



CHAPTER 6

SCA BB Proprietary MIB Reference

This chapter describes the proprietary CISCO-SCAS-BB Management Information Base (MIB) supported by the Service Control Engine (SCE) platform.

A MIB is a database of objects that can be monitored by a network management system (NMS). The SCE platform supports both the standard MIB-II and the proprietary Cisco Service Control Enterprise MIB. The CISCO-SCAS-BB MIB is the part of the Service Control Enterprise MIB that enables the external management system to monitor counters and metrics specific to the Cisco Service Control Application for Broadband (SCA BB).

- [Information About SNMP Configuration and Management, page 6-1](#)
- [Information About the Service Control Enterprise MIB, page 6-2](#)
- [Information About the CISCO-SCAS-BB MIB, page 6-3](#)
- [Guidelines for Using the CISCO-SCAS-BB MIB, page 6-22](#)

Information About SNMP Configuration and Management

This section explains how to configure the SNMP interface, and how to load the MIB files.

- [Configuring the SNMP Interface on the SCE Platform, page 6-1](#)
- [Required MIB Files, page 6-2](#)
- [The Order to Load the MIB Files, page 6-2](#)

Configuring the SNMP Interface on the SCE Platform

Before using the SNMP interface:

- Enable SNMP access on the SCE platform (by default, SNMP access is disabled).
- Set the values of SNMP parameters:
 - The community string to be used for client authentication.
 - (Optional, recommended as a security measure) An access-list (ACL) of IP addresses. This limits access to SNMP information to a set of known locations. You can define a different community string for each ACL.
 - The destination IP address to which the SCE platform will send SNMP traps.

**Note**

You can enable or disable specific traps.

Related Info

For more information about SNMP configuration, see “SNMP Configuration and Management” in the “[Configuring the Management Interface and Security](#)” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

Required MIB Files

To access the SNMP variables on the SCE platform, you must load the SNMP browser with a standard MIB file (SNMPv2.mib) and proprietary Cisco MIB files (pcube.mib, pcubeSEMib.mib, and PCubeEngageMib.mib).

**Note**

You can download the CISCO-SCAS-BB MIB file (PCubeEngageMib.mib) and other MIB files (pcube.mib and pcubeSEMib.mib) from <ftp://ftp.cisco.com/pub/mibs/>.

The Order to Load the MIB Files

The SCA BB proprietary MIB uses definitions that are defined in other MIBs, such as SNMPv2.mib and pcube.mib.

This means that the order in which the MIBs are loaded is important; to avoid errors, the MIBs must be loaded in the correct order.

Load the MIBs in the following order:

1. SNMPv2.mib
2. pcube.mib
3. pcubeSEMib.mib
4. PCubeEngageMib.mib

Information About the Service Control Enterprise MIB

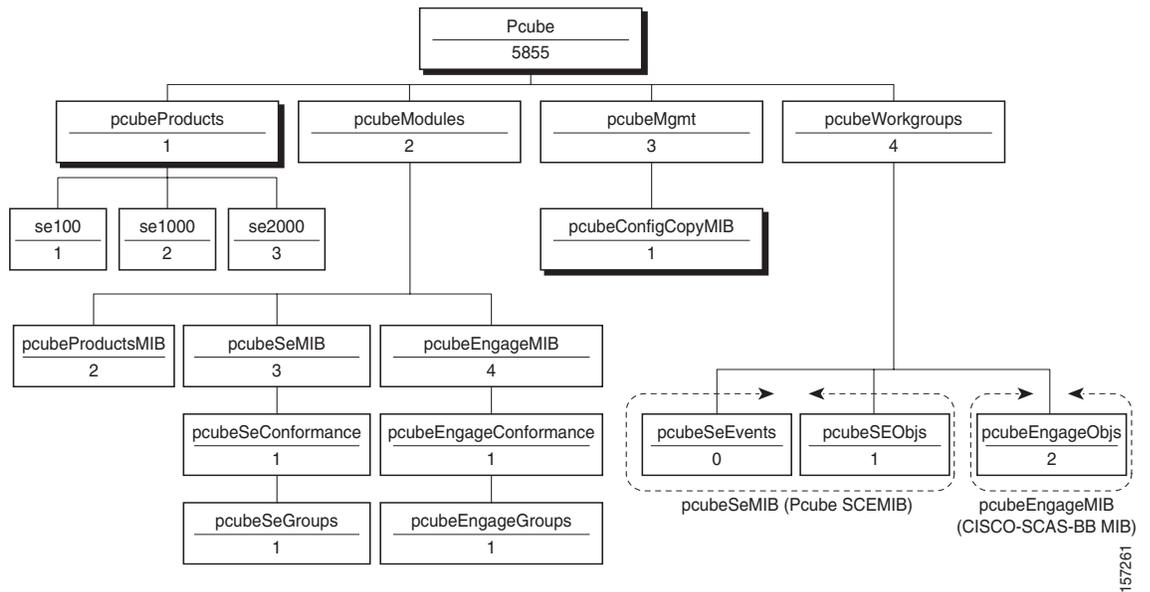
The Service Control Enterprise MIB includes four main groups: Products, Modules, Management, and Workgroup. The Service Control enterprise tree structure is defined in a MIB file named pcube.mib.

- The pcubeProducts subtree contains the sysObjectIDs of the Service Control products.
Service Control product sysObjectIDs are defined in a MIB file named Pcube-Products-MIB.
- The pcubeModules subtree provides a root object identifier from which MIB modules are defined.
- The pcubeMgmt subtree contains the configuration copy MIB:
 - pcubeConfigCopyMib enables saving the running configuration of Cisco products. This MIB is documented in the “[Proprietary MIB Reference](#)” appendix of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

- The pcubeWorkgroup subtree contains:
 - pcubeSeEvents and pcubeSEObjs — pcubeSeMib, the SCE MIB, is the main MIB for the Service Control products and provides a wide variety of configuration and runtime statistics. This MIB is also documented in the “Proprietary MIB Reference” appendix of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.
 - pcubeEngageObjs —The CISCO-SCAS-BB MIB provides configuration and runtime status for SCA BB, and is described in the following section.

Figure 6-1 illustrates the Service Control Enterprise MIB structure.

Figure 6-1 Service Control Enterprise MIB Structure



Note

The following object identifier represents the Service Control Enterprise MIB: **1.3.6.1.4.1.5655** or **iso.org.dod.internet.private.enterprise.pcube**.

Information About the CISCO-SCAS-BB MIB

The CISCO-SCAS-BB MIB provides access to service usage counters through the SNMP interface. Using this MIB, a network administrator can collect usage information per service at link, package, or subscriber granularity.

The CISCO-SCAS-BB MIB is defined in the file PCubeEngageMib.mib.

The MIB is documented in the remainder of this chapter.

- [Using this Reference, page 6-4](#)
- [pcubeEngageObjs \(pcubeWorkgroup 2\), page 6-4](#)

Using this Reference

This reference is divided into sections according to the MIB object groups. For each object, information is presented in the following format:

<Description of the object>

Access	access control associated with the object
Units	unit of measurement used for the object

Index

{Indexes used by the table}

Syntax

```
OBJECT DATA TYPE {
  The general format of the object
}
```

pcubeEngageObjs (pcubeWorkgroup 2)

The pcubeEngageObjs objects provide current information about packages, service, and subscribers.

- [pcubeEngageObjs Objects, page 6-4](#)
- [pcubeEngageObjs Structure, page 6-5](#)
- [Service Group: serviceGrp \(pcubeEngageObjs 1\), page 6-6](#)
- [Link Group: linkGrp \(pcubeEngageObjs 2\), page 6-6](#)
- [Package Group: packageGrp \(pcubeEngageObjs 3\), page 6-10](#)
- [Subscriber Group: subscriberGrp \(pcubeEngageObjs 4\), page 6-17](#)
- [Service Counter Group: serviceCounterGrp \(pcubeEngageObjs 5\), page 6-19](#)

pcubeEngageObjs Objects

This table lists the pcubeEngageObjs objects. Each object consists of a number of subordinate object types, which are summarized in the following section.

serviceGrp	{pcubeEngageObjs 1}
linkGrp	{pcubeEngageObjs 2}
packageGrp	{pcubeEngageObjs 3}
subscriberGrp	{pcubeEngageObjs 4}
serviceCounterGrp	{pcubeEngageObjs 5}

pcubeEngageObjs Structure

This is a summary of the structure of pcubeEngageObjs. Note the table structure for objects that may have multiple entries.

serviceGrp

serviceTable—deprecated

linkGrp

linkServiceUsageTable
linkServiceUsageEntry
 linkServiceUsageUpVolume
 linkServiceUsageDownVolume
 linkServiceUsageNumSessions
 linkServiceUsageDuration
 linkServiceUsageConcurrentSessions
 linkServiceUsageActiveSubscribers
 linkServiceUpDroppedPackets
 linkServiceDownDroppedPackets
 linkServiceUpDroppedBytes
 linkServiceDownDroppedBytes

packageGrp

packageCounterTable
packageCounterEntry
 packageCounterIndex
 packageCounterStatus
 packageCounterName
 packageCounterActiveSubscribers
packageServiceUsageTable
packageServiceUsageEntry
 packageServiceUsageUpVolume
 packageServiceUsageDownVolume
 packageServiceUsageNumSessions
 packageServiceUsageDuration
 packageServiceUsageConcurrentSessions
 packageServiceUsageActiveSubscribers
 packageServiceUpDroppedPackets
 packageServiceDownDroppedPackets
 packageServiceUpDroppedBytes
 packageServiceDownDroppedBytes

subscriberGrp

subscribersTable
subscriberEntry
 subscriberPackageIndex
subscriberServiceUsageTable
subscriberServiceUsageEntry
 subscriberServiceUsageUpVolume
 subscriberServiceUsageDownVolume
 subscriberServiceUsageNumSessions
 subscriberServiceUsageDuration

serviceCounterGrp

globalScopeServiceCounterTable
globalScopeServiceCounterEntry
 globalScopeServiceCounterIndex
 globalScopeServiceCounterStatus
 globalScopeServiceCounterName
subscriberScopeServiceCounterTable
subscriberScopeServiceCounterEntry
 subscriberScopeServiceCounterIndex
 subscriberScopeServiceCounterStatus
 subscriberScopeServiceCounterName

Service Group: serviceGrp (pcubeEngageObjs 1)

The Service group is deprecated. Use the Service Counter group.

serviceTable (serviceGrp 1)

Deprecated—Use the tables in the Service Counter group.

Access	not-accessible
--------	----------------

Syntax

Counter32

Link Group: linkGrp (pcubeEngageObjs 2)

The Link Service group provides usage information per link for each global-scope service usage counter (for example, traffic statistics of a service for all subscribers using a particular link).

- [linkServiceUsageTable \(linkGrp 1\)](#), page 6-6
- [linkServiceUsageEntry \(linkServiceUsageTable 1\)](#), page 6-7
- [linkServiceUsageUpVolume \(linkServiceUsageEntry 1\)](#), page 6-7
- [linkServiceUsageDownVolume \(linkServiceUsageEntry 2\)](#), page 6-7
- [linkServiceUsageNumSessions \(linkServiceUsageEntry 3\)](#), page 6-8
- [linkServiceUsageDuration \(linkServiceUsageEntry 4\)](#), page 6-8
- [linkServiceUsageConcurrentSessions \(linkServiceUsageEntry 5\)](#), page 6-8
- [linkServiceUsageActiveSubscribers \(linkServiceUsageEntry 6\)](#), page 6-8
- [linkServiceUpDroppedPackets \(linkServiceUsageEntry 7\)](#), page 6-9
- [linkServiceDownDroppedPackets \(linkServiceUsageEntry 8\)](#), page 6-9
- [linkServiceUpDroppedBytes \(linkServiceUsageEntry 9\)](#), page 6-9
- [linkServiceDownDroppedBytes \(linkServiceUsageEntry 10\)](#), page 6-10

linkServiceUsageTable (linkGrp 1)

The Link Service Usage table provides usage information per link for each global-scope service usage counter.

Access	not-accessible
--------	----------------

Syntax

SEQUENCE OF linkServiceUsageEntry

linkServiceUsageEntry (linkServiceUsageTable 1)

A Link Service Usage table entry containing parameters defining resource usage of one link for services included in one global-scope service usage counter.

Access	not-accessible
--------	----------------

Index

{linkModuleIndex, linkIndex, globalScopeServiceCounterIndex}

Syntax

```
SEQUENCE {
  linkServiceUsageUpVolume
  linkServiceUsageDownVolume
  linkServiceUsageNumSessions
  linkServiceUsageDuration
  linkServiceUsageConcurrentSessions
  linkServiceUsageActiveSubscribers
  linkServiceUpDroppedPackets
  linkServiceDownDroppedPackets
  linkServiceUpDroppedBytes
  linkServiceDownDroppedBytes
}
```

linkServiceUsageUpVolume (linkServiceUsageEntry 1)

The upstream volume of services in this service usage counter carried over the link.

Access	read-only
Units	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

linkServiceUsageDownVolume (linkServiceUsageEntry 2)

The downstream volume of services in this service usage counter carried over the link.

Access	read-only
Units	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

linkServiceUsageNumSessions (linkServiceUsageEntry 3)

The number of sessions of services in this service usage counter carried over the link.

Access	read-only
Units	sessions

Syntax

Counter32

linkServiceUsageDuration (linkServiceUsageEntry 4)

The aggregated session duration of services in this service usage counter carried over the link.

Access	read-only
Units	seconds

Syntax

Counter32

linkServiceUsageConcurrentSessions (linkServiceUsageEntry 5)

The number of concurrent sessions of services in this service usage counter carried over the link.

Access	read-only
Units	sessions

Syntax

Counter32

linkServiceUsageActiveSubscribers (linkServiceUsageEntry 6)

The number of active subscribers of services in this service usage counter carried over the link.

Access	read-only
Unit	subscribers

Syntax

Counter32

linkServiceUpDroppedPackets (linkServiceUsageEntry 7)

The number of dropped upstream packets of services in this service usage counter carried over the link.

Access	read-only
Units	packets

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value 0xFFFFFFFF. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

linkServiceDownDroppedPackets (linkServiceUsageEntry 8)

The number of dropped downstream packets of services in this service usage counter carried over the link.

Access	read-only
Units	packets

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value 0xFFFFFFFF. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

linkServiceUpDroppedBytes (linkServiceUsageEntry 9)

The number of dropped upstream bytes of services in this service usage counter carried over the link.

Access	read-only
Units	bytes

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value `0xFFFFFFFF`. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

linkServiceDownDroppedBytes (linkServiceUsageEntry 10)

The link service-counter number of dropped downstream bytes of services in this service usage counter carried over the link.

Access	read-only
Units	bytes

Syntax**Counter32****Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value `0xFFFFFFFF`. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

Package Group: packageGrp (pcubeEngageObjs 3)

The Package group provides general and usage information for each global-scope package usage counter (for example, traffic statistics of a service for all subscribers assigned to a particular package or group of packages).

- [packageCounterTable \(packageGrp 1\)](#), page 6-11
- [packageCounterEntry \(packageCounterTable 1\)](#), page 6-11
- [packageCounterIndex \(packageCounterEntry 1\)](#), page 6-11
- [packageCounterStatus \(packageCounterEntry 2\)](#), page 6-12
- [packageCounterName \(packageCounterEntry 3\)](#), page 6-12
- [packageCounterActiveSubscribers \(packageCounterEntry 4\)](#), page 6-12
- [packageServiceUsageTable \(packageGrp 2\)](#), page 6-12
- [packageServiceUsageEntry \(packageServiceUsageTable 1\)](#), page 6-13
- [packageServiceUsageUpVolume \(packageServiceUsageEntry 1\)](#), page 6-13
- [packageServiceUsageDownVolume \(packageServiceUsageEntry 2\)](#), page 6-13
- [packageServiceUsageNumSessions \(packageServiceUsageEntry 3\)](#), page 6-14
- [packageServiceUsageDuration \(packageServiceUsageEntry 4\)](#), page 6-14
- [packageServiceUsageConcurrentSessions \(packageServiceUsageEntry 5\)](#), page 6-14

- [packageServiceUsageActiveSubscribers](#) ([packageServiceUsageEntry 6](#)), page 6-14
- [packageServiceUpDroppedPackets](#) ([packageServiceUsageEntry 7](#)), page 6-15
- [packageServiceDownDroppedPackets](#) ([packageServiceUsageEntry 8](#)), page 6-15
- [packageServiceUpDroppedBytes](#) ([packageServiceUsageEntry 9](#)), page 6-16
- [packageServiceDownDroppedBytes](#) ([packageServiceUsageEntry 10](#)), page 6-16

packageCounterTable (packageGrp 1)

The Package Counter table provides information for each package usage counter.

Access	not-accessible
--------	----------------

Syntax

SEQUENCE OF `packageCounterEntry`

packageCounterEntry (packageCounterTable 1)

A Package Counter table entry containing parameters defining one package usage counter.

Access	not-accessible
--------	----------------

Index

{`pmoduleIndex`, `packageCounterIndex`}

Syntax

```
SEQUENCE {
  packageCounterIndex
  packageCounterStatus
  packageCounterName
  packageCounterActiveSubscribers
}
```

packageCounterIndex (packageCounterEntry 1)

The package usage counter index.

Access	not-accessible
--------	----------------

Syntax

Integer32 (1...1023)

packageCounterStatus (packageCounterEntry 2)

The package usage counter status.

Access	read-only
--------	-----------

Syntax
INTEGER {
 0 (*disabled*)
 1 (*enabled*)
 }

packageCounterName (packageCounterEntry 3)

The name of the package usage counter.

Access	read-only
--------	-----------

Syntax

SnmpAdminString

packageCounterActiveSubscribers (packageCounterEntry 4)

The total number of active subscribers of packages included in the package usage counter.

Access	read-only
--------	-----------

Syntax

Counter32

packageServiceUsageTable (packageGrp 2)

The Package Service Usage table provides usage information for each global-scope package usage counter.

Access	not-accessible
--------	----------------

Syntax

SEQUENCE OF packageServiceUsageEntry

packageServiceUsageEntry (packageServiceUsageTable 1)

A Package Service Usage table entry containing parameters defining resource usage of packages included in one global-scope package usage counter.

Access	not-accessible
--------	----------------

Index

{pmoduleIndex, packageCounterIndex, globalScopeServiceCounterIndex}

Syntax

```
SEQUENCE {
    packageServiceUsageUpVolume
    packageServiceUsageDownVolume
    packageServiceUsageNumSessions
    packageServiceUsageDuration
    packageServiceUsageConcurrentSessions
    packageServiceUsageActiveSubscribers
    packageServiceUpDroppedPackets
    packageServiceDownDroppedPackets
    packageServiceUpDroppedBytes
    packageServiceDownDroppedBytes
}
```

packageServiceUsageUpVolume (packageServiceUsageEntry 1)

The upstream volume of packages in this package usage counter.

Access	read-only
Units	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

packageServiceUsageDownVolume (packageServiceUsageEntry 2)

The downstream volume of packages in this package usage counter.

Access	read-only
Units	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

packageServiceUsageNumSessions (packageServiceUsageEntry 3)

The number of sessions of packages in this package usage counter.

Access	read-only
Units	sessions

Syntax

Counter32

packageServiceUsageDuration (packageServiceUsageEntry 4)

The aggregated session duration seconds of packages in this package usage counter.

Access	read-only
Units	seconds

Syntax

Counter32

packageServiceUsageConcurrentSessions (packageServiceUsageEntry 5)

The number of concurrent sessions of packages in this package usage counter.

Access	read-only
Units	sessions

Syntax

Counter32

packageServiceUsageActiveSubscribers (packageServiceUsageEntry 6)

The number of active subscribers of packages in this package usage counter.

Access	read-only
Units	subscribers

Syntax

Counter32

packageServiceUpDroppedPackets (packageServiceUsageEntry 7)

The number of dropped upstream packets of packages in this package usage counter.

Access	read-only
Units	packets

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value 0xFFFFFFFF. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

packageServiceDownDroppedPackets (packageServiceUsageEntry 8)

The number of dropped downstream packets of packages in this package usage counter.

Access	read-only
Units	packets

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value 0xFFFFFFFF. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

packageServiceUpDroppedBytes (packageServiceUsageEntry 9)

The number of dropped upstream bytes of packages in this package usage counter.

Access	read-only
Units	bytes

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value `0xFFFFFFFF`. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

packageServiceDownDroppedBytes (packageServiceUsageEntry 10)

The number of dropped downstream bytes of packages in this package usage counter.

Access	read-only
Units	bytes

Syntax

Counter32

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the `accelerate-packet-drops` feature on the SCE platform; if `accelerate-packet-drops` is enabled, the MIB dropped packets and dropped bytes counters constantly show the value `0xFFFFFFFF`. For more information about the `accelerate-packet-drops` feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

Subscriber Group: subscriberGrp (pcubeEngageObjs 4)

The Subscriber group provides general information for each subscriber and usage information per service usage counter for each subscriber (for example, traffic statistics of a service for a particular subscriber defined in the system).



Note

To use the tables in this group, first create an entry to reference a particular subscriber in the subscribersPropertiesValueTable object of the subscriberGrp in the SCE MIB (not the CISCO-SCAS-BB MIB). Using the index of this table (spvIndex), information about the subscriber can be collected. For more information about how to access subscriber-level information using the SNMP interface, see [Accessing Subscriber Information \(the spvIndex\)](#), page 6-23.

- [subscribersTable \(subscriberGrp 1\)](#), page 6-17
- [subscribersEntry \(subscribersTable 1\)](#), page 6-17
- [subscriberPackageIndex \(subscribersEntry 1\)](#), page 6-18
- [subscriberServiceUsageTable \(subscriberGrp 2\)](#), page 6-18
- [subscriberServiceUsageEntry \(subscriberServiceUsageTable 1\)](#), page 6-18
- [subscriberServiceUsageUpVolume \(subscriberServiceUsageEntry 1\)](#), page 6-18
- [subscriberServiceUsageDownVolume \(subscriberServiceUsageEntry 2\)](#), page 6-19
- [subscriberServiceUsageNumSessions \(subscriberServiceUsageEntry 3\)](#), page 6-19
- [subscriberServiceUsageDuration \(subscriberServiceUsageEntry 4\)](#), page 6-19

subscribersTable (subscriberGrp 1)

The Subscribers Table provides information for each subscriber.

Access	not-accessible
--------	----------------

Syntax

SEQUENCE OF subscribersEntry

subscribersEntry (subscribersTable 1)

A Subscribers Table entry containing the package index of each subscriber.

Access	not-accessible
--------	----------------

Index

{pmoduleIndex, spvIndex}

Syntax

```
SEQUENCE {
  subscriberPackageIndex
}
```

subscriberPackageIndex (subscribersEntry 1)

The package index of the subscriber's package.

Access	read-only
--------	-----------

Syntax

Integer32 (1...255)

subscriberServiceUsageTable (subscriberGrp 2)

The Subscriber Service Usage table provides usage information per service usage counter for each subscriber.

Access	not-accessible
--------	----------------

Syntax

Sequence of subscriberServiceUsageEntry

subscriberServiceUsageEntry (subscriberServiceUsageTable 1)

A Subscriber Service Usage table entry containing parameters defining resource usage by one subscriber of services included in one service usage counter.

Access	not-accessible
--------	----------------

Index

{pmoduleIndex, spvIndex, subscriberScopeServiceCounterIndex}

Syntax

```
SEQUENCE {
  subscriberServiceUsageUpVolume
  subscriberServiceUsageDownVolume
  subscriberServiceUsageNumSessions
  subscriberServiceUsageDuration
}
```

subscriberServiceUsageUpVolume (subscriberServiceUsageEntry 1)

The upstream volume of services in this service usage counter used by this subscriber.

Access	read-only
Unit	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

subscriberServiceUsageDownVolume (subscriberServiceUsageEntry 2)

The downstream volume of services in this service usage counter used by this subscriber.

Access	read-only
Unit	kilobytes

Syntax

Counter32

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

subscriberServiceUsageNumSessions (subscriberServiceUsageEntry 3)

The number of sessions of services in this service usage counter used by this subscriber.

Access	read-only
Unit	sessions

Syntax

Integer32 (1...65535)

subscriberServiceUsageDuration (subscriberServiceUsageEntry 4)

Aggregated session duration of services in this service usage counter used by this subscriber.

Access	read-only
Units	seconds

Syntax

Integer32 (1...65535)

Service Counter Group: serviceCounterGrp (pcubeEngageObjs 5)

The Service Counter group provides general information for each global-scope and subscriber-scope service usage counter. You can use it, for example, to read the names of the services as defined in a SCA BB service configuration.

- [globalScopeServiceCounterTable \(serviceCounterGrp 1\)](#), page 6-20
- [globalScopeServiceCounterEntry \(globalScopeServiceCounterTable 1\)](#), page 6-20
- [globalScopeServiceCounterIndex \(globalScopeServiceCounterEntry 1\)](#), page 6-20
- [globalScopeServiceCounterStatus \(globalScopeServiceCounterEntry 2\)](#), page 6-21
- [globalScopeServiceCounterName \(globalScopeServiceCounterEntry 3\)](#), page 6-21
- [subscriberScopeServiceCounterTable \(serviceCounterGrp 2\)](#), page 6-21

- [subscriberScopeServiceCounterEntry](#) ([subscriberScopeServiceCounterTable 1](#)), page 6-21
- [subscriberScopeServiceCounterIndex](#) ([subscriberScopeServiceCounterEntry 1](#)), page 6-22
- [subscriberScopeServiceCounterStatus](#) ([subscriberScopeServiceCounterEntry 2](#)), page 6-22
- [subscriberScopeServiceCounterName](#) ([subscriberScopeServiceCounterEntry 3](#)), page 6-22

globalScopeServiceCounterTable (serviceCounterGrp 1)

The Global-Scope Service Counter table consists of data about each service usage counter used by the link and by packages.

Access	not-accessible
--------	----------------

Syntax

SEQUENCE OF globalScopeServiceCounterEntry

globalScopeServiceCounterEntry (globalScopeServiceCounterTable 1)

A Global-Scope Service Counter table entry containing parameters defining one global-scope service usage counter.

Access	not-accessible
--------	----------------

Index

{pmoduleIndex, globalScopeServiceCounterIndex}

Syntax

```
SEQUENCE {
    globalScopeServiceCounterIndex
    globalScopeServiceCounterStatus
    globalScopeServiceCounterName
}
```

globalScopeServiceCounterIndex (globalScopeServiceCounterEntry 1)

The global-scope service usage counter index.

Access	not-accessible
--------	----------------

Syntax

Integer32 (1...255)

globalScopeServiceCounterStatus (globalScopeServiceCounterEntry 2)

The global-scope service usage counter status.

Access	read-only
--------	-----------

Syntax

```
INTEGER {
  0 (disabled)
  1 (enabled)
}
```

globalScopeServiceCounterName (globalScopeServiceCounterEntry 3)

The name of the global-scope service usage counter.

Access	read-only
--------	-----------

Syntax

```
SnmpAdminString
```

subscriberScopeServiceCounterTable (serviceCounterGrp 2)

The Subscriber-Scope Service Counter table consists of data about each service usage counter used by subscribers.

Access	not-accessible
--------	----------------

Syntax

```
SEQUENCE OF subscriberScopeServiceCounterEntry
```

subscriberScopeServiceCounterEntry (subscriberScopeServiceCounterTable 1)

A Subscriber-Scope Service Counter table entry containing parameters defining one subscriber-scope service usage counter.

Access	not-accessible
--------	----------------

Index

```
{pmoduleIndex, subscriberScopeServiceCounterIndex}
```

Syntax

```
SEQUENCE {
  subscriberScopeServiceCounterIndex
  subscriberScopeServiceCounterStatus
  subscriberScopeServiceCounterName
}
```

subscriberScopeServiceCounterIndex (subscriberScopeServiceCounterEntry 1)

The subscriber-scope service usage counter index.

Access	not-accessible
--------	----------------

Syntax

Integer32 (1...255)

subscriberScopeServiceCounterStatus (subscriberScopeServiceCounterEntry 2)

The subscriber-scope service usage counter status.

Access	read-only
--------	-----------

Syntax

```
INTEGER {
  0 (disabled)
  1 (enabled)
}
```

subscriberScopeServiceCounterName (subscriberScopeServiceCounterEntry 3)

The name of the subscriber-scope service usage counter.

Access	read-only
--------	-----------

Syntax

SnmpAdminString

Guidelines for Using the CISCO-SCAS-BB MIB

This section provides guidelines to help access SNMP information about the SCE platform using the CISCO-SCAS-BB MIB.

**Note**

Indices in SNMP start from 1; SCA BB indices start from 0. When accessing a counter in the SCA BB SNMP MIB by its index, add 1 to the index of the entity. For example, the global usage counter with index 0 will be located at globalScopeServiceCounter index 1.

**Note**

Although volume counters on the SCE platform hold 32-bit integers, CISCO-SCAS-BB MIB volume counters wraparound (turn back to zero) when the maximum 29-bit integer value (0x1FFFFFFF) is reached.

**Note**

To enable the SCE application to count dropped packets and dropped bytes, disable the **accelerate-packet-drops** feature on the SCE platform; if **accelerate-packet-drops** is enabled, the MIB dropped packets and dropped bytes counters constantly show the value 0xFFFFFFFF. For more information about the accelerate-packet-drops feature, see “Counting Dropped Packets” in the “Configuring the Line Interface” chapter of the *Cisco Service Control Engine (SCE) Software Configuration Guide*.

- [globalScopeServiceCounterTable](#) and [subscriberScopeServiceCounterTable](#), page 6-23
- [packageCounterTable](#), page 6-23
- [Accessing Subscriber Information \(the spvIndex\)](#), page 6-23

globalScopeServiceCounterTable and subscriberScopeServiceCounterTable

The index of a service usage counter as defined in a SCA BB service configuration is used to reference services in the CISCO-SCAS-BB MIB. Since MIB index values count from 1, but SCA BB indices count from 0, the index used in the MIB must always be one greater than the index of the service it is referencing.

For example, to get the number of upstream bytes used by a service on a link, use **LinkServiceTable.LinkServiceUpVolume** (part of the **linkGrp**). The value assigned to **serviceIndex** for this table must be one greater than service index defined for this service in the service configuration.

To identify or change the index of a service, go to the Advanced tab of the Service Settings dialog box in the SCA BB Console (see the “Using the Service Configuration Editor: Traffic Classification” chapter of the *Cisco Service Control Application for Broadband User Guide*). For example, to reference the P2P service (which has a (default) service index of 9) in the MIB, a **serviceIndex** of 10 (= 9 + 1) must be used.

packageCounterTable

The package index, defined in a SCA BB service configuration, is used to reference entries in **packageTable** and **packageServiceTable** (part of the **packageGrp**). As with serviceIndex the value assigned to **packageIndex** must be one greater than the package index in the service configuration.

To identify or change the index of a package, go to the Advanced tab of the Package Settings dialog box in the SCA BB Console (see the “Using the Service Configuration Editor: Traffic Control” chapter of the *Cisco Service Control Application for Broadband User Guide*). For example, to reference the default package (which has a package index of 0) in the MIB, a **packageIndex** of 1 (= 0 + 1) must be used.

Accessing Subscriber Information (the spvIndex)

In order to collect subscriber-level information using the SNMP interface, you must first create an entry in the `subscriberPropertiesValuesTable` part of the `subscriberGrp` in `pcubeSEMib` (not `PCubeEngageMib`). After an entry in this table is created and associated with a subscriber name, its index (`spvIndex`) can be referred to in `PCubeEngageMib` to collect usage statistics for this subscriber.

An entry is created in the `subscriberPropertiesValuesTable` table by setting the entry `spvRowStatus` object with `CreateAndGo(4)` then setting the name of the subscriber in the `spvSubName` property and the `spvIndex` variable to be used as an index to the subscriber.

The following procedure demonstrates how to poll the downstream volume of subscriber “sub123” for the P2P service using PCubeEngageMib.

-
- Step 1** Obtain the index of the P2P service from the SCA BB Console.
- This is a one-time operation that you should perform only if services are changed in the service configuration. [In this example, assume that the P2P service index has its default value of 9.]
- Step 2** Create an entry in `SEMib:subscriberGrp:subscriberPropertiesValuesTable`.
- Step 3** Set the object indices.
- For `pmoduleIndex` use 1.
 - Set `spvIndex` to the desired value. [In this example we will use 1.]
- Step 4** Set `spvRowStatus` to 4 (using **CreateAndGo**).
- Step 5** Set `spvSubName` to “sub123”.
- Step 6** Read the `subscriberServiceDownVolume` property out of `EngageMib:subscriberGrp:subscriberServiceTable` where `spvIndex` is set to 1 and `serviceIndex` is set to 10.
-