



SNMP TARGET MIB

This chapter describes the SNMP Target MIBs and is used to define MIB objects. SNMP target MIBs provide mechanisms to remotely configure the parameters used by an SNMP entity for the generation of SNMP messages.

An object of this type contains a single tag value which is used to select a set of entries in a table. A tag value is an arbitrary string of octets, but may not contain a delimiter character. Delimiter characters are defined to be one of the following:

- ASCII space character (0x20).
- ASCII TAB character (0x09).
- ASCII carriage return (CR) character (0x0D).
- ASCII line feed (LF) character (0x0B).

Delimiter characters are used to separate tag values in a tag list. Only a single delimiter character may occur between two tag values. A tag value may not have a zero length. These constraints imply certain restrictions on the contents of this object:

- There cannot be a leading or trailing delimiter character.
- There cannot be multiple adjacent delimiter characters.
- Some examples of valid tag lists are:
 - An empty string
 - acme router
 - host manager station



Note

Although a tag value may not have a length of zero, an empty string is still valid. This indicates an empty list (i.e. there are no tag values in the list).

The use of the tag list to select table entries is application and MIB specific. Typically, an application will provide one or more tag values, and any entry which contains some combination of these tag values will be selected.

Object Identifiers

The following objects define target MIBs:

- `snmpTargetObjects OBJECT IDENTIFIER ::= { snmpTargetMIB 1 }`

- snmpTargetConformance OBJECT IDENTIFIER ::= { snmpTargetMIB 3 }

snmpTargetObjects group

snmpTargetSpinLock OBJECT-TYPE

SYNTAX TestAndIncr

MAX-ACCESS read-write

STATUS current

DESCRIPTION

This object is used to facilitate modification of table entries in the SNMP-TARGET-MIB module by multiple managers. In particular, it is useful when modifying the value of the snmpTargetAddrTagList object. The procedure for modifying the snmpTargetAddrTagList object is as follows:

- Retrieve the value of snmpTargetSpinLock and of snmpTargetAddrTagList.
- Generate a new value for snmpTargetAddrTagList.
- Set the value of snmpTargetSpinLock to the retrieved value, and the value of snmpTargetAddrTagList to the new value. If the set fails for the snmpTargetSpinLock object, go back to step 1.

::= { snmpTargetObjects 1 }

snmpTargetAddrTable OBJECT-TYPE

SYNTAX SEQUENCE OF SnmpTargetAddrEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

“A table of transport addresses to be used in the generation of SNMP messages.”

::= { snmpTargetObjects 2 }

snmpTargetAddrEntry OBJECT-TYPE

SYNTAX SnmpTargetAddrEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

A transport address to be used in the generation of SNMP operations. Entries in the snmpTargetAddrTable are created and deleted using the snmpTargetAddrRowStatus object.

INDEX { IMPLIED snmpTargetAddrName }

::= { snmpTargetAddrTable 1 }

SnmpTargetAddrEntry ::= SEQUENCE {

snmpTargetAddrName SnmpAdminString,

```

snmpTargetAddrTDomain    TDomain,
snmpTargetAddrTAddress   TAddress,
snmpTargetAddrTimeout    TimeInterval,
snmpTargetAddrRetryCount Integer32,
snmpTargetAddrTagList    SnmpTagList,
snmpTargetAddrParams     SnmpAdminString,
snmpTargetAddrStorageType StorageType,
snmpTargetAddrRowStatus  RowStatus
}

```

snmpTargetAddrName OBJECT-TYPE

```

SYNTAX    SnmpAdminString (SIZE(1..32))
MAX-ACCESS not-accessible
STATUS    current
DESCRIPTION

```

The locally arbitrary, but unique identifier associated with this snmpTargetAddrEntry.”

```
 ::= { snmpTargetAddrEntry 1 }
```

snmpTargetAddrTDomain OBJECT-TYPE

```

SYNTAX    TDomain
MAX-ACCESS read-create
STATUS    current
DESCRIPTION

```

This object indicates the transport type of the address contained in the snmpTargetAddrTAddress object.

```
 ::= { snmpTargetAddrEntry 2 }
```

snmpTargetAddrTAddress OBJECT-TYPE

```

SYNTAX    TAddress
MAX-ACCESS read-create
STATUS    current
DESCRIPTION

```

This object contains a transport address. The format of this address depends on the value of the snmpTargetAddrTDomain object.

```
 ::= { snmpTargetAddrEntry 3 }
```

snmpTargetAddrTimeout OBJECT-TYPE

```

SYNTAX    TimeInterval

```

MAX-ACCESS read-create

STATUS current

DESCRIPTION

This object should reflect the expected maximum round trip time for communicating with the transport address defined by this row. When a message is sent to this address, and a response (if one is expected) is not received within this time period, an implementation may assume that the response will not be delivered.



Note

The time interval that an application waits for a response may actually be derived from the value of this object. The method for deriving the actual time interval is implementation dependent. One such method is to derive the expected round trip time based on a particular retransmission algorithm and on the number of timeouts which have occurred. The type of message may also be considered when deriving expected round trip times for retransmissions. For example, if a message is being sent with a securityLevel that indicates both authentication and privacy, the derived value may be increased to compensate for extra processing time spent during authentication and encryption processing.

DEFVAL { 1500 }

::= { snmpTargetAddrEntry 4 }

snmpTargetAddrRetryCount OBJECT-TYPE

SYNTAX Integer32 (0..255)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

This object specifies a default number of retries to be attempted when a response is not received for a generated message. An application may provide its own retry count, in which case the value of this object is ignored.

DEFVAL { 3 }

::= { snmpTargetAddrEntry 5 }

snmpTargetAddrTagList OBJECT-TYPE

SYNTAX SnmpTagList

MAX-ACCESS read-create

STATUS current

DESCRIPTION

This object contains a list of tag values which are used to select target addresses for a particular operation.

::= { snmpTargetAddrEntry 6 }

snmpTargetAddrParams OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The value of this object identifies an entry in the snmpTargetParamsTable. The identified entry contains SNMP parameters to be used when generating messages to be sent to this transport address.”

::= { snmpTargetAddrEntry 7 }

snmpTargetAddrStorageType OBJECT-TYPE

SYNTAX StorageType

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The storage type for this conceptual row.

::= { snmpTargetAddrEntry 8 }

snmpTargetAddrRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The status of this conceptual row. To create a row in this table, a manager must set this object to either createAndGo(4) or createAndWait(5). Until instances of all corresponding columns are appropriately configured, the value of the corresponding instance of the snmpTargetAddrRowStatus column is ‘notReady’..

In particular, a newly created row cannot be made active until the corresponding snmpTargetAddrTDomain and snmpTargetAddrTAddress have both been set. The following objects may not be modified while the value of this object is active(1):

snmpTargetAddrTDomain

snmpTargetAddrTAddress”

::= { snmpTargetAddrEntry 9 }

snmpTargetParamsTable OBJECT-TYPE

SYNTAX SEQUENCE OF SnmpTargetParamsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

A table of SNMP target information to be used in the generation of SNMP messages.

::= { snmpTargetObjects 3 }

snmpTargetParamsEntry OBJECT-TYPE

SYNTAX SnmpTargetParamsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

A set of SNMP target information. Entries in the snmpTargetParamsTable are created and deleted using the snmpTargetParamsRowStatus object.

INDEX { IMPLIED snmpTargetParamsName }

::= { snmpTargetParamsTable 1 }

SnmpTargetParamsEntry ::= SEQUENCE {

snmpTargetParamsName SnmpAdminString,

snmpTargetParamsMPModel SnmpMessageProcessingModel,

snmpTargetParamsSecurityModel SnmpSecurityModel,

snmpTargetParamsSecurityName SnmpAdminString,

snmpTargetParamsSecurityLevel SnmpSecurityLevel,

snmpTargetParamsStorageType StorageType,

snmpTargetParamsRowStatus RowStatus

}

snmpTargetParamsName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

The locally arbitrary, but unique identifier associated with this snmpTargetParamsEntry.

::= { snmpTargetParamsEntry 1 }

snmpTargetParamsMPModel OBJECT-TYPE

SYNTAX SnmpMessageProcessingModel

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The Message Processing Model to be used when generating SNMP messages using this entry.

::= { snmpTargetParamsEntry 2 }

snmpTargetParamsSecurityModel OBJECT-TYPE

SYNTAX SnmpSecurityModel (0..254 | 256..2147483647)

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The Security Model to be used when generating SNMP messages using this entry.

::= { snmpTargetParamsEntry 3 }

snmpTargetParamsSecurityName OBJECT-TYPE

SYNTAX SnmpAdminString

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The securityName which identifies the Principal on whose behalf SNMP messages will be generated using this entry.

::= { snmpTargetParamsEntry 4 }

snmpTargetParamsSecurityLevel OBJECT-TYPE

SYNTAX SnmpSecurityLevel

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The Level of Security to be used when generating SNMP messages using this entry.

::= { snmpTargetParamsEntry 5 }

snmpTargetParamsStorageType OBJECT-TYPE

SYNTAX StorageType

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The storage type for this conceptual row.

::= { snmpTargetParamsEntry 6 }

snmpTargetParamsRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

The status of this conceptual row. To create a row in this table, a manager must set this object to either createAndGo(4) or createAndWait(5). Until instances of all corresponding columns are appropriately configured, the value of the corresponding instance of the snmpTargetParamsRowStatus column is 'notReady'. A newly created row cannot be made active until all of the corresponding object have been set:

snmpTargetParamsMPModel,
 snmpTargetParamsSecurityModel,
 snmpTargetParamsSecurityName,
 and snmpTargetParamsSecurityLevel

The following objects may not be modified while the value of this object is active(1):

snmpTargetParamsMPModel
 snmpTargetParamsSecurityModel
 snmpTargetParamsSecurityName
 snmpTargetParamsSecurityLevel”
 ::= { snmpTargetParamsEntry 7 }

snmpUnavailableContexts OBJECT-TYPE

SYNTAX Counter32
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

The total number of packets received by the SNMP engine which were dropped because the context contained in the message was unavailable.

::= { snmpTargetObjects 4 }

snmpUnknownContexts OBJECT-TYPE

SYNTAX Counter32
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

The total number of packets received by the SNMP engine which were dropped because the context contained in the message was unknown.

::= { snmpTargetObjects 5 }

Conformance information

snmpTargetCompliances OBJECT IDENTIFIER ::= { snmpTargetConformance 1 }
 snmpTargetGroups OBJECT IDENTIFIER ::= { snmpTargetConformance 2 }

Compliance statements

snmpTargetCommandResponderCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

The compliance statement for SNMP entities which include a command responder application.

MODULE -- This Module

MANDATORY-GROUPS { snmpTargetCommandResponderGroup }

::= { snmpTargetCompliances 1 }

snmpTargetBasicGroup OBJECT-GROUP

OBJECTS {

snmpTargetSpinLock,
 snmpTargetAddrTDomain,
 snmpTargetAddrTAddress,
 snmpTargetAddrTagList,
 snmpTargetAddrParams,
 snmpTargetAddrStorageType,
 snmpTargetAddrRowStatus,
 snmpTargetParamsMPModel,
 snmpTargetParamsSecurityModel,
 snmpTargetParamsSecurityName,
 snmpTargetParamsSecurityLevel,
 snmpTargetParamsStorageType,
 snmpTargetParamsRowStatus

}

STATUS current

DESCRIPTION

A collection of objects providing basic remote configuration of management targets.

::= { snmpTargetGroups 1 }

snmpTargetResponseGroup OBJECT-GROUP

OBJECTS {

snmpTargetAddrTimeout,
 snmpTargetAddrRetryCount

}

STATUS current

DESCRIPTION

A collection of objects providing remote configuration of management targets for applications which generate SNMP messages for which a response message would be expected.

```
::= { snmpTargetGroups 2 }
```

```
snmpTargetCommandResponderGroup OBJECT-GROUP
```

```
OBJECTS {
```

```
    snmpUnavailableContexts,
```

```
    snmpUnknownContexts
```

```
}
```

```
STATUS    current
```

```
DESCRIPTION
```

A collection of objects required for command responder applications, used for counting error conditions.

```
::= { snmpTargetGroups 3 }
```