOTIFICATION-TYPE

```
OBJECTS {
    slapmSubcomponentSystemAddress,
    slapmSubcomponentPolicyName,
    slapmSubcomponentTrafficProfileName,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorIntTime,
    slapmSubcomponentMonitorCurrentInRate,
    slapmSubcomponentMonitorCurrentOutRate,
    slapmSubcomponentTcpRoundTripTime
```

```
}
```

STATUS deprecated

DESCRIPTION

"This notification is generated when a monitored value

has reached an acceptable level.

Note: The corresponding slapmPolicyMonitorControl BITS setting, enableSubcomponentTraps(3), MUST be selected in order for this notification to potentially be generated."

```
::= { slapmNotifications 6 }
```

```
slapmPolicyRuleMonNotOkay NOTIFICATION-TYPE
```

```
OBJECTS {  
    slapmPRMonIntTime,  
    slapmPRMonControl,  
    slapmPRMonStatus,  
    slapmPRMonStatus,  
    slapmPRMonCurrentInRate,
```

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```
    slapmPRMonCurrentOutRate,  
    slapmPRMonCurrentDelayRate  
}
```

```
STATUS current
```

```
DESCRIPTION
```

"This notification is generated when an monitored event is not achieved with respect to a threshold. This applies only towards monitoring a policy rule as an aggregate via an associating slapmPolicyRuleStatsEntry. The value of slapmPRMonControl can be examined to determine what is being monitored. The first slapmPRMonStatus value supplies the current monitor status while the 2nd value supplies the previous status.

Note: The corresponding slapmPRMonControl BITS setting, enableAggregateTraps(3), MUST be selected in order for this notification to potentially be generated."

```
::= { slapmNotifications 7 }
```

```
slapmPolicyRuleMonOkay NOTIFICATION-TYPE
```

```
OBJECTS {  
    slapmPRMonIntTime,  
    slapmPRMonControl,  
    slapmPRMonStatus,  
    slapmPRMonStatus,  
    slapmPRMonCurrentInRate,
```

```

        slapmPRMonCurrentOutRate,
        slapmPRMonCurrentDelayRate
    }
STATUS    current
DESCRIPTION
    "This notification is generated when a monitored
    event has improved to an acceptable level. This
    applies only towards monitoring a policy rule
    as an aggregate via an associating
    slapmPolicyRuleStatsEntry. The value
    of slapmPRMonControl can be examined to
    determine what is being monitored. The first
    slapmPRMonStatus value supplies the current
    monitor status while the 2nd value supplies the
    previous status.

    Note: The corresponding slapmPRMonControl
    BITS setting, enableAggregateTraps(3), MUST be
    selected in order for this notification to
    potentially be generated."
 ::= { slapmNotifications 8 }

```

```

slapmPolicyRuleDeleted NOTIFICATION-TYPE
OBJECTS {

```

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```

    slapmPolicyRuleStatsActiveConns,
    slapmPolicyRuleStatsTotalConns,
    slapmPolicyRuleStatsLActivated,
    slapmPolicyRuleStatsLastMapping,
    slapmPolicyRuleStatsInOctets,
    slapmPolicyRuleStatsOutOctets,
    slapmPolicyRuleStatsConnLimit,
    slapmPolicyRuleStatsCountAccepts,
    slapmPolicyRuleStatsCountDenies,
    slapmPolicyRuleStatsInDiscards,
    slapmPolicyRuleStatsOutDiscards,
    slapmPolicyRuleStatsInPackets,
    slapmPolicyRuleStatsOutPackets,
    slapmPolicyRuleStatsInProOctets,
    slapmPolicyRuleStatsOutProOctets,
    slapmPolicyRuleStatsMinRate,
    slapmPolicyRuleStatsMaxRate,
    slapmPolicyRuleStatsMaxDelay,
    slapmPolicyRuleStatsTotalRsvpFlows,
    slapmPolicyRuleStatsActRsvpFlows

```

```

}
STATUS current
DESCRIPTION
    "A slapmPolicyRuleDeleted notification is sent when a
    slapmPolicyRuleStatsEntry is deleted if the value of
    slapmPolicyTrapEnable is enabled(1)."
 ::= { slapmNotifications 9 }

slapmPolicyRuleMonDeleted NOTIFICATION-TYPE
OBJECTS {
    slapmPRMonControl,
    slapmPRMonStatus,
    slapmPRMonInterval,
    slapmPRMonIntTime,
    slapmPRMonCurrentInRate,
    slapmPRMonCurrentOutRate,
    slapmPRMonCurrentDelayRate,
    slapmPRMonMinRateLow,
    slapmPRMonMinRateHigh,
    slapmPRMonMaxRateHigh,
    slapmPRMonMaxRateLow,
    slapmPRMonMaxDelayHigh,
    slapmPRMonMaxDelayLow,
    slapmPRMonMinInRateNotAchieves,
    slapmPRMonMaxInRateExceeds,
    slapmPRMonMaxDelayExceeds,
    slapmPRMonMinOutRateNotAchieves,
    slapmPRMonMaxOutRateExceeds
}
STATUS current
DESCRIPTION
    "A slapmPolicyRuleMonDeleted notification is sent when a
    slapmPRMonEntry is deleted if the value of

```

```

    slapmPolicyTrapEnable is enabled(1)."
 ::= { slapmNotifications 10 }

```

```

slapmSubcomponentNotOkay NOTIFICATION-TYPE
OBJECTS {
    slapmSubcomponentSystemAddress,
    slapmSubcomponentPolicyRuleIndex,
    slapmPRMonControl,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorIntTime,

```

```

        slapmSubcomponentMonitorCurrentInRate,
        slapmSubcomponentMonitorCurrentOutRate,
        slapmSubcomponentTcpRoundTripTime
    }
STATUS    current
DESCRIPTION
    "This notification is generated when a monitored value
    does not achieved a threshold specification.  This
    applies only towards monitoring the individual components
    of a policy rule.  The value of the
    corresponding slapmPRMonControl can be examined
    to determine what is being monitored.  The first
    slapmSubcomponentMonitorStatus value supplies the current
    monitor status while the 2nd value supplies the
    previous status.

    Note: The corresponding slapmPRMonControl
    BITS setting, enableSubcomponentTraps(4), MUST be selected
    in order for this notification to potentially be generated."
 ::= { slapmNotifications 11 }

```

slapmSubcMonitorOkay NOTIFICATION-TYPE

```

OBJECTS {
    slapmSubcomponentSystemAddress,
    slapmSubcomponentPolicyRuleIndex,
    slapmPRMonControl,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorIntTime,
    slapmSubcomponentMonitorCurrentInRate,
    slapmSubcomponentMonitorCurrentOutRate,
    slapmSubcomponentTcpRoundTripTime
}
STATUS    current
DESCRIPTION
    "This notification is generated when a monitored value
    has reached an acceptable level.

    Note: The corresponding slapmPRMonControl
    BITS setting, enableSubcomponentTraps(3), MUST be
    selected in order for this notification to potentially
    be generated."

```

```

 ::= { slapmNotifications 12 }

```

```

-- Conformance information
-- Compliance statements

slapmCompliances OBJECT IDENTIFIER ::= { slapmConformance 1 }
slapmGroups       OBJECT IDENTIFIER ::= { slapmConformance 2 }

-- Compliance statements

slapmCompliance MODULE-COMPLIANCE
  STATUS current
  DESCRIPTION
    "The compliance statement for the SLAPM-MIB."
  MODULE -- this module
    MANDATORY-GROUPS {
      slapmBaseGroup2,
      slapmNotGroup2
    }
  GROUP slapmEndSystemGroup2
  DESCRIPTION
    "The contents of this group is required by end-system
    implementations."
  GROUP slapmEndSystemNotGroup2
  DESCRIPTION
    "The contents of this group is required by end-system
    implementations."
  GROUP slapmBaseGroup
  DESCRIPTION
    "The contents of this group has been deprecated in favor
    of the new slapmBaseGroup2. Older implementations of this
    MIB would continue its support of the contents of this
    group."
  GROUP slapmNotGroup
  DESCRIPTION
    "The contents of this group has been deprecated in favor
    of the new slapmNotGroup2. Older implementations of this
    MIB would continue its support of the contents of
    this group."
  GROUP slapmOptionalGroup
  DESCRIPTION
    "The contents of this group has been deprecated."
  GROUP slapmEndSystemGroup
  DESCRIPTION
    "The contents of this group has been deprecated in favor
    of the new slapmEndSystemGroup2. Older implementations
    of this MIB would continue its support of the
    contents of this group."
  GROUP slapmEndSystemNotGroup
  DESCRIPTION
    "The contents of this group has been deprecated in favor
    of the new slapmEndSystemNotGroup2. Older

```

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```
        implementations of this MIB would continue its support
        of the contents of this group."
 ::= { slapmCompliances 1 }
```

```
-- MIB groupings
```

```
slapmBaseGroup OBJECT-GROUP
```

```
  OBJECTS {
```

```
    slapmSpinLock,
    slapmPolicyCountQueries,
    slapmPolicyCountAccesses,
    slapmPolicyCountSuccessAccesses,
    slapmPolicyCountNotFounds,
    slapmPolicyPurgeTime,
    slapmPolicyTrapEnable,
    slapmPolicyStatsOperStatus,
    slapmPolicyStatsActiveConns,
    slapmPolicyStatsFirstActivated,
    slapmPolicyStatsLastMapping,
    slapmPolicyStatsInOctets,
    slapmPolicyStatsOutOctets,
    slapmPolicyStatsConnectionLimit,
    slapmPolicyStatsTotalConns,
    slapmPolicyStatsCountAccepts,
    slapmPolicyStatsCountDenies,
    slapmPolicyStatsInDiscards,
    slapmPolicyStatsOutDiscards,
    slapmPolicyStatsInPackets,
    slapmPolicyStatsOutPackets,
    slapmPolicyStatsMinRate,
    slapmPolicyStatsMaxRate,
    slapmPolicyStatsMaxDelay,
    slapmPolicyMonitorControl,
    slapmPolicyMonitorStatus,
    slapmPolicyMonitorInterval,
    slapmPolicyMonitorIntTime,
    slapmPolicyMonitorCurrentInRate,
    slapmPolicyMonitorCurrentOutRate,
    slapmPolicyMonitorMinRateLow,
    slapmPolicyMonitorMinRateHigh,
    slapmPolicyMonitorMaxRateHigh,
    slapmPolicyMonitorMaxRateLow,
    slapmPolicyMonitorMaxDelayHigh,
    slapmPolicyMonitorMaxDelayLow,
```

```
        slapmPolicyMonitorMinInRateNotAchieves,  
        slapmPolicyMonitorMaxInRateExceeds,  
        slapmPolicyMonitorMaxDelayExceeds,  
        slapmPolicyMonitorMinOutRateNotAchieves,  
        slapmPolicyMonitorMaxOutRateExceeds,  
        slapmPolicyMonitorCurrentDelayRate,  
        slapmPolicyMonitorRowStatus  
    }  
STATUS deprecated
```

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DESCRIPTION

```
    "The group of objects defined by this MIB that are  
    required for all implementations to be compliant."  
 ::= { slapmGroups 1 }
```

slapmOptionalGroup OBJECT-GROUP

```
OBJECTS {  
    slapmPolicyStatsInProfileOctets,  
    slapmPolicyStatsOutProfileOctets  
}
```

STATUS deprecated

DESCRIPTION

```
    "The group of objects defined by this MIB that are  
    optional."  
 ::= { slapmGroups 2 }
```

slapmEndSystemGroup OBJECT-GROUP

```
OBJECTS {  
    slapmPolicyTrapFilter,  
    slapmSubcomponentProtocol,  
    slapmSubcomponentSystemAddress,  
    slapmSubcomponentPolicyName,  
    slapmSubcomponentTrafficProfileName,  
    slapmSubcomponentLastActivity,  
    slapmSubcomponentInOctets,  
    slapmSubcomponentOutOctets,  
    slapmSubcomponentTcpOutBufferedOctets,  
    slapmSubcomponentTcpInBufferedOctets,  
    slapmSubcomponentTcpReXmts,  
    slapmSubcomponentTcpRoundTripTime,  
    slapmSubcomponentTcpRoundTripVariance,  
    slapmSubcomponentInPdus,  
    slapmSubcomponentOutPdus,  
    slapmSubcomponentAppIName,  
    slapmSubcomponentMonitorStatus,  
}
```

```

        slapmSubcomponentMonitorIntTime,
        slapmSubcomponentMonitorCurrentOutRate,
        slapmSubcomponentMonitorCurrentInRate
    }
STATUS deprecated
DESCRIPTION
    "The group of objects defined by this MIB that are
    required for end system implementations."
 ::= { slapmGroups 3 }

slapmNotGroup NOTIFICATION-GROUP
NOTIFICATIONS {
    slapmMonitoredEventNotAchieved,
    slapmMonitoredEventOkay,
    slapmPolicyProfileDeleted,
    slapmPolicyMonitorDeleted
}
STATUS deprecated

```

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```

DESCRIPTION
    "The group of notifications defined by this MIB that MUST
    be implemented."
 ::= { slapmGroups 4 }

slapmEndSystemNotGroup NOTIFICATION-GROUP
NOTIFICATIONS {
    slapmSubcomponentMonitoredEventNotAchieved,
    slapmSubcomponentMonitoredEventOkay
}
STATUS deprecated
DESCRIPTION
    "The group of objects defined by this MIB that are
    required for end system implementations."
 ::= { slapmGroups 5 }

slapmBaseGroup2 OBJECT-GROUP
OBJECTS {
    slapmSpinLock,
    slapmPolicyCountQueries,
    slapmPolicyCountAccesses,
    slapmPolicyCountSuccessAccesses,
    slapmPolicyCountNotFounds,
    slapmPolicyPurgeTime,
    slapmPolicyTrapEnable,
    slapmPolicyNameOfRule,

```

slapmPolicyRuleStatsOperStatus,  
slapmPolicyRuleStatsActiveConns,  
slapmPolicyRuleStatsTotalConns,  
slapmPolicyRuleStatsLActivated,  
slapmPolicyRuleStatsLastMapping,  
slapmPolicyRuleStatsInOctets,  
slapmPolicyRuleStatsOutOctets,  
slapmPolicyRuleStatsConnLimit,  
slapmPolicyRuleStatsCountAccepts,  
slapmPolicyRuleStatsCountDenies,  
slapmPolicyRuleStatsInDiscards,  
slapmPolicyRuleStatsOutDiscards,  
slapmPolicyRuleStatsInPackets,  
slapmPolicyRuleStatsOutPackets,  
slapmPolicyRuleStatsInProOctets,  
slapmPolicyRuleStatsOutProOctets,  
slapmPolicyRuleStatsMinRate,  
slapmPolicyRuleStatsMaxRate,  
slapmPolicyRuleStatsMaxDelay,  
slapmPolicyRuleStatsTotalRsvpFlows,  
slapmPolicyRuleStatsActRsvpFlows,  
slapmPRMonControl,  
slapmPRMonStatus,  
slapmPRMonInterval,  
slapmPRMonIntTime,  
slapmPRMonCurrentInRate,  
slapmPRMonCurrentOutRate,

slapmPRMonMinRateLow,  
slapmPRMonMinRateHigh,  
slapmPRMonMaxRateHigh,  
slapmPRMonMaxRateLow,  
slapmPRMonMaxDelayHigh,  
slapmPRMonMaxDelayLow,  
slapmPRMonMinInRateNotAchieves,  
slapmPRMonMaxInRateExceeds,  
slapmPRMonMaxDelayExceeds,  
slapmPRMonMinOutRateNotAchieves,  
slapmPRMonMaxOutRateExceeds,  
slapmPRMonCurrentDelayRate,  
slapmPRMonRowStatus

}

STATUS current

DESCRIPTION

"The group of objects defined by this MIB that are

```
        required for all implementations to be compliant."
 ::= { slapmGroups 6 }
```

```
slapmEndSystemGroup2 OBJECT-GROUP
```

```
  OBJECTS {
    slapmPolicyTrapFilter,
    slapmSubcomponentProtocol,
    slapmSubcomponentSystemAddress,
    slapmSubcomponentLastActivity,
    slapmSubcomponentInOctets,
    slapmSubcomponentOutOctets,
    slapmSubcomponentTcpOutBufferedOctets,
    slapmSubcomponentTcpInBufferedOctets,
    slapmSubcomponentTcpReXmts,
    slapmSubcomponentTcpRoundTripTime,
    slapmSubcomponentTcpRoundTripVariance,
    slapmSubcomponentInPdus,
    slapmSubcomponentOutPdus,
    slapmSubcomponentAppIName,
    slapmSubcomponentMonitorStatus,
    slapmSubcomponentMonitorIntTime,
    slapmSubcomponentMonitorCurrentOutRate,
    slapmSubcomponentMonitorCurrentInRate,
    slapmSubcomponentPolicyRuleIndex
  }
```

```
  STATUS current
```

```
  DESCRIPTION
```

```
    "The group of objects defined by this MIB that are
    required for end system implementations."
```

```
 ::= { slapmGroups 7 }
```

```
slapmNotGroup2 NOTIFICATION-GROUP
```

```
  NOTIFICATIONS {
    slapmPolicyRuleMonNotOkay,
    slapmPolicyRuleMonOkay,
    slapmPolicyRuleDeleted,
  }
```

```
    slapmPolicyRuleMonDeleted
  }
```

```
  STATUS current
```

```
  DESCRIPTION
```

```
    "The group of notifications defined by this MIB that MUST
    be implemented."
```

```
 ::= { slapmGroups 8 }
```

```

slapmEndSystemNotGroup2 NOTIFICATION-GROUP
  NOTIFICATIONS {
    slapmSubcMonitorNotOkay,
    slapmSubcMonitorOkay
  }
  STATUS current
  DESCRIPTION
    "The group of objects defined by this MIB that are
    required for end system implementations."
  ::= { slapmGroups 9 }

END

```

## 5.0 Security Considerations

Certain management information in the MIB defined by this document may be considered sensitive in some network environments. Therefore, authentication of received SNMP requests and controlled access to management information SHOULD be employed in such environments. The method for this authentication is a function of the SNMP Administrative Framework, and has not been expanded by this MIB.

To facilitate the provisioning of access control by a security administrator using the View-Based Access Control Model (VACM) defined in [RFC 2575](#) [11] for tables in which multiple users may need to independently create or modify entries, the initial index is used as an "owner index" (refer to `slapmPRMonOwnerIndex` in an `slapmPRMonEntry`). Such an initial index has a syntax of `SnmpAdminString`, and can thus be trivially mapped to a `securityName` or `groupName` as defined in VACM, in accordance with a security policy.

All entries in related tables belonging to a particular user will have the same value for this initial index. For a given user's entries in a particular table, the object identifiers for the information in these entries will have the same subidentifiers (except for the "column" subidentifier) up to the end of the encoded owner index. To configure VACM to permit access to this portion of the table, one would create `vacmViewTreeFamilyTable` entries with the value of `vacmViewTreeFamilySubtree` including the owner index portion, and `vacmViewTreeFamilyMask` "wildcarding" the column subidentifier. More elaborate configurations are possible. The VACM access control mechanism described above provides control

in insecure environments.

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## [7.0](#) Acknowledgments

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