CHAPTER 3

MIB Specifications

This chapter describes each Management Information Base (MIB) on the Cisco 7304 router. Each description lists any constraints about how the MIB is implemented on the Cisco 7304 router platform.

Unless noted otherwise, the Cisco 7304 implementation of a MIB follows the standard. Any objects not listed in a table are implemented as defined in the MIB. For detailed MIB descriptions, see the MIB.

Note Not all MIBs included in a Cisco IOS software release are fully supported by the router. Some MIBs are not supported at all. Other MIBs might work, but they have not been tested on the router. In addition, some MIBs are deprecated but cannot be removed from the software. The fact that the MIB is included in the image does not necessarily mean it is supported by the Cisco 7304 platform.

Note The RFC versions are listed to show the MIB versions we support.

Table 3-1 lists the MIBs included in Cisco IOS Release 12.2SB that are *supported and verified* for configurations on the Cisco 7304 router.

Table 3-1 Supported and Verified Cisco 7304 MIBs

ATM-MIB (RFC 1695)	CISCO-SONET-MIB
BGP4-MIB	CISCO-SYSLOG-MIB
CISCO-AAL5-MIB	CISCO-TC
CISCO-ACCESS-ENVON-MIB	CISCO-TCP-MIB
CISCO-ATM-EXT-MIB	ENTITY-MIB (RFC 2737)
CISCO-BGP-POLICY-ACCOUNTING-MIB	ETHERLIKE-MIB (RFC 2665)
CISCO-BULK-FILE-MIB	EVENT-MIB (RFC 2981)
CISCO-CDP-MIB	EXPRESSION-MIB
CISCO-CLASS-BASED-QOS-MIB	IF-MIB (RFC 2233)
CISCO-CONFIG-COPY-MIB	MPLS-LDP-MIB
CISCO-CONFIG-MAN-MIB	MPLS-LSR-MIB
CISCO-ENTITY-ALARM-MIB	MPLS-TE-MIB
CISCO-ENTITY-ASSET-MIB	MPLS-VPN-MIB
CISCO-ENTITY-EXT-MIB	NOTIFICATION-LOG-MIB

Table 3-1 Supported and Verified Cisco 7304 MIBs (continued)

CISCO-ENTITY-FRU-CONTROL-MIB	OLD-CISCO-CHASSIS-MIB
CISCO-ENTITY-PFE -MIB	OLD-CISCO-CPU-MIB
CISCO-ENTITY-SENSOR-MIB	OLD-CISCO-INTERFACES-MIB
CISCO-ENTITY-VENDORTYPE-OID-MIB	OLD-CISCO-IP-MIB
CISCO-ENVMON-MIB	OLD-CISCO-MEMORY-MIB
CISCO-FLASH-MIB	PIM-MIB (RFC 2934)
CISCO-FRAME-RELAY-MIB	RFC1213-MIB (MIB II)
CISCO-FTP-CLIENT-MIB	RFC1243-MIB (AppleTalk)
CISCO-HSRP-EXT-MIB	RFC1253-MIB (OSPF)
CISCO-HSRP-MIB	RFC1315-MIB (FRAME RELAY MIB)
CISCO-IETF-IP-MIB	RFC1406-MIB (DS1)
CISCO-IMAGE-MIB	RFC1407-MIB (DS3)
CISCO-IP-STAT-MIB	RFC2558-MIB (SONET MIB)
CISCO-MEMORY-POOL-MIB	RMON-MIB (RFC 1757)
CISCO-NETFLOW-MIB	UDP-MIB (RFC 2013)
CISCO-PING-MIB	SNMP-FRAMEWORK-MIB (RFC 2571)
CISCO-PROCESS-MIB	SNMPv2-MIB (RFC 1907)
CISCO-PRODUCTS-MIB	SNMP-NOTIFICATION-MIB (RFC 2573)
CISCO-QUEUE-MIB	SNMP-TARGET-MIB (RFC 2573)
CISCO-RF-MIB	SNMP-USM-MIB (RFC 2574)
CISCO-RTTMON-MIB	SNMP-VACM-MIB (RFC 2575)
CISCO-SMI	CISCO-CEF-MIB

Table 3-2 lists the Cisco 7304 MIBs included in c7304 image, but *support is not verified* in the Cisco 7304 router.

Table 3-2 Cisco 7304 Router MIBs—Support Not Verified in the c7304 Image

ATM-FORUM-ADDR-REG-MIB	CISCO-SNADLC-CONV01-MIB
ATM-FORUM-MIB	CISCO-SNAPSHOT-MIB
BRIDGE-MIB (RFC 1493)	CISCO-STUN-MIB
CISCO-AAA-SESSION-MIB	CISCO-VINES-MIB
CISCO-ALPS-MIB	DLSW-MIB
CISCO-ASPP-MIB	FUNI-MIB
CISCO-BCP-MIB	HC-RMON-MIB
CISCO-BGP4-MIB	IGMP-MIB
CISCO-BSC-MIB	INT-SERV-GUARANTEED-MIB
CISCO-BSTUN-MIB	INT-SERV-MIB
CISCO-BUS-MIB	LAN-EMULATION-CLIENT-MIB

Table 3-2 Cisco 7304 Router MIBs—Support Not Verified in the c7304 Image (continued)

CISCO-CAR-MIB	MPOA-MIB
CISCO-CASA-FA-MIB	MSDP-MIB
CISCO-CASA-MIB	NOVELL-IPX-MIB
CISCO-CIRCUIT-INTERFACE-MIB	NOVELL-NLSP-MIB
CISCO-DLCSW-MIB	NOVELL-RIPSAP-MIB
CISCO-DLSW-EXT-MIB	OLD-CISCO-APPLETALK-MIB
CISCO-DLSW-MIB	OLD-CISCO-DECNET-MIB
CISCO-DSPU-MIB	OLD-CISCO-NOVELL-MIB
CISCO-FRAS-HOST-MIB	OLD-CISCO-SYSTEM-MIB
CISCO-IETF-ATM2-PVCTRAP-MIB	OLD-CISCO-TCP-MIB
CISCO-IETF-IP-FORWARD-MIB	OLD-CISCO-TS-MIB
CISCO-IPMROUTE-MIB	OLD-CISCO-VINES-MIB
CISCO-LEC-DATA-VCC-MIB	OLD-CISCO-XNS-MIB
CISCO-LEC-EXT-MIB	RFC1231-MIB (Token Ring MIB)
CISCO-LECS-MIB	RFC1381-MIB (X.25 LAPB)
CISCO-LES-MIB	RFC1382-MIB (X.25 Packet Layer)
CISCO-MPOA-EXT-MIB	RFC2006-MIB (MIP)
CISCO-NDE-MIB	RMON2-MIB
CISCO-NTP-MIB	RS-232-MIB
CISCO-PIM-MIB	RSVP-MIB
CISCO-QLLC01-MIB	SMON-MIB
CISCO-RMON-SAMPLING-MIB	SNA-SDLC-MIB
CISCO-RSRB-MIB	SNMP-PROXY-MIB
CISCO-SDLLC-MIB	SOURCE-ROUTING-MIB
CISCO-SLB-EXT-MIB	TCP-MIB (RFC 2012)
CISCO-SLB-MIB	CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB

ATM-MIB

The ATM-MIB (RFC 1695) contains the ATM and ATM adaptation layer 5 (AAL5) objects used to manage logical and physical entities and the relationship between them, such as ATM interfaces, virtual links, cross connects, and AAL5 entities and connections.

Table 3-3 lists the constraints that the Cisco 7304 router places on objects in the ATM-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-3 ATM-MIB Constraints

MIB Object	Notes
atmInterfaceDs3PlcpTable	Not used in Cisco 7304.
atmInterfaceTCTable	Not supported.
atmTrafficDescrParamTable	Read-only.
atmVplTable	Not supported.
atmVclTable	
• atmVclAdminStatus	Read-only.
• atmVclReceiveTrafficDescrIndex	Read-only.
• atmVclTransmitTrafficDescrIndex	Read-only.
• atmVccAalType	Read-only.
• atmVccAal5CpcsTransmitSduSize	Read-only. Default value 4470.
• atmVccAal5CpcsReceiveSduSize	Read-only. Default value 4470.
• atmVccAal5EncapsType	Read-only.
• atmVclCrossConnectIdentifier	Read-only.
• atmVclRowStatus	Read-only.
• atmVclCastType	Not supported.
• atmVclConnKind	Not supported.
atmVpCrossConnectTable	
• atmVcCrossConnectIndexNext	Not supported.
atmVcCrossConnectTable	Not implemented.
aal5VccTable	
• atmTrafficDescrParamIndexNext	Not supported.

1 The SAR used in the OSM-2-OC-12-ATM-xx+ card does not support the CRC error counters, timeout counter, and oversized SDUs statistics in the aal5VccTable. These statistics are supported in the PA-A3-OC-3-SMI card.

2 The ifType for the ifIndex used in the ATM-MIB tables must be of type atm(37).

ATM-FORUM-ADDR-REG-MIB

The ATM-FORUM-ADDR-REG-MIB contains information about ATM user-network interface (UNI) addresses and ports. The MIB also contains ATM address registration administration information.

There are no constraints on this MIB.

ATM-FORUM-MIB

The ATM-FORUM-MIB contains ATM object definitions and object identifiers (OIDs).

BGP4-MIB

The BGP4-MIB (RFC 1657) provides access to information related to the implementation of the Border Gateway Protocol (BGP). The MIB provides:

- BGP configuration information
- Information about BGP peers and messages exchanged with them
- Information about advertised networks

BRIDGE-MIB

The BRIDGE-MIB contains objects to manage Media Access Control (MAC) bridges between Local Area Network (LAN) segments, as defined by the IEEE 802.1D-1990 standard. This MIB is extracted from RFC 1493 and is intended for use with network management protocols in TCP/IP-based internets.

CISCO-AAA-SESSION-MIB

The CISCO-AAA-SESSION-MIB contains information about accounting sessions based on authentication, authorization, and accounting (AAA) protocols.

CISCO-AAL5-MIB

The CISCO-AAL5-MIB contains performance statistics for ATM adaptation layer 5 (AAL5) virtual channel connections (VCCs). This MIB provides statistics not found in the aal5VccTable in RFC 1695 (for example, packets and octets received and transmitted on the VCC).

There are no constraints on this MIB.

CISCO-ACCESS-ENVMON-MIB

The CISCO-ACCESS-ENVMON-MIB indicates the reason for a power supply failure, which is information that is not provided in the ciscoEnvMonSupplyStatusTable in the CISCO-ENVMON-MIB. The CISCO-ACCESS-ENVMON-MIB also defines temperature and voltage notifications to replace those in CISCO-ENVMON-MIB.

CISCO-ALPS-MIB

The CISCO-ALPS-MIB provides Cisco airline protocol support for IBM-P1024B(ALC) and Unisys-P1024C(UTS) protocol encapsulation over TCP/IP. The MIB contains configuration and operational information for the protocol, which provides a tunneling mechanism to transport airline protocol data across a Cisco router-based TCP/IP network to an X.25-attached mainframe.

CISCO-ASPP-MIB

The CISCO-ASPP MIB provides configuration and operational information on asynchronous polled protocols such as the asynchronous security protocols that alarm-monitoring companies use. The protocols are handled in Pass-through mode. ASPP handles the receiving and sending of asynchronous blocks.

CISCO-ATM-EXT-MIB

The CISCO-ATM-EXT-MIB contains extensions to the Cisco ATM module that are used to manage ATM entities. It provides additional AAL5 performance statistics for a virtual channel connection (VCC) on an ATM interface.

Note There are no constraints on this MIB and the ATM-EXT-MIB has only one table. The cAal5VccExtTable augments the aal5VccTable of the ATM-MIB. The aal5VccTable contains additional AAL5 performance parameters.

CISCO-BCP-MIB

The CISCO-BCP-MIB (based on RFC 2878) (Bridging Control Protocol) contains objects to configure, enable, and disable bridge modules on both ends of point-to-point links. The Cisco 7304 router uses the BCP for transporting Ethernet frames over SONET and DPT networks. The BCP-MIB manages and monitors Bridge Control Protocol configuration and information on subnetwork interfaces using the family of Point-to-Point Protocols.

The CISCO-BCP-MIB contains the following tables:

- bcpOperTable—Describes the current operational status information for a particular link. For all entries in ifTable with ifType ppp(23), there will be an entry in this table.
- bcpConfigTable—Shows the BCP configuration information (for example, the current configuration for spanning tree, line identification option).

Table 3-4 lists the constraints that the router places on objects in the CISCO-BCP-MIB. Also see the table of new MIB objects which follows. For detailed definitions of MIB objects, see the MIB.

Table 3-4 CISCO-BCP-MIB Constraints

MIB Object	Notes
bcpOperTable	
• bcpOperStatus	Possible values: open(1) closed (2) listening(3)
bcpConfigTable	
• bcpConfigBridgeIdControl	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigLineIdControl	Read-only. Possible values: enabled(1), disabled(2)

Table 3-4 CISCO-BCP-MIB Constraints (continued)

MIB Object	Notes
• bcpConfigMacSupport	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigTinygram	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigMacAddressControl	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigSpanTreeControl	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigIeee802dot1qTagged	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigMgmtInline	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigBCPacketIndicator	Read-only. Possible values: enabled(1), disabled(2)
• bcpConfigBridgeId	Read-only.
• bcpConfigLineId	Read-only.
• bcpConfigMacType	Read-only.
• bcpConfigMacAddress	Read-only.
• bcpConfigSpanTree	Read-only.

1 bcpConfigTable objects are defined as read-write; but they are implemented as READ-ONLY.

2 The CISCO-BCP-MIB supports interfaces configured with bridge-enabled only, which means if no “bridge-enable” is configured,there is no entry for this interface when the user pulled the bcpOperTable or bcpConfigTable by SNMP.

CISCO-BGP-POLICY-ACCOUNTING-MIB

The CISCO-BGP-POLICY-ACCOUNTING-MIB contains BGP policy-based accounting information (such as ingress traffic on an interface), which can be used for billing purposes. The MIB provides support for BGP Policy Accounting, which enables you to classify IP traffic into different classes and to maintain statistics for each traffic class.

The MIB contains counts of the number of bytes and packets of each traffic type on each input interface. This information can be used to charge customers according to the route that their traffic travels.

CISCO-BGP4-MIB

The BGP4-MIB provides access to information related to the implementation of the Border Gateway Protocol (BGP). The MIB provides:

- BGP configuration information
- Information about BGP peers and messages exchanged with them
- Information about advertised networks

CISCO-BSC-MIB

The CISCO-BSC-MIB contains objects to manage binary synchronous communications (BSC) on the router, including BSC ports (serial interfaces) and BSC control units (stations on a port).

CISCO-BSTUN-MIB

The CISCO-BSTUN-MIB contains objects to manage Block Serial Tunnels (BSTUNs) on the router. The MIB provides global BSTUN information and contains configuration and operational information to manage BSTUN groups, ports, and routes.

CISCO-BULK-FILE-MIB

The CISCO-BULK-FILE-MIB contains objects to create and delete files of SNMP data for bulk-file transfer.

CISCO-BUS-MIB

The CISCO-BUS-MIB contains information to manage LANE broadcast and unknown servers.

CISCO-CAR-MIB

The CISCO-CAR-MIB contains information about the Committed Access Rate (CAR) assigned to router interfaces. The CAR is used to control the rate of traffic on an interface for packet switching purposes. The MIB provides information about how the router is to handle traffic that conforms and exceeds the CAR on the interface.

CISCO-CASA-FA-MIB

The CISCO-CASA-FA-MIB is used in conjunction with the CISCO-CASA-MIB to manage a Cisco Appliance Services Architecture (CASA) forwarding agent (FA).

The CASA protocol allows *appliances* (software entities such as web caches, firewalls, and load balancers) to control the behavior of *forwarding agents* (hardware devices such as switches and routers). The appliance tells forwarding agents how to handle packets based on their source and destination IP addresses and ports, and IP protocol fields (this information is called an *affinity*).

CISCO-CASA-MIB

The CISCO-CASA-MIB contains objects to manage a Cisco Appliance Services Architecture (CASA) entity (such as a manager or a forwarding agent). The MIB contains objects to configure CASA, and to retrieve status and operational information about the fixed affinity cache.

The CASA protocol allows *appliances* (software entities such as web caches, firewalls, and load balancers) to control the behavior of *forwarding agents* (hardware devices such as switches and routers). The appliance tells forwarding agents how to handle packets based on their source and destination IP addresses and ports, and IP protocol fields (this information is called an *affinity*).

CISCO-CDP-MIB

The CISCO-CDP-MIB contains objects to manage the Cisco Discovery Protocol (CDP) on the router.

CISCO-CEF-MIB

The CISCO-CEF-MIB (Cisco Express Forwarding) contains objects that manage Cisco Express Forwarding (CEF) technology. CEF is the key data plane forwarding path for layer 3 IP switching technology. The CISCO-CEF-MIB monitorS CEF operational data and provideS notification when encountering errors in CEF, through SNMP.

Note Cisco Express Forwarding (CEF) is a high speed switching mechanism that a router uses to forward packets from the inbound to the outbound interface.

CISCO-CIRCUIT-INTERFACE-MIB

The CISCO-CIRCUIT-INTERFACE-MIB contains objects to configure the circuit description for an interface. The circuit description identifies circuits on interfaces such as ATM and Frame Relay, and might be used, for example, to correlate performance statistics on the corresponding interfaces.

CISCO-CLASS-BASED-QOS-MIB

The CISCO-CLASS-BASED-QOS-MIB provides access to quality of service (QoS) configuration information and statistics for Cisco platforms that support the Modular Quality of Service command-line interface (Modular QoS CLI).

The MIB uses the following indexes to identify QoS features and distinguish among instances of those features:

- cbQosPolicyIndex—Identifies a service policy that is attached to a logical interface.
- cbQosObjectsIndex—Identifies each QoS feature on the Cisco 7304 router.
- cbQosConfigIndex—Identifies a type of QoS configuration. This index is shared by QoS objects that have identical configurations.

The indexes cbQosPolicyIndex and cbQosObjectsIndex are assigned by the system to uniquely identify each instance of a QoS feature. These indexes are never reused between router reboots, even if the QoS configuration changes.

QoS MIB information is stored in:

- Configuration objects—Includes all ClassMap, PolicyMap, Match Statements, and Feature Actions configuration parameters. Might have multiple identical instances. Multiple instances of the same QoS feature share a single configuration object, which is identified by cbQosConfigIndex.
- Statistics objects—Includes summary counts and rates by traffic class before and after any configured QoS policies are enforced. In addition, detailed feature-specific statistics are available for select PolicyMap features. Each has a unique runtime instance. Multiple instances of a QoS

feature have a separate statistics object. Run-time instances of QoS objects are each assigned a unique identifier (cbQosObjectsIndex) to distinguish among multiple objects with matching configurations.

MIB Constraints

Table 3-5 lists the constraints that the Cisco 7304 Network Service Engine (NSE) 100-based router places on objects in the CISCO-CLASS-BASED-QOS-MIB. For detailed definitions of MIB objects, see the MIB. Any MIB table or object not listed in this table is implemented as defined in the MIB.

Note The CISCO-CLASS-BASED-QOS-MIB support for the Cisco 7304 NPE-G100 and the Cisco c7200 NPE-G1 is the same.

Table 3-5 CISCO-CLASS-BASED-QOS-MIB Constraints for the c7304 NSE-100

MIB Object	Notes
cbQosInterfacePolicyTable	
• cbQosInterfacePolicyIndex	Not supported.
cbQosFrameRelayPolicyTable	
• cbQosFRPolicyIndex	Not supported.
cbQosATMPVCPolicyTable	
• cbQosATMPolicyIndex	Not supported.
cbQosQueueingCfgTable	
• cbQosQueueingCfgFlowEnabled·	The QosQueueingCfgFlowEnabled is always false(2) because the fair queue is not supported.
• cbQosQueueingCfgIndividualQSize·	Not supported on the NSE-100.
• cbQosQueueingCfgDynamicQNumber·	Not supported on the NSE-100.
• cbQosQueueingCfgPrioBurstSize	Not supported on the NSE-100.
cbQosTSCfgTable	
• cbQosTSCfgBurstSize	Not supported on the NSE-100.
• cbQosTSCfgExtBurstSize	Not supported on the NSE-100.
• cbQosTSCfgAdaptiveEnabled	Not supported on the NSE-100.
• cbQosTSCfgAdaptiveRate	Not supported on the NSE-100.
• cbQosTSCfgLimitType	average(1) is the only value supported on the NSE-100 card.
cbQosQueueingStatsTable	
• cbQosQueueingCurrentQDepth·	Not supported on the NSE-100.
• cbQosQueueingMaxQDepth	Not supported on the NSE-100. Current value is available in Parallel eXpress Forwarding (PXF).
cbQosTSStatsTable	
• cbQosTSStatsDelayedByteOverflow·	For the NSE-100s, the shaping stats, cbQosTSStatsEntry, are not supported in PXF*. PXF performs the traffic shaping according to the traffic shaping configuration.
• cbQosTSStatsDelayedByte	
• cbQosTSStatsDelayedByte64	

Table 3-5 CISCO-CLASS-BASED-QOS-MIB Constraints for the c7304 NSE-100

MIB Object	Notes
• cbQosTSStatsDelayedPktOverflow • cbQosTSStatsDelayedPkt· • cbQosTSStatsDelayedPkt64 • cbQosTSStatsDropByteOverflow • cbQosTSStatsDropByte • cbQosTSStatsDropByte64 • cbQosTSStatsActive • cbQosTSStatsCurrentQSize	

*PXF is Cisco Parallel eXpress Forwarding (PXF) IP Services Processor technology. The Cisco 7304 router offers two types of processor options: general-purpose network processing engine (NPE-G100) and hardware-accelerated network services engine (NSE-100).The NSE-100 is the forwarding engine and route processor for the Cisco 7304. The NSE-100 utilizes Parallel eXpress Forwarding (PXF) technology to deliver hardware-accelerated network services.

CISCO-CONFIG-COPY-MIB

The CISCO-CONFIG-COPY-MIB contains objects to copy configuration files on the router. For example, the MIB enables the SNMP agent to:

- Copy configuration files to and from the network
- Copy the running configuration to the startup configuration
- Copy the startup or running configuration files to and from a local Cisco IOS file system

CISCO-CONFIG-MAN-MIB

The CISCO-CONFIG-MAN-MIB contains objects to track and save changes to the router configuration. The MIB represents a model of the configuration data that exists elsewhere in the router and in peripheral devices. Its main purpose is to report changes to the running configuration through the SNMP notification ciscoConfigManEvent.

CISCO-DLCSWITCH-MIB

The CISCO-DLCSWITCH-MIB contains objects to manage Frame-Relay access support (FRAS) sessions to the end-user station. The MIB applies only to downstream or end-user sessions. It does not apply to upstream or host-end sessions, which are managed through the FRAS-HOST-MIB.

CISCO-DLSW-EXT-MIB

The CISCO-DLSW-EXT-MIB is an extension to the CISCO-DLSW-MIB. It contains objects to manage Cisco specific data-link switching (DLSW) protocol enhancements. DLSw provides a way to transport Systems Network Architecture (SNA) and NetBIOS traffic over an IP network.

CISCO-DLSW-MIB

The CISCO-DLSW-MIB contains objects to manage data-link switches.

CISCO-DSPU-MIB

The CISCO-DSPU-MIB contains objects to configure and manage Cisco downstream physical unit (DSPU) objects.

CISCO-ENTITY-ALARM-MIB

The CISCO-ENTITY-ALARM-MIB enables the Cisco 7304 router to monitor alarms generated by system components, such as the chassis, slots, modules, power supplies, fans, and ports.

For a component's alarms to be monitored, the component must be defined by a row in the entPhysicalTable of the ENTITY-MIB in the "ENTITY-MIB" section on page 3-36 of this guide.

Note The Cisco 7403 router temperature, power supplies, and fan monitoring are implemented in the CISCO-ENTITY-SENSOR-MIB instead of the CISCO-ENTITY-ALARM-MIB. The temperature sensors are supported at the line card level, not the chassis level.

MIB Constraints

Table 3-6 lists the constraints that the Cisco 7304 router places on objects in the CISCO-ENTITY-ALARM-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-6 CISCO-ENTITY-ALARM-MIB Constraints

MIB Object	Notes
ceAlarmDescrTable	
• ceAlarmDescrSeverity	Read-only.
ceAlarmFilterProfileTable	
• ceAlarmFilterIndex • ceAlarmFilterStatus • ceAlarmFilterAlias • ceAlarmFilterAlarmsEnabled • ceAlarmFilterNotifiesEnabled • ceAlarmFilterSyslogEnabled	The objects listed are not supported.
ceAlarmCutOff	Not supported.
ceAlarmFilterProfileIndexNext	Not supported.

The MIB table, entPhysicalTable, identifies the physical system components in the router. The following list describes the table objects for the CISCO-ENTITY-ALARM-MIB:

- Physical entity—The component in the Cisco 7304 router that generates the alarm.
- Physical vendor type—The object specifies an identifier (typically an enterprise-specific OID) that uniquely identifies the vendor type of those physical entities that this alarm description applies to.
- Alarm severity—Each alarm type defined by a vendor type and employed by the system is assigned an associated severity:
  - Critical—Indicates a severe, service-affecting condition has occurred and that immediate corrective action is imperative, regardless of the time of day or day of the week. For example, online insertion and removal of line cards or loss of signal failure when a physical port link is down.
  - Major—Used for hardware or software conditions. Indicates a serious disruption of service or the malfunctioning or failure of important hardware. Requires immediate attention and response of a technician to restore or maintain system stability. The urgency is less than in critical situations because of a lesser effect on service or system performance. For example, a minor alarm is generated if a secondary NSE-100 or NPE-G100 card fails or it is removed.
  - Minor—Used for troubles that do not have a serious effect on service to customers or for alarms in hardware that are not essential to the operation of the system.
  - Info—Notification about a condition that could lead to an impending problem or notification of an event that improves operation.

  The syntax values are: critical(1), major(2), minor(3), info(4)
- Alarm description text—Specifies a readable message describing the alarm.
- Alarm type—Identifies the type of alarm that is generated. An arbitrary integer value that uniquely identifies an event relative to a physical entity in the Cisco 7304 router. Values 0 through 255.

Table 3-7 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entities, line card slots, and processor cards.

Table 3-7 entPhysicalTable Objects for Cisco 7304 Router Line Cards

Physical Entity	entPhysicalVendorType	ceAlarmDescrSeverity	ceAlarmDescrText	ceAlarmDescrAlarmType
Line card slots	cevContainerSlot	critical	Active line card removed OIR alarm	0
Line card slots	cevContainerSlot	critical	Line card stopped responding OIR alarm	1
NSE-100 and NPE-G100 processor cards	cevCpuC7300Nse100 or cevCpuC7300Npeg100	critical	Cutover	0
NSE-100 and NPE-G100 processor cards	cevCpuC7300Nse100 or cevCpuC7300Npeg100	major	Secondary failure	1
NSE-100 and NPE-G100 processor cards	cevCpuC7300Nse100 or cevCpuC7300Npeg100	major	Secondary removed	2
NSE-100 and NPE-G100 processor cards	cevCpuC7300Nse100 or cevCpuC7300Npeg100	major	Secondary not synchronized	3

Table 3-8 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entity, the 6-port clear channel T3 (DS3) line card.

Table 3-8 entPhysicalTable Objects for Cisco 7304 Router 6-Port Clear Channel T3 Module Ports

Physical Entity	entPhysicalVendorType	ceAlarmDescr Severity	ceAlarmDescrText	ceAlarmDescr AlarmType
Clear channel T3 interface	cevPortDs3	major	Transmitter is sending remote alarm	0
Clear channel T3 interface	cevPortDs3	major	Transmitter is sending AIS	1
Clear channel T3 interface	cevPortDs3	major	Receiver has loss of signal	2
Clear channel T3 interface	cevPortDs3	major	Receiver is receiving AIS	3
Clear channel T3 interface	cevPortDs3	major	Receiver has loss of frame	4
Clear channel T3 interface	cevPortDs3	major	Receiver has remote alarm	5
Clear channel T3 interface	cevPortDs3	major	Physical port link down	6
Clear channel T3 interface	cevPortDs3	info	Physical port adminsitrative state down	7

Table 3-9 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entities, Gigabit Ethernet and Fast Ethernet port adapter cards.

Table 3-9 entPhysicalTable Objects for Cisco 7304 Router Port Adapters

Physical Entity	entPhysicalVendorType	ceAlarmDescr Severity	ceAlarmDescrText	ceAlarmDescr AlarmType
Gigabit Ethernet	cevPortGE	critical	Physical port link down	0
Gigabit Ethernet	cevPortGE	info	Physical port administrative state down	1
Fast Ethernet	cevPortFEIP	critical	Physical port link down	0
Fast Ethernet	cevPortFEIP	info	Physical port administrative state down	1

Table 3-10 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entities, 2 and 4-port OC-3c/STM-1, and 1 and 2-port OC-12c/STM-4 Packet over SONET/SDH line cards.

Table 3-10 entPhysicalTable Objects for Cisco 7304 Router Packet over SONET Line Card Ports

Physical Entity	entPhysicalVendorType	ceAlarmDescrSeverity	ceAlarmDescrText	ceAlarmDescrAlarmType
Packet over SONET	cevPortPOS	critical	Section loss of signal failure	0
Packet over SONET	cevPortPOS	critical	Section loss of frame failure	1
Packet over SONET	cevPortPOS	critical	Section out of frame alignment	2
Packet over SONET	cevPortPOS	critical	Section J0 mismatch	3
Packet over SONET	cevPortPOS	critical	Section bit interleaved parity	4
Packet over SONET	cevPortPOS	critical	Line alarm indication signal	5
Packet over SONET	cevPortPOS	critical	Line remote failure indication	6
Packet over SONET	cevPortPOS	critical	Line bit interleaved parity	7
Packet over SONET	cevPortPOS	critical	Line far end block errors	8
Packet over SONET	cevPortPOS	critical	Path alarm indication signal	9
Packet over SONET	cevPortPOS	critical	Path remote failure indication	10
Packet over SONET	cevPortPOS	critical	Path loss of pointer	11
Packet over SONET	cevPortPOS	critical	Path bit interleaved parity	12
Packet over SONET	cevPortPOS	critical	Path far end block errors	13
Packet over SONET	cevPortPOS	critical	Protection switch byte failure	14
Packet over SONET	cevPortPOS	critical	Path pointer justifications	15
Packet over SONET	cevPortPOS	critical	Path positive pointer stuff event	16
Packet over SONET	cevPortPOS	critical	Path negative pointer stuff event	17
Packet over SONET	cevPortPOS	critical	Path payload label mismatch	18

Table 3-10 entPhysicalTable Objects for Cisco 7304 Router Packet over SONET Line Card Ports

Physical Entity	entPhysicalVendorType	ceAlarmDescrSeverity	ceAlarmDescrText	ceAlarmDescrAlarmType
Packet over SONET	cevPortPOS	critical	Path payload unequipped	19
Packet over SONET	cevPortPOS	critical	Count of APS	20
Packet over SONET	cevPortPOS	critical	Receiver data out of lock failure	21
Packet over SONET	cevPortPOS	critical	Signal failure alarm	22
Packet over SONET	cevPortPOS	critical	Signal degrade alarm	23
Packet over SONET	cevPortPOS	critical	Threshold cross alarm–B1	24
Packet over SONET	cevPortPOS	critical	Threshold cross alarm–B2	25
Packet over SONET	cevPortPOS	critical	Threshold cross alarm–B3	26
Packet over SONET	cevPortPOS	critical	Port link down alarm	27
Packet over SONET	cevPortPOS	info	Port administrative down alarm	28

Table 3-11 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entities, 2-port OC-3 ATM line cards.

Table 3-11 entPhysicalTable Objects for Cisco 7304 Router OC-3 ATM Line Cards

Physical Entity	entPhysicalVendorType	ceAlarmDescr Severity	ceAlarmDescrText	ceAlarmDescr AlarmType
ATM over SONET	cevPortOC3	critical	Loss of signal failure	0
ATM over SONET	cevPortOC3	critical	Loss of frame	1
ATM over SONET	cevPortOC3	critical	Out of frame failure	2
ATM over SONET	cevPortOC3	critical	Loss of path	3
ATM over SONET	cevPortOC3	critical	Line far end RX failure	4
ATM over SONET	cevPortOC3	critical	Line alarm indication signal	5
ATM over SONET	cevPortOC3	critical	Path alarm indication signal	6
ATM over SONET	cevPortOC3	critical	Far end receiver data failure	7
ATM over SONET	cevPortOC3	critical	Loss of cell delineation	8
ATM over SONET	cevPortOC3	critical	Path bit interleaved parity	9
ATM over SONET	cevPortOC3	critical	Path payload label mismatch	12
ATM over SONET	cevPortOC3	critical	Section bit interleaved parity	10
ATM over SONET	cevPortOC3	critical	Line bit interleaved parity	11
ATM over SONET	cevPortOC3	critical	Path payload unequipped	13
ATM over SONET	cevPortOC3	critical	Physical port link down	14
ATM over SONET	cevPortOC3	Info	Physical port administrative state down	15

Table 3-12 lists the alarm descriptions and severity levels for the Cisco 7304 router physical entities, 1-port enhanced ATM T3, and E3 port adapters.

Table 3-12 entPhysicalTable Objects for Cisco 7304 Router ATM over T3 and E3 Port Adapters

Physical Entity	entPhysicalVendorType	ceAlarmDescr Severity	ceAlarmDescrText	ceAlarmDescr AlarmType
ATM over T3	cevPortDs3Atm	critical	Loss of signal failure	0
ATM over T3	cevPortDs3Atm	critical	Out of frame failure	1
ATM over T3	cevPortDs3Atm	critical	Pay load mismatch	2
ATM over T3	cevPortDs3Atm	critical	Idle	3
ATM over T3	cevPortDs3Atm	critical	Loss of cell delineation	4
ATM over T3	cevPortDs3Atm	critical	Far end receiver data failure	5
ATM over T3	cevPortDs3Atm	critical	Alarm indication signal	6
ATM over T3	cevPortDs3Atm	critical	Physical port link down	7
ATM over T3	cevPortDs3Atm	info	Physical port administrative state down	8
ATM over E3	cevPortE3Atm	major	Loss of signal failure	0
ATM over E3	cevPortE3Atm	major	Out of frame failure	1
ATM over E3	cevPortE3Atm	major	Pay load mismatch	2
ATM over E3	cevPortE3Atm	major	Idle	3
ATM over E3	cevPortE3Atm	major	Loss of cell delineation	4
ATM over E3	cevPortE3Atm	major	Far end receiver data failure	5
ATM over E3	cevPortE3Atm	major	Alarm indication signal	6
ATM over E3	cevPortE3Atm	major	Physical port link down	7
ATM over E3	cevPortE3Atm	info	Physical port administrative state down	8
GBIC container	cevContainerGbic or cevContainerSFP	critical	GBIC is missing	0

CISCO-ENTITY-ASSET-MIB

The CISCO-ENTITY-ASSET-MIB provides asset tracking information for the physical components in the ENTITY-MIB (RFC 2737) entPhysicalTable. This MIB is applicable to all line and processor cards.

The ceAssetTable contains an entry (ceAssetEntry) for each physical component on the router. Each entry provides information about the component, such as its orderable part number, serial number, hardware revision, manufacturing assembly number, and manufacturing revision.

Program most physical components with a standard Cisco generic ID PROM value that specifies asset information for the component. If possible, the MIB accesses the component's ID PROM information.

The CISCO-ENTITY-ASSET-MIB contains two object groups:

- ceAssetGroupRev1—The ceAssetGroupRev1 group holds objects that are not present in the ENTITY-MIB.
- ceAssetEntityGroup—The ceAssetEntityGroup duplicates the objects in entPhysicalTable of the ENTITY-MIB (RFC 2737).

Table 3-13 lists the constraints that the Cisco 7304 router places on objects in the CISCO-ENTITY-ASSET-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-13 CISCO-ENTITY-ASSET-MIB Object Constraints

MIB Object	Notes
ceAssetTable	
ceAssetAlias	Not supported.
ceAssetTag	Not supported.
ceAssetCLEI	Not supported.

The following objects are read-only objects in the MIB definition. You see values if your platform has any related information on the object. Otherwise, the object is a zero length string, such as ceAssetFirmwareID, ceAssetFirmwareRevision, ceAssetSoftwareI, and ceAssetSoftwareRevision.

CISCO-ENTITY-EXT-MIB

The CISCO-ENTITY-EXT-MIB contains extensions for the processor modules listed in the ENTITY-MIB entPhysicalTable. A processor module is any physical entity that has a CPU, RAM, and NVRAM, and can load a boot image and save a configuration. The extensions in this MIB provide information such as RAM and NVRAM sizes, configuration register settings, and bootload image names for each processor module.

The CISCO-ENTITY-EXT-MIB contains two tables:

- The ceExtPhysicalProcessorTable table contains information related to processor RAM and NVRAM sizes (total and used).
- The ceExtConfigRegTable table contains information related to configuration register settings and boot images.

Table 3-14 lists the constraints that the Cisco 7304 router places on objects in the CISCO-ENTITY-EXT-MIB. For detailed definitions of MIB objects, see the MIB. Any objects not listed in this table are implemented as defined in this MIB.

Table 3-14 CISCO-ENTITY-EXT-MIB Object Constraints

MIB Object	Notes
ceExtConfigRegTable	
ceExtConfigRegNext	Read only.
ceExtSysBootImageList	Read only.

Note The CISCO-ENTITY-EXT-MIB is only supported for the physical entities representing active and standby processors.

CISCO-ENTITY-FRU-CONTROL-MIB

The CISCO-ENTITY-FRU-CONTROL-MIB contains objects to configure and monitor the status of field replaceable units (FRUs) on the Cisco 7304 router. An FRU is a hardware component (such as a line card) that can be replaced on site.

Table 3-15 lists the constraints that the router places on objects in the CISCO-ENTITY-FRU-CONTROL-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-15 CISCO-ENTITY-FRU-CONTROL-MIB Constraints

MIB Object	Notes
cefcModuleTable	
• cefcModuleAdminStatus	Supported values: • Enable(1) • Reset(3) **Note** The cefcModuleAdminStatus object cannot be set to reset(3) for processor modules. **Note** When a line card is disabled, its cefcModuleAdminStatus cannot be set to reset.
• cefcModuleOperStatus	Supported values: – Unknown(1)—Read-only. – Ok(2)—Read-only. – Failed(7)—Read-only.
• cefcModuleResetReason	Supported values: – Unknown(1)—Read-only. – PowerUp(2)—Read-only. – ManualReset(5)—Read-only.
cefcFRUPowerSupplyGroupTable	Not supported.
cefcFRUPowerStatusTable	Not supported.

Table 3-15 CISCO-ENTITY-FRU-CONTROL-MIB Constraints (continued)

MIB Object	Notes
• cefcMaxDefaultInLinePower	Not supported.

1 The entPhysicalEntry (which has module(9) as entPhysicalClass in the entPhysicalTable) has a corresponding entry in the cefcModuleTable.

2 Because port adapters do not provide operational status information, they cannot be administratively controlled and independently OIRed. Port adapters are not supported in the cefcModuleAdminStatus table.

3 The cefcPowerStatusChange notification is not supported and the cefcModuleStatusChange notification can be supported for a redundant power supply.

CISCO-ENTITY-PFE-MIB

The CISCO-ENTITY-PFE -MIB (Packet Forwarding Engine) contains objects that maintain the performance history on the Packet Forwarding Engine (PFE) processor listed in the ENTITY-MIB (RFC 2737) entPhysicalTable. The PFE processor is a Cisco developed network processor technology, which accelerates certain IP features to provide better network performance.

Table 3-16 lists the constraints that the router places on objects in the CISCO-ENTITY-PFE-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-16 CISCO-ENTITY-PFE-MIB Constraints

MIB Object	Notes
cePfeHistRestartEvent	Not supported.

A percentage value that represents the actual utilization and efficiency performance of the PXF are recorded in the CISCO-ENTITY-PFE-MIB. Use this MIB to access additional IP statistics. To obtain detailed implementation information, you can issue the **show hardware pxf cpu context** command from the command line interface (CLI).

Note The PFE is the parallel express forwarding network processor (PXF), which is part of the performance routing engine (PRE).

CISCO-ENTITY-SENSOR-MIB

The CISCO-ENTITY-SENSOR-MIB contains objects that monitor the values of sensors in the ENTITY-MIB (RFC 2037) entPhysicalTable. The CISCO-ENTITY-SENSOR-MIB:

- Is a Cisco private MIB to support a monitoring function of sensor devices.
- Discovers the sensor devices in the system and provides the ability to monitor the status of the system.
- Provides the threshold values and notifications for each sensor.

The sensor entities shown in this MIB are the physical entities whose entity class are defined to sensor(8) in the entPhysicalTable.

CISCO-ENTITY-VENDORTYPE-OID-MIB

The CISCO-ENTITY-VENDORTYPE-OID-MIB defines the object identifiers (OIDs) assigned to various Cisco 7304 router components. The OIDs in this MIB are used by the entPhysicalTable of the ENTITY-MIB as values for the entPhysicalVendorType field in entPhysicalTable. Each OID uniquely identifies a type of physical entity, such as a chassis, line cards, or port adapters.

MIB Constraints

Table 3-17 lists the objects and OIDs in the CISCO-ENTITY-VENDORTYPE-OID-MIB that describe router entities. For detailed definitions of MIB objects, see the MIB.

Table 3-17 CISCO-ENTITY-VENDORTYPE-OID-MIB Objects and Constraints

MIB Object (OID Assignment)	Notes (Part Number)
cevChassis	
• cevChassisCisco7304 (1.3.6.1.4.1.9.12.3.1.3.304)	Cisco 7304 chassis (CISCO7304)
cevContainer	
• cevContainerSlot (1.3.6.1.4.1.9.12.3.1.5.1)	Chassis slot
cevModule	
• cevModuleC7xxxType (1.3.6.1.4.1.9.12.3.1.9.7)	
Cisco 7300 Network Services Engine 100	
• cevCpuC7300Nse100	
• cevC7300Nse100Db	
Cisco 7304 NPE-G100 Network Processing Engine	
• cevCpuC7300Npeg100	
OC-3 ATM 2-port line cards	
• cevC73002Oc3AtmMm (1.3.6.1.4.1.9.12.3.1.9.17.43)	2-port, multimode (7300-2OC-3ATM-MM)
• cevC73002Oc3AtmSmIr (1.3.6.1.4.1.9.12.3.1.9.17.43)	2-port, single-mode intermediate reach (7300-2OC-3ATM-SMI)
• cevC73002Oc3AtmSmLr (1.3.6.1.4.1.9.12.3.1.9.17.43)	2-port, single-mode long reach 7300-2OC-3ATM-SML)
Cisco 6-port Clear Channel T3 Card	
• cevC73006T3	
OC-3/STM-1 POS/SDH, Packet over SONET/SDH line cards (2 and 4 port)	
• cevC73002Oc3PosMm (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, multimode 7300-2OC-3POS-MM)
• cevC73002Oc3PosSmIr (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, single-mode intermediate reach 7300-2OC-3POS-SMI)

Table 3-17 CISCO-ENTITY-VENDORTYPE-OID-MIB Objects and Constraints (continued)

MIB Object (OID Assignment)	Notes (Part Number)
• cevC73002Oc3PosSmLr (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, single-mode long reach (7300-2OC-3POS-SML)
• cevC73004Oc3PosMm (1.3.6.1.4.1.9.12.3.1.9.17.48)	4-port, multimode (7300-2OC-3POS-MM)
• cevC73004Oc3PosSmIr (1.3.6.1.4.1.9.12.3.1.9.17.48)	4-port, single-mode intermediate reach (7300-2OC-3POS-SMI)
• cevC73004Oc3PosSmLr (1.3.6.1.4.1.9.12.3.1.9.17.48)	4-port, single-mode long reach (7300-2OC-3POS-SML)
OC-12c/STM-16 Packet over SONET/SDH line cards (1 and 2 port)	
• cevC7300Oc12PosMm (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, multimode (7300-1OC-12POS-MM)
• cevC7300Oc12PosSmIr (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, single-mode intermediate reach (7300-1OC-12POS-SMI)
• cevC7300Oc12PosSmLr (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, single-mode long reach (7300-1OC-12POS-SML)
• cevC73002Oc12PosMm (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, multimode (7300-2OC-12POS-MM)
• cevC73002Oc12PosSmIr (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, single-mode intermediate reach (7300-2OC-12POS-SMI)
• cevC73002Oc12PosSmLr (1.3.6.1.4.1.9.12.3.1.9.17.48)	2-port, single-mode long reach (7300-2OC-12POS-SML)
OC-48c/STM-16 Packet over SONET/SDH line cards (1 port)	
• cevC73001Oc48PosSmSr (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, single-mode short reach (7300-1OC-48POS-SMS)
• cevC73001Oc48PosSmIr (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, single-mode intermediate reach (7300-1OC-48POS-SMI)
• cevC73001Oc48PosSmLr (1.3.6.1.4.1.9.12.3.1.9.17.48)	1-port, single-mode long reach (7300-1OC-48POS-SML)
cevPortAdapters	
Cisco 7304 PCI Port Adapter Carrier cards (7300-PA-CC)	
• cevC7300CCPA (1.3.6.1.4.1.9.12.3.1.9.7.76)	cevModuleC7300CCPA
• cevPaAtmdxE3 (1.3.6.1.4.1.9.12.3.1.9.4.37)	1-port enhanced ATM E3 port adapter (PA-A3-E3)
• cevPaAtmdxDs3 (1.3.6.1.4.1.9.12.3.1.9.4.38)	1-port enhanced ATM T3 port adapter (PA-A3-T3)
• cevPa2feFx182543 (1.3.6.1.4.1.9.12.3.1.9.4.93)	2-port Fast Ethernet port adapter (PA-2FE-FX)
• cevPa2feTx182543 (1.3.6.1.4.1.9.12.3.1.9.4.92)	2-port Fast Ethernet port adapter (PA-2FE-TX)

Table 3-17 CISCO-ENTITY-VENDORTYPE-OID-MIB Objects and Constraints (continued)

MIB Object (OID Assignment)	Notes (Part Number)
cevPort	
• cevPortFEIP (1.3.6.1.4.1.9.12.3.1.10.10)	NSE Fast Ethernet port
• cevPortGE (1.3.6.1.4.1.9.12.3.1.10.20)	NSE GigabitEthernet port
• cevPortGE (1.3.6.1.4.1.9.12.3.1.10.52)	NPE GigabitEthernet port
• cevPortOc3 (1.3.6.1.4.1.9.12.3.1.10.80)	OC-3 ATM port
• cevPortT3 (1.3.6.1.4.1.9.12.3.1.10.94)	Clear Channel T3 port
• cevPortPOS (1.3.6.1.4.1.9.12.3.1.10.96)	Packet over SONET port
• cevPortE3Atm (1.3.6.1.4.1.9.12.3.1.10.108)	PA-A3-E3 port
• cevPortDs3ATM (1.3.6.1.4.1.9.12.3.1.10.109)	PA-A3-T3 port
• cevPortFEIP (1.3.6.1.4.1.9.12.3.1.10.119)	PA-2FE-TX port
cevModuleSFPType	
Gigabit Ethernet SFP is a 1000-Mbps optical interface with LC-type duplex connection	
• cevSFP1000BaseSx	GLC-SX-MM, short wavelength
• cevSFP1000BaseLx	GLC-LH-SM, long wavelength, long haul
• cevSFP1000BaseZx	GLC-ZX-SM, extended distance wavelength
cevMGBIC	
Gigabit Ethernet GBIC is a 1000-Mbps optical interface with an SC-type duplex connection	
• cevMGBIC1000BaseSX (1.3.6.1.4.1.9.12.3.1.9.16.2)	GBIC-SX or WS-G5484, short wavelength
• cevMGBIC1000BaseSX (1.3.6.1.4.1.9.12.3.1.9.16.2)	GBIC-LX/LH or WS-G5486, long wavelength, long haul
• cevMGBIC1000BaseSX (1.3.6.1.4.1.9.12.3.1.9.16.2)	GBIC-ZX or WS-G5487, extended distance wavelength

CISCO-ENVMON-MIB

The CISCO-ENVMON-MIB contains information about the status of environmental sensors (for voltage, temperature, and power supplies). It also contains MIB objects to enable and disable notifications for changes to the status of these sensors.

CISCO-FLASH-MIB

The CISCO-FLASH-MIB contains objects to manage flash cards and flash-card operations.

CISCO-FRAME-RELAY-MIB

The CISCO-FRAME-RELAY-MIB contains Frame Relay information that is specific to Cisco products or that is missing from RFC 1315.

CISCO-FRAS-HOST-MIB

The CISCO-FRAS-HOST-MIB contains objects specific to upstream or host-end sessions.

CISCO-FTP-CLIENT-MIB

The CISCO-FTP-CLIENT-MIB contains objects to invoke File Transfer Protocol (FTP) operations for network management.

CISCO-HSRP-EXT-MIB

The CISCO-HSRP-EXT-MIB provides an extension to the CISCO-HSRP-MIB. It contains objects to perform functions such as assigning secondary HSRP IP addresses, monitoring the operational status of interfaces, and modifying an HSRP group's priority.

Although this MIB is included in the Cisco IOS software image, the MIB is currently not supported for broadband configurations.

CISCO-HSRP-MIB

The CISCO-HSRP-MIB contains objects to configure and manage the Cisco Hot Standby Router Protocol (HSRP), which is defined in RFC 2281.

CISCO-IETF-ATM2-PVCTRAP-MIB

The CISCO-IETF-ATM2-PVCTRAP-MIB supplements the ATM-MIB. It implements the virtual channel link (VCL) section of the IETF document "draft-ietf-atommib-atm2-11.txt," Section 9 ATM Related Trap Support.

CISCO-IETF-IP-FORWARD-MIB

The CISCO-IETF-IP-FORWARD-MIB contains objects to manage multipath IP routes in a classless interdomain routing (CIDR) environment. This MIB is based on the IETF document draft-ietf-ipngwg-rfc2096-update-00.txt.

CISCO-IETF-IP-MIB

The CISCO-IETF-IP-MIB contains objects to manage the Internet Protocol (IP), but not to manage IP routes. The MIB also contains objects to manage the Internet Control Message Protocol (ICMP). It is based on the IETF document “draft-ietf-ipngwg-rfc2011-update-00.txt.”

CISCO-IMAGE-MIB

The CISCO-IMAGE-MIB is the router image MIB which identifies the identifies the characteristics and capabilities of the Cisco IOS software image running on the router.

There are no constraints on this MIB.

CISCO-IP-STAT-MIB

The CISCO-IP-STAT-MIB contains objects to manage the collection and display of IP statistics, categorized by IP precedence and the Media Access Control (MAC) address associated with IP packets. To use the MIB to access additional IP statistics, you can execute the following commands from the CLI:

- **show interfaces mac-accounting**
- **show interfaces precedence**

CISCO-IPMROUTE-MIB

The CISCO-IPMROUTE-MIB contains objects to manage IP multicast routing on the router.

CISCO-ENHANCED-MEMORY-POOL-MIB

Note The CISCO-ENHANCED-MEMORY-POOL-MIB is not supported in this release.

The CISCO-ENHANCED-MEMORY-POOL-MIB (Table 3-18) contains objects to monitor memory pools on all physical entities on a managed system Memory utilization information is provided to users at three different intervals of time: 1 minute, 5 minutes, and 10 minutes. Memory pools can be categorized into two groups:

- Predefined pool types—Currently predefined as:
  - 1:processor memory
  - 2:i/o memory
  - 3:pci memory
  - 4:fast memory
  - 5:multibus memory
- Dynamic pool types—Have a pool type value greater than any of the predefined types listed above.

Only the processor pool is required to be supported by all devices. Support for other pool types is dependent on the device being managed. For detailed definitions of the CISCO-ENHANCED-MEMORY-POOL-MIB objects, see the MIB.

Table 3-18 CISCO-ENHANCED-MEMORY-POOL-MIB Constraints

MIB Object	Notes
ciscoMemoryPoolTable	
• ciscoMemoryPoolLargestFree	Not supported.
• cempMemPoolPlatformMemory	
• cempMemPoolLargestFree	
• cempMemPoolLowestFree	
ciscoMemoryPoolUtilizationTable	Table not supported.

Note CISCO-ENHANCED-MEMORY-POOL-MIB retrieves used and free information from sysdb namespace. If mempool type is not found, it returns zero length to the SNMP core agent.

Note The OLD-CISCO-MEMORY-MIB contains objects that describe memory pools on devices running an earlier implementation of the Cisco IOS operating system. This MIB was replaced by the CISCO-MEMORY-POOL-MIB.

CISCO-LEC-DATA-VCC-MIB

The CISCO-LEC-DATA-VCC-MIB module is a Cisco extension to the ATM Forum's LANE Client MIB. This extension identifies those VCCs which are being used to carry packets sent on LANE Data Direct VCCs.

CISCO-LEC-EXT-MIB

The CISCO-LEC-EXT-MIB module is a Cisco extension to the ATM Forum's LANE client MIB.

CISCO-LECS-MIB

The CISCO-LECS-MIB contains objects that manage LANE configuration in Cisco devices.

CISCO-LES-MIB

The CISCO-LES-MIB contains objects that manage LANE service in Cisco devices.

CISCO-MEMORY-POOL-MIB

The CISCO-MEMORY-POOL-MIB contains objects to monitor memory pools on the router.

There are no constraints on this MIB.

CISCO-NETFLOW-MIB

The CISCO-NETFLOW-MIB contains objects that remotely obtains and manages cache flow information, current NetFlow configuration, and statistics.

The Netflow MIB provides a simple and easy method to get NetFlow cache information, current NetFlow configuration and statistics.The MIB provides Netflow information in these areas:

- Cache information and configuration.
- Export information and configuration.
- Export Statistics.
- Protocol Statistics.
- Version 9 Export Template information.
- Top Flows information.

To manage parameters, this MIB supports the following object groups:

Table 3-19 CISCO-NETFLOW-MIB Object Groups

Objects Group	Description
cnfCacheInfo	Provides common information for all active/inactive flows (i.e. entries, time out etc) per cache basis.
cnfExportInfo	Provides information about export like export version and export destinations(/Collectors).
cnfFeatureAcceleration	Provides information about NetFlow Feature Acceleration.
cnfExportStatistics	Provides export statistics.
cnfProtocolStatistics	Provides a summary of NetFlow cache statistics.
cnfExportTemplate	Provides Template based Version 9 flow export information and statistic.

SNMP is used to collect network information. SNMP permits retrieval of critical information from network elements such as routers, switches, and workstations. The CISCO-NETFLOW-MIB feature uses SNMP to configure NetFlow and to gather NetFlow statistics.

The CISCO-NETFLOW-MIB contains objects that allow NetFlow statistics and other NetFlow data for the managed devices on your system to be retrieved by SNMP. You can specify retrieval of NetFlow information from a managed device (for example, a router) either by entering commands on that managed device or by entering SNMP commands from the NMS workstation to configure the router through the MIB.

If the NetFlow information is configured from the NMS workstation, no access to the router is required and all configuration can be performed through SNMP. The CISCO-NETFLOW-MIB request for information is sent from an NMS workstation through SNMP to the router and is retrieved from the router. This information is stored or viewed, thus allowing NetFlow information to be easily accessed and transported across a multivendor programming environment.

The CISCO-NETFLOW-MIB feature defines managed objects that enable a network administrator to remotely monitor the following NetFlow information:

- Flow cache configuration information
- NetFlow export information
- General NetFlow statistics

Note For detailed information about the CISCO-NETFLOW-MIB, go to: http://www.cisco.com/en/US/products/ps6350/products_configuration_guide_chapter09186a00805e11ab.html

CISCO-NDE-MIB

The CISCO-NDE-MIB contains objects to configure and monitor the operation of the NetFlow Data Export (NDE) feature. A network flow is a unidirectional sequence of packets between a pair of source and destination endpoints, which are identified by IP address and transport layer application port number. NetFlow uses the IP protocol type, type of service (ToS), and input interface identifier to uniquely identify network flows.

CISCO-NTP-MIB

The CISCO-NTP-MIB contains objects to monitor a Network Time Protocol (NTP) server. NTP is used to synchronize timekeeping among a set of distributed time servers and clients. Primary time servers, which are synchronized to national time standards, are connected to widely accessible resources such as backbone gateways. These primary servers send timekeeping information to other time servers, and perform clock checking to eliminate timekeeping errors due to equipment or propagation failures.

CISCO-PAE-MIB

The CISCO-PAE-MIB contains objects to manage port access entities (PAEs) on the router, as defined by IEEE Std 802.1x. The MIB contains PAE information that is not included in the IEEE8021-PAE-MIB or that is specific to Cisco products.

CISCO-PIM-MIB

The CISCO-PIM-MIB defines Cisco specific objects and variables for managing Protocol Independent Multicast (PIM) on the router. These MIB definitions are an extension of those in RFC 2934, which is the IETF-PIM-MIB.

CISCO-PING-MIB

The CISCO-PING-MIB contains objects to manage ping requests on the router. There are no constraints on this MIB.

CISCO-PROCESS-MIB

The CISCO-PROCESS-MIB displays memory and CPU usage on the router, and describes active system processes.

CISCO-PRODUCTS-MIB

The CISCO-PRODUCTS-MIB lists the object identifiers (OIDs) assigned to Cisco hardware platforms. The cisco7303 = 1.3.6.1.4.1.9.1.439 OID is supported.

CISCO-QLLC01-MIB

The CISCO-QLLC01-MIB contains objects to configure and monitor logical connections for the Qualified Logical Link Control (QLLC) protocol.

CISCO-QUEUE-MIB

The CISCO-QUEUE-MIB contains objects to manage interface queues, which can be used for FIFO, priority, custom, and fair queuing.

CISCO-RF-MIB

The CISCO-RF-MIB contains objects related to the redundancy framework (RF), which is designed to support the one-to-one redundancy of processor cards. Note that the MIB is not designed to support redundant hardware, such as power supplies.

CISCO-RSRB-MIB

The CISCO-RSRB-MIB contains objects used to manage remote source-route bridging (RSRB) on the router. This MIB provides information about the attributes of the local-remote RSRB peer relationship.

CISCO-RTTMON-MIB

The CISCO-RTTMON-MIB contains objects to monitor network performance. The MIB provides information about the response times of network resources and applications. Each conceptual round-trip time (RTT) control row in the MIB represents a single probe, which is used to determine an entity's response time. The probe defines an RTT operation to perform (for example, an FTP or HTTP get request), and the results indicate whether the operation succeeded or failed, and the length of time it took to complete.

If you plan to schedule an RTT operation, see Table 3-20 for information about rttMonScheduleAdminRttStartTime in the rttMonScheduleAdminTable.

Note An rttMonCtrlOperConnectionLostOccurred trap is generated when an RTT connection cannot be established to the destination router because the router responder application is not running. However, the trap is not generated if the physical connection to the router is lost.

MIB Constraints

Table 3-20 lists the constraints that the Cisco 7304 router places on objects in the CISCO-RTTMON-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-20 CISCO-RTTMON-MIB Constraints

MIB Object	Notes
RttMonProtocol	Not supported: • snaRUEcho • snaLU0EchoAppl
rttMonApplAuthTable	Not supported.
rttMonCtrlAdminTable	
• rttMonCtrlAdminRttType	Supported values: echo(1) pathEcho(2)
• rttMonCtrlAdminRttType	Supported values: udpEcho(5) tcpConnect(6) http(7) dns(8) jitter(9) ftp(12) All other values not supported.
rttMonEchoAdminTable	
• rttMonEchoAdminProtocol	Supported values: ipIcmpEcho(2) ipUdpEchoAppl(3) ipTcpConn(24) httpAppl(25) dnsAppl(26) jitterAppl(27) ftpAppl(30) All other values not supported.
rttMonScheduleAdminTable	
• rttMonScheduleAdminRttStartTime	Before setting this object to a date/time value, make sure the ESR clock was set through the CLI **clock set** command. Otherwise, the scheduled RTT operation does not run.
rttMonHistoryCollectionTable	HTTP and Jitter types not supported.

CISCO-SDLLC-MIB

The CISCO-SDLLC-MIB contains object to manage SDLC Logical Link Control (SDLLC). The MIB contains read-only configuration and operational information for the Cisco implementation of Synchronous Data Link Control (SDLC) to Logical Link Control, type 2 (LLC2) media translation.

CISCO-SLB-EXT-MIB

The CISCO-SLB-EXT-MIB contains extensions to the Cisco server load-balancing MIB (CISCO-SLB-MIB). Server load balancing enables the router to balance the processing of packets and connections from other devices, such as real servers, firewalls, or caches. An SLB device determines how to handle incoming frames and connections according to the contents of the incoming data. Various configuration options are available.

CISCO-SLB-MIB

The CISCO-SLB-MIB contains objects to manage server load-balancing (SLB) managers, such as those provided by the Cisco IOS SLB product. The MIB includes objects for the manager-side implementation of the Dynamic Feedback Protocol (DFP), which is used to obtain information about servers.

CISCO-SMI-MIB

The CISCO-SMI-MIB defines the structure of management information for Cisco enterprise MIBs.

CISCO-SNAPSHOT-MIB

The CISCO-SNAPSHOT-MIB contains objects to manage snapshot routing, which helps improve the use of system resources for static routing and routing for dedicated serial lines.

CISCO-SONET-MIB

The CISCO-SONET-MIB contains objects to describe SONET/SDH interfaces on the router. This MIB is an extension to the standard SONET-MIB (RFC 2558).

MIB Constraints

Currently, the Cisco 7304 router implements only the traps in this MIB. See Chapter 4, “Monitoring Notifications.”

CISCO-STUN-MIB

The CISCO-STUN-MIB contains objects to configure and monitor serial tunneling (STUN) on the router. The MIB contains global STUN configuration and operational information, and objects to manage STUN groups, ports, and routes.

CISCO-SYSLOG-MIB

The CISCO-SYSLOG-MIB contains all system log messages generated by the Cisco IOS software. The MIB provides a way to access syslog messages through SNMP. All Cisco IOS syslog messages contain the message name and its severity, message text, the name of the entity generating the message, and an optional time stamp. The MIB also contains a history of syslog messages and counts related to syslog messages.

Note You can configure the Cisco 7304 router to send syslog messages to a 'syslog' server.

MIB Constraints

The MIB does not keep track of messages generated from commands entered through the command line interface (CLI).

CISCO-TC-MIB

The CISCO-TC-MIB defines the textual conventions used in Cisco enterprise MIBs.

CISCO-TCP-MIB

The CISCO-TCP-MIB contains objects to manage the Transmission Control Protocol (TCP) on the router. This MIB is an extension to the IETF TCP MIB.

CISCO-VINES-MIB

The CISCO-VINES-MIB provides Virtual Integrated Network Service (VINES) routing information. The MIB also contains objects from the Cisco VINES command line interface.

CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB

The CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB contains VLAN-ID and ifIndex information for each routed virtual LAN (VLAN) interface on the router. A routed VLAN interface is the router interface or subinterface to which you attach the IP address used by the router on the VLAN.

On the Cisco 7304 router, the MIB contains information about VLAN subinterfaces created on GigE WAN ports on the 4-port GigE WAN Optical Services Module (OSM-2+4GE-WAN+). The MIB maps each VLAN-ID to an ifIndex, which you can use to access the ipRouteTable to obtain the routing configuration for the routed VLAN interface.

DLSW-MIB

The DLSW-MIB (RFC 2024) contains objects to manage data-link switching (DLSw) on the router.

ENTITY-MIB

The ENTITY-MIB contains a table called, entPhysicalTable that identifies physical system components (logical entities) in the Cisco 7304 router and allows SNMP management of those entities. This MIB is applicable to chassis, line cards, processor cards, port adapters, fans, and power supplies.

The following are the five conformance groups contained in the Entity-MIB:

- entityPhysical group—Describes the physical entities managed by a single agent.
- entityLogical group—Describes the logical entities managed by a single agent.
- entityMapping group—Describes the associations between the physical entities, logical entities, interfaces, and non-interface ports managed by a single agent.
- entityGeneral group—Describes general system attributes shared by potentially all types of entities managed by a single agent.
- entityNotifications group—Contains status indication notifications.

The following two groups are added from RFC 2737:

- entityPhysical2 group—This group augments the entityPhysical group.
- entityLogical2 group—Describes the logical entities managed by a single agent, and replaces entityLogical group.

The MIB table entPhysicalTable identifies the physical system components in the router. The entPhysicalTable contains 1 row for the Cisco 7304 chassis and 1 row for each entity in the chassis. A physical entity can contain other entities. The physical hierarchy of system components is determined at runtime, based on the actual router configuration.

MIB Constraints

Table 3-21 lists the constraints that the router places on objects in the ENTITY-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-21 ENTITY-MIB Constraints for OSM Modules

MIB Object	Notes
entPhysicalTable	
• entPhysicalAlias	Zero length string.
• entPhysicalAssetID	Zero length string.
entLogicalTable	
• entLogicalContextName	Not supported.
entLPMappingTable	Not supported.

The following MIB entities are dependent on each user's configuration:

- entPhysicalIndex—Uniquely identifies each entity in the router. The index is also used to access information about the entity in other MIB tables.
- entPhysicalContainedIn—Indicates the entPhysicalIndex of a component's parent entity. The value of entPhysicalIndex for the physical entity which 'contains' this physical entity. A value of zero indicates this physical entity is not contained in any other physical entity.
- entPhysicalParentRelPos—An integer that shows the relative position of same-type entities that have the same entPhysicalContainedIn value (for example, slots and line card ports).

The entPhysicalTable contains a single row for the Cisco 7304 chassis and a row for each entity in the chassis. A physical entity may contain other entities (for example, a fan-tray bay may contain a fan-tray module, which may contain one or more fans). The physical hierarchy of system components is determined at runtime, based on the actual configuration.

Table 3-22 lists entPhysicalTable entries for the Cisco 7304 router.

Table 3-22 entPhysicalTable Entries for Cisco 7304 Chassis Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
C7300 chassis	cevChassis7304	chassis	7300 Chassis	
Chassis slot	cevContainerSlot	container(5)	slot 0	Contained in the chassis
Chassis slot	cevContainerSlot	container(5)	slot 1	Contained in the chassis.
Chassis slot	cevContainerSlot	container(5)	slot 2	Contained in the chassis
Chassis slot	cevContainerSlot	container(5)	slot 3	Contained in the chassis
Chassis slot	cevContainerSlot	container(5)	slot 4	Contained in the chassis
Chassis slot	cevContainerSlot	container(5)	slot 5	Contained in the chassis
Power supply slot	cevContainerC7304PowerSupplyBay	container(5)	Power supply (PS) bay 1	The device can have 2 power supplies in the chassis
Power supply slot	cevContainerC7304 PowerSupplyBay	container(5)	PS bay 2	The device can have 2 power supplies in the chassis
Power supply and fan module	cevPowerSupplyC7300 DC	Other	Entity description and PS slot number	Device supports AC and DC power supplies. The power supply and fan are in the PS container
Power supply and fan module	cevPowerSupplyC7300 AC	Other	Entity description and PS slot number	Device supports AC and DC power supplies. The power supply and fan are in the PS container
DC or AC power supply	cevPowerSupply	powersupply	—	Contained in the power supply and fan module
Power supply state	cevSensorC7300PSFan State	sensor(8)	—	Contained in the power supply
Fan	cevFan	fan	—	—

Table 3-22 entPhysicalTable Entries for Cisco 7304 Chassis Components (continued)

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
Fan module	cevFanC7300Fan Module	other	Entity description and PS slot number	—
Fan state	cevSensorC7300PSFan State	sensor(8)	—	Contained in the fan

Table 3-23 lists entPhysicalTable entries for the Cisco 7304 router network service engine (NSE) cards.

Table 3-23 entPhysicalTable Entries for Cisco 7304 Network Service Engine Cards

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
NSE 100 CPU card	cevCpuC7300Nse100	module(9)	Entity description and slot number	7300 NSE occupies 2 slots. It is contained in either slots 0 and 1 or slots 2 and 3.
NSE 100 daughter card	cevC7300Nse100Db	module(9)	Entity description and slot number	Contained in NSE-100 only.
7304-NPE-G100	cevCpuC7300Npeg100	module(9)	Entity description and slot number	7300 network route processor engine is contained in either slots 0 and 1 or slots 2 and 3.
Mistral EOBC	cevPortFEIP	port(10)	FastEthernet0	Only contained in the primary NSE-100.
Pinnacle GE	cevPortGE	port(10)	GigabitEthernet0/0 GigabitEthernet0/1 GigabitEthernet2/0 GigabitEthernet2/1	Contained in the primary and standby NSE-100. There are 2 GE ports per NSE-100.
BCM1250 Internal MAC	cevPortGE	port(10)	GigabitEthernet0 or GigabitEthernet1 or GigabitEthernet2	Only contained in the primary NPE-G100.
NSE DB temperature sensor	cevSensorC7300NseDb TempVoltage	sensor(8)	Entity description and slot number	Contained in the primary NSE DB.

Table 3-23 entPhysicalTable Entries for Cisco 7304 Network Service Engine Cards (continued)

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
NSE DB 1.65 V sensor	cevSensorC7300NseDb TempVoltage	sensor(8)	Entity description and slot number	Contained in the primary NSE DB.
NSE DB 1.8 V sensor	cevSensorC7300NseDb TempVoltage	sensor(8)	Entity description and slot number	Contained in the primary NSE DB.

Table 3-24 lists entPhysicalTable entries for the Cisco 7304 Router OC-3 ATM components.

Table 3-24 entPhysicalTable Entries for Cisco 7304 OC-3 ATM Card Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
2-port ATM OC-3 multimode	cevC73002Oc3AtmMm	module(9)	Entity description and slot number	2-port OC-3 ATM line card
2-port ATM OC-3 SM Intermediate Range	cevC73002Oc3AtmSmIr	module(9)	Entity description and slot number	2-port OC-3 ATM line card
2-port ATM OC-3 SM Long Range	cevC73002Oc3AtmSmLr	module(9)	Entity description and slot number	2-port OC-3 ATM line card
4-port ATM OC-3 multimode	cevC73004Oc3AtmMm	module(9)	Entity description and slot number	4-port OC-3 ATM line card
4-port ATM OC-3 SM Intermediate Range	cevC73004Oc3AtmSmIr	module(9)	Entity description and slot number	4-port OC-3 ATM line card
4-port ATM OC-3 SM Long Range	cevC73002Oc3AtmSmLr	module(9)	Entity description and slot number	4-port OC-3 ATM line card
atm_oc3 Temperature Sensor	cevSensorModuleDevice Temp	sensor(8)	Entity description and slot number	Contained in OC-3 ATM line card
atm_oc3 1.8 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in OC-3 ATM line card
atm_oc3 2.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in OC-3 ATM line card
atm_oc3 3.3 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in OC-3 ATM line card
atm_oc3 12 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in OC-3 ATM line card
OC-3 ATM	cevPortOC3	port(10)	ATM and slot number and port number.	Contained in OC-3 ATM line card

Table 3-25 lists entPhysicalTable entries for the Cisco 7304 Router OC-3-POS components.

Table 3-25 entPhysicalTable Entries for Cisco 7304 OC-3-POS Line Card Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
2-port POS OC-3 multimode	cevC73002Oc3PosMm	module(9)	Entity description and slot number	2-port OC-3c/STM-1 POS line card
2-port POS OC-3 SM Intermediate Range	cevC73002Oc3PosSmIr	module(9)	Entity description and slot number	2-port OC-3c/STM-1 POS line card
2-port POS OC-3 SM Long Range	cevC73002Oc3PosSmLr	module(9)	Entity description and slot number	2-port OC-3c/STM-1 POS line card
4-port POS OC-3 multimode	cevC73004Oc3PosMm	module(9)	Entity description and slot number	4-port OC-3c/STM-1 POS line card
4-port POS OC-3 SM Intermediate Range	cevC73004Oc3PosSmIr	module(9)	Entity description and slot number	4-port OC-3c/STM-1 POS line car
4-port POS OC-3 SM Long Range	cevC73004Oc3PosSmLr	module(9)	Entity description and slot number	4-port OC-3c/STM-1 POS line car
pos_oc3 Temperature Sensor	cevSensorModuleDevice Temp	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card
pos_oc3 1.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card
pos_oc3 1.8 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card
pos_oc3 2.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card
pos_oc3 3.3 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card
pos_oc3 12 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in the OC-3 POS line card

Table 3-26 lists entPhysicalTable entries for the Cisco 7304 router OC-12-POS components.

Table 3-26 entPhysicalTable Entries for Cisco 7304 OC-12-POS Card Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
1-port POS OC-12 Multimode	cevC7300Oc12PosMm	module(9)	Entity description and slot number.	1-port OC-12c/STM-4 POS line card
1-port POS OC-12 SM Intermediate Range	cevC7300Oc12PosSmIr	module(9)	Entity description and slot number.	1-port OC-12c/STM-4 POS line card
1-port POS OC-12 SM Long Range	cevC7300Oc12PosSmLr	module(9)	Entity description and slot number.	1-port OC-12c/STM-4 POS line card
2-port POS OC-12 Multimode	cevC73002Oc12PosMm	module(9)	Entity description and slot number.	2-port OC-12c/STM-4 POS line card
2-port POS OC-12 SM Intermediate Range	cevC73002Oc12PosSmIr	module(9)	Entity description and slot number.	2-port OC-12c/STM-4 POS line card
2-port POS OC-12 SM Long Range	cevC73002Oc12PosSmLr	module(9)	Entity description and slot number.	2-port OC-12c/STM-4 POS line card
pos_oc12 Temperature Sensor	cevSensorModuleDevice Temp	sensor(8)	Entity description and slot number.	Contained in OC-12 POS line card
pos_oc12 1.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number.	Contained in OC-12 POS line card
pos_oc12 1.8 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number.	Contained in OC-12 POS line card
pos_oc12 2.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number.	Contained in OC-12 POS line card
pos_oc12 3.3 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number.	Contained in OC-12 POS line card
pos_oc12 12 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	Contained in OC-12 POS line card

Table 3-27 lists entPhysicalTable entries for the Cisco 7304 router OC-48-POS components.

Table 3-27 entPhysicalTable Entries for Cisco 7304 OC-48-POS Card Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
1-port POS OC-48 SM Short Range	cevC7300Oc48PosSmSr	module(9)	Entity description and slot number	1-port OC-48c/STM-16 POS line card
Port POS OC-48 SM Intermediate Range	cevC7300Oc48PosSmIr	module(9)	Entity description and slot number	1-port OC-48c/STM-16 POS line card
1-port POS OC-48 SM Long Range	cevC7300Oc48PosSmL	module(9)	Entity description and slot number	1-port OC-48c/STM-16 POS line card
Packet over SONET	cevPortPOS	port(10)	POS and slot number and port number	Contained in all POS line cards
pos_oc48 Temperature Sensor	cevSensorModuleDeviceTemp	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards
pos_oc48 1.5 V Sensor	cevSensorModuleDeviceVoltage	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards
pos_oc48 1.8 V Sensor	cevSensorModuleDeviceVoltage	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards
pos_oc48 2.5 V Sensor	cevSensorModuleDeviceVoltage	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards
pos_oc48 3.3 V Sensor	cevSensorModuleDeviceVoltage	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards
pos_oc48 12 V Sensor	cevSensorModuleDeviceVoltage	sensor(8)	Entity description and slot number	Contained in OC-48 POS line cards

Table 3-28 lists entPhysicalTable entries for the Cisco 7304 Router modules, ports, and temperature sensors.

Table 3-28 entPhysicalTable Entries for Cisco 7304 Router Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
6-port T3	cevC73006T3	module(9)	Entity description and slot number	6-port Clear Channel T3 line card
FastEthernet Interface	cevPortFEIP	module(9)	Fast Ethernet and slot and port number	—
Packet over DS3	cevPortDs3	module(9)	Serial and slot and port number	Contained in 6-port T3
ds3 Temperature Sensor	cevSensorModuleDevice Temp	sensor(8)	Entity description and slot number	—
ds3 1.8 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	—
ds3 2.5 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	—
ds3 3.3 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	—
ds3 12 V Sensor	cevSensorModuleDevice Voltage	sensor(8)	Entity description and slot number	—

Table 3-29 lists entPhysicalTable entries for the Cisco 7304 router inlet and outlet temperature sensor components and port adapter sensor components.

Table 3-29 entPhysicalTable Entries for Cisco 7304 Router Temperature Sensor Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
Outlet Temperature Sensor	cevSensorC7300Outlet TempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Inlet Temperature Sensor	cevSensorC7300Inlet TempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Hotspot Temperature Sensor	cevSensorC7300Hotspot TempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*

Table 3-29 entPhysicalTable Entries for Cisco 7304 Router Temperature Sensor Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
Outlet 1.8 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Outlet 2.5 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Outlet 3.3 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Outlet 5 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Outlet 12 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Inlet 1.8 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Inlet 3.3 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*
Inlet 1.5 V Sensor	cevSensorC7300OutletTempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*

Table 3-29 entPhysicalTable Entries for Cisco 7304 Router Temperature Sensor Components

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
Hotspot 1.8 V Sensor	cevSensorC7300Outlet TempVoltage	sensor(8)	Entity description and slot number	Contained in Primary NSE-100 or primary NPE-G100*

* Be aware that the entPhysicalTable entries for the NSE-100 and NPE-G100 temperature/voltage sensors vary for each hardware version of the NSE-100 and NPE-G100 cards. Table 3-30 provides you with the temperature/voltage entries for the specific hardware versions (Revision 4 and Revision 5) of these cards.

Table 3-30 lists entPhysicalTable entries for the Cisco 7304 NSE-100 and NPE-G100 line card temperature and voltage entries for hardware Revision 4 and Revision 5.

Note Be aware that you may observe various MIB object values if you are running different versions of hardware.

Table 3-30 entPhysicalTable Temperature and Voltage Entries for Cisco 7304 NSE-100 and NPE-G100 Line Cards

NSE-100 Line Card Hardware Revision 4.0	NSE-100CR Line Card Hardware Revision 4.0	NSE-100CR Line Card Hardware Revision 5.0	NPE-G100 Line Card Hardware Revision 5.0
volttab_t volt_table_nse100	**volttab_t volt_table_nse100cr**	**volttab_t volt_table_nse100cr**	**volttab_t volt_table_npeg100**
nse outlet 1.8 V	nse outlet 1.8 V	nse outlet 1.8 V	npe outlet 2.5 V
nse outlet 2.5 V	nse outlet 2.5 V	nse outlet 2.5 V	npe outlet 3.3 V
nse outlet 3.3 V	nse outlet 3.3 V	nse outlet 3.3 V	npe outlet 5.0 V
nse outlet 5 V	nse outlet 5 V	nse outlet 5 V	npe outlet 12.0 V
nse outlet 12 V	nse outlet 12 V	nse outlet 12 V	npe outlet 3.3c V
nse inlet 1.8 V	nse inlet 1.8 V	nse inlet 1.8 V	npe inlet 1.5 V
nse inlet 3.3 V	nse inlet 3.3 V	nse inlet 3.3 V	npe outlet 1.8 V
nse hotspot 1.8 V	nse inlet 1.5 V	nse inlet 1.5 V	npe outlet 1.2 V
nse db 1.65 V	nse hotspot 1.8 V	nse hotspot 1.8 V	npe outlet 1.2c V
nse db 1.65 V	nse db 1.60 V	nse db 1.65 V	—
nse db 1.8 V	nse db 1.8 V	nse db 1.8 V	—

Table 3-31 lists entPhysicalTable entries for the Cisco 7304 router port adapter cards.

Table 3-31 entPhysicalTable Entries for Cisco 7304 PCI Port Adapter Carrier Card—7300-CC-PA

entPhysicalDescr	entPhysicalVendorType	entPhysicalClass	entPhysicalName	Notes
Port Adapter Carrier Card	cevC7300CCPA	module(9)	Entity description and slot number	Globe Master Jacket Card
PA-2FE-TX	cevPa2feTx	module(9)	Entity description and slot number and bay number	Contained in CC-PA-BAY
ENHANCED ATM E3 Port Adapter	cevPaAtmdxE3	module(9)	Entity description and slot number and bay number	Contained in CC-PA-BAY
ENHANCED ATM PA	cevPortE3Atm	port(10)	ATM and slot and port number	Uses the PA-CC slot number
Port Adapter Slot	cevModuleC7300CCPA	module	Entity description and slot number	Can contain PAs supported in C7304
pacc hotspot Temperature Sensor	cevSensorTemperature	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc coolspot Temperature Sensor	cevSensorTemperature	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc -12 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 1.2 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 1.5 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 2.5 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 3.3 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 5.15 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards
pacc 12 V Sensor	cevSensorVoltage	sensor(8)	Entity description and slot number	Contained in the PA carrier cards

ETHERLIKE-MIB

The ETHERLIKE-MIB (RFC 2665) contains objects to manage Ethernet-like interfaces on the Cisco 7304 router.

MIB Constraints

Table 3-32 lists the constraints that the Cisco 7304 router places on objects in the ETHERLIKE-MIB. Any objects not listed in this table are implemented as defined in the MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-32 ETHERLIKE-MIB Constraints

MIB Table/Object	Notes
dot3CollTable	Not implemented
dot3ControlTable	Not implemented
dot3PauseTable	Not implemented

Table 3-33 shows usage of ifTable for Ethernet-like layer.

Table 3-33 ETHERLIKE-MIB ifTable Usage

MIB ifTable Object	Use for GigaEthernet Layer
IfDescr	GE-WAN<slot>/<port>
IfType	EthernetCsmacd(6)
IfSpeed	1000000000
IfPhysAddress	MAC Address
IfName	GE<slot>/<port>
IfLinkUpDownTrapEnable	enabled(1)
IfHighSpeed	1000
ifConnectorPresent	true(1)

EVENT-MIB

The EVENT-MIB contains objects to define event triggers and actions for network management purposes.

EXPRESSION-MIB

The EXPRESSION-MIB contains objects to define expressions of MIB objects for network management purposes.

HC-RMON-MIB

The MIB module for managing remote monitoring device implementations. This MIB module augments the original RMON MIB as specified in RFC 1757 and RFC 1513 and RMON2 MIB as specified in RFC 2021.

IEEE8021-PAE-MIB

The Port Access Entity module for managing IEEE 802.1X.

IEEE8023-LAG-MIB

The IEEE 8023-LAG-MIB is the Link Aggregation module for managing IEEE Standard 802.3ad.

IF-MIB

The IF-MIB (RFC 2233) describes the attributes of physical and logical interfaces. The router supports the ifGeneralGroup of MIB objects for all layers (ifIndex, ifDescr, ifType, ifSpeed, ifPhysAddress, ifAdminStatus, ifOperStatus, ifLastChange, ifName, ifLinkUpDownTrapEnable, ifHighSpeed, and ifConnectorPresent).

MIB Constraints

Table 3-34 lists the constraints that the Cisco 7304 router places on objects in the IF-MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-34 IF-MIB Constraints

MIB Object	Notes
ifXTable	
• IfPromiscuousMode	Read-only.
ifStackTable	
• IfStackStatus	For creating and removing table entries, the only supported values are createAndGo(4) and destroy(6).
ifRcvAddressTable	
• IfRcvAddressStatus	For creating and removing table entries, the only supported values are createAndGo(4) and destroy(6).
• IfRcvAddressType	The only supported value is other(1).

OSM ifTable Values

This section contains tables that list the ifTable values used for OSMs in the Cisco 7304 router.

Table 3-35 ifTable Object Values and Constraints for OC-12 ATM OSM Cards

OSM-2-OC-12-ATM	SONET Layer	ATM and ATM Subinterface Layer	AAL5 and AAL5 Subinterface Layer
ifTable			
IfDescr	ATM *slot/port*	ATM *slot/port–ATM layer* ATM *slot/port.subif–ATM subif layer*	ATM *slot/port–AAL5 layer* ATM *slot/port.subif–AAL5 subif layer*
IfType	sonet(39)	atm(37) atmSubInterface(134)	aal5(49)
IfMtu	4470	Not used.	Not used.
IfSpeed	599040000	599040000	0
IfPhysAddress	Zero length string.	Zero length string.	Zero length string.
ifAdminStatus	Not used.	Read-only. (ATM layer) Not used. (ATM subinterface)	Read-only. (AAL5 layer) Not used. (AAL5 subinterface)
ifInUnknownProtos	Not used.	Not used.	0
ifInMulticastPkts	Not used.	Not used.	0
ifInBroadcastPkts	Not used.	Not used.	0
ifOutMulticastPkts	Not used.	Not used.	0
ifOutBroadcastPkts	Not used.	Not used.	0
IfName	AT *slot/port*	AT *slot/port*	AT *slot/port*
IfHighSpeed	599	599	0
IfPromiscuousMode	false(2)	false(2)	false(2)
IfConnectorPresent	true(1)	false(2)	false(2)
IfAlias	Not used.	Read-only. (ATM layer) Not used. (ATM subinterface)	Read-only. (AAL5 layer) Not used. (AAL5 subinterface)

Table 3-36 ifTable Object Values for GigE WAN OSMs

OSM-2+4GE-WAN+	Gigabit Ethernet Layer	VLAN 802.1Q Subinterface Layer
ifTable		
IfDescr	GE–WAN *slot/port*	GE–WAN *slot/port.subif–802.1Q vLAN subif*
IfType	EthernetCsmacd(6)	l2vlan(135)
IfSpeed	1000000000	1000000000
IfPhysAddress	MAC address	MAC address
IfName	GE *slot/port*	Gi *slot/port.subif*
IfLinkUpDownTrapEnable	enabled(1)	enabled(1)
IfHighSpeed	1000	1000
IfConnectorPresent	true(1)	false(2)

Table 3-37 ifTable Object Values for DS3 Channelized T1/E1 OSMs

OSM-12CT3-T1	DS3 Layer	DS1 Layer
ifTable		
IfDescr	T3 *slot/subslot/port* E3 *slot/subslot/port*	T1 *slot/subslot/port* E1 *slot/subslot/port*
IfType	ds3(30)	ds1(18)
IfSpeed	44736000 (DS3) 34368000 (E3)	1544000 (DS1) 2048000 (E1)
IfPhysAddress	The circuit ID value, or zero length string.	The circuit ID value, or zero length string.
IfName	T3 *slot/subslot/port* E3 *slot/subslot/port*	T1 *slot/subslot/port* E1 *slot/subslot/port*
IfLinkUpDownTrapEnable	enabled(1)	enabled(1)
IfHighSpeed	45 (DS3) 34 (E3)	2
IfConnectorPresent	true(1)	true(1)

Table 3-38 RFC1407-MIB Constraints

MIB Object	Notes
dsx3ConfigTable	
• dsx3LineType	Supported values is E3 supports e3other(6) and e3Plcp(8)
• dsx3LineCoding	Read-only. T3 supports dsx3B3ZS(2) value only. E3 supports e3HDB3(3) value only.
• dsx3SendCode	Read-only. Supports dsx3SendNoCode value only.
• dsx3CircuitIdentifier	Read-only.
• dsx3LoopbackConfig	Read-only.
dsx3FarEndConfigTable	Not supported.
dsx3FarEndCurrentTable	Not supported.
dsx3FarEndIntervalTable	Not supported.
dsx3FarEndTotalTable	Not supported.

1 All T3/ATM line cards only support RO on all variables. See IF-MIB section for use of ifTable.

2 The RFC1407-MIB use supports the following port adapter line card types: PA-MC-T3, PA-MC-E3, PA-A3-T3, PA-A3-E3.

IGMP-MIB

The IGMP-MIB contains objects to manage the Internet Group Management Protocol (IGMP) on the router.

INT-SERV-GUARANTEED-MIB

The INT-SERV-GUARANTEED-MIB describes the guaranteed service of the Integrated Services Protocol (ISP).

INT-SERV-MIB

The INT-SERV-MIB describes the Integrated Services Protocol (ISP).

IPMROUTE-MIB

The IPMROUTE-MIB contains objects to manage IP multicast routing on the router, independent of the actual multicast routing protocol in use.

LAN-EMULATION-CLIENT-MIB

This module defines a portion of the management information base (MIB) for managing ATM LAN Emulation Client nodes. It is meant to be used in connection with the AToM MIB and MIB-II / RFC 1573 'ifTable' entries for each LEC / emulated 802.x network interface. The RFC1406-MIB provides access to configuration and performance monitoring information for DS1 controllers and interfaces on the Cisco 7304 router.

MPLS-LDP-MIB

The MPLS-LDP-MIB (version 1) provides management information for the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP), which is used by label switching routers (LSRs) to communicate the definitions of labels that each router is using. The router supports the IETF draft version of this MIB (draft-ietf-mpls-ldp-mib-08.txt).

For detailed information about this MIB, see its feature module description at the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120limit/120st/120st21/ldpmib21.htm

MIB Constraints

Table 3-39 lists the constraints that the Cisco 7304 router places on objects in the MPLS-LDP-MIB. For detailed definitions of MIB objects, see the MIB. Any object not listed in this table is implemented as defined in the MIB.

Table 3-39 MPLS-LDP-MIB Constraints

MIB Object	Notes
mplsLdpEntityTable	
• mplsLdpEntityProtocolVersion	Read-only.
• mplsLdpEntityAdminStatus	Read-only.
• mplsLdpEntityWellKnownDiscoveryPort	Read-only. Always 646
• mplsLdpEntityMaxPduLength	Read-only.
• mplsLdpEntityKeepAliveHoldTimer	Read-only.
• mplsLdpEntityHelloHoldTimer	Read-only.
• mplsLdpEntityFailedInitSessionTrapEnable	Read-only.
• mplsLdpEntityFailedInitSessionThreshold	Read-only.
• mplsLdpEntityLabelDistributionMethod	Read-only. Value downstreamUnsolicited(2))
• mplsLdpEntityPVLimitMismatchTrapEnable	Read-only.
• mplsLdpEntityPathVectorLimit	Read-only.
• mplsLdpEntityHopCountLoopDetection	Read-only.
• mplsLdpEntityHopCount	Read-only.
• mplsLdpEntityTargetedPeer	Read-only.
• mplsLdpEntityTargetedPeerAddrType	Read-only.
• mplsLdpEntityTargetedPeerAddr	Read-only.
• mplsLdpEntityOptionalParameters	Read-only.
• mplsLdpEntityDiscontinuityTime	Read-only.
• mplsLdpEntityStorageType	Read-only. (Value volatile(2))
• mplsLdpEntityRowStatus	Read-only. (Value active(1))
mplsLdpEntityConfGenericTable	
• mplsLdpConfGenericIfIndexOrZero	Read-only.
• mplsLdpConfGenericLabel	Read-only.
• mplsLdpConfGenericStorageType	Read-only.
• mplsLdpConfGenericRowStatus	Read-only.
mplsLdpEntityAtmParmsTable	
• mplsLdpEntityAtmIfIndexOrZero	Read-only.
• mplsLdpEntityAtmMergeCap	Read-only. Value vcMerge(2)
• mplsLdpEntityAtmLabelRangeComponents	Read-only. Value is 0
• mplsLdpEntityAtmVcDirectionality	Read-only. Value unidirectional(1)

Table 3-39 MPLS-LDP-MIB Constraints (continued)

MIB Object	Notes
• mplsLdpEntityAtmLsrConnectivity	Read-only.
• mplsLdpEntityDefaultControlVpi	Read-only.
• mplsLdpEntityDefaultControlVci	Read-only.
• mplsLdpEntityUnlabTrafVpi	Read-only.
• mplsLdpEntityUnlabTrafVci	Read-only.
• mplsLdpEntityAtmStorageType	Read-only. Value volatile(2)
• mplsLdpEntityAtmRowStatus	Read-only. Value iactive(1)
mplsLdpEntityConfAtmLabelRangeTable	
• mplsLdpEntityConfAtmLabelRange-MaximumVpi	Read-only.
• mplsLdpEntityConfAtmLabelRange-MaximumVci	Read-only.
• mplsLdpEntityConfAtmLabelRange-StorageType	Read-only.
• mplsLdpEntityConfAtmLabelRange-RowStatus	Read-only.
mplsLdpEntityFrameRelayParmsTable	
• mplsLdpEntityFrIfIndexOrZero	Read-only.
• mplsLdpEntityFrMergeCap	Read-only.
• mplsLdpEntityFrLabelRangeComponents	Read-only.
• mplsLdpEntityFrLen	Read-only.
• mplsLdpEntityFrVcDirectionality	Read-only.
• mplsLdpEntityFrParmsStorageType	Read-only.
• mplsLdpEntityFrParmsRowStatus	Read-only.
mplsLdpEntityConfFrLabelRangeTable	
• mplsLdpConfFrMaximumDlci	Read-only.
• mplsLdpConfFrStorageType	Read-only.
• mplsLdpConfFrRowStatus	Read-only.
mplsLdpAtmSessionTable	Not supported.
mplsLdpFrameRelaySessionTable	Not supported.
mplsLdpSessionPeerAddressTable	Not supported.
mplsLdpLibTable	Not supported.
mplsLdpFecTable	Not supported.
mplsLdpEntityConfGenericTable	Not supported.
mplsLdpEntityConfAtmLabelRangeTable	Not supported.
mplsLdpEntityFrameRelayParmsTable	Not supported.
mplsLdpEntityConfFrLabelRangeTable	
• mplsLdpLibLspUp	Not supported.
• mplsLdpLibLspDown	Not supported.

MPLS-LSR-MIB

The MPLS-LSR-MIB provides configuration and performance monitoring information to manage label switched paths (LSPs) through a label switching router (LSR) that is using the Multiprotocol Label Switching (MPLS) technology. The router supports the IETF version of the MPLS-LSR-MIB.

For detailed information about this MIB, see its feature module description at the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/relnote/7000fam/rn120st.htm#31417

MIB Constraints

Table 3-40 lists the constraints that the Cisco 7304 router places on objects in the MPLS-LSR-MIB. For detailed definitions of MIB objects, see the MIB. Any object not listed in the table is implemented as defined in the MIB.

Table 3-40 MPLS-LSR-MIB Constraints

MIB Object	Notes
mplsInterfaceConfTable	
• mplsInterfaceConfStorageType	Default read-only(5).
• mplsInterfaceAvailableBandwidth	Read-only. Always 0.
• mplsInterfaceTotalBandwidth	Read-only. Always 0.
• mplsInterfaceTotalBuffer	Read-only. Always 0.
• MplsInterfaceAvailableBuffer	Read-only. Always 0.
mplsInterfacePerfTable	
• mplsInterfaceInPackets	Read-only. Always 0.
• mplsInterfaceInDiscards	Read-only. Always 0.
• mplsInterfaceFailedLabelLookup	Read-only. Always 0.
• mplsInterfaceOutPackets	Read-only. Always 0.
• mplsInterfaceOutDiscards	Read-only. Always 0.
• mplsInterfaceOutFragments	Read-only. Always 0.
mplsInSegmentTable	
• mplsInSegmentAdminStatus	Read-only. Always up(1).
• mplsInSegmentOperStatus	Always up(1).
• mplsInSegmentNPop	Read-only.
• mplsInSegmentAddrFamily	Read-only.
• mplsInSegmentOwner	Read-only. Other(1)
• mplsInSegmentTrafficParamPtr	Read-only. Always 0.
• mplsInSegmentRowStatus	Read-only. Active(5).
• mplsInSegmentStorageType	Read-only. Volatile(2)
mplsInSegmentPerfTable	
• mplsInSegmentOctets	Read-only. Always 0.

Table 3-40 MPLS-LSR-MIB Constraints (continued)

MIB Object	Notes
• mplsInSegmentPackets	Read-only. Always 0.
• mplsInSegmentHCOctets	Read-only. Always 0.
• mplsInSegmentErrors	Read-only. Always 0.
• mplsInSegmentDiscards	Read-only. Always 0.
• mplsInSegmentPerforDiscontinuityTime	Read-only. Always 0.
mplsOutSegmentTable	
• mplsOutSegmentIfIndex	Read-only.
• mplsOutSegmentPushTopLabel	Read-only.
• mplsOutSegmentTopLabel	Read-only.
• mplsOutSegmentNextHopIpAddrType	Read-only.
• mplsOutSegmentNextHopIpv4Addr	Read-only.
• mplsOutSegmentNextHopIpv6Addr	Always 0.
• mplsOutSegmentOwner	Read-only. Other(1).
• mplsOutSegmentTrafficParamPtr	Always 0.
• mplsOutSegmentRowStatus	Read-only. Active(5).
• mplsOutSegmentStorageType	Read-only. Volatile(2).
• mplsOutSegmentAdminStatus	Read-only. Always up(1).
• mplsOutSegmentOperStatus	Always up(1).
mplsOutSegmentPerfTable	
• mplsOutSegmentOctets	Read-only. Always 0.
• mplsOutSegmentPackets	Read-only. Always 0.
• mplsOutSegmentHCOctets	Read-only. Always 0.
• mplsOutSegmentErrors	Read-only. Always 0.
• mplsOutSegmentDiscards	Read-only. Always 0.
• mplsOutSegmentPerfDiscontinuityTime	Read-only. Always 0.
mplsXCTable	
• mplsXCLspId	Read-only. Does not support tunnel IDs.
• mplsXCLabelStackIndex	Read-only. Value is set to 0 because XCLabelStack is unsupported.
• mplsXCIsPersistent	Read-only.
• mplsXCOwner	Read-only. Other(1).
• mplsXCRowStatus	Read-only.
• mplsXCStorageType	Read-only.
• mplsXCAdminStatus	Read-only. Always up(1).
• mplsXCOperStatus	Always up(1).
• mplsOutSegmentIndexNext	Read-only.

Table 3-40 MPLS-LSR-MIB Constraints (continued)

MIB Object	Notes
• mplsXCIndexNext,	Read-only.
• mplsLabelStackIndexNext	Read-only.
• mplsTrafficParamIndexNext	Read-only.
mplsLabelStackTable	Not supported.
mplsTrafficParamTable	
• mplsInSegmentTrapEnable	Read-only.
• mplsOutSegmentTrapEnable	Read-only.
• mplsXCTrapEnable	Read-only.
• mplsXCUp	*Not supported.
• mplsXCDown	*Not supported.
• mplsInSegmentUp	*Not supported.
• mplsInSegmentDown	*Not supported.
• mplsOutSegmentUp	*Not supported.
• mplsOutSegmentDown	*Not supported.

* Not implemented due to scalability issues.

* mplsInterfaceConfTable—Provides information for each MPLS-capable interface on an LSR.

* mplsInterfacePerfTable—Augments the MPLS interface configuration table.
* mplsInSegmentTable—Contains a description of incoming segments at an LSR and their associated parameters. Administrative and operational status objects for this table control packet transmission. If administrative and operational status objects are down, the LSR does not forward packets. If these status objects are up, the LSR forwards packets.

* mplsInSegmentPerfTable—Augments the MPLS in-segment table, providing performance information and counters for incoming segments on an LSR.

* mplsOutSegmentTable—Contains a description of outgoing segments from an LSR and their associated parameters. Administrative and operational status objects for this table control packet transmission. If administrative and operational status objects are down, the LSR does not forward packets. If these values are up, the LSR forwards packets.

* mplsOutSegmentPerfTable—Augments the MPLS out-segment table, providing performance information and counters for outgoing segments on an LSR.

* mplsXCTable—Associates inSegments (labels) to outSegments (labels) to show the manager how the LSR is currently swapping these labels. A row in this table consists of one cross-connect entry that is indexed by the cross-connect index, the interface index of the incoming segment, the incoming label, and the out-segment index. The administrative and operational objects for this table control packet forwarding to and from a cross-connect entry (XCEntry). The administrative status and operational status are always up in the Cisco implementation. Otherwise, the LSR would not forward packets.

MPLS-TE-MIB

The MPLS-TE-MIB enables the Cisco 7304 router to perform traffic engineering for MPLS tunnels. The MIB is based on Revision 05 of the IETF MPLS-TE-MIB.

Traffic engineering support for MPLS tunnels requires the following configuration:

- Setting up MPLS tunnels along with appropriate configuration parameters.
- Configuring tunnel loose and strict source routed hops.

Refer to the Cisco MPLS MIB team web page for more documentation on this MIB:
http://mpls-mib-group.cisco.com/

MIB Constraints

Table 3-41 lists the constraints that the Cisco 7304 router places on objects in the MPLS-TE-MIB. For detailed definitions of MIB objects, see the MIB. Any objects not listed in this table are implemented as defined in the MIB.

Table 3-41 MPLS-TE-MIB Constraints

MIB Object	Notes
mplsTunnelIndexNext	Always 0.
mplsTunnelTable	
• mplsTunnelName	Read-only.
• mplsTunnelDescr	Read-only.
• mplsTunnelIsIf	Read-only.
• mplsTunnelXCPointer	Read-only.
• mplsTunnelSignallingProto	Read-only.
• mplsTunnelSetupPrio	Read-only.
• mplsTunnelHoldingPrio	Read-only.
• mplsTunnelSessionAttributes	Read-only.
• mplsTunnelOwner	Read-only.
• mplsTunnelLocalProtectInUse	Read-only. Always false(2).
• mplsTunnelResourcePointer	Read-only.
• mplsTunnelInstancePriority	Read-only. Always 0.
• mplsTunnelHopTableIndex	Read-only.
• mplsTunnelIncludeAnyAffinity	Read-only. Always 0.
• mplsTunnelIncludeAllAffinity	Read-only.
• mplsTunnelExcludeAllAffinity	Read-only.
• mplsTunnelPathInUse	Read-only.
• mplsTunnelRole	Read-only.
• mplsTunnelTotalUpTime	Read-only.
• mplsTunnelInstanceUpTime	Read-only. Always 0.
• mplsTunnelAdminStatus	Read-only.
• mplsTunnelRowStatus	Read-only. Always active(1).
• mplsTunnelStorageType	Read-only. Volatile(2). Always active.
No constraints on other table objects.	
mplsTunnelHopListIndexNext	Read-only. Always 0.
mplsTunnelHopTable	
• mplsTunnelHopAddrType	Read-only.
• mplsTunnelHopIpv4Addr	Read-only.
• mplsTunnelHopIpv4PrefixLen	Read-only.
• mplsTunnelHopIpv6Addr	Read-only.

Table 3-41 MPLS-TE-MIB Constraints (continued)

MIB Object	Notes
• mplsTunnelHopIpv6PrefixLen	Read-only.
• mplsTunnelHopAsNumber	Read-only.
• mplsTunnelHopLspId	Read-only.
• mplsTunnelHopType	Read-only.
• mplsTunnelHopRowStatus	Read-only. Always active(1).
• mplsTunnelHopStorageType	Read-only. Volatile(2). Always active.
mplsTunnelResourceIndexNext	Read-only. Always 0.
mplsTunnelResourceTable	
• mplsTunnelResourceMaxRate	Read-only.
• mplsTunnelResourceMeanRate	Read-only.
• mplsTunnelResourceMaxBurstSize	Read-only.
• mplsTunnelResourceRowStatus	Read-only. Always active(1).
• mplsTunnelResourceStorageType	Read-only. Volatile(2). Always active.

MPLS-VPN-MIB

The MPLS-VPN-MIB:

- Describes managed objects for modeling a Multi-Protocol Label Switching/Border Gateway Protocol Virtual Private network.
- Configures and monitor routes and route targets for each VRF instance on a router
- Facilitates provisioning VPN Routing and Forwarding (VRF) instances on MPLS interfaces
- Measures the performance of MPLS/BGP VPNs

The MIB is based on Revision 05 of the IETF MPLS-VPN-MIB.

Note Refer to the Cisco MPLS MIB team web page for more documentation on this MIB: http://mpls-mib-group.cisco.com/.

MIB Constraints

Table 3-42 lists the constraints that the Cisco 7304 router places on objects in the MPLS-VPN-MIB. For detailed definitions of MIB objects, see the MIB. Any objects not listed in the table are implemented as defined in the MIB.

Table 3-42 MPLS-VPN-MIB Constraints

MIB Object	Notes
MplsNumVrfSecViolationThreshExceeded	Not supported.
mplsVpnVrfSecTable	
• MplsVpnVrfSecIllegalLabelViolations	Read-only. Always 0.
• MplsVpnVrfSecIllegalLabelRcvThresh	Read-only. Always 0.
mplsVpnVrfTable	
• MplsVpnVrfConfRowStatus	Read-only.
• MplsVpnVrfConfStorageType	Read-only. Volatile(2).
• MplsVpnVrfConfMidRouteThreshold	Read-only.
• MplsVpnVrfConfHighRouteThreshold	Read-only
• MplsVpnVrfConfMaxRoutes	Read-only
• MplsVpnVrfConfMaxPossibleRoutes	Read-only. Always 0.
• MplsVpnVrfDescription	Read-only
• MplsVpnInterfaceVpnClassification	Read-only
mplsVpnInterfaceConfTable	
• MplsVpnInterfaceConfStorageType	Read-only. Volatile(2).
• MplsVpnInterfaceConfRowStatus	Read-only. Values: active(1), notInService(2).
• MplsVpnInterfaceLabelEdgeType	Read-only. providerEdge(1).
mplsVpnVrfRouteTargetTable	
• MplsVpnVrfRouteTargetRowStatus	Read-only. Values: active(1), notInService(2).
mplsVpnVrfBgpNbrAddrTable	
• MplsVpnVrfBgpNbrRowStatus	Read-only. Values: active(1), notInService(2).
• MplsVpnVrfBgpNbrRole	Read-only. providerEdge(1).
• MplsVpnVrfBgpNbrType	Read-only.
• MplsVpnVrfBgpNbrAddr	Read-only.
• MplsVpnVrfBgpNbrStorageType	Read-only. Volatile(2).
mplsVpnVrfRouteTable	
• MplsVpnVrfRouteInfo	Read-only. Value zero length string OID.
• MplsVpnVrfRouteTarget	Read-only. Determines the route distinguisher for this target.

Table 3-42 MPLS-VPN-MIB Constraints (continued)

MIB Object	Notes
• MplsVpnVrfRouteTargetDescr	Description of the route target. This object is not supported in this Cisco IOS release. Therefore, the object is the same as mplsVpnVrfRouteTarget.
• MplsVpnVrfRouteDistinguisher	Read-only.
• MplsVpnVrfRouteNextHopAS	Read-only. Value always 0.
• MplsVpnVrfRouteRowStatus	Read-only. This object normally reads active(1), but may read notInService(2), if a VRF was recently deleted.
• MplsVpnVrfRouteStorageType	Read-only. Volatile(2).
• MplsVpnVrfRouteDestAddrType	Read-only.
• MplsVpnVrfRouteMaskAddrType	Read-only.
• MplsVpnVrfRouteTos	Read-only. Value always 0.
• MplsVpnVrfRouteNextHop	Read-only.
• MplsVpnVrfRouteNextHopAddrType	Read-only.
• MplsVpnVrfRouteIfIndex	Read-only.
• MplsVpnVrfRouteType	Read-only.
• MplsVpnVrfRouteProto	Read-only.
mplsVpnVrfBgpNbrPrefixTable	Not supported.
The mplsVpnVrfConfTable represents all the MPLS/BGP VPNs configured. The NMS configures an entry in this table for each MPLS/BGP VPN configured to run in this MPLS domain. The mplsVPNInterfaceConfTable extends the interface MIB to provide specific MPLS/BGP VPN information on MPLS/BGP VPN-enabled interfaces. The mplsVPNPerfTable enhances the mplsVpnVrfConfTable to provide performance information.	
The mplsVpnVrfRouteTable and the mplsVpnRouteTargetTable facilitate the configuration and monitoring of routes and route targets, respectively, for each VRF instance.	

MSDP-MIB

The MSDP-MIB contains objects to monitor the Multicast Source Discovery Protocol (MSDP). The MIB can be used with SNMPv3 to remotely monitor MSDP speakers.

For more information about this MIB, see its feature module description at the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t5/dt5msdp.htm

NOTIFICATION-LOG-MIB

The NOTIFICATION-LOG-MIB defines objects that record notification information against lost notifications, whether those are traps or informs (the two types of notifications supported). This MIB provides common infrastructure for other MIBs in the form of a local logging function.

The management stations:

- Query the MIB using GET requests to determine if they missed any notifications which were generated but were never received.

- Refine the MIB logs by using the SNMP SET operation on objects which enable control over log sizes. This control can be executed on a global basis (affecting the whole Notification Log MIB database) or on a per named log basis.
- Specify the maximum time a notification can remain logged in the Notification Log MIB.

Note Because this MIB logs all notifications, this ensures that all notifications which are dropped from the trap queue are also logged by this MIB. Inform retries are not logged. Traps sent to multiple recipients are logged only one time. Currently, this MIB logs notifications originating at the local engine only.

Table 3-43 describes the constraints on objects from the NOTIFICATION-LOG-MIB. Any objects not listed in this table are defined as in the MIB.

Table 3-43 NOTIFICATION-LOG-MIB Object Constraints

MIB Object	Notes
nlmConfigGlobalEntryLimit	Value is Unsigned32. Read only.
nlmConfigGlobalAgeOut	Value is Unsigned32. Read only.
nlmConfigLogTable	Read only.

Note Apart from the constraints listed in Table 3-43, only the default log is supported in this release. Besides the named logs, each system has a default log with a name as a zero length string. This log has no security checking associated with it.

NOVELL-IPX-MIB

The NOVELL-IPX-MIB defines the management information for a system using the IPX protocol. This MIB is designed to provide a basic framework for the management of systems implementing the IPX protocol. This MIB is virtually identical to the IPX MIB distributed as a part of the Novell NetWare Link Services Protocol (NLSP) Specification 1.0, Novell Part Number 100-001708-002, 2nd Edition Feb '94.

NOVELL-NLSP-MIB

The NOVELL-NLSP-MIB defines the management information for the NLSP protocol running in an IPX environment. It provides information in addition to that contained in the IPX MIB. This MIB is virtually identical to the NLSP MIB distributed as a part of the Novell NetWare Link Services Protocol (NLSP) Specification 1.0, Novell Part Number 100-001708-002, 2nd Edition Feb '94.

NOVELL-RIPSAP-MIB

The NOVELL-RIPSAP-MIB defines the management information for the RIP and SAP protocols running in an IPX environment. It provides information in addition to that contained in the IPX MIB itself. This MIB is virtually identical to the RIPSAP MIB distributed as a part of the Novell NetWare Link Services Protocol (NLSP) Specification 1.0, Novell Part Number 100-001708-002, 2nd Edition Feb '94.

OLD-CISCO-APPLETALK-MIB

The OLD-CISCO-APPLETALK-MIB provides information about Appletalk traffic on the router.

OLD-CISCO-CHASSIS-MIB

The OLD-CISCO-CHASSIS-MIB describes chassis objects in devices running an earlier release of the Cisco IOS operating system. This MIB is deprecated, and is being replaced by the ENTITY-MIB. However, the Cisco 7304 router implements the OLD-CISCO-CHASSIS-MIB to support earlier network management applications that do not implement the ENTITY-MIB.

Network management applications that do not support the ENTITY-MIB can use the OLD-CISCO-CHASSIS-MIB to discover port adapters.

MIB Constraints

The OLD-CISCO-CHASSIS-MIB is deprecated. Most chassis objects are now described in the ENTITY-MIB; therefore, where possible, we recommend that you use the ENTITY-MIB instead of the OLD-CISCO-CHASSIS-MIB.

The OLD-CISCO-CHASSIS-MIB is supported on the Cisco 7304 router for modules and port adapters. Table 3-44 lists the constraints that the router places on objects in the MIB. For detailed definitions of MIB objects, see the MIB.

Table 3-44 OLD-CISCO-CHASSIS-MIB Constraints for Line Cards and Port Adapters

MIB Object	Notes
cardTable	
• cardType	The following values are used for 7304 router cards: Module or Port Adapter cardType Value PA-A3-T3—pa-atmdx-ds3(406) PA-A3-E3—pa-atmdx-e3(407) PA-2FE-FX—cevPa2feFxI82543 PA-2FE-TX— cevPa2feTxI82543 7300-PA-CC—c7300-cc-pa(2138)
• cardOperStatus	Port adapter status matches module status.
cardIfIndexTable	Used for port adapters only.

OLD-CISCO-CPU-MIB

The OLD-CISCO-CPU-MIB describes CPU usage and active system processes on devices running an earlier implementation of the Cisco IOS operating system.

OLD-CISCO-DECNET-MIB

The OLD-CISCO-DECNET-MIB provides information about the implementation of DECnet on the router. DECnet is group of communications products (including a protocol suite) developed by Digital Equipment Corporation that supports the Open System Interconnection (OSI) protocol and proprietary Digital protocols.

OLD-CISCO-INTERFACES-MIB

The OLD-CISCO-INTERFACES-MIB contains objects to manage interfaces on devices running an earlier implementation of the Cisco IOS operating system.

OLD-CISCO-IP-MIB

The OLD-CISCO-IP-MIB contains objects to manage IP on devices running an earlier implementation of the Cisco IOS operating system.

OLD-CISCO-MEMORY-MIB

The OLD-CISCO-MEMORY-MIB contains objects that describe memory pools on devices running an earlier implementation of the Cisco IOS operating system.

OLD-CISCO-NOVELL-MIB

The OLD-CISCO-NOVELL-MIB provides information about Novell traffic on the router, including packet counts and IPX accounting and checkpoint accounting information.

OLD-CISCO-SYSTEM-MIB

The OLD-CISCO-SYSTEM-MIB provides information about the router (such as its name, software bootload, and configuration file), and contains controls for reloading software onto the router and clearing the Address Resolution Protocol (ARP) cache.

OLD-CISCO-TCP-MIB

Starting with Cisco IOS software Release 10.2, all objects defined in this MIB have been deprecated. They have been replaced with the objects defined in the CISCO-TCP-MIB.my document. Management applications should no longer examine the objects defined in this MIB.

OLD-CISCO-TS-MIB

The OLD-CISCO-TS-MIB provides information about the number of terminal lines and virtual lines on this device.

OLD-CISCO-VINES-MIB

The OLD-CISCO-VINES-MIB group is present in all router-based products. It provides the total input and output number of vines.

OLD-CISCO-XNS-MIB

The OLD-CISCO-XNS-MIB provides the total number of packets.

PIM-MIB

The PIM-MIB contains objects to configure and manage Protocol Independent Multicast (PIM) on the router. The MIB is extracted from RFC 2934.

Table 3-45 describes the constraints on tables from the PIM-MIB. Any objects or tables not listed in this table are defined as in the MIB.

Table 3-45 PIM-MIB Object or Table Constraints

MIB Object	Notes
pimInterfaceTable	Read-only.
pimComponentTable	Read-only.
pimCandidateRPTable	Read-only.

RFC1213-MIB

The RFC1213-MIB defines the second version of the Management Information Base (MIB-II) for use with network-management protocols in TCP-based internets.

RFC1243-MIB

The RFC1243-MIB uses the extended OBJECT-TYPE macro as defined in llapEntry 9 (9). The total number of times this LocalTalk interface received a lapRTS packet and expected a data packet, but did not receive any data packet.

RFC1253-MIB

The RFC1253-MIB contains objects to manage Version 2 of the Open Shortest Path First (OSPF) protocol.

RFC1315-MIB

The RFC1315-MIB contains objects to manage a Frame Relay data terminal equipment (DTE) interface, which consists of a single physical connection to the network with many virtual connections to other destinations and neighbors. The MIB contains the objects used to manage:

- The Data Link Connection Management Interface (DLCMI)
- Virtual circuits on each Frame Relay interface
- Errors detected on Frame Relay interfaces

RFC1381-MIB

The RFC1381-MIB (LAPB MIB file) was extracted from RFC 1381. The LAPB administration table contains objects that can manage a LAPB interface.

RFC1382-MIB

The RFC1382-MIB was extracted from RFC 1382. Several changes were made to the MIB to allow it to compile in a Cisco environment:

- Remove IMPORT statements for EntryStatus, PositiveInteger, and IfIndexType.
- Hand-imported the above types by copying the definitions from their respective files.
- The range of x25OperRestartCount was increased to be the largest integer possible.

RFC1406-MIB (DS1)

The RFC1406-MIB provides access to configuration and performance monitoring information for DS1 controllers and interfaces on the Cisco 7304 router.

RFC1407-MIB (DS3)

The RFC1407-MIB (DS3-MIB) provides access to configuration and performance monitoring information for DS1 controllers and interfaces.

MIB Constraints

Table 3-38 on page 3-51 lists the constraints that the Cisco 7304 router places on objects in the RFC1407-MIB. For detailed definitions of MIB objects, see the MIB. Any other object not listed in the table is implemented as defined in the RFC1407-MIB.

RFC2006-MIB

The RFC2006-MIB is the MIB module for the Mobile IP.

RMON-MIB

The RMON-MIB contains objects to remotely monitor devices in the network. Supports MIB version RFC 1757.

RMON2-MIB

The RMON2-MIB contains objects to manage remote monitoring device implementations. This MIB module augments the original RMON MIB as specified in RFC 1757. We support the RFC 2021 version of the MIB.

RS-232-MIB

The RS232-MIB contains objects to manage RS-232-like hardware interfaces and devices.

RSVP-MIB

The RSVP-MIB contains objects to manage the Resource Reservation Protocol (RSVP).

SMON-MIB

The SMON-MIB manages remote monitoring device implementations for Switched Networks. Identifies the source of the data that the associated function is configured to analyze. This Textual Convention extends the DataSource Textual Convention defined by RMON 2 to the following data source types:

- ifIndex
- smonVlanDataSource
- entPhysicalEntry

SNA-SDLC-MIB

The SNA-SDLC-MIB contains objects that manage SDLC (synchronous data link control) devices.

SNMP-FRAMEWORK-MIB

The SNMP-FRAMEWORK-MIB (RFC 2571) contains objects that describe the SNMP management architecture.

There are no constraints on this MIB.

SNMP-NOTIFICATION-MIB

The SNMP-NOTIFICATION-MIB contains managed objects for SNMP v3 notifications. The MIB also defines a set of filters that limit the number of notifications generated by a particular entity (snmpNotifyFilterProfileTable and snmpNotifyFilterTable).

Objects in the snmpNotifyTable are used to select entities in the SNMP-TARGET-MIB snmpTargetAddrTable and specify the types of SNMP notifications those entities are to receive.

SNMP-PROXY-MIB

The SNMP-PROXY-MIB contains managed objects to remotely configure the parameters used by an SNMP entity for proxy forwarding operations. The MIB contains a single table, snmpProxyTable, which defines the translations to use to forward messages between management targets.

SNMP-TARGET-MIB

The SNMP-TARGET-MIB (RFC 2573) contains objects to remotely configure the parameters used by an entity to generate SNMP notifications. The MIB defines the addresses of entities to send SNMP notifications to, and contains a list of tag values that are used to filter the notifications sent to these entities (see the SNMP-NOTIFICATION-MIB). There are no constraints on this MIB.

SNMP-USM-MIB

The SNMP-USM-MIB (RFC 2574) contains objects that describe the SNMP User-based Security Model. There are no constraints on this MIB.

SNMP-VACM-MIB

The SNMP-VACM-MIB (RFC 2575) contains objects that describe the view-based access control model for SNMP.

Note To access this MIB, you must create an SNMP v3 user with access to a view that includes all of the information from the Internet subtree. For example:

```
Router(config)# snmp-server view abcview internet included
Router(config)# snmp-server group abcgroup v3 noauth read abcview write abcview
                 notify abcview
Router(config)# snmp-server user abcuser abcgroup v3
```

SNMPv2-MIB

The SNMPv2-MIB contains objects SNMPv2 entities. The SNMPv2-MIB contains the following mandatory object groups:

- SNMP group—Collection of objects providing basic instrumentation and control of an SNMP entity.
- System group—Collection of objects common to all managed systems.
- snmpSetGroup—Collection of objects which allow several cooperating SNMPv2 entities, all acting in a manager role, to coordinate their use of the SNMPv2 set operation.
- snmpBasicNotificationsGroup—The two notifications are coldStart and authenticationFailure which an SNMPv2 entity is required to implement.

SONET-MIB

The SONET-MIB (RFC 1595) contains objects to manage both configuration and performance managing objects for SONET interfaces.

MIB Constraints

Table 3-46 lists the constraints that the Cisco 7304 router places on objects in the SONET-MIB. Any other objects not listed in the table are defined as in the RFC1595-MIB definition. For detailed definitions of MIB objects, see the MIB.

Table 3-46 SONET-MIB Constraints

MIB Object	Notes
sonetPathCurrentTable	
• sonetPathCurrentWidth	Read-only.
sonetVTCurrentTable	Not supported.
sonetVTIntervalTable	Not supported.
sonetFarEndVTCurrentTable	Not supported.
sonetFarENdVTIntervalTable	Not supported.

SOURCE-ROUTING-MIB

The SOURCE-ROUTING-MIB contains objects to configure and manage source routing and source routing transparent bridges. We support the RFC 1525 version of the MIB.

TCP-MIB

The TCP-MIB (RFC 2012) contains objects to manage the Transmission Control Protocol (TCP) implementations on the router. There are no constraints.

UDP-MIB

The UDP-MIB (RFC 2013) contains objects to manage the User Datagram Protocol (UDP) on the router. There are no constraints.