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CIC and SNMP

Technical Reference

Abstract

This document contains information regarding the implementation, configuration, and usage of Simple Network Management Protocol (SNMP) in a Customer Interaction Center environment.

For the latest version of this document, see the PureConnect Documentation Library at: <http://help.genesys.com/cic>.

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SNMP overview

Simple Network Management Protocol (SNMP) is a standard for monitoring network systems, such as servers, switches, routers, and other network-based devices without requiring physical interaction with the device.

SNMP requires a network management system (NMS) to receive alerts (traps) and to request status messages from the network devices. Using SNMP, you can monitor multiple network devices and react quickly to conditions, problems, or outages with those devices. There are many commercial and open-source NMS products available.

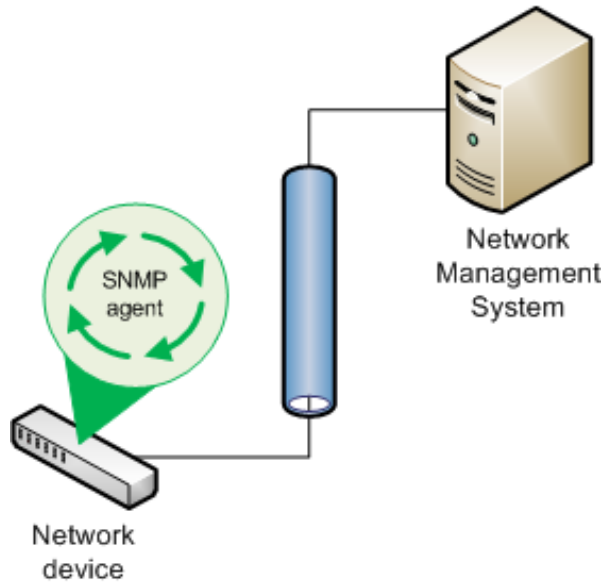
SNMP standards

PureConnect products and the PureConnect SNMP service support SNMPv2c and SNMPv3. The PureConnect SNMP service also supports SNMP agents that use the SNMPv1, SNMPv2, and SNMPv3 standards.

SNMP components

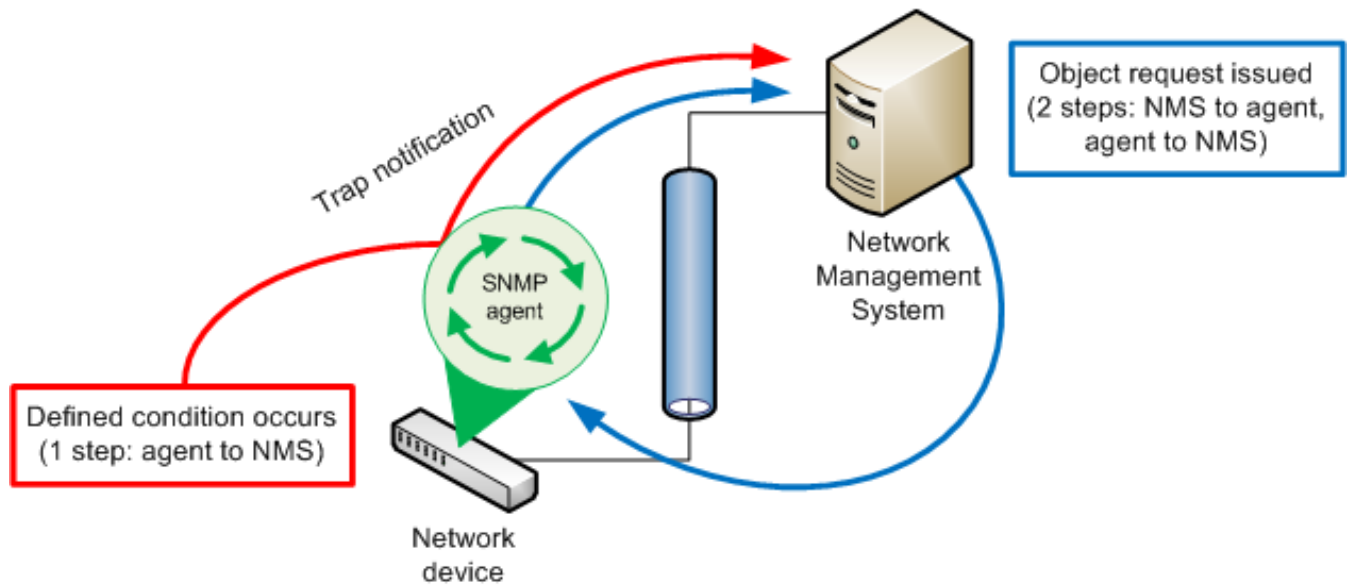
Simple Network Management Protocol (SNMP) requires the following components:

- Host device with a network connection and one or more Management Information Base (MIB) files
- SNMP agent service on host device
- Network
- Network Management System (NMS)



SNMP messages

There are two types of Simplified Network Messaging Protocol (SNMP) messages: requests and traps.



SNMP requests are issued from a Network Management System (NMS) to an SNMP agent service on a host network device. The request can be a query for status of a particular object, as defined in a Management Information Base (MIB) file, of the host network device. A request can also be a command to set a variable, such as a specific value for an object defined in a MIB file. When the request is received, the SNMP agent responds with a message to the NMS that sent the request.

SNMP traps are unsolicited messages from the network device to the NMS. When a monitored condition on the network device reaches a specific value, as defined in a MIB file on the host device, the SNMP agent sends the trap to the NMS.

SNMP network details

The following table provides specific details regarding Simple Network Management Protocol (SNMP) network communications:

Transport layer protocols	The SNMPv2c and SNMPv3 standards support the following network transport layer protocols: • UDP • TLS
Network port numbers	The SNMPv2c and SNMPv3 standards use the following default network port numbers for the specified transport layer protocols: UDP • 161 - SNMP requests • 162 - SNMP traps TLS • 10161 - SNMP requests • 10162 - SNMP traps

Note:
The PureConnect SNMP service (ININ SNMP) does not support TLS.

SNMP Protocol Data Units

The Simple Network Management Protocol v2c (SNMPv2c) and v3 (SNMPv3) standards use protocol data units (PDUs) to contain messages between Network Management Systems (NMSs) and SNMP agents. The following table lists each available message type in the standard and a description.

Message	Description
GetRequest	An NMS sends a GetRequest message to an SNMP agent to request data from one or more variables on the target network device. The SNMP agent returns a Response message with the current data of the requested variables.
SetRequest	An NMS sends a SetRequest message to an SNMP agent to set values for one or more variables on the target network device. The SNMP agent returns a Response message with the current data of the requested variables for validation.
GetNextRequest	An NMS sends a GetNextRequest message to an SNMP agent to query for the next defined variable on the target network device. The SNMP agent returns a Response message with the next defined variable and its current value.
GetBulkRequest	An NMS sends a GetBulkRequest message to an SNMP agent to request data from multiple variables on the target network device. The SNMP agent returns a Response message with the current data of the requested variables. This optimized variation of the GetNextRequest message was introduced in SNMPv2.
Response	An SNMP agent sends a Response message to an NMS after being prompted by a request message from that NMS. The Response message normally contains variable bindings or errors
Trap	An SNMP agent sends an unsolicited Trap message to an NSM when an object defined in the MIB file on a host network device meets or exceeds a specific value.
InformRequest	The InformRequest message can be sent by either SNMP agents or NMSs. Since SNMP typically uses the UDP transport layer protocol, which does not use receipt confirmation messages, the InformRequest message was created to provide receipt confirmation, especially for Trap messages.

SNMP glossary

Simple Network Management Protocol (SNMP) uses specific terms and phrases to describe different aspects in the monitoring of network devices. The following table contains some of these items and the associated definitions:

Agent

A software service that resides and runs on a network device. This service monitors objects defined through one or more Management Information Base (MIB) files on the host system. The SNMP agent can send unsolicited trap messages to one or more Network Management Systems (NMSs) and respond to SNMP request messages with host device information.

Authentication protocol

A method of validating SNMPv3 messages.

Community

A string of characters that represents a group of SNMP-enabled network devices. Only Network Management Systems (NMSs) and SNMP agents that use the same SNMP community name can communicate with each other. Most SNMP agents support multiple community names, which allow the SNMP agents to receive SNMP requests from multiple NMSs.

The SNMPv1 and SNMPv2c standards support SNMP communities as a method of authorization.

SNMPv3 uses User-based Security Model (USM) for authentication and encryption. USM uses *user* and *password* for authentication, not a community name. While a community name is not required, supplying one allows communication with systems that use the earlier versions of SNMP.

Destination

The address of a Network Management System (NMS). The format of the address, such as IP address or fully-qualified domain name (FQDN), is dependent on the application in which you configure the destination.

An SNMP agent can send traps to one or more destinations.

Management Information Base (MIB)

A text file, in a specific format, that defines the information available in the host network device.

The format for MIB files is defined by Structure of Management Information, version 2 (SMIv2), which is included in [RFC 2578](#).

Genesys has registered its own, unique SNMP MIB object:

interintelli(2793)

Objects in MIB files that are created by PureConnect are listed under the following object ID (OID):

.1.3.6.1.4.1.2793

Objects in MIB files from other sources use different OIDs. For example, MIBs such as `aus.mib`, `HOST-RESOURCES-MIB.mib`, and `lmmib2.mib`, which are common on host servers, are not created by Genesys and the objects contained within are not members under the .1.3.6.1.4.1.2793 OID.

Manager

See *Network Management System*.

Network device

A piece of computerized equipment that is connected to a network.

Examples of network devices that commonly use SNMP are servers, routers, switches, IP telephones, VoIP gateways, and printers.

Network Management System (NMS)

Also known as an SNMP manager, a network management system communicates with network devices through the SNMP protocol. An NMS can request status information for one or more variables defined in a MIB located on the network device. An NMS also receives unsolicited *traps* that are also defined in a MIB from SNMP network devices.

Object Identifier (OID)

Standard: [section 3.1 in RFC1155](#). Every object in a MIB file is assigned an OID. It is through OIDs that SNMP agents and Network Management Systems (NMSs) communicate variable bindings, such as the current amount of free hard drive

space.

Privacy protocol

A method of encrypting and decrypting SNMPv3 messages.

Protocol Data Units (PDU)

The format of an SNMP message. SNMP PDUs contain the following information:

- IP header
- UDP header
- version
- community
- PDU-type
- request-id
- error-status
- error-index
- variable bindings

For information about the messages that can be sent or received through SNMP, see [SNMP messages](#).

Request

A message that a Network Management System (NMS) sends to an SNMP agent. This message requests that the SNMP agent send status information about a specific variable to the NMS.

Traps

Unsolicited messages that an SNMP agent sends to a Network Management System (NMS) as specified in a destination address.

SNMP agents send trap messages when variables, as defined in Management Information Base (MIB) files on the network devices, meet a specific criterion, such as a lack of free hard drive space.

User

The identifier used in conjunction with a password to authenticate SNMPv3 messages.

Variable bindings

An object and one or more values as defined in a Management Information Base (MIB) file.

Each object has a unique object identifier (OID). Within an object, a MIB file can contain one or more values. The pairing of an object and the value is a variable binding.

For example, a MIB file may define an object for free storage space and includes the values of 20%, 10%, and 5%. The SNMP agent on the host network device sends a trap message when the free storage space of the network device reaches each of those defined thresholds.

Variable bindings do not apply only to trap messages. Some MIB files enable a Network Management System (NMS) to set values for an object through variable bindings as well.

Variables

One or more values assigned to an object in a Management Information Base (MIB) file.

Walk

A term that describes the process of a Network Management System (NMS) submitting a succession of `GetNext` SNMP requests to an SNMP agent on a network device. Usually, the succession of requests continues until the end of defined objects in a Management Information Base (MIB) file on the host network device.

Some operating systems contain an `snmpwalk` command that you can use to request data from an SNMP agent on a network device. Most NMS products also provide this functionality.

SNMP and Customer Interaction Center

Customer Interaction Center and its subsystem products use SNMPv2c, SNMPv3, and proprietary protocols for real-time management and reporting of resources on host network devices, such as servers.

Mechanism	Type	Areas of responsibility
Simple Network Management Protocol (SNMP)	Real-time	Hardware: • Status of components in a networked device • Capacities • Configured thresholds • Current utilization
Notifier/Remoco	Real-time	Hardware, software, and contact center interactions: • Errors • Warnings • Information • Status • Current utilization Some Customer Interaction Center subsystem products, such as Interaction Media Server and Interaction Dialer, send errors and events to the Windows Event Log on the Customer Interaction Center server through the Notifier protocol.
Windows Event Log	Historical	Hardware and software Errors and problems encountered by the Windows operating system and other installed software. Some Customer Interaction Center subsystem products, such as Interaction Media Server, send errors and events to the Windows Event Log on the Customer Interaction Center server through the Notifier protocol.
Product-specific log files	Historical	Various errors, problems, and events recorded by software to one or more files on the host device. For some Customer Interaction Center subsystem products, the amount of data

Customer Interaction Center products that support SNMP

Product	Supported SNMP services
Customer Interaction Center server	PureConnect SNMP (through Remoco)
Interaction Media Server	PureConnect SNMP
Interaction SIP Proxy	PureConnect SNMP
Interaction Edge	Embedded SNMPv2c agent
Interaction Gateway	Embedded SNMPv2c agent
Session Manager	PureConnect SNMP
Interaction Recorder	PureConnect SNMP

SNMP requirements for Customer Interaction Center products

- Ensure that Microsoft Windows **SNMP Service** is installed but disabled.
- Using the **Services** control panel, ensure that the following services are set correctly:
 - The **ININ SNMP** service is set to start automatically.
 - The Microsoft Windows **SNMP Service** is disabled.
- Ensure that all firewalls and network nodes between the host network device and the Network Management System (NMS) allow communications through the necessary protocols and ports. By default, the SNMP ports are UDP 161 and UDP 162.

For more information on the protocols and ports used for SNMP, see [SNMP network details](#).

- Ensure that Domain Name Service (DNS) servers are properly configured so that communications between SNMP entities, such as agents and NMSs, reach the intended targets through fully-qualified domain names (FQDN).
- Ensure that the SNMP entities, such as agents and NMSs, are configured to communicate within the same sub-network (subnet).

PureConnect SNMP service

Genesys has developed an SNMP service (ININ SNMP) that provides more control and capabilities with SNMP. For CIC products that include the ININ SNMP service, the installation disables the Windows SNMP service (**SNMP Service** in **Control Panel > Services**). Upon startup, the ININ SNMP service reads all configuration settings for the Windows SNMP service, including accepted communities, registered MIB extension agents, and trap destinations, and binds to the default SNMP port 161.

Important!

Do not enable the Windows SNMP service while ININ SNMP is enabled as it will create a conflict for port 161.

Leaving the Windows SNMP service installed but disabled also provides the following benefits for ININ SNMP:

- Enables new registrations of any MIB extension agents
- Enables editing of configuration settings through the Microsoft Windows **SNMP Service Properties** dialog box

Functionality of the PureConnect SNMP service

The ININ SNMP service functions as a master agent or agent registry. For CIC and its subsystems, the ININ SNMP service is the default SNMP service. It disables the Windows SNMP Service during installation or an update and binds to UDP port 161, which is the default SNMP port. The ININ SNMP service receives all SNMP requests and pass subrequests to any SNMP subagents that have registered with it (or Windows SNMP Service, previously).

All CIC products that use SNMP register as subagents with the ININ SNMP service and provide variable bindings to their included Management Information Base (MIB) files, such as those installed with the CIC server, Interaction Media Server, and Interaction SIP Proxy.

Note:

The Windows **SNMP Trap** service listens for trap messages from remote network entities on UDP port 162. The **SNMP Trap** service is not associated with any SNMP activities that originate on the host computer. The ININ SNMP service is not dependent on or connected to the **SNMP Trap** service in any way.

Customer Interaction Center products that use the PureConnect SNMP service

The PureConnect SNMP agent service is installed with the following Customer Interaction Center (CIC) products:

- Customer Interaction Center server
- Interaction Media Server
- Interaction SIP Proxy
- Session Manager
- Interaction Recorder

Supported SNMP features

- Agent mode for all SNMP versions
- Manager mode for all SNMP versions
- User-based Security Model (USM) ([RFC 3414](#)), except for the HMAC-MD5-96 authentication protocol
- SNMPv3 user management through command line utility

Unsupported SNMP features

- View-based Access Control Model (VACM) ([RFC 3415](#))
- SNMP-FRAMEWORK-MIB definitions ([RFC 3411, section 5](#))
- usmUserTable of the SNMP-USER-BASED-SM-MIB ([RFC 3414, section 5](#))
- Transport Security Model (TSM) ([RFC 5591](#))
- Extended Security Options ([ESO](#))
- Discovery ([RFC 5343](#))
- SNMPv3 authentication protocols:
 - HMAC-MD5-96
 - HMAC-SHA-2
- The snmpSetSerialNo object in the SNMP MIB defined in [RFC 3418](#).
- SNMP MUX protocol and MIB ([RFC 1227](#))
- Agent Extensibility Protocol (AgentX) ([RFC 2741](#))
- SNMP over TCP ([RFC 3430](#))
- SNMP proxying ([RFC 2273](#), [RFC 2573](#), [RFC 3413](#))
- API for Manager or Agent mode for issuing and receiving responses for InformRequest style messages.

Configure SNMP for CIC products and subsystems

Note: If you purchased a packaged server from Genesys, The ININ SNMP service is already installed.

This section contains the following topics:

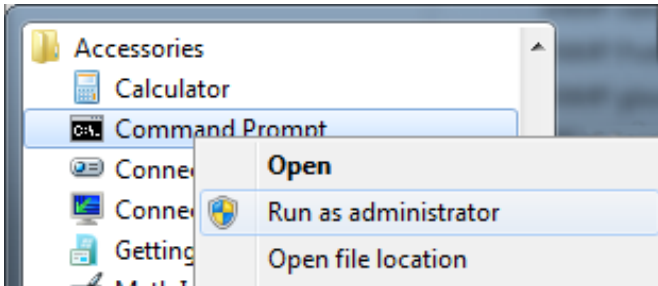
- [Configure PureConnect SNMP service through the command line utility](#)
- [Configure ININ SNMP v2c settings through SNMP Service Properties dialog box](#)
- [Install MIB files on Customer Interaction Center](#)
- [Configure SNMP in Customer Interaction Center products](#)
- [Customer Interaction Center server parameters for SNMP](#)
- [Customer Interaction Center handlers for SNMP, Notifier, or Remoco](#)

Configure PureConnect SNMP service through the command line utility

Important!

You can configure SNMPv3 settings only through the PureConnect SNMP command line utility. For SNMPv2c settings, you can use either the PureConnect SNMP command line utility or the **SNMP Service Properties** dialog box.

1. On the Windows server hosting a CIC product and the PureConnect SNMP service, open a command prompt window as administrator.



2. Use the `cd` command in the command prompt window to navigate to the `ININ SNMP` subdirectory:

CIC product	Default PureConnect SNMP service directory
Interaction Media Server	C:\Program Files (x86)\PureConnect\ININ SNMP
Interaction SIP Proxy	C:\Program Files (x86)\PureConnect\ININ SNMP
CIC server	D:\I3\IC\ININ SNMP\

Examples:

```
cd "C:\Program Files (x86)\PureConnect\ININ SNMP"
```

```
cd "D:\I3\IC\ININ SNMP"
```

3. Enter the following command and press the `Enter` key:

```
ininsnmpconfig-w32r.exe
```

The command prompt window displays the following output and changes the prompt to `ININ SNMP>`.

```
ININ SNMP Configuration
Connecting to ININ SNMP...Connected
ININ SNMP>
```

The `ININ SNMP>` prompt indicates that the PureConnect SNMP service is in configuration mode.

Tip:

You can enter `h` or `?` at the `ININ SNMP>` prompt and then press the `Enter` key to see a list of commands.

4. At the `ININ SNMP>` command prompt, configure the PureConnect SNMP service by entering the following command with the specified switches and necessary parameter values, and pressing the `Enter` key.

```
ININ SNMP>setup --posture param1 --authmethod param2 --authpassword param3 --engineid param4
```

posture values

param1 represents a secure configuration level

min

Configures outgoing messages to conform to SNMPv2c

Accepts incoming messages conforming to SNMPv1 (Not secure for incoming message but able to provide security for traps)

Deletes any previously defined SNMPv3 users for the PureConnect SNMP service

Creates a user identifier of `initial` with no privacy method or password (security level: `authNoPriv`)

Sets the `snmpEngineID` to the specified value

Sets `agent.defaultTraUsername` to `initial`

Example:

```
--posture min
```

`semi`

Configures outgoing messages to conform to SNMPv3

Accepts incoming messages that conform to SNMPv3

Deletes all previously-defined users

Creates a user identity of `initial` with the specified authentication method and password, and the specified privacy method and password (security level: `authPriv`)

Sets the `snmpEngineID` to the specified value

Sets `agent.defaultTrapUsername` to `initial`

Example:

```
--posture semi
```

`very`

Configures outgoing messages to conform to SNMPv3

Accepts incoming messages that conform to SNMPv3

Deletes all previously-defined users

Sets the `snmpEngineID` to the specified value

Note:

The `very` value does not create the user, `initial`. The PureConnect SNMP service will not accept any SNMP requests until you define a user and password.

Example:

```
--posture very
```

authmethod values

param2 represents the user authentication method that the PureConnect SNMP service users for each SNMP message.

`none`

No user authentication is done by the PureConnect SNMP service.

Example:

```
--authmethod none
```

`sha`

The PureConnect SNMP service users the HMAC-SHA-96 (SHA) protocol to create a message digest with an algorithm. The authentication keys used by the service are generated locally with the Engine ID and the password of the defined SNMPv3 user.

Example:

```
--authmethod sha
```

authpassword values

param3 represents a password that you enter for the defined SNMPv3 user. The PureConnect SNMP service uses this password for user authentication of SNMP messages.

Example:

```
--authpassword mypassword
```

engineid values

param4 represents three components in a colon-separated string:

- A number specifying an identifying method (IP address, MAC address, character string)
- The Internet Assigned Numbers Authority (IANA)-assigned organization identifier

2793 is the IANA private enterprise identifier for "Interactive Intelligence", which was acquired by Genesys.

- A value conforming to the specified method

IPv4 address

1:IANA org number:4 octets

Example:

```
--engineid 1:2793:192.168.10.45
```

IPv6 address

2:IANA org number:16 octets

Example:

```
--engineid 2:2793:2001:db8:3c4d:15::1a2f:1a2b
```

MAC address

3:IANA org number:MAC address

Example:

```
--engineid 3:2793:782bcb8d6987
```

Text

4:IANA org number:text (27 character maximum)

Example:

```
--engineid 4:2793:thisisatest
```

Octets

5:IANA org number:octets (27 character maximum)

Example:

```
--engineid 5:2793:38a63b9d76df893a
```

After you press the **Enter** key, the command prompt window displays the following messages:

```
Setting up ININ SNMP...
Completed, ININ SNMP setup.
```

5. At the `ININ SNMP>` command prompt, add an SNMP user by entering the following command with the specified switches and necessary parameter values, and then pressing the **Enter** key:

```
ININ SNMP>au -uparam1 -a param2 --authpassword param3 -p param4 --privpassword param5
```

u (username) values

param1 represents the name of an SNMP user to add to the PureConnect SNMP service for SNMPv3 authentication.

Example:

```
-u johnsmith
```

a (authmethod) values

param2 represents the user authentication method that the PureConnect SNMP service users for each SNMP message for this user.

none

No user authentication is done by the PureConnect SNMP service.

sha

The PureConnect SNMP service uses the HMAC-SHA-96 (SHA) protocol to create a message digest with an algorithm. The authentication keys used by the service are generated locally with the Engine ID and the password of the defined SNMPv3 user.

Example:

```
-a sha
```

authpassword values

param3 represents a password that you enter for the defined SNMPv3 user. The PureConnect SNMP service uses this password for user authentication of SNMP messages.

Example:

```
--authpassword mypassword
```

p (privmethod) values

param4 represents the privacy protocol that the PureConnect SNMP service uses for this SNMP user.

none

No privacy protocol is used.

Example:

`-p none`

des

The PureConnect SNMP service uses the CBC-DES Symmetric Encryption Protocol for this SNMP user.

Example:

`-p des`

aes128

The PureConnect SNMP service uses the Advanced Encryption Standard (AES) Cipher Algorithm for this SNMP user.

Example:

`-p aes128`

privpassword values

param5 represents the password that the PureConnect SNMP service uses to generate keys with the specified privacy protocol for this SNMP user.

Note:

If you specify the privacy method (*-p*) as *none*, the *--privpassword* parameter is not required.

Example:

`--privpassword mypassword`

After you press the **Enter** key, the command prompt window displays the following messages:

```
Adding user "username"...  
Completed, user added.
```

Tip:

To see a list of all users while using the PureConnect SNMP configuration tool, enter *lu* and then press the **Enter** key.

- At the **ININ SNMP>** prompt, add a trap destination by entering the following command with the specified switches and necessary parameter values, and pressing the **Enter** key:

```
ININ SNMP> atd --community param1 --uri param2
```

community values

param1 represents a name that you define as an SNMP community identifier for SNMPv2c communications. This name is not used with SNMPv3 messages or authentication.

Supply a community name so that the PureConnect SNMP service can exchange message with multiple Network Management System (NMS) instances that support the range of SNMPv1, SNMPv2c, SNMPv3.

Example:

`--community myexamplecommunity`

uri values

param2 represents a Uniform Resource Identifier (URI) destination, which is used for SNMP messages.

Note:

You can specify more separate destination URIs for differing protocols. For example, you can set the default URI as *localhost* and the SNMPv3 destination as *username@myhost.com*.

Tip:

Using the *uri* switch, you can specify additional information in the value, such as the SNMP user name and the network port to use.

default

This value configures the PureConnect SNMP service to send all SNMP messages to the specified URI of an NMS.

If you use multiple SNMP agents that use differing versions (v1, v2c, v3), setting this value to the URI of an NMS that is capable of processing messages from all versions provides the simplest configuration.

Examples:

```
--uri default://mynms.example.com
--uri default://192.168.1.100
```

Note:

If you do not use the `default` value, the trap destination is not saved so that it appears in the Windows **SNMP Service** dialog box. The **PureConnect SNMP** service will save and use trap destinations that use values other than default but they are not displayed in the Windows **SNMP Service** dialog box.

snmp

At this time, this value is equivalent to using the `default` value in that it sends messages for all SNMP versions to the specified URI of an NMS.

Examples:

```
--uri snmp://mynms.example.com
--uri snmp://192.168.1.100
```

snmpv1

This value configures the PureConnect SNMP service to send all SNMPv1 messages are sent to the specified URI of an NMS.

Examples:

```
--uri snmpv1://mynms1.example.com
--uri snmpv2://192.168.1.102
```

snmpv2

This value configures the PureConnect SNMP service to send all SNMPv2c messages are sent to the specified URI of an NMS.

Examples:

```
--uri snmpv2://mynms.example.com
--uri snmpv2://192.168.1.102
```

snmpv3

This value configures the PureConnect SNMP service to send all SNMPv3 messages are sent to the specified URI of an NMS.

You can specify an SNMP user and network port number as part of the URI in the following format:

snmpuser@uri:port

Examples:

```
--uri snmpv3://testuser@mynms3.example.com:8161
--uri snmpv3://192.168.1.103
```

Note:

You can add multiple trap destination URIs for each protocol version. For example, you can specify one SNMPv2c trap destination and five or more SNMPv3 trap destinations. To see a list of all defined trap destinations while using the PureConnect SNMP configuration tool, enter `ltd` at the `ININ SNMP>` prompt, and then press the `Enter` key.

7. At the `ININ SNMP>` prompt, set a default user to associate with SNMPv3 traps by entering the following command and then pressing the `Enter` key:

```
ININ SNMP>sdtu --username param1
```

param1 represents an SNMP user that you have already added with the `au -u username` command in the PureConnect SNMP configuration tool.

After you press the `Enter` key, the command prompt window displays the following messages:

```
Setting the default trap user to "username"...
Completed, default trap user changed.
```

8. At the `ININ SNMP>` prompt, add an accepted host for which the PureConnect SNMP service will receive and process SNMP messages by entering the following command with the specified switch and then pressing the `Enter` key:

```
ININ SNMP>aah --host param1
```

param1 represents the fully-qualified domain name (FQDN) or IP address of a host from which the PureConnect SNMP service will receive and process SNMP messages.

Tip:

You can add multiple hosts through a single `aah` command by adding multiple `--host param` switches.

Example:

```
aah --host 192.168.1.90 --host 192.168.1.91
```

After pressing the `Enter` key, the command prompt window displays the following messages:

```
Adding the accept host(s)...
Completed, host(s) added.
```

Tip:

You can list all defined accepted hosts by entering the `lah` command at the `ININ SNMP>` prompt and then pressing the `Enter` key.

9. If you need to set a minimum SNMP version that is acceptable to the PureConnect SNMP service, enter the following command with the specified switches and parameters and then press the `Enter` key:

Note:

This command is required only if you previously set the `setup --posture` command to a value of `min`. For the `semi` and `very` values, the PureConnect SNMP service automatically sets the accepted and outgoing SNMP version to 3.

```
ININ SNMP>smv --snmpversion param1
```

`param1` represents a single digit that corresponds to an SNMP version as defined in the following table:

1	SNMPv1
2	SNMPv2c
3	SNMPv3

The PureConnect SNMP service will accept SNMP messages for the specific version and any later version, if one exists.

After you press the `Enter` key, the command prompt window display the following messages:

```
Setting the default accepted SNMP version to version-n (n)
Completed, default accepted SNMP version changed.
```

10. If you need to set a minimum SNMP version that the PureConnect SNMP service is allowed to send, enter the following command with the specified switches and parameters and then press the `Enter` key:

Note:

This command is required only if you set the `setup --posture` command to a value of `min`. For the `semi` and `very` values, the ININ SNMP service automatically sets the accepted and outgoing SNMP version to 3.

```
ININ SNMP>sdv --snmpversion param1
```

`param1` represents a single digit that corresponds to an SNMP version as defined in the following table:

1	SNMPv1
2	SNMPv2c
3	SNMPv3

The PureConnect SNMP service will send SNMP that conform to the specific version and any later version, if one exists.

After you press the `Enter` key, the command prompt window displays the following messages:

```
Setting the default outgoing SNMP version to version-n (n)...
Completed, default outgoing SNMP version changed.
```

11. To check the status of the SNMP configuration, enter `s` at the `ININ SNMP>` prompt and then press the `Enter` key. The command prompt window displays the following messages and the associated values (examples shown):

```
Getting ININ SNMP status..
Configured SNMP port: 161
In use SNMP port: 161
SNMP Port bind status: Both IPv4 and IPv6 ports successfully bound
In packets: 523
Out packets: 957
Minimum accepted SNMP version: version-3 (3)
Default outgoing SNMP version: version-3 (3)
Default trap username: myexampleuser
```

12. To exit the `ininsnmconfig` utility, enter `x` at the `ININ SNMP>` prompt and then press the `Enter` key.

Note:

Ensure the Windows Firewall allows ports 161 and 162 for SNMP and traps to the Network Management Servers that you specified as trap destinations.

Configure ININ SNMP v2c settings through SNMP Service Properties dialog box

You can configure the SNMPv1 and SNMPv2c settings of the ININ SNMP service through the interfaces of the CIC products that install the service. Additionally, you can use the dialog box for the disabled Windows **SNMP Service**.

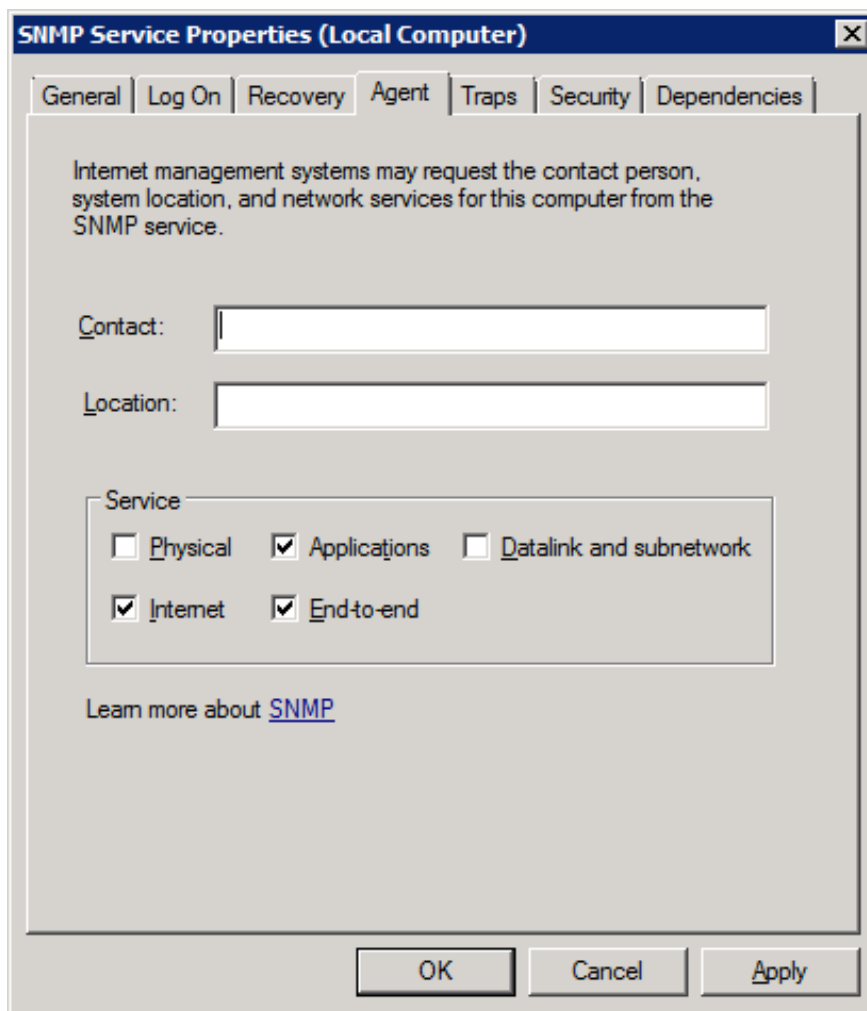
Important!

Microsoft Windows **SNMP Service** does not support SNMPv3. As such, you cannot configure SNMPv3 users, passwords, or authentication methods through the **SNMP Service Properties** dialog box. To configure users and authentication for SNMPv3, the ININ SNMP service includes the `ininsnmconfiglw32r.exe` command line utility. For more information, see [Configure ININ SNMP service through the command line utility](#).

Note:

If the Windows **SNMP Service** is not installed, Genesys recommends that you add this feature but ensure that it is disabled.

1. At the Windows host machine, log on with an administrative account.
2. Select **Start > Run**.
3. Enter `services.msc` and select **OK**.
4. In the **Services** window, double-click the **SNMP Service** entry.
5. On the **General** tab of the **SNMP Service Properties (Local Computer)** dialog box, set the **Startup type** box to **Automatic**.
6. Select the **Agent** tab.
7. In the **Contact** box, enter the name of the Customer Interaction Center administrator account.



The image shows a Windows-style dialog box titled "SNMP Service Properties (Local Computer)". It has a tabbed interface with tabs for "General", "Log On", "Recovery", "Agent", "Traps", "Security", and "Dependencies". The "General" tab is currently selected. Inside the dialog, there is a text box for "Contact:" and another for "Location:". Below these is a "Service" section containing five checkboxes: "Physical" (unchecked), "Applications" (checked), "Datalink and subnetwork" (unchecked), "Internet" (checked), and "End-to-end" (checked). At the bottom of the dialog are three buttons: "OK", "Cancel", and "Apply".

SNMP Service Properties (Local Computer)

General | Log On | Recovery | Agent | Traps | Security | Dependencies

Internet management systems may request the contact person, system location, and network services for this computer from the SNMP service.

Contact:

Location:

Service

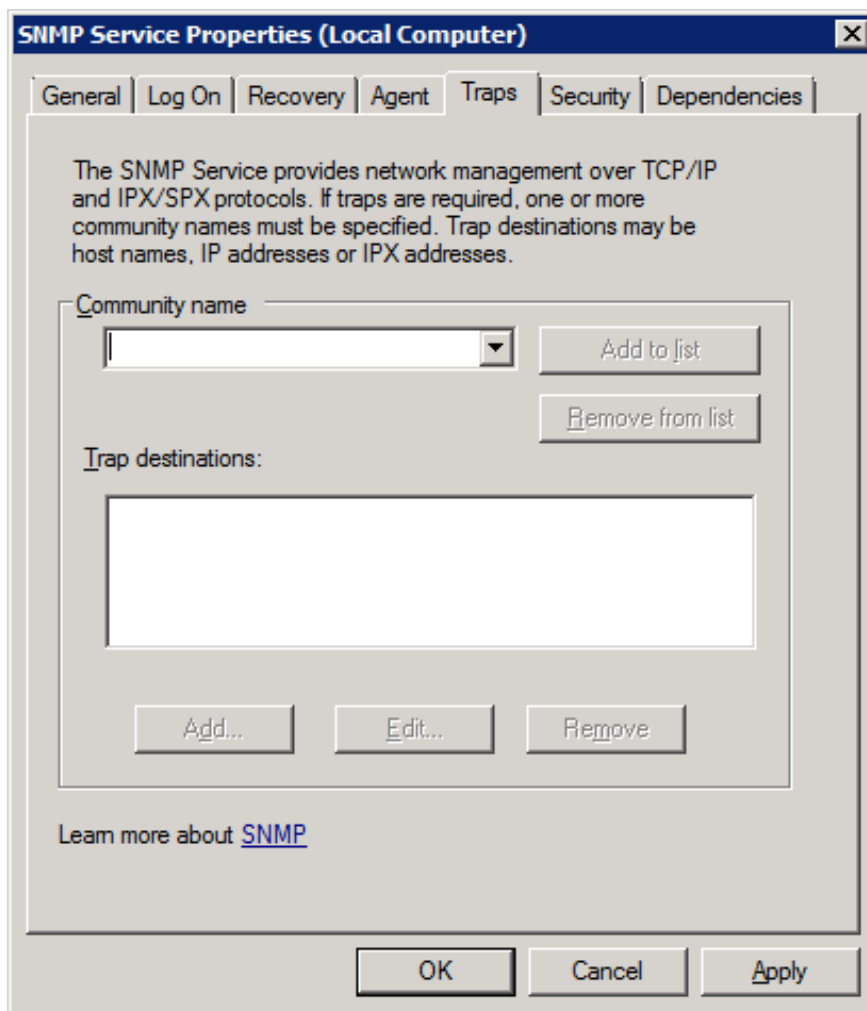
☐ Physical ☒ Applications ☐ Datalink and subnetwork

☒ Internet ☒ End-to-end

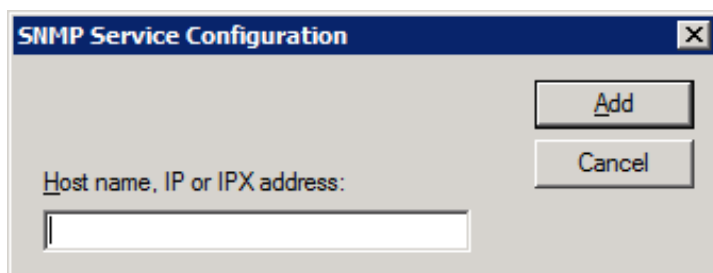
Learn more about [SNMP](#)

OK Cancel Apply

8. In the **Services** section, enable the following check boxes:
 - **Applications**
 - **Internet**
 - **End-to-end**
9. Select the **Traps** tab.

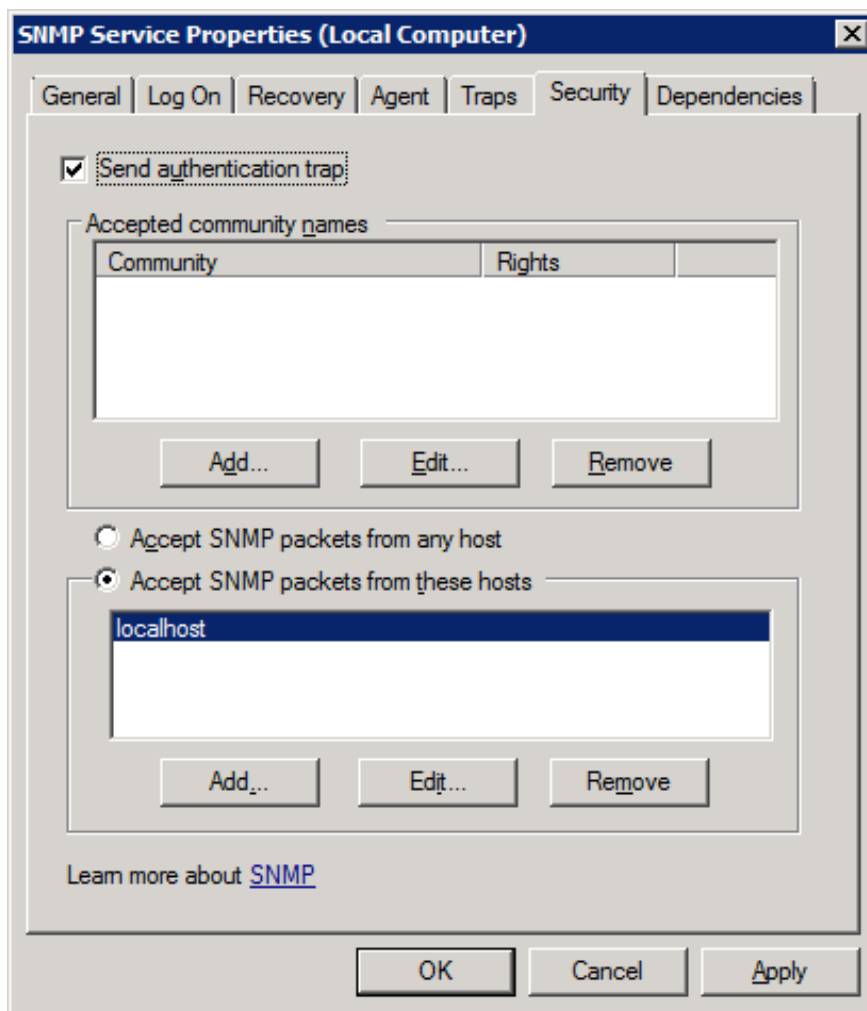


10. In the **Community name** box, enter the name of an SNMP community in which this server will participate and then select the **Add to list** button.
11. Below the **Trap destinations** box, select the **Add** button.
12. In the **Host name, IP or IPX address** box of the **SNMP Service Configuration** dialog box, enter the address of the Network Management System (NMS) that will receive SNMP traps from this server.

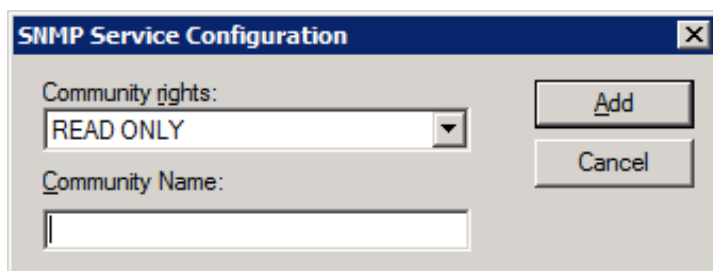


You can use a host name, fully-qualified domain name, or IP address to specify the destination server.

13. In the **SNMP Service Configuration** dialog box, select the **Add** button.
14. In the **SNMP Service Properties (Local Computer)** dialog box, select the **Security** tab.



15. Ensure that the **Send authentication trap** check box is enabled.
16. In the **Accepted community names** group box, select the **Add** button.
17. In the **Community rights** box of the **SNMP Service Configuration** dialog box, select the rights that the community will have for SNMP objects on this server.



NONE

The host system will not process any SNMP requests from the specified community.

NOTIFY

The host system will send SNMP traps to the specified community.

READ ONLY

The host system will send SNMP traps and fulfill SNMP object data GET requests from systems in the specified community.

READ WRITE

The host system will send SNMP traps, fulfill SNMP object data GET requests, and process SET requests on existing SNMP objects from systems in the specified community.

READ CREATE

The host system will send SNMP traps, fulfill SNMP object data GET requests, process SET requests on existing SNMP objects, and fulfill creation requests for new entries in SNMP tables from systems in the specified community.

18. In the **Community Name** box, enter the name of the SNMP community to have the specified rights.

Caution!

Do not use **Public** as an SNMP community name as it is the default community name for many SNMP products. Because of the security concerns with SNMPv2c, you should protect your SNMP community names as though they were passwords.

19. Select the **Add** button.

To add more communities and rights, repeat steps 16 through 19.

20. In the **SNMP Service Properties (Local Computer)** dialog box, select the the appropriate option for receiving SNMP packets.
21. If you choose to limit which systems can send SNMP packets to this host, those systems must still be members of an allowed SNMP community.

Important!

Genesys recommends that you specify which systems can send SNMP messages to this host server by using the **Accept SNMP packets from these hosts** option and specifying the necessary addresses through the **Add** button.

22. Select the **OK** button.

Install MIB files on Customer Interaction Center

1. If you have not done so already:
 - a. Download the CIC .iso file from the PureConnect product information site at the following URL address:
<https://my.inin.com/products/Pages/Downloads.aspx>
 - b. Copy the .iso file to a non-Customer Interaction Center file server with a high bandwidth connection to the machines on which you will install CIC products.
 - c. Mount the .iso file and share the contents to make them accessible to the machines on which you will install CIC products.
2. Navigate to the \Additional Files\SNMP directory of the mounted .iso image.
3. Copy the i3ic.mib and i3icrecorder.mib files to the \I3\IC\Server directory on the Customer Interaction Center server.

Configure SNMP in Customer Interaction Center products

To configure SNMPv2c settings for a specific Customer Interaction Center product, see the documentation listed for that product.

Customer Interaction Center product	Product documentation
Customer Interaction Center server	<i>CIC and SNMP Technical Reference</i>
Interaction Media Server	<i>Interaction Media Server Technical Reference</i>
Interaction SIP Proxy	<i>Interaction SIP Proxy Technical Reference</i> <i>Interaction SIP Proxy Help</i>
Interaction Edge	<i>Interaction Edge Installation and Configuration Guide</i> <i>Interaction Edge Help</i>
Interaction Gateway	<i>Interaction Gateway Administrator's Guide</i> <i>Interaction Gateway Help</i>
Session Manager	Session Manager has no direct user interface and is configured through Interaction Administrator, which connects the SNMP features with the CIC Remoco subsystem (IC System Manager) for reporting information and traps. You can edit the <code>i3icsessionmanager.mib</code> and <code>i3icstatalertserver.mib</code> files to change thresholds and other MIB object values.
Interaction Recorder	For SNMP, Interaction Recorder has no direct user interface and is configured through Interaction Administrator, which connects the SNMP features with the CIC Remoco subsystem (IC System Manager) for reporting information and traps. Statistics about recordings gathered through SNMP are displayed in Interaction Supervisor. You can edit <code>i3icrecorder.mib</code> to change thresholds and other MIB object values.

Note:

If Interaction Media Server and Interaction SIP Proxy are hosted by an Interaction Edge appliance, all SNMP configuration tasks for those products are done through the Interaction Edge web interface. Interaction Edge then applies those SNMP settings to Interaction Media Server and Interaction SIP Proxy.

Important!

To use the SNMPv3 features of the PureConnect SNMP service, you configure the users and encryption settings through the ININ SNMP configuration command line utility in a command prompt window with administrator privileges. For more information on the ININ SNMP configuration command line utility, see [Configure ININ SNMP service through the command line utility](#).

Customer Interaction Center server parameters for SNMP

The Customer Interaction Center server supports the following server parameters:

Server parameter	Values	Description
Allow SNMP Process Restarts	0 (default) 1	This server parameter enables stopping and restarting Customer Interaction Center server processes through SNMP <code>SETRequest</code> messages. Set this server parameter to 1 to enable this functionality.
SNMPTrapEnterprise	- All - I3 - ININ (default) - None	This server parameter, set by default on packaged servers, enables the Customer Interaction Center server to send SNMP trap messages to handlers, which can be customized. The value indicates which SNMP trap messages to send to handlers.

For information on how to set server parameters, see *Interaction Administrator Help*.

Customer Interaction Center handlers for SNMP, Notifier, or Remoco

The following initiators and tools in Customer Interaction Center handlers support SNMP, Notifier, or Remoco:

- Receive Log Events initiator
- Receive Trap initiator
- Get Process Information tool
- Merge Log Event Messages tool
- Merge Log Event ID and Insertion Strings tool
- Restart IC Subsystem tool
- Stop IC Subsystem tool

For more information on these initiators and tools, see *Interaction Designer Help*.

Customer Interaction Center Management Information Base files

Several Customer Interaction Center products use Simple Network Management Protocol (SNMP) to provide information about a host server and its software to a Network Management System (NMS).

This section contains the following topics about base files:

- [General](#)
- [Customer Interaction Center](#)
- [Interaction Recorder](#)
- [Interaction Media Server](#)
- [Interaction SIP Proxy](#)
- [Session Manager](#)
- [StatAlert Server](#)
- [Interaction Edge](#)
- [Interaction Gateway](#)

General

The MIB files in this section apply to multiple Customer Interaction Center products.

- [HOST-RESOURCES-MIB.mib](#)
- [hrSystem objects](#)
- [hrStorage objects](#)
- [hrDevice objects](#)
- [hrSWRun objects](#)
- [hrSWRunPerf objects](#)
- [hrSWInstalled objects](#)

HOST-RESOURCES-MIB.mib

The following Customer Interaction Center products use the `HOST-RESOURCES-MIB.mib` file:

- Interaction Media Server
- Interaction SIP Proxy

The `HOST-RESOURCES-MIB.mib` file contains the following SNMP object types:

SNMP object type	Description
hrSystem	This object contains information about running time, date, parameters, users, and processes on the host system. See hrSystem objects .
hrStorage	This object contains information on available memory space and local storage space on the host system. See hrStorage objects .
hrDevice	This object contains information on hardware installed on the host system. See hrDevice objects .
hrSWRun	This object contains information on software processes that are running on the host system. See hrSWRun objects .
hrSWRunPerf	This object contains information on the CPU and memory impacts of software processes that are running on the host system. See hrSWRunPerf objects .
hrSWInstalled	This object contains information on the versions of software installed on the host system. See hrSWInstalled objects .

hrSystem objects

hrSystemUptime

Type	Access	Description
TimeTicks	read-only	The amount of time since this host was last initialized. Note that this is different from sysUpTime in MIB-II [3] because sysUpTime is the uptime of the network management portion of the system.

hrSystemDate

Type	Access	Description
DateAndTime	read-write	The host's notion of the local date and time of day.

hrSystemInitialLoadDevice

Type	Access	Description
Integer	read-write	The index of the hrDeviceEntry for the device from which this host is configured to load its initial operating system configuration.

hrSystemInitialLoadParameters

Type	Access	Description
InternationalDisplayString	read-write	This object contains the parameters (e.g. a pathname and parameter) supplied to the load device when requesting the initial operating system configuration from that device.

hrSystemNumUsers

Type	Access	Description
Gauge	read-only	The number of user sessions for which this host is storing state information. A session is a collection of processes requiring a single act of user authentication and possibly subject to collective job control.

hrSystemProcesses

Type	Access	Description
Gauge	read-only	The number of process contexts currently loaded or running on this system.

hrSystemMaxProcesses

Type	Access	Description
Integer	read-only	The maximum number of process contexts this system can support. If there is no fixed maximum, the value should be zero. On systems that have a fixed maximum, this object can help diagnose failures that occur when this maximum is reached.

hrStorage objects

hrMemorySize

Type	Access	Description
KBytes	read-only	The amount of physical main memory contained by the host.

hrStorageTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of logical storage areas on the host. An entry shall be placed in the storage table for each logical area of storage that is allocated and has fixed resource limits. The amount of storage represented in an entity is the amount actually usable by the requesting entity, and excludes loss due to formatting or file system reference information. These entries are associated with logical storage areas, as might be seen by an application, rather than physical storage entities which are typically seen by an operating system. Storage such as tapes and floppies without file systems on them are typically not allocated in chunks by the operating system to requesting applications, and therefore shouldn't appear in this table. Examples of valid storage for this table include disk partitions, file systems, ram (for some architectures this is further segmented into regular memory, extended memory, and so on), backing store for virtual memory ('swap space'). This table is intended to be a useful diagnostic for 'out of memory' and 'out of buffers' types of failures. In addition, it can be a useful performance monitoring tool for tracking memory, disk, or buffer usage.

hrStorageEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one logical storage area on the host. As an example, an instance of the hrStorageType object might be named hrStorageType.3 Each entry contains data for the following objects: - hrStorageIndex - hrStorageType - hrStorageDescr - hrStorageAllocationUnits - hrStorageSize - hrStorageUsed - hrStorageAllocationFailures

hrStorageIndex

Type	Access	Description
Integer	read-only	A unique value for each logical storage area contained by the host.

hrStorageType

Type	Access	Description
Object Identifier	read-only	The type of storage represented by this entry.

hrStorageDescr

Type	Access	Description
DisplayString	read-only	A description of the type and instance of the storage described by this entry.

hrStorageAllocationUnits

Type	Access	Description
Integer	read-only	The size, in bytes, of the data objects allocated from this pool. If this entry is monitoring sectors, blocks, buffers, or packets, for example, this number will commonly be greater than one. Otherwise this number will typically be one.

hrStorageSize

Type	Access	Description
Integer	read-write	The size of the storage represented by this entry, in units of hrStorageAllocationUnits.

hrStorageUsed

Type	Access	Description
Integer	read-only	The amount of the storage represented by this entry that is allocated, in units of hrStorageAllocationUnits.

hrStorageAllocationFailures

Type	Access	Description
Counter	read-only	The number of requests for storage represented by this entry that could not be honored due to not enough storage. It should be noted that as this object has a SYNTAX of Counter, that it does not have a defined initial value. However, it is recommended that this object be initialized to zero.

hrDevice objects

hrDeviceTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of devices contained by the host.

hrDeviceEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one device contained by the host. As an example, an instance of the hrDeviceType object might be named hrDeviceType.3 Each entry contains data for the following objects: - hrDeviceIndex - hrDeviceType - hrDeviceDescr - hrDeviceID - hrDeviceStatus - hrDeviceErrors

hrDeviceIndex

Type	Access	Description
Integer	read-only	A unique value for each device contained by the host. The value for each device must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrDeviceType

Type	Access	Description
Object Identifier	read-only	An indication of the type of device. If this value is `hrDeviceProcessor { hrDeviceTypes 3 }` then an entry exists in the hrProcessorTable which corresponds to this device. If this value is `hrDeviceNetwork { hrDeviceTypes 4 }`, then an entry exists in the hrNetworkTable which corresponds to this device. If this value is `hrDevicePrinter { hrDeviceTypes 5 }`, then an entry exists in the hrPrinterTable which corresponds to this device. If this value is `hrDeviceDiskStorage { hrDeviceTypes 6 }`, then an entry exists in the hrDiskStorageTable which corresponds to this device.

hrDeviceDescr

Type	Access	Description
DisplayString	read-only	A textual description of this device, including the device's manufacturer and revision, and optionally, its serial number.

hrDeviceID

Type	Access	Description
ProductID	read-only	The product ID for this device.

hrDeviceStatus

Type	Access	Description
Integer	read-only	The current operational state of the device described by this row of the table. A value unknown(1) indicates that the current state of the device is unknown. running(2) indicates that the device is up and running and that no unusual error conditions are known. The warning(3) state indicates that agent has been informed of an unusual error condition by the operational software (e.g., a disk device driver) but that the device is still 'operational'. An example would be a high number of soft errors on a disk. A value of testing(4), indicates that the device is not available for use because it is in the testing state. The state of down(5) is used only when the agent has been informed that the device is not available for any use. This object supports the following values: 1 = unknown 2 = running 3 = warning 4 = testing 5 = down

hrDeviceErrors

Type	Access	Description
Counter	read-only	The number of errors detected on this device. It should be noted that as this object has a SYNTAX of Counter, that it does not have a defined initial value. However, it is recommended that this object be initialized to zero.

hrProcessorTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of processors contained by the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceProcessor'.

hrProcessorEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one processor contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrProcessorEntry. As an example of how objects in this table are named, an instance of the hrProcessorFwID object might be named hrProcessorFwID.3 Each entry contains data for the following objects: hrProcessorFwID hrProcessorLoad

hrProcessorFwID

Type	Access	Description
ProductID	read-only	The product ID of the firmware associated with the processor.

hrProcessorLoad

Type	Access	Description
Integer	read-only	The average, over the last minute, of the percentage of time that this processor was not idle. Implementations may approximate this one minute smoothing period if necessary.

hrNetworkTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of network devices contained by the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceNetwork'.

hrNetworkEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one network device contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrNetworkEntry. As an example of how objects in this table are named, an instance of the hrNetworkIfIndex object might be named hrNetworkIfIndex.3. Each entry contains data for the following objects: hrNetworkIfIndex

hrNetworkIfIndex

Type	Access	Description
Integer	read-only	The value of ifIndex which corresponds to this network device.

hrPrinterTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of printers local to the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDevicePrinter'. Each entry contains data for the following objects: HrPrinterEntry

hrPrinterEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one printer local to the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrPrinterEntry. As an example of how objects in this table are named, an instance of the hrPrinterStatus object might be named hrPrinterStatus.3 Each entry contains data for the following objects: hrPrinterStatus hrPrinterDetectedErrorState

hrPrinterStatus

Type	Access	Description
Integer	read-only	The current status of this printer device. This object supports the following values: 1 = other 2 = unknown 3 = idle 4 = printing 5 = warmup

hrPrinterDetectedErrorState

Type	Access	Description																											
Octet String	read-only	This object represents any error conditions detected by the printer. The error conditions are encoded as bits in an octet string, with the following definitions: <table> <tr> <th>Condition</th><th>Bit</th><th>hrDeviceStatus</th></tr> <tr> <td>lowPaper</td><td>0</td><td>warning(3)</td></tr> <tr> <td>noPaper</td><td>1</td><td>down(5)</td></tr> <tr> <td>lowToner</td><td>2</td><td>warning(3)</td></tr> <tr> <td>noToner</td><td>3</td><td>down(5)</td></tr> <tr> <td>doorOpen</td><td>4</td><td>down(5)</td></tr> <tr> <td>jammed</td><td>5</td><td>down(5)</td></tr> <tr> <td>offline</td><td>6</td><td>down(5)</td></tr> <tr> <td>serviceRequested</td><td>7</td><td>warning(3)</td></tr> </table> If multiple conditions are currently detected and the hrDeviceStatus would not otherwise be unknown(1) or testing(4), the hrDeviceStatus shall correspond to the worst state of those indicated, where down(5) is worse than warning(3) which is worse than running(2). Bits are numbered starting with the most significant bit of the first byte being bit 0, the least significant bit of the first byte being bit 7, the most significant bit of the second byte being bit 8, and so on. A one bit encodes that the condition was detected, while a zero bit encodes that the condition was not detected. This object is useful for alerting an operator to specific warning or error conditions that may occur, especially those requiring human intervention.	Condition	Bit	hrDeviceStatus	lowPaper	0	warning(3)	noPaper	1	down(5)	lowToner	2	warning(3)	noToner	3	down(5)	doorOpen	4	down(5)	jammed	5	down(5)	offline	6	down(5)	serviceRequested	7	warning(3)
Condition	Bit	hrDeviceStatus																											
lowPaper	0	warning(3)																											
noPaper	1	down(5)																											
lowToner	2	warning(3)																											
noToner	3	down(5)																											
doorOpen	4	down(5)																											
jammed	5	down(5)																											
offline	6	down(5)																											
serviceRequested	7	warning(3)																											

hrDiskStorageTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of long-term storage devices contained by the host. In particular, disk devices accessed remotely over a network are not included here. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceDiskStorage'.

hrDiskStorageEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one long-term storage device contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrDiskStorageEntry. As an example, an instance of the hrDiskStorageCapacity object might be named hrDiskStorageCapacity.3 Each entry contains data for the following objects: - hrDiskStorageAccess - hrDiskStorageMedia - hrDiskStorageRemoveable - hrDiskStorageCapacity

hrDiskStorageAccess

Type	Access	Description
Integer	read-only	An indication if this long-term storage device is readable and writable or only readable. This should reflect the media type, any write-protect mechanism, and any device configuration that affects the entire device. This object supports the following values: 1 = readWrite 2 = readOnly

hrDiskStorageMedia

Type	Access	Description
Integer	read-only	An indication of the type of media used in this long-term storage device. This object supports the following values: 1 = other 2 = unknown 3 = hardDisk 4 = floppyDisk 5 = opticalDiskROM 6 = opticalDiskWORM 7 = opticalDiskRW 8 = ramDisk

hrDiskStorageRemoveable

Type	Access	Description
Boolean	read-only	Denotes whether or not the disk media may be removed from the drive. This object supports the following values: 1 = true 2 = false

hrDiskStorageCapacity

Type	Access	Description
KBytes	read-only	The total size for this long-term storage device.

hrPartitionTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of partitions for long-term storage devices contained by the host. In particular, partitions accessed remotely over a network are not included here.

hrPartitionEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one partition. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrPartitionEntry. As an example of how objects in this table are named, an instance of the hrPartitionSize object might be named hrPartitionSize.3.1 Each entry contains data for the following objects: hrPartitionIndex hrPartitionLabel hrPartitionID hrPartitionSize hrPartitionFSIndex

hrPartitionIndex

Type	Access	Description
Integer	read-only	A unique value for each partition on this long-term storage device. The value for each long-term storage device must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrPartitionLabel

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this partition.

hrPartitionID

Type	Access	Description
Octet String	read-only	A descriptor which uniquely represents this partition to the responsible operating system. On some systems, this might take on a binary representation.

hrPartitionSize

Type	Access	Description
KBytes	read-only	The size of this partition.

hrPartitionFSIndex

Type	Access	Description
Integer	read-only	The index of the file system mounted on this partition. If no file system is mounted on this partition, then this value shall be zero. Note that multiple partitions may point to one file system, denoting that that file system resides on those partitions. Multiple file systems may not reside on one partition.

hrFSTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of file systems local to this host or remotely mounted from a file server. File systems that are in only one user's environment on a multi-user system will not be included in this table.

hrFSEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one file system local to this host or remotely mounted from a file server. File systems that are in only one user's environment on a multi-user system will not be included in this table. As an example of how objects in this table are named, an instance of the hrFSMountPoint object might be named hrFSMountPoint.3 Each entry contains data for the following objects: - hrFSIndex - hrFSMountPoint - hrFSRemoteMountPoint - hrFSType - hrFSAccess - hrFSBootable - hrFSStorageIndex - hrFSLastFullBackupDate - hrFSLastPartialBackupDate

hrFSIndex

Type	Access	Description
Integer	read-only	A unique value for each file system local to this host. The value for each file system must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrFSMountPoint

Type	Access	Description
InternationalDisplayString	read-only	The path name of the root of this file system.

hrFSRemoteMountPoint

Type	Access	Description
InternationalDisplayString	read-only	A description of the name and/or address of the server that this file system is mounted from. This may also include parameters such as the mount point on the remote file system. If this is not a remote file system, this string should have a length of zero.

hrFSType

Type	Access	Description																																												
Object Identifier	read-only	The value of this object identifies the type of this file system.																																												
		This object supports the following values:																																												
		<table><tr><th>Value</th><th>File system type</th></tr><tr><td>1</td><td>hrFSOther</td></tr><tr><td>2</td><td>hrFSUnknown</td></tr><tr><td>3</td><td>hrFSBerkeleyFFS</td></tr><tr><td>4</td><td>hrFSSys5FS</td></tr><tr><td>5</td><td>hrFSFat</td></tr><tr><td>6</td><td>hrFSHPFS</td></tr><tr><td>7</td><td>hrFSHFS</td></tr><tr><td>8</td><td>hrFSMFS</td></tr><tr><td>9</td><td>hrFSNTFS</td></tr><tr><td>10</td><td>hrFSVNode</td></tr><tr><td>11</td><td>hrFSJournaled</td></tr><tr><td>12</td><td>hrFSiso9660</td></tr><tr><td>13</td><td>hrFSRockRidge</td></tr><tr><td>14</td><td>hrFSNFS</td></tr><tr><td>15</td><td>hrFSNetware</td></tr><tr><td>16</td><td>hrFSAFS</td></tr><tr><td>17</td><td>hrFSDFS</td></tr><tr><td>18</td><td>hrFSAppleshare</td></tr><tr><td>19</td><td>hrFSRFS</td></tr><tr><td>20</td><td>hrFSDGCFS</td></tr><tr><td>21</td><td>hrFSBFS</td></tr></table>	Value	File system type	1	hrFSOther	2	hrFSUnknown	3	hrFSBerkeleyFFS	4	hrFSSys5FS	5	hrFSFat	6	hrFSHPFS	7	hrFSHFS	8	hrFSMFS	9	hrFSNTFS	10	hrFSVNode	11	hrFSJournaled	12	hrFSiso9660	13	hrFSRockRidge	14	hrFSNFS	15	hrFSNetware	16	hrFSAFS	17	hrFSDFS	18	hrFSAppleshare	19	hrFSRFS	20	hrFSDGCFS	21	hrFSBFS
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		8	hrFSMFS																																											
		9	hrFSNTFS																																											
		10	hrFSVNode																																											
		11	hrFSJournaled																																											
		12	hrFSiso9660																																											
		13	hrFSRockRidge																																											
		14	hrFSNFS																																											
		15	hrFSNetware																																											
		16	hrFSAFS																																											
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		18	hrFSAppleshare																																											
		19	hrFSRFS																																											
20	hrFSDGCFS																																													
21	hrFSBFS																																													

hrFSAccess

Type	Access	Description
Integer	read-only	An indication if this file system is logically configured by the operating system to be readable and writable or only readable. This does not represent any local access-control policy, except one that is applied to the file system as a whole. This object supports the following values: 1 = readWrite 2 = readOnly

hrFSBootable

Type	Access	Description
Boolean	read-only	A flag indicating whether this file system is bootable.

hrFSStorageIndex

Type	Access	Description
Integer	read-only	The index of the hrStorageEntry that represents information about this file system. If there is no such information available, then this value shall be zero. The relevant storage entry will be useful in tracking the percent usage of this file system and diagnosing errors that may occur when it runs out of space.

hrFSLastFullBackupDate

Type	Access	Description
DateAndTime	read-write	The last date at which this complete file system was copied to another storage device for backup. This information is useful for ensuring that backups are being performed regularly. If this information is not known, then this variable shall have the value corresponding to January 1, year 0000, 00:00:00.0, which is encoded as (hex)'00 00 01 01 00 00 00 00'.

hrFSLastPartialBackupDate

Type	Access	Description
DateAndTime	read-write	The last date at which a portion of this file system was copied to another storage device for backup. This information is useful for ensuring that backups are being performed regularly. If this information is not known, then this variable shall have the value corresponding to January 1, year 0000, 00:00:00.0, which is encoded as (hex)'00 00 01 01 00 00 00 00'.

hrSWRun objects

hrSWOSIndex

Type	Access	Description
Integer32	read-only	The value of the hrSWRunIndex for the hrSWRunEntry that represents the primary operating system running on this host. This object is useful for quickly and uniquely identifying that primary operating system.

hrSWRunTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of software running on the host.

hrSWRunEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one piece of software running on the host. Note that because the installed software table only contains information for software stored locally on this host, not every piece of running software will be found in the installed software table. This is true of software that was loaded and run from a non-local source, such as a network-mounted file system. As an example of how objects in this table are named, an instance of the hrSWRunName object might be named hrSWRunName.1287 Each entry contains data for the following objects: - hrSWRunIndex - hrSWRunName - hrSWRunID - hrSWRunPath - hrSWRunParameters - hrSWRunType - hrSWRunStatus

hrSWRunIndex

Type	Access	Description
Integer32	read-only	A unique value for each piece of software running on the host. Wherever possible, this should be the system's native, unique identification number.

hrSWRunName

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this running piece of software, including the manufacturer, revision, and the name by which it is commonly known. If this software was installed locally, this should be the same string as used in the corresponding hrSWInstalledName.

hrSWRunID

Type	Access	Description
ProductID	read-only	The product ID of this running piece of software.

hrSWRunPath

Type	Access	Description
InternationalDisplayString	read-only	A description of the location on long-term storage (e.g. a disk drive) from which this software was loaded.

hrSWRunParameters

Type	Access	Description
InternationalDisplayString	read-only	A description of the parameters supplied to this software when it was initially loaded.

hrSWRunType

Type	Access	Description
Integer	read-only	The type of this software. This object supports the following values: 1 = unknown 2 = operatingSystem 3 = deviceDriver 4 = application

hrSWRunStatus

Type	Access	Description
Integer	read-write	The status of this running piece of software. Setting this value to invalid(4) shall cause this software to stop running and to be unloaded. Sets to other values are not valid. This object supports the following values: 1 = running 2 = runnable 3 = notRunnable 4 = invalid

hrSWRunPerf objects

hrSWRunPerfTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of running software performance metrics.

hrSWRunPerfEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry containing software performance metrics. As an example, an instance of the hrSWRunPerfCPU object might be named hrSWRunPerfCPU.1287 Each entry contains data for the following objects: hrSWRunPerfCPU hrSWRunPerfMem

hrSWRunPerfCPU

Type	Access	Description
Integer32	read-only	The number of centi-seconds of the total system's CPU resources consumed by this process. Note that on a multi-processor system, this value may increment by more than one centi-second in one centi-second of real (wall clock) time.

hrSWRunPerfMem

Type	Access	Description
KBytes	read-only	The total amount of real system memory allocated to this process.

hrSWInstalled objects

hrSWInstalledLastChange

Type	Access	Description
TimeTicks	read-only	The value of sysUpTime when an entry in the hrSWInstalledTable was last added, renamed, or deleted. Because this table is likely to contain many entries, polling of this object allows a management station to determine when re-downloading of the table might be useful.

hrSWInstalledLastUpdateTime

Type	Access	Description
TimeTicks	read-only	The value of sysUpTime when the hrSWInstalledTable was last completely updated. Because caching of this data will be a popular implementation strategy, retrieval of this object allows a management station to obtain a guarantee that no data in this table is older than the indicated time.

hrSWInstalledTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of software installed on this host.

hrSWInstalledEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for a piece of software installed on this host. As an example of how objects in this table are named, an instance of the hrSWInstalledName object might be named hrSWInstalledName.96 Each entry contains data for the following objects: - hrSWInstalledIndex - hrSWInstalledName - hrSWInstalledID - hrSWInstalledType - hrSWInstalledDate

hrSWInstalledIndex

Type	Access	Description
Integer32	read-only	A unique value for each piece of software installed on the host. This value shall be in the range from 1 to the number of pieces of software installed on the host.

hrSWInstalledName

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this installed piece of software, including the manufacturer, revision, the name by which it is commonly known, and optionally, its serial number.

hrSWInstalledID

Type	Access	Description
ProductID	read-only	The product ID of this installed piece of software.

hrSWInstalledType

Type	Access	Description
Integer	read-only	The type of this software. This object supports the following values: 1 = unknown 2 = operatingSystem 3 = deviceDriver 4 = application

hrSWInstalledDate

Type	Access	Description
DateAndTime	read-only	The last-modification date of this application as it would appear in a directory listing. If this information is not known, then this variable shall have the value corresponding to January 1, year 0000, 00:00:00.0, which is encoded as (hex)'00 00 01 01 00 00 00 00'.

Customer Interaction Center

Using Simple Network Management Protocol (SNMP) on a Customer Interaction Center server is optional. To use SNMP on a Customer Interaction Center server, you must install the Microsoft Windows SNMP service through the **Programs and Features** object in the **Control Panel**.

This section contains information about the following .mib files and SNMP object types:

- [i3lc.mib](#)
- [i3lcGeneral objects](#)
- [i3lcInfo objects](#)
- [i3lcCommands objects](#)
- [i3lcTrapInfo objects](#)
- [i3lcTraps objects](#)
- [reporting_plugin.mib](#)

i3lc.mib

The `i3lc.mib` file contains SNMP object definitions for a Customer Interaction Center server. By default, this file is located in the `D:\I3\IC\Server` directory.

The `i3lc.mib` file contains the following SNMP object types:

SNMP object type	Description
i3lcGeneral	These objects contain information about the Customer Interaction Center software. See i3lcGeneral objects .
i3lcInfo	These objects contain host system information such as CPU usage, memory usage, elapsed run time, and thread count. See i3lcInfo objects .
i3lcCommands	These objects are responsible for stopping and restarting various subsystems. See i3lcCommands objects .
i3lcTrapInfo	These objects contain the information that is displayed with trap messages. See i3lcTrapInfo objects .
i3lcTraps	These objects are the trap messages when a warning or error threshold has been met on the host system. These objects can contain one or more i3lcTrapInfo objects. See i3lcTraps objects .

i3lcGeneral objects

i3lcGenVersion

Type	Access	Description
DisplayString	read-only	This object displays the version of the Customer Interaction Center server software on the host network device.

i3lcGenBuild

Type	Access	Description
DisplayString	read-only	This object displays the build number that produced the Customer Interaction Center server software on the host network device.

i3lcGenTimeStarted

Type	Access	Description
DisplayString	read-only	This object displays the chronological time when the Customer Interaction Center server on the host network device was last started.

i3lcGenMibVersion

Type	Access	Description
DisplayString	read-only	This object displays the version of the <code>i3lc.mib</code> Management Information Base (MIB) file that is used by the Customer Interaction Center server on the host network device.

i3lcGenSwitchoverRole

Type	Access	Description
Integer	read-only	This object displays the switchover role for this CIC server: • 0 = NotApplicable because the Server is not in a Primary/Backup configuration. • 1 = Primary • 2 = Backup • 3 = Failed

i3lcGenSwitchoverBackupState

Type	Access	Description
Integer	read-only	This object displays the switchover backup state for this CIC server: • 0 = Not Applicable. Not in a Primary/Backup configuration • 1 = Not Ready. The backup server is either not active or is starting • 2 = Ready

i3lcGenSwitchoverSwitchMode

Type	Access	Description
Integer	read-only	This object displays the switchover mode for this CIC server pair: • 0 = Not Applicable. Not in a Primary/Backup configuration • 1 = Auto. Switchovers occur automatically between the two CIC servers. • 2 = Manual. Switchovers between the two CIC servers must be initiated manually.

i3lcGenSwitchoverReplicationMode

Type	Access	Description
Integer	read-only	This object displays the switchover replication mode for this CIC server pair: • 0 = Unknown • 1 = Normal • 2 = Upgrade

i3lcGenSwitchoverPeer

Type	Access	Description
DisplayString	read-only	This object displays the name of the peer machine in the switchover pair.

i3lcInfo objects

i3lcSubsysInfoTable

Type	Access	Description
N/A	not-accessible	This SNMP information object contains entries for various Customer Interaction Center subsystems.

i3lcSubsysInfoTableEntry

Type	Access	Description
N/A	not-accessible	This SNMP information object contains the following SNMP information objects for a Customer Interaction Center subsystem: Each entry contains data for the following objects: - i3lcSubsysInfoIndex - i3lcSubsysInfoCpuUsage - i3lcSubsysInfoMemUsage - i3lcSubsysInfoRuntime - i3lcSubsysInfoThreadCount - i3lcSubsysInfoAvailable - i3lcSubsysInfoName

i3lcSubsysInfoIndex

Type	Access	Description
Integer	N/A	Each item represents a Customer Interaction Center subsystem. This object supports the following values: 1 = Notifier 2 = FileMonitor 3 = IonNotifier 4 = DSServer 5 = HttpPluginHost 6 = ClusterConnector 7 = Mail Account Monitor 8 = SwitchoverService 9 = Transaction Server 10 = AdminServer 11 = AccServer 12 = Compressor Manager 13 = DataManager 14 = DSSink 15 = HostServer 16 = IPDBServer 17 = Mrcp Subsystem 18 = Post Office 19 = Prompt Server 20 = Provision Server 21 = Reco Subsystem 22 = VXIHostServer 23 = Client Services 24 = Feedback Server 25 = Optimizer Server 26 = Recorder Server

	27 = Resource Broker
	28 = Tracker Server
	29 = AcdServer
	30 = OutOfProcCustomDLL
	31 = QueueStatProvider
	32 = Session Manager
	33 = TsServer
	34 = EMS Server
	35 = FaxServer
	36 = FileRouter
	37 = IpServer
	38 = RCCServer
	39 = SMSServer
	40 = StatAlertServer
	41 = StatServer
	42 = VPIM Receiver
	43 = WebProcessor
	44 = WebProcessorBridge
	45 = IP
	46 = Process Automation Server
	47 = Set SIP NAT
	48 = Thin IP Bridge
	49 = DialerServer (Dialer)
	50 = CampaignServer (Dialer)
	51 = UpdateServer (Dialer)
	52 = DialerStatRepeater (Dialer)
	53 = DialerStatServer (Dialer)
	54 = DialerTranServer (Dialer)
	55 = DialerHistoryWriter (Dialer)
	56 = DirectorServer(Director)
	57 = MicServer (Communitie)
	58 = InteractionRecoveryService
	59 = WebPortalServer
	60 = ICSecureTokenServer

i3lcSubsysInfoCpuUsage

Type	Access	Description
Integer	read-only	The amount of central processing unit (CPU) resources currently in use by the Customer Interaction Center subsystem product.

i3lcSubsysInfoMemUsage

Type	Access	Description
Integer	read-only	The amount of random access memory (RAM) resources currently in use by the Customer Interaction Center subsystem product.

i3lcSubsysInfoRuntime

Type	Access	Description
DisplayString	read-only	The amount of time that has elapsed since the Customer Interaction Center subsystem product was last started.

i3lcSubsysInfoThreadCount

Type	Access	Description
Integer	read-only	The total number of CPU threads on the host network device of the Customer Interaction Center subsystem product.

i3lcSubsysInfoAvailable

Type	Access	Description
Integer	read-only	An integer value that indicates if the Customer Interaction Center subsystem product is available for use. This object supports the following values: 1 = available 2 = unavailable

i3lcCommands objects

i3lcSubsysCmdTable

Type	Access	Description
N/A	not-accessible	This SNMP control object contains status information from the designated system or commands to run on the designated system.

i3lcSubsysCmdTableEntry

Type	Access	Description
N/A	not-accessible	This SNMP control object contains the following SNMP control objects for a Customer Interaction Center subsystem: Each entry contains data for the following objects: i3lcSubsysCmdIndex i3lcSubsysCmdRestart i3lcSubsysCmdStop i3lcSubsysCmdFilterEvents

i3lcSubsysCmdIndex

Type	Access	Description
Integer	read-only	An integer that represents a PureConnect subsystem for which the SNMP command is issued.

This object supports the following values:

- 1 = Notifier
- 2 = FileMonitor
- 3 = IonNotifier
- 4 = DSServer
- 5 = HttpPluginHost
- 6 = ClusterConnector
- 7 = Mail Account Monitor
- 8 = SwitchoverService
- 9 = Transaction Server
- 10 = AdminServer
- 11 = AccServer
- 12 = Compressor Manager
- 13 = DataManager
- 14 = DSSink
- 15 = HostServer
- 16 = IPDBServer
- 17 = Mrcp Subsystem
- 18 = Post Office
- 19 = Prompt Server
- 20 = Provision Server
- 21 = Reco Subsystem
- 22 = VXIHostServer
- 23 = Client Services
- 24 = Feedback Server
- 25 = Optimizer Server
- 26 = Recorder Server
- 27 = Resource Broker
- 28 = Tracker Server
- 29 = AcdServer
- 30 = OutOfProcCustomDLL
- 31 = QueueStatProvider
- 32 = Session Manager
- 33 = TsServer
- 34 = EMS Server
- 35 = FaxServer
- 36 = FileRouter
- 37 = IpServer
- 38 = RCCServer
- 39 = SMSServer
- 40 = StatAlertServer
- 41 = StatServer
- 42 = VPIM Receiver

		43 = WebProcessor
		44 = WebProcessorBridge
		45 = IP
		46 = Process Automation Server
		47 = Set SIP NAT
		48 = Thin IP Bridge
		49 = DialerServer (Dialer)
		50 = CampaignServer (Dialer)
		51 = UpdateServer (Dialer)
		52 = DialerStatRepeater (Dialer)
		53 = DialerStatServer (Dialer)
		54 = DialerTranServer (Dialer)
		55 = DialerHistoryWriter (Dialer)
		56 = DirectorServer(Director)
		57 = MicServer (Communité)
		58 = InteractionRecoveryService
		59 = WebPortalServer
		60 = ICSecureTokenServer

i3lcSubsysCmdRestart

Type	Access	Description
Integer	read-write	An integer that represents the SNMP status or command for the PureConnect subsystem. This object supports the following values: 1 = running 2 = restart

i3lcSubsysCmdStop

Type	Access	Description
Integer	read-write	An integer that represents the SNMP status or command for the PureConnect subsystem. This object supports the following values: 1 = running 2 = stop

i3lcSubsysCmdFilterEvents

Type	Access	Description
Integer	read-write	An integer that represents which SNMP event messages that the SNMP agent sends for the PureConnect subsystem. The integers use a binary mask, which enables you to add two or more items for inclusion. For example, a value of 3 enables the SNMP events for 1 and 2 (1+2=3). A value of 7 enables the SNMP events for 1, 2, and 4 (1+2+4=7). This object supports the following values or their inclusion in a binary mask: 0 = Don't send any event messages 1 = Send Error level event messages 2 = Send Warning level event messages 4 = Send Information level event messages 8 = Unable to get filter data

i3lcTrapInfo objects

i3lcTrapInfoSubsys

Type	Access	Description
Integer	N/A	This SNMP trap message indicates which Customer Interaction Center subsystem has restarted. This SNMP trap message supports the following values: 1 = Notifier 2 = FileMonitor 3 = IonNotifier 4 = DSServer 5 = HttpPluginHost 6 = ClusterConnector 7 = Mail Account Monitor 8 = SwitchoverService 9 = Transaction Server 10 = AdminServer 11 = AccServer 12 = Compressor Manager 13 = DataManager 14 = DSSink 15 = HostServer 16 = IPDBServer 17 = Mrcp Subsystem 18 = Post Office 19 = Prompt Server 20 = Provision Server 21 = Reco Subsystem 22 = VXIHostServer 23 = Client Services 24 = Feedback Server

	25 = Optimizer Server
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	27 = Resource Broker
	28 = Tracker Server
	29 = AcdServer
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	39 = SMSServer
	40 = StatAlertServer
	41 = StatServer
	42 = VPIM Receiver
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	44 = WebProcessorBridge
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	53 = DialerStatServer (Dialer)
	54 = DialerTranServer (Dialer)
	55 = DialerHistoryWriter (Dialer)
	56 = DirectorServer(Director)
	57 = MicServer (Communitie)
	58 = InteractionRecoveryService
	59 = WebPortalServer
	60 = ICSecureTokenServer

i3IcTrapInfoRestartReason

Type	Access	Description
Integer	read-only	An integer that identifies the reason why Customer Interaction Center was restarted. This SNMP trap message supports the following values: 1 = maintenance 2 = unknown

i3lcTrapInfoEventLogSubsys

Type	Access	Description
DisplayString	read-only	A string that identifies the PureConnect subsystem that caused Customer Interaction Center to write an SNMP trap information message to the Windows Event Log of the Customer Interaction Center host server.

i3lcTrapInfoEventLogMsgID

Type	Access	Description
Integer	read-only	An integer that provides the numerical identifier of the Windows Event Log entry that was the Customer Interaction Center server wrote to the Windows Error Log for an SNMP trap information message on behalf of a Customer Interaction Center subsystem.

i3lcTrapInfoEventLogMsg

Type	Access	Description
DisplayString	read-only	The SNMP trap information message that was written to the Windows Event Log of the Customer Interaction Center server on behalf of a Customer Interaction Center subsystem.

i3lcTrapWarningEventLogSubsys

Type	Access	Description
DisplayString	read-only	A string that identifies the PureConnect subsystem that caused Customer Interaction Center to write an SNMP trap warning message to the Windows Event Log of the Customer Interaction Center host server.

i3lcTrapWarningEventLogMsgID

Type	Access	Description
Integer	read-only	An integer that provides the numerical identifier of the Windows Event Log entry that was the Customer Interaction Center server wrote to the Windows Error Log for an SNMP trap warning message on behalf of a Customer Interaction Center subsystem.

i3lcTrapWarningEventLogMsg

Type	Access	Description
DisplayString	read-only	The SNMP trap warning message that was written to the Windows Event Log of the Customer Interaction Center server on behalf of a Customer Interaction Center subsystem.

i3lcTrapErrorEventLogSubsys

Type	Access	Description
DisplayString	read-only	A string that identifies the PureConnect subsystem that caused Customer Interaction Center to write an SNMP trap error message to the Windows Event Log of the Customer Interaction Center host server.

i3lcTrapErrorEventLogMsgID

Type	Access	Description
Integer	read-only	An integer that provides the numerical identifier of the Windows Event Log entry that was the Customer Interaction Center server wrote to the Windows Error Log for an SNMP trap error message on behalf of a Customer Interaction Center subsystem.

i3lcTrapErrorEventLogMsg

Type	Access	Description
DisplayString	read-only	The SNMP trap error message that was written to the Windows Event Log of the Customer Interaction Center server on behalf of a Customer Interaction Center subsystem.

i3lcTrapYellowAlarmTSInterface

Type	Access	Description
DisplayString	read-only	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives a yellow PSTN alarm from the carrier.

i3lcTrapRedAlarmTSInterface

Type	Access	Description
DisplayString	read-only	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives a red PSTN alarm from the carrier.

i3lcTrapAlarmClearedTSInterface

Type	Access	Description
DisplayString	read-only	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives an alarm clearance message from the carrier.

i3lcTrapDChannelDownTSInterface

Type	Access	Description
DisplayString	read-only	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the interface that receives, from the carrier, an error message that the D-channel for a Time Division Multiplexer (TDM) span is not functional.

i3lcTrapVariableHostName

Type	Access	Description
DisplayString	read-only	This object displays the host name of this CIC server that is associated with a trap message.

i3lcTrapVariableSubsystemName

Type	Access	Description
DisplayString	read-only	This object displays the name of the subsystem on this CIC server for which a trap message pertains.

i3lcTrapVariablePluginName

Type	Access	Description
DisplayString	read-only	This object displays the optional name of the HttpPluginHost if it is associated with a trap message.

i3lcTrapVariableErrorDesc

Type	Access	Description
DisplayString	read-only	This object contains the condition or reason for which a trap message was generated.

i3lcTrapVariableHealthLevel

Type	Access	Description
Integer	read-only	This object indicates the health level of the subsystem on the CIC server that is associated with a trap message: • 0 = Recovered - The subsystem of the CIC server has resumed normal functionality • 3 = Warning - The subsystem of the CIC server is in a limited state of functionality as some problems are still present • 5 = Error - The subsystem of the CIC server is not functioning

i3lcTraps objects

i3lcTrapRestart

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that a Customer Interaction Center subsystem has restarted. This SNMP trap message contains the following objects: i3lcTrapInfoSubsys i3lcTrapInfoRestartReason

i3lcTrapInformationalEventLog

Type	Access	Description
N/A	N/A	This SNMP trap information message indicates that the Customer Interaction Center server has written an information entry in the Windows Event Log of the host server. Important! To use this trap on the CIC server (or both in a switchover pair) and the subsystems, you must set the following keys in the specified path to 1: <pre>HKEY_LOCAL_MACHINE \SOFTWARE \Wow6432 \Node \Interactive Intelligence \EIC \Remoco \EIC Subsystems[subsystem_name] \Log Event Filter</pre> Error Log Event Info Log Event Warning Log Event After modifying these Registry keys, you must restart the server for these changes to take effect. This SNMP trap message contains the following objects: i3lcTrapInfoEventLogSubsys i3lcTrapInfoEventLogMsgID i3lcTrapInfoEventLogMsg

i3lcTrapWarningEventLog

Type	Access	Description
N/A	N/A	This SNMP trap warning message indicates that the Customer Interaction Center server has written a warning entry in the Windows Event Log of the host server. Important! To use this trap on the CIC server (or both in a switchover pair) and the subsystems, you must set the following keys in the specified path to 1: <pre>HKEY_LOCAL_MACHINE \SOFTWARE \Wow6432 \Node \Interactive Intelligence \EIC \Remoco \EIC Subsystems[subsystem_name] \Log Event Filter</pre> Error Log Event Info Log Event Warning Log Event After modifying these Registry keys, you must restart the server for these changes to take effect. This SNMP trap message contains the following objects: i3lcTrapWarningEventLogSubsys i3lcTrapWarningEventLogMsgID i3lcTrapWarningEventLogMsg

i3lcTrapErrorEventLog

Type	Access	Description
N/A	N/A	This SNMP trap error message indicates that the Customer Interaction Center server has written an error entry in the Windows Event Log of the host server. Important! To use this trap on the CIC server (or both in a switchover pair) and the subsystems, you must set the following keys in the specified path to 1: <pre>HKEY_LOCAL_MACHINE \SOFTWARE \Wow6432 \Node \Interactive Intelligence \EIC \Remoco \EIC Subsystems[<i>subsystem_name</i>] \Log Event Filter</pre> Error Log Event Info Log Event Warning Log Event After modifying these Registry keys, you must restart the server for these changes to take effect. This SNMP trap message contains the following objects: i3lcTrapErrorEventLogSubsys i3lcTrapErrorEventLogMsgID i3lcTrapErrorEventLogMsg

i3lcCommenceSwitchoverEvent

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that a switchover from a primary Customer Interaction Center server to a backup Customer Interaction Center server has been initiated.

i3lcTSInterfaceYellowAlarm

Type	Access	Description
N/A	N/A	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives a yellow PSTN alarm from the carrier. This SNMP trap message contains the following object: i3lcTrapYellowAlarmTSInterface

i3lcTSInterfaceRedAlarm

Type	Access	Description
N/A	N/A	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives a red PSTN alarm from the carrier. This SNMP trap message contains the following object: i3lcTrapRedAlarmTSInterface

i3lcTSInterfaceAlarmCleared

Type	Access	Description
N/A	N/A	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the Time Division Multiplexer (TDM) interface that receives an alarm clearance message from the carrier. This SNMP trap message contains the following object: i3lcTrapAlarmClearedTSInterface

i3lcTSInterfaceDChannelDown

Type	Access	Description
N/A	N/A	For Customer Interaction Center subsystems that provide connectivity to the Public Switched Telephone Network (PSTN), this object provides the identifier of the interface that receives, from the carrier, an error message that the D-channel for a Time Division Multiplexer (TDM) span is not functional. This SNMP trap message contains the following object: i3lcTrapDChannelDownTSInterface

i3lcDiscontinueSwitchoverEvent

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that a switchover from a primary Customer Interaction Center server to a backup Customer Interaction Center server has been stopped before completion.

i3lcHighLatencyState

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that the Customer Interaction Center server is experiencing significant delays between network packets resulting in delayed interactions, such as receiving calls or chat messages, transferring calls, or placing a call on hold.

i3lcHighLatencyStateClear

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that the Customer Interaction Center server is no longer experiencing significant delays between network packets.

i3lcTracingStoppedInsufficientDiskSpace

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that the Customer Interaction Center is no longer monitoring system resources because the host server has insufficient free storage space to ensure continued core functionality.

i3lcTracingStoppedInsufficientDiskSpaceCleared

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that the Customer Interaction Center server has re-enabled the monitoring of system resources as the host server has adequate free storage space.

i3lcSubsystemInTroubleTrap

Type	Access	Description
N/A	N/A	This SNMP trap message indicates that a subsystem of the Customer Interaction Center server is not functioning optimally or has recovered from a trap.

reporting_plugin.mib

The reporting_plugin.mib enables you to monitor plugin status through your MIB browser.

reportingplugin objects

reportingpluginTotalReportingTunnelConnections

Type	Access	Description
Unsigned32	read-only	The number of open http tunnel connections against this instance of the Reporting Plugin. The number of this value is intended for use by Genesys personel and software.

reportingpluginLongestActiveConnection

Type	Access	Description
TimeTicks	read-only	The duration that the longest active reporting tunnel has been open. The number of this value is intended for use by Genesys personnel and software.

reportingpluginHighestDataTransferConnection

Type	Access	Description
Unsigned32	read-only	The amount of data in KB transferred over the most heavily used connection in the last 30 seconds. The number of this value is intended for use by Genesys personel and software.

reportingpluginTotalReportingTunnelErrorConnections

Type	Access	Description
Unsigned32	read-only	The number of open http tunnel connections against this instance of the Reporting Plugin that have reported an error status. The number of this value is intended for use by Genesys personel and software.

Interaction Recorder

This section contains information about the following .mib file and SNMP object types:

- [i3icrecorder.mib](#)
- [i3RecGeneral](#)
- [i3RecContentServerInfo](#)
- [i3RecTrapVars objects](#)
- [i3RecTraps objects](#)

i3icrecorder.mib

The `i3icrecorder.mib` file contains the following SNMP object types:

SNMP object type	Description
General objects	These objects contain version information of the CIC subsystem. See i3RecGeneral .
Interaction Recorder Remote Content Service information objects	These objects provide information on the configuration of Interaction Recorder Remote Content Service servers. See i3RecContentServerInfo .
Trap variables	These object provide the configurable settings as they relate to trap messages for Interaction Recorder Remote Content Service servers. See i3RecTrapVars objects .
Traps	These objects contain informational, error, or warning messages that occur for Interaction Recorder Remote Content Service servers. See i3RecTraps objects .

i3RecGeneral

i3RegGenFileVersion

Type	Access	Description
DisplayString	read-only	The file version information for Interaction Recorder.

i3RecContentServerInfo

i3RecContentServerInfoTable

Type	Access	Description
N/A	not-accessible	Table containing information about Interaction Recorder Remote Content Service servers.

i3RecContentServerInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3ContentServerInfoTable. Each entry is applicable for each Interaction Recorder Remote Content Service server. Each entry contains data for the following objects: i3RecContentServerId i3RecContentServerHostFqdn i3RecContentServerHostPort i3RecContentServerRegistered i3RecContentServerMemoryUsage i3RecContentServerCpuUsage i3RecContentServerLocalFreeSpace i3RecContentServerSharedFreeSpace i3RecContentServerConfiguredForS3 i3RecContentServerAvailableHttpClientConnections i3RecContentServerSuccessfulRecordingsLastHour i3RecContentServerFailedRecordingsLastHour i3RecContentServerInfoTracingFreeSpace

i3RecContentServerId

Type	Access	Description
Unsigned32	read-only	The unique identifier for this Interaction Recorder Remote Content Service server, which Customer Interaction Center persists in the DS subsystem. The Interaction Recorder server identifier is always 0.

i3RecContentServerHostFqdn

Type	Access	Description
DisplayString	read-only	The Fully-Qualified Domain Name (FQDN) of this Interaction Recorder Remote Content Service server.

i3RecContentServerHostPort

Type	Access	Description
Integer	read-only	The port number used on this Interaction Recorder Remote Content Service server for moving files and communicating the other systems. For HTTPS operations, the port number is one value higher (+1).

i3RecContentServerRegistered

Type	Access	Description
TruthValue	read-only	This object indicates if the Interaction Recorder Remote Content Service server is connected and registered with a Customer Interaction Center. If this value is false, the values for other MIB objects for this server will not update.

i3RecContentServerMemoryUsage

Type	Access	Description
Gauge32	read-only	The amount of Random Access Memory (RAM) that this Interaction Recorder Remote Content Service server is using.

i3RecContentServerCpuUsage

Type	Access	Description
Gauge32	read-only	The percentage of CPU that this Interaction Recorder Remote Content Service server is using.

i3RecContentServerLocalFreeSpace

Type	Access	Description
Gauge32	read-only	The total amount, in gigabytes, of all free local storage space that is available to this Interaction Recorder Remote Content Service server.

i3RecContentServerSharedFreeSpace

Type	Access	Description
Gauge32	read-only	The total amount, in gigabytes, of all free shared storage locations that are available to this Interaction Recorder Remote Content Service server.

i3RecContentServerConfiguredForS3

Type	Access	Description
TruthValue	read-only	This value indicates if this Interaction Recorder Remote Content Service server is configured to access storage space through Amazon Simple Storage Service (Amazon S3).

i3RecContentServerAvailableHttpClientConnections

Type	Access	Description
Gauge32	read-only	The number of HTTP client connections that this Interaction Recorder Remote Content Service server supports before it rejects additional connections.

i3RecContentServerSuccessfulRecordingsLastHour

Type	Access	Description
Gauge32	read-only	The number of recordings that this Interaction Recorder Remote Content Service server successfully processed in the last 60 minutes.

i3RecContentServerFailedRecordingsLastHour

Type	Access	Description
Gauge32	read-only	The number of recordings that this Interaction Recorder Remote Content Service server failed to process in the last 60 minutes.

i3RecContentServerInfoTracingFreeSpace

Type	Access	Description
Gauge32	read-only	The amount of free storage space, in gigabytes, that is available to this Interaction Recorder Remote Content Service server for the purpose of storing trace logs.

i3RecContentServerStorageInfoTable

Type	Access	Description
N/A	not-accessible	Table containing information about all storage locations that are accessible by this indexed Interaction Recorder Remote Content Service server. This value is updated at every directory stat update interval.

i3RecContentServerStorageInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3RecContentServerStorageInfoTable. Each entry is applicable for each Interaction Recorder Remote Content Service server. Each entry contains data for the following objects: - i3RecContentServerStorageId - i3RecContentServerIndexFqdn - i3RecContentServerStoragePath - i3RecContentServerStorageFreeSpace

i3RecContentServerStorageId

Type	Access	Description
Unsigned32	read-only	The numeric identifier assigned to this Interaction Recorder Remote Content Service server's storage location.

i3RecContentServerIndexFqdn

Type	Access	Description
DisplayString	read-only	The Fully-Qualified Domain Name (FQDN) of this Interaction Recorder Remote Content Service server storage index entry.

i3RecContentServerStoragePath

Type	Access	Description
DisplayString	read-only	The path of the storage location for this Interaction Recorder Remote Content Service server. This object supports the specification of an Amazon Simple Storage Service (Amazon S3) location.

i3RecContentServerStorageFreeSpace

Type	Access	Description
Gauge32	read-only	The amount of free storage space for the location specified by the i3RecContentServerStoragePath object. Note: This object is not set if the i3RecContentServerStoragePath object is set to an Amazon S3 location.

i3RecTrapVars objects

i3RecSpecificTrapType

Type	Access	Description
Integer	accessible-for-notify	This variable object specifies the type of trap notification: • 1 - transferFailure • 2 - regionLowDiskSpace • 3 - sharedStorageNotAccessible

i3RecMediaSourcePath

Type	Access	Description
DisplayString	accessible-for-notify	This variable object specifies the path of the media source that is associated with the i3RecTrapTransferFailure trap.

i3RecMediaDestinationPath

Type	Access	Description
DisplayString	accessible-for-notify	This variable object specifies the path of the media source that is associated with the i3RecTrapTransferFailure trap.

i3RecRegionName

Type	Access	Description
DisplayString	accessible-for-notify	This variable object specifies the region name that is associated with the i3RecRegionLowDiskSpace trap.

I3RecTraps objects

I3RecTrapsPrefix

Type	Access	Description
N/A	N/A	This object is a container for the following traps of the <code>i3icrecorder.mib</code> file.

i3RecTrapTransferFailure

Type	Access	Description
N/A	N/A	This trap is generated when an Interaction Recorder Remote Content Service server fails to transfer a file. To prevent SNMP message flooding, this trap provides subsequent failures to transfer a specific file once every 5 minutes. This trap includes the following objects: • <code>i3RecContentServerId</code> • <code>i3RecMediaDestinationPath</code> • <code>i3RecMediaSourcePath</code>

i3RecTrapRegionLowDiskSpace

Type	Access	Description
N/A	N/A	This trap is generated when the available storage space for all Interaction Recorder Remote Content Service servers in a configured region is less than 5 gigabytes. This trap is generated at each directory stat update interval until the problem is correct. This trap includes the following objects: • <code>i3RecRegionName</code>

i3RecTrapSharedStorageNotAccessible

Type	Access	Description
N/A	N/A	This trap is generated when a Interaction Recorder Remote Content Service servers cannot access a shared storage space. This trap is generated at each directory stat update interval until the problem is correct. This trap includes the following objects: • <code>i3RecMediaDestinationPath</code>

Interaction Media Server

This section contains information about the following .mib files and SNMP object types:

- [INTERACTION-MEDIASERVER.mib](#)
- [i3MsGeneral objects](#)
- [i3MsInfo objects](#)
- [i3MsTraps objects](#)
- [HOST-RESOURCES-MIB.mib](#)

INTERACTION-MEDIASERVER.mib

The INTERACTION-MEDIASERVER.mib file contains the following SNMP object types:

SNMP object type	Description
General objects	These objects contain information of the host system such as operational status, product version, memory usage, and other configuration details. See i3MsGeneral objects .
Information objects	These objects contain information on media engines, which facilitate communications by Interaction Media Server, and configured Customer Interaction Center servers with which this Interaction Media Server can communicate. See i3MsInfo objects .
Traps	These objects contain informational, error, or warning messages that occur on the Interaction Media Server host system. See i3MsTraps objects .

i3MsGeneral objects

i3MsGeneralInfoCurrentTimeStamp

Type	Access	Description
DisplayString	read-only	The current time as reported by Media Server, in GMT.

i3MsGeneralInfoOperStatus

Type	Access	Description
Integer	read-only	Operational status of Interaction Media Server. This object supports the following values: 1 = unknown 2 = up 3 = down 4 = congested 5 = restarting 6 = quiescing 7 = testing

i3MsGeneralInfoOperStatusDuration

Type	Access	Description
Unsigned32	read-only	The duration of the current status in seconds

i3MsGeneralInfoFileVersion

Type	Access	Description
DisplayString	read-only	Current product file version

i3MsGeneralInfoBuildDescription

Type	Access	Description
DisplayString	read-only	Current product build description

i3MsGeneralInfoLicenseType

Type	Access	Description
DisplayString	read-only	Current product license type.

i3MsGeneralInfoLicenseExpiration

Type	Access	Description
DisplayString	read-only	Expiration date of current license

i3MsGeneralInfoFqdn

Type	Access	Description
DisplayString	read-only	The Fully Qualified Domain Name (FQDN) of the Media Server.

i3MsGeneralInfoSnmpTrapDestinations

Type	Access	Description
DisplayString	read-only	A comma-separated list of hostnames and IP addresses which are currently configured as SNMP trap destinations.

i3MsGeneralInfoMemoryUsage

Type	Access	Description
Gauge32	read-only	Memory usage of Interaction Media Server, in bytes.

i3MsGeneralInfoTracelogFilePath

Type	Access	Description
DisplayString	read-only	Local file path where tracelogs are kept.

i3MsGeneralInfoTracelogFreeDiskSpace

Type	Access	Description
Gauge32	read-only	Amount of remaining (free) space on the disk available for tracelog files, in MiB

i3MsGeneralInfoTracelogTotalDiskSpace

Type	Access	Description
Gauge32	read-only	Total amount of disk space reserved for tracelog files, in MiB

i3MsGeneralInfoHttpCacheFilePath

Type	Access	Description
DisplayString	read-only	Local file path where HTTP cache files are kept.

i3MsGeneralInfoHttpCacheFreeDiskSpace

Type	Access	Description
Gauge32	read-only	Amount of remaining (free) space on the disk available for HTTP cache files, in MiB

i3MsGeneralInfoHttpCacheTotalDiskSpace

Type	Access	Description
Gauge32	read-only	Total amount of disk space reserved for HTTP cache files, in MiB

i3MsInfo objects

i3MsAudioEngineInfoTable

Type	Access	Description
N/A	not-accessible	Table containing all media engine parameters.

i3MsAudioEngineInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3MsAudioEngineInfoTable. Each entry is applicable for each activated media engine. Each entry contains data for the following objects: i3MsAudioEngineId i3MsAudioEngineThreadID i3MsAudioEngineCPUID i3MsAudioEngineLocation i3MsAudioEngineCurrentLoad i3MsAudioEngineAverageLoad i3MsAudioEngineGraphCount i3MsAudioEngineElementCount

i3MsAudioEngineId

Type	Access	Description
Integer	read-only	Index into Audio Engine Table

i3MsAudioEngineThreadID

Type	Access	Description
DisplayString	read-only	The local thread ID of this media engine

i3MsAudioEngineCPUID

Type	Access	Description
Integer	read-only	The local CPU ID of this media engine

i3MsAudioEngineLocation

Type	Access	Description
DisplayString	read-only	The Location ID of this media engine

i3MsAudioEngineCurrentLoad

Type	Access	Description
DisplayString	read-only	The current load of this media engine, in percent capacity

i3MsAudioEngineAverageLoad

Type	Access	Description
DisplayString	read-only	The average load of this media engine, in percent capacity, over last 30 seconds

i3MsAudioEngineGraphCount

Type	Access	Description
Gauge32	read-only	The number of active graphs within this media engine

i3MsAudioEngineElementCount

Type	Access	Description
Gauge32	read-only	The total number of active graph elements within this media engine

i3MsCommandServerInfoTable

Type	Access	Description
N/A	not-accessible	Table containing all listed Command Servers.

i3MsCommandServerInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3MsCommandServerInfoTable. Each entry represents a single defined Command Server. Each entry contains data for the following objects: - i3MsCmdSrvId - i3MsCmdSrvStatus - i3MsCmdSrvStatusLabel - i3MsCmdSrvStatusDetail - i3MsCmdSrvNotifierHost - i3MsCmdSrvClient - i3MsCmdSrvClientId - i3MsCmdSrvAcceptSessions - i3MsCmdSrvResourceCount - i3MsCmdSrvLogicalCapacity - i3MsCmdSrvRecFilePath - i3MsCmdSrvRecFreeDiskSpace - i3MsCmdSrvRecTotalDiskSpace - i3MsCmdSrvResourceAgeHistogram

i3MsCmdSrvId

Type	Access	Description
Gauge32	read-only	Unique Command Server identifier

i3MsCmdSrvStatus

Type	Access	Description
Integer	read-only	Enumeration indicating broad classification of status. This object supports the following values: 0 = unknown 1 = ready 2 = notready 3 = error

i3MsCmdSrvStatusLabel

Type	Access	Description
DisplayString	read-only	Extra status information

i3MsCmdSrvStatusDetail

Type	Access	Description
DisplayString	read-only	More detailed status information

i3MsCmdSrvNotifierHost

Type	Access	Description
DisplayString	read-only	DNS name or IP address of the Notifier for the primary Notifier connection.

i3MsCmdSrvClient

Type	Access	Description
DisplayString	read-only	Name of the Customer Interaction Center server to which the subsystem is connected (empty if not connected)

i3MsCmdSrvClientId

Type	Access	Description
DisplayString	read-only	Unique identifier of the client API instance (empty if not connected)

i3MsCmdSrvAcceptSessions

Type	Access	Description
TruthValue	read-only	Indicates if Command Server can host more resources. This object supports the following values: 1 = true 2 = false

i3MsCmdSrvResourceCount

Type	Access	Description
Gauge32	read-only	The number of resources allocated to this command server

i3MsCmdSrvLogicalCapacity

Type	Access	Description
DisplayString	read-only	The logical capacity of this server (frequency of CPUs multiplied by number of CPUs)

i3MsCmdSrvRecFilePath

Type	Access	Description
DisplayString	read-only	The local file path where recordings are kept.

i3MsCmdSrvRecFreeDiskSpace

Type	Access	Description
Gauge32	read-only	The amount of remaining (free) storage space that is available for recordings, in MiB

i3MsCmdSrvRecTotalDiskSpace

Type	Access	Description
Gauge32	read-only	The total amount of storage space reserved for recordings, in MiB

i3MsCmdSrvResourceAgeHistogram

Type	Access	Description
DisplayString	read-only	The aggregated age of all active resources on this command server, separated into raw histogram bands defined in a comma-separated list of elements of [max_age_in_seconds]:[resource_count]

i3MsTraps objects

i3MsSpecificTrapType

Type	Access	Description
Integer	accessible-for-notify	Contains the type of trap notification. This SNMP trap message supports the following values: 2 = operStatus 3 = adminCredentials 4 = configChange 5 = dnsQueryAlarm 6 = diskLogSpace 7 = memoryUsage 8 = diskRecSpace 9 = dosAttack 10 = i3MsTrapAudioQuality 11 = i3MsTrapAudioFault 12 = i3MsTrapHttpCacheDiskSpace

i3MsTrapOperStatus

Type	Access	Description
N/A	N/A	This trap is generated when the Interaction Media Server changes its own state. If the SNMP service is running, but the Interaction Media Server application is unresponsive, this trap will be sent repeatedly every 30 seconds until the condition is cleared.

i3MsTrapAdminCredentials

Type	Access	Description
N/A	N/A	This trap is generated when the administrator login credentials are changed.

i3MsTrapCmdSrvConfigChange

Type	Access	Description
N/A	N/A	This trap is generated when the configuration of any Command Server within the Media Server is changed. This SNMP trap message contains data for the following object: i3MsCmdSrvId

i3MsTrapDNSQueryAlarm

Type	Access	Description
N/A	N/A	This trap is currently not implemented.

i3MsTrapLogDiskSpace

Type	Access	Description
N/A	N/A	This trap is generated when the amount of free space for tracelog files drops below 100 MiB. Tracing will be disabled until more storage space is provided to the application.

i3MsTrapMemoryUsage

Type	Access	Description
N/A	N/A	This trap is generated when overall memory usage of Interaction Media Server exceeds 1.825 Gb (85 percent of 2Gb process limit).

i3MsTrapRecDiskSpace

Type	Access	Description
N/A	N/A	This trap is generated when the amount of free space available on the recording drive falls below 10 percent and again below 2 percent. Recordings are disabled if the recording drive free space falls to 2 percent or below. This SNMP trap message contains data for the following object: i3MsCmdSrvId

i3MsTrapDOSAttack

Type	Access	Description
N/A	N/A	This trap is currently not implemented.

i3MsTrapAudioQuality

Type	Access	Description
N/A	N/A	This trap is currently not implemented.

i3MsTrapAudioFault

Type	Access	Description
N/A	N/A	This trap is generated when a media engine enters an error or exception state.

i3MsTrapHttpCacheDiskSpace

Type	Access	Description
N/A	N/A	This trap is generated when the amount of free space for HTTP cache files drops below 500 MiB.

i3MsTrapLogDiskSpaceClear

Type	Access	Description
N/A	N/A	This trap is generated after i3MsTrapLogDiskSpace was previously sent and the amount of free space for tracelog files reaches or exceeds 100 MiB.

i3MsTrapMemoryUsageClear

Type	Access	Description
N/A	N/A	This trap is generated after i3MsTrapMemoryUsage was previously sent and overall memory usage of Interaction Media Server drops below 85 percent of the process limit.

i3MsTrapRecDiskSpaceClear

Type	Access	Description
N/A	N/A	This trap is generated after i3MsTrapRecDiskSpace was previously sent and the amount of free space available on the audio recording drive meets or exceeds 10 percent.

i3MsTrapHttpCacheDiskSpaceClear

Type	Access	Description
N/A	N/A	This trap is generated after i3MsTrapHttpCacheDiskSpace was previously sent and the amount of free space for HTTP cache files meets or exceeds 500 MiB.

i3MsTrapAudioEngineLoadLimitClear

Type	Access	Description
N/A	N/A	This trap is generated after i3MsTrapAudioEngineLoadLimit was previously sent and the running average of the audio engine load has fallen below the load limit.

HOST-RESOURCES-MIB.mib

For a list of SNMP objects in this Management Information Base (MIB) file, see [HOST-RESOURCES-MIB.mib](#) in the [General](#) section.

Interaction SIP Proxy

This section contains information about the following .mib files and SNMP object types:

- [INTERACTION-SIP-PROXY.mib](#)
- [i3SpGeneral objects](#)
- [i3SpInfo objects](#)
- [i3SpTraps objects](#)
- [HOST-RESOURCES-MIB.mib](#)

INTERACTION-SIP-PROXY.mib

The `INTERACTION-SIP-PROXY.mib` file contains the following SNMP object types:

SNMP object type	Description
General objects	These objects contain information of the host system such as operational status, product version, memory usage, and other configuration details. See i3SpGeneral objects .
Information objects	These objects contain information regarding IP routes, call counts, destination status, and media engine parameters. See i3SplInfo objects .
Traps	These objects contain informational, error, and warning messages for events that occur on the Interaction SIP Proxy host system. See i3SpTraps objects .

i3SpGeneral objects

i3SpGeneralInfoTable

Type	Access	Description
N/A	not-accessible	Table containing general information about Interaction SIP Proxy server.

i3SpGeneralInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3SpGeneralInfoTable. Each entry contains data for the following objects: i3SpGeneralInfoIndex i3SpGeneralInfoProductVersion i3SpGeneralInfoOperStatus i3SpGeneralInfoLastOperStatusChange i3SpGeneralInfoActiveSessions i3SpGeneralInfoSIPQueueLength i3SpGeneralInfoLicenseType i3SpGeneralInfoHostAddress i3SpGeneralInfoMemoryAddress i3SpGeneralInfoCurrentTimeStamp i3SpGeneralInfoDiskFreeSpace i3SpGeneralInfoSnmpTrapDestinations i3SpGeneralInfoAlertServerStatus i3SpGeneralInfoAlertAdminCredentials i3SpGeneralInfoAlertConfigChanges i3SpGeneralInfoAlertCallDuration i3SpGeneralInfoAlertDNSQueryTimeout i3SpGeneralInfoAlertSIPQueueLength

i3SpGeneralInfoIndex

Type	Access	Description
Integer	read-only	Index into General Plan Table.

i3SpGeneralInfoProductVersion

Type	Access	Description
DisplayString	read-only	The Interaction SIP Proxy version and build number.

i3SpGeneralInfoOperStatus

Type	Access	Description
Integer	read-only	Operational status of Interaction SIP Proxy. This object supports the following values: 1 = unknown 2 = up 3 = down 4 = congested 5 = restarting 6 = quiescing 7 = testing

i3SpGeneralInfoLastOperStatusChange

Type	Access	Description
Counter32	read-only	The duration of the current status, in seconds.

i3SpGeneralInfoActiveSessions

Type	Access	Description
Gauge32	read-only	Count of currently active sessions.

i3SpGeneralInfoSIPQueueLength

Type	Access	Description
Gauge32	read-only	Count of pending SIP transactions.

i3SpGeneralInfoLicenseType

Type	Access	Description
DisplayString	read-only	The Interaction SIP Proxy license type.

i3SpGeneralInfoHostAddress

Type	Access	Description
InetAddress	read-only	The IPv4 host address on which Interaction SIP proxy is listening.

i3SpGeneralInfoMemoryUsage

Type	Access	Description
Gauge32	read-only	Memory usage of Interaction SIP Proxy, in bytes.

i3SpGeneralInfoCurrentTimeStamp

Type	Access	Description
DisplayString	read-only	The current timestamp reference of Interaction SIP Proxy server.

i3SpGeneralInfoDiskFreeSpace

Type	Access	Description
Gauge32	read-only	Amount of remaining free space on the disk used for trace logging, in GiB.

i3SpGeneralInfoSnmpTrapDestinations

Type	Access	Description
DisplayString	read-only	A comma-separated list of hostnames and IP addresses which are currently configured to as SNMP trap destinations.

i3SpGeneralInfoAlertServerStatus

Type	Access	Description
TruthValue	read-only	Indicates whether alerts will be sent when destination server status changes from UP to DOWN. This object supports the following values: 1 = true 2 = false

i3SpGeneralInfoAlertAdminCredentials

Type	Access	Description
TruthValue	read-only	Indicates whether an alert will be sent if the Administrator credentials are changed. This object supports the following values: 1 = true 2 = false

i3SpGeneralInfoAlertConfigChanges

Type	Access	Description
TruthValue	read-only	Indicates whether an alert will be sent if any configuration item, such as protocols, routes, certificates, server plans, etc. are changed. This object supports the following values: 1 = true 2 = false

i3SpGeneralInfoAlertCallDuration

Type	Access	Description
TruthValue	read-only	Indicates whether an alert will be sent if any single call session exceeds a preset duration. This object supports the following values: 1 = true 2 = false

i3SpGeneralInfoAlertDNSQueryTimeout

Type	Access	Description
TruthValue	read-only	Indicates whether an alert will be sent if any single DNS lookup query requires more than 2 seconds. This object supports the following values: 1 = true 2 = false

i3SpGeneralInfoAlertSIPQueueLength

Type	Access	Description
TruthValue	read-only	This alert parameter is currently disabled. It may be implemented in a future release.

i3SpLicenseInfo

i3SpLicenseVersion

Type	Access	Description
DisplayString	read-only	The license version number.

i3SpLicenseDetail

Type	Access	Description
DisplayString	read-only	The license type and details.

i3SpLicenseCompanyName

Type	Access	Description
DisplayString	read-only	The name of the Company to which this license was issued.

i3SpLicenseServerName

Type	Access	Description
DisplayString	read-only	The server name associated with this license

i3SpLicenseFeatureLoadBalancing

Type	Access	Description
TruthValue	read-only	Indicates whether the load-balancing license feature has been activated. This object supports the following values: 1 = true 2 = false

i3SpLicenseRegistrationsCount

Type	Access	Description
Gauge32	read-only	The maximum number of SIP devices allowed to concurrently register with this Interaction SIP Proxy server.

i3SpLicenseMediaPortCount

Type	Access	Description
Gauge32	read-only	The maximum number of concurrent media recordings enabled on this Interaction SIP Proxy server.

i3SpLicenseG723Count

Type	Access	Description
Gauge32	read-only	The maximum number of concurrent G.723 media recordings enabled on this Interaction SIP Proxy server.

i3SpLicenseG729Count

Type	Access	Description
Gauge32	read-only	The maximum number of concurrent G.729 media recordings enabled on this Interaction SIP Proxy server.

i3SpManagedProxyInfo

i3SpManagedProxyState

Type	Access	Description
Integer	read-only	Operational status of Managed Proxy feature. This object supports the following values: 0 = disconnected 1 = pending 2 = activated 3 = rejected

i3SpManagedProxyLastUpdate

Type	Access	Description
DisplayString	read-only	The local time at which the last update message was received from the Customer Interaction Center server.

i3SpManagedProxyRegion

Type	Access	Description
DisplayString	read-only	The geographical region name which has been assigned to this Interaction SIP Proxy server by the Customer Interaction Center administrator.

i3SpManagedProxyHostname

Type	Access	Description
DisplayString	read-only	The local host name of this Interaction SIP Proxy server.

i3SpManagedProxyFqdn

Type	Access	Description
DisplayString	read-only	The fully qualified domain name (FQDN) of this Interaction SIP Proxy server.

i3SpManagedProxyStationCount

Type	Access	Description
Counter32	read-only	The number of local stations which are currently being remotely managed by the Customer Interaction Center server. The stations are enumerated in the i3SpAuthenticationTable.

i3SpManagedProxyProvisionProxyRunning

Type	Access	Description
TruthValue	read-only	Indicates if the Provision Proxy feature is currently running. This object supports the following values: 1 = true 2 = false

i3SpMediaManagerInfo

i3SpMediaRecFilePath

Type	Access	Description
DisplayString	read-only	The local file path destination where recordings are kept.

i3SpMediaRecFreeDiskSpace

Type	Access	Description
Gauge32	read-only	The amount of remaining free storage space used for recordings, in MiB.

i3SpMediaRecTotalDiskSpace

Type	Access	Description
Gauge32	read-only	The total allocated storage size used for recordings, in MiB. This value includes free space and used space.

i3SpmediaResourceAgeHistogram

Type	Access	Description
DisplayString	read-only	The aggregated age of all active audio resources on this Interaction SIP Proxy server, separated into raw histogram bands defined in a comma-separated list of elements of [max_age_in_seconds]: [resource_count].

i3SpTracelogInfo

i3SpTracelogFilePath

Type	Access	Description
DisplayString	read-only	The local file path destination where tracelog files are kept.

i3SpTracelogFreeDiskSpace

Type	Access	Description
Gauge32	read-only	The amount of remaining free space on the hard drive used for trace logging, in MiB.

i3SpTracelogTotalDiskSpace

Type	Access	Description
Gauge32	read-only	The total allocated size of the hard drive used for tracelog files, in MiB. This value includes free space and used space.

i3SpDiagnostics

i3SpDiagCpuTimeTotalPct

Type	Access	Description
Gauge32	read-only	The overall CPU usage of this server, across all cores and processes, in percent capacity.

i3SpDiagProcessTimeTotalPct

Type	Access	Description
Gauge32	read-only	The CPU usage of this server due to the Interaction SIP Proxy process only, in percent capacity.

i3SpDiagPrivateBytes

Type	Access	Description
Gauge32	read-only	The amount of memory current in use by the Interaction SIP Proxy process, in Kilobytes.

i3SpDiagIOBytesPerSec

Type	Access	Description
Gauge32	read-only	The rate at which the Interaction SIP Proxy process is reading and writing bytes in I/O operations. This value represents all I/O activity generated by the process to include file network and device I/Os.

i3SpDiagTCPConnectionCount

Type	Access	Description
Gauge32	read-only	The number of currently active TCP connections to this Interaction SIP Proxy server.

i3SpDiagTLSConnectionCount

Type	Access	Description
Gauge32	read-only	The number of currently active TLS connections to this Interaction SIP Proxy server.

i3SpDiagSIPSessionCount

Type	Access	Description
Gauge32	read-only	The total number of all SIP sessions being managed, in ALL of their various states (not just 'connected').

i3SpDiagSIPQueueLength

Type	Access	Description
Gauge32	read-only	The number of SIP messages waiting to be processed.

i3SpTrapVars

i3SpSpecificTrapType

Type	Access	Description
Integer	accessible-for-notify	Contains the type of trap notification This object contains one of the following values: 1 = operStatus 2 = destServerStatus 3 = adminCredentials 4 = configChange 5 = dnsQueryAlarm 6 = sipQueueLength 7 = sessionDuration 8 = memoryUsage 9 = diskSpace 10 = dosAttack 11 = recDiskSpace

i3SpSessionCallID

Type	Access	Description
DisplayString	accessible-for-notify	Specific call ID value associated with i3SpTrapSessionDuration.

i3SpSessionConnectDuration

Type	Access	Description
Counter32	accessible-for-notify	Call duration, in minutes, associated with i3SpTrapSessionDuration.

i3SpInfo objects

i3SpServerPlanInfoTable

Type	Access	Description
N/A	not-accessible	Table containing all destination IP addresses, call counts, and Up/Down status for each destination.

i3SpServerPlanInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3SpServerPlanInfoTable. Each entry is applicable for each destination server of all active Server Plans. Each entry contains data for the following objects: - i3SpServerPlanInfoIndex - i3SpServerPlanInfoName - i3SpServerPlanInfoIPAddress - i3SpServerPlanInfoProtocol - i3SpServerPlanInfoCallCount - i3SpServerPlanInfoStatus - i3SpServerPlanInfoStatusSince - i3SpServerPlanInfoStatusDuration

i3SpServerPlanInfoIndex

Type	Access	Description
Integer	read-only	Index into Server Plan Table.

i3SpServerPlanInfoName

Type	Access	Description
DisplayString	read-only	The server plan name to which this server belongs.

i3SpServerPlanInfoIPAddress

Type	Access	Description
DisplayString	read-only	The address or hostname of this destination server.

i3SpServerPlanInfoProtocol

Type	Access	Description
Integer	read-only	Protocol type. This object supports the following values: 0 = notSet 1 = udp 2 = tcp 3 = tls 4 = sctp 5 = other

i3SpServerPlanInfoCallCount

Type	Access	Description
Counter32	read-only	The number of calls currently in progress.

i3SpServerPlanInfoStatus

Type	Access	Description
Integer	read-only	Destination server status up/down. This object supports the following values: 0 = none 1 = up 2 = down

i3SpServerPlanInfoStatusSince

Type	Access	Description
DisplayString	read-only	Timestamp when status last changed.

i3SpServerPlanInfoStatusDuration

Type	Access	Description
Counter32	read-only	Duration of current status, in seconds.

i3SpAudioEngineInfoTable

Type	Access	Description
N/A	not-accessible	Table containing all audio engine parameters.

i3SpAudioEngineInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3SpAudioEngineInfoTable. Each entry is applicable for each activated media engine. Each entry contains data for the following objects: - i3SpAudioEngineId - i3SpAudioEngineThreadID - i3SpAudioEngineCPUID - i3SpAudioEngineLocation - i3SpAudioEngineCurrentLoad - i3SpAudioEngineAverageLoad - i3SpAudioEngineGraphCount - i3SpAudioEngineElementCount

i3SpAudioEngineId

Type	Access	Description
Integer	read-only	Index into Audio Engine Table.

i3SpAudioEngineThreadID

Type	Access	Description
DisplayString	read-only	The local thread ID of this media engine.

i3SpAudioEngineCPUID

Type	Access	Description
Integer	read-only	The local CPU ID of this media engine.

i3SpAudioEngineLocation

Type	Access	Description
DisplayString	read-only	The Location ID of this media engine.

i3SpAudioEngineCurrentLoad

Type	Access	Description
DisplayString	read-only	The current load of this media engine, in percent capacity.

i3SpAudioEngineAverageLoad

Type	Access	Description
DisplayString	read-only	The average load of this media engine, in percent capacity, over the last 30 seconds.

i3SpAudioEngineGraphCount

Type	Access	Description
Gauge32	read-only	The number of active graphs within this media engine.

i3SpAudioEngineElementCount

Type	Access	Description
Gauge32	read-only	The total number of active graph elements within this media engine.

i3SpTraps objects

i3SpTrapOperStatus

Type	Access	Description
N/A	N/A	This trap is generated when the Interaction SIP Proxy changes its own state. If the SNMP service is running, but the Interaction SIP Proxy application is unresponsive, this trap will be sent repeatedly every 30 seconds until the condition is cleared. This SNMP trap message contains the following objects: i3SpGeneralInfoOperStatus

i3SpTrapDestServerStatus

Type	Access	Description
N/A	N/A	This trap is generated when a destination server listed in any active server plan changes state from UP to DOWN or vice-versa. This trap message contains the following objects: i3SpServerPlanInfoIPAddress i3SpServerPlanInfoCallCount i3SpServerPlanInfoStatus

i3SpTrapAdminCredentials

Type	Access	Description
N/A	N/A	This trap is generated when the administrator login credentials are changed. This trap message contains the following objects: i3SpGeneralInfoCurrentTimeStamp

i3SpTrapConfigChange

Type	Access	Description
N/A	N/A	This trap is generated when any Interaction SIP Proxy configuration items are changed. This trap message contains the following objects: i3SpGeneralInfoCurrentTimeStamp

i3SpTrapDNSQueryAlarm

Type	Access	Description
N/A	N/A	This trap is generated when any DNS name lookup duration exceeds 2 seconds. This trap message contains the following objects: i3SpGeneralInfoCurrentTimeStamp

i3SpTrapSIPQueueLength

Type	Access	Description
N/A	N/A	Deprecated. This item is currently under review. This trap message contains the following objects: i3SpGeneralInfoSIPQueueLength i3SpGeneralInfoCurrentTimeStamp

i3SpTrapSessionDuration

Type	Access	Description
N/A	N/A	This trap is signaled if any call exceeds the Excessive Call Duration threshold that is configured in the Alerts setup. This trap message contains the following objects: i3SpSessionCallID i3SpSessionConnectDuration

i3SpTrapMemoryUsage

Type	Access	Description
N/A	N/A	This trap is generated when overall memory usage of Interaction SIP Proxy exceeds 1.825 Gb (85% of 2Gb process limit). This trap message contains the following objects: i3SpGeneralInfoMemoryUsage

i3SpTrapDiskSpace

Type	Access	Description
N/A	N/A	This trap is generated when the amount of free space on the drive used for trace logging falls below 2 GiB (gigabytes). This trap message contains the following objects: i3SpTraceLogFreeDiskSpace

i3SpTrapDOSAttack

Type	Access	Description
N/A	N/A	This trap is currently disabled. This trap message contains the following objects: i3SpGeneralInfoCurrentTimeStamp

i3SpTrapRecFreeDiskSpace

Type	Access	Description
N/A	N/A	This trap is signaled when the amount of free disk space for audio recordings falls below 2 GiB (gigabytes). This trap message contains the following objects: i3SpMediaRecFreeDiskSpace

HOST-RESOURCES-MIB.mib

For a list of SNMP objects in this Management Information Base (MIB) file, see [HOST-RESOURCES-MIB.mib](#) in the [General](#) section.

Session Manager

This section contains information about the following .mib file and SNMP object type:

- [i3icsessionmanager.mib](#)
- [sessionmanagerInfo objects](#)

i3icsessionmanager.mib

The `i3icsessionmanager.mib` Management Information Base (MIB) file was introduced in CIC 2016 R1. It provides the ability of network and telephony administrators to monitor and determine the current health of a Session Manager instance. See [sessionmanagerInfo objects](#).

sessionmanagerInfo objects

sessionmanagerTotalSessionsInfoTable

Type	Access	Description
N/A	not-accessible	Table containing the total number of current sessions by CIC subsystem with this Interaction Session Manager instance

sessionmanagerTotalSessionsInfoTableEntry

Type	Access	Description
N/A	not-accessible	An entry in <code>sessionmanagerTotalSessionsInfoTable</code>. Each entry represents a CIC subsystem and its number of current sessions with this Interaction Session Manager instance. Each entry contains data for the following objects: <code>sessionmanagerProductId</code> <code>sessionmanagerProductName</code> <code>sessionmanagerProductTotalSessions</code>

sessionmanagerProductId

Type	Access	Description
Integer	read-only	The index number of a CIC subsystem that has current sessions with this Interaction Session Manager instance.

sessionmanagerProductName

Type	Access	Description
DisplayString	read-only	The name of the CIC subsystem that has current sessions with this Interaction Session Manager instance.

sessionmanagerProductTotalSessions

Type	Access	Description
Unsigned32	read-only	The number of current sessions for the associated CIC subsystem with this Interaction Session Manager instance.

sessionmanagerTotalNumberStatisticsCached

Type	Access	Description
Unsigned32	read-only	The number of alerts that Interaction Session Manager has encountered and saved for statistical purposes. This value is intended for use by Genesys personnel and software.

sessionmanagerTotalNumberStatisticsWatched

Type	Access	Description
Unsigned32	read-only	The number of statistics that Session Manager is watching. This MIB object is closely related to the sessionmanagerTotalNumberStatisticsCached object as it also correlates to the amount of memory used in the process of monitoring, caching, and averaging usage statistics.

sessionmanagerTotalSessionsWatchingStatistics

Type	Access	Description
Unsigned32	read-only	The number of sessions from typical CIC products that are watching at least one statistic on this Session Manager host. This value can help you determine if one or more CIC products are dominating this instance of Session Manager.

sessionmanagerTotalAlertsCached

Type	Access	Description
Unsigned32	read-only	In CIC, alerts are notifications of contact center problems, such as having too few agents available for a large number of interactions. This object provides the number of alerts that Session Manager has encountered and saved for statistical purposes. This value is intended for use by Genesys personnel and software.

sessionmanagerTotalAlertsWatched

Type	Access	Description
Unsigned32	read-only	In CIC, alerts are notifications of contact center problems, such as having too few agents available for a large number of interactions. This object provides the number of alerts that Session Manager has encountered and is actively monitoring for statistical purposes. This value is intended for use by Genesys personnel and software.

sessionmanagerTotalSessionsWatchingAlerts

Type	Access	Description
Unsigned32	read-only	In CIC, alerts are notifications of contact center problems, such as having too few agents available for a large number of interactions. This object provides the number CIC subsystems that are actively monitoring these alerts through connections to Interaction Session Manager. This value is intended for use by Genesys personnel and software.

sessionmanagerTopBandwidthUsers

Type	Access	Description
Octet String	read-only	A list of the top 20 bandwidth users of this Session Manager instance over the last 5 minutes. Users and the amount of associated bandwidth are separated by the character.

StatAlert Server

This section contains information about the following .mib file and SNMP object type:

- [i3icstatalertserver.mib](#)
- [StatalertserverObjects objects](#)

i3icstatalertserver.mib

The `i3icstatalertserver.mib` Management Information Base (MIB) file was introduced in CIC 2016 R1. It enables network and telephony administrators to monitor system health of StatAlert Server through SNMP. See [StatalertserverObjects objects](#).

StatalertserverObjects objects

statisticsByConnections

Type	Access	Description
N/A	not-accessible	This table contains the number of statistics requested of StatAlertServer from various CIC products.

statisticByConnection

Type	Access	Description
N/A	not-accessible	Each entry represents a CIC product connection and the number of statistics that it has requested. Each entry contains data for the following objects: connectionIdentifier statisticsWatched

connectionIdentifier

Type	Access	Description
Unsigned32	read-only	The unique identifier for the associated CIC product connection

statisticsWatched

Type	Access	Description
Unsigned32	read-only	The number of statistics requested by the associated CIC product connection

statisticsByProviders

Type	Access	Description
N/A	not-accessible	Table containing the number of statistics provided by each CIC product.

statisticsByProvider

Type	Access	Description
N/A	not-accessible	Each entry represents a CIC product and the number of statistics that it provided. Each entry contains data for the following objects: providerIdentifier statisticsProvided

providerIdentifier

Type	Access	Description
DisplayString	read-only	The name of the associated CIC product

statisticsProvided

Type	Access	Description
Unsigned32	read-only	The number of statistics provided by the associated CIC product

Interaction Edge

This section contains information about the following .mib files and SNMP object types:

.mib Files	SNMP Object types
Immib2.mib	Common objects Server objects Workstation objects Domain objects
mib_ii.mib	System objects Interfaces objects AT objects IP objects ICMP objects TCP objects UDP objects EGP objects SNMP objects Trap messages
aus.mib	ausMibStatus ausAggregatedController ausController ausControllerRelationship ausI2ORaidController ausCCodeController ausHostRAIDController ausServeRAIDController ausChannel ausChannelRelationship ausDevice ausDevicePort ausStorageDevice ausEnclosureDevice ausExternalRaidDevice ausOtherDevice ausEnclosureFan ausEnclosurePowerSupply ausEnclosureTemperatureSensor ausEnclosureSlot ausArray ausExtent ausSpare ausEventLogCount ausEventLog ausTrapObjects Trap messages
hostmib.mib	hrSystem objects hrStorage objects hrDevice objects hrSWRun objects hrSWRunPerf objects hrSWInstalled objects

Immib2.mib

The `Immib2.mib` Management Information Base (MIB) file was originally created by Microsoft for its LAN Manager networking product for monitoring workstation and server services.

The `Immib2.mib` file contains the following SNMP object types:

SNMP object type	Description
common	These objects contain information on the networking software and statistics of overall network operations for the host system. See Common objects .
server	These objects contain detailed information on the server process for the host system, including files opened, permissions, sessions, byte counts, users, shares, and other related information. See Server objects .
workstation	These objects contain information on the workstation process for the host system, such as sessions, connections, and redirections. See Workstation objects .
domain	These objects contain information on the domains to which this host system belongs. See Domain objects .

Common objects

Common Objects

comVersionMaj

Type	Access	Description
Octet String	read-only	The major release version number of the software.

comVersionMin

Type	Access	Description
Octet String	read-only	The minor release version number of the software.

comType

Type	Access	Description																		
Octet String	read-only	The type of LAN Manager software this system is running. If no server is running the node is a workstation. This object type is an octet string of length 4 treated as a bit map (with the least significant bit being bit 0): OCTET 1: <table><tr><th>Software Type</th><th>Bit</th></tr><tr><td>workstation</td><td>0</td></tr><tr><td>server</td><td>1</td></tr><tr><td>sqlserver</td><td>2</td></tr><tr><td>Primary DC (domain controller)</td><td>3</td></tr><tr><td>Backup DC (domain controller)</td><td>4</td></tr><tr><td>Time Source</td><td>5</td></tr><tr><td>AFP Server</td><td>6</td></tr><tr><td>Netware Server</td><td>7</td></tr></table> OCTET 2: undefined OCTET 3: undefined OCTET 4: undefined	Software Type	Bit	workstation	0	server	1	sqlserver	2	Primary DC (domain controller)	3	Backup DC (domain controller)	4	Time Source	5	AFP Server	6	Netware Server	7
Software Type	Bit																			
workstation	0																			
server	1																			
sqlserver	2																			
Primary DC (domain controller)	3																			
Backup DC (domain controller)	4																			
Time Source	5																			
AFP Server	6																			
Netware Server	7																			

comStatStart

Type	Access	Description
Integer	read-only	The time, represented as seconds since January 1, 1970, at which the statistics on this node were last cleared.

comStatNumNetIOs

Type	Access	Description
Counter	read-only	The number of network I/O operations submitted on this node.

comStatFiNetIOs

Type	Access	Description
Counter	read-only	The number of network I/O operations on this node that failed issue.

comStatFcNetIOs

Type	Access	Description
Counter	read-only	The number of network I/O operations on this node that failed completion.

Server objects

svDescription

Type	Access	Description
DisplayString	read-write	A comment describing this server.

svSvcNumber

Type	Access	Description
Integer	read-only	The number of network services installed on this server.

svSvcTable

Type	Access	Description
N/A	not-accessible	A list of service entries describing network services installed on this server.

svSvcEntry

Type	Access	Description
N/A	not-accessible	The names of the network services installed on this server. Each entry contains data for the following objects: - svSvcName - svSvcInstalledState - svSvcOperatingState - svSvcCanBeUninstalled - svSvcCanBePaused

svSvcName

Type	Access	Description
DisplayString	read-only	The name of the network service described by this entry.

svSvcInstalledState

Type	Access	Description
Integer	read-only	The installation status of the network service specified by this entry. This object supports the following values: 1 = uninstalled 2 = install-pending 3 = uninstall-pending 4 = installed

svSvcOperatingState

Type	Access	Description
Integer	read-only	The operating status of the network service specified by this entry. This object supports the following values: 1 = active 2 = continue-pending 3 = pause-pending 4 = paused

svSvcCanBeUninstalled

Type	Access	Description
Integer	read-only	Whether or not the network service specified by this entry can be uninstalled. This object supports the following values: 1 = cannot be uninstalled 2 = can be uninstalled

svSvcCanBePaused

Type	Access	Description
Integer	read-only	Whether or not the network service specified by this entry can be paused. This object supports the following values: 1 = cannot be paused 2 = can be paused

svStatOpens

Type	Access	Description
Counter	read-only	The total number of files that have been opened on the server.

svStatDevOpens

Type	Access	Description
Counter	read-only	The total number of communication devices opened on the server.

svStatQueuedJobs

Type	Access	Description
Counter	read-only	The total number of print jobs that have been spooled on the server.

svStatSOpens

Type	Access	Description
Counter	read-only	The number of sessions that have been started on the server.

svStatErrorOuts

Type	Access	Description
Counter	read-only	The number of sessions disconnected due to an error on the server.

svStatPwErrors

Type	Access	Description
Counter	read-only	The number of password violations encountered on the server.

svStatPermErrors

Type	Access	Description
Counter	read-only	The number of access permission violations encountered on this server.

svStatSysErrors

Type	Access	Description
Counter	read-only	The number of system errors encountered on the server.

svStatSentBytes

Type	Access	Description
Counter	read-only	The number of bytes sent by the server.

svStatRcvdBytes

Type	Access	Description
Counter	read-only	The number of bytes received by this server.

svStatAvResponse

Type	Access	Description
Integer	read-only	The mean number of milliseconds it has taken this server to process a workstation I/O request.

svSecurityMode

Type	Access	Description
Integer	read-only	The type of security being run at this server. This object supports the following values: 1 = share-level 2 = user-level

svUsers

Type	Access	Description
Integer	read-only	The number of concurrent users this server is able to support.

svStatReqBufsNeeded

Type	Access	Description
Counter	read-only	The number of times the server has needed a request buffer in the process of handling a client request and could not allocate one.

svStatBigBufsNeeded

Type	Access	Description
Counter	read-only	The number of times the server has needed a big buffer in the process of handling a client request and could not allocate one.

svSessionNumber

Type	Access	Description
Integer	read-only	The number of established sessions to this server.

svSessionTable

Type	Access	Description
N/A	not-accessible	A list of session entries corresponding to the current sessions clients have with this server.

svSessionEntry

Type	Access	Description
N/A	not-accessible	A session that is currently established to this server. Each entry contains data for the following objects: svSesClientName svSesUserName svSesNumOpens svSesTime svSesIdleTime svSesClientType svSesState

svSesClientName

Type	Access	Description
DisplayString	read-only	The name of the remote machine that has established the session.

svSesUserName

Type	Access	Description
DisplayString	read-only	The name of the user at the remote machine that established the session.

svSesNumOpens

Type	Access	Description
Integer	read-only	The number of open files, devices, and pipes that are open for this session.

svSesTime

Type	Access	Description
Counter	read-only	The length of time, in seconds, that this session has been established.

svSesIdleTime

Type	Access	Description
Counter	read-only	The length of time, in seconds, that this session has been idle.

svSesClientType

Type	Access	Description
Integer	read-only	The type of client that established the session. This object supports the following values: 1 = down-level 2 = dos-lm 3 = doc-lm-2 4 = os2-im-1 5 = os2-lm-2 6 = dos-lm-2-1 7 = os2-om-2-1 8 = afp-1-1 9 = afp-2-0 10 = nt-3-1

svSesState

Type	Access	Description
Integer	read-write	Used to indicate the state of this session. The deleted state will never be returned on a session but can be used in set requests to delete a session. This object supports the following values: 1 = active 2 = deleted

svAutoDisconnects

Type	Access	Description
Integer	read-only	The number of sessions that the server has auto-disconnected due to timeout.

svDisConTime

Type	Access	Description
Integer	read-write	The number of seconds the server waits before disconnecting an idle session. A value of 0xffff indicates that idle session will never be disconnected.

svAuditLogSize

Type	Access	Description
Integer	read-write	The maximum size, in kilobytes, that the server's audit log can attain.

svUserNumber

Type	Access	Description
Integer	read-only	The number of users that have accounts on this server.

svUserTable

Type	Access	Description
N/A	not-accessible	The table of active user accounts on this server.

svUserEntry

Type	Access	Description
N/A	not-accessible	One of the user accounts on this server. Each entry contains data for the following objects: svUserName

svUserName

Type	Access	Description
DisplayString	read-only	The name of the user account.

svShareNumber

Type	Access	Description
Integer	read-only	The number of shared resources on this server.

svShareTable

Type	Access	Description
N/A	not-accessible	The table of shares on this server.

svShareEntry

Type	Access	Description
N/A	not-accessible	A table entry corresponding to a single share on this server. Each entry contains data for the following objects: - svShareName - svSharePath - svShareComment

svShareName

Type	Access	Description
DisplayString	read-only	The name of the share.

svSharePath

Type	Access	Description
DisplayString	read-only	The local name of this shared resource.

svShareComment

Type	Access	Description
DisplayString	read-only	A comment associated with this share.

svPrintQNumber

Type	Access	Description
Integer	read-only	The number of print queues on this server.

svPrintQTable

Type	Access	Description
N/A	not-accessible	The table of print queues on this server.

svPrintQEntry

Type	Access	Description
N/A	not-accessible	A table entry corresponding to a single print queue on this server. Each entry contains data for the following objects: svPrintQName svPrintQNumJobs

svPrintQName

Type	Access	Description
DisplayString	read-only	The name of the print queue.

svPrintQNumJobs

Type	Access	Description
Integer	read-only	The number of jobs currently in this print queue.

Workstation objects

wkstaStatSessStarts

Type	Access	Description
Counter	read-only	The number of sessions that this workstation has initiated.

wkstaStatSessFails

Type	Access	Description
Counter	read-only	The number of failed sessions that this workstation has experienced.

wkstaStatUses

Type	Access	Description
Counter	read-only	The number of connections this workstation has initiated.

wkstaStatUseFails

Type	Access	Description
Counter	read-only	The number of failed connections this workstation has experienced.

wkstaStatAutoRecs

Type	Access	Description
Counter	read-only	The number of sessions broken and then automatically reestablished.

wkstaErrorLogSize

Type	Access	Description
Integer	read-write	The size, in kilobytes, to which the workstation error log can grow.

wkstaUseNumber

Type	Access	Description
Integer	read-only	The number of active uses the workstation is currently maintaining.

wkstaUseTable

Type	Access	Description
N/A	not-accessible	The table of active uses made by this workstation.

wkstaUseEntry

Type	Access	Description
N/A	not-accessible	A use of a remote network resource. Each entry contains data for the following objects: - useLocalName - useRemote - useStatus

useLocalName

Type	Access	Description
DisplayString	read-only	The name of the local devicename (e.g. e: or lpt1:) that is redirected.

useRemote

Type	Access	Description
DisplayString	read-only	The name of the remote shared resource to which the redirection has been made (e.g. \\server\share).

useStatus

Type	Access	Description
Integer	read-only	The status of this connection. This object supports the following values: 1 = use-ok 2 = use-paused 3 = use-session-lost 4 = use-network-error 5 = use-connecting 6 = use-reconnecting

Domain objects

domPrimaryDomain

Type	Access	Description
DisplayString	read-only	The name of the primary domain to which this machine belongs.

domLogonDomain

Type	Access	Description
DisplayString	read-only	The name of the domain to which this machine is logged on.

domOtherDomainNumber

Type	Access	Description
Integer	read-only	The number of entries in domOtherDomainTable.

domOtherDomainTable

Type	Access	Description
N/A	not-accessible	The list of other domains that this machine is monitoring.

domOtherDomainEntry

Type	Access	Description
N/A	not-accessible	An entry in the table of other domains. Each entry contains data for the following objects: domOtherName

domOtherName

Type	Access	Description
DisplayString	read-write	The name of an additional domain that this machine is monitoring.

domServerNumber

Type	Access	Description
Integer	read-only	The number of entries in domServerTable.

domServerTable

Type	Access	Description
N/A	not-accessible	The list of non-hidden servers that are on all of the domains that this machine is monitoring.

domServerEntry

Type	Access	Description
N/A	not-accessible	An entry in the domain server table. Each entry contains data for the following objects: domServerName

domServerName

Type	Access	Description
DisplayString	read-only	The name of a server on one of the domains that this machine is monitoring.

domLogonNumber

Type	Access	Description
Integer	read-only	The number of entries in domLogonTable.

domLogonTable

Type	Access	Description
N/A	not-accessible	The list of domain logons that this machine has processed. Available only on servers acting as primary or backup domain controllers. To compile the complete table of all logons on a given domain, it is necessary to query all primary and backup domain controllers on the domain.

domLogonEntry

Type	Access	Description
N/A	not-accessible	An entry in the logon table. Each entry contains data for the following objects: domLogonUser domLogonMachine

domLogonUser

Type	Access	Description
DisplayString	read-only	The name of the user who is logged on to this domain.

domLogonMachine

Type	Access	Description
DisplayString	read-only	The name of the machine from which the user logged on.

mib_ii.mib

The `mib_ii.mib` Management Information Base (MIB) file was originally created by Microsoft for RFC1213, which is for management of TCP/IP-based networking for a host system.

The `lmmib2.mib` file contains the following SNMP object types:

SNMP object type	Description
system	This object contains information on the host system, such as identification and contacts. See System objects .
interfaces	This object contains information on the network interfaces of the host system, the associated configurations, and statistics. See Interfaces objects .
at	This object contains Address Translation network information of the host system. See AT objects .
ip	This object contains Internet Protocol network information of the host system. See IP objects .
icmp	This object contains Internet Control Message Protocol network information of the host system. See ICMP objects .
tcp	This object contains Transmission Control Protocol network information of the host system. See TCP objects .
udp	This object contains User Datagram Protocol network information of the host system. See UDP objects .
egp	This object contains Exterior Gateway Protocol network information of the host system. See EGP objects .
snmp	This object contains Simple Network Management Protocol network information of the host system. See SNMP objects .
Traps	This object contains informational, error, and warning information regarding the network interfaces, protocols, and statistics of the host system. See Trap messages .

System objects

sysDescr

Type	Access	Description
DisplayString	read-only	A textual description of the entity. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software. It is mandatory that this only contain printable ASCII characters.

sysObjectID

Type	Access	Description
Object Identifier	read-only	The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining 'what kind of box' is being managed. For example, if vendor 'Flintstones, Inc.' was assigned the subtree 1.3.6.1.4.1.4242, it could assign the identifier 1.3.6.1.4.1.4242.1.1 to its 'Fred Router'.

sysUpTime

Type	Access	Description
TimeTicks	read-only	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.

sysContact

Type	Access	Description
DisplayString	read-write	The textual identification of the contact person for this managed node, together with information on how to contact this person.

sysName

Type	Access	Description
DisplayString	read-write	An administratively-assign name for this managed node. By convention, this is the node's fully-qualified domain name.

sysLocation

Type	Access	Description
DisplayString	read-write	The physical location of this node (e.g., 'telephone closet, 3 rd floor').

sysServices

Type	Access	Description										
Integer	read-only	A value which indicates the set of services that this entity primarily offers.										
		The value is a sum. This sum initially takes the value zero, Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs primarily routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly:										
		<table><tr><th>Layer</th><th>Functionality</th></tr><tr><td>1</td><td>physical (e.g., repeaters)</td></tr><tr><td>2</td><td>datalink/subnetwork (e.g., bridges)</td></tr><tr><td>3</td><td>internet (e.g., IP gateways)</td></tr><tr><td>4</td><td>end-to-end (e.g., IP hosts)</td></tr><tr><td>7</td><td>applications (e.g., mail relays)</td></tr></table>	Layer	Functionality	1	physical (e.g., repeaters)	2	datalink/subnetwork (e.g., bridges)	3	internet (e.g., IP gateways)	4	end-to-end (e.g., IP hosts)
Layer	Functionality											
1	physical (e.g., repeaters)											
2	datalink/subnetwork (e.g., bridges)											
3	internet (e.g., IP gateways)											
4	end-to-end (e.g., IP hosts)											
7	applications (e.g., mail relays)											
		For systems including OSI protocols, layers 5 and 6 may also be counted.										

Interfaces objects

ifNumber

Type	Access	Description
Integer	read-only	The number of network interfaces (regardless of their current state) present on this system.

ifTable

Type	Access	Description
N/A	not-accessible	A list of interface entries. The number of entries is given by the value of ifNumber.

ifEntry

Type	Access	Description
N/A	not-accessible	An interface entry containing objects at the subnetwork layer and below for a particular interface. Each entry contains data for the following objects: - ifIndex - ifDescr - ifType - ifMtu - ifSpeed - ifPhysAddress - ifAdminStatus - ifOperStatus - ifLastChange - ifInOctets - ifInUcastPkts - ifInNUcastPkts - ifInDiscards - ifInErrors - ifInUnknownProtos - ifOutOctets - ifOutUcastPkts - ifOutNUcastPkts - ifOutDiscards - ifOutErrors - ifOutQLen - ifSpecific

ifIndex

Type	Access	Description
Integer	read-only	A unique value for each interface. Its value ranges between 1 and the value of ifNumber. The value for each interface must remain constant at least from one re-initialization of the entity's network management system to the next re-initialization.

ifDescr

Type	Access	Description
DisplayString	read-only	A textual string containing information about the interface. This string should include the name of the manufacturer, the product name, and the version of the hardware interface.

ifType

Type	Access	Description
Integer	read-only	The type of interface, distinguished according to the physical/link protocol(s) immediately 'below' the network layer in the protocol stack. This object supports the following values: 1 = other (none of the following) 2 = regular1822 3 = hdh1822 4 = ddn-x25 5 = rfc877-x25 6 = ethernet-csmacd 7 = iso88023-csmacd 8 = iso88024-tokenBus 9 = iso88025-tokenRing 10 = iso88026-man 11 = starLan 12 = proteon-10Mbit 13 = proteon-80Mbit 14 = hyperchannel 15 = fddi 16 = lapb 17 = sdlc 18 = ds1 (T1) 19 = e1 20 = basicISDN 21 = primaryISDN (proprietary serial) 22 = propPointToPointSerial 23 = ppp 24 = softwareLoopback 25 = eon (CLNP over IP [11]) 26 = ethernet-3Mbit 27 = nsip (XNS over IP) 28 = slip (generic SLIP) 29 = ultra (ULTRA technologies) 30 = ds3 (T3) 31 = sip (SMDS) 32 = frame-relay

ifMtu

Type	Access	Description
Integer	read-only	The size of the largest datagram that can be sent/received on the interface, specified in octets. For interfaces that are used for transmitting network datagrams, this is the size of the largest network datagram that can be sent on the interface.

ifSpeed

Type	Access	Description
Gauge	read-only	An estimate of the interface's current bandwidth in bits per second. For interfaces that do not vary in bandwidth or for those where no accurate estimation can be made, this object should contain the nominal bandwidth.

ifPhysAddress

Type	Access	Description
PhysAddress	read-only	The interface's address at the protocol layer immediately 'below' the network layer in the protocol stack. For interfaces that do not have such an address (e.g., a serial line), this object should contain an octet string of zero length.

ifAdminStatus

Type	Access	Description
Integer	read-write	The desired state of the interface. The 'testing' state indicates that no operation packets can be passed. This object supports the following values: 1 = up 2 = down 3 = testing

ifOperStatus

Type	Access	Description
Integer	read-only	The current operational state of the interface. The 'testing' state indicates that no operational packets can be passed. This object supports the following values: 1 = up 2 = down 3 = testing

ifLastChange

Type	Access	Description
TimeTicks	read-only	The value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, then this object contains a zero value.

ifInOctets

Type	Access	Description
Counter	read-only	The total number of octets received on the interface, including framing characters.

ifInUcastPkts

Type	Access	Description
Counter	read-only	The number of subnetwork-unicast packets delivered to a higher-layer protocol.

iflnNUcastPkts

Type	Access	Description
Counter	read-only	The number of non-unicast (i.e., subnetwork-broadcast or subnetwork-multicast) packets delivered to a higher-layer protocol.

iflnDiscards

Type	Access	Description
Counter	read-only	The number of inbound packets that were chose to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.

iflnErrors

Type	Access	Description
Counter	read-only	The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol.

iflnUnknownProtos

Type	Access	Description
Counter	read-only	The number of packets received via the interface that were discarded because of an unknown or unsupported protocol.

ifOutOctets

Type	Access	Description
Counter	read-only	The total number of octets transmitted out of the interface, including framing characters.

ifOutUcastPkts

Type	Access	Description
Counter	read-only	The total number of packets that higher-level protocols requested for transmission to a subnetwork-unicast address, including those that were discarded or not sent.

ifOutNUcastPkts

Type	Access	Description
Counter	read-only	The total number of packets that higher-level protocols requested for transmission to a non-unicast (i.e., a subnetwork-broadcast or subnetwork-multicast) address, including those that were discarded or not sent.

ifOutDiscards

Type	Access	Description
Counter	read-only	The number of outbound packets that were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free up buffer space.

ifOutErrors

Type	Access	Description
Counter	read-only	The number of outbound packets that could not be transmitted because of errors.

ifOutQLen

Type	Access	Description
Gauge	read-only	The length of the output packet queue (in packets).

ifSpecific

Type	Access	Description
Object Identifier	read-only	A reference to MIB definitions specific to the particular media being used to realize the interface. For example, if the interface is realized by an Ethernet, then the value of this object refers to a document defining objects specific to Ethernet. If this information is not present, its value should be set to the OBJECT IDENTIFIER {0 0}, which is a syntactically valid object identifier, and any conformant implementation of ASN.1 and BER must be able to generate and recognize this value.

AT objects

atTable

Type	Access	Description
N/A (deprecated)	not-accessible	The Address Translation tables contain the NetworkAddress to 'physical' address equivalences. Some interfaces do not use translation tables for determining address equivalences (e.g., DDN-X.25 has an algorithmic method); if all interfaces are of this type, then the Address Translation table is empty, i.e., has zero entries.

atEntry

Type	Access	Description
N/A (deprecated)	not-accessible	Each entry contains one NetworkAddress to 'physical' address equivalence. Each entry contains data for the following objects: atIfIndex atPhysAddress atNetAddress

atIfIndex

Type	Access	Description
Integer (deprecated)	read-write	The interface on which this entry's equivalence is effective. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

atPhysAddress

Type	Access	Description
PhysAddress (deprecated)	read-write	The media-dependent 'physical' address. Setting this object to a null string (one of zero length) has the effect of invalidating the corresponding entry in the atTable object. That is, it effectively disassociates the interface identified with said entry from the mapping identified with said entry. It is an implementation-specific matter as to whether the agent removes and invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant atPhysAddress object.

atNetAddress

Type	Access	Description
NetworkAddress (deprecated)	read-write	The NetworkAddress (e.g., the IP address) corresponding to the media-dependent 'physical' address.

IP objects

ipForwarding

Type	Access	Description
Integer	read-write	The indication of whether this entry is acting as an IP gateway in respect to the forwarding of datagrams received by, but not address to, this entity. IP gateways forward datagrams. IP hosts do not (except those source-routed via the host). Note that for some managed nodes, this object may take on only a subset of the value possible. Accordingly, it is appropriate for an agent to return a 'badValue' respond if a management station attempts to change this object to an inappropriate value.

ipDefaultTTL

Type	Access	Description
Integer	read-write	The default value inserted into the Time-To-Live field of the IP header of datagrams originated at this entity, whenever a TTL value is not supplied by the transport layer protocol.

ipInReceives

Type	Access	Description
Counter	read-only	The total number of input datagrams received from interfaces, including those received in error.

ipInHdrErrors

Type	Access	Description
Counter	read-only	The number of input datagrams discarded due to errors in their IP headers, including bad checksums, version number mismatch, other format errors, time-to-live exceeded, errors discovered in processing their IP options, etc.

ipInAddrErrors

Type	Access	Description
Counter	read-only	The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (e.g., 0.0.0.0) and addresses of unsupported Classes (e.g., Class E). For entities that are not IP Gateways and there do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address.

ipForwDatagrams

Type	Access	Description
Counter	read-only	The number of input datagrams for which this entity was not their final IP destination, as a result of which an attempt was made to find a route to forward them to that final destination. In entities that do not act as IP Gateways, this counter will include only those packets that were Source-Routed via this entity, and the Source-Route option processing was successful.

ipInUnknownProtos

Type	Access	Description
Counter	read-only	The number of locally-addressed datagrams received successfully but discarded because of an unknown or unsupported protocol.

ipInDiscards

Type	Access	Description
Counter	read-only	The number of input IP datagrams for which no problems were encountered to prevent their continued processing, but which were discarded (e.g., for lack of buffer space). Note that this counter does not include any datagrams discarded while awaiting re-assembly.

ipInDelivers

Type	Access	Description
Counter	read-only	The total number of input datagrams successfully delivered to IP user-protocols (including ICMP).

ipOutRequests

Type	Access	Description
Counter	read-only	The total number of IP datagrams that local IP user-protocols (including ICMP) supplied to IP in requests for transmission. Note that this counter does not include any datagrams counted in ipForwDatagrams.

ipOutDiscards

Type	Access	Description
Counter	read-only	The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (e.g., for lack of buffer space). Note that this counter would include datagrams counted in ipForwDatagrams if any such packets met this (discretionary) discard criterion.

ipOutNoRoutes

Type	Access	Description
Counter	read-only	The number of IP datagrams discarded because no route could be found to transmit them to their destination. Note that this counter includes any packets counted in ipForwDatagrams that meet this 'no-route' criterion. Note that this includes any datagrams which a host cannot route because all of its default gateways are down.

ipReasmTimeout

Type	Access	Description
Integer	read-only	The maximum number of seconds in which received fragments are held while they are awaiting reassembly at this entity.

ipReasmReqds

Type	Access	Description
Counter	read-only	The number of IP fragments received that needed to be reassembled at this entity.

ipReasmOKs

Type	Access	Description
Counter	read-only	The number of IP datagrams successfully reassembled.

ipReasmFails

Type	Access	Description
Counter	read-only	The number of failures detected by the IP reassembly algorithm (for whatever reason: timed out, errors, etc.). Note that this is not necessarily a count of discarded IP fragments since some algorithms (notably the algorithm in RFC 815) can lose track of the number of fragments by combining them as they are received.

ipFragOKs

Type	Access	Description
Counter	read-only	The number of IP datagrams that have been successfully fragmented at this entity.

ipFragFails

Type	Access	Description
Counter	read-only	The number of IP datagrams that have been discarded because they needed to be fragmented at this entity but could not be, e.g., because their Don't Fragment flag was set.

ipFragCreates

Type	Access	Description
Counter	read-only	The number of IP datagram fragments that have been generated as a result of fragmentation at this entity.

ipAddrTable

Type	Access	Description
N/A	not-accessible	The table of addressing information relevant to this entity's IP addresses.

ipAddrEntry

Type	Access	Description
N/A	not-accessible	The addressing information for one of this entity's IP addresses. Each entry contains data for the following objects: ipAdEntAddr ipAdEntIfIndex ipAdEntNetMask ipAdEntBcastAddr ipAdEntReasmMaxSize

ipAdEntAddr

Type	Access	Description
IpAddress	read-only	The IP address to which this entry's addressing information pertains.

ipAdEntIfIndex

Type	Access	Description
Integer	read-only	The index value which uniquely identifies the interface to which this entry is applicable. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipAdEntNetMask

Type	Access	Description
IpAddress	read-only	The subnet mask associated with the IP address of this entry. The value of the mask is an IP address with all the network bits set to 1 and all the hosts bits set to 0.

ipAdEntBcastAddr

Type	Access	Description
Integer	read-only	The value of the least-significant bit in the IP broadcast address used for sending datagrams on the (logical) interface associated with the IP address of this entry. For example, when the Internet standard all-ones broadcast address is used, the value will be 1. This value applies to both the subnet and network broadcasts addresses used by the entity on this (logical) interface.

ipAdEntReasmMaxSize

Type	Access	Description
Integer	read-only	The size of the largest IP datagram which this entity can reassemble from incoming IP fragmented datagrams received on this interface.

ipRouteTable

Type	Access	Description
N/A	not-accessible	This entity's IP Routing table.

ipRouteEntry

Type	Access	Description
N/A	not-accessible	A route to a particular destination. Each entry contains data for the following objects: - ipRouteDest - ipRouteIfIndex - ipRouteMetric1 - ipRouteMetric2 - ipRouteMetric3 - ipRouteMetric4 - ipRouteNextHop - ipRouteType - ipRouteProto - ipRouteAge - ipRouteMask - ipRouteMetric5 - ipRouteInfo

ipRouteDest

Type	Access	Description
IpAddress	read-write	The destination IP address of this route. An entry with a value of 0.0.0.0 is considered a default route. Multiple routes to a single destination can appear in the table, but access to such multiple entries is dependent on the table-access mechanisms defined by the network management protocol in use.

ipRouteIfIndex

Type	Access	Description
Integer	read-write	The index value that uniquely identifies the local interface through which the next hop of this route should be reached. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipRouteMetric1

Type	Access	Description
Integer	read-write	The primary routing metric for this route. The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.

ipRouteMetric2

Type	Access	Description
Integer	read-write	An alternate routing metric for this route. The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.

ipRouteMetric3

Type	Access	Description
Integer	read-write	An alternate routing metric for this route. The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.

ipRouteMetric4

Type	Access	Description
Integer	read-write	An alternate routing metric for this route. The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.

ipRouteNextHop

Type	Access	Description
IpAddress	read-write	The IP address of the next hop of this route. In the case of a route bound to an interface which is realized via a broadcast media, the value of this field is the agent's IP address on that interface.

ipRouteType

Type	Access	Description
Integer	read-write	The type of route. Note that the values 'direct' and 'indirect' refer to the notion of direct and indirect routing in the IP architecture. Setting this object to the value 'invalid' (2) has the effect of invalidating the corresponding entry in the ipRouteTable object. That is, it effectively disassociates the destination identified with said entry from the route identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant ipRouteType object. This object supports the following values: 1 = other 2 = invalid 3 = direct 4 = indirect

ipRouteProto

Type	Access	Description
Integer	read-only	The routing mechanism via which this route was learned. Inclusion of value for gateway routing protocols is not intended to imply that hosts should support those protocols. This object supports the following values: 1 = other 2 = local 3 = netmgmt 4 = icmp 5 = egp 6 = ggp 7 = hello 8 = rip 9 = is-is 10 = es-is 11 = ciscoIgrp 12 = bbnSpflgp 13 = ospf 14 = bgp

ipRouteAge

Type	Access	Description
Integer	read-write	The number of seconds since this route was last updated or otherwise determined to be correct. Note that no semantics of 'too old' can be implied except through knowledge of the routing protocol by which the route was learned.

ipRouteMask

Type	Access	Description								
IpAddress	read-write	Indicate the mask to be local-ANDed with the destination address before being compared to the value in the ipRouteDest field. For those systems that do not support arbitrary subnet masks, an agent constructs the value fo the ipRouteMask by determining whether the value of the correspondent ipRouteDest field belong to a class-A, B, or C network, and then using one of:								
		<table><tr><th>Mask</th><th>Network</th></tr><tr><td>255.0.0.0</td><td>class-A</td></tr><tr><td>255.255.0.0</td><td>class-B</td></tr><tr><td>255.255.255.0</td><td>class-C</td></tr></table>	Mask	Network	255.0.0.0	class-A	255.255.0.0	class-B	255.255.255.0	class-C
		Mask	Network							
		255.0.0.0	class-A							
		255.255.0.0	class-B							
		255.255.255.0	class-C							
If the value of the ipRouteDest is 0.0.0.0 (a default route), then the mask value is also 0.0.0.0. It should be noted that all IP routing subsystems implicitly use this mechanism.										

ipRouteMetric5

Type	Access	Description
Integer	read-write	An alternate routing metric for this route. The semantics of this metric are determined by the routing-protocol specified in the route's ipRouteProto value. If this metric is not used, its value should be set to -1.

ipRouteInfo

Type	Access	Description
Object Identifier	read-only	A reference to MIB definitions specific to the particular routing protocol which is responsible for this route, as determined by the value specified in the route's ipRouteProto value. If this information is not present, its value should be set to the OBJECT IDENTIFIER {0 0}, which is a syntactically valid object identifier, and any conformant implementation of ASN.1 and BER must be able to generate and recognize this value.

ipNetToMediaTable

Type	Access	Description
N/A	not-accessible	The IP Address Translation table used for mapping from IP addresses to physical addresses.

ipNetToMediaEntry

Type	Access	Description
N/A	not-accessible	Each entry contains one IpAddress to 'physical' address equivalence. Each entry contains data for the following objects: - ipNetToMediaIfIndex - ipNetToMediaPhysAddress - ipNetToMediaNetAddress - ipNetToMediaType

ipNetToMediaIfIndex

Type	Access	Description
Integer	read-write	The interface on which this entry's equivalence is effective. The interface identified by a particular value of this index is the same interface as identified by the same value of ifIndex.

ipNetToMediaPhysAddress

Type	Access	Description
PhysAddress	read-write	The media-dependent 'physical' address.

ipNetToMediaNetAddress

Type	Access	Description
IpAddress	read-write	The IpAddress corresponding to the media-dependent 'physical' address.

ipNetToMediaType

Type	Access	Description
Integer	read-write	The type of mapping. Setting this object to the value 'invalid' (2) has the effect of invalidating the corresponding entry in the ipNetToMediaTable. That is, it effectively disassociates the interface identified with said entry from the mapping identified with said entry. It is an implementation-specific matter as to whether the agent removes an invalidated entry from the table. Accordingly, management stations must be prepared to receive tabular information from agents that corresponds to entries not currently in use. Proper interpretation of such entries requires examination of the relevant ipNetToMediaType object. This object supports the following values: 1 = other 2 = invalid 3 = dynamic 4 = static

ipRoutingDiscards

Type	Access	Description
Counter	read-only	The number of routing entries which were chosen to be discarded even though they are valid. One possible reason for discarding such an entry could be to free-up buffer space for other routing entries.

ICMP objects

icmplnMsgs

Type	Access	Description
Counter	read-only	The total number of ICMP messages that the entity received. Note that this counter includes all those counted by icmplnErrors.

icmplnErrors

Type	Access	Description
Counter	read-only	The number of ICMP messages that the entity received but determined as having ICMP-specific errors (bad ICMP checksums, bad length, etc.).

icmplnDestUnreachs

Type	Access	Description
Counter	read-only	The number of ICMP Destination Unreachable messages received.

icmpInTimeExcds

Type	Access	Description
Counter	read-only	The number of ICMP Time Exceeded messages received.

icmpInParmProbs

Type	Access	Description
Counter	read-only	The number of ICMP Parameter Problem messages received.

icmpInSrcQuenchs

Type	Access	Description
Counter	read-only	The number of ICMP Source Quench messages received.

icmpInRedirects

Type	Access	Description
Counter	read-only	The number of ICMP Redirect messages received.

icmpInEchos

Type	Access	Description
Counter	read-only	The number of ICMP Echo (request) messages received.

icmpInEchoReps

Type	Access	Description
Counter	read-only	The number of ICMP Echo Reply messages received.

icmpInTimestamps

Type	Access	Description
Counter	read-only	The number of ICMP Timestamp (request) messages received.

icmpInTimestampReps

Type	Access	Description
Counter	read-only	The number of ICMP Timestamp Reply messages received.

icmpInAddrMasks

Type	Access	Description
Counter	read-only	The number of ICMP Address Mask Request messages received.

icmpInAddrMaskReps

Type	Access	Description
Counter	read-only	The number of ICMP Address Mask Replay messages received.

icmpOutMsgs

Type	Access	Description
Counter	read-only	The total number of ICMP messages that this entity attempted to send. Note that this counter includes all those counted by icmpOutErrors.

icmpOutErrors

Type	Access	Description
Counter	read-only	The number of ICMP messages that this entity did not send due to problems discovered within ICMP such as a lack of buffers. This value should not include errors discovered outside the ICMP layer such as the inability of IP to route the resultant datagram. In some implementations there may be no types of error that contribute to this counter's value.

icmpOutDestUnreachs

Type	Access	Description
Counter	read-only	The number of ICMP Destination Unreachable messages sent.

icmpOutTimeExcds

Type	Access	Description
Counter	read-only	The number of ICMP Time Exceeded messages sent.

icmpOutParmProbs

Type	Access	Description
Counter	read-only	The number of ICMP Parameter Problem messages sent.

icmpOutSrcQuenchs

Type	Access	Description
Counter	read-only	The number of ICMP Source Quench messages sent.

icmpOutRedirects

Type	Access	Description
Counter	read-only	The number of ICMP Redirect messages sent. For a host, this object will always be zero, since hosts do not send redirects.

icmpOutEchos

Type	Access	Description
Counter	read-only	The number of ICMP Echo (request) messages sent.

icmpOutEchoReps

Type	Access	Description
Counter	read-only	The number of ICMP Echo Reply messages sent.

icmpOutTimestamps

Type	Access	Description
Counter	read-only	The number of ICMP Timestamp (request) messages sent.

icmpOutTimestampReps

Type	Access	Description
Counter	read-only	The number of ICMP Timestamp Replay messages sent.

icmpOutAddrMasks

Type	Access	Description
Counter	read-only	The number of ICMP Address Mask Request messages sent.

icmpOutAddrMaskReps

Type	Access	Description
Counter	read-only	The number of ICMP Address Mask Reply messages sent.

TCP objects

tcpRtoAlgorithm

Type	Access	Description
Integer	read-only	The algorithm used to determine the timeout value used for retransmitting unacknowledged octets. This object supports the following values: 1 = other 2 = constant 3 = rsre 4 = vanj

tcpRtoMin

Type	Access	Description
Integer	read-only	The minimum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend on the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is 'rsre' (3), an object of this type has the semantics of the LBOUND quantity described in RFC 793.

tcpRtoMax

Type	Access	Description
Integer	read-only	The maximum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is 'rsre' (3), an object of this type has the semantics of the UBOUND quantity described in RFC793.

tcpMaxConn

Type	Access	Description
Integer	read-only	The limit on the total number of TCP connections the entity can support. In entities where the maximum number of connections is dynamic, this object should contain the value -1.

tcpActiveOpens

Type	Access	Description
Counter	read-only	The number of times TCP connections have made a direct transition to the SYN-SENT status from the CLOSED state.

tcpPassiveOpens

Type	Access	Description
Counter	read-only	The number of times TCP connections have made a direct transition to the SYN-RCVD states from the LISTEN state.

tcpAttemptFails

Type	Access	Description
Counter	read-only	The number of times TCP connections have made a direct transition to the CLOSE state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.

tcpEstabResets

Type	Access	Description
Counter	read-only	The number of times TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.

tcpCurrEstab

Type	Access	Description
Gauge	read-only	The number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT.

tcpInSegs

Type	Access	Description
Counter	read-only	The total number of segments received, including those received in error. This count includes segments received on currently-established connections.

tcpOutSegs

Type	Access	Description
Counter	read-only	The total number of segments sent, including those on current connections but excluding those containing only retransmitted octets.

tcpRetransSegs

Type	Access	Description
Counter	read-only	The total number of segments retransmitted - that is, the number of TCP segments transmitted containing one or more previously-transmitted octets.

tcpConnTable

Type	Access	Description
N/A	not-accessible	A table containing TCP connection-specific information.

tcpConnEntry

Type	Access	Description
N/A	not-accessible	Information about a particular current TCP connection. An object of this type is transient, in that it ceases to exist when (or soon after) the connection makes the transition to the CLOSED state. Each entry contains data for the following objects: tcpConnState tcpConnLocalAddress tcpConnLocalPort tcpConnRemAddress tcpConnRemPort

tcpConnState

Type	Access	Description
Integer	read-write	The state of this TCP connection. The only value which may be set by a management station is 'deleteTCB' (12). Accordingly, it is appropriate for an agent to return a 'badValue' response if a management station attempts to set this object to any other value. If a management station sets this object to the value 'deleteTCB' (12), then this has the effect of deleting the TCB (as defined in RFC 793) of the corresponding connection on the managed node, resulting in immediate termination of the connection. As an implementation-specific option, a RST segment may be sent from the managed node to the other TCP endpoint (note however that RST segments are not sent reliably). This object supports the following values: 1 = closed 2 = listen 3 = synSent 4 = synReceived 5 = established 6 = finWait1 7 = finWait2 8 = closeWait 9 = lastAck 10 = closing 11 = timeWait 12 = deleteTCB

tcpConnLocalAddress

Type	Access	Description
IpAddress	read-only	The local IP address for this TCP connection. In the case of a connection in the listen state which is willing to accept connections for any IP interface associated with the node, the value 0.0.0.0 is used.

tcpConnLocalPort

Type	Access	Description
Integer	read-only	The local port number for this TCP connection.

tcpConnRemAddress

Type	Access	Description
IpAddress	read-only	The remote IP address for this TCP connection.

tcpConnRemPort

Type	Access	Description
Integer	read-only	The remote port number for this TCP connection.

tcpInErrs

Type	Access	Description
Counter	read-only	The total number of segments received in error (e.g., bad TCP checksums).

tcpOutRsts

Type	Access	Description
Counter	read-only	The number of TCP segments sent containing the RST flag.

UDP objects

udpInDatagrams

Type	Access	Description
Counter	read-only	The total number of UDP datagrams delivered to UDP users.

udpNoPorts

Type	Access	Description
Counter	read-only	The total number of received UDP datagrams for which there was no application at the destination port.

udpInErrors

Type	Access	Description
Counter	read-only	The number of received UDP datagrams that could not be delivered for reasons other than the lack of an application at the destination port.

udpOutDatagrams

Type	Access	Description
Counter	read-only	The total number of UDP datagrams sent from this entity.

udpTable

Type	Access	Description
N/A	not-accessible	A table containing UDP listener information.

udpEntry

Type	Access	Description
N/A	not-accessible	Information about a particular current UDP listener. Each entry contains data for the following objects: udpLocalAddress udpLocalPort

udpLocalAddress

Type	Access	Description
IpAddress	read-only	The local IP address for this UDP listener. In the case of a UDP listener which is willing to accept datagrams for any IP interface associated with the node, the value 0.0.0.0 is used.

udpLocalPort

Type	Access	Description
Integer	read-only	The local port number for this UDP listener.

EGP objects

egpInMsgs

Type	Access	Description
Counter	read-only	The number of EGP messages received without error.

egpInErrors

Type	Access	Description
Counter	read-only	The number of EGP messages received that proved to be in error.

egpOutMsgs

Type	Access	Description
Counter	read-only	The total number of locally-generated EGP messages.

egpOutErrors

Type	Access	Description
Counter	read-only	The number of locally-generated EGP messages not sent due to resource limitations within an EGP entity.

egpNeighTable

Type	Access	Description
N/A	not-accessible	The EGP neighbor table.

egpNeighEntry

Type	Access	Description
N/A	not-accessible	Information about this entity's relationship with a particular EGP neighbor. Each entry contains data for the following objects: egpNeighState egpNeighAddr egpNeighAs egpNeighInMsgs egpNeighInErrs egpNeighOutMsgs egpNeighOutErrs egpNeighInErrMsga egpNeighOutErrMsgs egpNeighStateUps egpNeighStateDowns egpNeighIntervalHello egpNeighIntervalPoll egpNeighMode egpNeighEventTrigger

egpNeighState

Type	Access	Description
Integer	read-only	The EGP state of the local system with respect to this entry's EGP neighbor. Each EGP state is represented by a value that is one greater than the numerical value associated with said state in RFC 904. This object supports the following values: 1 = idle 2 = acquisition 3 = down 4 = up 5 = cease

egpNeighAddr

Type	Access	Description
IpAddress	read-only	The IP address of this entry's EGP neighbor.

egpNeighAs

Type	Access	Description
Integer	read-only	The autonomous system of this EGP peer. Zero should be specified if the autonomous system number of the neighbor is not yet known.

egpNeighInMsgs

Type	Access	Description
Counter	read-only	The number of EGP messages received without error from this EGP peer.

egpNeighInErrs

Type	Access	Description
Counter	read-only	The number of EGP messages received from this EGP peer that proved to be in error (e.g., bad EGP checksum).

egpNeighOutMsgs

Type	Access	Description
Counter	read-only	The number of locally-generated EGP messages to this EGP peer.

egpNeighOutErrs

Type	Access	Description
Counter	read-only	The number of locally-generated EGP messages not sent to this EGP peer due to resource limitations within an EGP entity.

egpNeighInErrMsgs

Type	Access	Description
Counter	read-only	The number of EGP-defined error messages received from this EGP peer.

egpNeighOutErrMsgs

Type	Access	Description
Counter	read-only	The number of EGP-defined error messages sent to this EGP peer.

egpNeighStateUps

Type	Access	Description
Counter	read-only	The number of EGP state transitions to the UP state with this EGP peer.

egpNeighStateDowns

Type	Access	Description
Counter	read-only	The number of EGP state transitions from the UP state to any other state with this EGP peer.

egpNeighIntervalHello

Type	Access	Description
Integer	read-only	The interval between EGP Hello command retransmissions in hundredths of a second. This represents the t1 timer as defined in RFC 904.

egpNeighIntervalPoll

Type	Access	Description
Integer	read-only	The interval between EGP poll command retransmissions in hundredths of a second. This represents the t3 timer as defined in RFC 904.

egpNeighMode

Type	Access	Description
Integer	read-only	The polling mode of this EGP entity, either passive or active. This object supports the following values: 1 = active 2 = passive

egpNeighEventTrigger

Type	Access	Description
Integer	read-write	A control variable used to trigger operator-initiated Start and Stop events. When read, this variable always returns the most recent value that egpNeighEventTrigger was set to. If it has not been set since the last initialization of the network management subsystem on the node, it returns a value of 'stop'. When set, this variable causes a Start or Stop event on the specified neighbor, as specified on pages 8-10 of RFC 904. Briefly, a Start event causes an Idle peer to begin neighbor acquisition and a non-Idle peer to reinitiate neighbor acquisition. A Stop event causes a non-Idle peer to return to the Idle state until a Start event occurs, either via egpNeighEventTrigger or otherwise. This object supports the following values: 1 = start 2 = stop

egpAs

Type	Access	Description
Integer	read-only	The autonomous system number of this EGP entity.

SNMP objects

snmplnPmts

Type	Access	Description
Counter	read-only	The total number of Messages delivered to the SNMP entity from the transport service.

snmpOutPkts

Type	Access	Description
Counter	read-only	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.

snmplnBadVersions

Type	Access	Description
Counter	read-only	The total number of SNMP Messages that were delivered to the SNMP protocol entity and were for an unsupported SNMP version.

snmplnBadCommunityNames

Type	Access	Description
Counter	read-only	The total number of SNMP Messages delivered to the SNMP protocol entity that used an SNMP community name not known to said entity.

snmplnBadCommunityUses

Type	Access	Description
Counter	read-only	The total number of SNMP Messages delivered to the SNMP protocol entity that represented an SNMP operation that was not allowed by the SNMP community named in the Message.

snmplnASNParseErrs

Type	Access	Description
Counter	read-only	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.

snmplnTooBig

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were delivered to the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.

snmplnNoSuchNames

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were delivered to the SNMP protocol entity and for which the value of the error-status field is 'noSuchName'.

snmplnBadValues

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were delivered to the SNMP protocol entity and for which the value of the error-status field is 'badValue'.

snmplnReadOnly

Type	Access	Description
Counter	read-only	The total number of valid SNMP PDUs that were delivered to the SNMP protocol entity and for which the value of the error-status field is 'readOnly'. It should be noted that it is a protocol error to generate an SNMP PDU that contains the value 'readOnly' in the error-status field, as such this object is provided as a means of detecting incorrect implementations of the SNMP.

snmplnGenErrs

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were delivered to the SNMP protocol entity and for which the value of the error-status field is 'genErr'.

snmplnTotalReqVars

Type	Access	Description
Counter	read-only	The total number of MIB objects that have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.

snmplnTotalSetVars

Type	Access	Description
Counter	read-only	The total number of MIB objects that have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.

snmplnGetRequests

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Request PDUs that have been accepted and processed by the SNMP protocol entity.

snmplnGetNexts

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Next PDUs that have been accepted and processed by the SNMP protocol entity.

snmplnSetRequests

Type	Access	Description
Counter	read-only	The total number of SNMP Set-Request PDUs that have been accepted and processed by the SNMP protocol entity.

snmplnGetResponses

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Response PDUs that have been accepted and processed by the SNMP protocol entity.

snmplnTraps

Type	Access	Description
Counter	read-only	The total number of SNMP Trap PDUs that have been accepted and processed by the SNMP protocol entity.

snmpOutTooBigs

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were generated by the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.

snmpOutNoSuchNames

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were generated by the SNMP protocol entity and for which the value of the error-status field is 'noSuchName'.

snmpOutBadValues

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were generated by the SNMP protocol entity and for which the value of the error-status field is 'badValue'.

snmpOutGenErrs

Type	Access	Description
Counter	read-only	The total number of SNMP PDUs that were generated by the SNMP protocol entity and for which the value of the error-status field is 'genErr'.

snmpOutGetRequests

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Request PDUs that have been generated by the SNMP protocol entity.

snmpOutGetNexts

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Next PDUs that have been generated by the SNMP protocol entity.

snmpOutSetRequests

Type	Access	Description
Counter	read-only	The total number of SNMP Set-Request PDUs that have been generated by the SNMP protocol entity.

snmpOutGetResponses

Type	Access	Description
Counter	read-only	The total number of SNMP Get-Response PDUs that have been generated by the SNMP protocol entity.

snmpOutTraps

Type	Access	Description
Counter	read-only	The total number of SNMP Trap PDUs that have been generated by the SNMP protocol entity.

snmpEnableAuthenTraps

Type	Access	Description
Integer	read-write	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled. Note that it is strongly recommended that this object be stored in non-volatile memory so that it remains constant between re-initializations of the network management system. This object supports the following values: 1 = enabled 2 = disabled

Trap messages

coldStart trap message

Type	Access	Description
N/A	N/A	A coldStart trap signifies that the sending protocol entity is reinitializing itself such that the agent's configuration or the protocol entity implementation may be altered.

warmStart trap message

Type	Access	Description
N/A	N/A	A warmStart trap signifies that the sending protocol entity is reinitializing itself such that neither the agent configuration nor the protocol entity implementation is altered.

linkDown trap message

Type	Access	Description
N/A	N/A	A linkDown trap signifies that the sending protocol entity recognizes a failure in one of the communication links represented in the agent's configuration.

linkUp trap message

Type	Access	Description
N/A	N/A	A linkUp trap signifies that the sending protocol entity recognizes that one of the communication links represented in the agent's configuration has come up.

authenticationFailure trap message

Type	Access	Description
N/A	N/A	An authenticationFailure trap signifies that the sending protocol entity is the addressee of a protocol message that is not properly authenticated. While implementations of the SNMP must be capable of generating this trap, they must also be capable of suppressing the emission of such traps via an implementation-specific mechanism.

aus.mib

This `aus.mib` file is the Adaptec Universal Storage Management Information Base (MIB) file that provides information and traps for RAID controllers and local storage devices on the host system. The `aus.mib` file contains the following SNMP object types:

- [ausMibStatus](#)
- [ausAggregatedController](#)
- [ausController](#)
- [ausControllerRelationship](#)
- [ausI2ORaidController](#)
- [ausCCodeController](#)
- [ausHostRAIDController](#)
- [ausServeRAIDController](#)
- [ausChannel](#)
- [ausChannelRelationship](#)
- [ausDevice](#)
- [ausDevicePort](#)
- [ausStorageDevice](#)
- [ausEnclosureDevice](#)
- [ausExternalRaidDevice](#)
- [ausOtherDevice](#)
- [ausEnclosureFan](#)
- [ausEnclosurePowerSupply](#)
- [ausEnclosureTemperatureSensor](#)
- [ausEnclosureSlot](#)
- [ausArray](#)
- [ausExtent](#)
- [ausSpare](#)
- [ausEventLogCount](#)
- [ausEventLog](#)
- [ausTrapObjects](#)
- [Trap messages](#)

ausMibStatus

ausMibStatusRevMajor

Type	Access	Description
Integer	read-only	The major number of the revision of the Adaptec Universal Storage MIB.

ausMibStatusRevMinor

Type	Access	Description
Integer	read-only	The minor number of the revision of the Adaptec Universal Storage MIB.

ausMibStatusSecondsSinceInitiation

Type	Access	Description
Integer	read-only	The number of elapsed seconds since this SNMP subagent was initiated.

ausMibStatusCopyright

Type	Access	Description
DisplayString	read-only	Copyright notification. This string shall always be reported as 'Copyright (C) 2005 Adaptec, Inc'. The year may be modified as appropriate.

ausMibStatusOverall

Type	Access	Description
ObjectStatus	read-only	Overall operational status. This is the 'worst' overall status of all controllers reported in the MIB. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausAggregatedController

ausAggregatedControllerTable

Type	Access	Description
N/A	not-accessible	A list of aggregated controllers.

ausAggregatedControllerEntry

Type	Access	Description
N/A	not-accessible	An aggregated controller entry. Each entry contains data for the following objects: ausAggregatedControllerIndex ausAggregatedControllerList

ausAggregatedControllerIndex

Type	Access	Description
Integer	read-only	A unique index value for each aggregated controller beginning with 1.

ausAggregatedControllerList

Type	Access	Description
IndexList	read-only	A list of indices into the ausControllerTable specifying the controllers that are aggregated by a software driver to form an array.

ausController

ausControllerTable

Type	Access	Description
N/A	not-accessible	A list of controllers.

ausControllerEntry

Type	Access	Description
N/A	not-accessible	A controller entry. Each entry contains data for the following objects: ausControllerIndex ausControllerUniqueld ausControllerVendor ausControllerModel ausControllerRevision ausControllerSerialNumber ausControllerDescription ausControllerHostBusType ausControllerHostBusMaximumTransferRate ausControllerNumberOfChannels ausControllerHighestChannelWithDevices ausControllerInstalledMemory ausControllerAudibleAlarmStatus ausControllerBatteryStatus ausControllerStatus ausControllerOverallStatus ausControllerPerformanceMode ausControllerMaxIQAssignedDrives ausControllerMaximumAllowedMaxIQDrives ausControllerNCQStatus

ausControllerIndex

Type	Access	Description
Integer	read-only	A unique index for each controller beginning with 1.

ausControllerUniqueld

Type	Access	Description
DisplayString	read-only	An ID for this controller that is unique across all namespaces.

ausControllerVendor

Type	Access	Description
DisplayString	read-only	Vendor (manufacturer) of the controller.

ausControllerModel

Type	Access	Description
DisplayString	read-only	Model (descriptive name) of the controller.

ausControllerRevision

Type	Access	Description
DisplayString	read-only	Revision information of the controller.

ausControllerSerialNumber

Type	Access	Description
DisplayString	read-only	Serial number of the controller.

ausControllerDescription

Type	Access	Description
DisplayString	read-only	Free form text for additional description of the controller.

ausControllerHostBusType

Type	Access	Description
Integer	read-only	Type of host computer system bus for this controller. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = pci 5 = pci-32 6 = pci-64 7 = pcix 8 = pcie

ausControllerHostBusMaximumTransferRate

Type	Access	Description
Integer	read-only	Maximum possible transfer rate on the host bus in megabytes per second.

ausControllerNumberOfChannels

Type	Access	Description
Integer	read-only	The number of channels present on this controller.

ausControllerHighestChannelWithDevices

Type	Access	Description
Integer	read-only	The 0-relative channel number within the controller which has at least one device attached to it.

ausControllerInstalledMemory

Type	Access	Description
Integer	read-only	Memory installed on this controller in megabytes.

ausControllerAudibleAlarmStatus

Type	Access	Description
OptionStatus	read-only	Status of audible alarm for this controller. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = installedAndInactive 6 = installedAndActive

ausControllerBatteryStatus

Type	Access	Description
BatteryStatus	read-only	Status of battery for this controller. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = okay 6 = failed 7 = charging 8 = discharging 9 = inMaintenanceMode 10 = chargingDisabled

ausControllerStatus

Type	Access	Description
ObjectStatus	read-only	Operational status of this controller. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausControllerOverallStatus

Type	Access	Description
ObjectStatus	read-only	Overall operational status of this controller and its children. This is the 'worst' status of the controller status and that of all arrays and un-arrayed devices attached to this controller. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausControllerPerformanceMode

Type	Access	Description
Integer	read-only	To ensure optimal performance of the logical drives in the storage space, the performance mode is used. It improves I/O throughput based on the needs of the application. This object supports the following values: 0 = Dynamic 3 = OLTP/Database

ausControllerMaxIQAssignedDrives

Type	Access	Description
Integer	read-only	This object is not enabled.

ausControllerMaximumAllowedMaxIQDrives

Type	Access	Description
Integer	read-only	This object is not enabled.

ausControllerNCQStatus

Type	Access	Description
Integer	read-only	This object is not enabled.

ausControllerRelationship

ausControllerRelationshipTable

Type	Access	Description
N/A	not-accessible	A list of controller relationships.

ausControllerRelationshipEntry

Type	Access	Description
N/A	not-accessible	A controller relationship entry. Each entry contains data for the following objects: ausControllerRelationshipIndex ausControllerRelationshipType ausControllerRelationshipList ausControllerRelationshipRelation

ausControllerRelationshipIndex

Type	Access	Description
Integer	read-only	A unique index value for each controller relationship beginning with 1.

ausControllerRelationshipType

Type	Access	Description
Integer	read-only	Selects whether this row entry is a relationship between entries in the ausController table or entries in the ausExternalRaidDevice table. Setting of this field determines if the ausControllerRelationshipList is a list of indices in the ausController table or the ausExternalRaidDevice table. This object supports the following values: 1 = hostAttachedController 2 = externalRaid

ausControllerRelationshipList

Type	Access	Description
IndexList	read-only	A list of indices into the appropriate controller table specifying the controllers that are related.

ausControllerRelationshipRelation

Type	Access	Description
Integer	read-only	The attributes of the relationship among the related controllers.

ausI20RaidController

ausI20RaidControllerTable

Type	Access	Description
N/A	not-accessible	A list of I2O RAID storage controllers.

ausI2ORaidControllerEntry

Type	Access	Description
N/A	not-accessible	A I2O RAID storage controller entry. Each entry contains data for the following objects: - ausI2ORaidControllerIndex - ausI2ORaidControllerAddress - ausI2ORaidControllerBackgroundTaskPriority - ausI2ORaidControllerBiosRevision - ausI2ORaidControllerSmorRevision - ausI2ORaidControllerMainIndex

ausI2ORaidControllerIndex

Type	Access	Description
Integer	read-only	A unique index value for each I2O RAID controller.

ausI2ORaidControllerAddress

Type	Access	Description
Integer	read-only	The controller Address (normally displays in hex.) It is a 32-bit value representing the memory address used by the controller.

ausI2ORaidControllerBackgroundTaskPriority

Type	Access	Description
Integer	read-only	This object controls the priority of array background tasks such as Build, Rebuild, and Verify for this controller. The values range from 1 to 10. A value of 1 is the slowest but uses the least amount of the controller's bandwidth while a value of 10 is the fastest but it uses the most bandwidth.

ausI2ORaidControllerBiosRevision

Type	Access	Description
DisplayString	read-only	The controller B.I.O.S. revision information.

ausI2ORaidControllerSmorRevision

Type	Access	Description
DisplayString	read-only	The controller S.M.O.R. revision information.

ausI2ORaidControllerMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausControllerTable of the row that is extended by this row of ausI2ORaidControllerTable.

ausCCodeController

ausCCodeControllerTable

Type	Access	Description
N/A	not-accessible	A list of Container Code storage controllers.

ausCCodeControllerEntry

Type	Access	Description
N/A	not-accessible	A Container Code storage controller entry. Each entry contains data for the following objects: - ausCCodeControllerIndex - ausCCodeControllerPCIBusId - ausCCodeControllerPCISlotNumber - ausCCodeControllerBiosVersion - ausCCodeControllerMainIndex

ausCCodeControllerIndex

Type	Access	Description
Integer	read-only	A unique index value for each Container Code controller.

ausCCodeControllerPCIBusId

Type	Access	Description
Integer	read-only	The identifier of the host computer PCI bus the controller is attached to.

ausCCodeControllerPCISlotNumber

Type	Access	Description
Integer	read-only	The slot number of the host computer PCI bus the controller is in.

ausCCodeControllerBiosVersion

Type	Access	Description
DisplayString	read-only	The B.I.O.S. software version.

ausCCodeControllerMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausControllerTable of the row that is extended by this row of ausCCodeControllerTable.

ausHostRAIDController

ausHostRAIDControllerTable

Type	Access	Description
N/A	not-accessible	A list of HostRAID storage controllers.

ausHostRAIDControllerEntry

Type	Access	Description
N/A	not-accessible	A HostRAID storage controller entry. Each entry contains data for the following objects: ausHostRAIDControllerIndex ausHostRAIDControllerPCIBus ausHostRAIDControllerPCIDevice ausHostRAIDControllerPCIFunction ausHostRAIDControllerMainIndex

ausHostRAIDControllerIndex

Type	Access	Description
Integer	read-only	A unique index value for each HostRAID controller.

ausHostRAIDControllerPCIBus

Type	Access	Description
Integer	read-only	The PCI bus number of this controller.

ausHostRAIDControllerPCIDevice

Type	Access	Description
Integer	read-only	The PCI device number of this controller.

ausHostRAIDControllerPCIFunction

Type	Access	Description
Integer	read-only	The PCI function number of this controller.

ausHostRAIDControllerMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausControllerTable of the row that is extended by this row of ausI2ORaidControllerTable.

ausServeRAIDController

ausServeRAIDControllerTable

Type	Access	Description
N/A	not-accessible	A list of ServeRAID storage controllers.

ausServeRAIDControllerEntry

Type	Access	Description
N/A	not-accessible	A ServeRAID storage controller entry. Each entry contains data for the following objects: ausServeRAIDControllerIndex ausServeRAIDControllerBIOSRevision ausServeRAIDControllerDefaultRebuildRate ausServeRAIDControllerSlotNumber ausServerRAIDControllerMainIndex

ausServeRAIDControllerIndex

Type	Access	Description
Integer	read-only	A unique index value for each ServeRAID controller.

ausServeRAIDControllerBIOSRevision

Type	Access	Description
DisplayString	read-only	The B.I.O.S. Revision of this controller.

ausServeRAIDControllerDefaultRebuildRate

Type	Access	Description
Integer	read-only	The default rebuild rate of this controller. This object supports the following values: 1 = unknown 2 = other 3 = low 4 = medium 5 = high

ausServeRAIDControllerSlotNumber

Type	Access	Description
Integer	read-only	The slot number of this controller.

ausServeRAIDControllerMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausControllerTable of the row that is extended by this row of ausServerRAIDControllerTable.

ausChannel

ausChannelTable

Type	Access	Description
N/A	not-accessible	A list of channels.

ausChannelEntry

Type	Access	Description
N/A	not-accessible	A channel entry. Each entry contains data for the following objects: - ausChannelIndex - ausChannelAusControllerIndex - ausChannelAusControllerChannelNumber - ausChannelType - ausChannelTypeDescription - ausChannelControllerId - ausChannelControllerSubId - ausChannelWidth - ausChannelMaximumTransferRate - ausChannelMaximumAttachments - ausChannelOverallStatus

ausChannelIndex

Type	Access	Description
Integer	read-only	A unique index value for each channel beginning with 1.

ausChannelLocation

Type	Access	Description
Integer	read-only	Indicates whether the channelAusControllerIndex field should be interpreted as an index into the controllerTable or the externalRaidDeviceTable. In other words, slows whether this channel is a channel connected directly to the host or is a back-end channel connected to an external RAID controller. This object supports the following values: 1 = hostAttached 2 = externalRaid

ausChannelAusControllerIndex

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage controller table containing the entry that hosts this channel, or an index into the externalRaidDevice table containing the external RAID controller that hosts this channel. Where the index points is selected by channelLocation above.

ausChannelAusControllerChannelNumber

Type	Access	Description
Integer	read-only	Channel number within the controller referenced by channelAusControllerIndex. Channels are numbered sequentially starting with 0.

ausChannelType

Type	Access	Description
Integer	read-only	Physical transmission technology for this channel. This object supports the following values: 1 = unknown 2 = other 3 = scsi 4 = ide 5 = fibreChannel 6 = sata 7 = sas

ausChannelTypeDescription

Type	Access	Description
DisplayString	read-only	A finer-grained description for the channel. For example, SCSI may be further refined as 'Ultra160' or 'Ultra320'. IDE may be further refined per the various different performance types available.

ausChannelControllerId

Type	Access	Description
DisplayString	read-only	Controller ID number used on this channel. Meaning is dependent on channelType. For example, SCSI channels would report controller SCSI ID in this field. The field is a string to allow for a wide range of addressing schemes.

ausChannelControllerSubId

Type	Access	Description
DisplayString	read-only	Controller SubId number used on this channel. Meaning is dependent on channelType. For example, SCSI channels would report controller SCSI LUN in this field. The field is a string to allow for a wide range of addressing schemes.

ausChannelWidth

Type	Access	Description
Integer	read-only	Width of the channel in bits. For example, SCSI would be 8 or 16. Serial interfaces would be 1.

ausChannelMaximumTransferRate

Type	Access	Description
Integer	read-only	Maximum transfer rate of this channel in megabytes per second.

ausChannelMaximumAttachments

Type	Access	Description
Integer	read-only	Maximum number of devices that may be attached to this channel (include controller in the count). In case of SATA, this is the total number of ports. Ports are virtualized into IDs on 'SCSI channels'.

ausChannelOverallStatus

Type	Access	Description
ObjectStatus	read-only	Overall operational status of this channel. This is the 'worst' status of all arrays and un-arrayed devices attached to this channel. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausChannelRelationship

ausChannelRelationshipTable

Type	Access	Description
N/A	not-accessible	A list of channel relationships.

ausChannelRelationshipEntry

Type	Access	Description
N/A	not-accessible	A channel relationship entry. Each entry contains data for the following objects: ausChannelRelationshipIndex ausChannelRelationshipList ausChannelRelationshipRelation

ausChannelRelationshipIndex

Type	Access	Description
Integer	read-only	A unique index value for each channel relationship beginning with 1.

ausChannelRelationshipList

Type	Access	Description
IndexList	read-only	A list of indices into the channel table specifying the channels that are related.

ausChannelRelationshipRelation

Type	Access	Description
Integer	read-only	The attributes of the relationship among the related controllers.

ausDevice

ausDeviceTable

Type	Access	Description
N/A	not-accessible	A list of devices.

ausDeviceEntry

Type	Access	Description
N/A	not-accessible	A device entry. Each entry contains data for the following objects: - ausDeviceIndex - ausDeviceUniqueId - ausDeviceType - ausDeviceTypeGroup - ausDeviceVendor - ausDeviceModel - ausDeviceRevision - ausDeviceSerialNumber - ausDeviceNumberOfPorts - ausDeviceStatus - ausDeviceLocation - ausDeviceMaxIQCacheCapable - ausDeviceMaxIQCacheAssigned - ausDeviceSataNCQEnabled

ausDeviceIndex

Type	Access	Description
Integer	read-only	A unique index value for each device beginning with 1.

ausDeviceUniqueId

Type	Access	Description
DisplayString	read-only	An ID for this device that is unique across all namespaces.

ausDeviceAusChannelIndices

Type	Access	Description
IndexList	read-only	A list of indices into the Adaptec Universal Storage Channel table to which this device is attached. (For detailed information about connections between the device and the channel, refer to the ausDevicePort table.)

ausDeviceType

Type	Access	Description
Integer	read-only	Device type for this device. This object supports the following values: 1 = unknown 2 = other 3 = directAccess 4 = sequentialAccess 5 = printer 6 = processor 7 = writeOnce 8 = cdRom 9 = scanner 10 = opticalMemory 11 = mediumChanger 12 = communications

ausDeviceTypeGroup

Type	Access	Description
Integer	read-only	Selects which of the subordinate device tables contains more information about this device. This object supports the following values: 1 = noSubordinateTable 2 = storageDevice 3 = enclosureDevice 4 = externalRaidDevice 5 = otherDevice

ausDeviceVendor

Type	Access	Description
DisplayString	read-only	Vendor (manufacturer) of this device.

ausDeviceModel

Type	Access	Description
DisplayString	read-only	Model of this device

ausDeviceRevision

Type	Access	Description
DisplayString	read-only	Revision information for this device.

ausDeviceSerialNumber

Type	Access	Description
DisplayString	read-only	Serial number of this device.

ausDeviceNumberOfPorts

Type	Access	Description
Integer	read-only	Number of entries present in the device port table for this device (which is the same as the number of ports on the device).

ausDeviceStatus

Type	Access	Description
ObjectStatus	read-only	Operational status of this device. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausDeviceLocation

Type	Access	Description
DisplayString	read-only	Describes the location of this device in a technology-specific manner. This value usually matches the location string on any traps involving this device.

ausDeviceMaxIQCachable

Type	Access	Description
Integer	read-only	This object is not enabled. This object supports the following values: 0 = False 1 = True -1 = Unknown

ausDeviceMaxIQCachableAssigned

Type	Access	Description
Integer	read-only	This object is not enabled. This object supports the following values: 0 = False 1 = True -1 = Unknown

ausDeviceSataNCQEnabled

Type	Access	Description
Integer	read-only	This object is not enabled. This object supports the following values: 0 = False 1 = True -1 = Unknown

ausDevicePort

ausDevicePortTable

Type	Access	Description
N/A	not-accessible	A list of device ports.

ausDevicePortEntry

Type	Access	Description
N/A	not-accessible	A device port entry. Each entry contains data for the following objects: ausDevicePortIndex ausDevicePortUniqueld ausDevicePortAusDevicePortNumber ausDevicePortAusChannelIndex ausDevicePortId ausDevicePortSubId ausDevicePortWidth ausDevicePortMaximumTransferRate ausDevicePortNegotiatedTransferRate ausDevicePortStatus

ausDevicePortIndex

Type	Access	Description
Integer	read-only	A unique index value for each device port beginning with 1.

ausDevicePortUniqueld

Type	Access	Description
DisplayString	read-only	An ID for this device port that is unique across all namespaces.

ausDevicePortAusDeviceIndex

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage Device table locating the device that contains this port.

ausDevicePortAusDevicePortNumber

Type	Access	Description
Integer	read-only	Port number within the device referenced by ausDevicePortAusDeviceIndex. Ports are numbered sequentially starting with 0.

ausDevicePortAusChannelIndex

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage Channel table locating the channel to which this device port is attached.

ausDevicePortId

Type	Access	Description
DisplayString	read-only	Port ID number used by this device. Meaning is dependent on channel type. For example, SCSI channels would report device SCSI ID in this field. The field is a string to allow for a wide range of addressing schemes. For non-parallel SCSI, this is the virtual SCSI targetId.

ausDevicePortSubId

Type	Access	Description
DisplayString	read-only	Port SubId number used by this device. Meaning is dependent on channel type. For example, SCSI channels would report device SCSI LUN in this field. The field is a string to allow for a wide range of addressing schemes. For non-parallel SCSI, this is the virtual SCSI LUN.

ausDevicePortWidth

Type	Access	Description
Integer	read-only	Port width capability of this device. This may be narrower than the channel width - for example, an eight-bit SCSI device on a sixteen-bit SCSI channel.

ausDevicePortMaximumTransferRate

Type	Access	Description
Integer	read-only	Maximum transfer rate of this device in megabytes per second.

ausDevicePortNegotiatedTransferRate

Type	Access	Description
Integer	read-only	Negotiated transfer rate of this device port/controller channel pair in megabytes per second. This object supports the following values: -1 = None 0 = 5 5 = 10 10 = 20 20 = 40 40 = 80 80 = 160 160 = 320 30 = Optimal 150 = 187 300 = 375 600 = 750 151 = 187 301 = 375 601 = 750}

ausDevicePortStatus

Type	Access	Description
ObjectStatus	read-only	Operational status of this device port. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausStorageDevice

ausStorageDeviceTable

Type	Access	Description
N/A	not-accessible	A list of storage devices.

ausStorageDeviceEntry

Type	Access	Description
N/A	not-accessible	A storage device entry. Each entry contains data for the following objects: - ausStorageDeviceIndex - ausStorageDeviceDescription - ausStorageDeviceFormattedCapacity - ausStorageDeviceBlockSize - ausStorageDeviceNumberOfBlocksLow - ausStorageDeviceNumberOfBlocksHigh - ausStorageDeviceRemovableMedia - ausStorageDeviceSmartStatus - ausStorageDeviceMainIndex

ausStorageDeviceIndex

Type	Access	Description
Integer	read-only	A unique index value for each storage device.

ausStorageDeviceDescription

Type	Access	Description
DisplayString	read-only	Free form text for additional description of the storage device.

ausStorageDeviceFormattedCapacity

Type	Access	Description
Integer	read-only	Formatted capacity of this storage device in megabytes.

ausStorageDeviceBlockSize

Type	Access	Description
Integer	read-only	Physical block size of this storage device in bytes.

ausStorageDeviceNumberOfBlocksLow

Type	Access	Description
Integer	read-only	Number of physical blocks for this storage device (least significant 32 bits of 64-bit value).

ausStorageDeviceNumberOfBlocksHigh

Type	Access	Description
Integer	read-only	Number of physical blocks for this storage device (most significant 32 bits of 64-bit value).

ausStorageDeviceRemovableMedia

Type	Access	Description
Integer	read-only	Status of removable media for this storage device. This object supports the following values: 1 = unknown 2 = notSupported 3 = supportedAndNotLocaded 4 = supportedAndLoaded

ausStorageDeviceSmartStatus

Type	Access	Description
Integer	read-only	S.M.A.R.T. status of this storage device. This object supports the following values: 1 = unknown 2 = notSupported 3 = notEnabled 4 = okay 5 = errorPredicted

ausStorageDeviceMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausDeviceTable of the row that is extended by this row of ausStorageDeviceTable.

ausEnclosureDevice

ausEnclosureDeviceTable

Type	Access	Description
N/A	not-accessible	A list of enclosure devices.

ausEnclosureDeviceEntry

Type	Access	Description
N/A	not-accessible	An enclosure device entry. Each entry contains data for the following objects: ausEnclosureDeviceIndex ausEnclosureDeviceDescription ausEnclosureDeviceProcessorType ausEnclosureDeviceNumberOfFans ausEnclosureDeviceNumberOfPowerSupplies ausEnclosureDeviceNumberOfSlots ausEnclosureDeviceNumberOfTemperatureSensors ausEnclosureDeviceIdLow ausEnclosureDeviceIdHigh ausEnclosureDeviceStandardRevision ausEnclosureDevicePowerOnTime ausEnclosureDevicePowerCycles ausEnclosureDeviceDoorLock ausEnclosureDeviceSpeaker ausEnclosureDeviceTemperatureState ausEnclosureDeviceMainIndex

ausEnclosureDeviceIndex

Type	Access	Description
Integer	read-only	A unique index value for each enclosure device.

ausEnclosureDeviceDescription

Type	Access	Description
DisplayString	read-only	Free form text for additional description of the enclosure.

ausEnclosureDeviceProcessorType

Type	Access	Description
Integer	read-only	Standard supported by this enclosure. This object supports the following values: 1 = unknown 2 = other 3 = decFault 4 = saf-te 5 = ses 6 = aemi

ausEnclosureDeviceNumberOfFans

Type	Access	Description
Integer	read-only	Number of fans installed in this enclosure.

ausEnclosureDeviceNumberOfPowerSupplies

Type	Access	Description
Integer	read-only	Number of power supplies installed in this enclosure.

ausEnclosureDeviceNumberOfSlots

Type	Access	Description
Integer	read-only	Number of slots installed in this enclosure.

ausEnclosureDeviceNumberOfTemperatureSensors

Type	Access	Description
Integer	read-only	Number of temperature sensors installed in this enclosure.

ausEnclosureDeviceIdLow

Type	Access	Description
Integer	read-only	Unique enclosure ID obtained from inquiry (least significant 32 bits of 64-bit value).

ausEnclosureDeviceIdHigh

Type	Access	Description
Integer	read-only	Unique enclosure ID obtained from inquiry (most significant 32 bits of 64-bit value).

ausEnclosureDeviceStandardRevision

Type	Access	Description
DisplayString	read-only	Revision of standard adhered to for this enclosure (obtained from inquiry).

ausEnclosureDevicePowerOnTime

Type	Access	Description
Integer	read-only	Total number of power on minutes for this enclosure.

ausEnclosureDevicePowerCycles

Type	Access	Description
Integer	read-only	Total number of power cycles for this enclosure.

ausEnclosureDeviceDoorLock

Type	Access	Description
OptionStatus	read-only	Presence and current status of this enclosure's door lock. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = installedAndInactive 6 = installedAndActive

ausEnclosureDeviceSpeaker

Type	Access	Description
OptionStatus	read-only	Presence and current status of this enclosure's speaker. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = installedAndInactive 6 = installedAndActive

ausEnclosureDeviceTemperatureState

Type	Access	Description
Integer	read-only	Indicates state of internal temperature for this enclosure. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = tooHot

ausEnclosureDeviceMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausDeviceTable of the row that is extended by this row of ausEnclsureDeviceTable.

ausExternalRaidDevice

ausExternalRaidDeviceTable

Type	Access	Description
N/A	not-accessible	A list of external RAID controllers.

ausExternalRaidDeviceEntry

Type	Access	Description
N/A	not-accessible	An external RAID controller entry. Each entry contains data for the following objects: ausExternalRaidDeviceIndex ausExternalRaidDeviceDescription ausExternalRaidDeviceNumberOfChannels ausExternalRaidDeviceInstalledMemory ausExternalRaidDeviceAudibleAlarmStatus ausExternalRaidDeviceBatteryStatus ausExternalRaidDeviceMainIndex

ausExternalRaidDeviceIndex

Type	Access	Description
Integer	read-only	A unique index for each external RAID device.

ausExternalRaidDeviceDescription

Type	Access	Description
DisplayString	read-only	Free form text for additional description of the external RAID controller.

ausExternalRaidDeviceNumberOfChannels

Type	Access	Description
Integer	read-only	The number of back-end channels present on this external RAID controller.

ausExternalRaidDeviceInstalledMemory

Type	Access	Description
Integer	read-only	Installed memory in this external RAID controller in megabytes.

ausExternalRaidDeviceAudibleAlarmStatus

Type	Access	Description
OptionStatus	read-only	Status of audible alarm for this external RAID controller. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = installedAndInactive 6 = installedAndActive

ausExternalRaidDeviceBatteryStatus

Type	Access	Description
BatteryStatus	read-only	Status of battery for this external RAID controller. This object supports the following values: 1 = unknown 2 = other 3 = notApplicable 4 = notInstalled 5 = okay 6 = failed 7 = charging 8 = discharging 9 = inMaintenanceMode 10 = chargingDisabled

ausExternalRaidDeviceMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausDeviceTable of the row that is extended by this row of ausExternalRaidDeviceTable.

ausOtherDevice

ausOtherDeviceTable

Type	Access	Description
N/A	not-accessible	A list of other devices.

ausOtherDeviceEntry

Type	Access	Description
N/A	not-accessible	An other device entry. Each entry contains data for the following objects: ausOtherDeviceIndex ausOtherDeviceDescription ausOtherDeviceMainIndex

ausOtherDeviceIndex

Type	Access	Description
Integer	read-only	A unique index value for each other device.

ausOtherDeviceDescription

Type	Access	Description
DisplayString	read-only	Free form text for additional description of this device.

ausOtherDeviceMainIndex

Type	Access	Description
Integer	read-only	This is the index into ausDeviceTable of the row that is extended by this row of ausOtherDeviceTable.

ausEnclosureFan

ausEnclosureFanTable

Type	Access	Description
N/A	not-accessible	A list of enclosure fans.

ausEnclosureFanEntry

Type	Access	Description
N/A	not-accessible	An enclosure fan entry. Each entry contains data for the following objects: ausEnclosureFanIndex ausEnclosureFanAusEnclosureDeviceIndex ausEnclosureFanOrdinal ausEnclosureFanSpeed ausEnclosureFanStatus

ausEnclosureFanIndex

Type	Access	Description
Integer	read-only	A unique index value for each fan.

ausEnclosureFanAusEnclosureDeviceIndex

Type	Access	Description
Integer	read-only	The index of the ausEnclosureDeviceTable entry housing this fan.

ausEnclosureFanOrdinal

Type	Access	Description
Integer	read-only	Zero-relative fan number within an enclosure.

ausEnclosureFanSpeed

Type	Access	Description
Integer	read-only	Rotational speed of this fan in RPM.

ausEnclosureFanStatus

Type	Access	Description
ObjectStatus	read-only	Status of this fan. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausEnclosurePowerSupply

ausEnclosurePowerSupplyTable

Type	Access	Description
N/A	not-accessible	A list of enclosure power supplies.

ausEnclosurePowerSupplyEntry

Type	Access	Description
N/A	not-accessible	An enclosure power supply entry. Each entry contains data for the following objects: ausEnclosurePowerSupplyIndex ausEnclosurePowerSupplyAusEnclosureDeviceIndex ausEnclosurePowerSupplyOrdinal ausEnclosurePowerSupplyStatus

ausEnclosurePowerSupplyIndex

Type	Access	Description
Integer	read-only	A unique index value for each power supply.

ausEnclosurePowerSupplyAusEnclosureDeviceIndex

Type	Access	Description
Integer	read-only	The index of the ausEnclosureDeviceTable entry housing this power supply.

ausEnclosurePowerSupplyOrdinal

Type	Access	Description
Integer	read-only	Zero-relative power supply number within an enclosure.

ausEnclosurePowerSupplyStatus

Type	Access	Description
Integer	read-only	Status of this power supply. This object supports the following values: 1 = unknown 2 = other 3 = operationalAndOn 4 = operationalAndOff 5 = onAndMalfunctioning 6 = offAndMalfunctioning 7 = installed 8 = notInstalled

ausEnclosureTemperatureSensor

ausEnclosureTemperatureSensorTable

Type	Access	Description
N/A	not-accessible	A list of enclosure temperature sensors.

ausEnclosureTemperatureSensorEntry

Type	Access	Description
N/A	not-accessible	An enclosure temperature sensor entry. Each entry contains data for the following objects: ausEnclosureTemperatureSensorIndex ausEnclosureTemperatureSensorAusEnclosureDeviceIndex ausEnclosureTemperatureSensorOrdinal ausEnclosureTemperatureSensorOverTemperature ausEnclosureTemperatureSensorDegrees

ausEnclosureTemperatureSensorIndex

Type	Access	Description
Integer	read-only	A unique index value for each temperature sensor.

ausEnclosureTemperatureSensorAusEnclosureDeviceIndex

Type	Access	Description
Integer	read-only	The index of the ausEnclosureDeviceTable entry housing this temperature sensor.

ausEnclosureTemperatureSensorOrdinal

Type	Access	Description
Integer	read-only	Zero-relative temperature sensor number within an enclosure.

ausEnclosureTemperatureSensorOverTemperature

Type	Access	Description
ObjectStatus	read-only	Specifies whether this temperature sensor has detected an over temperature condition. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausEnclosureTemperatureSensorDegrees

Type	Access	Description
Integer	read-only	Temperature registered by this sensor in degrees Fahrenheit.

ausEnclosureSlot

ausEnclosureSlotTable

Type	Access	Description
N/A	not-accessible	A list of enclosure slots.

ausEnclosureSlotEntry

Type	Access	Description
N/A	not-accessible	An enclosure slot entry. Each entry contains data for the following objects: ausEnclosureSlotIndex ausEnclosureSlotAusEnclosureDeviceIndex ausEnclosureSlotOrdinal ausEnclosureSlotPortId ausEnclosureSlotInsertions

ausEnclosureSlotIndex

Type	Access	Description
Integer	read-only	A unique index value for each slot.

ausEnclosureSlotAusEnclosureDeviceIndex

Type	Access	Description
Integer	read-only	The index of the ausEnclosureDeviceTable entry housing this slot.

ausEnclosureSlotOrdinal

Type	Access	Description
Integer	read-only	Zero-relative slot number within an enclosure.

ausEnclosureSlotPortId

Type	Access	Description
DisplayString	read-only	Port ID number used by the device at this slot. Meaning is dependent on channel type. For example, SCSI channels would report device SCSI ID in this field. The field is a string to allow for a wide range of addressing schemes.

ausEnclosureSlotInsertions

Type	Access	Description
Integer	read-only	Number of device insertions for this slot.

ausArray

ausArrayTable

Type	Access	Description
N/A	not-accessible	A list of arrays.

ausArrayEntry

Type	Access	Description
N/A	not-accessible	An array entry. Each entry contains data for the following objects: ausArrayIndex ausArrayName ausArrayCapacity ausArrayType ausArrayStripeSize ausArrayTaskStatus ausArrayTaskCompletion ausArrayTaskPriority ausArrayHostingControllerType ausArrayHostingControllerIndex ausArrayStatus ausArrayState ausArrayCacheStatus ausArrayMembership ausArrayID ausArrayPMStatus ausStandByTimer ausPowerOffTimer ausVerifyTimer ausArrayMaxIQPreferredCacheSetting ausArrayMaxIQCacheSetting

ausArrayIndex

Type	Access	Description
Integer	read-only	A unique index value for each array beginning with 1.

ausArrayName

Type	Access	Description
DisplayString	read-only	The name assigned to this array.

ausArrayCapacity

Type	Access	Description
Integer	read-only	Capacity of this array in megabytes. This is data (usable) size, not the sum of all extents.

ausArrayType

Type	Access	Description
Integer	read-only	RAID level used by this array. This object supports the following values: 1 = unknown 2 = other 3 = raid0 4 = raid1 5 = raid2 6 = raid3 7 = raid4 8 = raid5 9 = raid6 10 = raid10 11 = raid50 12 = volume 13 = volume-of-raid0 14 = volume-of-raid1 15 = volume-of-raid5 16 = raid1e 17 = raid5ee 18 = raid-volume 19 = raid60

ausArrayStripeSize

Type	Access	Description
Integer	read-only	Stripe size used by this array.

ausArrayTaskStatus

Type	Access	Description
Integer	read-only	Task status of this array. This object supports the following values: 1 = unknown 2 = other 3 = noTaskActive 4 = reconstruct 5 = zeroInitialize 6 = verify 7 = verifyWithFix 8 = modification 9 = copyback 10 = compaction 11 = expansion 12 = snapshotBackup

ausArrayTaskCompletion

Type	Access	Description
Integer	read-only	Percentage completion of running task, if any. Reports as 100 if no task is active.

ausArrayTaskPriority

Type	Access	Description
Integer	read-only	Priority of the running task (if any). This object supports the following values: 1 = unknown 2 = other 3 = notSupported 4 = notApplicable 5 = none 6 = low 7 = medium 8 = high

ausArrayHostingControllerType

Type	Access	Description
Integer	read-only	This field tells whether the hosting controller for this array is an actual physical controller, an aggregate controller (multiple controllers made to look like one through software), or an external RAID controller. This field is used to select the meaning of the following ausArrayControllerIndex field. This object supports the following values: 1 = physicalController 2 = aggregateController 3 = externalRaidController

ausArrayHostingControllerIndex

Type	Access	Description
Integer	read-only	This field associates this array with its hosting controller. If the ausArrayControllerType field equals physicalController, then this field is an index into the ausController table. If the ausArrayControllerType field equals aggregateController, then this field is an index into the ausAggregateController table. If the ausArrayControllerType field equals externalRaidController, then this field is an index into the ausExternalRaidDevice table.

ausArrayStatus

Type	Access	Description
ObjectStatus	read-only	Current health of this array. This object supports the following values: 1 = unknown 2 = other 3 = okay 4 = warning 5 = failure

ausArrayState

Type	Access	Description
Integer	read-only	Current health of this array. This object supports the following values: 1 = unknown 2 = other 3 = optimal 4 = quickInitiated 5 = impacted 6 = degraded 7 = failed 8 = compacted

ausArrayCacheStatus

Type	Access	Description
Integer	read-only	Current write cache status of this array. This object supports the following values: 1 = unknown 2 = other 3 = disabled 4 = writeBack 5 = writeThru

ausArrayMembership

Type	Access	Description
Integer	read-only	For non-composite arrays (e.g., a straight mirror, RAID-1, set) this field is always 0. For composite arrays (e.g., stripe set of mirrors, RAID-10) this field indicates the position in the array hierarchy. If this is the topmost array in the hierarchy, this field will be 0. If this is a subscription array in the hierarchy, this field is set to a value equal to the index of the entry in the Array Table locating its parent.

ausArrayID

Type	Access	Description
Integer	read-only	The ID of this array on its hosting controller.

ausArrayPMStatus

Type	Access	Description
Integer	read-only	Power Management Status for the Logical Drive. This object supports the following values: 0 = Disabled 1 = Enabled

ausStandByTimer

Type	Access	Description
Integer	read-only	Period of inactivity, from 3 minutes to 3 hours, after which the drive's spin rate is lowered. The default is zero.

ausPowerOffTimer

Type	Access	Description
Integer	read-only	Period of inactivity, from 3 minutes to 3 hours, after which the disk drives are turned off. The default is zero.

ausVerifyTimer

Type	Access	Description
Integer	read-only	Period of inactivity, from 1 hour to 24 hours, after which an inactive drive (a drive that is already powered down) is restarted and checked to verify its health. Once the check is completed, the drive is powered down and returns to its inactive state. The default is zero.

ausArrayMaxIQPreferredCacheSetting

Type	Access	Description
Integer	read-only	This object is disabled. This object supports the following values: 0 = Not Supported 1 = Disabled 2 = Enabled

ausArrayMaxIQCacheSetting

Type	Access	Description
Integer	read-only	This object is disabled. This object supports the following values: 0 = Not Supported 1 = Disabled 2 = Enabled

ausExtent

ausExtentTable

Type	Access	Description
N/A	not-accessible	A list of disk extents.

ausExtentEntry

Type	Access	Description
N/A	not-accessible	A disk extent entry. Each entry contains data for the following objects: ausExtentIndex ausExtentAusDeviceIndex ausExtentSize ausExtentStartingLBALow ausExtentStartingLBAHigh ausExtentNumberOfBlocksLow ausExtentNumberOfBlocksHigh ausExtentArrayMembership

ausExtentIndex

Type	Access	Description
Integer	read-only	A unique index value for each disk extent beginning with 1.

ausExtentAusDeviceIndex

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage device table that describes the physical disk containing this extent.

ausExtentSize

Type	Access	Description
Integer	read-only	Size of this extent round to nearest megabyte.

ausExtentStartingLBALow

Type	Access	Description
Integer	read-only	Starting disk LBA (logical buffer address) used by this extent (least significant 32 bits of 64-bit value).

ausExtentStartingLBAHigh

Type	Access	Description
Integer	read-only	Starting disk LBA (logical buffer address) used by this extent (most significant 32 bits of 64-bit value).

ausExtentNumberOfBlocksLow

Type	Access	Description
Integer	read-only	Number of disk blocks used by this extent (least significant 32 bits of 64-bit value).

ausExtentNumberOfBlocksHigh

Type	Access	Description
Integer	read-only	Number of disk blocks used by this extent (most significant 32 bits of 64-bit value).

ausExtentArrayMembership

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage array table selecting the array of which this extent is a member.

ausSpare

ausSpareTable

Type	Access	Description
N/A	not-accessible	A list of spares.

ausSpareEntry

Type	Access	Description
N/A	not-accessible	A spare entry. Each entry contains data for the following objects: - ausSpareIndex - ausSpareAusDeviceIndex - ausSpareType - ausSpareAusControllerOrArrayIndex

ausSpareIndex

Type	Access	Description
Integer	read-only	A unique index value for each spare beginning with 1.

ausSpareAusDeviceIndex

Type	Access	Description
Integer	read-only	Index into the Adaptec Universal Storage device table that describes the physical disk corresponding to this spare.

ausSpareType

Type	Access	Description
Integer	read-only	Specifies whether this is a global spare (allocated to a controller), a dedicated spare (allocated to an array), an external RAID global spare (allocated to an external RAID controller), or a standby spare (allocated to a controller). This object supports the following values: 1 = global 2 = dedicated 3 = externalRaidGlobal 4 = unknown 5 = other 6 = standby

ausSpareAusControllerOrArrayIndex

Type	Access	Description
Integer	read-only	If this is a global spare, this field contains an index into the Adaptec Universal Storage controller table selecting the controller for which the spare relationship exists. If this is a dedicated spare, this field contains an index into the Adaptec Universal Storage array table select the array for which the spare relationship exists. If this is an external RAID global spare, this field contains an index into the Adaptec Universal Storage external RAID device table selecting the controller for which the spare relationship exists.

ausEventLogCount

ausEventLogNumEntries

Type	Access	Description
Integer	read-only	The number of entries in the Event Log.

ausEventLog

ausEventLogTable

Type	Access	Description
N/A	not-accessible	A circular list of event log entries. The number of entries is given by the value of eventLogCount. Current maximum event log count is fixed at 256, but could be programmable (via MIB variable and/or .INI file) in the future.

ausEventLogEntry

Type	Access	Description
N/A	not-accessible	An event log entry. Each entry contains data for the following objects: ausEventLogIndex ausEventLogString ausEventLogTimeStamp

ausEventLogIndex

Type	Access	Description
Integer	read-only	A unique index value for each event log table entry beginning with 1.

ausEventLogString

Type	Access	Description
DisplayString	read-only	A text string containing the text of the event as generated by middleware.

ausEventLogTimeStamp

Type	Access	Description
Integer	read-only	The time stamp assigned this event by middleware, in UNIX time_t format.

ausTrapObjects

ausTrapMessage

Type	Access	Description
DisplayString	not-accessible	Message delivered by the trap.

ausTrapObjectIndex

Type	Access	Description
Integer	not-accessible	An index into a MIB table specifying the object associated with the trap. If the index is 0, then an index is not available (for example, for a deleted object).

ausTrapControllerType

Type	Access	Description
Integer	not-accessible	Describes which type of controller generated this trap, and therefore which table is indexed. This object supports the following values: 1 = aggregateController 2 = internalController 3 = externalController

ausTrapControllerStatus

Type	Access	Description
Integer	not-accessible	Status of the controller that generated this trap. This object supports the following values: 1 = okay 2 = noControllersFound 3 = controllerAdded 4 = controllerDeleted 5 = controllerFailover 6 = commandsNotResponding 7 = cannotReadControllerInformation 8 = replaceBattery 9 = defectiveCache 10 = firmwareVersionMismatch

ausTrapDeviceStatus

Type	Access	Description
Integer	not-accessible	Status of the device that generated this trap. This object supports the following values: 1 = okay 2 = deviceAdded 3 = deviceRemoved 4 = deviceFailed 5 = smartEvent 6 = unsupportedDeviceType

ausTrapEnclosureStatus

Type	Access	Description
Integer	not-accessible	Status of the enclosure that generated this trap. This object supports the following values: 1 = enclosureResponding 2 = enclosureNotResponding 3 = fanMalfunction 4 = fanOperational 5 = fanRemoved 6 = fanInstalled 7 = temperatureInRange 8 = temperatureOutOfRange 9 = powerSupplyMalfunction 10 = powerSupplyOperational 11 = powerSupplyRemoved 12 = powerSupplyInstalled

ausTrapEnclosureObjectOrdinal

Type	Access	Description
Integer	not-accessible	Zero relative ordinal number of affected fan, temperature sensor, power supply, slot, etc., in an enclosure. Field will be -1 if not needed (for example, when the trap refers to the enclosure as a whole rather than a piece of the enclosure).

ausTrapArrayStatus

Type	Access	Description
Integer	not-accessible	Status of the array that generated this trap. This object supports the following values: 1 = okay 2 = critical 3 = offline 4 = blocked 5 = unblocked

ausTrapArrayTaskStatus

Type	Access	Description
Integer	not-accessible	Status of the array task that generated this trap. This object supports the following values: 1 = rebuilding 2 = rebuildComplete 3 = rebuildFailed 4 = synchronizing 5 = synchronizationComplete 6 = synchronizationFailed 7 = migrating 8 = migrationComplete 9 = migrationFailed 10 = compressing 11 = compressionComplete 12 = compressionFailed 13 = decompressing 14 = decompressionComplete 15 = decompressionFailed 16 = compacting 17 = compactionComplete 18 = compactionFailed 19 = expanding 20 = expansionComplete 21 = expansionFailed 22 = flashCopying 23 = flashCopyComplete 24 = flashCopyFailed

ausTrapSpareStatus

Type	Access	Description
Integer	not-accessible	Status of the spare that generated this trap. This object supports the following values: 1 = okay 2 = added 3 = deleted 4 = failed

ausTrapEnumAsText

Type	Access	Description
DisplayString	not-accessible	A string corresponding to a trap enumeration value.

trap messages

ausTrapOtherInformational

Type	Access	Description
N/A	N/A	Other informational trap message

ausTrapOtherWarning

Type	Access	Description
N/A	N/A	Other warning trap message.

ausTrapOtherFatal

Type	Access	Description
N/A	N/A	Other fatal trap message.

ausTrapDeviceInformation

Type	Access	Description
N/A	N/A	Informational status of a device.

ausTrapDeviceWarning

Type	Access	Description
N/A	N/A	Warning status of a device.

ausTrapDeviceFatal

Type	Access	Description
N/A	N/A	Fatal status of a device.

ausTrapEnclosureInformation

Type	Access	Description
N/A	N/A	Informational status of an enclosure.

ausTrapEnclosureWarning

Type	Access	Description
N/A	N/A	Warning status of an enclosure.

ausTrapEnclosureFatal

Type	Access	Description
N/A	N/A	Fatal status of an enclosure.

ausTrapArrayInformation

Type	Access	Description
N/A	N/A	Informational status of an array.

ausTrapArrayWarning

Type	Access	Description
N/A	N/A	Warning status of an array.

ausTrapArrayFatal

Type	Access	Description
N/A	N/A	Fatal status of an array.

ausTrapArrayTaskInformation

Type	Access	Description
N/A	N/A	Informational status of an array task

ausTrapArrayTaskWarning

Type	Access	Description
N/A	N/A	Warning status of an array task.

ausTrapArrayTaskFatal

Type	Access	Description
N/A	N/A	Fatal status of an array task.

ausTrapSpareInformation

Type	Access	Description
N/A	N/A	Informational status of a spare.

ausTrapSpareWarning

Type	Access	Description
N/A	N/A	Warning status of a spare.

ausTrapSpareFatal

Type	Access	Description
N/A	N/A	Fatal status of a spare.

hostmib.mib

The `hostmib.mib` Management Information Base (MIB) file is very similar to that of [HOST-RESOURCES-MIB.mib](#). However, because it has significant differences, this section documents the entirety of the `hostmib.mib` file.

The `hostmib.mib` file contains the following SNMP object types:

SNMP object type	Description
hrSystem	This object contains information about running time, date, parameters, users, and processes on the host system. See hrSystem objects .
hrStorage	This object contains information on available memory space and local storage space on the host system. See hrStorage objects .
hrDevice	This object contains information on hardware installed on the host system. See hrDevice objects .
hrSWRun	This object contains information on software processes that are running on the host system. See hrSWRun objects .
hrSWRunPerf	This object contains information on the CPU and memory impacts of software processes that are running on the host system. See hrSWRunPerf objects .
hrSWInstalled	This object contains information on the versions of software installed on the host system. See hrSWInstalled objects .

hrSystem objects

hrSystemUptime

Type	Access	Description
TimeTicks	read-only	The amount of time since this host was last initialized. Note that this is different from sysUpTime in the SNMPv2-MIB [RFC1907] because sysUpTime is the uptime of the network management portion of the system.

hrSystemDate

Type	Access	Description
DateAndTime	read-write	The host's notion of the local date and time of day.

hrSystemInitialLoadDevice

Type	Access	Description
Integer32	read-write	The index of the hrDeviceEntry for the device from which this host is configured to load its initial operating system configuration (i.e., which operating system code and/or boot parameters). Note that writing to this object just changes the configuration that will be used the next time the operating system is loaded and does not actually cause the reload to occur.

hrSystemInitialLoadParameters

Type	Access	Description
InternationalDisplayString	read-write	This object contains the parameters (e.g. a pathname and parameter) supplied to the load device when requesting the initial operating system configuration from that device. Note that writing to this object just changes the configuration that will be used the next time the operating system is loaded and does not actually cause the reload to occur.

hrSystemNumUsers

Type	Access	Description
Gauge32	read-only	The number of user sessions for which this host is storing state information. A session is a collection of processes requiring a single act of user authentication and possibly subject to collective job control.

hrSystemProcesses

Type	Access	Description
Gauge32	read-only	The number of process contexts currently loaded or running on this system.

hrSystemMaxProcesses

Type	Access	Description
Integer32	read-only	The maximum number of process contexts this system can support. If there is no fixed maximum, the value should be zero. On systems that have a fixed maximum, this object can help diagnose failures that occur when this maximum is reached.

hrStorage objects

hrMemorySize

Type	Access	Description
KBytes	read-only	The amount of physical read-write main memory, typically RAM, contained by the host.

hrStorageTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of logical storage areas on the host. An entry shall be placed in the storage table for each logical area of storage that is allocated and has fixed resource limits. The amount of storage represented in an entity is the amount actually usable by the requesting entity, and excludes loss due to formatting or file system reference information. These entries are associated with logical storage areas, as might be seen by an application, rather than physical storage entities which are typically seen by an operating system. Storage such as tapes and floppies without file systems on them are typically not allocated in chunks by the operating system to requesting applications, and therefore shouldn't appear in this table. Examples of valid storage for this table include disk partitions, file systems, ram (for some architectures this is further segmented into regular memory, extended memory, and so on), backing store for virtual memory ('swap space'). This table is intended to be a useful diagnostic for 'out of memory' and 'out of buffers' types of failures. In addition, it can be a useful performance monitoring tool for tracking memory, disk, or buffer usage.

hrStorageEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one logical storage area on the host. As an example, an instance of the hrStorageType object might be named hrStorageType.3 Each entry contains data for the following objects: - hrStorageIndex - hrStorageType - hrStorageDescr - hrStorageAllocationUnits - hrStorageSize - hrStorageUsed - hrStorageAllocationFailures

hrStorageIndex

Type	Access	Description
Integer32	read-only	A unique value for each logical storage area contained by the host.

hrStorageType

Type	Access	Description
AutonomousType	read-only	The type of storage represented by this entry.

hrStorageDescr

Type	Access	Description
DisplayString	read-only	A description of the type and instance of the storage described by this entry.

hrStorageAllocationUnits

Type	Access	Description
Integer32	read-only	The size, in bytes, of the data objects allocated from this pool. If this entry is monitoring sectors, blocks, buffers, or packets, for example, this number will commonly be greater than one. Otherwise this number will typically be one.

hrStorageSize

Type	Access	Description
Integer32	read-write	The size of the storage represented by this entry, in units of hrStorageAllocationUnits. This object is writable to allow remote configuration of the size of the storage area in those cases where such an operation makes sense and is possible on the underlying system. For example, the amount of main memory allocated to a buffer pool might be modified or the amount of disk space allocated to virtual memory might be modified.

hrStorageUsed

Type	Access	Description
Integer32	read-only	The amount of the storage represented by this entry that is allocated, in units of hrStorageAllocationUnits.

hrStorageAllocationFailures

Type	Access	Description
Counter32	read-only	The number of requests for storage represented by this entry that could not be honored due to not enough storage. It should be noted that as this object has a SYNTAX of Counter32, that it does not have a defined initial value. However, it is recommended that this object be initialized to zero, even though management stations must not depend on such an initialization.

hrDevice objects

hrDeviceTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of devices contained by the host.

hrDeviceEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one device contained by the host. As an example, an instance of the hrDeviceType object might be named hrDeviceType.3 Each entry contains data for the following objects: hrDeviceIndex hrDeviceType hrDeviceDescr hrDeviceID hrDeviceStatus hrDeviceErrors

hrDeviceIndex

Type	Access	Description
Integer32	read-only	A unique value for each device contained by the host. The value for each device must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrDeviceType

Type	Access	Description
AutonomousType	read-only	An indication of the type of device. If this value is `hrDeviceProcessor { hrDeviceTypes 3 }' then an entry exists in the hrProcessorTable which corresponds to this device.</p> <p>If this value is `hrDeviceNetwork { hrDeviceTypes 4 }', then an entry exists in the hrNetworkTable which corresponds to this device. If this value is `hrDevicePrinter { hrDeviceTypes 5 }', then an entry exists in the hrPrinterTable which corresponds to this device.</p> <p>If this value is `hrDeviceDiskStorage { hrDeviceTypes 6 }', then an entry exists in the hrDiskStorageTable which corresponds to this device.

hrDeviceDescr

Type	Access	Description
DisplayString	read-only	A textual description of this device, including the device's manufacturer and revision, and optionally, its serial number.

hrDeviceID

Type	Access	Description
ProductID	read-only	The product ID for this device.

hrDeviceStatus

Type	Access	Description
Enumeration	read-only	The current operational state of the device described by this row of the table. A value unknown(1) indicates that the current state of the device is unknown. running(2) indicates that the device is up and running and that no unusual error conditions are known. The warning(3) state indicates that agent has been informed of an unusual error condition by the operational software (e.g., a disk device driver) but that the device is still 'operational'. An example would be a high number of soft errors on a disk. A value of testing(4), indicates that the device is not available for use because it is in the testing state. The state of down(5) is used only when the agent has been informed that the device is not available for any use. This object supports the following values: 1 = unknown 2 = running 3 = warning 4 = testing 5 = down

hrDeviceErrors

Type	Access	Description
Counter32	read-only	The number of errors detected on this device. It should be noted that as this object has a SYNTAX of Counter32, that it does not have a defined initial value. However, it is recommended that this object be initialized to zero, even though management stations must not depend on such an initialization.

hrProcessorTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of processors contained by the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceProcessor'.

hrProcessorEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one processor contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrProcessorEntry. As an example of how objects in this table are named, an instance of the hrProcessorFrwID object might be named hrProcessorFrwID.3 Each entry contains data for the following objects: hrProcessorFrwID hrProcessorLoad

hrProcessorFrwID

Type	Access	Description
ProductID	read-only	The product ID of the firmware associated with the processor.

hrProcessorLoad

Type	Access	Description
Integer32	read-only	The average, over the last minute, of the percentage of time that this processor was not idle. Implementations may approximate this one minute smoothing period if necessary.

hrNetworkTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of network devices contained by the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceNetwork'.

hrNetworkEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one network device contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrNetworkEntry. As an example of how objects in this table are named, an instance of the hrNetworkIfIndex object might be named hrNetworkIfIndex.3.

hrNetworkIfIndex

Type	Access	Description
InterfaceIndexOrZero	read-only	The value of ifIndex which corresponds to this network device. If this device is not represented in the ifTable, then this value shall be zero.

hrPrinterTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of printers local to the host. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDevicePrinter'.

hrPrinterEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one printer local to the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrPrinterEntry. As an example of how objects in this table are named, an instance of the hrPrinterStatus object might be named hrPrinterStatus.3 Each entry contains data for the following objects: hrPrinterStatus hrPrinterDetectedErrorState

hrPrinterStatus

Type	Access	Description
Enumeration	read-only	The current status of this printer device. This object supports the following values: 1 = other 2 = unknown 3 = idle 4 = printing 5 = warmup

hrPrinterDetectedErrorState

Type	Access	Description																																
OctetString	read-only	This object represents any error conditions detected by the printer. The error conditions are encoded as bits in an octet string, with the following definitions: <table><tr><th>Condition</th><th>Bit #</th></tr><tr><td>lowPaper</td><td>0</td></tr><tr><td>noPaper</td><td>1</td></tr><tr><td>lowToner</td><td>2</td></tr><tr><td>noToner</td><td>3</td></tr><tr><td>doorOpen</td><td>4</td></tr><tr><td>jammed</td><td>5</td></tr><tr><td>offline</td><td>6</td></tr><tr><td>serviceRequested</td><td>7</td></tr><tr><td>inputTrayMissing</td><td>8</td></tr><tr><td>outputTrayMissing</td><td>9</td></tr><tr><td>markerSupplyMissing</td><td>10</td></tr><tr><td>outputNearFull</td><td>11</td></tr><tr><td>outputFull</td><td>12</td></tr><tr><td>inputTrayEmpty</td><td>13</td></tr><tr><td>overduePreventMaint</td><td>14</td></tr></table> Bits are numbered starting with the most significant bit of the first byte being bit 0, the least significant bit of the first byte being bit 7, the most significant bit of the second byte being bit 8, and so on. A one bit encodes that the condition was detected, while a zero bit encodes that the condition was not detected. This object is useful for alerting an operator to specific warning or error conditions that may occur, especially those requiring human intervention.	Condition	Bit #	lowPaper	0	noPaper	1	lowToner	2	noToner	3	doorOpen	4	jammed	5	offline	6	serviceRequested	7	inputTrayMissing	8	outputTrayMissing	9	markerSupplyMissing	10	outputNearFull	11	outputFull	12	inputTrayEmpty	13	overduePreventMaint	14
Condition	Bit #																																	
lowPaper	0																																	
noPaper	1																																	
lowToner	2																																	
noToner	3																																	
doorOpen	4																																	
jammed	5																																	
offline	6																																	
serviceRequested	7																																	
inputTrayMissing	8																																	
outputTrayMissing	9																																	
markerSupplyMissing	10																																	
outputNearFull	11																																	
outputFull	12																																	
inputTrayEmpty	13																																	
overduePreventMaint	14																																	

hrDiskStorageTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of long-term storage devices contained by the host. In particular, disk devices accessed remotely over a network are not included here. Note that this table is potentially sparse: a (conceptual) entry exists only if the correspondent value of the hrDeviceType object is 'hrDeviceDiskStorage'.

hrDiskStorageEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one long-term storage device contained by the host. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrDiskStorageEntry. As an example, an instance of the hrDiskStorageCapacity object might be named hrDiskStorageCapacity.3 Each entry contains data for the following objects: - hrDiskStorageAccess - hrDiskStorageMedia - hrDiskStorageRemoveable - hrDiskStorageCapacity

hrDiskStorageAccess

Type	Access	Description
Enumeration	read-only	An indication if this long-term storage device is readable and writable or only readable. This should reflect the media type, any write-protect mechanism, and any device configuration that affects the entire device. This object supports the following values: 1 = readWrite 2 = readOnly

hrDiskStorageMedia

Type	Access	Description
Enumeration	read-only	An indication of the type of media used in this long-term storage device. This object supports the following values: 1 = other 2 = unknown 3 = hardDisk 4 = floppyDisk 5 = opticalDiskROM 6 = opticalDiskWORM 7 = opticalDiskRW 8 = ramDisk

hrDiskStorageRemoveable

Type	Access	Description
TruthValue	read-only	Denotes whether or not the disk media may be removed from the drive.

hrDiskStorageCapacity

Type	Access	Description
KBytes	read-only	The total size for this long-term storage device. If the media is removable and is currently removed, this value should be zero.

hrPartitionTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of partitions for long-term storage devices contained by the host. In particular, partitions accessed remotely over a network are not included here.

hrPartitionEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one partition. The hrDeviceIndex in the index represents the entry in the hrDeviceTable that corresponds to the hrPartitionEntry. As an example of how objects in this table are named, an instance of the hrPartitionSize object might be named hrPartitionSize.3.1 Each entry contains data for the following objects: - hrPartitionIndex - hrPartitionLabel - hrPartitionID - hrPartitionSize - hrPartitionFSIndex

hrPartitionIndex

Type	Access	Description
Integer32	read-only	A unique value for each partition on this long-term storage device. The value for each long-term storage device must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrPartitionLabel

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this partition.

hrPartitionID

Type	Access	Description
OctetString	read-only	A descriptor which uniquely represents this partition to the responsible operating system. On some systems, this might take on a binary representation.

hrPartitionSize

Type	Access	Description
KBytes	read-only	The size of this partition.

hrPartitionFSIndex

Type	Access	Description
Integer32	read-only	The index of the file system mounted on this partition. If no file system is mounted on this partition, then this value shall be zero. Note that multiple partitions may point to one file system, denoting that that file system resides on those partitions. Multiple file systems may not reside on one partition.

hrFSTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of file systems local to this host or remotely mounted from a file server. File systems that are in only one user's environment on a multi-user system will not be included in this table.

hrFSEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one file system local to this host or remotely mounted from a file server. File systems that are in only one user's environment on a multi-user system will not be included in this table. As an example of how objects in this table are named, an instance of the hrFSMountPoint object might be named hrFSMountPoint.3 Each entry contains data for the following objects: - hrFSIndex - hrFSMountPoint - hrFSRemoteMountPoint - hrFSType - hrFSAccess - hrFSBootable - hrFSStorageIndex - hrFSLastFullBackupDate - hrFSLastPartialBackupDate

hrFSIndex

Type	Access	Description
Integer32	read-only	A unique value for each file system local to this host. The value for each file system must remain constant at least from one re-initialization of the agent to the next re-initialization.

hrFSMountPoint

Type	Access	Description
InternationalDisplayString	read-only	The path name of the root of this file system.

hrFSRemoteMountPoint

Type	Access	Description
InternationalDisplayString	read-only	A description of the name and/or address of the server that this file system is mounted from. This may also include parameters such as the mount point on the remote file system. If this is not a remote file system, this string should have a length of zero.

hrFSType

Type	Access	Description
AutonomousType	read-only	The value of this object identifies the type of this file system.

hrFSAccess

Type	Access	Description
Integer	read-only	An indication if this file system is logically configured by the operating system to be readable and writable or only readable. This does not represent any local access-control policy, except one that is applied to the file system as a whole. This object supports the following values: 1 = readWrite 2 = readOnly

hrFSBootable

Type	Access	Description
TruthValue	read-only	A flag indicating whether this file system is bootable.

hrFSStorageIndex

Type	Access	Description
Integer32	read-only	The index of the hrStorageEntry that represents information about this file system. If there is no such information available, then this value shall be zero. The relevant storage entry will be useful in tracking the percent usage of this file system and diagnosing errors that may occur when it runs out of space.

hrFSLastFullBackupDate

Type	Access	Description
DateAndTime	read-write	The last date at which this complete file system was copied to another storage device for backup. This information is useful for ensuring that backups are being performed regularly. If this information is not known, then this variable shall have the value corresponding to January 1, year 0000, 00:00:00.0, which is encoded as (hex)'00 00 01 01 00 00 00 00'.

hrFSLastPartialBackupDate

Type	Access	Description
DateAndTime	read-write	The last date at which a portion of this file system was copied to another storage device for backup. This information is useful for ensuring that backups are being performed regularly. If this information is not known, then this variable shall have the value corresponding to January 1, year 0000, 00:00:00.0, which is encoded as (hex)'00 00 01 01 00 00 00 00'.

hrSWRun objects

hrSWOSIndex

Type	Access	Description
Integer	read-only	The value of the hrSWRunIndex for the hrSWRunEntry that represents the primary operating system running on this host. This object is useful for quickly and uniquely identifying that primary operating system.

hrSWRunTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of software running on the host.

hrSWRunEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for one piece of software running on the host Note that because the installed software table only contains information for software stored locally on this host, not every piece of running software will be found in the installed software table. This is true of software that was loaded and run from a non-local source, such as a network-mounted file system. As an example of how objects in this table are named, an instance of the hrSWRunName object might be named hrSWRunName.1287 Each entry contains data for the following objects: - hrSWRunIndex - hrSWRunName - hrSWRunID - hrSWRunPath - hrSWRunParameters - hrSWRunType - hrSWRunStatus

hrSWRunIndex

Type	Access	Description
Integer	read-only	A unique value for each piece of software running on the host. Wherever possible, this should be the system's native, unique identification number.

hrSWRunName

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this running piece of software, including the manufacturer, revision, and the name by which it is commonly known. If this software was installed locally, this should be the same string as used in the corresponding hrSWInstalledName.

hrSWRunID

Type	Access	Description
ProductID	read-only	The product ID of this running piece of software.

hrSWRunPath

Type	Access	Description
InternationalDisplayString	read-only	A description of the location on long-term storage (e.g. a disk drive) from which this software was loaded.

hrSWRunParameters

Type	Access	Description
InternationalDisplayString	read-only	A description of the parameters supplied to this software when it was initially loaded.

hrSWRunType

Type	Access	Description
Integer	read-only	The type of this software. This object supports the following values: 1 = unknown 2 = operatingSystem 3 = deviceDriver 4 = application

hrSWRunStatus

Type	Access	Description
Integer	read-write	The status of this running piece of software. Setting this value to invalid(4) shall cause this software to stop running and to be unloaded. Sets to other values are not valid. This object supports the following values: 1 = running 2 = runnable 3 = notRunnable 4 = invalid

hrSWRunPerf objects

hrSWRunPerfTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of running software performance metrics.

hrSWRunPerfEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry containing software performance metrics. As an example, an instance of the hrSWRunPerfCPU object might be named hrSWRunPerfCPU.1287 Each entry contains data for the following objects: - hrSWRunPerfCPU - hrSWRunPerfMem

hrSWRunPerfCPU

Type	Access	Description
Integer	read-only	The number of centi-seconds of the total system's CPU resources consumed by this process. Note that on a multi-processor system, this value may increment by more than one centi-second in one centi-second of real (wall clock) time.

hrSWRunPerfMem

Type	Access	Description
KBytes	read-only	The total amount of real system memory allocated to this process.

hrSWInstalled objects

hrSWInstalledLastChange

Type	Access	Description
TimeTicks	read-only	The value of sysUpTime when an entry in the hrSWInstalledTable was last added, renamed, or deleted. Because this table is likely to contain many entries, polling of this object allows a management station to determine when re-downloading of the table might be useful.

hrSWInstalledLastUpdateTime

Type	Access	Description
TimeTicks	read-only	The value of sysUpTime when the hrSWInstalledTable was last completely updated. Because caching of this data will be a popular implementation strategy, retrieval of this object allows a management station to obtain a guarantee that no data in this table is older than the indicated time.

hrSWInstalledTable

Type	Access	Description
N/A	not-accessible	The (conceptual) table of software installed on this host.

hrSWInstalledEntry

Type	Access	Description
N/A	not-accessible	A (conceptual) entry for a piece of software installed on this host. As an example of how objects in this table are named, an instance of the hrSWInstalledName object might be named hrSWInstalledName.96 Each entry contains data for the following objects: - hrSWInstalledIndex - hrSWInstalledName - hrSWInstalledID - hrSWInstalledType - hrSWInstalledDate

hrSWInstalledIndex

Type	Access	Description
Integer	read-only	A unique value for each piece of software installed on the host. This value shall be in the range from 1 to the number of pieces of software installed on the host.

hrSWInstalledName

Type	Access	Description
InternationalDisplayString	read-only	A textual description of this installed piece of software, including the manufacturer, revision, the name by which it is commonly known, and optionally, its serial number.

hrSWInstalledID

Type	Access	Description
ProductID	read-only	The product ID of this installed piece of software.

hrSWInstalledType

Type	Access	Description
Integer	read-only	The type of this software. This object supports the following values: 1 = unknown 2 = operatingSystem 3 = deviceDriver 4 = application

hrSWInstalledDate

Type	Access	Description
DateAndTime	read-only	The last-modification date of this application as it would appear in a directory listing.

Interaction Gateway

This section contains information about the following .mib file and SNMP object types:

- [i3ig.mib](#)
- [i3lgGeneral objects](#)
- [i3lgInfo objects](#)
- [Trap messages](#)

i3ig.mib

The `i3ig.mib` Management Information Base (MIB) file is created and maintained by Genesys for Interaction Gateway.

The `i3ig.mib` file contains the following SNMP object types:

SNMP object type	Description
i3lgGeneral	This object contains data on the hardware model, software version, and other identifying information of the host system. See i3lgGeneral objects .
i3lgInfo	This object contains data on the Time Division Multiplexer (TDM) spans, channel groups, and call statistics of the host system. See i3lgInfo objects .
i3lgTraps	This object contains informational, error, and warning messages for status, state, and threshold changes regarding call servicing on the host system. See Trap messages .

i3lgGeneral objects

i3lgGenModel

Type	Access	Description
DisplayString	read-only	Model Number.

i3lgGenProductVersion

Type	Access	Description
DisplayString	read-only	Product Version.

i3lgGenFileVersion

Type	Access	Description
DisplayString	read-only	File Version.

i3lgGenFactoryImage

Type	Access	Description
DisplayString	read-only	Factory Image.

i3lgGenMachineName

Type	Access	Description
DisplayString	read-only	Machine Name.

i3lgGenMibVersion

Type	Access	Description
DisplayString	read-only	Version of MIB.

i3lgInfo objects

i3lgSpanInfoNumber

Type	Access	Description
Integer	not-accessible	Number of spans present on the Interaction Gateway.

i3lgSpanInfoTable

Type	Access	Description
N/A	not-accessible	Table containing span information about each Interaction Gateway span.

i3lgSpanInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the I3lgSpanInfoTableEntry. Each entry is applicable for each Interaction Gateway span. Each entry contains data for the following objects: - i3lgSpanInfoIndex - i3lgSpanInfoCardId - i3lgSpanInfoSpanId - i3lgSpanInfoCustomerDescription - i3lgSpanInfoActiveChannels - i3lgSpanInfoSpanState - i3lgSpanInfoSpanStatus - i3lgSpanInfoSpanStatusMask

i3lgSpanInfoIndex

Type	Access	Description
Integer	read-only	Table entry index. Each value represents an Interaction Gateway span

i3lgSpanInfoCardId

Type	Access	Description
DisplayString	read-only	Card identification assigned by the manufacturer

i3lgSpanInfoSpanId

Type	Access	Description
DisplayString	read-only	Span identification

i3lgSpanInfoCustomerDescription

Type	Access	Description
DisplayString	read-only	Customer defined description assigned to the span

i3lgSpanInfoActiveChannels

Type	Access	Description
Integer	read-only	Current active channels on span

i3lgSpanInfoSpanState

Type	Access	Description
Integer	read-only	State of span. This object supports the following values: 0 = Closed 1 = Ready 2 = Alarm 3 = Error

i3lgSpanInfoSpanStatus

Type	Access	Description	
Integer	read-only	Error status on span, the various bit positions are:	
		Error	Bit position
		DChannelDown	0x00000001
		ReceivedCarrierLoss	0x00000002
		ReceiveSignalingAllOnesAlarm	0x00000004
		ReceiveDistantMultiframeAlarm	0x00000008
		LossOfDigitalSignal	0x00000010
		ReceivedLossOfSync	0x00000020
		ReceivedRedAlarm	0x00000040
		ReceivedYellowAlarm	0x00000080
		ReceivedBlueAlarm	0x00000100
		TransmitRemoteAlarm	0x00000200
		TransmitMultiframeAlarm	0x00000400
		BipolarViolation	0x00010000
		CrcError	0x00020000
		FrameBitError	0x00040000
		FrameSlip	0x00080000
		OutOfFrameError	0x00100000
		HighErrorRate	0x00200000
		FrameAlignment	0x00400800
MultiframeSyncError	0x00800000		

i3lgSpanInfoSpanStatusMask

Type	Access	Description
Integer	read-write	This mask is used in conjunction with i3lgSpanInfoSpanStatus to enable specific events to generate i3lgSpanStatusChange traps. Turn the appropriate bit ON in the mask to enable the corresponding state change event in i3lgSpanInfoSpanStatus. The mask value defaults to 0, which disables all trap events. A mask value of 0xC1 (decimal 193) enables D-Channel Down, Received Red Alarm, and Received Yellow Alarm state change traps.

i3lgSipActiveCallsCount

Type	Access	Description
Integer	read-only	Count of active SIP calls.

i3lgSipThresholdValue

Type	Access	Description
Integer	read-only	Value of SIP active call trap threshold.

i3lgSipThresholdState

Type	Access	Description
Integer	read-only	State of number of active SIP calls. This object supports the following values: 0 = At or below threshold 1 = Above threshold

i3lgTdmActiveCallsCount

Type	Access	Description
Integer	read-only	Count of active TDM calls.

i3lgTdmThresholdRawValue

Type	Access	Description
Integer	read-only	Raw value of TDM active call trap threshold (before possible percent calculation).

i3lgTdmThresholdType

Type	Access	Description
Integer	read-only	Type of TDM threshold value. This object supports the following values: 0 = Number of calls 1 = Percent utilization

i3lgTdmThresholdActualValue

Type	Access	Description
Integer	read-only	Actual value of TDM active call trap threshold (after possible percent calculation).

i3IgTdmThresholdState

Type	Access	Description
Integer	read-only	State of number of active TDM calls. This object supports the following values: 0 = At or below threshold 1 = Above threshold

i3IgCallDispositionData

Type	Access	Description
DisplayString	not-accessible	Data including details of the particular cause or reason code that triggered the trap

i3IgChannelGroupInfoTable

Type	Access	Description
N/A	not-accessible	Table containing information about each Interaction Gateway Channel Group.

i3IgChannelGroupInfoTableEntry

Type	Access	Description
N/A	not-accessible	Entry in the i3IgChannelGroupInfoTableEntry. Each entry is applicable for each Interaction Gateway Channel Group. Each entry contains data for the following objects: i3IgChannelGroupInfoIndex i3IgChannelGroupName i3IgChannelGroupActiveCallsCount i3IgChannelGroupThresholdRawValue i3IgChannelGroupThresholdState

i3IgChannelGroupInfoIndex

Type	Access	Description
Integer	read-only	Table entry index. Each value represents an Interaction Gateway Channel Group.

i3IgChannelGroupName

Type	Access	Description
DisplayString	read-only	Channel Group name

i3IgChannelGroupActiveCallsCount

Type	Access	Description
Integer	read-only	Count of active calls in the Channel Group.

i3IgChannelGroupThresholdRawValue

Type	Access	Description
Integer	read-only	Raw value of Channel Group active call trap threshold.

i3lgChannelGroupThresholdState

Type	Access	Description
Integer	read-only	State of number of active Call Group calls. This object supports the following values: 0 = At or below threshold 1 = Above threshold

Trap messages

i3lgSpanStatusChange

Type	Access	Description
N/A	N/A	This trap is generated when a span's status changes.

i3lgSpanStateChange

Type	Access	Description
N/A	N/A	This trap is generated when a span's state changes.

i3lgSipThresholdStateChange

Type	Access	Description
N/A	N/A	This trap is generated when the active SIP calls threshold is either exceeded or gone below.

i3lgTdmThresholdStateChange

Type	Access	Description
N/A	N/A	This trap is generated when the active TDM calls threshold is either exceeded or gone below.

i3lgCallDispositionCodeThresholdBreach

Type	Access	Description
N/A	N/A	This trap is generated when a trap set for a Cause or Reason Code breaches the set threshold in the given time limit.

i3lgCallGroupThresholdStateChange

Type	Access	Description
N/A	N/A	This trap is generated when the active Call Group calls threshold is either exceeded or gone below.

Change log

The following changes have been made to this document since release:

Date	Changes
11-November-2011	GA release
09-January-2012	- Updated document formatting to current standards - Updated "Copyright and Trademark information" page
09-February-2012	Removed incorrect statement regarding installation sequence
20-March-2014	- Updated content for 4.0 - Added Management Information Base (MIB) file objects and traps for Customer Interaction Center products and Interaction Edge/Interaction Gateway - Added content for PureConnect SNMP agent service
05-September-2015	- Updated documentation to reflect changes required in the transition from version 4.0 SU# to CIC 2015 R1, such as updates to product version numbers, system requirements, installation procedures, references to PureConnect Product Information site URLs, and copyright and trademark information. - IC-115103 - Rename i3TracelogFreeDiskSpace to i3SpTracelogFreeDiskSpace - IC-114101 - Remove ServerURI and RemoteURI objects from the Interaction SIP Proxy MIB - IC-115289 - i3SpProvisionProxyRunning element should be renamed
16-April-2015	- Updated "Copyright and Trademark information" page - Updated formatting to conform to new corporate standards
28-July-2015	- DP-1272 Support for SNMPv3 on our products - Updated to reflect the ININ SNMP service is now installed as the default SNMP service - Removed obsolete content for the previous SNMP solution - Reorganized content to reflect new default SNMP service (ININ SNMP) and configuration process
24-September-2015	- Added new reporting subsystems for <code>i3ic.mib</code> in the following MIB objects: <code>i3lcSubsysInfoIndex</code> <code>i3lcSubsysCmdIndex</code> <code>i3lcTrapInfoSubsys</code> - Added new MIB objects for <code>i3ic.mib</code>: <code>i3lcGenSwitchoverRole</code> <code>i3lcGenSwitchoverBackupState</code> <code>i3lcGenSwitchoverSwitchMode</code> <code>i3lcGenSwitchoverReplicationMode</code> <code>i3lcTrapVariableHostName</code> <code>i3lcTrapVariableSubsystemName</code> <code>i3lcTrapVariablePluginName</code> <code>i3lcTrapVariableErrorDesc</code> <code>i3lcTrapVariableHealthLevel</code> - Removed the following MIB objects for <code>i3ic.mib</code>: <code>i3lcTrapCommenceSwitchoverEvent</code> <code>i3lcTrapDiscontinueSwitchoverEvent</code> <code>i3lcTrapHighLatencyState</code> <code>i3lcTrapHighLatencyStateClear</code> <code>i3lcTrapTracingStoppedInsufficientDiskSpace</code> <code>i3lcTrapTracingStoppedInsufficientDiskSpaceCleared</code>
21-October-2015	- Added new <code>i3icsessionmanager.mib</code> file and its objects - Added new <code>i3icstatalertserver.mib</code> file and its objects

08-January-2016	• IC-134501 Rewrite confusing sentence regarding the ININ Object ID The definition for "Management Information Base (MIB)" was rewritten for clarity. • IC-134846 Include registry tweaks necessary for App log trap messages to work for subsystems • Added admonitions for the following traps: ◦ i3lcTrapInformationalEventLog ◦ i3lcTrapWarningEventLog ◦ i3lcTrapErrorEventLog
06-July-2016	• Updated "Copyright and trademark information" page • Added content for Session Manager support for SNMP • Added content for Interaction Recorder Remote Content Service support for SNMP
29-July-2016	IC-138711 - Some traps need corresponding trap that clears the alarm state when the respective condition is alleviated. Added five traps for clearing conditions in i3MsTraps objects .
02-June-2017	Added new MIB object for <code>i3ic.mib</code> • i3lcGenSwitchoverPeer
18-October-2017	Rebranding terminology, updated title page and copyright page.
23-January-2018	Conversion to HTML.
15-March-2018	Added content for <code>reporting_plugin.mib</code> .
01-October-2018	Updated i3lcSubSysInfoAvailablecontent object to 2=unavailable.
03-January-2019	Updated "Configure PureConnect SNMP service through the command line utility" to correct ININ SNMP> atd --community param1 --uri param2 and "D:\I3\IC\ININ SNMP".
23-July-2019	Reorganized the content only, which included combining some topics and deleting others that just had an introductory sentence such as, "In this section..."