Preface

The *Cisco VCO/4K Management Information Base (MIB) Reference* contains a listing of the objects in the Cisco Systems VCO MIB. The manual, which follows the table organization of the MIB, is organized as follows:

Chapter 1—An introduction to the manual

Chapter 2—System configuration objects

Chapter 3—Line card objects

Chapter 4—Trunk card objects

Chapter 5—Programmable trunk card objects

Chapter 6—Single-span ISDN card objects

Chapter 7—Control card objects

Chapter 8—Single-span service circuit card objects

Chapter 9—Traps and alarm reporting

Chapter 10—Database administration objects

Chapter 11—Diagnostic objects

Chapter 12—ICC objects

Chapter 13—SPC objects

Chapter 14—Examples

Appendix A—List of the card error messages

Appendix B—Screen to Object Cross-Reference

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Audience

This document is intended for programmers who are familiar with SNMP (Simple Network Management Protocol).

Document Conventions

Each of the objects in this document has a similar format. In the following list the name in bold text is the name used in this document. In parentheses is the name used in the code listing, if it is different.

The following elements make up the basic format:

Description—Describes what this object does or what kind of information it contains.

Object Identifier—The numerical index for this object. All object identifiers begin with the private network identifier of 1.3.6.1.4.1, followed by the enterprise identifier of 886. The last part of the identifier is the table, entry, and object level. For example, Figure 1 shows the complete object identifier for the system license number object (sysLicenseNum).

Figure 1   License Number Object Identifier
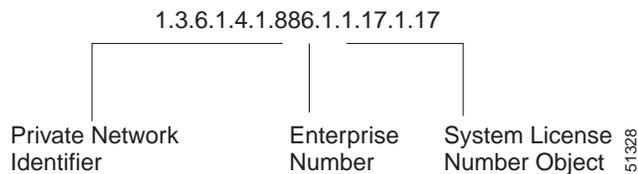
Data Type (Syntax)—Shows the valid type of data for this object. Valid types are:

Integer—Data is numeric. The entry lists the valid range of numerical values.

Display String—Data is alphabetic. Used for names, addresses, descriptions, or RevVer (version level) objects.

Owner String—Data is the name of the entity that configured the object.

Entry Status—Data is an integer. The following four integers are the only valid values:

1 – Valid

2 – CreateRequest

3 – UnderModification

4 – Invalid

Time Ticks—Data is CPU clock ticks. Used for the Last Modified object.

Access Policy (Access)—Shows whether this object contains display information only (read only), or whether you can modify the data (read-write). Some objects are not accessible. For example, the Table and Entry objects at the beginning of each table are not accessible.

Status—Shows whether the object is mandatory or optional.

In addition to the basic elements, some objects also have the following elements:

Index—Shows the index(es) that are used in this table. All tables have at least one index; some have two or three. Some tables have cross indexes to other tables. The index is only in the Entry object.

Defval—The default value, if any.

This document also observes the following additional conventions:

When a table has more than one index, the indexes are listed in the Index Object in sequential order. The primary index is listed first, followed by the secondary index, then the tertiary index.

The text in the description section is written so it is easier to read. Capitalization and object names do not always match the required data entry format. For the correct data entry format, use the names in bold text and in parentheses at the beginning of each object and the names in the data type element list.

Some object names are too long to fit on a single line. Continuation to a second line does not mean there is a space at the end of the first line. All object names are written without any spaces and with capitalization in the middle of the name as shown in the listing.

This document also uses the following conventions:

Note Means *reader take note.* Notes contain helpful suggestions or references to material not covered in the manual.

Caution Means *reader be careful.* In this situation, you might do something that could result in equipment damage or loss of data.

Related Documents

Cisco VCO/4K System Administrator's Guide

Cisco VCO/4K ISDN Supplement

Cisco VCO/4K Extended Programming Reference

Cisco VCO/4K TeleRouter Reference Guide

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The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

http://www.cisco.com/tac

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

http://www.cisco.com/register/

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

http://www.cisco.com/tac/caseopen

Contacting TAC by Telephone

If you have a priority level 1(P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

Overview

SNMP Configuration

For information on configuring the VCO/4K for SNMP operation, including setting internet addresses, refer to the *Cisco VCO/4K Software Installation Guide.*

SNMP Version Support

SNMP Version 1 (SNMPv1) is the initial implementation of the SNMP protocol. It is described in Request For Comments (RFC) 1157 and functions within the specifications of the Structure of Management Information (SMI).

Note For detailed listings of RFCs, refer to the Internet Engineering Task Force web site at http://www.ietf.org.

SNMP Version 2 (SNMPv2) is an evolution of the initial version, and offers enhancements, such as additional protocol operations.

The VCO/4K SNMP agent supports only the SNMP Version 1 protocol. Support for SNMPv2 is not provided for the current release.

VCO/4K MIB Structure

The Cisco Systems Management Information Base (MIB) for the VCO/4K is organized into thirteen functional groups. Within each group are one or more tables. Most of the tables in the MIB, such as the card and port tables, determine the configuration of the switch and are called *control tables*.

In the MIB, rows are added to tables when you configure a switch. The objects in a table row represent parameters for a specific resource in the system. For example, the lcPhyAdd object in the line card table (lcTable) represents the physical address of each line card in the table.

The resGroupTable, inpulseRuleTable, and the outpulseRuleTable contain parameters that describe data, called *data tables.* These tables form the generic *data group.*

You can refer to objects in another table through reference attributes. For example, inpulseRuleIndex in the tcTable refers to an entry in the inpulseRuleTable. Similarly, the lcPortTable has an index to entries in the lcTable (lcCardIndex), the resGroupTable (lcResGroupIndex) and the inpulseRuleTable (lcInpulseRuleIndex).

The tree structure of the MIB is shown in Figure 1-1.

Figure 1-1   Tree Structure of the MIB
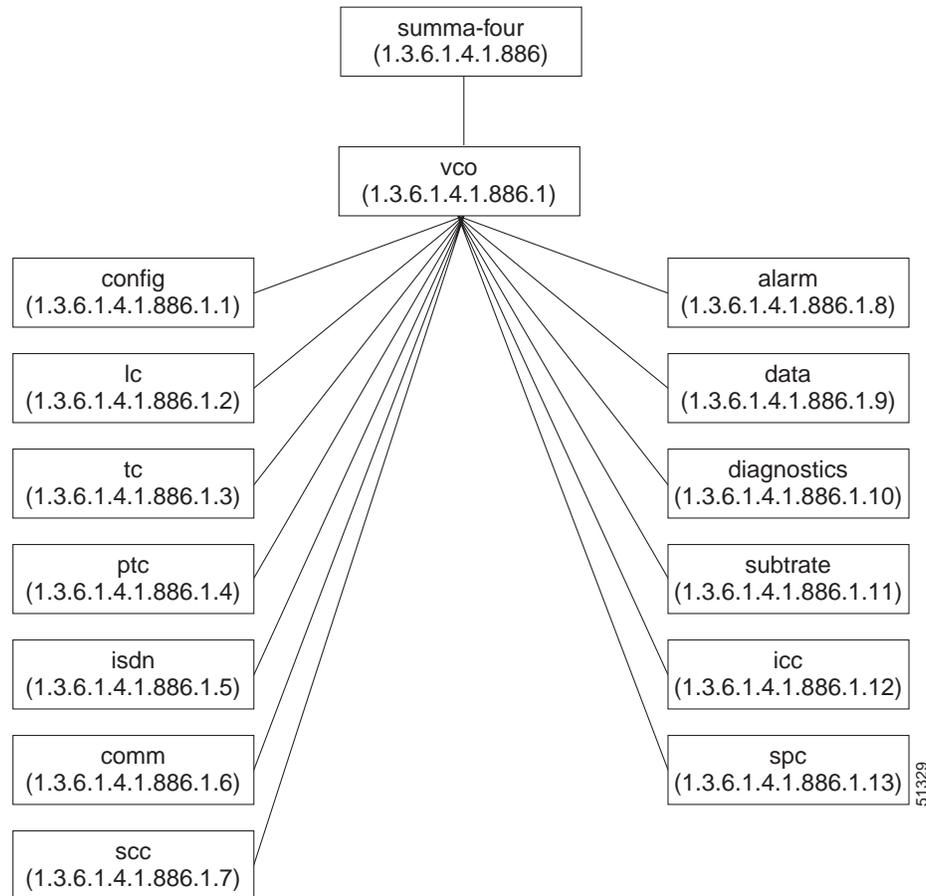
- summa-four — Object Identifier = enterprises 886
- vco — Object Identifier = summa-four 1
- config — Object Identifier = vco 1
- lc — Object Identifier = vco 2
- tc — Object Identifier = vco 3
- ptc — Object Identifier = vco 4
- isdn — Object Identifier = vco 5
- comm — Object Identifier = vco 6
- scc — Object Identifier = vco 7
- alarm — Object Identifier = vco 8
- data — Object Identifier = vco 9

- diagnostics — Object Identifier = vco 10

- subrate — Object Identifier = vco 11

- icc — Object Identifier = vco 12

- spc — Object Identifier = vco 13

Considerations for Using the MIB

A problem arises when more than one SNMP management station tries to set configuration information at the same time. This might occur during the addition of a new conceptual row in the same control table, or when more than one management station tries to modify the attributes of the same object. To guard against simultaneous access, each row contains a status object that permits arbitration by the management stations. If a management station attempts to create an already existing object, the system returns an error. Only the first management station succeeds in creating the row.

Numbering

The MIB imports the following objects from standard RFCs:

Objects	Definitions in RFC file
enterprises	FROM RFC1155-SMI
Counter	FROM RFC1155-SMI
Gauge	FROM RFC1155-SMI
TimeTicks	FROM RFC1155-SMI
IpAddress	FROM RFC1155-SMI
OBJECT-TYPE	FROM RFC-1212
DisplayString	FROM RFC1213-MIB
TRAP-TYPE	FROM RFC-1215

Definitions

The following sections list the definitions of the most commonly used table entries.

OwnerString

Associated with each read-write table entry is an object where the value indicates the owner of that row. This object, which enables management stations to cooperate in determining the ownership of a row, is read-only and contains information about the management station that last modified or created this row.

Use the owner string data type to model an administratively assigned name of the resource owner. This information is taken from the ASCII character set. It is suggested that this name contain one or more of the following:

- IP address
- Management station name
- Network manager's name, location, or phone number

OwnerString does not act as a password or an access-control mechanism. Access to MIB objects is enforced in SNMP by way of the access clause. Therefore, if an object has read-write access, it is available for reading and writing by all management stations. In general, a table entry should be altered or deleted only by its owner and treated as read-only by other management stations.

EntryStatus

The EntryStatus object contains the status of a table object and provides a locking and unlocking mechanism to prevent concurrent access to the elements in a particular row. This object is used in the creation, modification, and deletion of rows.

EntryStatus = INTEGER

where:

Entry Status Value	Meaning
1	valid
2	createRequest
3	underModification
4	invalid

When creating a new row, the management station sets the object to createRequest (2). Immediately after completing the create operation, the agent sets the object to underModification (3). Rows remain in underModification (3) until the management station finishes configuring the object and sets the object to valid (1), or cancels by setting the object to invalid (4). The attributes of a table entry are changed only when the object is set to underModification (3). If a management station attempts to create a new row and the row already exists, an error is returned.

When entries are set to invalid (4), the agent immediately removes the entry from the table.

The following subsections show the variations of the EntryStatus object.

PortEntryStatus

This type defines valid values for some EntryStatus objects. Some port tables may use this type in the SYNTAX clause of their EntryStatus objects. The possible values and their meanings are:

Value	Meaning
1	valid
3	underModification

Ports are created or deleted automatically when the associated card is created or deleted.

NonTabEntryStatus

This type defines valid values for some EntryStatus objects. Some nontabular groups of objects may use this type in the SYNTAX clause of their EntryStatus objects. The possible values and their meanings are:

Value	Meaning
1	valid
3	underModification

FixedTabEntryStatus

This type defines valid values for some EntryStatus objects. Some fixed size tables may use this type in the SYNTAX clause of their EntryStatus objects. The possible values and their meanings are:

Value	Meaning
1	valid
3	underModification

Last Modified

This object is associated with each table in the MIB. Last modified tracks the time, in hundredths of a second, since the last modification on that table.

You cannot create or delete nontabular groups and fixed-table entries, but you still have advisory locking capability.

Card Index

When using the MIB to perform card maintenance functions, you must know the location of the card and then translate that information into an index value. Card locations are designated by Rack, Level, and Slot. The Rack and Level, however, were used only in systems prior to the VCO/4K, and are included as values in the VCO/4K system software only to maintain compatability with legacy systems. For all VCO/4K systems, the Rack and Level values are always set to 1 (one). The Slot refers to the physical location of the card in the system. Slot values range from 1 to 21. Table 1-1 shows how rack, level, and slot values translate to index values. Only the first entry in the table applies to VCO/4K systems.

Table 1-1   Rack, Level, and Slot to Index Mapping

RLS	Index Value
1, 1, 1-21	001 to 021
1, 2, 1-21	022 to 042
1, 3, 1-21	043 to 063
2, 0, 1-21	064 to 084
2, 1, 1-21	085 to 105
2, 2, 1-21	106 to 126
2, 3, 1-21	127 to 147

Note   Certain Rack, Level, and Slot positions are not available for certain cards. Refer to the specific technical description in the *Cisco VCO/4K Card Technical Descriptions* for further information.

To confirm the card population or slot placement rules that might restrict where you can configure cards, refer to the *Cisco VCO/4K Hardware Planning Guide* or contact your Cisco Systems sales representative for more detailed information.

Formula for Determining Index Value

The formula for determining the index in Table 1-1 is:

index = (rack – 1) * 84 + (level – 1) * 21 + slot

Port States

The following subsections provide values for VCO/4K port states, including ISDN port states. Further information and descriptions of these states are provided in the *Cisco VCO/4K Extended Programming Reference* and *Cisco VCO/4K Standard Programming Reference*. These states are also viewable at the VCO/4K Master Console from the Diagnostic Menu/Port Display screen.

Call Processing Major Port States

Table 1-2 lists the major port states. These states are used in the following objects:

- lcPortMajorState
- tcPortMajorState
- progPortMajorState
- isdnPortMajorState
- dtgPortMajorState
- rcPortMajorState

Table 1-2   Major Port States

Value	State	Description
1	CP_IDLE	No activity on the port
2	CP_WAIT	Waiting for an answer within an outpulse rule
3	CP_WWINK	Waiting for a wink within an outpulse rule
4	CP_DIAL	Dialing state uses substate — An Fdig was received
5	CP_STAB	Stable state
6	CP_WANS	Call routed waiting for answer
7	CP_DCON	Call disconnect state
8	CP_GARD	Port in GUARD timing state
9	CP_FEXC	Call was passed to Final Exception Handling
10	CP_WTIM	Waiting for unspecified period of time
11	CP_MBUSY	Port is in maintenance busy state
12	CP_MFWT	Port is collecting MF digits
13	CP_SETUP	Port is off-hook and waiting
14	CP_PRIMARY	Waiting for primary ringback completion
15	CP_RDR	Waiting for reorder completion
16	CP_MF	Waiting for MF receiver to be available
17	CP_ATT	Resource is attached to a TNK
18	CP_DIAG	Port is in DIAGNOSTIC state
19	CP_DISC	Port is in PSC timing state after physical release
20	CP_HOST	Port is under direct host control for inpulsing — is awaiting host response
21	CP_FDIG	DTMF port is waiting for first digit
22	CP_DIG	DTMF or MF port is collecting digits
23	CP_INPULSE	Port is in inpulse rule processing
24	CP_DTMF	Port is collecting DTMF digits
25	CP_TALK	Port is speaking announcement
26	CP_TONE	OPC is outpulsing

Table 1-2   Major Port States (continued)

Value	State	Description
27	CP_CONF	Port is active in a conference
28	CP_MON	Port is active in a monitor
29	CP_OUTPULSE	Port is processing outpulse rule
30	CP_WTTONE	Port is waiting for a tone
31	CP_SPEECH	Port is collecting spoken digit information
32	CP_SELFTEST	Port is performing its diagnostic self test
33	CP_WTFSUP	Port is waiting for final answer supervision
34	CP_ANALYZE	CPA port is analyzing
35	CP_RECORD	IPRC port is recording
36	CP_CPAMON	CPA port monitoring for end of call tone
37	CP_DONECOLLECT	Receiver port is finished collecting
38	CP_DELAY	DTMF Collection is delayed for an event
39	CP_WAITACK	DTMF Collection is waiting for setup acknowledgment

Call Processing Supplemental Port States

Table 1-3 lists the supplemental port states. These states are used in the following objects:

- lcPortSuppState
- tcPortSuppState
- progPortSuppState
- isdnPortSuppState
- dtgPortSuppState
- rcPortSuppState

Table 1-3   Supplemental Port States

Value	State	Description
0	NONE	No supplementary state
1	RDR_FBUSY	Sending fast busy signal
2	RDR_QUIET	Sending quiet tone
3	RDR_DONE	Sending quiet — psc report sent
4	WT_DTMF	Waiting for DTMF receiver
5	DIALING	Waiting for DTMF digits
6	WT_DIAL	Waiting for receive, then will attach
7	WT_SPC	Attach SPC
8	WT_ANNC	Waiting for announcement channel
9	WT_BEEP	TNK is sending BEEP tone down
10	SPC_ATT	SPC is currently attached

Table 1-3   Supplemental Port States (continued)

Value	State	Description
11	WT_TALK	Waiting for announcement to complete
12	WT_PSC	PSC timing pending
13	WT_TIM	Waiting on timer — CP_INPULSE major
14	WT_MF	Waiting for MF receiver — CP_INPULSE
15	GD_NORMAL	Normal guard processing
16	GD_WTRLS	Port put into service from card maintenance, wait release
17	GD_WTRLSH	Port put into service by host command, wait release
18	DIAG_IDLE	Maintenance busy, reason unknown
19	DIAG_CMAINT	Maintenance busy from card maintenance
20	DIAG_PATH	Maintenance busy from diagnostic set path
21	DIAG_OEND	Maintenance busy from far end
22	DIAG_AUTO	Maintenance busy auto error condition
23	DIAG_INTRN	Maintenance busy internally on card
24	DIAG_TEST	Maintenance busy for self tests
25	CF_1WAY	One-way voice path
26	CF_2WAY	Two-way voice path
27	CF_SET	Port has been sent A3 command
28	CF_ACK	Port has responded with A5
29	CF_RSRV	Port has been reserved
30	DLY_TIME	Wait time, then enable SRC
31	DLY_TONE	Play tone, then enable SRC
32	DLY_WINK	Wait for a wink, then enable SRC
33	DLY_ANS	Wait for answer, then enable SRC
34	DLY_ANN	Play voice announcement, then enable SRC
35	D_UNK	Unknown dialing state
36	DIAL_DIG	Outpulsing digits substate
37	WAIT_SUP	Waiting for supervision
38	WAIT_TM	Waiting for specified time

ISDN Port States

Table 1-4 lists ISDN port states.

Table 1-4   ISDN Port States

Value	State	Description
0	PT_ACTIVE	Active
1	PT_OOS_NE	Near end out of service

Table 1-4   ISDN Port States (continued)

Value	State	Description
2	PT_OOS_FE	Far end out of service
3	PT_MAINT_NE	Near end maintenance
4	PT_MAINT_FE	Far end maintenance
5	PT_DCHAN	Specified port is the D-channel
6	PT_OOS_FE_MAINT_NE	Far end out of service and near end in maintenance
253	PT_NON_CNTRLD	Port is not ISDN controlled
254	PT_OOS_STATE	Card containing services is out of service
255	PT_NOT_INDB	Port is not associated with any card

ISDN Supplemental Port States

Table 1-5 lists ISDN supplemental port states.

Table 1-5   ISDN Supplemental Port States

Value	State	Description
0	ISDN_IDLE	Channel is free
1	O_INITED	Outgoing call initiated
2	O_OVRLP	Outgoing overlap sending established
3	O_PRCEED	Outgoing call proceeding
4	O_ACTIVE	Call active/stable
5	O_DELIVRD	Call delivered
11	I_CPRSNT	Incoming call present (setup received)
12	I_OVRLP	Incoming overlap sending established
13	I_PRCEED	Incoming call proceeding
14	I_CONNECT	Incoming call connected
15	I_DELIVRD	Incoming call delivered
16	I_ACTIVE	Incoming call active/stable
20	DISC_IND	Call disconnect indication
21	DISC_REQ	Call disconnect request
22	DISC_RLS	Call disconnect release
128	ISDN_WAIT	Waiting at template for message
253	PORT_NON_CNTRLD	Port is not ISDN controlled
254	PORT_OOS	Card containing services is out of service
255	PORT_NOT_INDB	Port is not associated with any card

Upgrade State

This type defines valid values for some UpgradeState objects. Some UpgradeState objects may use this type in their SYNTAX clause. Table 1-6 describes the possible values and their meanings.

Table 1-6   Upgrade State

Value	State	Description
1	swUpgradeRequired	Software upgrade is required
2	fwUpgradeRequired	Firmware upgrade is required
3	swFwUpgradeRequired	Both software and firmware upgrade are required
4	hwUpgradeRequired	Hardware upgrade is required
5	swHwUpgradeRequired	Both software and hardware upgrade are required
6	fwHwUpgradeRequired	Both firmware and hardware upgrade are required
7	swFwHwUpgradeRequired	Software, firmware, and hardware upgrade are required
8	noUpgradeRequired	No upgrade is required
9	unknownUpgradeState	The upgrade state cannot be determined

PriAccessMode

INTEGER

Table 1-7   PriAccessMode

PriAccessMode Number	Value	Meaning
1	usrmd	user mode
2	symmd	user sym mode
3	netmd	network mode
4	usrnfamd	user nfas mode
5	symnfamd	user sym nfas mode
6	netfamd	network nfas mode
7	nfamd	nfas mode
8	userA	side of Qsig
9	userB	side of Qsig

PriSwitchType

INTEGER

Table 1-8   PriSwitchType

PriSwitchType Number	Value	Meaning
1	ATT5MD	ATT5ESS
2	NTMD	NTICDMS100
3	ATT4MD	ATT4ESS
4	DPNSSAX	PBXA, Call Collision X
5	DPNSSAY	PBXA, Call Collision Y
6	DPNSSBX	PBXB, Call Collision X
7	DPNSSBY	PBXB, Call Collision Y
8	DASS2ET	DASS2 configured as exchange termination
9	DASS2NT	DASS2 configured as network termination
10	DSS1	Q.931 Digital Subscriber Sig. System #
11	NET5_AUS	NET5 Austria
12	NET5_BEL	Belgium
13	NET5_DEN	Denmark
14	NET5_FIN	Finland
15	NET5_FRA	France
16	NET5_GER	Germany
17	NET5_GRC	Greece
18	NET5_ICE	Iceland
19	NET5_IRE	Ireland
20	NET5_NED	Netherlands
21	NET5_NOR	Norway
22	NET5_POR	Portugal
23	NET5_SPA	Spain
24	NET5_SWE	Sweden
25	NET5_SWI	Switzerland
26	NET5_UK	United Kingdom
27	NET5_LUX	Luxembourg
28	NET5_ITA	Italy
29	NTT	NTT Japanese ISDN
30	NI2	National ISDN-2
31	TS014	TS014

Table 1-8   PriSwitchType (continued)

PriSwitchType Number	Value	Meaning
32	QSIG	QSIG
33	NTT_CS	NTT Continuous SABME

LawType

INTEGER

Table 1-9   Law Type

LawType Value	Meaning	
1	MU	mu-law
2	A	a-law
3	SYS	system (law)

RuleIndex

RuleIndex represents an integer value corresponding to the relevant inpulse or outpulse rule to address. Valid values for this integer range from 0 to 255, with 0 representing the default inpulse or outpulse rule. (For more information, refer to the *Cisco VCO/4K Extended Programming Reference* or *Cisco VCO/4K Standard Programming Reference*.)

Variations to RuleIndex include InpulseRuleIndex and OutpulseRuleIndex.

ResGroupIndex

This type defines valid values for some ResGroupIndex objects. Some ResGroupIndex objects may use this type in their SYNTAX clause. The possible values range from 0 to 224. Values 1 to 224 identify a resource group in the resource group table. A value of 0 indicates that there is no associated resource group.

The following subsections show the variations of the ResGroupIndex object.

MessageTempIndex

This type identifies a message template in the ISDN message template table. Valid values range from 1 to 96.

TempInstructionIndex

This type identifies an instruction within a message template in the ISDN message template table. Valid values range from 1 to 15.

SupTempIndex

This type identifies an ISDN supervision template number. Valid values range from 1 to 24.

GroupPortCnt

This type indicates the current number of circuits in a resource group. Valid values range from 0 to 1920.

CardAlarmBitMap

This type defines valid values for some CardAlarmBitMap objects. Some CardAlarmBitMap objects may use this type in their SYNTAX clause. Possible values range from 0 to 524,287 (7ffff hexadecimal). This type is a bitmap consisting of 19 bits that shows which alarms are active on a card. The meanings of the various bits are shown in Table 1-10 (bit 0 is the least significant bit).

Table 1-10   CardAlarmBitMap

Bit	Meaning
0	Card failure - minor
1	Port failure - minor
2	T1/PRI carrier failure - major
3	T1/PRI remote carrier failure - minor
4	T1/PRI card failure - major
5	T1 Signaling Bit - minor
6	PRI Bipolar Violations max limit reached
7	T1/PRI Out Of Frame max limit reached - minor
8	T1 Slip Maintenance limit reached - minor
9	T1 Blue Alarm - minor
10	T1/PRI OOF condition - minor
11	PRI D-Channel failure - major
12	All ports deactivated
13	Unused
14	Unused
15	CRC4 error - minor
16	Wrong hardware installed
17	Interface hardware failed/not installed
18	Module hardware failed/not installed

CardType

This type is an integer value representing a specific VCO/4K network, service, or control card. Table 1-11 provides a list of card types and corresponding integer values.

Table 1-11   CardType Values

Value	Card Type
1	Subscriber line interface card
2	2W trunk card
3	E&M trunk card
4	T1 trunk card
5	Tone generator card
6	Voice announcement card
7	Bus controller
8	DTMF receiver card
10	MF receiver card
11	DID
12	Universal trunk card
13	Nework bus controller
14	Bus repeater card
15	Conference card
16	Aspect Instrument Card
17	Speech Recognition Card
18	Call Progress Analyzer
19	PRI Card
20	CCITT E1 Trunk type
21	MFCR2 transceiver type
22	DRC
23	DRC
24	Integrated Play/Record
25	Primary Rate Interface/NFAS
26	DPNSS PRI
27	DASS2
28	DASS2
29	DSS1 PRI
30	Four Span T1
31	Four Span E1
32	8-port IPRC
33	128-port IPRC
34	MVDC running T1 protocol
35	MVDC running PRI protocol
36	NET5 ISDN (Europe)
39	Drop & Insert

Table 1-11   CardType Values (continued)

Value	Card Type
40	Subrate Switch Card
41	NTT PRI (JISDN)
43	8-line Test Card
70	ICC-T1
71	ICC-E1
80	SPC-DTMF
81	SPC-CPA
82	SPC-MFRC
83	SPC-MFCR2
84	SPC-TONE
85	SPC-OUTP
86	SPC-CNF
96	ICC ISDN NI-2
97	ICC ISDN - AT&T 5ESS
98	ICC ISDN - AT&T 4ESS
99	ICC ISDN - Nortel DMS100
100	ICC ISDN - Japanese ISDN
112	ICC ISDN - NET5
113	ICC ISDN - QSIG
114	ICC ISDN - TS014

MIB Tables and Common Object Name Prefixes

Table 1-12 shows the tables in the MIB and the common object name prefixes for the objects in the table.

Table 1-12   MIB Table Names and Common Object Name Prefixes

Group Names	Table Names	Common Object Name Prefixes
System Configuration Group Short Name: config	Password Table	passwd
	Master Timing Link	mas
	Clock/Calendar	sys
	Active to Standby Table	actsby
	License Configuration	sysLicense
	System Feature Table	feature
	Firmware Version Table	firmware
	Firmware Executable Table	firmwareExe
	Firmware Download Table	firmwareDwnld
	File System Table	filesystem
	Peripheral Configuration Table	peripheral
	Host Configuration Table	host
	System Host Configuration	sysHost
Line Card Group Short Name: lc	Line Card Table	lc
	Line Card Port Configuration	lcPort
Trunk Card Group Short Name: tc	Trunk Card Configuration	tc
	Trunk Port Configuration	tcPort
Programmable Trunk Card Group Short Name: ptc	Programmable Trunk Card Table	ptcSpan
	Programmable T1, E1, MVDCT1 Port Configuration Table	progPort
ISDN Card Configuration Group Short Name: isdn	ISDN Card Table	isdnCard
	PRI Port Configuration	isdnPort
	ISDN Message Template Table	isdnMessageTemp
	ISDN Template Instructions	isdnTempInstruction
	ISDN Supervision Template	isdnSupTemp
Communication Card Group Short Name: comm	BRC Card Table	brc
	NBC Card Table	nbc
Service Circuit Card Configuration Group Short Name: scc	DTG Configuration Table	dtgCard
	DTG Port Table	dtgPort
	Resourcible Card Table	rc
	Resourcible Port Table	rcPort
	IPRC Card Configuration	iprc
	Prompt Library Table	pmptLib
	Prompt Library File Table	pmpFile

Table 1-12   MIB Table Names and Common Object Name Prefixes (continued)

Group Names	Table Names	Common Object Name Prefixes
Subrate Switching Group	Subrate Switching Card	ssc
	Subrate Configuration and Storage	subrate
Generic Data Group Short Name: data	Resource Group Table	resGroup
	Resource Group Port Table	resGroupPort
	Inpulse Rule Table	inpulseRule
	Inpulse Rule Instruction Table	inpulseRuleInstruction
	Outpulse Rule Table	outpulseRule
	Outpulse Rule Instruction Table	outpulseRuleInstruction
	NFAS	nfasGroup
	NFAS Interface Table	nfasInterface
	Answer Supervision Templates	ansSupTemp
	Routing Table Group	routeGrp
	Exception Routing Table	exrte
	Route Table	route
Card Diagnostic Group Short Name: diagnostics	Card Diagnostic Group	diagSession
	Diagnostic Test Argument Table	diagTestArg
	Diagnostic Test Result Table	diagTestResult

System Configuration Group

System Configuration refers to the group of functions used to configure system interaction with peripheral equipment, storage devices, and host computers. These functions are accessed from the system configuration group and consist of the following types of objects:

 • PasswdTable (a four column password table)—Controls user access to the system

 • Master timing link selection—Selects time source

 • Clock and calendar configuration—Changes clock/calendar settings

 • Active to standby switch—Switches control from active to standby

 • License configuration—Updates time-slot allocation license or displays current usage

 • System features—Modifies system operation characteristics

 • Firmware configuration—Displays version, revision, field software revision, and checksum information

 • File system configuration—Specifies the storage devices and directories for system log and system trace files

 • Peripheral configuration—Defines operating parameters for system peripheral equipment

 • Host configuration—Configures host interfaces and software overlays

 • System host configuration—Configures parameters for interaction between the system and the host

 • System shutdown—Resets system controller from a remote management station

System configuration utilities enable you to do the following:

 • Define operating parameters for system printers and local/remote administration consoles, including Ethernet Telnet connections (for systems equipped with the Ethernet Communications option)

 • Specify devices and directories for file system storage/retrieval

 • Configure host interfaces and software overlays

 • Add system users and modify passwords/access levels

 • Set system clock/calendar

 • Display/change system features

 • Assign access levels and map function keys to each system administration screen

 • View the system software and firmware configuration

 • Update the system's Time-Slot Allocation License or view the system's current usage of time-slots

 • Configure system host parameters

For further information on the system configuration, refer to the *Cisco VCO/4K System Administrator's Guide.*

Password Configuration

Use the objects in this table to create or change system passwords and set access levels for up to 16 system users. Each system user is identified by a unique username, an alphanumeric password and an access level. The ability to update this configuration information is limited by a user's access level. Access levels determine the user's ability to modify screen information and update the system database. For further information on password configuration, refer to the *Cisco VCO/4K System Administrator's Guide.*

passwdTable

{config 1}

Description

Table of the authorized users and their password.

Object Identifier

1.3.6.1.4.1.886.1.1.1

Data Type

Sequence of PasswdEntry

Access Policy

Not accessible

Status

Mandatory

passwdEntry

{passwdTable 1}

Description

An index into the password (passwd) table.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1

Data Type

PasswdEntry

Access Policy

Not accessible

Status

Mandatory

Index

{passwdIndex}

PasswdEntry

Sequence

passwdIndex	Integer
userName	DisplayString
accessLevel	Integer
passwdString	DisplayString
passwdErrorStatus	Integer
passwdOwnerString	OwnerString
passwdEntryStatus	EntryStatus

passwdIndex

{passwdEntry 1}

Description

Contains the user's password. You must add users to the password table sequentially.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

userName

{passwdEntry 2}

Description

The user's name (consists of 3 to 15 upper- and lowercase alphanumeric characters).

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.2

Data Type

DisplayString

Access Policy

Read-write

Status

Mandatory

accessLevel

{passwdEntry 3}

Description

Specifies a user's access level to the information in the database.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.3

Data Type

Integer. The valid numerical values and their meanings are shown in the following table:

Value	Meaning
0	Read and database update access to all screens
1	Varies based on screen access configuration
2	Varies based on screen access configuration
3	Read access only to all objects

Access Policy

Read-write

Status

Mandatory

passwdString

{passwdEntry 4}

Description

Specifies the password associated with the username entered. Issuing an SNMP_GET command on this attribute returns the encoded password.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.4

Data Type

DisplayString. Length of the user's password is from 4 to 12 upper- and lowercase alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

passwdErrorStatus

{passwdEntry 5}

Description

Registers the last error that occurred in this object.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
4096	invalidPasswdId
4097	passwdNotEmpty
4098	invalidPosition
4099	passwdAlreadyExists

Access Policy

Read only

Status

Mandatory

passwdOwnerString

{passwdEntry 6}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.6

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

passwdEntryStatus

{passwdEntry 7}

Description

The status of the password object.

Object Identifier

1.3.6.1.4.1.886.1.1.1.1.7

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

passwdTableLastModified

{config 2}

Description

The time, displayed in hundredths of a second, since the password table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.1.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

FTP Configuration Group

Use the objects in this table to create or change system passwords and set access levels for up to 16 system users. Each system user is identified by a unique username, an alphanumeric password and an access level. The ability to update this configuration information is limited by a user's access level. Access levels determine the user's ability to modify screen information and update the system database. For further information on password configuration, refer to the *Cisco VCO/4K System Administrator's Guide.*

ftppwdTable

{config 29}

Description

Table of the authorized users and their password.

Data Type

Sequence of FtpPasswdEntry

Access Policy

Not accessible

Status

Mandatory

ftppwdEntry

{ftppwdTable 1}

Description

An entry into the ftp password (passwd) table.

Data Type

FtpPasswdEntry

Access Policy

Not accessible

Status

Mandatory

Index

{ftppwdIndex}

FtpPasswdEntry

Sequence

ftppwdIndex	INTEGER
ftpuserName	DisplayString
ftpaccessLevel	INTEGER
ftppwdString	DisplayString
ftppwdErrorStatus	INTEGER
ftppwdOwnerString	OwnerString
ftppwdEntryStatus	EntryStatus

ftppwdIndex

{ftppwdEntry 1}

Description

An index into the ftp passwd table. You must add users to the password table sequentially.

Data Type

INTEGER

Access Policy

Read only

Status

Mandatory

ftpuserName

{ftppwdEntry 2}

Description

The user's name consists of 3 to 15 upper- and lowercase alphanumeric characters.

Data Type

DisplayString (SIZE (3..15))

Access Policy

Read-write

Status

Mandatory

ftpaccessLevel

{ftppwdEntry 3}

Description

Possible values and their meanings are listed below.

Data Type

Integer. The valid numerical values and their meanings are shown in the following table:

Value	Meaning
0	Read and database update access to all screens
1	Varies based on screen access configuration
2	Varies based on screen access configuration
3	Read access only to all screens

Access Policy

Read-write

Status

Mandatory

ftppwdString

{ftppwdEntry 4}

Description

Specifies the ftp password associated with the username entered. Issuing an SNMP_GET command on this attribute returns the encoded password.

Data Type

DisplayString. Length of the user's password is from 4 to 12 upper- and lowercase alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

ftppwdErrorStatus

{ftppwdEntry 5}

Description

Registers the last error that occurred on this entry.

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
6912	invalidFtpPasswdId
6913	ftppwdNotEmpty
6914	invalidPosition
6915	ftppwdAlreadyExists

Access Policy

Read only

Status

Mandatory

ftppwdOwnerString

{ftppwdEntry 6}

Description

The entity that configured this entry.

Cisco VCO/4K Management Information Base (MIB) Reference ■

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

ftppwdEntryStatus

{ftppwdEntry 7}

Description

The status of this entry.

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

ftppwdTableLastModified

{config 30}

Description

The time, displayed in hundredths of a second, since the password table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Master Timing Link Configuration

The master timing link configuration is used to select the system T1 and PRI timing source. You can derive timing from VCO internal clocking or from an incoming T1 or PRI bit stream. If incoming timing is used, the incoming reference is lost and the system automatically tries to synchronize with the internal clock. For further information on the master timing link, refer to the *Cisco VCO/4K System Administrator's Guide.*

syncsource

{config 3}

Object Identifier

1.3.6.1.4.1.886.1.1.4

masTimingSource

{syncsource 1}

Description

Indicates the source of the reference signal currently used for T1 synchronization.

Object Identifier

1.3.6.1.4.1.886.1.1.4.1

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	internal	Use timing supplied by NBC3 for synchronization.
2	external	Use external network synchronization.
3	incoming	Use timing from an incoming digital stream.

Access Policy

Read-write

Status

Mandatory

masPrimaryTimingCard PhyAddr

{syncsource 2}

Description

Specifies the physical address of the card from which clocking is to be derived. The physical address must be that of an online digital trunk card (can be a T1, E1, MVDCT1, or PRI).

Setting the physical address of the primary timing source initializes the secondary timing source. It is not mandatory to set the secondary timing source.

To display the physical address, issue an SNMP_GET command on the card's physical address.

This object can only be set if masTimingSource is set to incoming.

Object Identifier

1.3.6.1.4.1.886.1.1.4.2

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

masSecondaryTiming CardPhyAddr

{syncsource 3}

Description

Specifies the physical address of the card from which clocking is to be derived. The hardware address must be that of an on-line digital trunk card. The card can be a T1, E1, MVDCT1, or PRI.

To display the physical address, issue an SNMP_GET command on the card's physical address.

This object can only be set if masTimingSource is set to incoming and masPrimaryTimingCardPhyAddr is set to a valid value.

Object Identifier

1.3.6.1.4.1.886.1.1.4.3

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

masTimingErrorStatus

{syncsource 4}

Description

Registers the last error that occurred in this object.

Object Identifier

1.3.6.1.4.1.886.1.1.4.4

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
3328	invalidCardType
3329	cardDoesNotExist
3330	secondarySameAsPrimary
3331	illegalOperation

Access Policy

Read only

Status

Mandatory

masTimingOwnerString

{syncsource 5}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.1.4.5

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

masTimingEntryStatus

{syncsource 6}

Description

The status of this table object.

Object Identifier

1.3.6.1.4.1.886.1.1.4.6

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

Clock/Calendar Configuration

Use the clock/calendar configuration to change the system date, time, and day-of-week settings. The VCO clock should be set by the host on a regular basis to ensure that host time and VCO time are synchronized. For further information on the features in the clock/calendar configuration section, refer to the *Cisco VCO/4K System Administrator's Guide.*

calendar

{config 4}

Object Identifier

1.3.6.1.4.1.886.1.1.4

sysDay

{calendar 1}

Description

The day of the week. For example, Wednesday (4).

Object Identifier

1.3.6.1.4.1.886.1.1.4.1

Data Type

Integer. Valid values are from 1 to 7.

Access Policy

Read only

Status

Mandatory

sysMonth

{calendar 2}

Description

The month of the year. For example, October (10).

Object Identifier

1.3.6.1.4.1.886.1.1.4.2

Data Type

Integer. Valid values are from 1 to 12.

Access Policy

Read-write

Status

Mandatory

sysDate

{calendar 3}

Description

The date. For example, 19.

Object Identifier

1.3.6.1.4.1.886.1.1.4.3

Data Type

Integer. The months and the corresponding numerical values are shown in the following table:

Month	Valid Values
January	1 to 31
February	1 to 29
March	1 to 31
April	1 to 30
May	1 to 31
June	1 to 30
July	1 to 31
August	1 to 31
September	1 to 30
October	1 to 31
November	1 to 30
December	1 to 31

Access Policy

Read-write

Status

Mandatory

sysYear

{calendar 4}

Description

This object represents the number of the current year minus 1900. For example, the year 1999 is returned as 99.

This object will be deprecated for all software releases following version 5.1(3). When this occurs, the object calendarYear should be used to replace the object sysYear.

Object Identifier

1.3.6.1.4.1.886.1.1.4.4

Data Type

Integer. Valid values are from 91 to 219.

Access Policy

Read-write

Status

Deprecated

sysHour

{calendar 5}

Description

The hour. For example, the 11 in 11:12:22 (U.S. format).

Object Identifier

1.3.6.1.4.1.886.1.1.4.5

Data Type

Integer. Valid values are 0 to 23.

Access Policy

Read-write

Status

Mandatory

sysMin

{calendar 6}

Description

The minutes. The 12 in 11:12:22 (U.S. format).

Object Identifier

1.3.6.1.4.1.886.1.1.4.6

Data Type

Integer. Valid values are 0 to 59.

Access Policy

Read-write

Status

Mandatory

sysSec

{calendar 7}

Description

The seconds. The 22 in 11:12:22 (U.S. format).

Object Identifier

1.3.6.1.4.1.886.1.1.4.7

Data Type

Integer. Valid values are 0 to 59.

Access Policy

Read-write

Status

Mandatory

calendarErrorStatus

{calendar 8}

Description

Registers the last error that occurred in this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.4.8

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
4608	invalidYear
4609	invalidMonth
4610	invalidDate
4611	invalidHour
4612	invalidMinute
4613	invalidSecond

Access Policy

Read only

Status

Mandatory

calendarOwnerString

{calendar 9}

Description

The entity that configured the object and is therefore using the entry assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.1.4.9

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

calendarEntryStatus

{calendar 10}

Description

The status of the table entry.

Object Identifier

1.3.6.1.4.1.886.1.1.4.10

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

calendarYear

{calendar 11}

Description

This object represents an integer value for the current year. Valid values are 1991 through 2119. This object replaces sysYear which uses a different date format.

Note This object will only be available for system software releases subsequent to Version 5.1(3).

Object Identifier

1.3.6.1.4.1.886.1.1.4.11

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

Hardware Configuration

busType

{hardware 1}

Description

The capacity of the switching bus. B-bus systems allow for 1776 timeslots, C-bus for 3968.

Object Identifier

1.3.6.1.4.1.886.1.1.5.1

Data Type

Integer: 1 for B-bus, 2 for C-bus

Access Policy

Read only

Status

Mandatory

Active To Standby

Use the active to standby table to switch the active system to standby status. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

actsby

{config 15}

Object Identifier

1.3.6.1.4.1.886.1.1.15

actsbySwitch

{actsby 1}

Description

Enables you to switch the active system to standby status. This object is only set to standby from the active side. However, it returns the correct status on both standby (1) and active (2) sides.

Object Identifier

1.3.6.1.4.1.886.1.1.15.1

Data Type

Integer. The valid numerical values are 1 (standby) and 2 (active).

Access Policy

Read-write

Status

Mandatory

actsbyErrorStatus

{actsby 2}

Description

Registers the last error that occurred in this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.15.2

Data Type

Integer. The possible numerical and string values are shown in the following table:

Value	String
3584	cannotSwitchStandby
3585	fileSyncNotDone
3586	notRedundantSystem
3587	invalidValue

Access Policy

Read only

Status

Mandatory

actsbyOwnerString

{actsby 3}

Description

The entity that configured this object and is therefore using the entry assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.1.15.3

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

System Shutdown

Use the system shutdown option to reset the system controller from the system administration console. When you select this option, the system closes all open system files, terminates host communication and resets the system controller.

In a nonredundant system, if you select this option, all calls being carried by the system are torn down. If the system is redundant, control is passed to the standby system controller and all stable calls are maintained. Calls that have not reached a stable state are torn down.

systemShutdown

{config 16}

Description

Resets the system controller. With this object set, the system closes all open system files, terminates host communication, and resets the system controller.

If you select this option in a nonredundant system, the system tears down all calls carried by the system. In a redundant system, control is passed to the standby system controller and stable calls are maintained. Unstable calls are torn down.

Object Identifier

1.3.6.1.4.1.886.1.1.16

Data Type

Integer. The only valid value is 19950426.

Access Policy

Read-write

Status

Mandatory

License Configuration

Use the entries in this section to update your Time-Slot Allocation License or display the system's information concerning the current usage of time-slots. For further information on license configuration, refer to the *Cisco VCO/4K System Administrator's Guide.*

sysLicenseTable

{config 17}

Description

The system license table.

Object Identifier

1.3.6.1.4.1.886.1.1.17

Data Type

Sequence of SysLicenseEntry

Access Policy

Not accessible

Status

Mandatory

sysLicenseEntry

{sysLicenseTable 1}

Description

Entry in the license table.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1

Data Type

SysLicenseEntry

Access Policy

Not accessible

Status

Mandatory

Index

{sysLicenseIndex}

SysLicenseEntry

Sequence

sysLicenseIndex	Integer
sysTimeSlotAllotted	Integer
sysTimeSlotLicensed	Integer
sysTimeSlotRemaining	Integer
sysSerialNum	DisplayString
sysLicenseNum	DisplayString
sysLicenseOwnerString	OwnerString
sysLicenseEntryStatus	FixedTabEntryStatus

sysLicenseIndex

{sysLicenseEntry 1}

Description

The index into the system license table. One (1) is the active side, two (2) is the standby side (in a redundant system).

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sysTimeSlotAllotted

{sysLicenseEntry 2}

Description

Number of time-slots currently assigned in the system.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sysTimeSlotLicensed

{sysLicenseEntry 3}

Description

Maximum number of licensed time-slots for the system.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sysTimeSlotRemaining

{sysLicenseEntry 4}

Description

The number of available time-slots.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sysSerialNum

{sysLicenseEntry 5}

Description

Displays the serial number of the system's CPU card. This number is encoded in the CPU card at the factory and cannot be altered. A unique license number is associated with this serial number.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.5

Data Type

DisplayString. The valid value is an octet string with a length from 1 to 12 characters.

Access Policy

Read only

Status

Mandatory

sysLicenseNum

{sysLicenseEntry 6}

Description

Gives the license number associated with the serial number of your CPU. You must enter a new license number when your Time-Slot Allocation License is updated or when you replace the CPU card.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.6

Data Type

DisplayString. The valid value is an octet string with a length from 1 to 12 characters.

Access Policy

Read-write

Status

Mandatory

sysLicenseOwnerString

{sysLicenseEntry 7}

Description

The entity that configured this object and is, therefore, using the assigned entry.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.7

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

sysLicenseEntryStatus

{sysLicenseEntry 8}

Description

The status of this object.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.8

Data Type

FixedTabEntryStatus

Access Policy

Read-write

Status

Mandatory

sysLicenseErrorStatus

{sysLicenseEntry 9}

Description

Registers the last error that occurred on this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.17.1.9

Data Type

Integer. Valid values are as follows:

Value	String
8704	notRedundantSystem
8705	invalidLength
8706	decryptionFailed

Access Policy

Read only

Status

Mandatory

sysLicenseTableLast Modified

{config 18}

Description

The time, displayed in hundredths of a second, since the feature table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.1.18

Data Type

TimeTicks

Access Policy

Read-write

Status

Mandatory

System Feature Table

Use the entries in the system feature table section to see and if necessary, change, all the current system features. With system features you can modify system operating characteristics to meet specific application requirements. For further information on configuring the system features, refer to the *Cisco VCO/4K System Administrator's Guide.*

features

{config 19}

Object Identifier

1.3.6.1.4.1.886.1.1.19

featureRedundantSystem

{features 1}

Description

Informs the system-controller initialization software whether the system is redundant or nonredundant. Redundant systems have a second system controller and an NBC3 card. If the redundant hardware is present, the system does not function as a redundant system unless this feature is enabled.

⚠️
Caution   When you set or change this feature, reinitialize your system for the change to take effect.

Object Identifier

1.3.6.1.4.1.886.1.1.19.1

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	System is not redundant
2	yes	System is redundant

Access Policy

Read-write

Status

Mandatory

featureOutputPeriodicAlarmReports

{features 2}

Description

Controls the output of Major/Minor alarm reports to the system printer. If you anticipate heavy call traffic, disable this feature to reduce processing overhead on the system.

⚠
Caution   When you set or change this feature, reinitialize your system for the change to take effect.

Object Identifier

1.3.6.1.4.1.886.1.1.19.2

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	No reports are sent to the system printer.
2	yes	The Major/Minor alarm reports are sent to the system printer 5 minutes after system initialization is completed and every 30 minutes thereafter.

Access Policy

Read-write

Status

Mandatory

featureNoCardAlarmStatusAtInit

{features 3}

Description

Blocks the printing of card restored and alarm messages for every card during the initial 10 minutes following system boot. These messages in large systems will slow the system boot and lead to performance problems. Therefore, this feature should be enabled in those systems.

⚠
Caution   When you set or change this feature, reboot your system for the change to take effect.

Object Identifier

1.3.6.1.4.1.886.1.1.19.3

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	All alarm messages are printed.
2	yes	Blocks the printing of card restored and alarm messages during the first 10 minutes following system initialization.

Access Policy

Read-write

Status

Mandatory

featureManual InterventionForSLIPOOF

{features 4}

Description

Controls the system's response to return or not return a card to active service after an error condition. The system automatically takes a T1 card out of service when the SLIP or Out-of-Frame (OOF) limit is reached. The limits are:

OOFs   17

SLIPS   256

Both error threshold counters are reset to zero (0) at midnight.

Object Identifier

1.3.6.1.4.1.886.1.1.19.4

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The system automatically returns the card to the Active state when the condition clears.
2	yes	The system takes the card out of service and does not try to reset it. You must manually reset the card. Use the Card Maintenance menu on the console or set the status object in the card table entry.

Access Policy

Read-write

Status

Mandatory

featureEnableGraceTimingOnNullRule

{features 5}

Description

Controls the system response to outgoing port detection. The Null Outpulse Rule performs an outward seizure (SEIZE token), a wait for final answer (FINAL SUP A token), and starts a 30-second grace timer.

Refer to Chapter 2 of the *Cisco VCO/4K Extended Programming Reference* or Chapter 2 of the *Cisco VCO/4K Standard Programming Reference* for further information on the Null Outpulse Rule.

Object Identifier

1.3.6.1.4.1.886.1.1.19.5

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The system only accepts detection of true answer supervision as the final answer from an outgoing port.
2	yes	The outgoing port is considered answered if the system detects either a true answer or the grace timer expires.

Access Policy

Read-write

Status

Mandatory

featureDisableCardErrorReportReset

{features 6}

Description

Controls printing of card error reports.

Object Identifier

1.3.6.1.4.1.886.1.1.19.6

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The system prints the card error report when the error occurs and when the threshold counters are reset at midnight.
2	yes	The system disables the printing of the card error report and prevents resetting of the card error threshold counters.

Access Policy

Read-write

Status

Mandatory

featureEnableDigitFieldReporting

{features 7}

Description

Controls the information on digit field reports.

Object Identifier

1.3.6.1.4.1.886.1.1.19.7

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The Field Designator does not appear in reports.
2	yes	Causes the optional Field Designator byte to appear in MF Digit ($D0), DTMF Digit ($D1), and Spoken Digit ($D4) reports. This Optional Field Designator byte indicates the field where the system stores the digits reported. When enabled, this byte appears in the byte offset position (reserved for the digit string). The digit string shifts to the next byte offset.

Access Policy

Read-write

Status

Mandatory

featureSuppressPSCRuleAbort Messages

{features 8}

Description

Prevents log files from becoming filled with Inpulse Rule abort messages. Use this feature only with the optional TeleRouter software overlay.

Certain types of line equipment use the tones issued during permanent signal processing to determine disconnects. This feature suppresses the PSC messages generated by the normal occurrence with these line types. Also, certain situations might generate Inpulse Rule abort messages due to incoming call abandons before call routing.

Object Identifier

1.3.6.1.4.1.886.1.1.19.8

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	PSC/Rule Abort messages are sent to the system log.
2	yes	PSC and Inpulse Rule abort messages are not sent to the system log when TeleRouter is operating in an unhosted environment.

Access Policy

Read-write

Status

Mandatory

featureEnableHost PasswordCheck

{features 9}

Description

Enables or disables Ethernet password checking on the system. Use this feature with host-to-VCO communication on a small, closed network. Define Ethernet passwords with the Password hostPassword object (1.3.6.1.4.1.886.1.1.27.1.1.6) in the hostTable.

Object Identifier

1.3.6.1.4.1.886.1.1.19.9

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Ethernet password checking disabled. Enables the system to establish a link without requiring the correct password on that link.
2	yes	Ethernet password checking enabled.

Access Policy

Read-write

Status

Mandatory

featureForceBearerLap Activation

{features 10}

Description

Forces the ISDN B channels to the Active state without the D-channel being in the Active state.

Note   Use this feature under the direction of your Cisco Systems TAC.

Object Identifier

1.3.6.1.4.1.886.1.1.19.10

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	ISDN B- and D-channels are both in the same state.
2	yes	ISDN B-channel is forced into the Active state without the D-channel being in the Active state.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

featureEnableMFCR2SupervisedClear

{features 11}

Description

A system-wide feature that enables or disables automatic call release on outgoing ports in response to backward MFCR2 supervision tones.

The system performs disconnect processing appropriate for the port type involved and generates an Outgoing Port Change of State ($DA) report (indicates a supervision error and specifies a backward tone detected). Refer to your country supplement for information on backward supervision tones.

Object Identifier

1.3.6.1.4.1.886.1.1.19.11

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	When set to N (No), the outgoing port remains in setup state unless out-of-band supervision or a host command changes the port state.
2	yes	When set to Y (Yes), an outgoing port is released when a specified backward tone is detected during R2 signaling. Backward tones are country specific. See your country supplement for specific tones.

Access Policy

Read-write

Status

Mandatory

featureEnableSLICGuardedDisconnect

{features 12}

Description

Enables or disables the Guarded Disconnect option available for special SLIC cards.

Object Identifier

1.3.6.1.4.1.886.1.1.19.12

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The Guarded Disconnect option is disabled.
2	yes	The special SLIC card sends an out-of-band Calling Party Disconnect signal to the two-wire devices connected to the card.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

featureEnableCPAMonitorDisconnect

{features 13}

Description

Enables the UTC devices that cannot pass out-of-band end-of-call signals to detect in-band tones when the call is abandoned. When received, the tone is treated as a positive disconnect.

Object Identifier

1.3.6.1.4.1.886.1.1.19.13

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	UTC devices, that cannot pass out-of-band end-of-call signals, cannot detect in-band tones when the call is abandoned.
2	yes	Enables this feature. To function the system must meet the following conditions: • A CPA port must be attached to the UTC throughout the call to monitor the in-band tone. Done automatically when the feature flag is enabled and the incoming UTC is answered using an answer token in the Inpulse rule. • The busy token in Supervision Template #24 must be specified as OK and the template must be downloaded to the CPA.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

featureRevertToBasicRedundancy

{features 14}

Description

Enables both VCO controllers to consistently track conference calls and ports in SETUP.

Object Identifier

1.3.6.1.4.1.886.1.1.19.14

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Enables redundancy tracking.
2	yes	Disables redundancy tracking.

Access Policy

Read-write

Status

Mandatory

featureSendReportBeforeGuardTime

{features 15}

Description

Specifies whether to send the Incoming Port Change of State Report ($DB) before or after guard timing completes.

Object Identifier

1.3.6.1.4.1.886.1.1.19.15

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	$DB report is sent to the host system after guard timing completes.
2	yes	$DB report is sent to the host system before guard timing completes.

Access Policy

Read-write

Status

Mandatory

featureEnableISDNManualDisconnect

{features 16}

Description

Enables all the cards in the system to perform the same call processing procedure. This feature is independent of the switch type selected for the PRI card.

Object Identifier

1.3.6.1.4.1.886.1.1.19.16

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Disabled (default)
2	yes	Enabled

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

featureSendAllISDNConnect Reports

{features 17}

Description

Specifies whether to send the ISDN Change of State Report ($EA) each time an ISDN Connect message event is received from an ISDN D-channel.

Object Identifier

1.3.6.1.4.1.886.1.1.19.17

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	$EA report sending controlled by the ISDN supervision template configuration or by an ISDN Port Control ($49) host command.
2	yes	$EA report sent to the host for every ISDN connect message received.

Access Policy

Read-write

Status

Mandatory

featureEnable66CmdHostChecking

{features 18}

Description

When you enable this feature, the system checks whether the host system can send the $66 command. If the host system setup timer is on when the feature is on, host setup timing is cancelled.

Object Identifier

1.3.6.1.4.1.886.1.1.19.18

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The host cannot send the $66 command.
2	yes	The host can send the $66 command.

Access Policy

Read-write

Status

Mandatory

featureCutThruForNonISDNAlerting

{features 19}

Description

Controls the system's response when an alerting message is received in an ISDN to non-ISDN connection.

Object Identifier

1.3.6.1.4.1.886.1.1.19.19

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Let the incoming port listen to the outgoing port.
2	yes	Send a ring-back tone to the incoming port.

Access Policy

Read-write

Status

Mandatory

featureEnable4thColumnDTMF

{features 20}

Description

Controls whether the system collects fourth column DTMF digits.

Object Identifier

1.3.6.1.4.1.886.1.1.19.20

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	All host and report commands function as in previous software versions.
2	yes	The system collects fourth column DTMF digits. Also $D1 segments attached to $DD or $ED reports follow the enhanced format.

Access Policy

Read-write

Status

Mandatory

featureSetSystemToALaw

{features 21}

Description

If this feature is set to yes, then the system is set to A Law.

Object Identifier

1.3.6.1.4.1.886.1.1.19.21

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The system is not set to A-Law.
2	yes	The system is set to A-Law

Access Policy

Read-write

Status

Mandatory

featureSendAllISDN DisconnectReports

{features 22}

Description

The Send All ISDN Disconnect Reports feature flag specifies whether to send the ISDN Change of State Report ($EA) each time an ISDN DisConnect message event is received from an ISDN D-channel. If the feature flag is set to Y, the $EA report is sent to the host for every ISDN `DisConnect' message received.  If the feature flag is set to N, the sending of $EA reports for `DisConnect' messages is controlled by the ISDN supervision template configuration or by an ISDN Port Control ($49) host command.

Object Identifier

1.3.6.1.4.1.886.1.1.19.22

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Do not send all ISDN Disconnect reports.
2	yes	Send all ISDN Disconnect reports.

Access Policy

Read-write

Status

Mandatory

featureOperationMode Extended

{features 23}

Description

This flag is read only and is used to verify whether extended operational mode is activated. Extended mode is activated during the installation process by selecting the Set Extended Operational Mode option from the Installation Utilities screen. To configure the VCO system for 4,096 ports, both the Extended Operation Mode Set and Enable C-bus flags must be set to yes.

Object Identifier

1.3.6.1.4.1.886.1.1.19.23

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Extended operational mode is not set.
2	yes	Extended operational mode is set.

Access Policy

Read only

Status

Mandatory

featureCbusMode

{features 24}

Description

This flag is read only and is used to verify whether the C-bus is enabled. If yes, C-bus is enabled, and the VCO system can take advantage of 4,096 ports. If no, C-bus is disabled, and the system is limited to 2,048 ports. To configure the VCO system for 4,096 ports, both the Enable C-bus and Extended Operation Mode Set flags must be set to yes.

Object Identifier

1.3.6.1.4.1.886.1.1.19.24

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	The C-bus is not enabled.
2	yes	The C-bus is enabled.

Access Policy

Read only

Status

Mandatory

featureEnableAllPortsDeactivatedAlarm

{features 25}

Description

If this feature is set to yes, a PRI/N card alarm is raised when all the ports on the card are deactivated. An Alarm Condition ($F0) report is sent to the host specifying which card caused the alarm. A minor system alarm is raised and the event is logged if the system alarm condition does not already exist. The new alarm is raised only when all the ports are deactivated from the Card Maintenance screen, the $90 command from the host, or through a far end port-state transition to out of service.

When at least one of the deactivated ports becomes available for use, the card alarm is cleared and the event is logged. An Alarm Condition ($F0) report is generated to the host, specifying the card in which the alarm condition is cleared. The minor system alarm is cleared and the event is logged if there are no other occurrences of the same alarm.

For the alarm to clear, a port which has been deactivated must be made available from the Card Maintenance screen, the $90 command from the host, or through a far end port-state transition to out of service.

When all the ports of a PRI/N card are deactivated, a card alarm is raised and this event is logged.

Object Identifier

1.3.6.1.4.1.886.1.1.19.25

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	A card alarm is not raised when all ports are deactivated.
2	yes	A card alarm is raised when all ports are deactivated.

Access Policy

Read-write

Status

Mandatory

featureEaReportsOnDchannelRestart

{features 26}

Description

If this feature is set to yes, an ISDN Port Change of State ($EA) report is generated for the D-channel and all associated B-channels when the system receives a RESTART. For more information about $EA reports, refer to the *Cisco VCO/4K ISDN Supplement.*

Object Identifier

1.3.6.1.4.1.886.1.1.19.26

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Do not send $EA ISDN Port Change of State on D-channel restart.
2	yes	Send $EA ISDN Port Change of State on D-channel restart.

Access Policy

Read-write

Status

Mandatory

featureEnableNet5OverlapReceiving

{features 27}

Description

Operates in situations where there is a variable digit length for a called number. In these cases, only the host application can determine if information about the called number is complete and that the call can be routed to its destination. The Generic depends on the host application for an indication of Overlap Receiving occurrence. To do this, the host application sends SETUP_ACK down to the Generic through the $49 command with a specified inpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.1.19.27

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Do not enable Net 5 Overlap Receiving.
2	yes	Enable Net 5 Overlap Receiving.

Access Policy

Read-write

Status

Mandatory

featureConvertReorderToneToBusy

{features 28}

Description

For use with Japanese networks. Allows you to select an alternate busy tone for Japanese networks which use a normal busy tone instead of the reorder tone during PSC (Permanent Signaling Condition) processing on a port.

When set to no, the normal reorder tone is presented during PSC. When set to yes, the normal busy tone is presented.

Object Identifier

1.3.6.1.4.1.886.1.1.19.28

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Do not convert reorder tone to busy.
2	yes	Convert reorder tone to busy.

Access Policy

Read-write

Status

Mandatory

featureEnableHostCallRef

{features 30}

Description

If this feature is set to yes, the system passes call reference up to the host, which enables the host application to support 2 B-channel transfer. The call reference is sent to the host in bytes 20 and 21 of the $EA report.

Object Identifier

1.3.6.1.4.1.886.1.1.19.30

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Do not pass call references to the host.
2	yes	Pass call references to the host.

Cisco VCO/4K Management Information Base (MIB) Reference ■

Access Policy

Read-write

Status

Mandatory

featureErrorStatus

{features 65)

Description

Registers the last error that occurred on this feature object.

Object Identifier

1.3.6.1.4.1.886.1.1.19.65

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
5376	invalidFeature
5377	invalidValue

Access Policy

Read only

Status

Mandatory

featureOwnerString

{feature 66}

Description

The entity that last configured a feature.

Object Identifier

1.3.6.1.4.1.886.1.1.19.66

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

featureEntryStatus

{features 67}

Description

The modification status of the configuration.

Object Identifier

1.3.6.1.4.1.886.1.1.19.67

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

systemAlarmAudible

{config 23}

Description

Enables or disables the AAC alarm contact to stop any external central office (CO) alarms tied to the switch.

Object Identifier

1.3.6.1.4.1.886.1.1.23

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	yes	Stop external CO alarms.
2	no	Do not stop external CO alarms.

Access Policy

Read-write

Status

Mandatory

Firmware Version Table

Use the objects in the firmware version table to display the version numbers of the software running on your system.

Note   The objects that are returned when you do an SNMP "walk" of objects in the firmware table are dependent on the value of firmwareDevice. By default, the value of firmwareDevice is 0 ('none'). When firmwareDevice is 'none', there is no information to return for firmwareExeTable or firmwareDwnldTable. If you change firmwareDevice to, for example, 'c', then an SNMP "walk" will return all information on the objects in the firmware tables (if the switch uses boot and download files from 'c').

firmware

{config 24}

Object Identifier

1.3.6.1.4.1.886.1.1.24

firmwareVrtxVersion

{firmware 1}

Description

Version or revision number of VRTX.

Object Identifier

1.3.6.1.4.1.886.1.1.24.1

Data Type

DisplayString. Length of the display is from 1 to 4 characters.

Access Policy

Read only

Status

Mandatory

firmwareIfxVersion

{firmware 2}

Description

Version or revision number of IFX.

Object Identifier

1.3.6.1.4.1.886.1.1.24.2

Data Type

DisplayString. Length of the display string is from 1 to 4 characters.

Access Policy

Read only

Status

Mandatory

firmwareTnxVersion

{firmware 3}

Description

Version or revision number of TNX.

Object Identifier

1.3.6.1.4.1.886.1.1.24.3

Data Type

DisplayString. Length of the display string is from 1 to 4 characters.

Access Policy

Read only

Status

Mandatory

firmwareDevice

{firmware 4}

Description

Specifies the device to display configuration information.

Note The objects that are returned when you do an SNMP "walk" of objects in the firmware table are dependent on the value of firmwareDevice. By default, the value of firmwareDevice is 'none'. When firmwareDevice is 0 ('none'), there is no information to return for firmwareExeTable or firmwareDwnldTable. If you change firmwareDevice to, for example, 'c', then an SNMP "walk" will return all information on the objects in the firmware tables (if the switch uses boot and download files from 'c').

Object Identifier

1.3.6.1.4.1.886.1.1.24.4

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Value
0	none	No information is displayed.
1	a	Display information is sent to drive A.
2	c	Display information is sent to drive C.
3	f	Display information is sent to the floppy drive.
4	memory	Display information is sent to memory.

Access Policy

Read-write

Status

Mandatory

firmwareGenericVersion

{firmware 5}

Description

Version, revision, or FSR (field support release) number of the generic software.

Object Identifier

1.3.6.1.4.1.886.1.1.24.5

Data Type

DisplayString. Length of the display string is from 0 to 8 characters.

Access Policy

Read only

Status

Mandatory

Firmware Executable Table

The objects in the firmware executable table enable you to display the attributes of the firmware executable files.

firmwareExeTable

{firmware 6}

Description

Table of executable files.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6

Data Type

Sequence of FirmwareExeEntry

Access Policy

Not accessible

Status

Mandatory

firmwareExeEntry

{firmwareExeTable 1}

Description

An entry in the firmware executable table.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6.1

Data Type

FirmwareExeEntry

Access Policy

Not accessible

Status

Mandatory

Index

firewareExtIndex

FirmwareExeEntry

Sequence

firmwareExeIndex	Integer
firmwareExeName	DisplayString
firmwareExeVersion	DisplayString
firmwareExeChecksum	Integer

firmwareExeIndex

{firmwareExeEntry 1}

Description

An index into the firmware executable table.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

firmwareExeName

{firmwareExeEntry 2}

Description

Name of the executable file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6.1.2

Data Type

DisplayString. Length of the display string is from 1 to 12 characters.

Access Policy

Read only

Status

Mandatory

firmwareExeVersion

{firmwareExeEntry 3}

Description

Version or revision number of the executable file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6.1.3

Data Type

DisplayString. Length of the display string is from 1 to 4 characters.

Access Policy

Read only

Status

Mandatory

firmwareExeChecksum

{firmwareExeEntry 4}

Description

Checksum of the executable file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.6.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Firmware Download Table

The objects in the firmware download table enable you to display the attributes of the firmware downloadable files.

firmwareDwnldTable

{firmware 7}

Description

Table of the card download files.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7

Data Type

Sequence of FirmwareDwnldEntry

Access Policy

Not accessible

Status

Mandatory

firmwareVcoMibVersion

{firmware 8}

Description

Version of the vco MIB used by the SNMP agent software, in the form: x.y.z. See the beginning of the vco MIB text file for information on what the various parts of the version mean.

Object Identifier

1.3.6.1.4.1.886.1.1.24.8

Data Type

DisplayString (SIZE (5..8))

Access Policy

Read only

Status

Mandatory

firmwareDwnldEntry

{firmwareDwnldTable 1}

Description

An entry in the firmware card download table.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7.1

Data Type

FirmwareDwnldEntry

Access Policy

Not accessible

Status

Mandatory

FirmwareDwnldEntry

Sequence

firmwareDwnldIndex	Integer
firmwareDwnldName	DisplayString
firmwareDwnldVersion	DisplayString
firmwareDwnldChecksum	Integer

firmwareDwnldIndex

{firmwareDwnldEntry 1}

Description

An index into the firmwareDwnldTable.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

firmwareDwnldName

{firmwareDwnldEntry 2}

Description

Name of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7.1.2

Data Type

DisplayString. Length of the display string is from 1 to 12 characters.

Access Policy

Read only

Status

Mandatory

firmwareDwnldVersion

{firmwareDwnldEntry 3}

Description

Version or revision number of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7.1.3

Data Type

DisplayString. Length of the display string is from 1 to 4 characters.

Access Policy

Read only

Status

Mandatory

firmwareDwnldChecksum

{firmwareDwnldEntry 4}

Description

Checksum of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.1.24.7.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

File System Table

Use the file system table to display the attributes of the system files and to specify where you want to store system directories and log files.

filesystem

{config 25}

Object Identifier

1.3.6.1.4.1.886.1.1.25

fsBootDevice

{filesystem 1}

Description

Storage device for the boot or download file.

Object Identifier

1.3.6.1.4.1.886.1.1.25.1

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	a	Boot from drive A
2	c	Boot from drive C
3	f	Boot from a floppy diskette

Access Policy

Read only

Status

Mandatory

fsBootDirectory

{filesystem 2}

Description

Directory for the boot or download file.

Object Identifier

1.3.6.1.4.1.886.1.1.25.2

Data Type

DisplayString. Length of the display string is from 1 to 36 characters.

Access Policy

Read only

Status

Mandatory

fsDatabaseDevice

{filesystem 3}

Description

The storage device for the system database files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.3

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	a	Store files on drive A
2	c	Store files on drive C
3	f	Store files on a floppy diskette

Access Policy

Read only

Status

Mandatory

fsDatabaseDirectory

{filesystem 4}

Description

Directory for the system database files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.4

Data Type

DisplayString. Length of the display string is from 1 to 36 characters.

Access Policy

Read only

Status

Mandatory

fsLogDevice

{filesystem 5}

Description

Storage device for the system log files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	a	Store files on drive A
2	c	Store files on drive C
3	f	Store files on a floppy diskette

Access Policy

Read-write

Status

Mandatory

fsLogDirectory

{filesystem 6}

Description

Directory for the system log files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.6

Data Type

DisplayString. Length is from 1 to 36 characters.

Access Policy

Read-write

Status

Mandatory

fsTraceDevice

{filesystem 7}

Description

Storage device for system trace files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.7

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	MeaningValue
1	a	Store trace files on drive A
2	c	Store trace files on drive C
3	f	Store trace files on a floppy diskette

Access Policy

Read-write

Status

Mandatory

fsTraceDirectory

{filesystem 8}

Description

The directory for system trace files.

Object Identifier

1.3.6.1.4.1.886.1.1.25.8

Data Type

DisplayString. Length is from 1 to 36 characters.

Access Policy

Read-write

Status

Mandatory

fsErrorStatus

{filesystem 9}

Description

Registers the last error that occurred on this file system object.

Object Identifier

1.3.6.1.4.1.886.1.1.25.9

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
5632	invalidFilesystem
5633	invalidValue

Access Policy

Read only

Status

Mandatory

fsOwnerString

{filesystem 10}

Description

Entity that configured the entry and is using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.1.25.10

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

fsEntryStatus

{filesystem 11}

Description

Modification status of this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.25.11

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

Peripheral Configuration Table

Use the objects in the peripheral configuration table to define operating parameters for peripheral equipment. System peripherals can include local system consoles, remote system consoles connected to your system by a modem, and printers.

peripheral

{config 26}

Object Identifier

1.3.6.1.4.1.886.1.1.26

periphLocalKBType

{peripheral 1}

Description

Keyboard for the local TTY. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Object Identifier

1.3.6.1.4.1.886.1.1.26.1

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	vt220
2	sunview
3	xview
4	universal

Access Policy

Read-write

Status

Mandatory

periphLocalBaud

{peripheral 2}

Description

Baud rate for the local TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.2

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	baud300
2	baud1200
3	baud2400
4	baud4800
5	baud9600
6	baud19200
7	baud38400

Access Policy

Read-write

Status

Mandatory

periphLocalStop

{peripheral 3}

Description

Stop bits for the local TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.3

Data Type

Integer. Valid values are 1 and 2.

Access Policy

Read-write

Status

Mandatory

periphLocalBits

{peripheral 4}

Description

Bits per character for the local TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.4

Data Type

Integer. Valid values or 7 or 8.

Access Policy

Read-write

Status

Mandatory

periphLocalParity

{peripheral 5}

Description

Parity for the local TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.5

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	none	No parity is used.
2	odd	Parity is odd.
3	even	Parity is even.

Access Policy

Read-write

Status

Mandatory

periphRemoteKBType

{peripheral 6}

Description

Keyboard for the remote TTY. For further information, see the *Cisco VCO/4K System Administrator's Guide.*

Object Identifier

1.3.6.1.4.1.886.1.1.26.6

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	vt220
2	sunview
3	xview
4	universal

Access Policy

Read-write

Status

Mandatory

periphRemoteBaud

{peripheral 7}

Description

The baud rate for the remote TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.7

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	baud300
2	baud1200
3	baud2400
4	baud4800
5	baud9600
6	baud19200
7	baud38400

Access Policy

Read-write

Status

Mandatory

periphRemoteStop

{peripheral 8}

Description

The stop bits for the remote TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.8

Data Type

Integer. Valid values are 1 and 2.

Access Policy

Read-write

Status

Mandatory

periphRemoteBits

{peripheral 9}

Description

The bits per character for the remote TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.9

Data Type

Integer. Valid values are 7 and 8.

Access Policy

Read-write

Status

Mandatory

periphRemoteParity

{peripheral 10}

Description

Parity for the remote TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.10

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	none	No parity
2	even	Parity is even
3	odd	Parity is odd

Access Policy

Read-write

Status

Mandatory

periphTelnetKBType

{peripheral 11}

Description

Keyboard type for the Telnet TTY. For further information, see the *Cisco VCO/4K System Administrator's Guide.*

Object Identifier

1.3.6.1.4.1.886.1.1.26.11

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	vt220
2	sunview
3	xview
4	universal

Access Policy

Read-write

Status

Mandatory

periphPrinterEOL

{peripheral 12}

Description

The printer end of line (EOL) control character.

Object Identifier

1.3.6.1.4.1.886.1.1.26.12

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	cr-lf	Carriage return and line feed
2	cr	Carriage return
3	lf	Line feed

Access Policy

Read-write

Status

Mandatory

periphErrorStatus

{peripheral 13}

Description

Registers the last error that occurred in this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.26.13

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
5888	notApplicable
5889	invalidValue

Access Policy

Read only

Status

Mandatory

periphOwnerString

{peripheral 14}

Description

The entity that configured this object and is using the attached resources.

Object Identifier

1.3.6.1.4.1.886.1.1.26.14

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

periphEntryStatus

{peripheral 15}

Description

Modification status of this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.26.15

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

periphLocalXonXoff

{peripheral 16}

Description

Flow-control for the Local TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.16

Data Type

Integer (1=disabled;2=enabled)

Access Policy

Read-write

Status

Mandatory

periphRemoteXonXoff

{peripheral 17}

Description

Flow-control for the Remote TTY.

Object Identifier

1.3.6.1.4.1.886.1.1.26.17

Data Type

Integer (1=disabled;2=enabled)

Access Policy

Read-write

Status

Mandatory

Host Configuration Table

Use the objects in the host configuration table to configure host interfaces and to indicate the status of the alarm conditions for host interfaces.

host

{config 27}

Object Identifier

1.3.6.1.4.1.886.1.1.27

hostTable

{host 1}

Description

Table of the host interfaces.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1

Data Type

Sequence of HostEntry

Access Policy

Not accessible

Status

Mandatory

hostEntry

{hostTable 1}

Description

Entry in the host table. An entry exports objects for all types of hosts, but certain fields are only meaningful for certain types of hosts.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1

Data Type

HostEntry

Access Policy

Not accessible

Status

Mandatory

Index

{hostIndex}

HostEntry

Sequence

hostIndex	Integer
hostType	Integer
hostName	DisplayString
hostPassword	DisplayString
hostLocalPort	Integer
hostAddress	IpAddress
hostRemotePort	Integer
hostAlarm	Integer
hostProtocol	Integer
hostResetTime	Integer
hostSioPort	Integer
hostPollTimeout	Integer
hostBaud	Integer
hostRetryCount	Integer
hostParity	Integer
hostBlockFactor	Integer

hostModem	Integer
hostFormat	Integer
hostErrorStatus	Integer
hostOwnerString	OwnerString
hostEntryStatus	FixedTabEntryStatus
hostFailureAction	Integer

hostIndex

{hostEntry 1}

Description

An index into the host table. This object applies to all host types.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.1

Data Type

Integer. Valid values are 1 to 9.

Access Policy

Read only

Status

Mandatory

hostType

{hostEntry 2}

Description

Determines the type of host specified.The first entry is always reserved for type internal. If the TeleRouter is supported, an SNMP_GET command on the first entry returns type internal (2). Otherwise, it returns type unused (1)

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.2

Data Type

Integer. Valid numerical and string values are shown in the following table:

Value	String	Meaning
1	unused	The TeleRouter is not installed.
2	internal	Internal software overlay. Optional TeleRouter software currently supported. You can specify only one Internal interface (must be first entry).

Cisco VCO/4K Management Information Base (MIB) Reference ■

Value	String	Meaning
3	ethernet	Ethernet TCP/IP communication using the Ethernet port on the CPU-TM. You can specify up to eight Ethernet interfaces (cannot use first entry).
4	sio	ADLC asynchronous communication using ports on the CPU-TM. You can specify only two SIO port interfaces (cannot use first entry).

Access Policy

Read-write

Status

Mandatory

Default Value

1 (unused)

hostName

{hostEntry 3}

Description

Determines the name of the host. This object accepts up to ten alphanumeric characters, either upper- or lowercase. This object applies to all hosts.

This object is valid for all host types except unused (no host).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.3

Data Type

DisplayString. Length of the display string is from 1 to 12 characters.

Access Policy

Read-write

Status

Mandatory

hostPassword

{hostEntry 6}

Description

Specifies the password required before accepting data from the network (applies only to Ethernet hosts). Password checking is disabled through the System Feature configuration. See the featureTable object featureEnableHostPasswordCheck (Object Identifier 1.3.6.1.4.1.886.1.1.19.9).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.6

Data Type

DisplayString. The valid value is a string with a length of from 1 to 16 ASCII characters.

Access Policy

Read-write

Status

Mandatory

hostLocalPort

{hostEntry 7}

Description

Specifies the local port number from which the system accepts data (applies only to Ethernet hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.7

Data Type

Integer. Valid values are 0 or a valid Ethernet port number.

Access Policy

Read-write

Status

Mandatory

Default Value

1024

hostAddress

{hostEntry 8}

Description

Specifies the Internet stations from which the system controller accepts data. This object applies only to Ethernet hosts.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.8

Data Type

IpAddress. INADDR_ANY (any Internet address == 0.0.0.0) or a valid Internet address.

Access Policy

Read-write

Status

Mandatory

hostRemotePort

{hostEntry 9}

Description

Specifies the TCP/IP port from which the system controller accepts data. This object applies only to Ethernet hosts.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.9

Data Type

Integer. Valid values are zero (0) or a valid port number. The port number must be greater than 1023.

Access Policy

Read-write

Status

Mandatory

Default Value

1024

hostAlarm

{hostEntry 10}

Description

Indicates current alarm state for host interface (applies only to Ethernet and SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.10

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	off	No alarm condition exits.
2	on	An alarm condition exists for this host interface link. The presence of an alarm state for an interface indicates that the link is currently out of service due to an error condition on either the system or the host end. You can use logfile messages to determine the cause of the link failure.

Access Policy

Read only

Status

Mandatory

hostProtocol

{hostEntry 11}

Description

Defines data transfer protocol used on host link (applies only to Ethernet and SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.11

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	tcp	TCP protocol. Required for Ethernet.
2	adlc	ADLC protocol. Required for SIO.
3	none	No protocol used.

Access Policy

Read only

Status

Mandatory

hostResetTime

{hostEntry 12}

Description

Specifies the time, in seconds, the VCO waits after a link failure/reset before re-establishing the link (applies to Ethernet and SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.12

Data Type

Integer. Valid value are from 0 to 999 seconds (cannot be set to 0).

Access Policy

Read-write

Status

Mandatory

hostSioPort

{hostEntry 13}

Description

The physical port number of the SIO link (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.13

Data Type

Integer. Valid values are 3 for SIO3, 4 for SIO4, 0 otherwise.

Access Policy

Read-write

Status

Mandatory

hostPollTimeout

{hostEntry 14}

Description

Specifies the amount of time, in seconds, the system waits to be polled by the host before the system assumes an error exists on the link (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.14

Data Type

Integer. Valid values are from 0 to 300 in increments of 1. Each increment is a 1 second interval. A setting of 15 seconds is recommended.

A zero (0) value equals an infinite wait. This is not recommended because the system uses this timeout to determine when a link failure has occurred.

Access Policy

Read-write

Status

Mandatory

Default Value

15 {seconds}

hostBaud

{hostEntry 15}

Description

Specifies the data transmission speed, in bits per second, over the link (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.15

Data Type

Integer. The valid numerical and string values are shown in the following table. Default value is 5 (9600).

Value	String
1	baud300
2	baud1200
3	baud2400
4	baud4800
5	baud9600
6	baud19200
7	baud38400

Access Policy

Read-write

Status

Mandatory

hostRetryCount

{hostEntry 16}

Description

Specifies the number of times the system retransmits a message before assuming an error condition exists on the link. This object applies only to SIO hosts.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.16

Data Type

Integer. The valid values are from 0 to 255. Recommended value is 5.

Access Policy

Read-write

Status

Mandatory

Default Value

{5}

hostParity

{hostEntry 17}

Description

Specifies if the system performs error checking using a parity bit (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.17

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	none	No parity
2	even	Parity is even
3	odd	Parity is odd

Access Policy

Read-write

Status

Mandatory

Default Value

1 {none}

hostBlockFactor

{hostEntry 18}

Description

Specifies the number of messages allowed in a multiblocked transmission. Transmit blocks can be constructed with a message count up to this number. This object applies only to SIO hosts.

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.18

Data Type

Integer. Valid values are from 1 to 32. Recommended value is 5.

Access Policy

Read-write

Status

Mandatory

Default Value

5 {Messages in transmission}

hostModem

{hostEntry 19}

Description

Specifies whether you are using a modem between this port and the host computer (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.19

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	no	You are not using a modem.
2	yes	You are using a modem. System uses full modem control signaling.

Access Policy

Read-write

Status

Mandatory

Default Value

1 (no modem)

hostFormat

{hostEntry 20}

Description

Specifies the number of stop bits used with the 8-bit data character (applies only to SIO hosts).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.20

Data Type

Integer. Valid values are 1 or 2.

Access Policy

Read-write

Status

Mandatory

hostErrorStatus

{hostEntry 21}

Description

Registers the last error that occurred on this entry (applies to all host types).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.21

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
4864	invalidHost
4865	invalidSlot
4866	notApplicable
4867	invalidValue
4868	noTelerouter
4869	duplicate
4870	notSupported

Access Policy

Read only

Status

Mandatory

hostOwnerString

{hostEntry 22}

Description

The entity that configured the object (applies to all host types).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.22

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

hostEntryStatus

{hostEntry 23}

Description

Modification status of the entry (applies to all host types).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.23

Data Type

FixedTabEntryStatus

Access Policy

Read-write

Status

Mandatory

hostFailureAction

{hostEntry 24}

Description

Defines the action taken on failure of the host (applies to Etherenet and SIO).

Object Identifier

1.3.6.1.4.1.886.1.1.27.1.1.24

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

hostTableLastModified

{host 2}

Description

The time, displayed in hundredths of a second, since the host table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.1.27.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

System Host Configuration

Use the objects in the system host configuration table to configure the parameters that apply to the interactions between your system and the host.

sysHost

{config 28}

Object Identifier

1.3.6.1.4.1.886.1.1.28

sysHostSetupTimerEnabled

{sysHost 1}

Description

Enables or disables the host setup timer function.

Object Identifier

1.3.6.1.4.1.886.1.1.28.1

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	no	Host setup timer processing is not performed.
2	yes	Host setup timer processing performed based on the specified host setup timer value.

Access Policy

Read-write

Status

Mandatory

Default Value

2 {Yes}

sysHostSetupTimer

{sysHost 2}

Description

Configures the duration of the setup timer. The setup timer is the length of time a host has to respond to a new call report.

Object Identifier

1.3.6.1.4.1.886.1.1.28.2

Data Type

Integer. Valid values are from 0 to 60 seconds.

Access Policy

Read-write

Status

Mandatory

sysHostAllHostLinkFailureAction

{sysHost 3}

Description

Specifies the action taken if all host links fail.

Object Identifier

1.3.6.1.4.1.886.1.1.28.3

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	major-alarm	A major alarm is generated when all host links fail.
2	fatal-alarm	A fatal alarm is generated when all host links fail. The system controller shuts down and reboots. If the system is redundant, then a system switchover is initiated.
3	conditional-switchover	A major alarm is generated when all host links fail. A system switchover is initiated if the standby controller is on-line (file synchronization completed) and the system has active host links. No reboot is performed after a conditional switchover.

Access Policy

Read-write

Status

Mandatory

sysHostControlCallLoad

{sysHost 4}

Description

Enables or disables the host control of call load feature. This applies when the host links are marked as ready to process calls. No call reports are issued to a host link until it is marked as available to process calls.

Object Identifier

1.3.6.1.4.1.886.1.1.28.4

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String	Meaning
1	no	Host links marked as available when link is established.
2	yes	Host links not marked as available until the system receives a $C0 04 command from the host.

Access Policy

Read-write

Status

Mandatory

Default Value

no {1}

sysHostControlChecking

{sysHost 5}

Description

Enables or disables host control verification.

Object Identifier

1.3.6.1.4.1.886.1.1.28.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	no	No host control verification is performed. The system accepts commands from any host link regardless of the host link assigned as controlling host.
2	yes	The system accepts commands only from the host link assigned to the call. Controlling host assignment is made based on the Incoming Call Distribution field configuration.

Access Policy

Read-write

Status

Mandatory

Default Value

no {1}

sysHostIncomingCallDistribution

{sysHost 6}

Description

Specifies how new incoming calls are distributed to available host links.

Object Identifier

1.3.6.1.4.1.886.1.1.28.6

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	broadcast	Reports for new calls are sent to all available host links. The first host to respond to the report is assigned as the controlling host.
2	cyclic	Reports for new calls are uniformly distributed among all available host links. One host link is assigned to the call by the system and all reports for that call are sent only to the assigned host link. If you enable Host Control Checking then resource commands for the call are only accepted from the assigned host link.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {broadcast}

sysHostNoAlarmReportAtInit

{sysHost 7}

Description

Enables or disables the suppression of alarm reports during the first five minutes following system initialization. During system initialization several alarm conditions are set and cleared as part of normal processing.

An Alarm Condition ($F0) report is normally issued to all active host links whenever an alarm condition is set or cleared. Enabling this feature suppresses these reports until the system is beyond the initialization period.

Object Identifier

1.3.6.1.4.1.886.1.1.28.7

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	no	The $F0 alarm reports are issued to all active host links during initialization.
2	yes	The $F0 alarm reports are suppressed for the first five minutes following system initialization.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

sysHostReportInitToAll

{sysHost 8}

Description

Enables or Disables the sending of Active/Standby Mode ($DC) reports to indicate that the system has completed initialization and is ready to process calls.

Object Identifier

1.3.6.1.4.1.886.1.1.28.8

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	no	No Active/Standby Mode ($DC) report is issued when Phase 3 system initialization has completed.
2	yes	Active/Standby Mode ($DC) report is issued when Phase 3 system initialization has completed.

Access Policy

Read-write

Status

Mandatory

Default Value

1 {no}

sysHostErrorStatus

{sysHost 9}

Description

Registers the last error that occurred in this entry.

Object Identifier

1.3.6.1.4.1.886.1.1.28.9

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
5120	invalidFlag
5121	invalidValue

Access Policy

Read only

Status

Mandatory

sysHostOwnerString

{sysHost 10}

Description

The entity that last configured a feature.

Object Identifier

1.3.6.1.4.1.886.1.1.28.10

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

sysHostEntryStatus

{sysHost 11}

Description

The modification status of the configuration.

Object Identifier

1.3.6.1.4.1.886.1.1.28.11

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

Live Upgrade

The software Live Upgrade option gives you the ability to update software on a redundant VCO system without loss of calls, and with a minimum reduction in capacity. The procedure consists of:

- Installing the new software
- Updating the system controller (CPU card) and/or NBC3 card and/or DTG-2 card (if needed)
- Switching over to the new release
- Updating certain network and service circuit cards (if needed)

Details concerning the live upgrade process can be found in the system Generic Release Notes for the latest release.

This chapter provides information pertaining only to live upgrade data which can be accessed from the VCO MIB.

⚠
Caution   The MIB software is not backward compatible. If you are using SNMP, and you upgrade to the latest software release, you must recompile the MIB.

liveUOperState

{liveU 1}

Description

The current operational state of the live upgrade process. The above includes both internal and external states. Internal states indicate some event in progress on the local side or a wait in progress for an event to occur on the other side and end with the suffix InProgress or OnOther, respectively. While the live upgrade process is in an internal state, the only user-initiated event or action that is possible is abort. External states indicate the completion of some event or activity and end with the suffix Complete. The user can initiate another event at this point by setting liveUAdminEvent. The valid next possible events at any given time is indicated by the object liveUValidNextEvents.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.1

Data Type

Integer. Possible values are:

Value	State
1	idle
2	prepareInProgress
3	prepareComplete
4	installInProgress
5	waitingForInstallOnOther
6	bothInstallsComplete
7	upgradeInProgress
8	upgradeComplete
9	configInProgress
10	configComplete
11	updateInProgress
12	waitingForUpdateOnOther
13	bothUpdatesComplete
14	switchoverInProgress
15	switchoverComplete
16	cutoverInProgress
17	cutoverComplete
18	backupInProgress
19	backupComplete
20	cleanupInProgress
21	abortInProgress

Access Policy

Read only

Status

Mandatory

liveUAdminEvent

{liveU 2}

Description

The desired event that the user wants to generate.

All events, other than installComplete, configOptSoftComplete, cutoverComplete, and backupDBComplete generate some activity on the switch. The four events above indicate to the switch the completion of some activity carried out by the user. The user performs these activities using other MIB groups or other facilities. Installation may be performed via FTP or some other means. Configuration of optional software is performed using the groups optSoft and etherCfg. Cutting over cards is performed using the Status objects of the cards being cut over. Backup may be performed via FTP or some other means.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.2

Data Type

Integer. Possible values are:

Value	State
1	prepareForInstall
2	installComplete
3	upgrade
4	configOptSoftComplete
5	update
6	switchover
7	cutoverComplete
8	backupDBComplete
9	cleanup
10	abort
11	none

Access Policy

Read-write

Status

Mandatory

liveUValidNextEvents

{liveU 3}

Description

This is a bit mask that indicates the valid 'next possible events' as follows:

bit #	Meaning
1	prepareForInstall
2	installComplete
3	upgrade
4	configOptSoftComplete
5	update
6	switchover
7	cutoverComplete
8	backupDBComplete

bit #	Meaning
9	cleanup
10	abort

Bits are numbered according to Motorola format (LSB is bit 0).

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.3

Data Type

Integer. (0..'7ff'h)

Access Policy

Read only

Status

Mandatory

liveUProgress

{liveU 4}

Description

This object indicates whether a liveU operation (started by setting liveUAdminEvent) is pending or not. The meanings of the various values are as follows:

Value	Meaning
notPending	No operation has been started since the system was last booted
pending	An operation that was previously started is currently pending completion
completedWithSuccess	An operation that was previously started has completed with success
completedWithFailure	An operation that was previously started has completed with failure

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.4

Data Type

Integer. Possible values are as follows:

Value	String
1	notPending
2	pending
3	completedWithSuccess
4	completedWithFailure

Access Policy

Read only

Status

Mandatory

liveUErrorStatus

{liveU 5}

Description

The reason for failure if liveUAdminEvent cannot be set or if there is any other failure.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.5

Data Type

Integer. Possible values are as follows:

Value	String
7424	unknownFailure
7425	illegalEvent
7426	standbyNotOnline
7427	notRedundant
7428	notAllowedOnActive
7429	intErrQueue
7430	intErrInvalidState
7431	intErrInvalidEvent
7432	intErrProcessing

Access Policy

Read only

Status

Mandatory

liveUOwnerString

{liveU 6}

Description

The entity that configured the liveU group.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.6

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

liveUEntryStatus

{liveU 7}

Description

The status of the liveU group.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.1.7

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

liveULastModified

{liveUGroup 2}

Description

The time (in hundredths of a second) since the epoch that the liveU group was last modified.

Object Identifier

1.3.6.1.4.1.886.1.1.31.1.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

liveUlogTable

{liveUGroup 2}

Description

The list of logs.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1

Data Type

Sequence of LiveUlogEntry

Access Policy

Not accessible

Status

Mandatory

liveUlogEntry

{liveUlogTable 1}

Description

A log entry.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1

Data Type

LiveUlogEntry

Access Policy

Not accessible

Status

Mandatory

liveUlogYear

{liveUlogEntry 1}

Description

The year of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.1

Data Type

Integer (1991..2119)

Access Policy

Read only

Status

Mandatory

liveUlogMonth

{liveUlogEntry 2}

Description

The month of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.2

Data Type

Integer. Possible values are as follows:

Value	String
1	january
2	february
3	march
4	april
5	may
6	june
7	july
8	august
9	september
10	october
11	november
12	december

Access Policy

Read only

Status

Mandatory

liveUlogDate

{liveUlogEntry 3}

Description

The date of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.3

Data Type

Integer (1...31)

Access Policy

Read only

Status

Mandatory

liveUlogHour

{liveUlogEntry 4}

Description

The hour of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.4

Data Type

Integer (0...23)

Access Policy

Read only

Status

Mandatory

liveUlogMin

{liveUlogEntry 5}

Description

The minute of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.5

Data Type

Integer (0...59)

Access Policy

Read only

Status

Mandatory

liveUlogSec

{liveUlogEntry 6}

Description

The second of the log time-stamp.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.6

Data Type

Integer (1...59)

Access Policy

Read only

Status

Mandatory

liveUlogSequence

{liveUlogEntry 7}

Description

The sequence number of this log entry for this time-stamp, starting with one (1). If there are multiple log entries with the same time-stamp, this value starts incrementing by 1 for each entry with the same time-stamp. When the time-stamp changes, this value starts again from one (1).

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

liveUlogDay

{liveUlogEntry 8}

Description

The day of the week.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.8

Data Type

Integer. Possible values are:

Value	String
1	sunday
2	monday
3	tuesday
4	wednesday
5	thursday
6	friday
7	saturday

Access Policy

Read only

Status

Mandatory

liveUlogActSby

{liveUlogEntry 9}

Description

For nonredundant systems, the value of this object is always 'active'. For redundant systems, this object identifies whether the side of the switch issuing this message was active or standby.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.9

Data Type

Integer. Possible values are:

Value	String
1	active
2	standby
3	unknown

Access Policy

Read only

Status

Mandatory

liveUlogMessage

{liveUlogEntry 10}

Description

The log message itself.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.10

Data Type

DisplayString (size 1...80)

Access Policy

Read only

Status

Mandatory

liveUlogErrorStatus

{liveUlogEntry 11}

Description

The error that was encountered in the last log operation.

Object Identifier

1.3.6.1.4.1.886.1.1.31.2.1.1.11

Data Type

Integer. Possible values are as follows:

Value	String
7680	fileOpenErr
7681	fileSeekErr
7682	devAndDirUnknown
7683	dirListErr
7684	expectedRecNotFnd
7685	expectedEorNotFnd
7686	unexpectedEofOrErr

Access Policy

Read only

Status

Mandatory

Optional Software Group

The optional software group provides SNMP access to optional software components running on the VCO system, including TeleRouter, ISDN/NFAS, and the Ethernet communications package.

The following object listings provide access to generic configuration functions related to optional software products. Specific information relating to Ethernet configuration follows in the "Ethernet Communciations Group" section on page 2-101. Information pertaining to ISDN/NFAS can be found in Chapter 6, "Single-Span ISDN Card Group". Information pertaining to TeleRouter can be found in the "Routing Table Group" section on page 10-55.

optSoftTable

{optSoft 1}

Description

The list of optional software entries.

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1

Data Type

Sequence of OptSoftEntry

Access Policy

Not accessible

Status

Mandatory

optSoftEntry

{optSoftTable 1}

Description

An optional software entry.

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1

Data Type

OptSoftEntry

Access Policy

Not accessible

Status

Mandatory

optSoftName

{optSoftEntry 1}

Description

The optional software to be enabled or disabled.

Possible values include:

Value	String
1	Telerouter
2	Ethernet
3	ISDN
4	NFAS

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

optSoftOperState

{optSoftEntry 2}

Description

Contains the status of the optional software. Possible values are:

Value	String
1	enabled
2	disabled
3	notLoaded

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

optSoftAdminState

{optSoftEntry 3}

Description

Determines if the optional software should be enabled or disabled. If the optional software is not loaded, the value returned is 'disable'. Possible values are:

Value	String
1	enable
2	disable

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.3

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

optSoftErrorStatus

{optSoftEntry 4}

Description

The reason for failure if optSoftState cannot be set to the desired state or if there is some other error. Possible values are:

Value	String
7936	unknownFailure
7937	softwareNotLoaded

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

optSoftOwnerString

{optSoftEntry 5}

Description

The entity that configured this entry and is therefore using the entry assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.5

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

optSoftEntryStatus

{optSoftEntry 6}

Description

The status of the optional software group.

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.1.1.6

Data Type

FixedTabEntryStatus

Access Policy

Read-write

Status

Mandatory

optSoftTableLastModified

{optSoftEntry 2}

Description

The time (in hundredths of a second) since the epoch that the optional software table was last modified.

Object Identifier

1.3.6.1.4.1.886.1.1.32.1.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Ethernet Communciations Group

The Ethernet Communications Package supports Ethernet TCP/IP communications between the VCO system and one or more host computers. It is an optional package that consists of software and documentation.

TCP error handling includes checksum verification of messages, sequential message delivery, and protection against message duplication.

The Ethernet package supports a single physical link with multiple logical connections (i.e., sockets, which are the interface between the Ethernet communications protocol, and the application). The VCO system supports up to eight simultaneous sockets, using the BSD 4.3 Internet Domain sockets interface.

The VCO MIB provides access to system Ethernet configuration functions, including:

- Setting and changing IP addresses and subnet masks
- Configuring NFS access, IP addresses, names, IDs, and mount points
- Setting system names, IDs, and umasks
- Checking error status

The following object listings provide further details concerning Ethernet configuration through SNMP queries to the VCO MIB.

etherCfgOperSysInetAddr

{etherCfg 1}

Description

The current IP address of this switch.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.1

Data Type

IpAddress

Access Policy

Read only

Status

Mandatory

etherCfgAdminSysInetAddr

{etherCfg 2}

Description

The desired IP address of this switch.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.2

Data Type

IpAddress

Access Policy

Read-write

Status

Mandatory

etherCfgNFSFileAccess

{etherCfg 3}

Description

Enables or disables NFS file access.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.3

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

etherCfgNFSServerInetAddr

{etherCfg 4}

Description

The IP address of the NFS server.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.4

Data Type

IpAddress

Access Policy

Read-write

Status

Mandatory

etherCfgNFSServerName

{etherCfg 5}

Description

The NFS server name.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.5

Data Type

DisplayString (SIZE (0..15))

Access Policy

Read-write

Status

Mandatory

etherCfgNFSMountDirPt

{etherCfg 6}

Description

The NFS Server Mount Directory Point.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.6

Data Type

DisplayString (SIZE (0..47))

Access Policy

Read-write

Status

Mandatory

etherCfgTargetSysName

{etherCfg 7}

Description

The system name of this switch.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.7

Data Type

DisplayString (SIZE (0..15))

Access Policy

Read-write

Status

Mandatory

etherCfgTargetSysUID

{etherCfg 8}

Description

The user id assigned to this switch.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.8

Data Type

Integer (0..65535)

Access Policy

Read-write

Status

Mandatory

etherCfgTargetSysGID

{etherCfg 9}

Description

The group id assigned to this switch.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.9

Data Type

Integer (0..65535)

Access Policy

Read-write

Status

Mandatory

etherCfgTargetSysUMask

{etherCfg 10}

Description

The Umask assigned to this switch. This should consist of no more than 3 numerals with no numeral exceeding the number 7 (i.e., octal values).

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.10

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

etherCfgErrorStatus

{etherCfg 11}

Description

Registers the last error that occurred in this group. Possible values are:

Value	String
8192	invalidValue
8193	unacceptableIpAddr

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

etherCfgOwnerString

{etherCfg 12}

Description

The entity that configured this entry and is therefore using the entry assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

etherCfgEntryStatus

{etherCfg 13}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.13

Data Type

NonTabEntryStatus

Access Policy

Read-write

Status

Mandatory

etherCfgSysSubnetMask

{etherCfg 14}

Description

The subnet mask of this system.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.1.14

Data Type

IpAddress

Access Policy

Read-write

Status

Mandatory

etherCfgLastModified

{etherCfgGroup 2}

Description

The time (in hundredths of a second) since the epoch that the etherCfg group was last modified.

Object Identifier

1.3.6.1.4.1.886.1.1.32.2.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Line Card Group

Use the line card group to assign a name, default inpulse rule, and class of service (COS) to individual ports on a Line Test Card-8 (LTC-8). This group consists of two tables:

- The line card table (lcTable)
- The line card port table (lcPortTable)

When configuring a port, assign a name, a default inpulse rule, and a class of service (COS) to the port.

Line Card Table

The line card table contains a list of the line cards available. Cards can be added, deleted, configured, and modified. The objects within the line card table identify the different attributes on that particular card. For further information on line cards, refer to the *Cisco VCO/4K Card Technical Descriptions.*

lcTable

{lc 1}

Description

Contains a list of the line cards.

Object Identifier

1.3.6.1.4.1.886.1.2.1

Data Type

Sequence of LcEntry

Access Policy

Not accessible

Status

Mandatory

lcEntry

{lcTable 1}

Description

Each entry corresponds to a line card in the system.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1

Data Type

CardIndex

Access Policy

Not accessible

Status

Mandatory

Index

{lcIndex}

LcEntry

Sequence

lcIndex	CardIndex
lcRack	Integer
lcLevel	Integer
lcSlot	Integer
lcStatus	Integer
lcUnusedPorts	Integer
lcType	Integer
lcRevVer	DisplayString
lcPhyAdd	Integer
lcAlarm	Integer
lcErrorStatus	Integer
lcOwnerString	OwnerString
lcEntryStatus	EntryStatus

lcIndex

{lcEntry 1}

Description

Identifies an object in the line card table. The object contains the physical location (hardware address) of the line card. The object lists the rack (R), level (L), and slot (S) where the card resides. See the "Card Index" section on page 1-6 to determine the index value.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

lcRack

{lcEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcLevel

{lcEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcSlot

{lcEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcStatus

{1cEntry 5}

Description

Indicates the current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.5

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
1	active	Ports on this card can be involved in active calls and can be allocated to new calls.
2	maintenance	One or more ports on this card might be involved in active calls. No ports are allocated to new calls.
3	diagnostics	No ports on this card are involved in calls or allocated to new calls.
4	outOfService	No ports on this card are involved in active calls. No ports are allocated to new calls.

Access Policy

Read-write

Status

Mandatory

lcUnusedPorts

{lcEntry 6}

Description

Indicates the number of ports not currently active on this card. For multispan cards, this object indicates the number of ports not currently active on individual spans. Valid only for network interface and internal service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcType

{lcEntry 7}

Description

Indicates the card type. In this table the card type is a Subscriber Line Interface Card (SLIC). The value is always 1 for SLIC cards.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcRevVer

{lcEntry 8}

Description

Version and revision level of the firmware installed on this card. Use this field to verify the firmware versions you installed for the network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.8

Data Type

DisplayString. Length is from 1 to 5 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

lcPhyAdd

{lcEntry 9}

Description

Physical address of this card (assigned by the system).

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcAlarm

{lcEntry 10}

Description

Contains the alarms active on this card.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.10

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

lcErrorStatus

{lcEntry 11}

Description

Registers the last error that occurred on this card. For a list of card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcOwnerString

{lcEntry 12}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

lcEntryStatus

{lcEntry 13}

Description

The status of this line card entry.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.13

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

lcDwnldVersion

{lcEntry 14}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.14

Data Type

DisplayString (size 1...4)

Access Policy

Read only

Status

Mandatory

lcUpgradeState

{lcEntry 15}

Description

The upgrade state of this line card entry.

Object Identifier

1.3.6.1.4.1.886.1.2.1.1.13

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

lcTableLastModified

{lc 2}

Description

The time, displayed in hundredths of a second, since the line card table was last modified. Helps application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.2.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Line Card Port Table

Use the line card port configuration to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on a line card.

For more information on configuring line ports, refer to the *Cisco VCO/4K System Administrator's Guide.*

lcPortTable

{lc 4}

Description

A list of the port entries on each line card.

Object Identifier

1.3.6.1.4.1.886.1.2.4

Data Type

Sequence of LcPortEntry

Access Policy

Not accessible

Status

Mandatory

lcPortEntry

{lcPortTable 1}

Description

Contains objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1

Data Type

LcPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{lcIndex, lcPortIndex}

LcPortEntry

Sequence

lcPortIndex	Integer
lcPortState	Integer
lcPortName	DisplayString
lcPortCos	Integer
lcPortMajorState	PortMajorState
lcPortSuppState	PortSuppState
lcPortAddress	Integer
lcInpulseRuleIndex	Integer
lcResGroupIndex	Integer
lcResGroupPosition	Integer
lcPortErrorStatus	Integer
lcPortOwnerString	OwnerString
lcPortEntryStatus	PortEntryStatus

lcPortIndex

{lcPortEntry 1}

Description

Indicates the port number on the card.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.1

Data Type

Integer (1 to 8). There are eight ports on a line card.

Access Policy

Read only

Status

Mandatory

lcPortState

{lcPortEntry 2}

Description

Contains the state of the port. The port state can be active (1) or inactive (2).

Note   Always modify the state of ports one at a time. That is, the EntryStatus object must be set to valid after every SNMP_SET command on this object.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.2

Data Type

Integer. The possible values are 1 (active) and 2 (inactive).

Access Policy

Read-write

Status

Mandatory

lcPortName

{lcPortEntry 3}

Description

Optional database object for identifying individual circuits. When used, each port name should be unique and helpful in describing for what the port is used.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.3

Data Type

DisplayString. This field accepts up to 8 upper- or lowercase alphanumeric characters.

Access Policy

Read-write

Status

Optional

IcPortCos

{lcPortEntry 4}

Description

Determines the software operating characteristics for this port. Ports on the same card can have different COS values.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.4

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	o	Originating—Calls originating from the system. Outgoing calls are initiated by the host command.
2	t	Terminating—Calls terminating at the system. Incoming calls are initiated by action outside the system or forced by the host command.
3	w2	Two-Way—Calls originating from the system or calls terminating at the system. Outgoing calls are initiated by the host command. Incoming calls are initiated by outside actions.
4	oa	Always Off Hook and Originating—Calls originating from the system. Port goes off hook at system reset and remains off hook. Outgoing calls are initiated by the host command.
5	ta	Always Off Hook and Terminating—Calls terminating at the system. Port goes off hook at system reset and remains off hook. Incoming calls are initiated by outside actions or forced by the host command.
6	a2	Always Off Hook and Two-Way—Calls originating from the system or calls terminating at the system. Port goes off hook at system reset and remains off hook. Outgoing calls are initiated by the host command, incoming calls are initiated by outside actions or forced by the host command.

Access Policy

Read-write

Status

Mandatory

IcPortMajorState

{lcPortEntry 5}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.5

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

lcPortSuppState

{lcPortEntry 6}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.6

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

lcPortAddress

{lcPortEntry 7}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcInpulseRuleIndex

{lcPortEntry 8}

Description

A foreign key corresponding to the inpulseRuleIndex in the inpulseTable. Access this object when assigning a particular inpulse rule to a port.

Determines the inpulse rule processed when the port goes off hook. Use default inpulse rules for incoming ports only (Class of Service = T, W2, AT, or A2). The inpulse rule chosen must be defined from the control console or through the objects in the inpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.8

Data Type

Integer. The possible values range from 0 to 30. Default is 0.

Access Policy

Read-write

Status

Mandatory

lcResGroupIndex

{lcPortEntry 9}

Description

A foreign key corresponding to the resGroupIndex (ID 1.3.6.1.4.1.886.1.9.1.1.1) in the resGroupTable.

Indicates the number of the resource group to which this port belongs. If no resource group is assigned, the value is zero (0).

Change this attribute by setting the EntryStatus and the resGroupTable objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.9

Data Type

Integer. The possible values range from 0 to 63.

Access Policy

Read-write

Status

Mandatory

lcResGroupPosition

{lcPortEntry 10}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcPortErrorStatus

{lcPortEntry 11}

Description

Registers the last error that occurred on this port.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

lcPortOwnerString

{lcPortEntry 12}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

lcPortEntryStatus

{lcPortEntry 13}

Description

The status of the table object.

Object Identifier

1.3.6.1.4.1.886.1.2.4.1.13

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

lcPortTableLastModified

{lc 5}

Description

The time, displayed in hundredths of a second, since the beginning of the time that the line card port table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.2.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Trunk Card Group

Use the trunk card group to configure individual ports on a trunk card. You can configure the following cards:

- T1 Interface Card (T1)
- E1 Interface Card (E1)
- Universal Trunk Card (UTC)
- E+M Interface Card (E+M)
- Direct Inward Dial Card (DID)

Trunk Card Table

The trunk card table contains a list of the trunk cards available. You can add, delete, configure, and modify trunk cards. The objects within the trunk card table identify the different attributes on that particular card. For further information on trunk cards, refer to the *Cisco VCO/4K Card Technical Descriptions.*

tcTable

{tc 1}

Description

A list of the trunk cards.

Object Identifier

1.3.6.1.4.1.886.1.3.1

Data Type

Sequence of TcEntry

Access Policy

Not accessible

Status

Mandatory

tcEntry

{tcTable 1}

Description

Each entry corresponds to a trunk card in the system.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1

Data Type

TcEntry

Access Policy

Not accessible

Status

Mandatory

Index

{tcIndex, tcType}

TcEntry

Sequence

tcIndex	CardIndex
tcRack	Integer
tcLevel	Integer
tcSlot	Integer
tcStatus	Integer
tcUnusedPorts	Integer
tcType	Integer
tcRevVer	DisplayString
tcPhyAdd	Integer
tcNfasGrpIndex	Integer
tcNfasGrpPosition	Integer
tcAlarm	Integer
tcErrorStatus	Integer

tcOwnerString   OwnerString

tcEntryStatus   EntryStatus

tcIndex

{tcEntry 1}

Description

Identifies an object in the trunk card table and contains the physical location (hardware address) of the trunk card. The entry lists the rack (R), level (L), and slot (S) where the card resides. The tcIndex is the primary index into the trunk card table. See the "Card Index" section on page 1-6 to determine the index value.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

tcRack

{tcEntry 2}

Description

Rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcLevel

{tcEntry 3}

Description

Level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcSlot

{tcEntry 4}

Description

Slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcStatus

{tcEntry 5}

Description

Current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.5

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	active	Ports on this card can be involved in active calls and can be allocated to new calls.
2	maintenance	One or more ports on this card might be involved in active calls. No ports are allocated to new calls.
3	diagnostics	No ports on this card are involved in calls or allocated to new calls.

Value	String	Meaning
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
6	campedOn	Status change to diagnostics mode was attempted while ports on this card were still involved in calls. No ports are allocated to new calls and card remains in this mode until further administrator action.

Access Policy

Read-write

Status

Mandatory

tcUnusedPorts

{tcEntry 6}

Description

Number of ports not currently active on this card. For multispan cards, this entry indicates the number of ports not currently active on individual spans. Valid only for network interface and internal service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcType

{tcEntry 7}

Description

Indicates the type of trunk card. The tcType object is the secondary index in the truck card table.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.7

Data Type

Integer. The valid card values and names are shown in the following table:

Value	String	Meaning
1	t1	T1 Card
2	e1	E1 Card
3	utc	Universal Trunk Card
4	did	Direct Inward Dial Card
5	e-m	E and M Card

Access Policy

Read only

Status

Mandatory

tcRevVer

{tcEntry 8}

Description

Version and revision numbers for the firmware installed on this card. Use this object to verify the firmware versions that you installed for network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.8

Data Type

DisplayString. Length of the display string is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

tcPhyAdd

{tcEntry 9}

Description

Physical address of this card. The address is assigned by the system.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcNfasGrpIndex

{tcEntry 10}

Description

A foreign key in the NFAS group table. Indicates to which NFAS group this card belongs.

To change this attribute, set the tcEntryStatus and the nfasGroup Table to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.10

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

tcNfasGrpPosition

{tcEntry 11}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcAlarm

{tcEntry 12}

Description

Tracks which alarms (internally represented as a bit map) are active on this card. A bit is set to 1 for each active card alarm (there are a total of 32 bits). The following table shows the bits and the alarm description:

Bit	Alarm Description
0	Card failure – minor
1	Port failure – minor
2	T1/PRI carrier failure – major
3	T1/PRI remote carrier failure – major
4	T1/PRI card failure – major
5	T1 Signaling Bit – minor
6	PRI Bipolar Violations Mlimit reached
7	T1/PRI Out of Frame MLimit reached – minor
8	T1 Slip Maint Limit reached – minor
9	T1/PRI OOF condition – minor
10	PRI D-channel failure – major
11-32	Unsigned filler (set to zero)

Note   The NMS application needs to interpret the alarm status from the integer value returned by this object.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcErrorStatus

{tcEntry 13}

Description

Registers the last error that occurred on this card. For a list of card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.13

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcOwnerString

{tcEntry 14}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.14

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

tcEntryStatus

{tcEntry 15}

Description

Status of this trunk card object.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.15

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

tcDwnldVersion

{tcEntry 16}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.16

Data Type

DisplayString (size 1...4)

Access Policy

Read-only

Status

Mandatory

tcUpgradeState

{tcEntry 17}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.3.1.1.17

Data Type

UpgradeState

Access Policy

Read-only

Status

Mandatory

tcTableLastModified

{tc 2}

Description

The time, displayed in hundredths of a second, since the trunk card table (tcTable) was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.3.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Trunk Port Table

Use the trunk port configuration section to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on a trunk card.

tcPortTable

{tc 4}

Description

A list of port entries on the trunk card.

Object Identifier

1.3.6.1.4.1.886.1.3.4

Data Type

Sequence of TcPortEntry

Access Policy

Not accessible

Status

Mandatory

tcPortEntry

{tcPortTable 1}

Description

Contains objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1

Data Type

TcPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{tcIndex, tcPortIndex}

TcPortEntry

Sequence

tcPortIndex	Integer
tcPortState	Integer
tcCardType	Integer
tcPortName	DisplayString

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Trunk Port Table

tcPortHwType	Integer
tcPortCos	Integer
tcPortMajorState	PortMajorState
tcPortSuppState	PortSuppState
tcPortAddress	Integer
tcInpulseRuleIndex	Integer
tcResGroupIndex	Integer
tcResGroupPosition	Integer
tcPortErrorStatus	Integer
tcPortOwnerString	OwnerString
tcPortEntryStatus	PortEntryStatus

tcPortIndex

{tcPortEntry 1}

Description

Indicates the port number on the card. Trunk cards can have 8, 24, or 32 ports. This object is the primary index key into this table.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.1

Data Type

Integer. The valid values for this field are 8, 24, or 32.

Access Policy

Read only

Status

Mandatory

tcPortState

{tcPortEntry 2}

Description

Contains the state of the port. The states are active (1) or inactive (2).

Note Always modify the state of ports one at a time. That is, the EntryStatus object must be set to valid after every SNMP_SET command on this object.

Cisco VCO/4K Management Information Base (MIB) Reference

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78-10708-04

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.2

Data Type

Integer. The two values are 1 (active) and 2 (inactive).

Access Policy

Read-write

Status

Mandatory

tcPCardType

{tcPortEntry 3}

Description

This object contains the type of trunk card to which the port is attached.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.3

Data Type

Integer. The valid cards and their names are shown in the following table:

Value	String	Meaning
1	t1	T1 Card
2	e1	E1 Card
3	utc	Universal Trunk Card
4	did	Direct Inward Dial Card
5	e-m	E and M Card

Access Policy

Read only

Status

Mandatory

tcPortName

{tcPortEntry 4}

Description

Identifies individual circuits (optional database object). When using a port name, each one should be unique and describe what you use the port for.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.4

Data Type

DisplayString. This field accepts up to 8 upper- or lowercase alphanumeric characters.

Access Policy

Read-write

Status

Optional

tcPortHwType

{tcPortEntry 5}

Description

Determines the type of trunk interface circuit used for this port. Not all trunk card types require an entry for this field.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.5

Data Type

Integer. The following table shows valid combinations of card type and hardware type:

Value	String	Hardware Type				
		T1	UTC Outgoing	UTC Incoming	DID	E+M
0	none	N/A	N/A	N/A	N/A	N/A
1	gs	No	Yes	None[1]	None	None
2	ls	No	Yes	None	None	None
3	em2w	No	No	None	None	None
4	em4w	Yes	No	None	None	None

1.   No hardware type necessary.

Access Policy

Read-write

Status

Mandatory

tcPortCos

{tcPortEntry 6}

Description

Determines the software operating characteristics for this port. Ports on the same card can have different class of service (COS) values.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.6

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	o	Originating—Calls originating from the system. Outgoing calls are initiated by the host command.
2	t	Terminating—Calls terminating at the system. Incoming calls are initiated by action outside the VCO or forced by the host command.
3	w2	Two-Way—Calls originating from the system or calls terminating at the system. Outgoing calls are initiated by the host command. Incoming calls are initiated by outside actions.
4	oa	Always Off Hook and Originating—Calls originating from the system. Port goes off hook at system reset and remains off hook. Outgoing calls are initiated by the host command.
5	ta	Always Off Hook and Terminating—Calls terminating at the VCO. Port goes off hook at VCO system reset and remains off hook. Incoming calls are initiated by outside actions or forced by the host command.
6	a2	Always Off Hook and Two-Way—Calls originating from the VCO or calls terminating at the VCO. Port goes off hook at VCO system reset and remains off hook. Outgoing calls are initiated by the host command, incoming calls are initiated by outside actions or forced by the host command.

Access Policy

Read-write

Status

Mandatory

tcPortMajorState

{tcPortEntry 7}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.7

Data Type

PortMajorState

Access Policy

Read only

Cisco VCO/4K Management Information Base (MIB) Reference

Status

Mandatory

tcPortSuppState

{tcPortEntry 8}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.8

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

tcPortAddress

{tcPortEntry 9}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcInpulseRuleIndex

{tcPortEntry 10}

Description

A foreign key corresponding to the inpulseRuleIndex (ID 1.3.6.1.4.1.886.1.9.5.1.1) in the inpulseTable. Access this object while you are assigning a particular inpulse rule to a port.

This object determines the inpulse rule processed when the port goes off hook. Default inpulse rules are used for incoming ports only (Class of Service = T, W2, AT, or A2). The inpulse rule chosen must be defined at the control console using the inpulse rules Table screens or by using the inpulse rule table objects.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.10

Data Type

Integer. Possible values for this field are 0 to 30 in 2K mode, or 0 to 255 in 4K mode. Zero means you are not selecting a default inpulse rule.

Access Policy

Read-write

Status

Mandatory

tcResGroupIndex

{tcPortEntry 11}

Description

A foreign key corresponding to the resGroupIndex in the resGroupTable. This index indicates the number of the resource group to which this port belongs. If no resource group is assigned, the value in this object is zero (0).

To change this attribute, set the tcEntryStatus and the resGroup Table objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.11

Data Type

Integer. Possible values for this field are from 0 to 63 in 2K mode, or 0 to 224 in 4K mode.

Access Policy

Read-write

Status

Mandatory

tcResGroupPosition

{tcPortEntry 12}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcPortErrorStatus

{tcPortEntry 13}

Description

Registers the last error that occurred on this port.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.13

Data Type

Integer

Access Policy

Read only

Status

Mandatory

tcPortOwnerString

{tcPortEntry 14}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.14

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

tcPortEntryStatus

{tcPortEntry 15}

Description

The status of the table entry.

Object Identifier

1.3.6.1.4.1.886.1.3.4.1.15

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

tcPortTableLastModified

{tc 5}

Description

The time, displayed in hundredths of a second, since the tcPortTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.3.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Programmable Trunk Card Group

This chapter describes the configuration for the Four Span T1, Four Span E1, and MVDC-T1 programmable trunk cards.

Use the programmable trunk card group to configure individual ports on programmable Four Span T1, Four Span E1, and MVDCT1 trunk cards. This group consists of the following tables:

- Programmable trunk card table (ptcTable)
- Programmable trunk port table (progPortTable)
- Programmable trunk timing table (progPortEntry)

Programmable Trunk Card Table

The Four Span T1, Four Span E1, and MVDC-T1 cards provide programmable trunks. With the programmable trunk card table you can modify span configuration and port signaling options, and access the Trunk Timing Configuration screen. This section lists the objects within the programmable trunk card table.

ptcSpanTable

{ptc 1}

Description

List of the programmable trunk cards including 4XT1, 4XE1, and MVDC-T1.

Object Identifier

1.3.6.1.4.1.886.1.4.1

Data Type

Sequence of PtcSpanEntry

Access Policy

Not accessible

Status

Mandatory

ptcSpanEntry

{ptcSpanTable 1}

Description

An entry in the ptcSpanTable.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1

Data Type

PtcSpanEntry

Access Policy

Not accessible

Status

Mandatory

Index

{ptcIndex, ptcType, ptcSpanNum}

PtcSpanEntry

Sequence

ptcIndex	CardIndex
ptcType	Integer
ptcRack	Integer
ptcLevel	Integer
ptcSlot	Integer
ptcSpanNum	Integer
ptcTxGain	Integer
ptcRxGain	Integer
ptcTxClck	Integer
ptcRfClck	Integer
ptcSpanType	Integer
ptcSlip	Integer
ptcOutOfFrame	Integer

ptcLaw	Integer
ptcCode	Integer
ptcLeng	Integer
ptcCrc	Integer
ptcTs0	Integer
ptcTs16	Integer
ptcStatus	Integer
ptcUnusedPorts	Integer
ptcRevVer	DisplayString
ptcPhyAdd	Integer
ptcNfasGrpIndex	Integer
ptcNfasGrpPosition	Integer
ptcAlarm	Integer
ptcErrorStatus	Integer
ptcOwnerString	OwnerString
ptcEntryStatus	EntryStatus

ptcIndex

{ptcSpanEntry 1}

Description

Identifies an object in the programmable trunk card table. The object contains the physical location (hardware address) of the trunk card. This object lists the rack (R), level (L), and slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

Cisco VCO/4K Management Information Base (MIB) Reference ■

ptcType

{ptcSpanEntry 2}

Description

Specifies the type of programmable trunk card. The value in the card type object is a card attribute.

This object is the secondary index into the ptcTable.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.2

Data Type

Integer. The possible values and their names are shown in the following table:

Value	Name
1	fourSpanT1
2	fourSpanE1
3	mvdcT1

Access Policy

Read only

Status

Mandatory

ptcRack

{ptcSpanEntry 3}

Description

Rack (R) where the card resides. The rack location is a card attribute.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcLevel

{ptcSpanEntry 4}

Description

Level (L) where the card resides. The level location is a card attribute.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcSlot

{ptcSpanEntry 5}

Description

Slot (S) where the card resides. The slot location is a card attribute.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.5

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcSpanNum

{ptcSpanEntry 6}

Description

Specifies the span number of the 4XT1, 4XE1, and MVDCT1 trunk cards.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcTxGain

{ptcSpanEntry 7}

Description

Indicates the transmit gain control.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.7

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	minus6db
2	minus3db
3	zerodb
4	plus3db
5	plus6db

Access Policy

Read-write

Status

Mandatory

Default Value

zerodb

ptcRxGain

{ptcSpanEntry 8}

Description

Indicates the reference gain control.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.8

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	minus6db
2	minus3db
3	zerodb

Value	String
4	plus3db
5	plus6db

Access Policy

Read-write

Status

Mandatory

Default Value

zerodb

ptcTxClck

{ptcSpanEntry 9}

Description

Indicates the transmit clock (timing source) for the T1, E1, and MVCDT1 span types.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.9

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Card Name	Meaning
1	sclk	T1,E1	System clock
2	loop	T1,E1	Incoming line
3	tx-1544	T1	Board crystal
4	tx-2048	E1	Board crystal

Access Policy

Read-write

Status

Mandatory

ptcRfClck

{ptcSpanEntry 10}

Description

Indicates the reference clock (timing source). Applies only if this span is specified as the current timing source. Specify the source with one of the following methods:

- Master Timing Link Selection menu on the control console
- T1 Synchronization Control ($C0 02) host command
- masTimingSource object

When you choose a span as the master timing source, the reference clock for the span creates the system clock.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.10

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Card Name	Meaning
1	loop	T1, MVDCT1, E1	Incoming line
2	rf-1544	T1, MVDCT1	Board crystal
3	rf-2048	E1	Board crystal

Access Policy

Read-write

Status

Mandatory

ptcSpanType

{ptcSpanEntry 11}

Description

T1, MVDCT1—Indicates the format of the T1 stream. You can only change this value when the span status is Out-of-Service (OOS).

If you select an SF_NR or ESF_NR span type, the per port SIG TYPE field is ignored.

E1—Indicates the format of the E1 stream. You can only change this value when the span status is OOS. If you select CCS/31 format, the TS16 field is not accessible.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.11

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Card	Meaning
1	SF	T1, MVDCT1	Superframe
2	ESF	T1, MVDCT1	Extended superframe
3	SF-NR	T1, MVDCT1	Superframe without robbed bit signaling
4	ESF-NR	T1, MVDCT1	Extended superframe without robbed bit signaling

Value	String	Card	Meaning
5	CAS/R2	E1	Channel associated signaling/R2 mode
6	CAS/MC	E1	Channel associated signaling/Mercury Mode
7	CCS31B	E1	Common channel signaling/31 bearer channels

Access Policy

Read-write

Status

Mandatory

ptcSlip

{ptcSpanEntry 12}

Description

Determines the number of transmit or receive slips the system detects for this span (in a 24-hour period) before threshold processing occurs. You can control this processing with the SLIP/OOF feature flag. Separate Slip maintenance counts are maintained for receive and transmit Slips. When either of these counters reaches the limit, threshold processing occurs. The current Slip count appears on the Diagnostic Card Display screen. Slip counters are reset at midnight or when you change this value.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.12

Data Type

Integer. Possible values are from 0 to 255. At zero (0), slip maintenance processing is inhibited. This setting is recommended when the TRX Clock = LOOP.

Access Policy

Read-write

Status

Mandatory

Default Value

255

ptcOutOfFrame

{ptcSpanEntry 13}

Description

Determines the number of OOFs that the system detects for this span in a 24-hour period before threshold processing occurs. You control this processing with the SLIP/OOF feature flag. The OOF counter is reset at midnight or when you change this value.

Data Type

Integer. Possible values are from 0 to 255. Zero (0) is OOF maintenance processing inhibited (not recommended).

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.13

Access Policy

Read-write

Status

Mandatory

Default Value

17

ptcLaw

{ptcSpanEntry 14}

Description

Indicates the voice coding on the T1 or E1 stream. The system automatically turns off translation when calls specify unrestricted digital information bearer capability.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.14

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	a	Use A law for voice coding.
2	Mu	Use Mu law for voice coding.

Access Policy

Read-write

Status

Mandatory

ptcCode

{ptcSpanEntry 15}

Description

T1, MVDCT1—Indicates the code on the T1 span.

E1—Indicates the code on the E1 span. The return value (2) should be interpreted depending on the card type.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.15

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Cards Supported
1	AMI	T1, MVDCT1, E1
2	B8ZS	T1, MVDCT1
3	B7ZSs	T1, MVDCT1
4	HDB3	E1

Access Policy

Read-write

Status

Mandatory

ptcLeng

{ptcSpanEntry 16}

Description

Indicates the line equalization used for the T1/MVDCT1 stream.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.16

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
0	none	Used with 4XE1 card
1	leng0-133	Length from 1 to 133
2	leng133-266	Length from 133 to 266
3	leng266-399	Length from 266 to 399
4	leng399-533	Length from 399 to 533
5	leng533-655	Length from 533 to 655
6	lengPT-68-A	FCC Part 68 Option A
7	lengG-703	ITU-T F.703

Access Policy

Read-write

Status

Mandatory

ptcCrc

{ptcSpanEntry 17}

Description

Indicates if CRC checking is enabled.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.17

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
0	none	Invalid value.
1	crc-on	CRC checking is enabled.
2	crc-off	CRC checking is disabled.

Access Policy

Read-write

Status

Mandatory

ptcTs0

{ptcSpanEntry 18}

Description

Specifies international or national bits of Time Slot 0 as an 8-bit value.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.18

Data Type

Integer. The 8-bit value, i1Annnnn, has the following meaning:

i—International bits

A—A remote alarm indicator (the ITU-T default)

n—National bits

Access Policy

Read-write

Status

Mandatory

ptcTs16

{ptcSpanEntry 19}

Description

Specifies extra bits and the C and D bits of Time Slot 16 as an 8-bit value. Use bits 3 and 4 to specify the C and D bits.

Note For systems in China, the C and D bits must be set to 1.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.19

Data Type

Integer. The valid numerical values are 0 to 255. The bit map, 0000xyxx, has the following meaning.

x = extra bits
y = a remote alarm indicator (the ITU-T default)

Access Policy

Read-write

Status

Mandatory

ptcStatus

{ptcSpanEntry 20}

Description

Indicates the current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.20

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
1	active	Ports on this card can be involved in active calls and can be allocated to new calls.[1]
2	maintenance[1]	One or more ports on this card might be involved in active calls. No ports are allocated to new calls.[1]
3	diagnostics	No ports on this card are involved in calls or allocated to new calls.
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
7	payload loopback	Diagnostic state.
8	remote loopback	Diagnostic state.

1. The agent might take as long as 10 seconds to set a card to Active.

Access Policy

Read-write

Status

Mandatory

ptcUnusedPorts

{ptcSpanEntry 21}

Description

Indicates the number of ports not currently active on this card. For multispan cards, this object indicates the number of ports not currently active on individual spans. Valid only for network interface and internal service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.21

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcRevVer

{ptcSpanEntry 22}

Description

Indicates the version and the revision levels of the firmware installed on this card. Use this field to verify that the firmware versions you installed for all your network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.22

Data Type

DisplayString. Length of the display string is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

ptcPhyAdd

{ptcSpanEntry 23}

Description

The physical address of this card.

The value in this object is a span attribute.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.23

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcNfasGrpIndex

{ptcSpanEntry 24}

Description

A foreign key in the NFAS group table. This key indicates to which NFAS group this card belongs. To change this attribute, set the ptcEntryStatus and the nfasGroupTable objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.24

Data Type

Integer. The valid values are 0 to 37.

Access Policy

Read-write

Status

Mandatory

ptcNfasGrpPosition

{ptcSpanEntry 25}

Description

Specifies the position of the span in the NFAS group.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.25

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcAlarm

{ptcSpanEntry 26}

Description

Tracks which alarms are active on this span. Card alarms are internally represented as a bit map. A bit is set to 1 for each active card alarm. There are 32 bits. The following table shows the bits and the alarm description.

Bit[1]	Alarm Description
0	Card failure—minor
1	Port failure—minor
2	T1, E1, PRI carrier failure—major
3	T1, E1, PRI remote carrier failure—major
4	T1, E1, PRI card failure—major
5	T1, E1 Signaling Bit—minor
6	PRI Bipolar Violation MLimit reached—minor
7	T1, E1, PRI Out of Frame MLimit reached—minor
8	T1, E1 Slip Maint Limit reached—minor
9	T1, E1, PRI OOF condition—minor
10	PRI D-channel failure—major
11-32	Unsigned filler (set to zero)

1. The NMS application needs to interpret the alarm status from the integer
   value returned by this object.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.26

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ptcErrorStatus

{ptcSpanEntry 27}

Description

Registers the last error that occurred on this span entry. For a complete list of the card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.27

Data Type

Integer. The following table shows the values and their meanings:

Value	Meaning
4352	frameTypeInvalid
4353	codeInvalid
4354	txInvalid
4355	rxInvalid
4356	txClockInvalid
4357	refClockInvalid
4358	oofSlipInvalid
4359	lawInvalid
4360	spanLengthInvalid
4361	crcInvalid
4362	ts0Invalid
4363	ts16Invalid
4364	mustBeOos

Access Policy

Read only

Status

Mandatory

ptcOwnerString

{ptcSpanEntry 28}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Cisco VCO/4K Management Information Base (MIB) Reference ■

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.28

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

ptcEntryStatus

{ptcSpanEntry 29}

Description

Status of the programmable trunk card object. Use this object to add or delete a programmable card and to modify span attributes. A createRequest command on any span creates the entire card (all spans). Set each individual span to valid (1) once all modifications are done. When you set any one span to invalid (4), the entire card is deleted.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.29

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

ptcDwnldVersion

{ptcSpanEntry 30}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.30

Data Type

DisplayString (size 1...4)

Access Policy

Read only

Status

Mandatory

ptcUpgradeState

{ptcSpanEntry 31}

Description

The upgrade state of this trunk card entry.

Object Identifier

1.3.6.1.4.1.886.1.4.1.1.31

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

ptcTableLastModified

{ptc 2}

Description

The time, displayed in hundredths of a second, since the ptcSpanTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.4.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Programmable Port Table

This section contains the objects for configuring the Programmable T1 and E1 ports.

progPortTable

{ptc 4}

Description

Lists port entries on each programmable card.

Object Identifier

1.3.6.1.4.1.886.1.4.4

Data Type

Sequence of ProgPortEntry

Access Policy

Not accessible

Status

Mandatory

progPortEntry

{progPortTable 1}

Description

Table containing objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1

Data Type

ProgPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{ptcIndex, ptcSpanNum, progPortIndex}

ProgPortEntry

Sequence

progPortIndex	Integer
progPortName	DisplayString
progSigType	Integer
progCos	Integer
progWinkMin	Integer
progWinkMax	Integer
progWinkSend	Integer
progFlashMin	Integer
progFlashMax	Integer

progFlashSend	Integer
progOffHk	Integer
progGuard	Integer
progPortMajorState	PortMajorState
progPortSuppState	PortSuppState
progPortAddress	Integer
progInpulseRuleIndex	Integer
progResGroupIndex	Integer
progResGroupPosition	Integer
progPortErrorStatus	Integer
progPortOwnerString	OwnerString
progPortEntryStatus	PortEntryStatus
progPortState	Integer
progPCardType	Integer

progPortIndex

{progPortEntry 1}

Description

Indicates the port number on the span. There are 24 ports on a progT1 span and 32 ports on a progE1 span.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.1

Data Type

Integer. The number of the port. Possible values are from 1 to 24 for T1 and MVDCT1 and 1 to 32 for E1.

Access Policy

Read only

Status

Mandatory

progPortName

{progPortEntry 2}

Description

Identifies individual circuits (optional). Each name should be unique and helpful in describing for what you use the port.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.2

Data Type

DisplayString. This field accepts up to 8 upper- or lowercase alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

progSigType

{progPortEntry 3}

Description

Determines the signaling type. If you select an SF_NR or ESF_NR span type, the per port SigType field is ignored.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.3

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	eAndm	E and M
2	fxo-ls	Foreign Exchange Office—Loop Start
3	fxo-gs	Foreign Exchange Office—Ground Start
4	fxs-ls	Foreign Exchange Subscriber—Loop Start
5	fxs-gs	Foreign Exchange Subscriber—Ground Start
6	clear	

Access Policy

Read-write

Status

Mandatory

progCos

{progPortEntry 4}

Description

Used for resource grouping and B-channel allocation and determining the values of the software operating characteristics for this port. Different spans on the same card can have different COS marks.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.4

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
0	none	No port COS value.
1	o	Originating—Calls originating from the system. Outgoing calls initiated by the host command.
2	t	Terminating—Calls terminating at the system. Incoming calls initiated by action outside the system or forced by the host command.
3	w2	Two-Way—Calls originating from the system or calls terminating at the system. Outgoing calls initiated by the host command. Incoming calls initiated by outside actions.
4	oa	Always Off Hook and Originating—Calls originating from the system. Port goes off hook at system reset and remains off hook. Outgoing calls initiated by the host command.
5	ta	Always Off Hook and Terminating—Calls terminating at the system. Port goes off hook at system reset and remains off hook. Incoming calls initiated by outside actions or forced by the host command.
6	a2	Always Off Hook and Two-Way—Calls originating from the system or calls terminating at the system. Port goes off hook at system reset and remains off hook. Outgoing calls initiated by the host command, incoming calls initiated by outside actions or forced by the host command.

Access Policy

Read-write

Status

Mandatory

progWinkMin

{progPortEntry 5}

Description

Indicates the minimum wink detect time. For E1, this is the time to wait for the delayed dial signal.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.5

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progWinkMax

{progPortEntry 6}

Description

Indicates the maximum wink detect time. Not used for E1 boards.

Data Type

Integer. The valid values are from 0 to 255.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.6

Access Policy

Read-write

Status

Mandatory

progWinkSend

{progPortEntry 7}

Description

Indicates the wink send time. For the E1 card, this is the time period of the delayed dial signal.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.7

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progFlashMin

{progPortEntry 8}

Description

Indicates the minimum flash detect time.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.8

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progFlashMax

{progPortEntry 9}

Description

Indicates the maximum flash detect time.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.9

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progFlashSend

{progPortEntry 10}

Description

Indicates the flash send time.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.10

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progOffHk

{progPortEntry 11}

Description

Indicates the minimum off-hook time.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.11

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progGuard

{progPortEntry 12}

Description

Indicates the guard time.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.12

Data Type

Integer. The valid values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

progPortMajorState

{progPortEntry 13}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.13

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

progPortSuppState

{progPortEntry 14}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.14

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

progPortAddress

{progPortEntry 15}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.15

Data Type

Integer

Access Policy

Read only

Status

Mandatory

progInpulseRuleIndex

{progPortEntry 16}

Description

A foreign key corresponding to the inpulseRuleIndex in the inpulseTable. You access this object when you assign a particular inpulse rule to a port.

Determines the inpulse rule processed when this port goes off hook. Default inpulse rules are used for incoming ports only. Class of Service = T, W2, AT, or A2. The inpulse rule must be defined from the Inpulse Rules Table screens.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.16

Data Type

Integer. Possible values are from 0 to 30 in 2K mode, or 0 to 255 in 4K mode. Zero means you are not selecting a default inpulse rule.

Access Policy

Read-write

Status

Mandatory

progResGroupIndex

{progPortEntry 17}

Description

A foreign key corresponding to the groupIndex in the resGroupTable that indicates the number of the resource group to which this port belongs. If you do not make a resource group assignment, this object is zero (0). To change this attribute, set the progPortEntryStatus and the resGroupTable objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.17

Data Type

Integer. Possible values range from 0 to 63 in 2K mode, or 0 to 224 in 4K mode.

Access Policy

Read-write

Status

Mandatory

progResGroupPosition

{progPortEntry 18}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.18

Data Type

Integer

Access Policy

Read only

Status

Mandatory

progPortErrorStatus

{progPortEntry 19}

Description

Registers the last error that occurred on this port object.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.19

Data Type

Integer

Access Policy

Read only

Status

Mandatory

progPortOwnerString

{progPortEntry 20}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.20

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

progPortEntryStatus

{progPortEntry 21}

Description

Status of this table object.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.21

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

progPortState

{progPortEntry 22}

Description

Contains the state of the port where active is 1 and inactive is 2.

> **Note**   Always modify the state of ports one at a time. That is, the EntryStatus object must be set to valid after every SNMP_SET command on this object.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.22

Data Type

Integer. The valid values are 1 (active) and 2 (inactive).

Access Policy

Read-write

Status

Mandatory

progPCardType

{progPortEntry 23}

Description

Specifies the type of programmable trunk card to which this port belongs.

Object Identifier

1.3.6.1.4.1.886.1.4.4.1.23

Data Type

Integer. The following table lists the values and their meanings:

Value	Meaning
1	fourSpanT1
2	fourSpanE1
3	mvdcT1

Access Level

Read only

Status

Mandatory

progPortTableLastModified

{ptc 5}

Description

The time, displayed in hundredths of a second, since the port table (progPortTable) was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.4.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Programmable Port Table

Single-Span ISDN Card Group

ISDN Card Table

Use the ISDN card table to define the operating characteristics of the card and assign port names to B-channels. This chapter lists the objects within the ISDN card table.

isdnCardTable

{isdn 1}

Description

Lists the ISDN cards.

Object Identifier

1.3.6.1.4.1.886.1.5.1

Data Type

Sequence of IsdnCardEntry

Access Policy

Not accessible

Status

Mandatory

isdnCardEntry

{isdnCardTable 1}

Description

Object in the isdnCardTable.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1

Data Type

IsdnCardEntry

Access Policy

Not accessible

Status

Mandatory

Index

{isdnIndex, isdnCardType}

IsdnCardEntry

Sequence

isdnIndex	CardIndex
isdnRack	Integer
isdnLevel	Integer
isdnSlot	Integer
isdnAccessType	Integer
isdnTrxClock	Integer
isdnCaInpulseRuleIndex	Integer
isdnNcaInpulseRuleIndex	Integer
isdnSlipLimit	Integer
isdnSwitchType	Integer
isdnRefClock	Integer
isdnLaw	Integer
isdnOof	Integer
isdnSpanLength	Integer
isdnSpanType	Integer
isdnCardStatus	Integer
isdnCardType	Integer
isdnRevVer	DisplayString
isdnPhyAdd	Integer
isdnUnusedPorts	Integer
isdnNfasGrpIndex	Integer

isdnNfasGrpPosition	Integer
isdnProtocolT200	Integer
isdnProtocolT201	Integer
isdnProtocolT203	Integer
isdnProtocolN200	Integer
isdnProtocolN201	Integer
isdnProtocolWindowSize	Integer
isdnProtocolT303	Integer
isdnProtocolT305	Integer
isdnProtocolT308	Integer
isdnProtocolT309	Integer
isdnProtocolT310	Integer
isdnProtocolT313	Integer
isdnProtocolT315	Integer
isdnProtocolT316	Integer
isdnProtocolT321	Integer
isdnProtocolT3M1	Integer
isdnProtocolTM01	Integer
isdnProtocolNM01	Integer
isdnCardAlarm	Integer
isdnErrorStatus	Integer
isdnOwnerString	OwnerString
isdnEntryStatus	EntryStatus

isdnIndex

{isdnCardEntry 1}

Description

Identifies an object in the ISDN card table. This index object contains the physical location (hardware address) of the card to which the port is attached. This object lists the rack (R), level (L), and slot (S) where the card resides. The isdnIndex is the primary index into the ISDN table.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

isdnRack

{isdnCardEntry 2}

Description

The rack (R) where the ISDN card resides.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnLevel

{isdnCardEntry 3}

Description

The level (L) where the ISDN card resides.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnSlot

{isdnCardEntry 4}

Description

The slot (S) where the ISDN card resides.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnAccessType

{isdnCardEntry 5}

Description

Determines the access connection used for this card. You can change this field only when the card status is OOS.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	usrmd	Default value. User side implementation for the connection.
2	user-sym	User side symmetrical implementation for the connection.
3	net	Network mode.
4	user nfas	NFAS user mode.
5	user-sym nfas	NFAS user side symmetrical implementation for the connection.
6	net nfas	NFAS network mode.
7	nfas	NFAS mode.

Access Policy

Read-write

Status

Mandatory

Default Value

(1) usrmd

isdnTrxClock

{isdnCardEntry 6}

Description

Determines the transmit clock timing source used for this card.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.6

Data Type

Integer. Possible values and their meaning are shown in the following table:

Value	String	Meaning
1	sclk	Transmit PRI stream timing derived from the system.
2	loop	Transmit PRI stream timing derived from the received stream.
3	clck1544	Transmit PRI stream timing synchronized to the frame signal.
4	clck2048	Transmit PRI stream timing from an external 2.048 MHz synchronization source.

Access Policy

Read-write

Status

Mandatory

Default Value

sclk

isdnCaInpulseRuleIndex

{isdnCardEntry 7}

Description

A foreign key corresponding to the inpulseRuleIndex in the inpulseTable. Access this object when you assign a particular inpulse rule to the card.

Determines the inpulse rule processed when a SETUP message is received through this card's controlling D-channel.

This rule applies when the Channel ID within the SETUP message specifies a B-channel as the bearer channel (call associated connections). If you are using NFAS, an inpulse rule is assigned only to the cards containing the primary and backup D-channels. You must have already defined the chosen inpulse rule at the control console by using the Inpulse Rule Table screens or the objects in the Inpulse Rule Table.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.7

Data Type

Integer. Possible values for this field are from 0 to 30 in 2K mode, or from 0 to 255 in 4K mode. Zero means you are not selecting a default inpulse rule.

Access Policy

Read-write

Status

Mandatory

Default Value

{0} No default inpulse rule

isdnNcaInpulseRuleIndex

{isdnCardEntry 8}

Description

A foreign key corresponding to the inpulseRuleIndex in the inpulseTable. Access this object when you assign a particular inpulse rule to the card.

Determines the inpulse rule processed when a setup message is received through this card's controlling D-channel.

This rule applies when the Channel ID within the setup message specifies the D-channel as the bearer channel non-call associated signaling. If you are using NFAS, an inpulse rule is assigned only to the cards containing the Primary and Backup D-channels. You must have already defined the chosen inpulse rule by using either the Inpulse Rule Table screen on the control console or using the objects inpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.8

Data Type

Integer. Possible values for this field are from 0 to 30 in 2K mode, or from 0 to 255 in 4K mode. Zero means you are not selecting a default inpulse rule.

Access Policy

Read-write

Status

Mandatory

Default Value

{0} Zero

isdnSlipLimit

{isdnCardEntry 9}

Description

Determines the number of transmit or receive slips the switch can detect for the card in a 24-hour period before threshold processing occurs. Threshold processing either resets the card or sets it to maintenance to await manual intervention. The featureManualInterventionForSLIPOOF object (1.3.6.1.4.1.886.1.1.19.4) controls the card setting.

Separate slip maintenance counts are maintained for receive and transmit slips. When either of these counters reaches the limit, threshold processing occurs. Slip counters are displayed in the Diagnostic Card Display screen on the system administrator's console. Slip counters are reset at midnight and whenever you change the value in this object.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.9

Data Type

Integer. Possible values are from 0 to 255. When you choose zero, slip maintenance processing is inhibited. Zero (0) is recommended when the TRX Clock is set to loop.

Access Policy

Read-write

Status

Mandatory

Default Value

{255} Transit or receive slips.

isdnSwitchType

{isdnCardEntry 10}

Description

Determines the type of switch to which you are connecting this PRI/N. This enables correct handling of manufacturer-specific ISDN implementations. You can change the value in this object only when the card status is OOS.

Note The AT&T model 5ESS switch does not currently support NFAS. If you are using the system NFAS option you must configure the PRI/N cards to connect to either AT&T model 4ESS or Northern Telecom model DMS-100 switches.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.10

Data Type

Integer. The valid numerical and string values for this field are shown in the following table:

Value	String	Meaning
1	att5md	AT&T 5MD (Default value)
2	ntmd	Northern Telecom Mode
3	att4md	AT&T 4MD
4	dpnssAx	Digital Private Network Signaling System
5	dpnssAy	Digital Private Network Signaling System
6	dpnssBx	Digital Private Network Signaling System
7	dpnssBy	Digital Private Network Signaling System
8	dass2Et	Digital Access Signaling System No. 2 Exchange Termination
9	dass2Nt	Digital Access Signaling System No. 2 Network Termination
10	dss1	Digital Signaling System 1 (E1 PRI)
11	net5-aus	Australia
12	net5-bel	Belgium
13	net5-den	Denmark
14	net5-fin	Finland
15	net5-fra	France
16	net5-ger	Germany
17	net5-grc	Greece
18	net5-ice	Iceland
19	net5-ire	Ireland
20	net5-ned	Netherlands
21	net5-nor	Norway
22	net5-por	Portugal
23	net5-spa	Spain
24	net5-swe	Sweden
25	net5-swi	Switzerland
26	net5-uk	United Kingdom
27	net5-lux	Luxemborg
28	net5-ita	Italy
29	ntt	Japan
30	ni2	National ISDN

Access Policy

Read-write

Status

Mandatory

Default Value

{1} att5md

isdnRefClock

{isdnCardEntry 11}

Description

Determines the reference clock timing source used for this card. Applies only if this card is specified as the current timing source with one of the following methods:

- Master Timing Link Selection menu on the control console
- T1 Synchronization Control ($C0 02) host command
- masTimingSource object

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.11

Data Type

Integer. The numerical and string values for this field are shown in the following table:

Value	String	Meaning
1	rcvd	Reference clock is derived from the line interface unit (LIU).
2	clck1544	Reference clock is derived from the PRI/N card framer.
3	clck2048	Reference clock is derived from an external 2.048 MHz synchronization source.

Access Policy

Read-write

Status

Mandatory

Default Value

(1) rcvd

isdnLaw

{isdnCardEntry 12}

Description

Specifies voice coding on the PRI stream. The switch automatically turns off translation for calls that specify unrestricted digital information bearer capability.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.12

Data Type

Integer. The possible values for this field and their meanings are shown in the following table:

Value	String	Meaning
1	Mu	Mu Law encoding North America.
2	a	A Law encoding Europe.

Access Policy

Read-write

Status

Mandatory

Default Value

(1) Mu Law

isdnOof

{isdnCardEntry 13}

Description

Determines the number of Out-of-Frames (OOFs) the switch detects for this card in a 24-hour period before the switch begins threshold processing. Threshold processing either resets the card or sets it to maintenance to await manual intervention.

Setting of the card is controlled by the value in the featureManualInterventionForSLIPOOF object (1.3.6.1.4.1. 886.1.1.19.4). The OOF counter is reset at midnight or whenever you change the value in this object.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.13

Data Type

Integer. Possible values for this field are from 0 to 255. Zero (0) means you are not selecting OOF maintenance processing. The zero setting is not recommended.

Access Policy

Read-write

Status

Mandatory

Default Value

17

isdnSpanLength

{isdnCardEntry 14}

Description

Determines the line equalization used for the data stream. Choices are expressed either in terms of the cable length between the PRI/N card and the connected equipment or as defined by FCC Part 68 Option A.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.14

Data Type

Integer. Possible values for this field and their meanings are shown in the following table:

Value	String	Meaning
1	leng0-133	From 0 to 133 feet.
2	leng133-266	From 133 feet to 266 feet.
3	leng266-399	From 266 feet to 399 feet.
4	leng399-533	From 399 feet to 533 feet.
5	leng533-655	From 533 feet to 655 feet.
6	lengPT-68-A	Equalization as defined by FCC Part 68 Option A.

Access Policy

Read-write

Status

Mandatory

Default Value

{1} lang0-133

isdnSpanType

{isdnCardEntry 15}

Description

Determines the format of the data stream. You can change this value only when the card status is OOS.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.15

Data Type

Integer. Possible values for this field and their meanings are shown in the following table. Default value = 1 (esf).

Value	String	Meaning
1	esf	Extended Superframe format, binary 8-bit zero suppression (B8ZS).
2	d3-d4	T1 D3/D4 format, binary 8-bit zero suppression (B8ZS).

Access Policy

Read-write

Status

Mandatory

isdnCardStatus

{isdnCardEntry 16}

Description

Indicates the current status of the card. You can also change this field from the system administrator's Card Maintenance screen.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.16

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
1	active[1]	Ports on this card can be involved in active calls and can be allocated to new calls.
2	maintenance[1]	One or more ports on this card might be involved in active calls. No ports are allocated to new calls.
3	diagnostics	No ports on this card are involved in calls or allocated to new calls.
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
8	remoteLoopback	No channels on this card are involved in calls or allocated to new calls.

1. The agent might take as long as 10 seconds to put a card into the Active state.

Access Policy

Read-write

Status

Mandatory

isdnCardType

{isdnCardEntry 17}

Description

Specifies the type of ISDN card. The isdnCardType is the secondary index into the ISDN card table.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.17

Data Type

Integer. The numerical and string values are shown in the following table:

Value	String	Meaning
1	pri	Primary Rate Interface Card
2	priN	Primary Rate Interface Card Non-Facility Associated Signaling

Value	String	Meaning
3	dss1	Digital Subscriber Service Card No. 1
4	dpnss	Digital Private Network Signaling System No. 1
5	dass2nt	Digital Access Signaling System No.2, Network Termination
6	dass2et	Digital Access Signaling System No. 2, Exchange Termination
7	net5	NET5 European E1 PRI
8	nttpri	Japanese PRI

Access Policy

Read only

Status

Mandatory

isdnRevVer

{isdnCardEntry 18}

Description

Contains the version and the revision level numbers of the firmware installed on this card. Use this object to verify the firmware revisions you installed for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.18

Data Type

DisplayString. Length of the DisplayString is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

isdnPhyAdd

{isdnCardEntry 19}

Description

The physical address of this card. The address is assigned by the system.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.19

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnUnusedPorts

{isdnCardEntry 20}

Description

Indicates the number of ports not currently active on this card. For multispan cards, this object indicates the number of ports not currently active on individual spans. Valid only for network interfaces and internal service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.20

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnNfasGrpIndex

{isdnCardEntry 21}

Description

A foreign key in the NFAS group table that indicates to which NFAS group this card belongs. To change this attribute, set the isdnEntryStatus and the nfasGroupTable objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.21

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

isdnNfasGrpPosition

{isdnCardEntry 22}

Description

Specifies the position of the card in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.22

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT200

{isdnCardEntry 23}

Description

Value, in seconds, for the acknowledgment timer.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.23

Data Type

Integer. Values are in seconds.

Access Policy

Read only

Status

Mandatory

isdnProtocolT201

{isdnCardEntry 24}

Description

Minimum time between retransmission of the TEI Identity checks.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.24

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT203

{isdnCardEntry 25

Description

Maximum time allowed without frames being exchanged.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.25

Data Type

Integer. Value is in seconds.

Access Policy

Read only

Status

Mandatory

isdnProtocolN200

{isdnCardEntry 26}

Description

Maximum number of retransmissions.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.26

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolN201

{isdnCardEntry 27}

Description

Maximum number of octets in an information field.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.27

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolWindowSize

{isdnCardEntry 28}

Description

Window size.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.28

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT303

{isdnCardEntry 29}

Description

Timer started on SETUP sent.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.29

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT305

{isdnCardEntry 30}

Description

Timer started on DISC (disconnect).

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.30

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT308

{isdnCardEntry 31}

Description

Timer started on REL (release) sent.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.31

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT309

{isdnCardEntry 32}

Description

Timer started on data link disconnection.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.32

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT310

{isdnCardEntry 33}

Description

Timer started on CALL PROC (call processing) received.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.33

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT313

{isdnCardEntry 34}

Description

Timer started on CONN (connection) sent.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.34

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT315

{isdnCardEntry 35}

Description

A layer 3 protocol timer value for ISDN PRI.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.35

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT316

{isdnCardEntry 36}

Description

Timer started on REST sent.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.36

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT321

{isdnCardEntry 37}

Description

Timer started on D-channel failure.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.37

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolT3M1

{isdnCardEntry 38}

Description

Timer started on SERV sent.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.38

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolTM01

{isdnCardEntry 39}

Description

A layer 3 protocol timer value for ISDN PRI.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.39

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnProtocolNM01

{isdnCardEntry 40}

Description

A layer 3 protocol timer value for ISDN PRI.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.40

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnCardAlarm

{isdnCardEntry 41}

Description

Tracks which alarms are active on this card. Card alarms are internally represented as a bit map. There are 32 bits. A bit is set to 1 for each active card alarm. The NMS application needs to interpret the alarm status returned by this object.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.41

Data Type

Integer. The possible values and their meanings are shown in the following table:

Bit[1]	Alarm Description
0	Card Failure—Minor
1	Port Failure—Minor
2	T1/PRI Carrier Failure—Major
3	T1/PRI Remote Carrier Failure—Major
4	T1/PRI Card Failure—Major
5	T1 Signaling Bit—Minor
6	PRI Bipolar Violations MLimit Reached—Minor
7	T1/PRI Out of Frame MLimit Reached—Minor
8	T1 Slip Maint Limit Reached—Minor
9	T1/PRI OOF Condition—Minor
10	PRI D-channel Failure—Major
11-32	Unsigned Filler (set to zero)

1. The NMS application needs to interpret the alarm status from the integer value returned by this object.

Access Policy

Read only

Status

Mandatory

isdnErrorStatus

{isdnCardEntry 42}

Description

Registers the last error that occurred in this card object. For a list of the card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.42

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnOwnerString

{isdnCardEntry 43}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.43

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

isdnEntryStatus

{isdnCardEntry 44}

Description

Status of the programmable trunk card object.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.44

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

isdnDwnldVersion

{isdnCardEntry 45}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.45

Data Type

DisplayString (size 1..4)

Access Policy

Read only

Status

Mandatory

isdnUpgradeState

{isdnCardEntry 46}

Description

The upgrade state of this isdn card entry.

Object Identifier

1.3.6.1.4.1.886.1.5.1.1.46

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

isdnTableLastModified

{isdn 2}

Description

The time, displayed in hundredths of a second, since the isdnCardTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.5.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

ISDN Port Table

Use the ISDN port table section to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on an ISDN card.

isdnPortTable

{isdn 4}

Description

This object contains a list of the PRI ports.

Object Identifier

1.3.6.1.4.1.886.1.5.4

Data Type

Sequence of IsdnPortEntry

Access Policy

Not accessible

Status

Mandatory

isdnPortEntry

{isdnPortTable 1}

Description

An object in the isdnPortTable.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1

Data Type

IsdnPortEntry

Access Policy

Not accessible

Status

Mandatory

Indexes

{isdnIndex, isdnPortIndex}

IsdnPortEntry

Sequence

isdnPortIndex	Integer
isdnPortState	Integer
isdnPCardType	Integer
isdnPortName	DisplayString

isdnPortCos	Integer
isdnPortMajorState	PortMajorState
isdnPortSuppState	PortSuppState
isdnPortIsdnState	Integer
isdnPortCallState	Integer
isdnPortAddress	Integer
isdnResGroupIndex	Integer
isdnResGroupPosition	Integer
isdnPortErrorStatus	Integer
isdnPortOwnerString	OwnerString
isdnPortEntryStatus	PortEntryStatus

isdnPortIndex

{isdnPortEntry 1}

Description

Indicates the port number on the card. There are 23 ports, or B-channels, on the PRI/N. Port 24 is reserved for the D-channel. Information on deactivated ports is not displayed. This object is the primary key to the isdnPortTable.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.1

Data Type

Integer. The possible values for this field are from 1 to 23.

Access Policy

Read only

Status

Mandatory

isdnPortState

{isdnPortEntry 2}

Description

The state of the port. The port can be active (1) or inactive (2).

> **Note** Always modify the state of ports one at a time. That is, the EntryStatus object must be set to valid after every SNMP_SET command on this object.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.2

Data Type

Integer. The two values are (1) active and (2) inactive. Change the port state only one at a time.

Access Policy

Read-write

Status

Mandatory

isdnPCardType

{isdnPortEntry 3}

Description

Specifies the type of ISDN card to which this port is attached.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.3

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	pri	Primary Rate Interface Card
2	priN	Primary Rate Interface /Non-Facility Associated Signaling Card
3	dss1	Digital Subscriber Service Card No. 1
4	dpnss	Digital Private Network Signaling System No. 1
5	dass2nt	Digital Access Signaling System No. 2, Network Termination
6	dass2et	Digital Access Signaling System No. 2, Exchange Termination
7	net5	NET5 European E1 PRI

Access Policy

Read only

Status

Mandatory

isdnPortName

{isdnPortEntry 4}

Description

Optional database object used to identify individual B-channels. When you use a port name each one should be unique and helpful in describing for what you use the port.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.4

Data Type

DisplayString. This field accepts up to 8 upper- or lowercase alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

isdnPortCos

{isdnPortEntry 5}

Description

Class of Service (COS). For the ISDN B-channels, this object is used for resource grouping and B-channel allocation processing. Ports on the same card can have different COS marks, as determined by the application design. Information for deactivated ports (ports taken out of service) is not displayed.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.5

Data Type

Integer. The possible values for this field and their meaning are shown in the following table:

Value	String	Meaning
0	none	Not applicable.
1	o	Originating—Calls originating from the system. Outgoing calls initiated by the host command.
2	t	Terminating—Calls terminating at the system. Incoming calls are initiated by action outside the system or forced by the host command.
3	w2	Two-Way—Calls originating from the system or calls terminating at the system. Outgoing calls are initiated by the host command. Incoming calls are initiated by outside actions.
4	oa	Always Off Hook and Originating—Calls originating from the system. Port goes off hook at system reset and remains off hook. Outgoing calls are initiated by the host command.

Value	String	Meaning
5	ta	Always Off Hook and Terminating—Calls terminating at the system. Port goes off hook at system reset and remains off hook. Incoming calls are initiated by outside actions or forced by the host command.
6	a2	Always Off Hook and Two-Way—Calls originating from the system or calls terminating at the system. Port goes off hook at system reset and remains off hook. Outgoing calls are initiated by the host command, incoming calls are initiated by outside actions or forced by the host command.

Access Policy

Read-write

Status

Mandatory

isdnPortMajorState

{isdnPortEntry 6}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.6

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

isdnPortSuppState

{isdnPortEntry 7}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.7

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

isdnPortIsdnState

{isdnPortEntry 8}

Description

Specifies the ISDN port state.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.8

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
1	in-serv	Inservice—The port is currently in service and available for use in a call.
2	oos-ne	Out-of-Service, Near-End—Port is currently out of service due to some VCO action (system administration). Port is unavailable for call processing. VCO action is required to put port back into service.
3	oos-fe	Out-of-Service, Far-End—Port is currently out of service due to action at the far end. Port is unavailable for call processing. Action at the far end is required to put it back into service.
4	maint-ne	Maintenance, Near-End—Port is currently in maintenance mode due to some VCO action (system administration) or signal alarm condition. Port is unavailable for call processing.
5	maint-fe	Maintenance, Far-End—Port is currently in maintenance mode due to some action at the far end. Port is unavailable for call processing. Action at the far end is require to put the port back into service.

Access Policy

Read only

Status

Mandatory

isdnPortCallState

{isdnPortEntry 9}

Description

Specifies the ISDN-call state of the call on this port.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.9

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
0	unknown	ISDN call state of the call on this port is unknown.
1	idle	Null state (U0/Rest 0)
2	o_inited	Call initiated (U1)
3	o_overlap	Overlap sending (U2)—reserved for future use
4	o_proceed	Outgoing call proceeding (U3)
5	o_active	Active (U10)
6	o_delivrd	Call delivered (U4)
7	i_callprs	Call present (U6)
8	i_overlap	Overlap sending (U2)—reserved for future use
9	i_proceed	Incoming call proceeding (U9)
10	i_active	Active (U10)
11	i_receivd	Call received (U7)
12	i_connect	Connect request (U8)
13	disc_ind	Disconnect indication (U12)
14	disc_req	Disconnect request (U11)
15	disc_rls	Release request (U19)

Access Policy

Read only

Status

Mandatory

isdnPortAddress

{isdnPortEntry 10}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. You can also specify the port by using the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnResGroupIndex

{isdnPortEntry 11}

Description

A foreign key corresponding to the resGroupIndex in the resGroupTable.

Indicates the number of the resource group to which this port belongs. If you do not assign a resource group, the data type for this object is blank. To change this attribute, set the isdnPortEntryStatus and the resGroupTable objects to underModification (3).

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.11

Data Type

Integer. Possible values are from 1 to 63 for 2K mode, and from 1 to 224 for 4K mode. Information is not displayed for OOS spans.

Access Policy

Read-write

Status

Mandatory

isdnResGroupPosition

{isdnPortEntry 12}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnPortErrorStatus

{isdnPortEntry 13}

Description

Registers the last error that occurred on this port.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.13

Data Type

Integer

Access Policy

Read only

Status

Mandatory

isdnPortOwnerString

{isdnPortEntry 14}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.14

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

isdnPortEntryStatus

{isdnPortEntry 15}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.5.4.1.15

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

isdnPortTableLastModified

{isdn 5}

Description

The time, displayed in hundredths of a second, since the isdnPortTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.5.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

ISDN Message Template Table

isdnMessageTempTable

{isdn 7}

Description

The ISDN message template summary table.

Object Identifier

1.3.6.1.4.1.886.1.5.7

Data Type

Sequence of IsdnMessageTempEntry

Access Policy

Not accessible

Status

Mandatory

isdnMessageTempEntry

{isdnMessageTempTable 1}

Description

An entry in the ISDN message template table.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1

Data Type

IsdnMessageTempEntry

Access Policy

Not accessible

Status

Mandatory

Index

{isdnMessageTempIndex}

IsdnMessageTempEntry

Sequence

isdnMessageTempIndex	Integer
isdnMessageTempMessage	Integer
isdnMessageTempRT	Integer
isdnMessageTempErrorStatus	Integer
isdnMessageTempOwnerString	OwnerString
isdnMessageTempEntryStatus	EntryStatus

isdnMessageTempIndex

{isdnMessageTempEntry 1}

Description

The template number. Templates are listed in ascending order from 1 to 96.

An isdnMessageTempIndex is referenced from the inpulseTable and outpulseTable with the argument attribute in those tables that is associated with inpulse and outpulse instructions ISDN RX (35) and ISDN TX (36).

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.1

Data Type

Integer. Possible values are from 1 to 96.

Access Policy

Read only

Status

Mandatory

isdnMessageTempMessage

{isdnMessageTempEntry 2}

Description

Specifies the ISDN message for which the template is defined.

The list in the data type section contains the only messages that the host or ISDN Message Templates can control. Other ISDN messages trigger autonomous processing in the system. Definitions for ISDN messages are contained in AT&T TR41449 and NIS A211-1. Unless otherwise specified, you can use messages for either transmitting or receiving.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.2

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
0	empty	Place holder for no message
1	chained	Chained template
2	alerting	Alerting message
3	callproc	Call Proceeding message
4	connect	Connect message
5	connack	Connect Acknowledgment message
6	progress	Progress message
7	setup	Setup message
8	disc	Disconnect message
9	release	Release message
10	rls-cmpl	Release Complete message
11	restart	Restart message
12	restack	Restart Acknowledgment message
13	userinfo	User Information message
14	congest	Congestion Control message
15	facility	Facility message
16	status	Status message
17	statenq	Status Enquiry message
18	facilack	Facility Acknowledge message
19	facilrej	Facility Reject message
20	register	Register message

Access Policy

Read-write

Status

Mandatory

isdnMessageTempRT

{isdnMessageTempEntry 3}

Description

Indicates whether this template is defined for receiving messages or transmitting messages.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.3

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
0	empty	Empty
1	r	Template is defined for receive processing. ISDN RX token is used to specify the template number in a rule.
2	t	Template is defined for transmit processing. ISDN TX token is used to specify this template number in a rule.

Access Policy

Read-write

Status

Mandatory

isdnMessageTempErrorStatus

{isdnMessageTempEntry 4}

Description

Registers the last error that occurred on this card.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.4

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	Meaning
3072	invalidPos
3073	templateExists
3074	templateNoEmpty
3075	mustBeChained
3076	cannotChangeMessageType
3077	ioRuleCannotCalledChained
3078	cannotChangeRxTxType

Value	Meaning
3079	invalidRxTx
3080	invalidAct
3081	cannotSetAction
3082	cannotSetIe
3083	cannotSetDate
3084	exceededMaxNumOfActions
3085	illegalAction
3086	invalidRangeOfGotmpDotmp
3087	invalidRangeOfData
3088	notChained
3089	cannotSetIeData
3090	ieNotAllowed
3091	invalidRangeOfCodeset

Access Policy

Read only

Status

Mandatory

isdnMessageTempOwnerString

{isdnMessageTempEntry 5}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.5

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

isdnMessageTempEntryStatus

{isdnMessageTempEntry 6}

Description

The status of this programmable trunk card entry.

Object Identifier

1.3.6.1.4.1.886.1.5.7.1.6

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

isdnMessageTempTableLastModified

{isdn 11}

Description

The time (in hundredths of a second) since the epoch that the isdnMessageTempTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.5.11

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

ISDN Template Instructions

This section lists the objects within the ISDN template instructions table. You can define up to 96 templates for use in rule processing of ISDN calls.

isdnTempInstructionTable

{isdn 8}

Description

A matrix of ISDN template instructions.

Object Identifier

1.3.6.1.4.1.886.1.5.8

Data Type

Sequence of IsdnTempInstructionEntry

Access Policy

Not accessible

Status

Mandatory

isdnTempInstructionEntry

{isdnTempInstructionTable 1}

Description

An ISDN template instruction is a combination of an action, an instruction element, or data element, which constitutes a single ISDN instruction.

Object Identifier

1.3.6.1.4.1.886.1.5.8.1

Data Type

IsdnTempInstructionEntry

Access Policy

Not accessible

Status

Mandatory

Index

{isdnMessageTempIndex, isdnTempInstructionIndex}

isdnTempInstructionEntry

Sequence

isdnTempInstructionIndex	Integer
isdnTempAction	Integer
isdnTempIeData	Integer

isdnTempInstructionIndex

{isdnTempInstructionEntry 1}

Description

Identifies an instruction in an ISDN template. Up to five instructions make up an ISDN template.

Object Identifier

1.3.6.1.4.1.886.1.5.8.1.1

Data Type

Integer. The valid range is 1 to 15.

Access Policy

Read only

Status

Mandatory

isdnTempAction

{isdnTempInstructionEntry 2}

Description

Forms the action token of an ISDN template.

Object Identifier

1.3.6.1.4.1.886.1.5.8.1.2

Data Type

Integer. The possible values and their meaning are shown in the following table:

Value	String	Meaning
0	empty	Not populated
1	rep	Report IE—rx only
2	repall	Report all IEs—rx only
3	norep	Do not report specific IE—rx only
4	process	Process IE—rx only
5	ie	Construct an IE for D Channel transmit
6	data	Specify hexadecimal bytes for D Channel transmit
7	fld1	Store or use IE contents in field 1
8	fld2	Store or use IE contents in field 2
9	fld3	Store or use IE contents in field 3
10	fld4	Store or use IE contents in field 4
11	ani	Store or use IE contents in ANI field
12	ifld1	Store or use IE header in field 1
13	ifld2	Store or use IE header in field 2
14	ifld3	Store or use IE header in field 3
15	ifld4	Store or use IE header in field 4
16	iani	Store or use IE header in ANI field
17	dfld1	Store or use IE digits in field 1
18	dfld2	Store or use IE digits in field 2
19	dfld3	Store or use IE digits in field 3
20	dfld4	Store or use IE digits in field 4
21	dani	Store or use IE digits in ANI field
22	codeset	Change to new codeset
23	gotmp	Go to a chained ISDN template
24	dotmp	Run a chained template as a subroutine

Access Policy

Read-write

Status

Mandatory

isdnTempIeData

{isdnTempInstructionEntry 3}

Description

The IeData object associated with the ISDN Message Action. A valid instruction can have its IE or its DATA object field set.   When a DATA field is associated with an action, the IE field is set to zero. Also, when an IE field is associated with an action, the DATA field is set to zero (0).

Object Identifier

1.3.6.1.4.1.886.1.5.8.1.3

Data Type

Integer. The possible values and their meanings are shown the following table.

Value[1]	String	Meaning
0	empty	Place holder for no ISDNIE
1	bearer	Bearer Capability
2	cause	Cause
3	connum	Connected Number
4	callid	Call Identity
5	callst	Call State
6	chngstat	Change Status
7	chanid	Channel ID
8	progress	Progress Indicator
9	facility	Facility
10	signal	Signal
11	cpNum	Calling Party Number
12	cpSaddr	Calling Party Subaddress
13	cdNum	Called Party Number
14	cdSaddr	Called Party Subaddress
15	rdNum	Redirecting Number
16	tnSel	Transit Network Selection
17	restart	Restart
18	llComp	Low Layer Compatibility
19	hlComp	High Layer Compatibility
20	usrUsr	User to User

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Value[1]	String	Meaning
21	moredata	More Data
22	cngstrr	Congestion Level, Receiver Ready
23	cngstrnr	Congestion Level, Receiver Not Ready
24	display	Display data (Codeset 6, not tokenized)
25	netfac	Network Service Facility

1. The DATA field does not accept a value greater than 7 digits (hexadecimal), even though the field on the system administrator's console accepts up to 8 (hexadecimal). This is due to a range limitation on the INTEGER variable used in SNMPv1.

Access Policy

Read-write

Status

Mandatory

ISDN Supervision Template Table

Use the ISDN supervision template table to configure up to 24 supervision templates for use with the ISDN SUP [xx] outpulse rule token. Each template defines a set of system responses to the detection of specific ISDN messages, such as ALERTING, CONNECT, PROGRESS, and CALL PROC (Call Proceeding).

isdnSupTempTable

{isdn 9}

Description

ISDN supervision template table.

Object Identifier

1.3.6.1.4.1.886.1.5.9

Data Type

Sequence of IsdnSupTempEntry

Access Policy

Not accessible

Status

Mandatory

isdnSupTempEntry

{isdnSupTempTable 1}

Description

An object in the ISDN supervision template table.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1

Data Type

IsdnSupTempEntry

Access Policy

Not accessible

Status

Mandatory

Index

{isdnSupTempIndex}

IsdnSupTempEntry

Sequence

isdnSupTempIndex	Integer
isdnSupTempTime	Integer
isdnSupTempAlerting	Integer
isdnSupTempProgress	Integer
isdnSupTempConnect	Integer
isdnSupTempCallProc	Integer
isdnSupTempConnAck	Integer
isdnSupTempUserInfo	Integer
isdnSupTempCongest	Integer
isdnSupTempFacilAck	Integer
isdnSupTempFacilRej	Integer
isdnSupTempErrorStatus	Integer
isdnSupTempOwnerString	OwnerString
isdnSupTempEntryStatus	EntryStatus

isdnSupTempIndex

{isdnSupTempEntry 1}

Description

Use this table to configure up to 24 supervision templates.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.1

Data Type

Integer. Possible values for this field are from 1 to 24.

Access Policy

Read only

Status

Mandatory

isdnSupTempTime

{isdnSupTempEntry 2}

Description

Expiration of a timer and ISDN message. The switch starts the timer when the supervision template processing begins and cancels timing when it detects an event. The timer's duration is specified in a preceding TIME SUP outpulse rule token. You must specify a token to get the switch to perform timing.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.2

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

.

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	Indicates that the VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	Indicates that the VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	The signaling event indicates a failed call.
7	fail	
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempAlerting

{isdnSupTempEntry 3}

Description

Alerting. Call establishment.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.3

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event. An ISDN Port Change of State ($EA) report is generated containing the event indicator.
6	error	The signaling event indicates a failed call.
7	fail	

Value	String	Meaning
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.
9	prp	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token. The event is to be propagated (sent back) to the incoming port.
10	prprep	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token. The event is to be sent back to the incoming port.

Access Policy

Read-write

Status

Mandatory

isdnSupTempConnect

{isdnSupTempEntry 4}

Description

Connect. Call establishment

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.4

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	The signaling event indicates a failed call.
7	fail	
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempProgress

{isdnSupTempEntry 5}

Description

Progress. Call establishment.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.5

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.
6	error	The signaling event indicates a failed call.
7	fail	

Value	String	Meaning
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.
9	prp	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token. The event is to be propagated (sent back) to the incoming port.
10	prprep	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token. The event is to be sent back to the incoming port.

Access Policy

Read-write

Status

Mandatory

isdnSupTempCallProc

{isdnSupTempEntry 6}

Description

Call proceeding. Call establishment.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.6

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	
7	fail	The signaling event indicates a failed call.
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.
9	prp	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
		The event is to be propagated (sent back) to the incoming port.
10	prprep	Valid only for alerting, progress, and call proc events. The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
		The event is to be sent back to the incoming port.

Access Policy

Read-write

Status

Mandatory

isdnSupTempConnAck

{isdnSupTempEntry 7}

Description

Connect acknowledge. Call establishment.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.7

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event.
		The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token.
		The answer back was sent to the incoming port (assuming the port has not already been answered).

Value	String	Meaning
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.
6	error	The signaling event indicates a failed call.
7	fail	
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempUserInfo

{isdnSupTempEntry 8}

Description

User information. Call information phase.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.8

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	
7	fail	The signaling event indicates a failed call.
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempCongest

{isdnSupTempEntry 9}

Description

Congestion control. Miscellaneous.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.9

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	
7	fail	The signaling event indicates a failed call.
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempFacilAck

{isdnSupTempEntry 10}

Description

Facility acknowledge. Miscellaneous.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.10

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	The signaling event indicates a failed call.
7	fail	
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempFacilRej

{isdnSupTempEntry 11}

Description

Facility reject. Miscellaneous.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.11

Data Type

Integer. The numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Value	String	Meaning
0	empty	You have not specified a token.
1	ok	The VCO system detected an event during processing of the ISDN SUP [xx] outpulse rule token.
2	okrep	The VCO system detected the event during processing of the ISDN SUP [xx] outpulse rule token.
3	ansbk	Valid only for the CONNECT event. The VCO system detected a CONNECT event during processing of the ISDN SUP [xx] outpulse rule token. The answer back was sent to the incoming port (assuming the port has not already been answered).
4	ansrep	Same as ANSBK except that an ISDN Port Change of State ($EA) report to the host is generated.
5	rep	The VCO system will report the event to the host when it detects the event.

Value	String	Meaning
6	error	The signaling event indicates a failed call.
7	fail	
8	quit	The event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing, but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

isdnSupTempErrorStatus

{isdnSupTempEntry 12}

Description

Registers the last error that occurred on this card.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.12

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
2048	invalidTemplateId
2049	templateAlreadyExists
2050	invalidAction
2051	templateNotEmpty

Access Policy

Read only

Status

Mandatory

isdnSupTempOwnerString

{isdnSupTempEntry 13}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.13

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

isdnSupTempEntryStatus

{isdnSupTempEntry 14}

Description

Status of the programmable trunk card object.

Object Identifier

1.3.6.1.4.1.886.1.5.9.1.14

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

isdnSupTempTableLastModified

{isdn 10}

Description

The time (in hundredths of a second) since the epoch that the isdnSupTempTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.5.10

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Communication Card Group

The communication card group contains objects for the bus repeater card (BRC) and the network bus controller (NBC).

Bus Repeater Card Table

The system maintains a listing of BRC hardware connections. When the system is equipped with redundant BRCs, the BRC listing indicates which BRC pair is active and which is standby. All BRCs in the system must be entered in the system database before you configure them. A BRC is identified by its Rack, Level, and Slot (R,L,S) hardware address.

A BRC pair consists of a master BRC (MBRC) and a secondary BRC (SBRC). The MBRC must reside in the Master Port Subrack usually in Rack 1, Level 1. The SBRC resides in either Slot 1 or 2 of an Expansion Port Subrack. The system uses this BRC pair to extend the communications bus from the Master Port Subrack to the Expansion Port Subrack. A BRC pair is required for each Expansion Port Subrack in the system. BRC redundancy requires a second pair for each subrack.

The MBRC and SBRC are physically connected by a cable (refer to the *Cisco VCO/4K Hardware Installation Guide*) and logically connected (in the software) using the objects in the BRC table. Both the physical and logical connections must be made for the system to establish communications to an Expansion Port Subrack.

Consider the following when configuring BRCs:

- MBRCs must have a Rack or Cabinet, Level value of 1-1.

- SBRCs must reside in Slot 1 or 2 of an Expansion Port Subrack. They cannot have a Rack or Cabinet, Level value of 1-1.

- The system does not verify that the hardware connection between BRCs is consistent with the information in the BRC tables in the MIB.

- If one of the BRCs you specify is configured as part of another BRC pair, it is reconfigured to match the newly entered data.

- When you have redundant BRCs and you initialize the system, the BRC pair that becomes available for service first is selected as the active pair for a subrack.

brcTable

{comm 1}

Description

The BRC configuration table.

Object Identifier

1.3.6.1.4.1.886.1.6.1

Data Type

Sequence of BrcEntry

Access Policy

Not accessible

Status

Mandatory

brcEntry

{brcTable 1}

Description

An object in the BRC configuration table.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1

Data Type

BrcEntry

Access Policy

Not accessible

Status

Mandatory

Index

{brcIndex}

BrcEntry

Sequence

brcIndex	CardIndex
brcRack	Integer
brcLevel	Integer
brcSlot	Integer

brcStatus	Integer
brcType	Integer
brcRevVer	Display String
brcPhyAdd	Integer
brcConn	Integer
brcDisConn	Integer
brcMode	Integer
brcRedMasterIndex	CardIndex
brcAlarm	Integer
brcErrorStatus	Integer
brcOwnerString	OwnerString
brcEntryStatus	EntryStatus

brcIndex

{brcEntry 1}

Description

Identifies an object in the BRC table. This object contains the physical location (hardware address) of the card to which this port is attached. The index object lists the rack (R), the level (L), and the slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

brcRack

{brcEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

brcLevel

{brcEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

brcSlot

{brcEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

brcStatus

{brcEntry 5}

Description

Indicates the current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	active[1]	Ports on this card can be involved in active calls and can be allocated to new calls.
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
5	standby	Valid for one of the two NBC cards in redundant systems only. Also valid for one or more DTG cards in either a redundant or nonredundant system or BRCs.
6	campedOn	(diagnostic state)
7	payloadLoopback	(diagnostic state)
8	remoteLoopback	(diagnostic state)

1. The agent might take as long as 10 seconds to put a card into the Active state.

Access Policy

Read-write

Status

Mandatory

brcType

{brcEntry 6}

Description

Indicates the type of card. In this table the type is a BRC card (the value is always 14).

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

brcRevVer

{brcEntry 7}

Description

Indicates the version and the revision level numbers of the firmware installed on the card. Use this object to verify the firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.7

Data Type

DisplayString. Length of the display string is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

brcPhyAdd

{brcEntry 8}

Description

The physical address of this card. The address is assigned by the system. You cannot assign or modify this address.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

brcConn

{brcEntry 9}

Description

Connects two BRCs that are in a master/slave mode. If either of the two cards is already connected, the connect BRC operation fails and the management station disconnects the cards using the brcDisConn object. An SNMP GetRequest on this object when no BRCs are connected returns a 0 value.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.9

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

brcDisConn

{brcEntry 10}

Description

Disconnects an already existing BRC pair. To disconnect a pair, you need to set this object to the same value set in the brcConn object. An SNMP GetRequest on this object returns a NoSuchName error message.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.10

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

brcMode

{brcEntry 11}

Description

Indicates whether the card is in the master (1) or slave (2) mode.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.11

Data Type

Integer. The two values are 1 (master) and 2 (slave).

Access Policy

Read only

Status

Mandatory

brcRedMasterIndex

{brcEntry 12}

Description

Contains the location of the Master BRC that is associated with the same expansion port subrack as the Master BRC for this BRC pair for systems with redundant BRCs. If there is no redundant BRC, this object contains a zero (0).

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.12

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

brcAlarm

{brcEntry 13}

Description

Tracks which alarms are active on this card.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.13

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

brcErrorStatus

{brcEntry 14}

Description

Registers the last error that occurred on this card. For further information on card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.14

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
1536	cannotConnectBRCsOnSameSubrack
1537	oneBrcMustBeInMasterSubrack
1538	brcNotDefinedInThisSlot
1545	invalidRackLevelCombination
1546	invalidCardAddress
1547	masterBrcAlreadyConnected
1548	destinationBrcAlreadyConnected

Access Policy

Read only

Status

Mandatory

brcOwnerString

{brcEntry 15}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.15

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

brcEntryStatus

{brcEntry 16}

Description

The status of this BRC object.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.16

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

brcDwnldVersion

{brcEntry 17}

Description

Version/revision of the card download file

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.17

Data Type

DisplayString (SIZE (1..4))

Access Policy

Read only

Status

Mandatory

brcUpgradeState

{brcEntry 18}

Description

The upgrade state of this bus repeater card entry.

Object Identifier

1.3.6.1.4.1.886.1.6.1.1.18

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

brcTableLastModified

{comm 2}

Description

The time, displayed in hundredths of a second, since the brcTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.6.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Netword Bus Controller (NBC) Card Configuration

The Network Bus Controller (NBC) is a special control circuit card that resides only in Slot 1 or 2 of the Master port subrack. The NBC drives the communication bus and time slot address bus, and generates the system clocks. The NBC also provides the data communication path between the System Controller and the circuit cards in the master and expansion port subracks.

nbcTable

{comm 4}

Description

The NBC configuration table.

Object Identifier

1.3.6.1.4.1.886.1.6.4

Data Type

Sequence of NbcEntry

Access Policy

Not accessible

Status

Mandatory

nbcEntry

{nbcTable 1}

Description

An entry in the NBC configuration table.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1

Data Type

NbcEntry

Access Policy

Not accessible

Status

Mandatory

Index

{nbcIndex}

NbcEntry

Sequence

nbcIndex	CardIndex
nbcRack	Integer
nbcLevel	Integer
nbcSlot	Integer
nbcStatus	Integer
nbcType	Integer
nbcRevVer	Display String
nbcPhyAdd	Integer
nbcAlarm	Integer
nbcErrorStatus	Integer
nbcOwnerString	OwnerString
nbcEntryStatus	EntryStatus

nbcIndex

{nbcEntry 1}

Description

Identifies an object in the NBC card table. It corresponds to the physical location of the card and is a function of the rack (R), the level (L), and the slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

nbcRack

{nbcEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcLevel

{nbcEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcSlot

{nbcEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcStatus

{nbcEntry 5}

Description

Indicates the current status of the card. You cannot change the status of the NBC card.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	active	Indicates the card is active.
4	outOfService	Indicates the card is out of service.
5	standby	Valid for one of the two NBC cards in redundant systems only. Also valid for one or more DTG cards in either a redundant or nonredundant system or BRCs.

Access Policy

Read only

Status

Mandatory

nbcType

{nbcEntry 6}

Description

Indicates the type of card. In this table the card is an NBC card. For an NBC card, this value is always 13.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcRevVer

{nbcEntry 7}

Description

Indicates the version number and the revision level numbers for the firmware installed on this card. Use these numbers to verify that firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.7

Data Type

DisplayString. Length of the display string is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

nbcPhyAdd

{nbcEntry 8}

Description

The physical address of this card. The address is assigned by the VCO system. You cannot assign the address and you cannot modify it.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcAlarm

{nbcEntry 9}

Description

Tracks which alarms are active on this card.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.9

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

nbcErrorStatus

{nbcEntry 10}

Description

Registers the last error that occurred on this card. For a list of the card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

nbcOwnerString

{nbcEntry 11}

Description

The entity that configured this object and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.11

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

nbcEntryStatus

{nbcEntry 12}

Description

The status of this NBC card entry. Adding or deleting an NBC card in location 2 also adds the DTG card. The nbcEntryStatus must be set to valid after the card is created.

To modify the attributes of the DTG card in location 1 or 2, use the dtgCardEntryStatus and dtgPortEntryStatus objects.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.12

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

nbcDwnldVersion

{nbcEntry 13}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.13

Data Type

DisplayString (size 1...4)

Access Policy

Read only

Status

Mandatory

nbcUpgradeState

{nbcEntry 14}

Description

The upgrade state of this network bus controller card entry.

Object Identifier

1.3.6.1.4.1.886.1.6.4.1.14

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

nbcTableLastModified

{comm 5}

Description

The time, displayed in hundredths of a second, since the nbcTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.6.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Single-Span Service Circuit Card Group

The service cards include digitized voice cards (DVCs), digital tone generator cards (DTGs), Digital conference cards (DCCs), integrated prompt/record cards (IPRCs), call progress analyzer cards (CPAs), Drop & Insert (D & I) cards, and pooled receiver cards.

Note Some service circuit cards have country-specific firmware. For a list of the firmware required for each country, refer to the Generic Software Release Notes.

Digital Tone Generator (DTG) Card Configuration Table

The Digital Tone Generator (DTG) card is a mezzanine card for the NBC. The DTG can coexist with the DTG-2 card to enable redundant tone generation in a nonredundant system. The two cards exist in a modified n+1 redundant system allowing the two cards to be present in the system database. However, only one of the DTG or DTG-2 cards can be active and generating tones at any one time.

The NBC supports only one DTG mezzanine card. Therefore the maximum number of DTG cards in a nonredundant system is one and the maximum number in a redundant system is two.

dtgCardTable

{scc 1}

Description

The digital tone generator card configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.1

Data Type

Sequence of DtgCardEntry

Access Policy

Not accessible

Status

Mandatory

dtgCardEntry

{dtgCardTable 1}

Description

An entry in the dtgCard configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1

Data Type

DtgCardEntry

Access Policy

Not accessible

Status

Mandatory

Index

{dtgIndex}

DtgCardEntry

Sequence

dtgIndex	Integer
dtgRack	Integer
dtgLevel	Integer
dtgSlot	Integer
dtgCardStatus	Integer
dtgCardUnusedPorts	Integer
dtgCardType	Integer
dtgCardRevVer	DisplayString
dtgCardPhyAdd	Integer
dtgCardAlarm	Integer
dtgCardErrorStatus	Integer
dtgCardOwnerString	OwnerString
dtgCardEntry Status	Entry Status

dtgIndex

{dtgCardEntry 1}

Description

Identifies an object in the DTG card table. This object identifies the physical location (hardware address) of the card and is a function of the rack (R), the level (L), and the slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

dtgRack

{dtgCardEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgLevel

{dtgCardEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgSlot

{dtgCardEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgCardStatus

{dtgCardEntry 5}

Description

Indicates the current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	active	Ports on this card can be involved in active calls and can be allocated to new calls.
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
5	standby	Valid for one of the two NBC cards in redundant systems only. Also valid for one or more DTG cards in either a redundant or nonredundant system or BRCs.

Access Policy

Read-write

Status

Mandatory

dtgCardUnusedPorts

{dtgCardEntry 6}

Description

Indicates the number of ports not currently active on this card. On multispan cards, this object indicates the number of ports not currently active on individual ports. Valid only for network interface and service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgCardType

{dtgCardEntry 7}

Description

Indicates the type of card. In this object the card type is a digital tone generator (DTG) card (this value is always 5).

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgCardRevVer

{dtgCardEntry 8}

Description

Identifies the version and the revision level numbers for the firmware installed on this card. Use these numbers to verify the firmware revisions for all network interface cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.8

Data Type

DisplayString. Length of the display string is from 1 to 5 characters.

Access Policy

Read only

Status

Mandatory

dtgCardPhyAdd

{dtgCardEntry 9}

Description

The physical address of the card. The address is assigned by the VCO system. You cannot assign or modify this address.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgCardAlarm

{dtgCardEntry 10}

Description

Tracks the active alarms on this card.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.10

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

dtgCardErrorStatus

{dtgCardEntry 11}

Description

Registers the last error that occurred on this card object. For a list of the card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgCardOwnerString

{dtgCardEntry 12}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

dtgCardEntry Status

{dtgCardEntry 13}

Description

The status of this DTG card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.13

Data Type

Entry Status

Access Policy

Read-write

Status

Mandatory

dtgCardDwnldVersion

{dtgCardEntry 14}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.14

Data Type

DisplayString (SIZE (1..4))

Access Policy

Read only

Status

Mandatory

dtgCardUpgradeState

{dtgCardEntry 15}

Description

The upgrade state of this DTG card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.1.1.15

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

dtgCardTableLast Modified

{scc 2}

Description

The time, displayed in hundredths of a second, since the dtgCardTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Digital Tone Generator (DTG) Port Table

The DTG port table enables you to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on a DTG card.

dtgPortTable

{scc 4}

Description

A list of port entries on each DTG card.

Object Identifier

1.3.6.1.4.1.886.1.7.4

Data Type

Sequence of DtgPortEntry

Access Policy

Not accessible

Status

Mandatory

dtgPortEntry

{dtgPortTable 1}

Description

An entry containing objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1

Data Type

DtgPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{dtgIndex, dtgPortIndex}

DtgPortEntry

Sequence

dtgPortIndex	Integer
dtgPortState	Integer
dtgPortMajorState	PortMajorState
dtgPortSuppState	PortSuppState
dtgPortAddress	Integer
dtgPortErrorStatus	Integer
dtgPortOwnerString	OwnerString
dtgPortEntry Status	PortEntry Status

dtgPortIndex

{dtgPortEntry 1}

Description

Indicates the port number on the card.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgPortState

{dtgPortEntry 2}

Description

Indicates the state of the port. The port can be active (1) or inactive (2).

✎

Note   Always modify the state of ports one at a time. That is, the EntryStatus object must be set
to valid after every SNMP_SET command on this object.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.2

Data Type

Integer. The two values are 1 (active) and 2 (inactive).

Access Policy

Read-write

Status

Mandatory

dtgPortMajorState

{dtgPortEntry 3}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.3

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

dtgPortSuppState

{dtgPortEntry 4}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.4

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

Cisco VCO/4K Management Information Base (MIB) Reference ■

dtgPortAddress

{dtgPortEntry 5}

Description

Specifies the software address (hexadecimal identifier) of the port for which the data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.5

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgPortErrorStatus

{dtgPortEntry 6}

Description

Registers the last error that occurred on this port.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dtgPortOwnerString

{dtgPortEntry 7}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.7

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

dtgPortEntryStatus

{dtgPortEntry 8}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.7.4.1.8

Data Type

PortEntry Status

Access Policy

Read-write

Status

Mandatory

dtgPortTableLastModified

{scc 5}

Description

The time, displayed in hundredths of a second, since the dtgPortTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Resourcible Card (RC) Table

The Resourcible Card is a composite of the following service circuit cards:

• IPRC, IPRC8, IPRC128

• CNF

• SRC

• CPA

- DTMF, DTMF24, DTMF48
- MFRC, MFRC2
- ANNC

rcTable

{scc 6}

Description

The resourcible card (rc) configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.6

Data Type

Sequence of RcEntry

Access Policy

Not accessible

Status

Mandatory

rcEntry

{rcTable 1}

Description

An entry in the RC table.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1

Data Type

RcEntry

Access Policy

Not accessible

Status

Mandatory

Index

{rcIndex, rcType}

RcEntry

Sequence

rcIndex	CardIndex
rcRack	Integer
rcLevel	Integer
rcSlot	Integer
rcStatus	Integer
rcUnusedPorts	Integer
rcType	Integer
rcRevVer	DisplayString
rcPhyAdd	Integer
rcAlarm	Integer
rcErrorStatus	Integer
rcOwnerString	OwnerString
rcEntryStatus	EntryStatus

rcIndex

{rcEntry 1}

Description

Identifies an object in the resourcible card table. The object contains the physical location (hardware address) of the card. The index object lists the rack (R), the level (L), and the slot (S) that the card occupies. The rcIndex is the primary index into the resourcible card configuration table (rcTable).

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

rcRack

{rcEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcLevel

{rcEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcSlot

{rcEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcStatus

{rcEntry 5}

Description

The current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	active	Ports on this card can be involved in active calls and can be allocated to new calls.
2	maintenance	One or more ports on this card may be involved in active calls. No ports are allocated to new calls.
3	diagnostics	No ports on this card are involved in calls or allocated to new calls.
4	outOfService	No ports on this card can be involved in active calls. No ports are allocated to new calls.
5	standby	Valid for one of the two NBC cards in redundant systems only. Also valid for one or more DTG cards in either a redundant or nonredundant system or BRCs.
6	campedOn	Status change to diagnostics mode was attempted while ports on this card were still involved in calls. No ports are allocated to new calls and card remains in this mode until further administrator action.
7	payload Loopback	Diagnostic state.
8	remote Loopback	Diagnostic state.

Access Policy

Read-write

Status

Mandatory

rcUnusedPorts

{rcEntry 6}

Description

The number of ports not currently active on this card. For multispan cards the object contains the number of ports not currently active on individual spans. Valid only for network interface and internal service circuit ports.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcType

{rcEntry 7}

Description

Specifies the type of resourcible card.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.7

Data Type

Integer. the following table contains the valid numerical and string card types.

Value	String
1	iprc
2	iprc8
3	iprc128
4	cnf
5	src
6	cpa
7	dtmf
8	dtmf24
9	dtmf48
10	mfrc
11	mfrc2
12	annc

Access Policy

Read only

Status

Mandatory

rcRevVer

{rcEntry 8}

Description

Indicates the version and the revision level of the firmware installed on this card. Use this field to verify the firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.8

Data Type

DisplayString. Length of the DisplayString is from 1 to 5 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

rcPhyAdd

{rcEntry 9}

Description

The physical address of this card. The address is assigned by the VCO system.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcAlarm

{rcEntry 10}

Description

Tracks the active alarms on this card.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.10

Data Type

Integer. The following table lists the valid values and their meanings:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

rcErrorStatus

{rcEntry 11}

Description

Registers the last error that occurred on this card. For a list of the card error messages, see Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcOwnerString

{rcEntry 12}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

rcEntryStatus

{rcEntry 13}

Description

The status of this resourcible card object.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.13

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

rcDwnldVersion

{rcEntry 14}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.14

Data Type

DisplayString (size 1...4)

Access Policy

Read only

Status

Mandatory

rcUpgradeState

{rcEntry 15}

Description

The upgrade state of this resourcible card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.6.1.15

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

rcTableLastModified

{scc 7}

Description

The time, displayed in hundredths of a second, since the rcTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.7

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Resourcible Port (RC) Table

The resourcible port configuration enables you to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on a resourcible card.

rcPortTable

{scc 9}

Description

A list of port entries on each resourcible card.

Object Identifier

1.3.6.1.4.1.886.1.7.9

Data Type

Sequence of RcPortEntry

Access Policy

Not accessible

Status

Mandatory

rcPortEntry

{rcPortTable 1}

Description

An entry containing objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1

Data Type

RcPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{rcIndex, rcPortIndex}

RcPortEntry

Sequence

rcPortIndex	Integer
rcPortState	Integer
rcPCardType	Integer
rcPortMajorState	PortMajorState
rcPortSuppState	PortSuppState
rcPortAddress	Integer
rcResGroupIndex	Integer
reResGroupPosition	Integer
rcPortErrorStatus	Integer
rcPortOwnerString	OwnerString
rcPortEntry Status	PortEntry Status

rcPortIndex

{rcPortEntry 1}

Description

Indicates the port number on the card (the primary index into this table).

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcPortState

{rcPortEntry 2}

Description

Indicates the state of the port; active (1) or inactive (2).

Note   Always modify the state of ports one at a time. That is, the EntryStatus object must be set to valid after every SNMP_SET command on this object.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.2

Data Type

Integer. The two values are 1 (active) and 2 (inactive). Perform the state changes one at a time.

Access Policy

Read-write

Status

Mandatory

rcPCardType

{rcPortEntry 3}

Description

Indicates the type of resourcible card to which this port is attached.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.3

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String
1	iprc
2	iprc8
3	iprc128
4	cnf
5	src
6	cpa
7	dtmf
8	dtmf24
9	dtmf48
10	mfrc
11	mfrc2
12	annc

Access Policy

Read only

Status

Mandatory

rcPortMajorState

{rcPortEntry 4}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.4

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

rcPortSuppState

{rcPortEntry 5}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.5

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

rcPortAddress

{rcPortEntry 6}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified using the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcResGroupIndex

{rcPortEntry 7}

Description

A foreign key corresponding to the resGroupIndex in the resGroupTable.

Indicates the number of the resource group to which this port belongs. If you do not make a resource group assignment, the value is zero (0).

Set the EntryStatus for this attribute and in the resGroupTable to underModification to change this attribute.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.7

Data Type

Integer. Possible values are from 0 to 63.

Access Policy

Read-write

Status

Mandatory

rcResGroupPosition

{rcPortEntry 8}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcPortErrorStatus

{rcPortEntry 9}

Description

Registers the last error that occurred on this port.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

rcPortOwnerString

{rcPortEntry 10}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.10

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

rcPortEntry Status

{rcPortEntry 11}

Description

The status of this table object.

Object Identifier

1.3.6.1.4.1.886.1.7.9.1.11

Data Type

PortEntry Status

Access Policy

Read-write

Status

Mandatory

rcPortTableLastModified

{scc 10}

Description

The time, displayed in hundredths of a second, since the rcPortTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.10

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

IPRC Card Configuration Table

The Integrated Prompt/Record Card (IPRC) is a standard system service circuit card that resides in the Master or any Expansion Port Subrack. It is designed for the system switching product family to play and record digitized voice prompt information.

The number and type of IPRCs required by a system is based on anticipated traffic and the call scenario. IPRCs are microprocessor-based and firmware controlled, and are incorporated with the standard system internal control and digital network interfaces.

Use the objects in the IPRC Card Configuration Table to define the IPRC configuration parameters. Use these objects to specify the following items:

- Length of time after which to chop the end of a newly recorded prompt

- Interval timer for checksum verification

- Prompt libraries supported by the IPRC card

In addition, the IPRC table contains objects that enable you to configure the port density in 8-port increments, thus reallocating time slots based on the defined port density. You can configure the 64- and 128-port IPRCs to support less than the physical port capacity.

Note Due to the potential reallocation of time slots and removal of prompt information loaded on the IPRC, you must remove the IPRC from service prior to making any changes to these objects.

iprcTable

{scc 11}

Description

IPRC card table.

Object Identifier

1.3.6.1.4.1.886.1.7.11

Data Type

Sequence of IprcEntry

Access Policy

Not accessible

Status

Mandatory

IprcEntry

{iprcTable 1}

Description

An entry in the iprc card table.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1

Data Type

IprcEntry

Access Policy

Not accessible

Status

Mandatory

Index

{iprcIndex}

IprcEntry

Sequence

iprcIndex	CardIndex
iprcRack	Integer
iprcLevel	Integer
iprcSlot	Integer
iprcPcmLimit	Integer
iprcPlaybackPorts	Integer
iprcRecChannels	Integer
iprcEORecChop	Integer
iprcChecksumSw	Integer
iprcChecksumTimer	Integer
iprcAlloPrompt	Integer
iprcAvaPrompt	Integer
iprcSupportPromptLib	Integer

iprcErrorStatus	Integer
iprcOwnerString	OwnerString
iprcEntry Status	Entry Status

iprcIndex

{iprcEntry 1}

Description

Identifies an object in the iprc table. The object contains the physical location (hardware address) of the card. The index object lists the rack (R), the level (L), and the slot (S) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

iprcRack

{iprcEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iprcLevel

{iprcEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iprcSlot

{iprcEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iprcPcmLimit

{iprcEntry 5}

Description

Use this field to set a maximum value for PCM cutoff (limits the level of the prompts). The software on the IPRC clips any PCM value that is less than the defined limit.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.5

Data Type

Integer. The valid range is from 0 to 127; where 0 is the loudest volume and 127 is the softest. The suggested value for Mu law prompt data is 10.

Access Policy

Read-write

Status

Mandatory

iprcPlaybackPorts

{iprcEntry 6}

Description

Use this object to define the number of playback ports supported by the IPRC. The number of playback ports is allocated in increments of 8 ports up to the physical limit of ports supported by the IPRC. This field enables you to free up time slots if all ports on an IPRC are not required.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.6

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
8	iprc8	Integrated prompt recording card – 8 port.
64	iprc64	Integrated prompt recording card – 64 ports.
128	iprc128	Integrated prompt recording card – 128 ports.

Access Policy

Read-write

Status

Mandatory

Default Value

Maximum of the physical capacity of the IPRC board: 8, 64, or 128. All values must be in increments of 8 (for example, 8, 16, 24).

iprcRecChannels

{iprcEntry 7}

Description

Shows the number of record channels supported by the IPRC card. This number is controlled by the physical port configuration. There is no additional overhead introduced by the number of record channels, so they do not need to be configured.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.7

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String	Meaning
8	iprc8	Integrated prompt recording card – 8 port.
64	iprc64	Integrated prompt recording card – 64 ports.
128	iprc128	Integrated prompt recording card – 128 ports.

Access Policy

Read only

Status

Mandatory

iprcEORecChop

{iprcEntry 8}

Description

The end of record chop parameter defines how much of a prompt is cut from the end of a newly recorded prompt.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.8

Data Type

Integer. The valid range is from 0 to 999. Range is in tenths of a second (0 to 99.9 seconds).

Access Policy

Read-write

Status

Mandatory

Default Value

0.1 second (the value 1)

iprcChecksumSw

{iprcEntry 9}

Description

This field enables (1) or disables (2) the interval timer.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.9

Data Type

Integer. The two values are 1 (enable) and 2 (disable).

Access Policy

Read-write

Status

Mandatory

Default Value

{2} disable

iprcChecksumTimer

{iprcEntry 10}

Description

There are two objects associated with the checksum timer. Use these two objects to define the periodic interval for the IPRC to verify the integrity of the prompt information loaded on the IPRC.

The first field enables or disables the interval timer. The second field is a data entry field that accepts an input range of 0 to 24. An interval time of zero causes immediate verification of the checksum.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.10

Data Type

Integer (0 to 24 hours)

Access Policy

Read-write

Status

Mandatory

Default Value

Disabled and 24

iprcAlloPrompt

{iprcEntry 11}

Description

Indicates the amount of prompt capacity defined for this IPRC. This figure represents the total prompting minutes used by the prompt libraries assigned to this IPRC.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iprcAvaPrompt

{iprcEntry 12}

Description

Displays the remaining prompt capacity for this IPRC. This figure represents the total prompting minutes available for recording or for additional library assignment.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iprcSupportPromptLib

{iprcEntry 13}

Description

Indicates the supported prompt libraries for an IPRC (voice prompt) card. Each card can support up to 16 prompt libraries.

Internally an integer of 16 bits serves as the bit map to represent the supported libraries. Each bit corresponds to one library.

Externally the SNMP uses the integer values to perform a SET or GET command.

For further information on prompt libraries, see the *Cisco VCO/4K System Administrator's Guide.*

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.13

Data Type

Integer. The valid values are from 0 (no library supported) to 65535 (all 16 libraries supported).

Access Policy

Read-write

Status

Mandatory

iprcErrorStatus

{iprcEntry 14}

Description

Registers the last error that occurred on this card.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.14

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
6144	invalidvaluespecified
6145	playbackportmustbeinmultiplesofeight
6146	playbackportsarestillinresgroup
6147	cardmustbeinoostomodifytheobject

Access Policy

Read only

Status

Mandatory

iprcOwnerString

{iprcEntry 15}

Description

The entity that configured this entry and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.15

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

iprcEntryStatus

{iprcEntry 16}

Description

The status of the IPRC object.

Object Identifier

1.3.6.1.4.1.886.1.7.11.1.16

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

iprcTableLastModified

{scc 12}

Description

The time, displayed in hundredths of a second, since the iprcTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.12

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Prompt Library Table

The prompt library table contains a list of the entries used to assign prompt libraries to the IPRC.

pmptLibTable

{scc 14}

Description

Contains objects used to assign prompt libraries to the IPRC.

Object Identifier

1.3.6.1.4.1.886.1.7.14

Data Type

Sequence of PmptLibEntry

Access Policy

Not accessible

Status

Mandatory

pmptLibEntry

{pmptLibTable 1}

Description

Each prompt library entry consists of two objects. The numeric entry field and the name of the prompt library.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1

Data Type

PmptLibEntry

Access Policy

Not accessible

Status

Mandatory

Index

{pmptLibIndex}

PmptLibEntry

Sequence

pmptLibIndex	Integer
pmptLibName	DisplayString
pmptLibPath	DisplayString
pmptLibTotalUsage	Integer
pmptLibUpdate	DisplayString
pmptLibCard	Integer
pmptLibPort	Integer
pmptErrorStatus	Integer
pmptLibOwnerString	OwnerString
pmptLibEntry Status	Entry Status

pmptLibIndex

{pmptLibEntry 1}

Description

Specifies the library. You can assign up to sixteen prompt libraries to an IPRC.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.1

Data Type

Integer. The possible values for this field are from 1 to 16.

Access Policy

Read only

Status

Mandatory

pmptLibName

{pmptLibEntry 2}

Description

The name of the prompt library if one has been defined.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.2

Data Type

DisplayString. Length of the DisplayString is from 1 to 10 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

pmptLibPath

{pmptLibEntry 3}

Description

Used to assign a default device and directory to the prompt library. The directory specification must include a device identifier (for example, C: or F:) and a directory path (for example, /boot/voice0).

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.3

Data Type

DisplayString. Length of the DisplayString is from 1 to 60 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

pmptLibTotalUsage

{pmptLibEntry 4}

Description

Returns the total usage of all the prompts in the library (Ticks).

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

pmptLibUpdate

{pmptLibEntry 5}

Description

Updates the prompt library by downloading all the prompts on all the supported IPRC cards.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.5

Data Type

DisplayString

Access Policy

Read-write

Status

Mandatory

pmptLibCard

{pmptLibEntry 6}

Description

This object is used to specify a line or trunk card to play a list of voice prompts as a part of the test announcement. The line/trunk port (specified by pmptLib port) used for testing needs to be deactivated before it can be used for prompt testing using pmptTestFile object in the pmptFileTable.

pmptTestFile is in the prompt library file table (see the "Prompt Library File Table" section on page 8-44).

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.6

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

pmptLibPort

{pmptLibEntry 7}

Description

This object is used to specify a line or trunk card to play a list of voice prompts as a part of the test announcement. The line/trunk port (specified by pmptLib port) used for testing needs to be deactivated before it can be used for prompt testing using pmptTestFile object in the pmptFileTable.

pmptTestFile is in the prompt library file table (see the "Prompt Library File Table" section on page 8-44).

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.7

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

pmptLibErrorStatus

{pmptLibEntry 8}

Description

Registers the last error that occurred on this card.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.8

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
2816	invalidLibIdSpecified
2817	libraryAlreadyExists
2818	cannotOpenLibraryDirectory
2819	invalidPromptFileIndexSpecified
2820	promptFileIsDeleted
2821	invalidPromptFileNamSpecified
2822	invalidCardSpecified
2823	invalidPortSpecified
2824	emptyCardSlotSpecified
2825	specifiedCardIsNotActive

Value	String
2826	specifiedPortNotActive
2817	cardIsNotSpecified

Access Policy

Read only

Status

Mandatory

pmptLibOwnerString

{pmptLibEntry 9}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.9

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

pmptLibEntryStatus

{pmptLibEntry 10}

Description

Status of the IPRC prompt library entry. This object is used for locking and unlocking of both the pmptLibTable and the pmptFileTable entries while modifying and editing the table entries. This object is also used for operations on the prompt files like add, delete, update, and test in the pmptFileTable.

Object Identifier

1.3.6.1.4.1.886.1.7.14.1.10

Data Type

Entry Status

Access Policy

Read-write

Status

Mandatory

pmptLibTableLastModified

{scc 15}

Description

The time, displayed in hundredths of a second, since the pmptTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.15

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Prompt Library File Table

The prompt library file table enables the user to configure the files for the prompt libary table.

pmptFileTable

{scc 17}

Description

Contains a list of the files in a prompt library.

Object Identifier

1.3.6.1.4.1.886.1.7.17

Data Type

Sequence of PmptFileEntry

Access Policy

Not accessible

Status

Mandatory

pmptFileEntry

{pmptFileTable 1}

Description

Each prompt library consists of two fields; the number entry field and the name of the prompt library.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1

Data Type

PmptFileEntry

Access Policy

Not accessible

Status

Mandatory

Index

{pmptLibIndex, pmptFileIndex}

PmptFileEntry

Sequence

pmptFileIndex	Integer
pmptFileId	Integer
pmptFileName	DisplayString
pmptFileVersion	Integer
pmptFileDescription	DisplayString
pmptFileLaw	Integer
pmptFileLength	Integer
pmptAddFile	DisplayString
pmptDeleteFile	DisplayString
pmptUpdateFile	DisplayString
pmptTestFile	Integer

pmptFileIndex

{pmptFileEntry 1}

Description

Displays the index of the prompt library file.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

pmptFileId

{pmptFileEntry 2}

Description

Specifies the file ID. Valid IDs are 1 to 255.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.2

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

pmptFileName

{pmptFileEntry 3}

Description

Specifies the file name.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.3

Data Type

DisplayString. Length of the DisplayString is from 1 to 16 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

pmptFileVersion

{pmptFileEntry 4}

Description

Specifies the prompt file version number.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.4

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

pmptFileDescription

{pmptFileEntry 5}

Description

Specifies the prompt entry description.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.5

Data Type

DisplayString. Length of the DisplayString is from 1 to 32 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

pmptFileLaw

{pmptFileEntry 6}

Description

Specifies the file encoding law.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.6

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
1	Mu	The file law is Mu law.
2	a	The file law is A law.

Access Policy

Read-write

Status

Mandatory

pmptFileLength

{pmptFileEntry 7}

Description

Specifies the duration in Ticks, hundredths of a second, for the prompt entry.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.7

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

pmptAddFile

{pmptFileEntry 8}

Description

Adds a specified file to the prompt library. The library to which the file is added must be locked with the pmptLibEntryStatus set to valid to add a file.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.8

Data Type

DisplayString. Length of the DisplayString is from 1 to 16 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

pmptDeleteFile

{pmptFileEntry 9}

Description

Deletes a specified file from the library. The library from which the file is deleted must be locked with the pmptLibEntryStatus set to valid to delete a file.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.9

Data Type

DisplayString. Length of the DisplayString is from 1 to 16 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

pmptUpdateFile

{pmptFileEntry 10}

Description

Updates the prompt library file to the supported IPRC cards. The library in which the file is updated must be locked with the pmptLibEntryStatus set to valid to update a file.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.10

Data Type

DisplayString. Length of the DisplayString is from 1 to 16 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

pmptTestFile

{pmptFileEntry 11}

Description

Plays the prompt file. The pmptLibcard and pmptLibPort must be set before you modify this object. Make sure the library where the file is updated is locked, with the pmptLibEntryStatus set to underModification, before you perform the test operation.

Object Identifier

1.3.6.1.4.1.886.1.7.17.1.11

Data Type

Integer. The two values are 1 (test) and 2 (notest).

Access Policy

Read-write

Status

Mandatory

pmptFileTableLastModified

{scc 18}

Description

The time, displayed in hundredths of a second, since the pmptFileTable was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.7.18

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Subrate Switching Card Group

The Subrate Switching Card (SSC) enables the system to switch voice and data calls at N x 8 Kbps rates (where N equals the number of channels). Use the SSC to improve trunk efficiency up to eight times by "packing" eight subrate channels within a traditional 64-Kbps channel. With the SSC you can use the switches as Base Station Controllers (BSCs) in wireless telephone networks or other networks carrying compressed audio.

Subrate Switching Card (SSC) Table

Use the Subrate Switching Card table to add, delete, or modify Subrate Switching Cards.

sscTable

{ssc 19}

Description

The Subrate Switching Card (SSC) configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.19

Data Type

SEQUENCE OF SscEntry

Access Policy

Not accessible

Status

Mandatory

sscEntry

{sscTable 1}

Description

An entry in the SSC table.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1

Data Type

SscEntry

Access Policy

Not accessible

Status

Mandatory

SscEntry

Sequence

sscIndex	CardIndex
sscRack	Integer
sscLevel	Integer
sscSlot	Integer
sscStatus	Integer
sscRevVer	DisplayString
sscPhyAdd	Integer
sscAlarm	Integer
sscErrorStatus	Integer
sscOwnerString	DisplayString
sscEntryStatus	EntryStatus

sscIndex

{sscEntry 1}

Description

Identifies an entry in the SSC Table. It corresponds to the physical location of the card and is a function of the rack (R), level (L), and slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

sscRack

{sscEntry 2}

Description

The rack (R) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sscLevel

{sscEntry 3}

Description

The level (L) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sscSlot

{sscEntry 4}

Description

The slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sscStatus

{sscEntry 5}

Description

Indicates the current status of the card.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.5

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
1	active
2	maintenance
3	diagnostics
4	outOfService
5	standby

Access Policy

Read-write

Status

Mandatory

sscRevVer

{sscEntry 7}

Description

Indicates the version and revision level of the firmware installed on the card. This value is used to verify that firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.7

Data Type

DisplayString (1 to 5 alphanumeric characters)

Access Policy

Read only

Status

Mandatory

sscPhyAdd

{sscEntry 8}

Description

The physical address of this card. This address is assigned by the VCO system

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sscAlarm

{sscEntry 9}

Description

Tracks where alarms are active on this card.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.9

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor

Access Policy

Read only

Status

Mandatory

sscErrorStatus

{sscEntry 10}

Description

Registers the last error that occurred on this card entry. For a complete list of errors, refer to Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

sscOwnerString

{sscEntry 11}

Description

The entity that configured this entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.11

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

sscEntryStatus

{sscEntry 12}

Description

The status of this SSC Entry.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.12

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

sscDwnldVersion

{sscEntry 13}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.13

Data Type

DisplayString (size 1..4)

Access Policy

Read only

Status

Mandatory

sscUpgradeState

{sscEntry 14}

Description

The upgrade state of this Subrate Service Card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.14

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

sscTableLastModified

{ssc 20}

Description

The upgrade state of this Subrate Service Card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.19.1.20

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Subrate Configuration and Statistics

Subrate configuration and statistics enables the user to configure the resources associated with the subrate card. This also provides statistical run-time data.

subrateTimeSlots

{subrate 1}

Description

Defines the size of the subrate matrix managed by the system and specifies the number of backplane timeslots allocated for subrate use. SSC timeslots are assigned one-to-one to destination bearer channels. A 1000-timeslot matrix handles up to 8000 8-Kbps subrate connections.

Object Identifier

1.3.6.1.4.1.886.1.11.1

Data Type

Integer. The total number of timeslots available ranges from 0 to 4096. The total number of paths available ranges from 0 to 2048 in increments of 8 (two timeslots equal one path). Zero (0) is only valid if there are no subrate cards in the system. Round the set values up to the next highest multiple of 8 (initial value: 0).

Access Policy

Read-write

Status

Mandatory

subrateRedundancy

{subrate 2}

Description

Enables or disables subrate card redundancy.

Object Identifier

1.3.6.1.4.1.886.1.11.2

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String	Meaning
1	off	No card level redundancy is activated.
2	on	Card level redundancy is activated.

Access Policy

Read-write

Status

Mandatory

Default Value

2 (on)

subrateThreshold

{subrate 3}

Description

Specifies the timeslot threshold level (in percentage of capacity) that, when reached, generates an alarm condition. Subrate connections consume timeslots.

Object Identifier

1.3.6.1.4.1.886.1.11.3

Data Type

Integer. Valid entries are from 1 to 99.

Access Policy

Read-write

Status

Mandatory

Default Value

75

subrateFailAlarm

{subrate 4}

Description

Alarm severity for total loss of subrate. This condition exists if the active and standby subrate cards fail or are removed from service. No subrate connections are made and all established subrate connections are lost. Cleared when at least one subrate card returns to service.

Object Identifier

1.3.6.1.4.1.886.1.11.4

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
1	Fatal
2	Critical
3	Major
4	Minor
7	nonAlarmedEvents
8	clear

Access Policy

Read-write

Status

Mandatory

Default Value

Major

subrateRedundAlarm

[subrate 5]

Description

Alarm severity for loss of subrate redundancy. This condition exists if one of the subrate cards in a redundant configuration fails or is removed from service. There is no loss of service for this condition. This condition is cleared when the nonactive subrate card returns to service and is fully synchronized to the active subrate card.

Object Identifier

1.3.6.1.4.1.886.1.11.5

Data Type

Integer. Possible values and their meanings are shown in the following table. Default value is 4 (minor).

Value	String
1	Fatal
2	Critical
3	Major
4	Minor
7	nonAlarmedEvents

Access Policy

Read-write

Status

Mandatory

subrateThresholdAlarm

[subrate 6}

Description

Alarm severity for timeslot threshold exceeded. This condition occurs if the timeslot threshold exceeds the warning level. This condition is intended as a warning indicator that subsequent subrate connection requests might fail due to timeslot capacity exhaustion. This condition is cleared when the timeslot usage drops to a level that is 10% less than the threshold.

Object Identifier

1.3.6.1.4.1.886.1.11.6

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
1	Fatal
2	Critical
3	Major
4	Minor
7	nonAlarmedEvents

Access Policy

Read-write

Status

Mandatory

Default Value

4 (Minor)

subrateTimeslotAlarm

{subrate 7}

Description

Alarm severity for timeslot exhaust condition. This condition occurs when all timeslot capacity is consumed by subrate connections. Any future subrate connection requests attempting to allocate additional subrate timeslots fail due to timeslot capacity exhaustion. Cleared when timeslot usage drops to the threshold warning level.

Object Identifier

1.3.6.1.4.1.886.1.11.7

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
1	Fatal
2	Critical
3	Major
4	Minor
7	nonAlarmedEvents

Access Policy

Read-write

Status

Mandatory

Default Value

3 (Major)

subrateTimeslotsUsed

[subrate 8]

Description

Current total timeslot usage.

Object Identifier

1.3.6.1.4.1.886.1.11.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateMaxTimeslots

{subrate 9}

Description

High water mark for total timeslot usage.

Object Identifier

1.3.6.1.4.1.886.1.11.9

Data Type

Gauge

Access Policy

Read only

Status

Mandatory

subrateTable

{subrate 10}

Description

Fixed table of the available subrates. This table contains both configurable attributes, as well as statistical run-time data.

Object Identifier

1.3.6.1.4.1.886.1.11.10

Data Type

Sequence of SubrateEntry

Access Policy

Non accessible

Status

Mandatory

subrateEntry

{subrateTable 1}

Description

An entry in the subrate table.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1

Data Type

SubrateEntry

Access Policy

Non accessible

Status

Mandatory

SubrateEntry

Sequence

subrateIndex	Integer
subrateKBps	Integer
subrateIdleMode	Integer
subrateIdlePattern	Integer
subrateIdleTrunkPhyAdd	Integer
subrateIdleTrunkIndex	CardIndex
subrateIdleTrunkSpan	Integer
subrateIdleTrunkPort	Integer
subrateIdleTrunkBitOffset	Integer
subrateCurrentConnections	Integer
subrateCurrentConnections	Integer
subrateCumulativeConnections	Integer
subrateMaxConnections	Integer
subrateTimeslotFailures	Integer
subrateOtherFailures	Integer

subrateIndex

{subrateEntry 1}

Description

The index to the subrate table.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateKBps

{subrateEntry 2}

Description

Represents the data rate supported by the subrate card. Subrate connections are made by breaking down a normal channel. A normal channel (8 bits wide) represents a data rate of 64 Kbps. The valid rate ranges from 8 Kbps to 64 Kbps.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.2

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	Meaning
1	Kbps8
2	Kbps16
3	Kbps24
4	Kbps32
5	Kbps40
6	Kbps48
7	Kbps56
8	Kbps64

Access Policy

Read only

Status

Mandatory

subrateIdleMode

{subrateEntry 3}

Description

Mode for idle generation: Fixed pattern or Trunk Definition.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.3

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	Meaning
1	Fixed
2	Trunk

Access Policy

Read-write

Status

Mandatory

subrateIdlePattern

{subrateEntry 4}

Description

For fixed idle mode, the fixed binary idle pattern, as a binary 8-bit integer. For fixed bit patterns, the idle code is specified by a bit map where each bit is defined as a 0 or a 1. The number of bits in the pattern is defined by the subrate channel (8 Kb has one bit; 16 Kb has two bits, and so forth). Fixed idle patterns are provided by the SSC in the first eight SSC timeslots. The fixed pattern mode is transmitted to subrate channels when they are not listening to other subrate channels.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.4

Data Type

Integer (0 to 255)

Access Policy

Read-write

Status

Mandatory

subrateIdleTrunkPhyAdd

{SubrateEntry 5}

Description

The physical address of the Idle Trunk Port card. Assigned when idle mode is trunk.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.5

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

subrateIdleTrunkIndex

{subrateEntry 6}

Description

For trunk idle mode, the card location of the idle trunk channel. For trunk port subrate channel configurations, subrate channels are set to listen to the specified RLSPB (rack, level, slot, port, bit) when they are not listening to other subrate channels. For the trunk mode, it is assumed that some external equipment is providing the idle data (or perhaps silence tone) for the subrate.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.6

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

subrateIdleTrunkSpan

{subrateEntry 7}

Description

For trunk idle mode, the card slot number of the idle trunk channel.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateIdleTrunkPort

{subrateEntry 8}

Description

For trunk idle mode, the port number of the idle trunk channel.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateIdleTrunkBitOffset

{subrateEntry 9}

Description

For trunk idle mode, the channel bit offset within the port of the idle trunk channel.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.9

Data Type

Integer (1 to 8)

Access Policy

Read-write

Status

Mandatory

subrateCurrentConnections

[subrateEntry 10}

Description

Current number of connections.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateCumulativeConnections

{subrateEntry 11}

Description

Cumulative number of connections.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateMaxConnections

{subrateEntry 12}

Description

High water mark for connections.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateTimeslotFailures

[subrateEntry 13}

Description

Failures due to timeslot exhaust.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.13

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateOtherFailures

{subrateEntry 14}

Description

Failures due to all other reasons.

Object Identifier

1.3.6.1.4.1.886.1.11.10.1.14

Data Type

Integer

Access Policy

Read only

Status

Mandatory

subrateErrorStatus

{subrate 11}

Description

The last error that occurred on this entry.

Object Identifier

1.3.6.1.4.1.886.1.11.11

Data Type

Integer. Possible values and their meanings are shown in the following table:

Value	String
6144	invalid-selection
6145	out-of-legal-range-data
6146	timeslots-must-be-multiple-of-8
6147	need-OOS-to-allocate-timeslots
6148	timeslot-capacity-exceeded
6149	card-is-not-a-linetrunk-card
6150	card-is-not-active
6151	illegal-physical-address
6152	need-OOS-to-change-idle-code-config
6153	not-valid-bit-offset-range
6154	illegal-pattern-for-this-subrate
6155	illegal-subrate-table-index
6156	subrate-data-can-not-be-locked
6157	subrate-config-not-locked-by-user

Access Policy

Read only

Status

Mandatory

subrateOwnerString

{subrate 12}

Description

The entity that configured this entry.

Object Identifier

1.3.6.1.4.1.886.1.11.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

subrateEntryStatus

{subrate 13}

Description

The modification status of this entry.

Object Identifier

1.3.6.1.4.1.886.1.11.13

Data Type

FixedTabEntryStatus

Access Policy

Read-write

Status

Mandatory

Drop and Insert (D+I) Card Group

The Drop and Insert (D+I) card provides DS0 transmission-only access to the VCO/4K system. It supports a maximum of eight interfaces per card, synchronous operation at either 56 KB or 64 KB. The D+I card is configurable as DCE or DTE with normal or reverse bit-packing, and supports both EIA/TIA-449 and V.35 signal specifications for dates and clock leads only. The D+I card can be inserted into the system while the system is active.

Note   EIA/TIA-449 was known as recommended standard RS-449 before its acceptance as a standard by the Electronics industries Association (EIA) and Telecommunications industry Association (TIA).

Drop and Insert (D+I) Card Table

Use the Drop and Insert (D+I) Card Table to add, delete, or modify Drop and Insert Cards.

dniCardTable

{scc 21}

Description

The Drop & Insert (D&I) card configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.21

Data Type

Sequence of DniCardEntry

Access Policy

Not accessible

Status

Mandatory

dniCardEntry

{dniCardTable 1}

Description

An entry in the dniCard configuration table.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1

Data Type

DniCardEntry

Access Policy

Not accessible

Status

Mandatory

dniIndex

{dniCardEntry 1}

Description

The value of this object uniquely identifies an entry in the dniCard table. It corresponds to the physical location of the card and is a function of the rack (R), level (L), and the slot (S) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

dniCardRack

{dniCardEntry 2}

Description

The rack (R) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardLevel

{dniCardEntry 3}

Description

The level (L) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardSlot

{dniCardEntry 4}

Description

The slot that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardStatus

{dniCardEntry 5}

Description

Indicates the current status of the card. Possible values can include the following:

Value	Status	Description
1	active	Ports on this card can be involved in active calls and can be allocated to new calls. (The agent may take up to 10 seconds to set a card to active.)
4	outOfService	No ports on this card can be involved in active calls; no ports are allocated to new calls.
5	standby	Valid for one of the two NBC cards in redundant systems only, one or more DTG cards in either a redundant or nonredundant system, or BRCs.
9	gracefulIdle	No ports on this card are allocated to new calls.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.5

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

dniCardUnusedPorts

{dniCardEntry 6}

Description

Indicates the number of ports not currently active on this card; for multispan cards, indicates the number of ports not currently active on individual spans.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardType

{dniCardEntry 7}

Description

Indicates the type of card; in this case it is a Drop & Insert card. This value is always 39.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardRevVer

{dniCardEntry 8}

Description

Indicates the version and the revision level of the firmware installed on the card. Object can be used to verify that firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.8

Data Type

DisplayString (SIZE (1..5))

Access Policy

Read only

Status

Mandatory

dniCardPhyAdd

{dniCardEntry 9}

Description

The physical address of this card. It is assigned by the VCO system.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.9

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardAlarm

{dniCardEntry 10}

Description

This value tracks which alarms are active on this card. Valid values are:

Value	Alarm status
1	cardFailureMinor
2	portFailureMinor
3	cardAndPortFailureMinor
4	none or unknown alarm

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.10

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardErrorStatus

{dniCardEntry 11}

Description

Registers the last error that occurred on this card entry. For a complete list of errors, refer to Appendix A, "Card Error Messages".

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniCardOwnerString

{dniCardEntry 12}

Description

The entity that configured this entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.12

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

dniCardEntryStatus

{dniCardEntry 13}

Description

The status of this D&I card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.13

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

dniCardDwnldVersion

{dniCardEntry 14}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.14

Data Type

DisplayString (SIZE (1..4))

Access Policy

Read only

Status

Mandatory

dniCardUpgradeState

{dniCardEntry 15}

Description

The upgrade state of this D&I card entry.

Object Identifier

1.3.6.1.4.1.886.1.7.21.1.15

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

dniCardTableLastModified

{dniCardEntry 16}

Description

The time (in hundredths of a second) since the epoch that the dniCardTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.7.22

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Drop + Insert (D+I) Card Port Table

The D+I port table enables you to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on a D+I card.

dniPortTable

{scc 23}

Description

A list of port entries on each D&I card.

Object Identifier

1.3.6.1.4.1.886.1.7.23

Data Type

Sequence of DniPortEntry

Access Policy

Not-accessible

Status

Mandatory

dniPortEntry

{dniPortTable 1}

Description

An entry containing objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1

Data Type

DniPortEntry

Access Policy

Not-accessible

Status

Mandatory

dniPortIndex

{dniPortEntry 1}

Description

Indicates the port number on the card. There are 8 ports on a D+I card.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.1

Data Type

Integer (1..8)

Access Policy

Read only

Status

Mandatory

dniPortState

{dniPortEntry 2}

Description

The state of port can be changed to active or inactive. State changes on ports should only be performed one at a time.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.2

Data Type

Integer (Set to 1 for Active or 2 for Inactive)

Access Policy

Read-write

Status

Mandatory

dniPortMajorState

{dniPortEntry 3}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.3

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

dniPortSuppState

{dniPortEntry 4}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.4

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

dniPortAddress

{dniPortEntry 5}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.5

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniPortErrorStatus

{dniPortEntry 6}

Description

Registers the last error that occurred on this port entry.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

dniPortOwnerString

{dniPortEntry 7}

Description

The entity that configured this entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.7

Data Type

Owner string

Access Policy

Read-write

Status

Mandatory

dniPortEntryStatus

{dniPortEntry 8}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.7.23.1.8

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

dniPortTableLastModified

{dniPortEntry 9}

Description

The time (in hundredths of a second) since the epoch that the dniPortTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.7.24

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

CHAPTER **9**

Traps and Alarm Reporting

The Alarm Arbiter Card (AAC) is mounted at the top of the VCO/4K and serves as the central control for manual and automatic system resets and alarm indications. The AAC also provides a mechanism for the selection of active and standby controllers in systems equipped with A- and B-side controllers.

The AAC is attached to the Alarm Interface Card (AIC). The AIC accepts fault signals from the VCO/4K Power Subsystem, Fan Unit, and Ring Generator, and generates a single fault signal to the AAC.

For network managers using SNMP, the VCO/4K MIB provides traps that report card and system alarms to an NMS. These traps are detailed in the "Alarm Traps" section on page 9-1. The VCO/4K MIB also provides objects which can be queried for alarm data. These objects are listed in the "System Alarm Trap History" section on page 9-5 and the "Additional Alarm Objects" section on page 9-9.

Note The alarm traps described in this chapter are enterprise traps, i.e., traps specific to the VCO/4K SNMP agent and MIB. The VCO/4K SNMP agent also supports the generic level traps coldStart and authenticationFailure as defined in RFC 1215. For more information pertaining to RFC 1215, refer to the IETF web site at www.ietf.org.

Alarm Traps

The VCO/4K MIB provides traps for both system and card alarms. The definitions of these two trap types are as follows:

systemAlarm	TRAP-TYPE
Enterprise	summa-four
Variables	systemAlarmCode systemAlarmDesc systemAlarmSeverity systemAlarmOccur
Description	Indicates to the NMS the occurrence of a system alarm

cardAlarm	TRAP-TYPE
Enterprise	summa-four
Variables	cardAlarmCode cardAlarmDescr cardAlarmSeverity cardAlarmSlotIndex cardAlarmCardType cardAlarmDwnldType cardAlarmGroupNum cardAlarmIntfNum
Description	Indicates to the NMS the occurrence of a card alarm

Card Alarm Trap Variables

Card alarm traps report on card alarms as they occur. The following variables are returned:

Note   Card alarm trap variables are reported to the NMS in traps and are not intended to be queried separately using SNMP GET operations.

cardAlarmCode

{cardAlarmTrap 1}

Description

Indicates the code of the alarm that occurred. The cardAlarmCode corresponds to the system alarm codes listed in the *Cisco VCO/4K System Messages* manual. (For example, "ALM039: PRI/T1/E1 Carrier Lost" would return an integer value of 39 for cardAlarmCode.)

Object Identifier

1.3.6.1.4.1.886.1.8.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

cardAlarmSlotIndex

{cardAlarmTrap 2}

Description

Indicates the location (rack-level-slot or RLS) of the card where the alarm occurred. To determine the rack-level-slot location from the cardAlarmSlotIndex, refer to the "Card Index" section on page 1-6.

Object Identifier

1.3.6.1.4.1.886.1.8.1.2

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

cardAlarmDescr

{cardAlarmTrap 3}

Description

Describes the alarm that occurred.

Object Identifier

1.3.6.1.4.1.886.1.8.1.3

Data Type

DisplayString. Length of the DisplayString is from 1 to 80 alphanumeric characters. Possible values are listed in Chapter 5 of the *Cisco VCO/4K System Administrator's Guide*.

Access Policy

Read only

Status

Mandatory

cardAlarmSeverity

{cardAlarmTrap 4}

Description

Severity of the alarm that occurred.

Object Identifier

1.3.6.1.4.1.886.1.8.1.4

Data Type

Integer. Valid integerValue values and corresponding descriptions are shown in the following table:

Value	Description
1	fatal
2	critical
3	major
4	minor
5	aux 1
6	aux 2
7	nonAlarmEvents

Access Policy

Read only

Status

Mandatory

cardAlarmCardType

{cardAlarmTrap 5}

Description

Specifies the type of card.

Object Identifier

1.3.6.1.4.1.886.1.8.1.5

Data Type

CardType (For a definition of CardType values, refer to the "CardType" section on page 1-14.)

Access Policy

Read only

Status

Mandatory

cardAlarmDwnldType

{cardAlarmTrap 6}

Description

Specifies the download type of the card; in the case of multi-span cards, indicates the type of the span.

Object Identifier

1.3.6.1.4.1.886.1.8.1.6

Data Type

CardType (For a definition of CardType values, refer to Section 1.6.13.)

Access Policy

Read only

Status

Mandatory

cardAlarmGroupNum

{cardAlarmTrap 7}

Description

Specifies the group number of an interface. Group numbers start from 1. This value is zero when there is no group number.

Object Identifier

1.3.6.1.4.1.886.1.8.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

cardAlarmIntfNum

{cardAlarmTrap 8}

Description

Specifies the interface number of an interface. Interface numbers start from zero. This value is only meaningful when cardAlarmGroupNum is not zero.

Object Identifier

1.3.6.1.4.1.886.1.8.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

System Alarm Trap History

The following trap variables are returned for system alarms:

- systemAlarmCode
- systemAlarmDescr
- systemAlarmSeverity
- systemAlarmOccur

The system alarm table also provides an alarm history of system alarm traps in a running system and can be queried using SNMP GET requests. (The system alarm history is not persistent across system reboots.)

The following descriptions provide further information concerning system alarm trap variables and the system alarm table.

systemAlarmTable

{alarm 2}

Description

The system alarm table.

Object Identifier

1.3.6.1.4.1.886.1.8.2

Data Type

Sequence of SystemAlarmEntry

Access Policy

Not accessible

Status

Mandatory

systemAlarmEntry

{systemAlarmTable 1}

Description

An entry in the systemAlarmTable.

Object Identifier

1.3.6.1.4.1.886.1.8.2.1

Data Type

SystemAlarmEntry

Access Policy

Not accessible

Status

Mandatory

Index

{systemAlarmCode, systemAlarmSeverity}

SystemAlarmEntry

Sequence

systemAlarmCode	Integer
systemAlarmSeverity	Integer
systemAlarmDescr	DisplayString
systemAlarmOccur	Integer

systemAlarmCode

{systemAlarmEntry 1}

Description

Specifies the code or index of the alarm that occurred. This code is the same as the "ALM" number listings in the *Cisco VCO/4K System Messages* document. (For example, "ALM039: PRI/T1/E1 Carrier Lost" would return an integer value of 39 for systemAlarmCode.)

Object Identifier

1.3.6.1.4.1.886.1.8.2.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

systemAlarmSeverity

{systemAlarmEntry 2}

Description

Specifies the type of system alarm that occurred. Alarms are ranked by severity.

Object Identifier

1.3.6.1.4.1.886.1.8.2.1.2

Data Type

Integer. Valid integer values and corresponding descriptions are shown in the following table:

Value	Description
1	fatal
2	critical
3	major

Value	Description
4	minor
5	aux 1
6	aux 2
7	nonAlarmEvents

Access Policy

Read only

Status

Mandatory

systemAlarmDescr

{systemAlarmEntry 3}

Description

Gives a textual description of the alarm that occurred.

Object Identifier

1.3.6.1.4.1.886.1.8.2.1.3

Data Type

DisplayString. Length of the DisplayString is from 1 to 80 alphanumeric characters. Possible values and their meanings are shown in the ALM messages listed in the *Cisco VCO/4K System Messages* document. However, the values returned for systemAlarmDescr do not include the "ALM" precursor. (For example, "ALM039: PRI/T1/E1 Carrier Lost" would return the string value "PRI/T1/E1 Carrier Lost".)

Access Policy

Read only

Status

Mandatory

systemAlarmOccur

{systemAlarmEntry 4}

Description

Indicates the number of times that this alarm has occurred.

Object Identifier

1.3.6.1.4.1.886.1.8.2.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Additional Alarm Objects

The traps listed above are used to notify an NMS of card and system alarm events. In addition, an NMS can query alarm objects relevant to the specific component in the card slot location. These alarm objects are described in their relevant locations in this document as shown in the following list:

- brcAlarm (See Chapter 7, "Communication Card Group")
- dniCardAlarm (See Chapter 8, "Single-Span Service Circuit Card Group")
- dtgCardAlarm See (Chapter 8, "Single-Span Service Circuit Card Group")
- hostAlarm (See Chapter 2, "System Configuration Group")
- iccAlarm (See Chapter 12, "ICC Card Group")
- isdnCardAlarm (See Chapter 6, "Single-Span ISDN Card Group")
- lcAlarm (See Chapter 3, "Line Card Group")
- nbcAlarm (See Chapter 7, "Communication Card Group")
- ptcAlarm (See Chapter 5, "Programmable Trunk Card Group")
- rcAlarm (See Chapter 8, "Single-Span Service Circuit Card Group")
- spcAlarm (See Chapter 13, "SPC Card Group")
- sscAlarm (See Chapter 8, "Single-Span Service Circuit Card Group")
- subrateFailAlarm (See Chapter 8, "Single-Span Service Circuit Card Group")
- subrateRedundAlarm (See Chapter 8, "Single-Span Service Circuit Card Group")
- tcAlarm (See Chapter 4, "Trunk Card Group")

Alarm-related Feature Settings

The VCO/4K includes a number of alarm features which can be enabled or disabled from either the system administration master console or by SNMP set commands. These include the following MIB objects:

- featureNoCardAlarmStatusAtInit
- featureEnableAllPortsDeactivatedAlarm
- featureOutputPeriodicAlarmReports
- sysHostNoAlarmReportAtInit

Additional information on these objects can be found in Chapter 2, "System Configuration Group."

Data Group

The data group contains the objects that enable you to set up groups and define the rules that determine how your switch functions.

The data group consists of the following:

- Resource Group Table
- Inpulse Rule Table
- Outpulse Rule table
- Non-Facility Associated Signaling (NFAS)
- Answer Supervision Templates
- Routing Table Group
- Exception Routing
- Route Table

Resource Group Table

Use the resource group table to organize and allocate system resources. This includes setting parameters to determine how the ports assigned to the group function. You must first establish resource groups before you assign ports. Then, assign the ports to the resource group with objects in the port tables. The input to the port table object is the number of the resource group.

resGroupTable

{data 1}

Description

Resource group table.

Object Identifier

1.3.6.1.4.1.886.1.9.1

Data Type

Sequence of ResGroupEntry

Access Policy

Not accessible

Cisco VCO/4K Management Information Base (MIB) Reference ■

Status

Mandatory

resGroupEntry

{resGroupTable 1}

Description

An object in the resGroupTable.

Data Type

ResGroupEntry

Object Identifier

1.3.6.1.4.1.886.1.9.1.1

Access Policy

Not accessible

Status

Mandatory

Index

{resGroupIndex}

ResGroupEntry

Sequence

resGroupIndex	Integer
resGroupName	DisplayString
resGroupHuntType	Integer
resGroupPortCnt	Integer
resGroupRhuntThres	Integer
resGroupBusyThres	Integer
resGroupErrorStatus	Integer
resGroupOwnerString	OwnerString
resGroupEntryStatus	EntryStatus

resGroupIndex

{resGroupEntry 1}

Description

Indicates the number of the resource group.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.1

Data Type

Integer. Possible values range from 1 to 63 for 2K mode, and 1 to 224 for 4K mode.

Access Policy

Read only

Status

Mandatory

resGroupName

{resGroupEntry 2}

Description

Indicates the name of the resource group.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.2

Data Type

DisplayString. The field accepts up to 8 upper- and lowercase alphanumeric characters

Access Policy

Read-write

Status

Mandatory

resGroupHuntType

{resGroupEntry 3}

Description

Determines the way in which the system selects resources for use from this group.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.3

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
0	none	Not set.
1	rotary	Hunt always begins with position 1.
2	cyclic	Initial hunt (after power-up/reboot) begins with position 1. Subsequent hunts begin with position following last successfully allocated resource.

Access Policy

Read-write

Status

Mandatory

resGroupPortCnt

{resGroupEntry 4}

Description

Indicates the number of circuits currently in the resource group. This number is updated when you make changes to this resource group through the resGroup objects in the port tables.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.4

Data Type

Integer. The valid value are from 0 to 999 for 2K mode, or 0 to 1920 for 4K mode.

Access Policy

Read only

Status

Mandatory

resGroupRhuntThres

{resGroupEntry 5}

Description

Auto Retry (rehunt) is available for outgoing ports only (COS = O or AO; also COS = 2) and is currently used as outgoing in a call.

This object indicates the number of times for each call the switch hunts this group for a new outgoing port if an outgoing supervision error is encountered.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.5

Data Type

Integer. Possible values range from 0 to 5. A value of zero (0) disables this feature for the group.

Access Policy

Read-write

Status

Mandatory

resGroupBusyThres

{resGroupEntry 6}

Description

Auto Makebusy is available for outgoing ports only (COS = O or AO; also COS = 2) and is currently used as outgoing in a call.

This object indicates the number of times the switch can detect a supervision error for a port in this group before the switch takes that port out of service (makebusy).

The error count is cleared at midnight.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.6

Data Type

Integer. Possible values range from 0 to 255. A value of zero (0) disables this feature for the group.

Access Policy

Read-write

Status

Mandatory

resGroupErrorStatus

{resGroupEntry 7}

Description

Registers the last error that occurred in this resource group.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.7

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
513	resourceGroupAlreadyExists
514	resourceGroupIsNotEmpty
515	invalidHuntType
516	exceededMaxNumOfPorts
517	invalidPosition
518	invalidPortType

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Value	String
519	portIsAlreadyInAGroup
520	portAndResourceGroupTypeAreDifferent
521	conferencePortCannotPutInNonconferenceGroup
522	mfrcPortCannotBePutInNonMfrcGroup
523	mfrc2PortCannotBePutInNonMfrc2Group
524	dtmfPortCannotBePutInNonDtmfGroup
525	srcPortCannotBePutInNonSrcGroup
526	cpaPortCannotBePutInNonCpaGroup
527	announcementPortCannotBePutInNonAnnouncementGroup
528	resourceGroupIsAlreadyEmpty
529	invalidValue
530	cannotGroupIsdnAndNonIsdnPorts

Access Policy

Read only

Status

Mandatory

resGroupOwnerString

{resGroupEntry 8}

Description

The entity that configured this object and is therefore using the assigned resources.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.8

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

resGroupEntryStatus

{resGroupEntry 9}

Description

The status of this resource group object.

Object Identifier

1.3.6.1.4.1.886.1.9.1.1.9

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

resGroupTableLast Modified

{data 2}

Description

The time, displayed in hundredths of a second, since the resource group table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.2

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Resource Group Port Table

The resource group port table shows the association between the resource groups and the ports assigned to a particular resource group.

resGroupPortTable

{data 4}

Description

A table representing the association between the resource groups and the ports assigned to a particular resource group.

Data Type

Sequence of ResGroupPortEntry

Object Identifier

1.3.6.1.4.1.886.1.9.4

Access Policy

Not accessible

Status

Mandatory

resGroupPortEntry

{resGroupPortTable 1}

Description

An entry in the resGroupPortTable.

Object Identifier

1.3.6.1.4.1.886.1.9.4.1

Data Type

ResGroupPortEntry

Access Policy

Not accessible

Status

Mandatory

Index

{resGroupIndex, resGroupPortPosition}

ResGroupPortEntry

Sequence

resGroupPortPosition	Integer
resGroupCardIndex	Integer
resGroupSpanNum	Integer
resGroupPortNum	Integer

resGroupPortPosition

{resGroupPortEntry 1}

Description

Specifies the order in which ports are assigned to a resource group. This is the secondary index to the resGroupPortTable.

Object Identifier

1.3.6.1.4.1.886.1.9.4.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

resGroupCardIndex

{resGroupPortEntry 2}

Description

Corresponds to the physical location of the card to which the port belongs.

Object Identifier

1.3.6.1.4.1.886.1.9.4.1.2

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

resGroupSpanNum

{resGroupPortEntry 3}

Description

Specifies the span number to which the port belongs.

Object Identifier

1.3.6.1.4.1.886.1.9.4.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

resGroupPortNum

{resGroupPortEntry 4}

Description

Specifies which port is assigned to the resource group.

Object Identifier

1.3.6.1.4.1.886.1.9.4.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Inpulse Rule Table

Use the inpulse rules table to define the inpulse rules in call processing. For more information on inpulse rules and how to configure them, refer to the *Cisco VCO/4K Extended Programming Reference* or *Cisco VCO/4K Standard Programming Reference*.

inpulseRuleTable

{data 5}

Description

A list of inpulse rules.

Object Identifier

1.3.6.1.4.1.886.1.9.5

Data Type

Sequence of InpulseRuleEntry

Access Policy

Not accessible

Status

Mandatory

inpulseRuleEntry

{inpulseRuleTable 1}

Description

A combination of the tokens and arguments that make up a single inpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.5.1

Data Type

InpulseRuleEntry

Access Policy

Not accessible

Status

Mandatory

Index

{inpulseRuleIndex}

InpulseRuleEntry

Sequence

inpulseRuleIndex	Integer
inpulseRuleErrorStatus	Integer
inpulseRuleOwnerString	OwnerString
inpulseRuleEntryStatus	EntryStatus

inpulseRuleIndex

{inpulseRuleEntry 1}

Description

Identifies the inpulse rule. Users specify inpulse rules by entering a number at the control console as the default in the Line and Trunk Card Configuration screens, or as a programming command.

Object Identifier

1.3.6.1.4.1.886.1.9.5.1.1

Data Type

Integer. Valid inpulse rule numbers are from 1 to 30 for 2K mode, or 1 to 255 for 4K mode.

Access Policy

Read only

Status

Mandatory

inpulseRuleErrorStatus

{inpulseRuleEntry 2}

Description

Registers the last error that occurred in this inpulse rule table.

Object Identifier

1.3.6.1.4.1.886.1.9.5.1.2

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
1280	inpulseRuleAlreadyExists
1281	inpulseRuleIsEmpty
1282	invalidPosition
1283	exceededNumOfInstructions
1284	illegalTokenValue
1285	illegalArg

Access Policy

Read only

Status

Mandatory

inpulseRuleOwnerString

{inpulseRuleEntry 3}

Description

The entity that configured this entry and is therefore using the inpulse rule assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.9.5.1.3

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

inpulseRuleEntryStatus

{inpulseRuleEntry 4}

Description

The status of the inpulse rule entry. This object also determines whether you can modify the corresponding entries in the inpulseRuleInstructionTable.

Object Identifier

1.3.6.1.4.1.886.1.9.5.1.4

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

Inpulse Rule Instruction Table

The inpulse rule instruction table shows the association between the inpulse rule table and the instructions assigned to a particular rule. You can define up to 16 instructions, comprising tokens for a single rule. Use the rules to condition a line or trunk to wait for supervision events, collect MF/DTMF digits, and store received digits in an internal system call record.

inpulseRuleInstructionTable

{data 6}

Description

A matrix of inpulse rule instructions.

Object Identifier

1.3.6.1.4.1.886.1.9.6

Data Type

Sequence of InpulseRuleInstructionEntry

Access Policy

Not accessible

Status

Mandatory

inpulseRuleInstructionEntry

{inpulseRuleInstructionTable 1}

Description

An inpulse rule instruction—a combination of a token and an argument that constitutes a single inpulse rule instruction.

Object Identifier

1.3.6.1.4.1.886.1.9.6.1

Data Type

InpulseRuleInstructionEntry

Access Policy

Not accessible

Status

Mandatory

Index

{inpulseRuleIndex, inpulseRuleInstructionIndex}

InpulseRuleInstructionEntry

Sequence

inpulseRuleInstructionIndex	Integer
inpulseRuleToken	Integer
inpulseRuleArg	Integer

inpulseRuleInstructionIndex

{inpulseRuleInstructionEntry 1}

Description

Identifies the instruction in an inpulse rule. An inpulse rule is made up of 1 to 16 instructions.

Object Identifier

1.3.6.1.4.1.886.1.9.6.1.1

Data Type

Integer. The possible values are from 1 to 16.

Access Policy

Read only

Status

Mandatory

inpulseRuleToken

{inpulseRuleInstructionEntry 2}

Description

The operator token in an inpulse rule instruction.

Object Identifier

1.3.6.1.4.1.886.1.9.6.1.2

Data Type

Integer. The integer can be any one of the following values. For further information, refer to the *Cisco VCO/4K Extended Programming Reference.*

Value	Token Name
0	illegal
1	repEnd
2	repEach
3	repNext
4	noRep

Value	Token Name
5	dtmf
6	dtmf4
7	mf
8	mfcr2
9	ipAni
10	ipField
11	digits
12	endChar1
13	endChar2
14	clrChar1
15	clrChar2
16	winkEnab
17	toneEnab
18	toneClr
19	toneEnd
20	toneFdig
21	timField
22	timFdig
23	timInter
24	route
25	winkNow
26	answer
27	toneNow
28	speak
29	record
30	library
31	maxRec
32	stopVoic
33	loopLast
34	loopAll
35	release
36	retain
37	waitTime
38	isdnRx
39	isdnTx
40	gotoRule
41	doIrule

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Value	Token Name
42	doOrule
43	contRep
44	contNrep
45	glare
46	noHost
47	ipCat2
48	apendAni
49	apendFld

Access Policy

Read-write

Status

Mandatory

inpulseRuleArg

{inpulseRuleInstructionEntry 3}

Description

The additional data field, the notation [xx] indicates that additional data entry is required. Refer to the *Cisco VCO/4K Extended Programming Reference* for inpulse rule field descriptions.

Object Identifier

1.3.6.1.4.1.886.1.9.6.1.3

Data Type

Integer. The possible values, token name, and description of the additional data field is shown in the following table:

Value	Token Name	Token Argument
0	illegal	Not Applicable
1	repEnd	Not Applicable
2	repEach	Not Applicable
3	repNext	Not Applicable
4	noRep	Not Applicable
5	dtmf	Not Applicable
6	dtmf4	Not Applicable
7	mf	Not Applicable
8	mfcr2	Not Applicable
9	ipAni	1 to 40
10	ipField	1 to 4

Value	Token Name	Token Argument
11	digits	1 to 40
12	endChar1	1 digit – 0 to 9 (0 to 15 for MFCR2), A-F (when 4th column DTMF is enabled), *, #
13	endChar2	2 digits – 0 to 9 (0 to 15 for MFCR2), A-F (when 4th column DTMF is enabled), *, #
14	clrChar1	1 digit – 0 to 9 (0 to 15 for MFCR2), A-F (when 4th column DTMF is enabled), *, #
15	clrChar2	2 digits – 0 to 9 (0 to 15 for MFCR2), A-F (when 4th column DTMF is enabled), *, #
16	winkEnab	Not Applicable
17	toneEnab	0 to 63
18	toneClr	0 to 63
19	toneEnd	0 to 63
20	toneFdig	0 to 63
21	timField	1 to 60
22	timFdig	1 to 30
23	timInter	1 to 10
24	route	1 to 10 (where 1 = A and 10 = J) Ex: Route A =17(10) 0x11
25	winkNow	Not Applicable
26	answer	Not Applicable
27	toneNow	0 to 63
28	speak	1 to 255
29	record	1 to 255
30	library	1 to 16, and 255 (255 = TMP)
31	maxRec	1 to 255
32	stopVoic	Not Applicable
33	loopLast	Not Applicable
34	loopAll	Not Applicable
35	release	IPR=16, MRC=5, DRC=4, DTG=7, CPA=22
36	retain	16 (IPRC)
37	waitTime	1 to 10
38	isdnRx	1 to 96
39	isdnTx	1 to 96
40	gotoRule	1 to 255 (rule to be executed)
41	doIrule	1 to 255 (rule to be executed)
42	doOrule	1 to 255 (rule to be executed)
43	contRep	Not Applicable

Value	Token Name	Token Argument
44	contNrep	Not Applicable
45	glare	1 to 255 (rule to be executed)
46	noHost	1 to 255 (rule to be executed)
47	ipCat2	Not Applicable
48	apendAni	1 to 40
49	apendFld	1 to 4

Access Policy

Read-write

Status

Optional

inpulseRuleTableLast Modified

{data 7}

Description

The time, displayed in hundredths of a second, since the inpulse rule table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.7

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Outpulse Rule Table

The outpulse rules table is used to define the outpulse rules for use in call processing. For more information on outpulse rules and how to configure them, refer to the *Cisco VCO/4K Extended Programming Reference* or *Cisco VCO/4K Standard Programming Reference.*

outpulseRuleTable

{data 9}

Description

A list of outpulse rules. An inpulse rule instruction DO ORULE (XX) acts as an entry point to this table, where (XX) is the outpulseRuleIndex in the outpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.9.9

Data Type

Sequence of OutpulseRuleEntry

Access Policy

Not accessible

Status

Mandatory

outpulseRuleEntry

{outpulseRuleTable 1}

Description

Indicates a single outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.9.1

Data Type

OutpulseRuleEntry

Access Policy

Not accessible

Status

Mandatory

Index

{outpulseRuleIndex}

OutpulseRuleEntry

Sequence

outpulseRuleIndex	Integer
outpulseRuleErrorStatus	Integer
outpulseRuleOwnerString	OwnerString
outpulseRuleEntryStatus	EntryStatus

outpulseRuleIndex

{outpulseRuleEntry 1}

Description

Identifies the outpulse rule entry.

Object Identifier

1.3.6.1.4.1.886.1.9.9.1.1

Data Type

Integer. Valid outpulse rule numbers are from 1 to 30 for 2K mode, or 1 to 255 for 4K mode.

Access Policy

Read only

Status

Mandatory

outpulseRuleErrorStatus

{outpulseRuleEntry 2}

Description

Registers the last error that occurred in this outpulseRule table.

Object Identifier

1.3.6.1.4.1.886.1.9.9.1.2

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
1024	outpulseRuleAlreadyExists
1025	outpulseRuleIsEmpty
1026	invalidPosition
1027	exceededMaxNumberOfInstructions
1028	illegalTokenValue
1029	illegalArg

Access Policy

Read only

Status

Mandatory

outpulseRuleOwnerString

{outpulseRuleEntry 3}

Description

The entity that configured this object and is therefore using the assigned outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.9.1.3

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

outpulseRuleEntryStatus

{outpulseRuleEntry 4}

Description

The status of the outpulse rule entry. This object also determines whether you can modify the corresponding table entries in the outpulseRuleInstructionTable.

Object Identifier

1.3.6.1.4.1.886.1.9.9.1.4

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

Outpulse Rule Instruction Table

The outpulse rule instruction table shows the association between the outpulse rule table and the instructions assigned to a particular rule. You can define up to 16 instructions, comprising tokens for a single rule. Use the rules to condition a line or trunk to wait for supervision events, collect MF/DTMF digits, and store received digits in an internal system call record.

outpulseRuleInstructionTable

{data 10}

Description

A matrix of outpulse rule instructions.

Object Identifier

1.3.6.1.4.1.886.1.9.10

Data Type

Sequence of OutpulseRuleInstructionEntry

Access Policy

Not accessible

Status

Mandatory

outpulseRuleInstructionEntry

{outpulseRuleInstructionTable 1}

Description

An entry containing a single outpulse rule instruction.

Object Identifier

1.3.6.1.4.1.886.1.9.10.1

Data Type

OutpulseRuleInstructionEntry

Access Policy

Not accessible

Status

Mandatory

Index

{outpulseRuleIndex, outpulseRuleInstructionIndex}

OutpulseRuleInstructionEntry

Sequence

outpulseRuleInstructionIndex	Integer
outpulseRuleToken	Integer
outpulseRuleArg	Integer

outpulseRuleInstructionIndex

{outpulseRuleInstructionEntry 1}

Description

Identifies the instruction in an outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.10.1.1

Data Type

Integer. Up to 16 tokens make an outpulse rule.

Access Policy

Read only

Status

Mandatory

outpulseRuleToken

{outpulseRuleInstructionEntry 2}

Description

The operator token is an outpulse rule instruction.

Object Identifier

1.3.6.1.4.1.886.1.9.10.1.2

Data Type

Integer. The integer can be any one of the following values. For further information, refer to the *Cisco VCO/4K Extended Programming Reference.*

Value	Meaning
0	illegal
1	repEnd
2	repNext
3	opDtmf
4	opMf
5	opMfcr2
6	opPulse
7	opAni
8	opField
9	opDigit
10	opTone
11	opCat
12	waitSup
13	finalSup
14	timeSup
15	seize
16	waitTime
17	retain
18	release
19	isdnRx
20	isdnTx
21	isdnSup
22	gotoRule
23	doIrule

Value	Meaning
24	doOrule
25	noHost
26	opCat2
27	ansSup

Access Policy

Read-write

Status

Mandatory

outpulseRuleArg

{outpulseRuleinstructionEntry 3}

Description

The additional data object. The notation [xx] indicates that additional data entry is required. For example, the additional data field value depends on the value of the InpulseRuleToken field.

Object Identifier

1.3.6.1.4.1.886.1.9.10.1.3

Data Type

Integer. The possible values, token name, and description of the additional data field is shown in the following table:

Token Name	Meaning
illegal	Not applicable
repEnd	Not applicable
repEach	Not applicable
repNext	Not applicable
noRep	Not applicable
opDtmf	Not applicable
opMf	Not applicable
opMfcr2	Not applicable
opPulse	Not applicable
opAni	Not applicable
opField	1 to 4
opDigit	1 digit – DTMF mode: 0 to 9, *, #, A-F (*, E and #, F are interchangeable

MF mode: 0 to 9, KP, ST, S1, S2, S3

Tone mode: 0 to 8 |
| opTone | Not applicable |

Token Name	Meaning
opCat	0 to 15
waitSup	1 to 24, A(25) or W(26)
finalSup	1 to 24, A(25) or W(26)
timeSup	1 to 60
seize	Not applicable
waitTime	1 to 10
retain	16 (IPR)
release	IPR=16, MRC=5, DRC=4, DTG=7, CPA=22
isdnRx	1 to 96
isdnTx	1 to 96
isdnSup	1 to 24
gotoRule	1 to 255 (the rule to be executed)
gotoIrule	1 to 255 (the rule to be executed)
doOrule	1 to 255 (the rule to be executed)
noHost	1 to 255 (the rule to be executed)
opCat2	Not applicable
ansSup	1 to 24

Access Policy

Read-write

Status

Optional

outpulseRuleTableLastModified

{data 11}

Description

The time, displayed in hundredths of a second, since the outpulse rule table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.11

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Non-Facility Associated Signaling (NFAS)

Standard ISDN PRI consists of 23 B+D channels, where a single signaling channel (D-channel) controls the remaining 23 bearer channels (B-channels) on the interface. In system terms, this means that Ports 1 through 23 on the PRIN/N card (B-channel) are controlled by Port 24 (D-channel). The NFAS option extends D-channel control to B-channels not resident on the same interface. This enables a single D-channel to control up to 20 interfaces (a maximum of 479 B-channels).

An NFAS group is a listing of all PRI/N and/or T1 cards for which a specified D-channel receives call control messages.

nfasGroupTable

{data 13}

Description

A table that lists all PRI/N and/or T1 cards for which a specified D-channel receives call control messages.

Object Identifier

1.3.6.1.4.1.886.1.9.13

Data Type

Sequence of NfasGroupEntry

Access Policy

Not accessible

Status

Mandatory

nfasGroupEntry

{nfasGroupTable 1}

Description

An object representing an NFAS group.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1

Data Type

NfasGroupEntry

Access Policy

Not accessible

Status

Mandatory

Index

{nfasGroupIndex}

NfasGroupEntry

Sequence

nfasGroupIndex	Integer
nfasGroupName	DisplayString
nfasGroupPriDChannelCardIndex	CardIndex
nfasGroupPriDChannelState	Integer
nfasGroupBkupDChannelCardIndex	CardIndex
nfasGroupBkupDChannelState	Integer
nfasGroupCmd	Integer
nfasGroupErrorStatus	Integer
nfasGroupOwnerString	OwnerString
nfasGroupEntryStatus	EntryStatus

nfasGroupIndex

{nfasGroupEntry 1}

Description

Indicates the number of the NFAS group.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.1

Data Type

Integer. Possible values for this field are from 1 to 37.

Access Policy

Read only

Status

Mandatory

nfasGroupName

{nfasGroupEntry 2}

Description

Indicates the name assigned to the NFAS group.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.2

Data Type

DisplayString. Length of the display string is from 1 to 8 characters.

Access Policy

Read-write

Status

Mandatory

nfasGroupPriDChannelCardIndex

{nfasGroupEntry 3}

Description

Indicates the physical location (hardware address) of the card that contains the D-channel designated as the primary control channel for this NFAS group. The index object lists the rack (R), level (L), and slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.3

Data Type

CardIndex

Access Policy

Read-write

Status

Mandatory

nfasGroupPriDChannelState

{nfasGroupEntry 4}

Description

Indicates the current state of the primary D-channel. With the exception of the MOOS (Manual Out-of-Service) state, link signaling between the system and the network interface controls the state transitions.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.4

Data Type

Integer. The valid numerical and string values for this field are shown in the following table:

Value	String	Meaning
1	is	In Service
2	stby	Standby
3	mb	Maintenance Bust
4	wait	Wait

Value	String	Meaning
5	moos	Manual Out-of-Service
6	oos	Out-of-Service

Access Policy

Read only

Status

Mandatory

nfasGroupBkupDChannelCardIndex

{nfasGroupEntry 5}

Description

Indicates the physical location (hardware address) of the card that contains the D-channel designated as the primary control channel for this NFAS group. The index object lists the rack (R), level (L), and slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.5

Data Type

CardIndex

Access Policy

Read-write

Status

Mandatory

nfasGroupBkupDChannelState

{nfasGroupEntry 6}

Description

Indicates the current state of the backup D-channel. With the exception of the MOOS (Manual Out-of-Service) state, link signaling between the system and the network interface controls the state transitions.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.6

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	is	In Service
2	stby	Standby

Value	String	Meaning
3	mb	Maintenance Bust
4	wait	Wait
5	moos	Manual Out-of-Service
6	oos	Out-of-Service

Access Policy

Read-write

Status

Mandatory

nfasGroupCmd

{nfasGroupEntry 7}

Description

Use this object to change the state of the backup D-channel with one of three commands. Use the nfasGroupCmd to perform the following tasks:

- Manually switch between the primary and backup D-channels.
- To place the primary and the backup D-channel in and out of the MOOS (Manual Out-Of-Service) state.

Note This command is effective as soon as you set this object. You can set the command object only if this is the only attribute that you have changed since you placed the status of the object in underModification mode.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.7

Data Type

Integer. The valid numerical and string values are shown in the following table:

Value	String	Meaning
1	none	No change.
2	moos	Places the D-channel currently in STBY state into Manual Out-of-Service state, regardless of its current state. The D-channel remains in MOOS state until you enter an activate command.
3	activate	Enables you to change the D-channel from MOOS to OOS state.
4	switch	Causes a manual D-channel switchover. The standby D-channel becomes active (IS) and assumes control of the NFAS group. This command is valid only when you specify a backup D-channel for the group. The standby D-channel must be in STBY state for the switchover to take place.

Access Policy

Read-write

Status

Mandatory

nfasGroupErrorStatus

{nfasGroupEntry 8}

Description

Registers the last error that occurred in this NFAS group table.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.8

Data Type

Integer. The possible values and their meanings are shown in the following table:

Value	String
769	interfaceCardMustbeT1orPRI-N
770	priCardMustHaveNfasDesignation
771	invalidConfigurationNumber
772	beginningofNfasConfigurationTable
773	endofNfasConfigurationTable
774	primaryD-channelMustbePRI-NCard
775	backupD-channelMustbePRI-NCard
776	cardAlreadyDefinedInAnotherGroup
777	cardAlreadyEntered
778	primaryD-channelNotOOS
779	backupD-channelNotOOS
780	nullValueNotAllowed
782	cardNotOutofService
784	nfasConfigurationUpdated
785	updateCanceled
786	noNfasConfigurationChangesDetected
787	primaryD-channelMustAppearInGroup
788	backupD-channelMustAppearInGroup
789	cardIsConfiguredAs24BNoD-channel
790	d-chanStatesHaveChangedPressREDRAW
792	commandAborted
793	invalidD-chanStatesDetected
794	memoryAllocationFailedForCommand

Cisco VCO/4K Management Information Base (MIB) Reference

Value	String
795	adminD-chanSWITCHCommandSubmitted
796	adminD-chanMOOSCommandSubmitted
797	adminD-chanACTIVATECommandSubmitted
798	nfasGroupAlreadyExists
799	nfasGroupIsNotEmpty
800	fatalErrorInNfasGroupProcessing
801	invalidPosition
802	exceededMaxNumOfInterfaces
803	invalidArgument
804	nfasGroupWasChanged
805	dChannelAlreadyManuallyOOS
806	dChannelAlreadyActive
807	backupChannelNotStandby

Access Policy

Read only

Status

Mandatory

nfasGroupOwnerString

{nfasGroupEntry 9}

Description

The entity that configured this object and is therefore using the NFAS-assigned group.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.9

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

nfasGroupEntryStatus

{nfasGroupEntry 10}

Description

The status of the NFAS group object.

Object Identifier

1.3.6.1.4.1.886.1.9.13.1.10

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

nfasGroupTableLast Modified

{data 14}

Description

The time, displayed in hundredths of a second, since the NFAS group table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.14

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

NFAS Interface Table

The NFAS interface table is a read-only list of the interfaces in the NFAS groups. It enables quick enumeration of the interfaces in NFAS groups.

nfasInterfaceTable

{data 16}

Description

A list of the interfaces in the NFAS Groups.

Object Identifier

1.3.6.1.4.1.886.1.9.16

Data Type

Sequence of NfasInterfaceEntry

Access Policy

Not accessible

Status

Mandatory

nfasInterfaceEntry

{nfasInterfaceTable 1}

Description

An object representing an NFAS interface entry.

Object Identifier

1.3.6.1.4.1.886.1.9.16.1

Data Type

nfasInterfaceEntry

Access Policy

Not accessible

Status

Mandatory

Index

{nfasGroupIndex, nfasInterfaceNum}

NfasInterfaceEntry

Sequence

nfasInterfaceNum	Integer
nfasInterfaceCardIndex	CardIndex
nfasInterfaceSpanNum	Integer

nfasInterfaceNum

[nfasInterfaceEntry 1]

Description

Specifies the interface number of the T1 or PRI/N card being added to the NFAS Group. Up to 20 interfaces, including those containing the primary and the backup D-channels, are listed for each NFAS group. This is the secondary index into the interface table.

Object Identifier

1.3.6.1.4.1.886.1.9.16.1.1

Data Type

Integer. Possible values for this field are from 1 to 20.

Access Policy

Read-write

Status

Mandatory

nfasInterfaceCardIndex

{nfasInterfaceEntry 2}

Description

Indicates the physical location (hardware address) of the card. The index object lists rack (R), level (L), and slot (S) where the card resides.

Object Identifier

1.3.6.1.4.1.886.1.9.16.1.2

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

nfasInterfaceSpanNum

{nfasInterfaceEntry 3}

Description

For 4XT1 and 4XE1 cards, this field specifies the span number.

Object Identifier

1.3.6.1.4.1.886.1.9.16.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Answer Supervision Templates

Use the answer supervision templates with the ANS SUP [xx], WAIT SUP, and FINAL SUP outpulse rule tokens. For further information on answer supervision templates, refer to the *Cisco VCO/4K System Administrator's Guide.*

ansSupTempTable

{data 19}

Description

A list of answer supervision template entries.

Object Identifier

1.3.6.1.4.1.886.1.9.19

Data Type

Sequence of AnsSupTempEntry

Access Policy

Not accessible

Status

Mandatory

ansSupTempEntry

{ansSupTempTable 1}

Description

A table entry which consists of the fields of a template.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1

Data Type

AnsSupTempEntry

Access Policy

Not accessible

Status

Mandatory

Index

{ansSupTempIndex}

AnsSupTempEntry

Sequence

ansSupTempIndex	Integer
ansSupTempDialTone	Integer
ansSupTempRingback	Integer
ansSupTempBusy	Integer

ansSupTempReorder	Integer
ansSupTempSitTones	Integer
ansSupTempRingCess	Integer
ansSupTempVoiceCess	Integer
ansSupTempVoiceDet	Integer
ansSupTempWink	Integer
ansSupTempAnswer	Integer
ansSupTempTime	Integer
ansSupTempHookFlash	Integer
ansSupTempPagerCue	Integer
ansSupTempIsupTone	Integer
ansSupTempIsupCess	Integer
ansSupTempErrorStatus	Integer
ansSupTempOwnerString	OwnerString
ansSupTempEntryStatus	EntryStatus

ansSupTempIndex

{ansSupTempEntry 1}

Description

Identifies the specific template configuration for use with the WAIT SUP and FINAL SUP outpulse rule tokens.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.1

Data Type

Integer. Valid template numbers are from 1 to 24.

Access Policy

Read only

Status

Mandatory

ansSupTempDialTone

{ansSupTempEntry 2}

Description

Dial Tone—Signal indicates the connected equipment is ready to receive digits. The signal is a combined 350-Hz and 440-Hz steady tone. The event is reported after approximately 0.75 seconds (requires CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.2

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempRingback

{ansSupTempEntry 3}

Description

Ringback—Signal indicates a connection is established to the called equipment, although the call is not completed until answer supervision is received. Audible ringback is a combination of 440 Hz and 480 Hz with a cadence of 2 seconds on followed by 4 seconds off. Ringback, including non-precise or "dirty" ringback, is reported after two cycles (requires CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.3

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempBusy

{ansSupTempEntry 4}

Description

Busy—Signal indicates the called equipment is in use. Combined 480-Hz and 620-Hz tone with 0.5 seconds on followed by 0.5 seconds off. The event is reported after two (precise) or three (non-precise) cycles of this pattern (requires CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.4

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to Outpulse Rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempReorder

{ansSupTempEntry 5}

Description

Reorder—Signal indicates an error condition (for example, all circuits are busy, invalid destination, Permanent Signal Condition). Combined 480-Hz and 620-Hz tone with 0.25 seconds on followed by 0.25 seconds off. The event is reported after two (precise) or three (non-precise) cycles of this pattern. This feature requires CPA.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.5

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempSitTones

{ansSupTempEntry 6}

Description

SIT Tones—Signals provide additional information (special information tones). Signal frequencies and cadences depend on the system applications. Standard tones are used for incorrectly dialed numbers and changed numbers. All SIT tones are treated the same and each SIT tone type is not distinguished (requires a CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.6

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempRingCess

{ansSupTempEntry 7}

Description

Ring Cessation—Silence is detected immediately after presence of ringback is established. Event is reported after 3 to 6.5 seconds of silence. Timing starts once ringback is detected (requires a CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.7

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide*.

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempVoiceDet

{ansSupTempEntry 8}

Description

Voice Detection—Signal is within the range of human speech. Signal must be within 200 Hz to 3400 Hz. Event is reported after 0.25 to 0.50 seconds (requires CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.8

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempVoiceCess

{ansSupTempEntry 9}

Description

Voice Cessation—Silence is detected immediately after presence of voice is established. Event is reported after 0.5 to 1 second of silence. Timing starts once voice is detected (requires CPA).

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.9

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempWink

{ansSupTempEntry 10}

Description

Wink—Signal indicates the distant end is ready to receive outpulsed address digits from the originating central office. Signal is a brief off-hook/on-hook on an unanswered circuit. This signal is detected on T1, E+M and UTC ports only.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.10

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempAnswer

{ansSupTempEntry 11}

Description

Answer—True answer supervision received from the far end. Answer supervision varies based on link/trunk type. This signal is detected on all line and trunk types except for DID and Loop Start UTC.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.11

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempTime

{ansSupTempEntry 12}

Description

Time—Expiration of a timer on a port waiting for supervision. The timer starts when template processing begins. Timing ends when an event that satisfies the template is detected. The timer's duration is specified in a preceding TIME SUP [xx] outpulse rule token. If you do not specify a token, timing is not performed (supported for all line and trunk types). When an ANSBK or ANSREP token is specified, timeout functions as a grace timer. When an ERROR or FAIL token is specified, timeout indicates a supervision error or a call failure.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.12

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempHookFlash

{ansSupTempEntry 13}

Description

Hook Flash—Indicates a change in the status of the call (depending on application). Signal is a brief on-hook/off-hook. This signal is detected by SLIC, LTC-8, and E+M cards only.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.13

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempPagerCue

{ansSupTempEntry 14}

Description

Pager Cue—Signal is presented by pager terminal equipment requesting the callback number (the callback number is then transmitted to the paged party). Signal is nominally three to four 1400-Hz tone burst at 100 to 125-ms intervals. This feature requires CPA.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.14

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempIsupTone

{ansSupTempEntry 15}

Description

ISUP Tone.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.15

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempIsupCess

{ansSupTempEntry 16}

Description

ISUP cessation.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.16

Data Type

Integer. The valid numerical and string values are shown in the following table. For further information, refer to the *Cisco VCO/4K System Administrator's Guide.*

Value	String	Meaning
0	empty	
1	ok	Ends template processing when the system detects the tone, but it is not reported to the host.
2	okrep	Events assigned OKREP tokens are handled like OK tokens, but okrep also generates a report to the host.
3	ansbk	Causes the system to answerback over the incoming port. A report is not sent to the host.
4	ansrep	Handled like ANSBK tokens, but ansrep also generates a report to the host.
5	rep	Reported to the host when detected by the system, but rep does not end template processing.
6	error	Specifies that the signaling event should be treated as a supervision error. Causes a rehunt for another outgoing port (if the outgoing resource group is configured for rehunting).
7	fail	Specifies that the signaling event indicates a failed call. The outgoing port is removed from the call (no rehunt performed) and the incoming port is left in setup.
8	quit	Specifies that the signaling event causes outpulse rule processing to abort. Template processing ends, and the outgoing port returns to the state it was in prior to outpulse rule processing (CP_IDLE, CP_ATT, CP_SETUP or CP_STAB) but is not removed from the call.

Access Policy

Read-write

Status

Mandatory

ansSupTempErrorStatus

{ansSupTempEntry 17}

Description

Registers the last error that occurred on this ansSupTemp object.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.17

Data Type

Integer. The possible values and their meaning are shown in the following table:

Value	String
2304	invalidAnsSupvTemplateId
2305	templateAlreadyExists
2306	invalidAction
2307	templateNotEmpty
2308	pagerDetectSelectedWithIsupTone
2309	hookFlashSelectedWithIsupCessation

Access Policy

Read only

Status

Mandatory

ansSupTempOwnerString

{ansSupTempEntry 18}

Description

The entity that configured this object and is therefore using the assigned object.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.18

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

ansSupTempEntryStatus

{ansSupTempEntry 19}

Description

The status of this entry.

Object Identifier

1.3.6.1.4.1.886.1.9.19.1.19

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

ansSupTempTableLastModified

{data 20}

Description

The time, displayed in hundredths of a second, since the answer supervision template was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.20

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Routing Table Group

Routing tables define call routes (resource group hunted and inpulse/outpulse rule executed) based on pattern matching of the dialed digits. You can define and distribute up to 1000 routes among the ten route tables. The routes do not have to be divided equally among the route tables. For example, one table can have 217 routes, another 1056 routes, and so forth. Users can also assign all 1000 possible routes to a single routing table. Refer to the *Cisco VCO/4K TeleRouter Reference Guide* for further information.

routeGrpTable

{data 22}

Description

A listing of all the route tables defined in your system.

Object Identifier

1.3.6.1.4.1.886.1.9.22

Data Type

Sequence of RouteGrpEntry

Access Policy

Not accessible

Status

Mandatory

routeGrpEntry

{routeGrpTable 1}

Description

An entry representing a Routing Group table group.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.

Data Type

RouteGrpEntry

Access Policy

Not accessible

Status

Mandatory

Index

{routeGrpIndex)

RouteGrpEntry

Sequence

routeGrpIndex	Integer
routeGrpTableID	DisplayString
routeGrpNumberOfRoutes	Integer
routeGrpTableName	DisplayString

routeGrpTemplateSize	Integer
routeGrpTemplateStart	Integer
routeGrpMinimumDigits	Integer
routeGrpTest	DisplayString
routeGrpErrorStatus	Integer
routeGrpOwnerString	OwnerString
routeGrpEntryStatus	EntryStatus

routeGrpIndex

{routeGrpEntry 1}

Description

This object indicates the number of route table groups.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.1

Data Type

Integer. Length of the display string is from 1 to 10 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

routeGrpTableID

{routeGrpEntry 2}

Description

Indicates the letter of the routeGrp table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.2

Data Type

DisplayString. Length of the display string is one character. The possible values for this display string are the characters A to J.

Access Policy

Read only

Status

Mandatory

routeGrpNumberOfRoutes

{routeGrpEntry 3}

Description

Indicates the number of routes defined for the routeGrp table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.3

Data Type

Integer. Possible value for this object are from 1 to 1000.

Access Policy

Read only

Status

Mandatory

routeGrpTableName

{routeGrpEntry 4}

Description

Indicates the name of the routeGrp table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.4

Data Type

DisplayString. The display string contains from 1 to 12 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

routeGrpTemplateSize

{routeGrpEntry 5}

Description

Determines the number of consecutive digits used in pattern matching for this routeGrpTable. The size should include any special matching characters.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.5

Data Type

Integer. The valid values are from 1 to 20.

Access Policy

Read-write

Status

Mandatory

routeGrpTemplateStart

{routeGrpEntry 6}

Description

Determines the starting position of the digits used in pattern matching for this routeGrp table. The value set for this variable must be less than or equal to the difference between the template size and 20, plus 1. For example, if the size is 20 the start must be 1. The following table shows the template and start sizes.

Template Size	Start Size	Template Size	Start Size
20	1	10	11
19	2	9	12
18	3	8	13
17	4	7	14
16	5	6	15
15	6	5	16
14	7	4	17
13	8	3	18
12	9	2	19
11	10	1	20

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.6

Data Type

Integer. The possible values are from 0 to 20.

Access Policy

Read-write

Status

Mandatory

routeGrpMinimumDigits

{routeGrpEntry 7}

Description

Determines the number of digits the switch must detect when it uses pattern matching in the routeGrp table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.7

Data Type

Integer. The valid values are from 0 to 20.

Access Policy

Read-write

Status

Mandatory

routeGrpTest

{routeGrpEntry 8}

Description

Use the Test command to enter and compare a specific digit string to the entries in the route table to determine if there is a match.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.8

Data Type

DisplayString. The display string contains from 1 to 20 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

routeGrpErrorStatus

{routeGrpEntry 9}

Description

This object register the last error that occurred in this routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.9

Data Type

Integer. The valid values and their meanings are shown in the following table:

Value	String
3840	invalidGroup
3841	routeGroupExists
3842	invalidIndex
3843	noRouteExists

Value	String
3844	invalidRouteNumber
3845	invalidPattern
3846	templateParametersNotDefined
3847	routeEsists
3848	invalidSize
3849	invalidValue
3850	maxRoutesExceeded

Access Policy

Read only

Status

Mandatory

routeGrpOwnerString

{routeGrpEntry 10}

Description

The entity that configured this object and is therefore using the assigned routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.10

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

routeGrpEntryStatus

{routeGrpEntry 11}

Description

The status of the routing table. This object also determines whether you can modify the corresponding entries in the exrteTable and routeTable.

Object Identifier

1.3.6.1.4.1.886.1.9.22.1.11

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

routeGrpTableLastModified

{data 23}

Description

The time, displayed in hundredths of a second, since the route table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.23

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Exception Routing Table

Use the exception routing table to configure the error condition routes. There are four exception conditions: Short Collection (S), Empty Collection (E), Unmatched Pattern (U), and Direct Route (D). Refer to the *Cisco VCO/4K TeleRouter Reference Guide* for further information.

exrteTable

{data 24}

Description

Lists the individual exception routes.

Object Identifier

1.3.6.1.4.1.886.1.9.24

Data Type

Sequence of ExrteEntry

Access Policy

Not accessible

Status

Mandatory

exrteEntry

{exrteTable 1}

Description

An entry representing an exception route.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1

Data Type

ExrteEntry

Access Policy

Not accessible

Status

Mandatory

Index

{routeGrpIndex, exrteIndex}

ExrteEntry

Sequence

exrteIndex	Integer
exrteLabel	Displaystring
exrtePrimaryGroup	Integer
exrtePrimaryRule	Integer
exrteSecondaryGroup	Integer
exrteSecondaryRule	Integer
exrteFinalGroup	Integer
exrteFinalRule	Integer

exrteIndex

{exrteEntry 1}

Description

Specifies the route number in the routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

exrteLabel

{exrteEntry 2}

Description

Specifies the route label in the routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.2

Data Type

DisplayString. The display string can contain from 1 to 20 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

exrtePrimaryGroup

{exrteEntry 3}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 causes the switch to execute an outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.3

Data Type

Integer. The valid values are from 0 to 63.

Access Policy

Read-write

Status

Mandatory

exrtePrimaryRule

{exrteEntry 4}

Description

Indicates the inpulse/outpulse rule the switch should execute if the dialed digits match the corresponding pattern.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.4

Data Type

Integer. The valid values are from 0 to 30. If both the Group and Rule are 0, no routing actions are performed.

Access Policy

Read-write

Status

Mandatory

exrteSecondaryGroup

{exrteEntry 5}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.5

Data Type

Integer. The valid values are from 0 to 63. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 causes the switch to execute an outpulse rule.

Access Policy

Read-write

Status

Mandatory

exrteSecondaryRule

{exrteEntry 6}

Description

Indicates the inpulse/outpulse rule the switch should execute if the dialed digits match the corresponding pattern.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.6

Data Type

Integer. The valid values are from 0 to 30. If both the group and rule are 0, no routing actions are performed.

Access Policy

Read-write

Status

Mandatory

exrteFinalGroup

{exrteEntry 7}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.7

Data Type

Integer. The valid values are from 0 to 63. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 causes the switch to execute an outpulse rule.

Access Policy

Read-write

Status

Mandatory

exrteFinalRule

{exrteEntry 8}

Description

Indicates the inpulse/outpulse rule that the switch should execute if the dialed digits match the corresponding pattern. If both the group and rule are 0, then no routing actions are performed.

Object Identifier

1.3.6.1.4.1.886.1.9.24.1.8

Data Type

Integer. The valid values are from 0 to 30.

Access Policy

Read-write

Status

Mandatory

exrteTableLastModified

{data 25}

Description

The time, displayed in hundredths of a second, since the route table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.25

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Route Table

The route table enables the user to specify routes for the TeleRouter. Refer to the *Cisco VCO/4K TeleRouter Reference Guide* for further information.

routeTable

{data 26}

Description

Lists the individual routes.

Object Identifier

1.3.6.1.4.1.886.1.9.26

Data Type

Sequence of RouteEntry

Access Policy

Not accessible

Status

Mandatory

routeEntry

{routeTable 1}

Description

An entry that represents a route.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1

Data Type

RouteEntry

Access Policy

Not accessible

Status

Mandatory

Index

{routeGrpIndex, routeIndex}

RouteEntry

Sequence

routeIndex	Integer
routePattern	DisplayString
routePrimaryGroup	Integer
routePrimaryRule	Integer
routeSecondaryGroup	Integer
routeSecondaryRule	Integer
routeFinalGroup	Integer
routeFinalRule	Integer
routeAdd	DisplayString
routeDelete	Integer

routeIndex

{routeEntry 1}

Description

Specifies the number of routes in the routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.1

Data Type

Integer. The valid number of routes, across the ten possible route groups, is from 1 to 1000.

Access Policy

Read only

Status

Mandatory

routePattern

{routeEntry 2}

Description

Specifies the route pattern in the routing table.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.2

Data Type

DisplayString. The display string contains from 1 to 20 alphanumeric characters.

Access Policy

Read only

Status

Mandatory

routePrimaryGroup

{routeEntry 3}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 causes the switch to execute an outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.3

Data Type

Integer. The valid values are from 0 to 63 for 2K mode, or 0 to 224 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routePrimaryRule

{routeEntry 4}

Description

Indicates the inpulse/outpulse rule that the switch should execute if the dialed digits match the corresponding pattern. If both the group and rule are 0, then no routing actions are performed.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.4

Data Type

Integer. The valid values are from 0 to 30 for 2K mode, or 0 to 255 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routeSecondaryGroup

{routeEntry 5}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 (or 1 to 224 for 4K mode) causes the switch to execute an outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.5

Data Type

Integer. The valid values are from 0 to 63 for 2K mode, or 0 to 224 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routeSecondaryRule

{routeEntry 6}

Description

Indicates the inpulse/outpulse rule that the switch should execute if the dialed digits match the corresponding pattern. If both the Group and Rule are 0, then no routing actions are performed.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.6

Data Type

Integer. The valid values are from 0 to 30 for 2K mode, or 0 to 225 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routeFinalGroup

{routeEntry 7}

Description

Indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern. A value of 0 causes the switch to execute an inpulse rule. A value from 1 to 63 (1 to 224 for 4K mode) causes the switch to execute an outpulse rule.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.7

Data Type

Integer. The valid values are from 0 to 63 for 2K mode, or 0 to 224 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routeFinalRule

{routeEntry 8}

Description

Indicates the inpulse/outpulse rule that the switch should execute if the dialed digits match the corresponding pattern. If both the group and rule are 0, then no routing actions are performed.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.8

Data Type

Integer. The valid values are from 0 to 30 for 2K mode, or 0 to 225 for 4K mode.

Access Policy

Read-write

Status

Mandatory

routeAdd

{routeEntry 9}

Description

Adds a route to the route table. You must specify the pattern that you want to match. When adding routes, the routeIndex component of the index must be 1 higher than the number of routes already in the table.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.9

Data Type

DisplayString. The display string contains from 1 to 20 alphanumeric characters.

Access Policy

Read-write

Status

Mandatory

routeDelete

{routeEntry 10}

Description

Deletes a specific route from the routing table. The route specified must equal the routeIndex component of the index. Also, you can only delete the last route in the table.

Object Identifier

1.3.6.1.4.1.886.1.9.26.1.10

Data Type

Integer. The valid number of routes, across the ten possible route groups, is from 1 to 1000.

Access Policy

Read-write

Status

Mandatory

routeTableLastModified

{data 27}

Description

The time, displayed in hundredths of a second, since the beginning of the time that the route table was last modified. Helps NMS application developers determine the polling of the agent parameters.

Object Identifier

1.3.6.1.4.1.886.1.9.27

Data Type

Integer

Access Policy

Read only

Status

Mandatory

Diagnostic Group

Diagnostics refers to the group of functions used to test or view the operating status of various system components. The following section lists the card diagnostic group objects that run diagnostic tests on system cards. For further information, refer to the documentation for the specific card.

In case of a failure, contact your Cisco Systems TAC.

Warning **All tests are for diagnostic purposes ONLY and are invasive. DO NOT perform any tests without direction from your Cisco Systems TAC.**

Card Diagnostic Group

The Card Diagnostic Group enables the user to configure the diagnostic tests on the system cards.

diagSessionTable

{diagnostics 1}

Description

The list of the diagnostic sessions.

Object Identifier

1.3.6.1.4.1.886.1.10.1

Data Type

Sequence of DiagSessionEntry

Access Policy

Not accessible

Status

Mandatory

diagSessionEntry

{diagSessionTable 1}

Description

A diagnostic session.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1

Data Type

DiagSessionEntry

Access Policy

Not accessible

Status

Mandatory

Index

diagSessionIndex

DiagSessionEntry

Sequence

diagSessionIndex	CardIndex
diagTestFunction	Integer
diagTestSubfunction	Integer
diagTestSubsubfunction	Integer
diagTestProcess	Integer
diagTestArgNum	Integer
diagTestResultCode	Integer
diagTestResultNum	Integer
diagSessionState	Integer
diagSessionErrorStatus	Integer
diagSessionOwnerString	OwnerString
diagSessionEntry Status	Entry Status

diagSessionIndex

{diagSessionEntry 1}

Description

Index for this diagnostic session. The index is the same as the index for the card on which the diagnostic session is performed.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

diagTestFunction

{diagSessionEntry 2}

Description

The diagnostic test function to perform.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.2

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

diagTestSubfunction

{diagSessionEntry 3}

Description

The diagnostic test subfunction to perform.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.3

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

diagTestSubsubfunction

{diagSessionEntry 4}

Description

The diagnostic test subsubfunction to perform.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.4

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

diagTestProcessor

{diagSessionEntry 5}

Description

The processor on which to perform the diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.5

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

diagTestArgNum

{diagSessionEntry 6}

Description

The number of arguments in diagTestArgTable for this diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.6

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read only

Status

Mandatory

diagTestResultCode

{diagSessionEntry 7}

Description

The result code of a completed diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.7

Data Type

Integer. Possible values are from 0 to 65535. A 0 (zero) value in the result code means the test passed.

Access Policy

Read only

Status

Mandatory

diagTestResultNum

{diagSessionEntry 8}

Description

The number of result values in diagTestResultTable for this diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.8

Data Type

Integer. Possible values are from 0 to 65535.

Access Policy

Read only

Status

Mandatory

diagSessionState

{diagSessionEntry 9}

Description

The state that the session is in. This value can only be set to "starting" if the session is idle, or "aborting" if the session is running.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.9

Data Type

Integer. Possible values and their meaning are shown in the following list:

Value	Setting	Conditions
1	inactive	None
2	activating	None
3	idle	None
4	starting	Must be in idle state
5	running	None
6	aborting	Must be running state

Access Policy

Read-write

Status

Mandatory

diagSessionErrorStatus

{diagSessionEntry 15}

Description

Registers the last error that occurred on this diagSession entry.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.15

Data Type

Integer. The possible values and their meaning are shown in the following list:

Value	Meaning
1792	diagnostic-session-already-exists
1793	diagnostic-session-is-not-idle
1794	illegal-value
1795	illegal-argument-index
1796	no-card-exists
1797	illegal-state-for-state-change
1798	test-denied
1799	already-running-a-test
1800	diagnostic-state-corrupted
1801	test-aborted-by-user

Value	Meaning
1802	internal-allocation-error
1803	internal-queue-error
1804	internal-mailbox-error
1805	timeout-waiting-for-card-response

Access Policy

Read only

Status

Mandatory

diagSessionOwnerString

{diagSessionEntry 16}

Description

The entity that configured this object and is therefore using the assigned object.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.16

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

diagSessionEntryStatus

{diagSessionEntry 17}

Description

The status of this entry. This object also determines whether the corresponding entries in the diagtestArgTable (see the "Diagnostic Test Argument Table" section on page 11-8) can be modified.

Object Identifier

1.3.6.1.4.1.886.1.10.1.1.17

Data Type

Entry Status

Access Policy

Read-write

Status

Mandatory

Diagnostic Test Argument Table

The diagnostic test argument table contains objects that enable you to establish the arguments by which system cards are diagnosed.

diagTestArgTable

{diagnostics 2}

Description

The table of arguments for diagnostics tests. Each diagnostic test in a session is indexed in the diagSessionTable with the diagSessionIndex object. There is an entry in this table that lists the modified arguments for each diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.2

Data Type

Sequence of DiagTestArgEntry

Access Policy

Not accessible

Status

Mandatory

diagTestArgEntry

{diagTestArgTable 1}

Description

A set of arguments for a test. You can modify the arguments for a test only when the diagSessionEntryStatus object is in the underModification state.

Object Identifier

1.3.6.1.4.1.886.1.10.2.1

Data Type

DiagTestArgEntry

Access Policy

Not accessible

Status

Mandatory

Index

{diagSessionIndex, diagTestArgIndex}

DiagTestArgEntry

Sequence

diagTestArgIndex   Integer

diagTestArgValue   Integer

diagTestArgIndex

{diagTestArgEntry 1}

Description

The index for a specific argument in a diagnostic test. This object, together with the diagSessionIndex, identifies an argument.

Object Identifier

1.3.6.1.4.1.886.1.10.2.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

diagTestArgValue

{diagTestArgEntry 2}

Description

The value for a specific argument in a diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.2.1.2

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read-write

Status

Mandatory

Diagnostic Test Result Table

The objects in the diagnostic test result table enable you to access the test results from a completed diagnostic test. These test results are valid only when the test fails.

diagTestResultTable

{diagnostics 3}

Description

The table of results from diagnostic tests. For each diagnostic test in a session there is an entry in the table listing the returned results of the completed test. (The diagSessionTable is indexed by the diagSessionIndex.)

Object Identifier

1.3.6.1.4.1.886.1.10.3

Data Type

Sequence of DiagTestResultEntry

Access Policy

Not accessible

Status

Mandatory

diagTestResultEntry

{diagTestResultTable 1}

Description

A set of results from a test.

Object Identifier

1.3.6.1.4.1.886.1.10.3.1

Data Type

DiagTestResultEntry

Access Policy

Not accessible

Status

Mandatory

Index

{diagSessionIndex, diagTestResultIndex}

DiagTestResultEntry

Sequence

diagTestResultIndex	Integer
diagTestResultValue	Integer

diagTestResultIndex

{diagTestResultEntry 1}

Description

Identifies the location of the diagTestResultEntry in the diagTestResultTable from a completed diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.3.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

diagTestResultValue

{diagTestResultEntry 2}

Description

The value for a specific result from a completed diagnostic test.

Object Identifier

1.3.6.1.4.1.886.1.10.3.1.2

Data Type

Integer. Possible values are from 0 to 255.

Access Policy

Read only

Status

Mandatory

diagSessionTableLastModified

{diagnostic 4}

Description

The time, in hundredths of a second, since the diagnostic session table was last modified. You can poll this object to trigger rediscovery.

Object Identifier

1.3.6.1.4.1.886.1.10.4

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Set Up Path Function

The Set Up Path function provides the ability to create a voice path between two ports (referred to as A and B). A voice path is a physical, system-switched connection that allows the transfer of in-band signaling and/or voice energy. In-band signaling can consist of MF or DTMF digits, tones, or voice prompts. Ports can be specified by hardware or software address. Port A and Port B do not have to be linked into the same resource chain in order to create a voice path.

System resources are divided into two categories: senders, which are the source of voice and in-band signaling information, and receivers, which listen to that information. When you create a voice path, you must designate one port as the sender and one port as the receiver.

Valid senders can include tone channels, DVC ports, IPRC ports, SLIC ports, DID ports, UTC ports, single span T1 channels, single span E1 channels, PRI B-channels, E+M ports, DCC ports, four span T1 channels, four span E1 channels, and MVDC T1 channels.

Valid receivers can include DRC ports, MRC ports, CPA ports, MFCR2 ports, SLIC ports, DID ports, UTC ports, single span T1 channels, single span E1 channels, PRI B-channels, E+M ports, DCC ports, four span T1 channels, four span E1 channels, and MVDC T1 channels.

If both ports specified can send and receive, a two-way voice path is created. Otherwise, the voice path is one way. Up to eight voice paths can exist simultaneously.

For further information pertaining to the Set Up Path function, refer to the *Cisco VCO/4K System Administrator's Guide.*

You can also create paths using the host API Voice Path Control ($66) command. For more information, refer to the *Cisco VCO/4K Extended Programming Reference* or *Cisco VCO/4K Standard Programming Reference.*

The following MIB objects are available to control Set Up Path functions through SNMP.

setUpPathTable

{diagnostics 5}

Description

The list of paths.

Object Identifier

1.3.6.1.4.1.886.1.10.5

Data Type

Sequence of SetUpPathEntry

Access Policy

Not accessible

Status

Mandatory

setUpPathEntry

{setUpPathTable 1}

Description

A path entry. Up to a maximum of 8 path entries may be defined. Paths can only be added or deleted.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1

Data Type

SetUpPathEntry

Access Policy

Not accessible

Status

Mandatory

setUpPathIndex

{setUpPathEntry 1}

Description

An index into the setUpPath table. Paths must be added to this table sequentially.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

setUpPathPortAddressA

{setUpPathEntry 2}

Description

Specifies the software address (hexadecimal logical identifier) of the first port in the path.The port can also be specified by using the Rack, Level, Slot, and Port objects. If specified, this object takes precedence over the Rack, Level, Slot, and Port objects.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.2

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathRackA

{setUpPathEntry 3}

Description

The rack (R) that the card of the first port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.3

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathLevelA

{setUpPathEntry 4}

Description

The level (L) that the card of the first port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.4

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathSlotA

{setUpPathEntry 5}

Description

The slot (S) that the card of the first port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.5

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathSpanA

{setUpPathEntry 6}

Description

The span that the card of the first port occupies. For single span cards, specify 0.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.6

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathPortA

{setUpPathEntry 7}

Description

The port (P) in the card that is involved in the path.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.7

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathPortAddressB

{setUpPathEntry 8}

Description

Specifies the software address (hexadecimal logical identifier) of the other port in the path. The port can also be specified by using the Rack, Level, Slot, and Port objects. If specified, this object takes precedence over the Rack, Level, Slot, and Port objects.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.8

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathRackB

{setUpPathEntry 9}

Description

The rack (R) that the card of the other port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.9

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathLevelB

{setUpPathEntry 10}

Description

The level (L) that the card of the other port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.10

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathSlotB

{setUpPathEntry 11}

Description

The slot (S) that the card of the other port occupies.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.11

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathSpanB

{setUpPathEntry 12}

Description

The span that the card of the other port occupies. For single span cards, specify 0.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.12

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathPortB

{setUpPathEntry 13}

Description

The port (P) in the card that is involved in the path.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.13

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

setUpPathErrorStatus

{setUpPathEntry 14}

Description

Registers the last error that occurred on this entry. The errors and their meanings are:

String	Meaning
paNotAssigned	Port Address is not assigned
twoRcvError	Can't connect 2 'Rcv Only' Ports
twoXmitError	Can't connect 2 'Xmit Only' Ports
portBadState	Port is not in correct state
cardOos	Card containing Port Address is OOS
noPathOnSbyDtg	Cannot set a path on standby DTG
pathComplete	(not used)
pathDeleted	(not used)
priDChanSel	Invalid PRI/E1 Channel selected
cannotRunOnSby	Cannot run on standby
maxPathsHit	Maximum path limit exceeded
undefinedPath	Undefined path
invalidKey	(not used)
invalidOper	(not used)
paOutOfRange	Port Address is out of range
cantBeZero	Port must be greater than zero
emptyRLSP	Empty R L S P
invalidRLSP	Invalid R L S P
twoManyPorts	Not that many ports on board
noToneCard	No tone card in system
invalidPa	Invalid Port Address
missingInfo	Insufficient information to complete request
invalidPathId	Indices may have values 1 -8 only
pathAlreadyExists	Path already exists for this index
pathDoesNotExist	Path does not exist for this index

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.14

Data Type

Integer. Valid values are:

Value	Error
8448	paNotAssigned
8449	twoRcvError
8450	twoXmitError
8451	portBadState
8452	cardOos
8453	noPathOnSbyDtg
8454	pathComplete
8455	pathDeleted
8456	priDChanSel
8457	cannotRunOnSby
8458	maxPathsHit
8459	undefinedPath
8460	invalidKey
8461	invalidOper
8462	paOutOfRange
8463	cantBeZero
8464	emptyRLSP
8465	invalidRLSP
8466	twoManyPorts
8467	noToneCard
8468	invalidPa
8469	missingInfo
8470	invalidPathId
8471	pathAlreadyExists
8473	unknownErr
8472	pathDoesNotExist

Access Type

Read-only

Status

Mandatory

setUpPathOwnerString

{setUpPathEntry 13}

Description

The entity that configured this entry.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.13

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

setUpPathEntryStatus

{setUpPathEntry 14}

Description

The status of this entry.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.14

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

setUpPathTableLastModified

{setUpPathEntry 15}

Description

The time (in hundredths of a second) since the epoch that the setUpPath table was last modified.

Object Identifier

1.3.6.1.4.1.886.1.10.5.1.15

Data Type

TimeTicks

Access Policy

Read-only

Status

Mandatory

ICC Card Group

The Interface Controller Card (ICC) is a high-capacity network interface engine. The ICC card uses the VCO/4K mid-plane architecture which enables the card to connect with a series of I/O modules specific to different network interface requirements. The mid-plane isolates the unique physical characteristics of each type of connection leaving the ICC to perform all of the signaling and protocol processing independently. There are six I/O modules supporting 4, 8, or 16 network spans.

For information on the ICC or ICC I/O Modules, refer to the *Cisco VCO/4K Card Technical Descriptions.*

The following objects are included in the ICC Card group.

iccTable

{icc 1}

Description

A list of ICC cards.

Object Identifier

1.3.6.1.4.1.886.1.12.1

Data Type

Sequence of iccEntry

Access Policy

Not accessible

Status

Mandatory

iccEntry

{iccTable 1}

Description

An entry in the iccTable.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1

Data Type

IccEntry

Access Policy

Not accessible

Status

Mandatory

IccEntry

Sequence

iccIndex	CardIndex
iccType	Integer
iccRack	Integer
iccLevel	Integer
iccSlot	Integer
iccGroupNum	Integer
iccIntfNum	Integer
iccTxGain	Integer
iccRxGain	Integer
iccTxClck	Integer
iccRfClck	Integer
iccSpanType	Integer
iccSlip	Integer
iccOutOfFrame	Integer
iccCode	Integer
iccLeng	Integer
iccCrc	Integer
iccTs0	Integer
iccTs16	Integer

iccStatus	Integer
iccUnusedPorts	Integer
iccRevVer	DisplayString
iccPhyAdd	Integer
iccNfasGrpIndex	Integer
iccNfasGrpPosition	Integer
iccAlarm	Integer
iccErrorStatus	Integer
iccOwnerString	OwnerString
iccEntryStatus	EntryStatus
iccDwnldVersion	DisplayString
iccUpgradeState	UpgradeState
iccIsdnAccessType	PriAccessMode
iccIsdnCaInpulseRuleIndex	InpulseRuleIndex
iccIsdnNcaInpulseRuleIndex	InpulseRuleIndex
iccIsdnSwitchType	PriSwitchType
iccIsdnLaw	LawType
iccIsdnProtocolT200	Integer
iccIsdnProtocolT201	Integer
iccIsdnProtocolT203	Integer
iccIsdnProtocolN200	Integer
iccIsdnProtocolN201	Integer
iccIsdnProtocolWindowSize	Integer
iccIsdnProtocolT303	Integer
iccIsdnProtocolT305	Integer
iccIsdnProtocolT308	Integer

iccIsdnProtocolT309	Integer
iccIsdnProtocolT310	Integer
iccIsdnProtocolT313	Integer
iccIsdnProtocolT315	Integer
iccIsdnProtocolT316	Integer
iccIsdnProtocolT321	Integer
iccIsdnProtocolT3M1	Integer
iccIsdnProtocolTM01	Integer
iccIsdnProtocolNM01	Integer

iccIndex

{iccEntry 1}

Description

The value of this object uniquely identifies an entry in the icc table. It corresponds to the physical location of the card and is a function of the rack (R), level (L), and the slot (S) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

iccType

{iccEntry 2}

Description

Specifies the type of icc card. nxT1 and nxE1 indicate non-ISDN types.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.2

Data Type

Integer. Possible values are as follows:

Value	Card Type
1	nxT1
2	nxE1
3	t1IsdnPriNi2
4	t1IsdnPri5Ess
5	t1IsdnPri4ess
6	t1IsdnPriNti
7	t1IsdnPriNtt
8	e1IsdnPriNet5
9	e1IsdnPriQsig
10	e1IsdnPriTs014

Access Policy

Read only

Status

Mandatory

iccRack

{iccEntry 3}

Description

The rack (R) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccLevel

{iccEntry 4}

Description

The level (L) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccSlot

{iccEntry 5}

Description

The slot (S) that the card occupies

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.5

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccGroupNum

{iccEntry 6}

Description

Specifies the group number of an interface.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIntfNum

{iccEntry 7}

Description

Specifies the interface number of an interface.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccTxGain

{iccEntry 8}

Description

Only valid when iccType is one of the non-ISDN types, i.e., nxT1 or nxE1. When iccType is one of the ISDN flavors, a get on this object will return unknownOrNa and a set on this object will result in an error.

Indicates the transmit gain control. Possible values include –6 dB, –3 dB, 0 dB, +3 dB, +6 dB. The default value is 0 dB.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.8

Data Type

Integer. Possible values are as follows:

Value	Transmit Gain Control
1	minus6db
2	minus3db
3	zerodb
4	plus3db
5	plus6db
255	unknownOrNa

Access Policy

Read-write

Status

Mandatory

iccRxGain

{iccEntry 9}

Description

Only valid when iccType is one of the non-ISDN types, i.e., nxT1 or nxE1. When iccType is one of the ISDN flavors, a get on this object will return unknownOrNa and a set on this object will result in an error.

Indicates the reference gain control. Possible values include –6 dB, –3 dB, 0 dB, +3 dB, +6 dB. The default value is 0 dB.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.9

Data Type

Integer. Possible values are as follows:

Value	Reference Gain Control
1	minus6db
2	minus3db
3	zerodb
4	plus3db
5	plus6db
255	unknownOrNa

Access Policy

Read-write

Status

Mandatory

iccTxClck

{iccEntry 10}

Description

T1: Indicates the transmit clock (timing source) for this span. Possible values include SCLK, LOOP, and 1544.

SCLK = VCO system clock

LOOP = incoming line

1544 = board crystal

E1: Indicates the transmit clock (timing source) for this span. Possible values include SCLK, LOOP, and 2048.

SCLK = VCO system clock

LOOP = incoming line

2048 = board crystal

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.10

Data Type

Integer. Possible values are as follows:

Value	Transmit Clock (timing source)
1	sclk
2	loop
3	tx-1544
4	tx-2048
255	unknown

Access Policy

Read-write

Status

Mandatory

iccRfClck

{iccEntry 11}

Description

T1/MVDCT1: Indicates the reference clock (timing source) for this span. Applies only if this span is specified as the current timing source using either the Master Timing Link Selection menu on the console, the T1 Synchronization Control ($C0 02) host command, or the masTimingSource MIB object. Possible values include LOOP or 1544.

LOOP = incoming line

1544 = board crystal

When you choose a span as the master timing source, the reference clock for the span creates the VCO system clock.

E1: Indicates the reference clock (timing source) for this span. Applies only if this span is specified as the current timing source using either the Master Timing Link Selection menu on the console, the T1 Synchronization Control ($C0 02) host command, or the masTimingSource MIB object. Possible values include LOOP or 2048.

LOOP = incoming line

2048 = board crystal

When you choose a span as the master timing source, the reference clock for the span creates the VCO system clock.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.11

Data Type

Integer. Possible values are as follows:

Value	Reference Clock (timing source)
1	loop
2	rf-1544
3	rf-2048
255	unknown

Access Policy

Read-write

Status

Mandatory

iccSpanType

{iccEntry 12}

Description

T1: Indicates the format of the T1 stream. You can only change this value when the span status is Out of Service (OOS). Possible values include SF, ESF, SF_NR, and ESF_NR.

SF = Superframe

ESF = Extended superframe

SF_NR = Superframe without robbed bit signaling

ESF_NR = Extended superframe without robbed bit signaling.

If you select an SF_NR or ESF_NR span type, the per port SIG TYPE object (iccPortSigType) is ignored.

E1: Indicates the format of the E1 stream. You can only change this value when the span status is OOS. Possible values include CAS/R2, CAS/MC, and CCS/31B.

CAS/R2 = Channel Associated signaling/R2 mode

CAS/MC = Channel Associated signaling/Mercury Mode

CCS/31B = Common Channel signaling/31 Bearer channels.

userDefX = user defined

If you specify the CCS/31 format, the TS16 object (iccTs16) is not meaningful.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.12

Data Type

Integer. Possible values are as follows:

Value	T1/E1 stream format
1	sf
2	esf
3	sf-nr
4	esf-nr
5	cas-r2
6	cas-mc
7	ccs-31b
8	userDef1
9	userDef2
10	userDef3
11	userDef4
12	userDef5
13	userDef6
255	unknown

Access Policy

Read-write

Status

Mandatory

iccSlip

{iccEntry 13}

Description

Determines the number of transmit or receive Slips that can be detected for this span, in a 24-hour period, before threshold processing occurs. Control this processing with the SLIP/OOF feature flag. Separate Slip maintenance counts are maintained for receive and transmit Slips. When either of these counters reaches the limit, threshold processing occurs. The current Slip count appears on the Diagnostics Card Display screen. Slip counters are reset at midnight and when this object is changed.

Possible values are between 0 (Slip maintenance processing is inhibited—recommended when TRX Clock = LOOP) and 255. The default value is 255.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.13

Data Type

Integer (0...255). Default value is 255.

Access Policy

Read-write

Status

Mandatory

iccOutOfFrame

{iccEntry 14}

Description

Determines the number of Out of Frames (OOFs) detected for this span, in a 24-hour period, before threshold processing occurs. Control this processing with the SLIP/OOF feature flag. The OOF counter is reset at midnight and when this object is changed.

Possible values are between 0 (OOF maintenance processing inhibited—not recommended) and 255. The default value is 17.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.14

Data Type

Integer (0...255). Default value is 17.

Access Policy

Read-write

Status

Mandatory

iccCode

{iccEntry 16}

Description

Only valid when iccType is one of the non-ISDN types, i.e., nxT1 or nxE1. When iccType is one of the ISDN flavors, a get on this object will return unknownOrNa and a set on this object will result in an error.

T1/MVDCT1: Indicates the code on the T1 span.

Possible values include AMI, B7ZS, and B8ZS.

E1: Indicates the code on the span. Possible values include AMI and HDB3. The return value (2) should be interpreted depending on the card type.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.16

Data Type

Integer. Possible values are as follows:

Value	T1 span code
1	ami
2	b8zs
3	b7zs
4	hdb3
255	unknownOrNa

Access Policy

Read-write

Status

Mandatory

iccLeng

{iccEntry 17}

Description

Only valid when iccType is not nxE1. When iccType is nxE1, a get on this object will return 0; a set on this object will result in an error.

Indicates the line equalization used for the T1/MVDCT1 stream. Possible values include the line length between 0 to 133 feet, 133 to 266 feet, 266 to 399 feet, 399 to 533 feet, and 533 to 655 feet, FCC Part 68 Option A, ITU-T F.703.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.17

Data Type

Integer. Possible values are as follows:

Value	Line equalization
0	none
1	leng0-133
2	leng133-266
3	leng266-399
4	leng399-533
5	leng533-655
6	lengPT-68-A
7	lengG-703

Access Policy

Read-write

Status

Mandatory

iccCrc

{iccEntry 18}

Description

Only meaningful when iccType is any of the E1 types, i.e., nxE1, e1IsdnPriNet5, e1IsdnPriQsig, or e1IsdnPriTs014. When iccType is not of type E1, a get on this object will return 0; a set on this object will result in an error. Indicates if CRC checking is enabled. Possible values include ON or OFF.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.18

Data Type

Integer. Possible values are as follows:

Value	CRC checking status
0	none
1	crc-on
2	crc-off

Access Policy

Read-write

Status

Mandatory

iccTs0

{iccEntry 19}

Description

Only meaningful when iccType is of type nxE1. When iccType is not of type nxE1, a get on this object will return 0; a set on this object will result in an error.

Specifies international or national bits of Time Slot 0 as an 8-bit value with the format 'i1Annnnn' where

i = International bits

n = National bits

A = a remote alarm indicator (ITU-T default)

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.19

Data Type

Integer (0..'ff'h)

Access Policy

Read-write

Status

Mandatory

iccTs16

{iccEntry 20}

Description

Only meaningful when iccType is of type nxE1.

When iccType is not of type nxE1, a get on this object will return 0; a set on this object will result in an error.

Specifies extra bits and the C and D bits of Time Slot 16 as an 8-bit value with the format '0000xyxx' where

x = extra bits

y = a remote alarm indicator (ITU-T default). Use bits 3 and 4 (where bit 1 = leftmost bit) to specify the C and D bits.

For systems in China, the C and D bits must be set to 1.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.20

Data Type

Integer (0..'ff'h)

Access Policy

Read-write

Status

Mandatory

iccStatus

{iccEntry 21}

Description

Indicates the current status of the span.

Possible values and their meanings are listed in the following table:

Value	Meaning
active	Active (ports on this card can be involved in active calls and can be allocated to new calls) the agent may take up to 10 seconds to set a card to active.
maintenance	Maintenance (one or more ports on this card may be involved in active calls; no ports are allocated to new calls). the agent may take up to 10 seconds to set a card into maintenance.
diagnostics	Diagnostics (no ports on this card are involved in calls or allocated to new calls)

Cisco VCO/4K Management Information Base (MIB) Reference

Value	Meaning
outOfService	Out of Service (no ports on this card can be involved in active calls; no ports are allocated to new calls)
payloadLoopback	Payload Loopback (diagnostic state)
remoteLoopback	Remote Loopback (diagnostic state)
gracefulIdle	Graceful Idle (no ports on this card are allocated to new calls)

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.18

Data Type

Integer. Possible values are as follows:

Value	Status
1	active
2	maintenance
3	diagnostics
4	outOfService
7	payloadLoopback
8	remoteLoopback
9	gracefullIdle

Access Policy

Read-write

Status

Mandatory

iccUnusedPorts

{iccEntry 22}

Description

Indicates the number of ports not currently active on this card; for multispan cards, indicates the number of ports not currently active on individual spans.

Valid only for network interface and internal service circuit ports.

For systems in China, the C and D bits must be set to 1.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.22

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccRevVer

{iccEntry 23}

Description

Indicates the version and the revision level of the firmware installed on the card. Object can be used to verify that firmware revisions for all network interface and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.23

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccPhyAdd

{iccEntry 24}

Description

The physical address of this span.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.24

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccNfasGrpIndex

{iccEntry 25}

Description

Only meaningful when iccType is any of the T1 types, i.e., nxT1, t1IsdnPriNi2, t1IsdnPri5Ess, t1IsdnPri4Ess, t1IsdnPriNti, or t1IsdnPriNtt. When iccType is not of type T1, a get on this object will return 0; a set on this object will result in an error.

A foreign key in the NFAS group table, indicates which NFAS group this span belongs to. In order to change this attribute, you need to set this EntryStatus and the one in the nfasGroupTable to underModification.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.25

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

iccNfasGrpPosition

{iccEntry 26}

Description

Only meaningful when iccType is any of the T1 types, i.e., nxT1, t1IsdnPriNi2, t1IsdnPri5Ess, t1IsdnPri4Ess, t1IsdnPriNti, or t1IsdnPriNtt. When iccType is not of type T1, a get on this object will return 0; a set on this object will result in an error.

Specifies the position of the span in the assigned nfas group.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.26

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccAlarm

{iccEntry 27}

Description

The value tracks which alarms are active on this span. Card alarms are internally represented as a bit map. There are 32 bits in all, a bit is set to 1 for each active alarm. The following is the representation:

Bit	Alarm Description
0	Card failure—minor
1	Port failure—minor
2	T1/E1/PRI carrier failure—major
3	T1/E1/PRI remote carrier failure—major
4	T1/E1/PRI card failure—major
5	T1/E1 Signaling Bit—minor
6	PRI Bipolar Violations MLimit reached
7	T1/E1/PRI Out of Frame MLimit reached—minor
8	T1/E1 Slip Maint Limit reached—minor
9	T1/E1/PRI OOF condition—minor
10	PRI D-channel failure—major
11-32	Unsigned filler (set to zero)

The NMS application needs to interpret the alarm status from the integer value returned by this object.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.27

Data Type

Integer (0..'7ff'h)

Access Policy

Read only

Status

Mandatory

iccErrorStatus

{iccEntry 28}

Description

Registers the last error that occurred on this span entry. For a complete list of errors, refer to the "Card Error Messages" section on page A-1.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.28

Data Type

Integer. Possible values are as follows:

Value	Error
4352	frameTypeInvalid
4353	codeInvalid
4354	txInvalid
4355	rxInvalid
4356	txClockInvalid
4357	refClockInvalid
4358	oofSlipInvalid
4359	lawInvalid
4360	spanLengthInvalid
4361	crcInvalid
4362	ts0Invalid
4363	ts16Invalid
4364	mustBeOos
4365	ni2NotInstalled
4366	priOnlyNotInstalled
4367	valueInvalid
4368	spanNotIsdnType
4369	spanNotIsdnT1Type
4370	spanNotIsdnE1Type
4371	spanNotIsdnOrT1Type
4372	spanNotT1Type
4373	spanNotE1Type
4374	spanNotNonIsdnType
4375	spanNotNonIsdnE1Type
4376	spanNotCompatibleIsdnType

Access Policy

Read only

Status

Mandatory

iccOwnerString

{iccEntry 29}

Description

The entity that configured this span entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.29

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

iccEntryStatus

{iccEntry 30}

Description

The status of this icc card entry. This object is used to add/delete an icc card span and to modify span attributes. The span needs to be set to valid once modifications are done.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.30

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

iccDwnldVersion

{iccEntry 31}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.31

Data Type

DisplayString (size 1..4)

Access Policy

Read only

Status

Mandatory

iccUpgradeState

{iccEntry 32}

Description

The upgrade state of this trunk card entry.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.32

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

iccIsdnAccessType

{iccEntry 33}

Description

Only applicable when iccType is one of the ISDN span types. A get on this object for a non-ISDN span type will return 0. A set on this object for a non-ISDN span type will result in an error.

Determines the type of access connection used for this span. This object can only be changed when the span status is Out-of-Service. Possible values for this object and their meanings are listed below:

Value	Meaning
usrmd	User side implementation for the connection; valid for both T1 and E1 ISDN icc types (except e1IsdnPriQsig).
netmd	Network side implementation for the connection; valid only for t1IsdnPriNtt, e1IsdnPriNet5, and e1IsdnPriTs014 ISDN icc types.
symmd	User side symmetrical implementation for the connection (loop-back only); only valid for T1 ISDN icc types: t1IsdnPriNi2, t1IsdnPri5Ess, t1IsdnPri4Ess, and t1IsdnPriNti.
userA	One side of symmetrical inter-PINX link for the connection; only valid for E1 ISDN icc type: e1IsdnPriTs014.
userB	One side of symmetrical inter-PINX link for the connection; only valid for E1 ISDN icc type: e1IsdnPriTs014.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.33

Data Type

PriAccessMode

Access Policy

Read-write

Status

Mandatory

iccIsdnCaInpulseRuleIndex

{iccEntry 34}

Description

Only applicable for ISDN span types. A get on this object for a non-ISDN span type will return 0. A set on this object for a non-ISDN span type will result in an error.

This is a foreign key corresponding to the inpulseRuleIndex in the inpulseTable. It is accessed while assigning a particular inpulse rule to the span. Determines the inpulse rule processed when a SETUP message is received over this span's controlling D-channel. This rule applies when the Channel ID within the SETUP message specifies a B-channel as the bearer channel (call associated connections). If NFAS is being used, an inpulse rule is assigned only to the spans containing the primary and backup D-channels. The inpulse rule chosen must have already been defined using either the Inpulse Rule Table screens on the console, or by an entry in the inpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.34

Data Type

InpulseRuleIndex

Access Policy

Read-write

Status

Mandatory

iccIsdnNcaInpulseRuleIndex

{iccEntry 35}

Description

Only applicable for ISDN span types. A get on this object for a non-ISDN span type will return 0. A set on this object for a non-ISDN span type will result in an error.

This is a foreign key corresponding to the inpulseRuleIndex in the inpulseTable. It is accessed while assigning a particular inpulse rule to the span.

Determines the inpulse rule processed when a SETUP message is received over this span's controlling D-channel. This rule applies when the Channel ID within the SETUP message specifies the D-channel as the bearer channel (non-call associated signaling). If NFAS is being used, an inpulse rule is assigned only to the spans containing the Primary and Backup D-channels. The inpulse rule chosen must have already been defined using either the Inpulse Rule Table screens on the console, or by an entry in the inpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.35

Data Type

InpulseRuleIndex

Access Policy

Read-write

Status

Mandatory

iccIsdnSwitchType

{iccEntry 36}

Description

Only applicable for ISDN span types. A get on this object for a non-ISDN span type will return 0. A set on this object for a non-ISDN span type will result in an error.

This is a foreign key corresponding to the inpulseRuleIndex in the inpulseTable. It is accessed while assigning a particular inpulse rule to the span.

Determines the inpulse rule processed when a SETUP message is received over this span's controlling D-channel. This rule applies when the Channel ID within the SETUP message specifies a B-channel as the bearer channel (call associated connections). If NFAS is being used, an inpulse rule is assigned only to the spans containing the Primary and Backup D-channels. The inpulse rule chosen must have already been defined using either the Inpulse Rule Table screens on the console, or by an entry in the inpulseRuleTable.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.36

Data Type

PriSwitchType

Access Policy

Read-write

Status

Mandatory

iccIsdnLaw

{iccEntry 37}

Description

Only applicable for ISDN span types. A get on this object for a non-ISDN span type will return 0. A set on this object for a non-ISDN span type will result in an error.

Specifies voice coding on the PRI stream. The system automatically turns off translation for calls which specify unrestricted digital information bearer capability.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.37

Data Type

LawType

Access Policy

Read-write

Status

Mandatory

iccIsdnProtocolT200

{iccEntry 38}

Description

Acknowledgement Timer in seconds.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.38

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT201

{iccEntry 39}

Description

Minimum time between retransmission of the TEI Identity check messages in seconds.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.39

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT203

{iccEntry 40}

Description

Maximum time allowed without frames being exchanged in seconds.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.40

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolN200

{iccEntry 41}

Description

Maximum number of retransmissions.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.41

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolN201

{iccEntry 42}

Description

Maximum number of octets in an information field.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.42

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolWindowSize

{iccEntry 43}

Description

Window size.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.43

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT303

{iccEntry 44}

Description

Timer started on SETUP sent.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.44

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT305

{iccEntry 45}

Description

Timer started on DISC.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.45

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT308

{iccEntry 46}

Description

Timer started on REL sent.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.46

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT309

{iccEntry 47}

Description

Timer started on data link disconnection.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.47

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT310

{iccEntry 48}

Description

Timer started on CALL PROC received.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.48

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT313

{iccEntry 49}

Description

Timer started on CONN sent.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.49

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT315

{iccEntry 50}

Description

ISDN PRI layer 3 timer value.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.50

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT316

{iccEntry 51}

Description

Timer started on REST sent.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.51

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT321

{iccEntry 52}

Description

Timer started on D-channel failure.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.52

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolT3M1

{iccEntry 53}

Description

Timer started on SERV sent.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.53

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolTM01

{iccEntry 54}

Description

Isdn PRI layer 3 timer value.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.54

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccIsdnProtocolNM01

{iccEntry 55}

Description

Isdn PRI layer 3 timer value.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.55

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccTableLastModified

{iccEntry 56}

Description

The time (in hundredths of a second) since the epoch that the iccTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.12.1.1.56

Data Type

Integer

Access Policy

Read only

Status

Mandatory

ICC Port Table

Use the ICC port table section to assign a name, a hardware type, a default inpulse rule, and a class of service (COS) to individual ports on an ICC card.

iccPortTable

{icc 4}

Description

A list of port entries on each icc card.

Object Identifier

1.3.6.1.4.1.886.1.12.4

Data Type

Sequence of IccPortEntry

Access Policy

Not accessible

Status

Mandatory

iccPortEntry

{iccPortTable 1}

Description

An table entry containing objects belonging to a particular port.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1

Data Type

IccPortEntry

Access Policy

Not accessible

Status

Mandatory

iccPortIndex

{iccPortEntry 1}

Description

Indicates the port number on the span.

For all the T1 Pri span types, port 24 is reserved for the D-channel. For the E1 span types, ports 1 and 17 are reserved.

Maximum number of ports and inaccessible ports for the various types of icc card span are shown below:

Card Span Type	Max # of Ports	Inaccessible Ports
nxT1	24	None
nxE1	32	1 & 17

Card Span Type	Max # of Ports	Inaccessible Ports
t1IsdnPriNi2	24	24
t1IsdnPri5Ess	24	24
t1IsdnPri4Ess	24	24
t1IsdnPriNti	24	24
t1IsdnPriNtt	24	24
e1IsdnPriNet5	32	1 & 17
e1IsdnPriQsig	32	1 & 17
e1IsdnPriTs014	32	1 & 17

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.1

Data Type

Integer (1...32)

Access Policy

Read only

Status

Mandatory

iccPortName

{iccPortEntry 2}

Description

Optional database entry used to identify individual circuits. When a port name is used, each one should be unique and descriptive of port usage. This object accepts up to 8 upper- or lowercase alphanumeric characters.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.2

Data Type

DisplayString (size 0...8)

Access Policy

Read-write

Status

Mandatory

iccPortSigType

{iccPortEntry 3}

Description

Determines the signaling type. Possible values include:

Value	Meaning
eAndm	E&M
fxo-ls	FXO Loop Start
fxo-gs	FXO Ground Start
fxs-ls	FXS Loop Start
fxs-gs	FXS Ground Start
clear	Clear Channel
ieAndm	Inverted E&M
userDefX	User Defined
	where:
	FXO = Foreign Exchange Office
	FXS = Foreign Exchange Subscriber

Note If you selected an SF_NR or ESF_NR span type, this object is ignored.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.3

Data Type

Integer. Possible values are as follows:

Value	String
1	eAndm
2	fxo-ls
3	fxo-gs
4	fxs-ls
5	fxs-gs
6	clear
7	ieAndm
8	userDef1
9	userDef2
10	userDef3
11	userDef4
12	userDef5
13	userDef6

Access Policy

Read-write

Status

Mandatory

iccPortCos

{iccPortEntry 4}

Description

Class of Service used for resource grouping and B-channel allocation; determines the software operating characteristics for this port. Different spans on the same card can have different COS marks. Possible values and their meanings are listed in the following table:

Value	Meaning
o	Originating—Calls originating from the VCO; outgoing calls initiated by host command
t	Terminating—Calls terminating at the VCO; incoming calls initiated by actions outside the SDS/VCO or forced by host command
w2	2-Way—Calls originating from the VCO or calls terminating at the SDS/VCO; outgoing calls initiated by host command, incoming calls initiated by outside actions
oa	Always Off Hook and Originating—Calls originating from the SDS/VCO, port goes off hook at VCO system reset and remains off hook; outgoing calls initiated by host command
ta	Always Off Hook and Terminating—Calls terminating at the SDS/VCO, port goes off hook at VCO system reset and remains off hook; incoming calls initiated by outside actions or forced by host command
a2	Always Off Hook and 2-Way—Calls originating from the SDS/VCO or calls terminating at the VCO, port goes off hook at SDS/VCO system reset and remains off hook; outgoing calls initiated by host command, incoming calls initiated by outside actions or forced by host command

Note Internal COS values, i.e., U2 (2-way currently used as an outgoing) and T2 (2-way currently used as an incoming), may appear during system operation. These values are internal processing representations and cannot be assigned.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.4

Data Type

Integer. Possible values are as follows:

Value	String
0	none
1	o
2	t

Value	String
3	w2
4	oa
5	ta
6	a2

Access Policy

Read-write

Status

Mandatory

iccPortMajorState

{iccPortEntry 13}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.13

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

iccPortSuppState

{iccPortEntry 14}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.14

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

iccPortAddress

{iccPortEntry 15}

Description

Specifies the software address (hexadecimal identifier) of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.15

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccPortInpulseRuleIndex

{iccPortEntry 16}

Description

This is a foreign key corresponding to the inpulseRuleIndex in the inpulseTable. It is accessed while assigning a particular inpulse rule to a port. Determines the inpulse rule processed when this port goes off hook. Default inpulse rules are used for incoming ports only (Class of Service = T, W2, AT, or A2). The inpulse rule must be defined from the Inpulse Rules Table screens.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.16

Data Type

InpulseRuleIndex

Access Policy

Read-write

Status

Mandatory

iccPortResGroupIndex

{iccPortEntry 17}

Description

Indicates the number of the resource group to which this port belongs. In order to change this attribute, you need to set this EntryStatus and the one in the resGroupTable to underModification.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.17

Data Type

ResGroupIndex

Access Policy

Read-write

Status

Mandatory

iccPortResGroupPosition

{iccPortEntry 18}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.18

Data Type

Integer

Access Policy

Read only

Status

Mandatory

iccPortErrorStatus

{iccPortEntry 19}

Description

Registers the last error that occurred on this port entry.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.19

Data Type

Integer (invalidValue = 6656)

Access Policy

Read only

Status

Mandatory

iccPortOwnerString

{iccPortEntry 20}

Description

The entity that configured this entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.20

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

iccPortEntryStatus

{iccPortEntry 21}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.21

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

iccPortState

{iccPortEntry 22}

Description

The state of port can be changed to active or inactive. 1= active; 2 = inactive.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.22

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

iccPortCardType

{iccPortEntry 23}

Description

Specifies the type of icc card to which this port belongs. Same as iccType.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.23

Data Type

Integer. Possible values are as follows:

Value	String
1	nxT1
2	nxE1
3	t1IsdnPriNi2
4	t1IsdnPri5Ess
5	t1IsdnPri4Ess
6	t1IsdnPriNti
7	t1IsdnPriNtt
8	e1IsdnPriNet5
9	e1IsdnPriQsig
10	e1IsdnPriTs014

Access Policy

Read only

Status

Mandatory

iccPortLaw

{iccPortEntry 24}

Description

Only valid when iccPortCardType is one of the non-ISDN types, i.e., nxT1 or nxE1. When
iccPortCardType is one of the ISDN flavors, a get on this object will return 0 and a set on this object will
result in an error.

Indicates the voice coding on the stream. The system automatically turns off translation when calls
specify unrestricted digital information bearer capability.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.24

Data Type

Integer. Possible values are as follows:

Value	String
1	a
2	mu
3	system

Access Policy

Read-write

Status

Mandatory

iccPortIsdnState

{iccPortEntry 25}

Description

Only valid when iccPortCardType is one of the ISDN types. When iccPortCardType is not one of the ISDN flavors, a get on this object will return 0 and a set on this object will result in an error.

Specifies the ISDN port state.

Possible values are as follows:

Value	Meaning
in-serv	The port is currently in service and available for use in a call.
oos-ne	Out-of-Service, Near-End. Port is currently out-of-service due to some VCO action (system administration). Port is unavailable to call processing. SDS/VCO action is required to put it back into service.
oos-fe	Out-of-Service, Far-End. Port is currently Out-of-service due to some action at the far-end. Port is unavailable to call processing. Action at the far end is required to put it back into service.
maint-ne	Maintenance, Near-End. Port is currently in Maintenance mode due to some SDS/VCO action (system administration) or signal alarm condition. Port is unavailable to call processing.
maint-fe	Maintenance, Far-End. Port is currently in Maintenance mode due to some action at the far end. Port is unavailable to call processing. Action at the far end is required to put the port back into service.

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.25

Data Type

Integer. Possible values are as follows:

Value	String
1	in-serv
2	oos-ne
3	oos-fe
4	maint-ne
5	maint-fe

Access Policy

Read only

Status

Mandatory

iccPortIsdnCallState

{iccPortEntry 26}

Description

Only valid when iccPortCardType is one of the ISDN types. When iccPortCardType is not one of the ISDN flavors, a get on this object will return 0 and a set on this object will result in an error.

This specifies the isdn-call state of the call on the port. The description of each call state is as follows:

Value	User-side call state
idle	NULL state (U0/Rest 0)
o-inited	Call Initiated (U1)
i-overlap OR o-overlap	Overlap Sending (U2)—Reserved for future use
o-proceed	Outgoing Call Proceeding (U3)
o-delivrd	Call Delivered (U4)
i-callprs	Call Present (U6)
i-receivd	Call Received (U7)
i-connect	Connect Request (U8)
i-proceed	Incoming Call Proceeding (U9)
i-active OR o-active	Active (U10)
disc-req	Disconnect Request (U11)
disc-ind	Disconnect Indication (U12)
disc-rls	Release Request (U19)"

Object Identifier

1.3.6.1.4.1.886.1.12.4.1.26

Data Type

Integer. Possible values are as follows:

Value	String
0	unknown
1	idle
2	o-inited
3	o-overlap
4	o-proceed
5	o-active
6	o-delivrd
7	i-callprs
8	i-overlap
9	i-proceed
10	i-active
11	i-receivd
12	i-connect
13	disc-ind
14	disc-req
15	disc-rls

Access Policy

Read only

Status

Mandatory

iccPortTableLastModified

{icc 5}

Description

The time (in hundredths of a second) since the epoch that the iccPortTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.12.5

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

SPC Card Group

The Service Platform Card (SPC) provides the service resources element of the three critical system elements of the VCO/4K product line—system control, port interfaces, and service resources.

The SPC combines the capabilities of existing individual service resource cards in the VCO/4K product line into a single card, which contains all of the functions previously provided by the separate cards.

The hardware design of the SPC allows the software operating within the SPC and the SPC's mezzanine card (the Service Resource Module, or SRM) the ability to exceed the older service resource function's feature set, while providing a much higher level of integration both logically and physically.

The SPC architecture allows any service resource function of the VCO/4K product family to be performed with this card as a base platform, given a minimum of one SRM mezzanine card on the board to perform the service function(s). Mezzanine cards have the capability to perform more than one service function, and to perform these functions simultaneously.

The SPC supports a variety of service facilities implemented via software. This application software executes on the SRM's DSPs. This allows the SPC to support multiple tone plans and easily updated algorithm changes.

The following services are provided:

- DTMF detection
- Call progress analysis
- MF reception
- MFCR2 reception and transmission
- Tone generation
- DTMF and MF outpulsing
- Call conferencing

For additional information concerning the SPC, refer to the *Cisco VCO/4K Card Technical Descriptions.*

SPC Card Group

The following objects are included in the SPC Card group.

spcTable

{spc 1}

Description

A list of Service Platform Cards.

Object Identifier

1.3.6.1.4.1.886.1.13

Data Type

Sequence of SpcEntry

Access Policy

Not accessible

Status

Mandatory

spcEntry

{spcTable 1}

Description

An entry in the spcTable.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1

Data Type

SpcEntry

Access Policy

Not accessible

Status

Mandatory

spcIndex

{spcEntry 1}

Description

The value of this object uniquely identifies an entry in the spcTable. It corresponds to the physical location of the card and is a function of the rack (R), level (L) and the slot (S) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.1

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

spcRack

{spcEntry 2}

Description

The rack (R) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.2

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcLevel

{spcEntry 3}

Description

The level (L) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.3

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcSlot

{spcEntry 4}

Description

The slot (S) that the card occupies.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.4

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcRevVer

{spcEntry 5}

Description

Indicates the version and the revision level of the firmware installed on the card. Object can be used to verify that firmware revisions for all network SE and service circuit cards are at the current level.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.5

Data Type

DisplayString (size 1..5)

Access Policy

Read only

Status

Mandatory

spcAlarm

{spcEntry 6}

Description

The value tracks which alarms are active on this SE. Card alarms are internally represented as a bit map. There are 32 bits in all, a bit is set to 1 for each active alarm. The following is the representation:

Bit	Alarm Description
0	Card failure—minor
1	Port failure—minor
2	T1/E1/PRI carrier failure—major
3	T1/E1/PRI remote carrier failure—major
4	T1/E1/PRI card failure—major
5	T1/E1 Signaling Bit—minor
6	PRI Bipolar Violations MLimit reached
7	T1/E1/PRI Out of Frame MLimit reached—minor
8	T1/E1 Slip Maint Limit reached—minor
9	T1/E1/PRI OOF condition—minor
10	PRI D-channel failure—major
11-32	Unsigned filler (set to zero)

The NMS application needs to interpret the alarm status from the integer value returned by this object.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.6

Data Type

CardIndex

Access Policy

Read only

Status

Mandatory

spcGroupNum

{spcEntry 7}

Description

Specifies the group number of an interface.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.7

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcIntfNum

{spcEntry 8}

Description

Specifies the interface number of an interface.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcType

{spcEntry 9}

Description

The service type configured for this SE.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.9

Data Type

Integer. The following table lists the possible values:

Value	Type
1	dtmf
2	cpa
3	mfrc
4	mfcr2
5	tone
6	outpulse
7	conf

Access Policy

Read only

Status

Mandatory

spcStatus

{spcEntry 10}

Description

Indicates the current status of the SE. Possible values and their meanings are listed in the following table:

Value	Meaning
active	Ports on this card can be involved in active calls and can be allocated to new calls. The agent may take up to 10 seconds to set a card to active.
maintenance	One or more ports on this card may be involved in active calls; no ports are allocated to new calls. The agent may take up to 10 seconds to set a card to maintenance.
diagnostics	No ports on this card are involved in calls or allocated to new calls.
outOfService	No ports on this card can be involved in active calls; no ports are allocated to new calls.
remote-Loopback	Diagnostic state.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.10

Data Type

Integer. Possible values are as follows:

Value	String
1	active
2	maintenance
3	diagnostics
4	outOfService
5	remoteLoopback

Access Policy

Read-write

Status

Mandatory

spcPhyAdd

{spcEntry 11}

Description

The physical address of this SE. This is the port address of the first port on the SE.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.11

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcErrorStatus

{spcEntry 12}

Description

Registers the last error that occurred on this card entry. For a complete list of errors, refer to the "Card Error Messages" section on page A-1.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.12

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcOwnerString

{spcEntry 13}

Description

The entity that configured this card entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.13

Data Type

Integer

Access Policy

Read-write

Status

Mandatory

spcEntryStatus

{spcEntry 14}

Description

The status of this service platform card entry. This object is used to add/delete/modify a SE. A createRequest of any SE creates the specific SE. Setting any SE to invalid deletes the specific SE.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.14

Data Type

EntryStatus

Access Policy

Read-write

Status

Mandatory

spcDwnldVersion

{spcEntry 15}

Description

Version/revision of the card download file.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.15

Data Type

DisplayString (size 1..4)

Access Policy

Read only

Status

Mandatory

spcUpgradeState

{spcEntry 16}

Description

The upgrade state of this trunk card.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.16

Data Type

UpgradeState

Access Policy

Read only

Status

Mandatory

spcTableLastModified

{spcEntry 17}

Description

The time (in hundredths of a second) since the epoch that the spcTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.13.1.1.17

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

SPC Port Table

Use the SPC port table section to retrieve states and addresses, and to assign names and resource groups for individual ports on an SPC card.

spcPortTable

{spc 3}

Description

A list of port entries on each service platform card.

Object Identifier

1.3.6.1.4.1.886.1.13.3

Data Type

Sequence of SpcPortEntry

Access Policy

Not accessible

Status

Mandatory

spcPortEntry

{spcPortTable 1}

Description

A table entry containing objects belonging to a particular SPC port.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1

Data Type

SpcPortEntry

Access Policy

Not accessible

Status

Mandatory

spcPortIndex

{spcPortEntry 1}

Description

Indicates the port number on the SPC SE. The number of ports on a SE depends on the service configured for the SE.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.1

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcPortName

{spcPortEntry 2}

Description

Optional database entry used to identify individual circuits. When a port name is used, each one should be unique and descriptive of port usage. This object accepts up to 8 upper or lowercase alphanumeric characters.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.2

Data Type

DisplayString (size 0..8)

Access Policy

Read-write

Status

Mandatory

spcPortState

{spcPortEntry 3}

Description

The state of port can be changed to active or inactive. State changes on ports should only be performed one at a time.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.3

Data Type

Integer (1 = active; 2=inactive)

Access Policy

Read-write

Status

Mandatory

spcPortMajorState

{spcPortEntry 4}

Description

The major state of the port.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.4

Data Type

PortMajorState

Access Policy

Read only

Status

Mandatory

spcPortSuppState

{spcPortEntry 5}

Description

The supplementary state of the port.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.5

Data Type

PortSuppState

Access Policy

Read only

Status

Mandatory

spcPortAddress

{spcPortEntry 6}

Description

Specifies the software address of the port for which data is displayed. The port can also be specified by the hardware address.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.6

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcPortResGroupIndex

{spcPortEntry 7}

Description

This is a foreign key corresponding to the resGroupIndex in the resGroupTable. Indicates the number of the resource group to which this port belongs. If no resource group assignment is made, this object is 0. Possible values range between 0 and 63 for 2K mode operation, and from 0 to 244 for 4K mode.

To change this attribute, set this EntryStatus and the one in the resGroupTable to underModification.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.7

Data Type

Integer (0...63)

Access Policy

Read-write

Status

Mandatory

spcPortResGroupPosition

{spcPortEntry 8}

Description

Specifies the position of the port in the assigned resource group.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.8

Data Type

Integer

Access Policy

Read only

Status

Mandatory

spcPortErrorStatus

{spcPortEntry 9}

Description

Registers the last error that occurred on this port entry.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.9

Data Type

Integer {invalidValue = 6400)

Access Policy

Read only

Status

Mandatory

spcPortOwnerString

{spcPortEntry 10}

Description

The entity that configured this entry and is therefore using the resources assigned to it.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.10

Data Type

OwnerString

Access Policy

Read-write

Status

Mandatory

spcPortEntryStatus

{spcPortEntry 11}

Description

The status of this table entry.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.11

Data Type

PortEntryStatus

Access Policy

Read-write

Status

Mandatory

spcPortTableLastModified

{spc 4}

Description

The time (in hundredths of a second) since the epoch that the spcPortTable was last modified.

Object Identifier

1.3.6.1.4.1.886.1.13.3.1.4

Data Type

TimeTicks

Access Policy

Read only

Status

Mandatory

Examples

Card Configuration

You can configure network and service cards by issuing SNMP set instructions to various objects in the VCO/4K MIB card tables. The following functions are possible:

- Add a card

- Delete a card

- Get the status of a card

- Modify card parameters

Note   All the commands in this chapter and throughout this document are from a hypothetical command set and not from a specific application.

Specifying the Index Value

Before using the MIB to perform card functions, you must know the index value of the card. Refer to the "Formula for Determining Index Value" section on page 1-6 for information on determining card index values.

Adding a Card

The following subsections give the general command syntax for adding single, dual, and triple index cards.

Single Index

Use the following steps to add a single index card:

Step 1   Set the card EntryStatus (specifying the location) to createRequest (2).

Step 2   Set the card EntryStatus (specifying the location) to valid (1).

Command Format

SNMP_SET <card>EntryStatus.<location> createRequest

SNMP_SET <card>EntryStatus.<location> valid

Example

To add a line card at slot 1-1-5, use the following syntax to enter the command:

SNMP_SET lcEntryStatus.5 integer 2

SNMP_SET lcEntryStatus.5 integer 1

Dual Index

Use the following steps to add a dual index card:

Step 1   Set the card EntryStatus (specifying the location and type) to createRequest (2).

Step 2   Set the card EntryStatus (specifying the location and type) to valid (1).

Command Format

SNMP_SET <card>EntryStatus.<location>.<type> createRequest

SNMP_SET <card>EntryStatus.<location>.<type> valid

Example

To add a PRI/N card at slot 1-1-5, enter the following command syntax:

SNMP_SET isdnEntryStatus.5.2 integer 2

SNMP_SET isdnEntryStatus.5.2 integer 1

Triple Index

Triple index cards include any multispan network interface cards, including 4xT1, 4xE1, and ICC 16-span E1 or T1 I/O. The MVDC is also considered a triple index card.

Use the following steps to add a triple index card:

Step 1   Set the EntryStatus (specifying the location, type, and span) to createRequest (2).

Step 2   Set the EntryStatus (specifying the location, type, and span) to valid (1).

Command Format

SNMP_SET <ptc_card>EntryStatus.<location>.<type>.<span> createRequest

SNMP_SET <ptc_card>EntryStatus.<location>.<type>.<span> valid

Example

SNMP_SET ptcEntryStatus.4.1.1 integer 2

SNMP_SET ptcEntryStatus.4.1.1 integer 1

Considerations

Consider the following when adding a card to the database:

- When you add a card, the initial status of the card is Out-of-Service (OOS). Use the CardStatus object to bring the card on line and make it available for the system to use.

- When you add an NBC, the card must use an R-L-S address of 1-1-2. Other hardware addresses are not valid for an NBC.

- Except for DTG, DRC 24, and DRC 48 cards, each port on a card requires one time-slot. When you add a new card to the database, the number of available time-slots is reduced by the number of ports on the card.

- When you add a new card and the number of ports on the card cause the number of ports to exceed your system's time-slot capacity, an error status is returned. You are unable to add this or any other card to the system until you remove existing cards or upgrade your Time-Slot Capacity License. (Contact your Cisco Systems sales representative for information on upgrading your license.)

Deleting a Card

Note   The command for deleting single, dual, or triple index cards is the same, except for the index value.

To delete a card, set the EntryStatus object to invalid (4).

Command Format

SNMP_SET <card>EntryStatus.<location> invalid

Example

SNMP_SET lcEntryStatus.2 integer 4

This command shown in this example deletes the line card at slot 1-1-2.

Getting the Card Status

To get the card status, enter an SNMP_GET command on the status of the card object.

Command Format

SNMP_GET <card>Status.<location>

Example

SNMP_GET lcStatus.2

The command shown in this example returns the status of the line card at slot 1-1-2. If the line card does not exist (for example, if you had deleted it, or the card was never configured), the value returned is an error. If the card exists, the state of the card is returned. Refer to Appendix A, "Card Error Messages" for a list of card error messages.

Modifying Card Parameters

To modify card parameters, enter an SNMP_GET command to see all the read-write parameters. Decide which parameters need modifying, and perform the following steps:

Step 1   Set the EntryStatus object to underModification (3).

Step 2   Set the new parameter values.

Step 3   Set the EntryStatus object to valid (1).

To confirm that the parameters were changed, enter an SNMP_GET command.

Command Format

SNMP_SET <card>EntryStatus.<location> underModification

SNMP_SET <ObjectName>.<location>.<type> <value>

SNMP_SET <card>EntryStatus.<location> valid

Example

To activate a T1 card at slot 1-1-4 enter the following command syntax:

SNMP_SET tcEntryStatus.4.1 integer 3

SNMP_SET tcStatus.4.1 integer 1

SNMP_SET tcEntryStatus.4.1 integer 1

The commands in this example have the following actions:

- The first command declares that you are modifying something in the trunk card table. This is an indication to other cooperating management applications that you are modifying the table entry. You should also set the OwnerString, although it is not required.

- The second command declares that you are setting the status value in the trunk card to 1 (active).

- The third command declares that you are setting the EntryStatus value in the trunk card to valid (1). This setting verifies your changes and releases the trunk card object.

The following special considerations are associated with card status changes:

- Cards can be set to Active, Maintenance, Out-of-Service, Diagnostic, Remote Loopback, or Payload Loopback.

- A card must be in the database before you can make a status change.

- If you change a card to Active or Maintenance status, it must be physically installed in the system.

- You can change a card to Diagnostic status only if it is already in Active or Maintenance status.

- When you change a card to Out-of-Service status, any calls into ports that are linked on that card are torn down.

- To reset an active card, change the status from Active to Out-of-Service and then back to Active.

- When an IPRC is changed to Active mode, the voice announcement application is automatically downloaded to it from hard disk, if necessary. IPRCs are only downloaded following a power-up reset or if the application on the card does not match the download file on the system disk. If a download is not successful, the card remains in Maintenance mode. If download is successful, the voice prompt information is downloaded and the IPRC goes to Active.

- The IPRC table provides MIB objects where you can specify the length of time to chop the end of a newly recorded prompt, the interval timer for checksum verification, and the prompt libraries supported by the card. The IPRC Card Configuration Table also contains objects that record rack position and card operating state.

Note   Because you can reallocate time slots and remove prompt information loaded onto the IPRC, you must remove the IPRC from service prior to making any changes to the IPRC objects.

- The card configuration table also has objects that enable you to configure the port density in 8-port increments, thus reallocating time slots based on the defined port density. You can configure the 64- and 128-port IPRCs to support less than the physical port capacity.

- When you change a CPA to Active mode, the tone detection application is automatically downloaded to it from the hard disk, if necessary. CPAs are only downloaded following a power-up reset or if the application on the card does not match the download file on the system disk. If a download is not successful, the card remains in Maintenance (m) mode. If the download is successful, the CPA goes to Active mode.

- When you change the status to Diagnostic mode, the system checks whether any ports on the card are linked into a call. If one or more ports is active, the card is placed into Camped On mode (supported on T1, RC and TC cards). You can now run Diagnostic routines; the system skips any ports linked into a call.

- If you try to change from Camped On to Diagnostic mode, the system again checks if any ports on the card are still linked into a call.

- Remote Loopback mode applies only to PRI and Programmable Trunk cards. This mode enables you to run diagnostics on the total loop (trunks to the far end interface, and back to the VCO). The card must first be in Active mode before you can change its status to Remote Loopback.

- Payload Loopback applies only to Programmable T1 Trunk cards in ESF mode. In this mode the T1 stream is looped back to the network with a new frame.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the appropriate ErrorStatus object. Refer to the relevant card ErrorStatus objects in the index of this document.

Command Format

SNMP_GET <card>ErrorStatus

Example

SNMP_GET lcErrorStatus.4

In this example, the value returned tells you what the error is. These values are defined in the ErrorStatus object for each table in the MIB.

Port Configuration

You can configure network ports by issuing SNMP set instructions to various objects in the VCO/4K MIB card tables. The following functions are possible:

- Activate a port
- Deactivate a port
- Modify a port parameter
- Get the error status of a port

Activating a Port

To activate a port, perform the following steps:

Step 1   Set the PortEntryStatus (specifying the location and port number) to underModification (3).

Step 2   Set the PortState (specifying the location and port number) to active (1).

Step 3   Set the PortEntryStatus (specifying the location and port number) to valid (1).

Command Format

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> underModification

SNMP_SET <card>PortState.<location>.<PortNumber> active

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> valid

Example

To activate the first line card port at slot 1-1-3, use the following syntax to enter the command:

SNMP_SET lcPortEntryStatus.3.1 integer 3

SNMP_SET lcPortState.3.1 integer 1

SNMP_SET lcPortEntryStatus.3.1 integer 1

The commands in this example have the following actions:

- The first command sets the first line card port at slot 1-1-3 to underModification. This indicates to other cooperating management applications that you are modifying the port.

- The second command sets the state of the line card port to active.

- The third command sets the line card port to valid. This command verifies your settings and releases the port.

Deactivating a Port

To deactivate a port perform the following steps:

Step 1   Set the PortEntryStatus (specifying the location and port number) to underModification (3).

Step 2   Set the PortState (specifying the location and port number) to inactive (2).

Step 3   Set the PortEntryStatus (specifying the location and port number) to valid (1).

Command Format

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> underModification

SNMP_SET <card>PortState.<location>.<PortNumber> inactive

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> valid

Example

To deactivate the tenth DTG port at slot 1-1-3, use the following syntax to enter the command:

SNMP_SET dtgPortEntryStatus.3.10 integer 3

SNMP_SET dtgPortState.3.10 integer 2

SNMP_SET dtgPortEntryStatus.3.10 integer 1

The commands in this example perform the following functions:

- The first command sets the tenth DTG port to underModification. This indicates to other cooperating management applications that you are modifying the port.

- The second command sets the DTG port state to inactive.

- The third command sets the DTG port to valid. This command verifies the setting (inactive) and releases the port.

Modifying Port Parameters

You can set individual ports on an internal service circuit or network interface card to available or unavailable (activated or deactivated) with the PortState object. To complete this function, access the PortEntryStatus and the RLS hardware address. Then indicate the port(s) you are modifying.

The following special considerations affect the modification of port parameters:

- If you are setting a path for a port, first deactivate the port with the PortState object. While the port is deactivated, it cannot be allocated to a call. To make the port available for use, set the port to active with the PortState object.

- To reset a port, first deactivate the port, then reactivate it.

- NBCs and BRCs have no ports.

- When you deactivate a port, call processing no longer tries to assign any calls to the port. It is not necessary to remove the port from its resource group. This allows maintenance personnel to minimize the effects of a single port failure on the system.

To modify line card port parameters, enter an SNMP GET command to see all the read-write parameters. Decide which parameters you need to modify, and then perform the following steps:

Step 1   Set the EntryStatus object (specifying the location and port number) to underModification (3).

Step 2   Set the new parameter values (specifying the location and port number).

Step 3   Set the EntryStatus object (specifying the location and port number) to valid (1).

Step 4   To confirm that the parameter was changed, enter an SNMP_GET command.

Note   You can modify more than one parameter at the same time. Refer to the MIB Reference Guide for a list of attributes for each port.

Command Format

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> underModification

SNMP_SET <ObjectName>.<location>.<PortNumber> <type> <value>

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> valid

Example

To change the COS of the fifth PRI/N port at slot 1-1-7 to always off hook and originating, enter the following command syntax:

SNMP_SET isdnPortEntryStatus.7.5 integer 3

SNMP_SET isdnPortCos.7.5 integer 4

SNMP_SET isdnPortEntryStatus.7.5 integer 1

The commands in this example perform the following functions:

- The first command declares that you are modifying something in the ISDN card port table. This is an indication to other cooperating management applications that you are modifying the table entry.

- The second command declares that you are setting the value of isdnPortCos to oa (4), or "Always Off-hook and Originating".

- The third command sets the value of isdnPortEntryStatus to 1. This setting verifies the changes and releases the ISDN port object.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the PortErrorStatus object specifying the location and port number.

Command Format

SNMP_GET <card>PortErrorStatus.<location>.<PortNumber>

Example

SNMP_GET isdnPortErrorStatus.7.5

In the preceding example, the value returned tells you the error value. These values are defined in the individual <card>PortErrorStatus objects. Refer to the index to locate more information for individual PortErrorStatus objects.

Rule Configuration

Call processing requires various signaling and supervision actions, such as collecting or sending digits. inpulse and outpulse rules define the sequence of these actions for each type of call that an application manages.

You can define up to 255 inpulse rules and 255 outpulse rules using specific tokens to designate each action within a rule. Up to 16 tokens are allowed for each inpulse or outpulse rule. Refer to the *Cisco VCO/4K System Administrator's Guide* for a list of the tokens and a description of how the tokens function.

You can perform the following functions with the objects from the inpulse and outpulse rule tables in the VCO/4K MIB:

- Add a rule

- Delete a rule

- Add tokens to a rule

- View rule parameters

- Modify rule parameters

- Get the error status

Adding a Rule

To add a rule, use the following steps:

Step 1   Set EntryStatus (specifying the rule number) to createRequest (2).

Step 2   Set EntryStatus (specifying the rule number) to valid (1).

Command Format

SNMP_SET <rule>EntryStatus.<rulenumber> createRequest

SNMP_SET <rule>EntryStatus.<rulenumber> valid

Example

To add the fifth outpulse rule, use the following command syntax:

SNMP_SET outpulseRuleEntryStatus.5 integer 2

SNMP_SET outpulseRuleEntryStatus.5 integer 1

When you add a rule, all the parameters are set at the defaults.

Deleting a Rule

To delete a rule, use the following steps:

Step 1   Set EntryStatus (specifying the rule number) to underModification (3).

Step 2   Set all the tokens to empty (0).

Step 3   Set the EntryStatus (specifying the rule number) to valid (1)

Step 4   Set the EntryStatus (specifying the rule number) to invalid (4).

Command Format

SNMP_SET <rule>EntryStatus.<rulenumber> underModification

SNMP_SET <rule>EntryStatus.<rulenumber>.<token-number> empty

SNMP_SET <rule>EntryStatus.<rulenumber> valid

SNMP_SET <rule>EntryStatus.<rulenumber> invalid

Example

To delete the inpulse rule with the index value of 2, use the following command syntax:

SNMP_SET inpulseRuleEntryStatus.2 integer 3

SNMP_SET inpulseRuleToken.2.1 integer 0

SNMP_SET inpulseRuleEntryStatus.2 integer 1

SNMP_SET inpulseRuleEntryStatus.2 integer 4

The commands in this example perform the following functions:

- The first command sets the EntryStatus for inpulse rule number 2 to underModification.
- The second command sets the inpulse rule token (rule number 2, token number 1) to empty. This step is repeated for each token in reverse order.
- The third command sets the EntryStatus for inpulse rule number 2 to valid.
- The fourth command sets the EntryStatus for inpulse rule number 2 to invalid. This command verifies the settings and deletes rule number 2.

Adding Tokens to a Rule

To add a token to an inpulse rule, use the following steps.

Step 1   Set the EntryStatus for the rule (specifying the rule number) to underModification (3). This indicates to other cooperating management applications that you are modifying the rule.

Step 2   Set the token (specifying the rule number and token number) to the desired value (0 to 47). Refer to Chapter 10, "Data Group," for token values for the inpulseRuleToken object.

Step 3   Set the EntryStatus (specifying the rule number to valid (1).

Command Format

SNMP_SET <rule>EntryStatus.<rulenumber> underModification

SNMP_SET <rule>Token.<rulenumber>.<token-number> <value>

SNMP_SET <rule>EntryStatus.<rulenumber> valid

Example

To add a DTMF token to the fifth rule, use the following syntax to enter the command:

SNMP_SET inpulseRuleEntryStatus.5 integer 3

SNMP_SET inpulseRuleToken.5.1 integer 5

SNMP_SET inpulseRuleEntryStatus.5 integer 1

The commands in the preceding example have the following meanings:

- The first command sets the EntryStatus for inpulse rule number 5 to underModification. This command indicates to other cooperating management applications that you are modifying the rule.

Cisco VCO/4K Management Information Base (MIB) Reference

- The second command assigns the value of 5 (dtmf) to the first inpulse rule token for rule number 5.
- The third command sets the EntryStatus for inpulse rule number 5 to valid. This command verifies the settings and releases the inpulse rule.

Viewing Rule Parameters

To view the rule parameters, enter an SNMP_GET command. The following command shows the general syntax for viewing rule parameters. Refer to the *Cisco VCO/4K System Messages* document for a list of the errors.

Command Format

SNMP_GET <rule>Token.<rulenumber>.<token-number>

Example

To get the first token of rule 5, enter the following command syntax:

SNMP_GET inpulseRuleToken.5.1

In this example, if you had deleted the inpulse rule (or the rule was never configured) the value returned is an error. If the rule exists, the value returned is 5.

Modifying Rule Parameters

To modify the rule parameters, enter an SNMP_GET command to determine all the read-write parameters. Decide which parameters require modifying, and then perform the following steps:

Step 1   Set the EntryStatus object (specifying the rule number) to underModification (3).

Step 2   Set the new parameter values (specifying the rule number and token number).

Note   You can set the value of more than one parameter at the same time.

Step 3   Set the EntryStatus object (specifying the rule number) to valid (1).

To confirm that the parameters were changed, enter an SNMP_GET command.

Command Format

SNMP_SET <rule>EntryStatus.<rulenumber> underModification

SNMP_SET <rule>Token.<rulenumber>.<token-number> <value>

SNMP_SET <rule>EntryStatus.<rulenumber> valid

Example

To modify the first token of outpulse rule number 2, use the following syntax to enter the command:

SNMP_SET outpulseRuleEntryStatus.2 integer 3

SNMP_SET outpulseRuleToken.2.1 integer 5

SNMP_SET outpulseRuleEntryStatus.2 integer 1

The commands in this example perform the following functions:

- The first command declares that you are modifying outpulse rule number 2. This indicates to other cooperating management applications that you are modifying the entry in this table.

- The second command declares that you are adding an MFCR2 outpulseRuleToken in position 1 to rule number 2.

- The third command declares that you are setting the value of outpulseRuleEntryStatus to 1. This setting verifies your changes and releases the rule.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the ErrorStatus object.

Command Format

SNMP_GET outpulseRuleErrorStatus.<rulenumber>

Example

SNMP_GET outpulseRuleErrorStatus.2

In this example, the value returned tells you what the error is. These values are defined in the ErrorStatus object for each table in the MIB.

Resource Group Configuration

A resource group is a collection of functionally similar ports. Each resource group consists of a name, number, hunt type, and list of resources. You can define up to 999 resource groups in standard mode, and 1,920 resource groups in the VCO/4K's extended mode.

Using SNMP, you can assign ports to the resource group with objects in the VCO/4K MIB port tables (for example, lcResGroupIndex, tcResGroupIndex). The input to the port table object is the number of the resource group.

You can perform the following resource group functions using SNMP:

- Add a resource group
- Delete a resource group
- Modify resource group parameters
- View resource group parameters
- Add a port to a resource group

- Remove a port from a resource group

- View a port in a resource group

- Get the error status of a resource group

Consider the following caveats when working with resource groups:

- Internal service circuits must be grouped for the system to function properly. You must create one group for each circuit type. All circuits of the same type must be members of the same group.

- Network interface circuits should be grouped for optimum system performance and statistics collection. Network interface circuit groups and their members are application-dependent.

- The Resource Group Configuration Table lists the resource groups on the system, the ports that are assigned to them, and the spans to which the ports belong.

- Each port can belong to only one resource group. The card and port information must already be entered into the database before you can assign the port to a resource group. For information about adding and deleting cards from the database using the objects in the MIB, see Chapter 2, "System Configuration Group."

Adding a Resource Group

When you add a new resource group, set the resGroupIndex object to createRequest, set the name and the parameters of the resource group, and then set the resource group parameters to valid. All of the MIB objects necessary to perform these functions are in the resource group table. To add a resource group, use the following sample steps.

Step 1   Set the resGroupEntryStatus (specifying the resource group number) to createRequest (2).

Step 2   Set the parameters of the resource group to a specified value.

Step 3   Set the resGroupEntryStatus (specifying the resource group number) to valid (1).

Command Format

SNMP_SET resGroupEntryStatus.<resGrpNumber> createRequest

SNMP_SET <ObjectName>.<resGrpNumber> <value>

SNMP_SET resGroupEntryStatus.<resGrpNumber> valid

Example

To add a resource group with the index value of 5, use the following syntax to enter the command:

SNMP_SET resGroupEntryStatus.5 integer 2

SNMP_SET resGroupName.5 string "Group1"

SNMP_SET resGroupEntryStatus.5 integer 1

The commands in this example perform the following functions:

- The first command sets the EntryStatus of the resource group with the index value of 5 to createRequest.

- The second command gives the new resource group the name Group1.
- The third command sets the EntryStatus of the resource group with the index value of 5 to valid. This command also releases the resource group.

Deleting a Resource Group

To delete a port from a resource group, set the EntryStatus object (specifying the resource group number) to invalid (4).

Command Format

SNMP_SET reGroupEntryStatus.<resGrpNumber> invalid

Example

To delete the resource group with the index value of 2, use the following command syntax:

SNMP_SET resGroupEntryStatus.2 integer 4

This command deletes the resource group with an index value of 2.

Modifying Resource Group Parameters

When you modify the resource group parameters, you choose how you want the resource group to function. You can modify the following resource group parameters:

- resGroupName
- resGroupBusyThres
- resGroupHuntType
- resGroupOwnerString
- resGroupRhuntThres
- resGroupEntrystatus

To modify the resource group parameters, enter an SNMP_GET command to determine all the read-write parameters. Decide which parameters require modifying, and then perform the following steps:

Step 1   Set the EntryStatus object (specifying the resource group) to underModification (3).

Step 2   Set the new parameter values (specifying the resource group and data type value).

Step 3   Set the EntryStatus object (specifying the resource group) to valid (1).

Command Format

SNMP_SET resGroupEntryStatus.<resGrpNumber> underModification

SNMP_SET <ObjectName>.<resGrpNumber> <value>

SNMP_SET resGroupEntryStatus.<resGrpNumber> valid

Cisco VCO/4K Management Information Base (MIB) Reference

Example

SNMP_SET resGroupEntryStatus.5 integer 3

SNMP_SET resGroupHuntType.5 integer 1

SNMP_SET resGroupEntryStatus.5 integer 1

In this example, the commands listed above perform the following functions:

- The first command sets the resource group EntryStatus object in resource group number 5 to underModification. This indicates to other cooperating management stations that you are modifying the resource group.

- The second command sets the resGroupHuntType object to the data type value of 1 (rotary).

- The third command sets the resource group EntryStatus object in resource group number 5 to valid. This command verifies the setting and releases the resource group.

Viewing Resource Group Parameters

To view the resource group parameters, enter an SNMP_GET command.

Command Format

SNMP_GET <ObjectName>.<resourcegroup>

Example

To view the busy threshold of resource group 5, enter the following command syntax:

SNMP_GET resGroupBusyThres.5

In this example, if you had deleted the resource group (or the resource group was never configured) the value returned is an error. If the resource group exists, the value returned is 5. Refer to *Cisco VCO/4K System Messages* for a list of error messages.

Modifying Resource Group Port Parameters

To modify a resource group port, enter an SNMP_GET command to see all the read-write parameters. Decide which parameters need modifying, and then use the steps outlined in the following sections to add, delete, and view a port in resource groups.

Adding a Port to a Resource Group

Use the following steps to add a port to a resource group:

Step 1   Set the resGroupEntryStatus object (specifying the resource group number) to underModification (3).

Step 2   Set the port EntryStatus (specifying the location and port number) to underModification (3).

Step 3   Set the portResGroupIndex (specifying the location and port number) to point to the resource group number to which it should belong.

Step 4   Set the port EntryStatus (specifying the location and port number) to valid (1).

Step 5   Set the resGroupEntryStatus (specifying the resource group number) to valid (1).

Command Format

SNMP_SET resGroupEntryStatus.<resGrpNumber> underModification

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> underModification

SNMP_SET <card>resGroupIndex.<location>.<PortNumber> integer <resGrpNumber>

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> valid

SNMP_SET resGroupEntryStatus.<resGrpNumber> valid

Example

To add the tenth port of the line card at slot 1-1-5 to resource group number 7, use the following syntax to enter the command:

SNMP_SET resGroupEntryStatus.7 integer 3

SNMP_SET lcPortEntryStatus.5.10 integer 3

SNMP_SET lcResGroupIndex.5.10 integer 7

SNMP_SET lcPortEntryStatus.5.10 integer 1

SNMP_SET resGroupEntryStatus.7 integer 1

The commands in this example perform the following functions:

- The first command sets the EntryStatus for resource group 7 to underModification.
- The second command sets the EntryStatus for the line card port to underModification.
- The third command sets the line card resource group index for resource group number 7.
- The fourth command sets the EntryStatus for the line card port to valid.
- The fifth command sets the EntryStatus for the resource group to valid. This command verifies the settings and releases the resource group.

Deleting a Port from a Resource Group

Use the following steps to remove a port from a resource group:

Step 1   Set the resGroupEntryStatus object (specifying the resource group number) to underModification (3).

Step 2   Set the port EntryStatus object (specifying the location and port number) to underModification (3).

Step 3   Set the portResGroupIndex (specifying the location and port number) to empty (0).

Step 4   Set the port EntryStatus (specifying the location and port number) to valid (1).

Step 5   Set the resGroupEntryStatus (specifying the resource group number) to valid (1).

Command Format

SNMP_SET resGroupEntryStatus.<resGroupNumber> underModification

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> underModification

SNMP_SET <card>ResGroupIndex.<location>.<PortNumber> empty

SNMP_SET <card>PortEntryStatus.<location>.<PortNumber> valid

SNMP_SET resGroupEntryStatus.<resGroupNumber> valid

Example

To remove the tenth port of the line card at slot 1-15 in resource group number 7, use the following syntax to enter the command:

SNMP_SET resGroupEntryStatus.7 integer 3

SNMP_SET lcPortEntryStatus.5.10 integer 3

SNMP_SET lcResGroupIndex.5.10 integer 0

SNMP_SET lcPortEntryStatus.5.10 integer 1

SNMP_SET resGroupEntryStatus.7 integer 1

The commands in this example have the following meanings:

- The first command sets the EntryStatus for resource group 7 to underModification.
- The second command sets the EntryStatus for the line card (location 5) port (position 10) to underModification.
- The third command sets the line card resource group index for the port to empty.
- The fourth command sets the EntryStatus for the line card (index value of 5) port (position 10) to valid.
- The fifth command sets the EntryStatus for resource group 7 to valid. This command verifies the settings and releases the resource group.

Viewing a Port in a Resource Group

To view the ports in a resource group enter an SNMP_GET command on the resGroupPortTable.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the ErrorStatus object. Refer to the resGrpErrorStatus object for a list of error messages.

Command Format

SNMP_GET <resourcegroup>ErrorStatus.<resGrpNumber>

Example

SNMP_GET resGroupErrorStatus.7

In this example, the value returned is the numerical value for the error. These values are defined in the ErrorStatus object for each table in the MIB.

Message Templates

There are three kinds of message templates:

- Answer Supervision Templates
- ISDN Supervision Templates
- ISDN Message Templates

You can perform the following functions on the message templates:

- Add templates
- Delete templates
- Modify templates
- View template parameters
- Get the error status on templates

Answer Supervision Templates

Answer Supervision Templates are called from the WAIT SUP and FINAL SUP outpulse rule tokens. Each template is a set of system responses to the detection of specific signaling events. Signaling events include detection of call progress tones such as dial tone, ringback, busy tone, reorder, and special information (SIT) tones. Other recognized signaling events are voice detection, voice cessation, wink, true answer, grace timing, pager cue tones, and hookflash. For detailed information concerning the use of Answer Supervision Templates, refer to the *Cisco VCO/4K System Administrator's Guide.*

Adding an Answer Supervision Template

To add a new template, use the following steps:

Step 1   Set the ansSupTempEntryStatus to createRequest (2).

Step 2   Set the object(s) you want to add to the Answer Supervision Template table to data-type value.

Step 3   Set the ansSupTempEntryStatus to valid (1).

Command Format

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> createRequest

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> valid

Example

SNMP_SET ansSupTempEntryStatus.5 integer 2

SNMP_SET ansSupTempDialTone.5 integer 1

SNMP_SET ansSupTempRingback.5 integer 2

SNMP_SET ansSupTempEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus for answer supervision template number 5 to createRequest.
- The second command sets the DialTone object to ok.
- The third command sets the Ringback object to okrep.
- The fourth command sets the EntryStatus for answer supervision template number 5 to valid. This command verifies the settings, adds the template to the table and releases the template.

Deleting an Answer Supervision Template

To delete a template, use the following steps:

Step 1   Set the ansSupTempEntryStatus of the Answer Supervision Template you want to delete to underModification (3).

Step 2   Set all the object(s) in the Answer Supervision Template you want to delete to empty (0).

Note   You must set all the objects to empty (0) to delete the template, then set the EntryStatus of the template to valid (1), and then invalid (4).

Step 3   Set the ansSupTempEntryStatus to valid (1).

Step 4   Set the ansSupTempEntryStatus to invalid (4).

Command Format

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> underModification

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> empty

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> empty

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> valid

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> invalid

Example

SNMP_SET ansSupTempEntryStatus.5 integer 3

SNMP_SET ansSupTempDialTone.5 integer 0

SNMP_SET ansSupTempRingback.5 integer 0

SNMP_SET ansSupTempEntryStatus.5 integer 1

SNMP_SET ansSupTempEntryStatus.5 integer 4

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for answer supervision template number 5 to underModification. This indicates to other cooperating management stations that you are modifying this template.

- The second command sets the DialTone object to empty.

- The third command sets the Ringback object to empty.

- The fourth command sets the EntryStatus object to valid.

- The fifth command sets the EntryStatus object to invalid. This command verifies the settings, deletes, and then releases the template.

Modifying Answer Supervision Template Parameters

When you modify Answer Supervision Template parameters, you choose how you want the template to function.

To modify template parameters, enter an SNMP_GET command to see all the read-write parameters. Decide which parameters you need to modify, and then perform the following steps:

Step 1   Set the ansSupTempEntryStatus to underModification (3).

Step 2   Set the object(s) in the Answer Supervision Template table you want to modify to the desired data-type value.

Step 3   Set the ansSupTempEntryStatus to valid (1).

Command Format

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> underModification

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET ansSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET ansSupTempEntryStatus.<TemplateNumber> valid

Example

SNMP_SET ansSupTempEntryStatus.5 integer 3

SNMP_SET ansSupTempDialTone.5 integer 3

SNMP_SET ansSupTempRingback.5 integer 2

SNMP_SET ansSupTempEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for answer supervision template number 5 to underModification. This indicates to other cooperating management stations that you are modifying this template.

- The second command sets the DialTone object to ansbk.

- The third command sets the Ringback object to okrep.

- The fourth command sets the EntryStatus object to valid. This verifies the settings and releases the template.

Viewing an Answer Supervision Template

To view parameters for Answer Supervision Template objects, enter an SNMP_GET command.

Command Format

SNMP_GET <ObjectName>.<TemplateNumber>

Example

SNMP_GET ansSupTempDialTone.5

SNMP_GET ansSupTempRingback.5

In this example, the parameters for the dial tone and ringback objects in Answer Supervision Template number 5 are displayed.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the ErrorStatus object. Refer to the ansSupTempErrorStatus object in Chapter 10, "Data Group," for a list of the error messages.

Example

SNMP_GET ansSupTempErrorStatus.5

In this example, the value returned is the numerical value for the error. These values are defined in the ErrorStatus object for each table in the MIB.

ISDN Supervision Templates

Use the ISDN Supervision Templates to configure up to 24 supervision templates for use with ISDN SUP [xx] outpulse rule token. Each template defines a set of system responses to the detection of specific ISDN messages such as alerting, connect, progress, and callproc (call proceeding).

Calls are not marked stable when a template is being executed unless the template specifies to do so. If the rule ends and the call is not already stable, receipt of the connect message transitions the call to stable.

Adding an ISDN Supervision Template

To add a new template, use the following steps:

Step 1   Set the isdnSupTempEntryStatus to createRequest (2).

Step 2   Set the object(s) you want to add to the ISDN Supervision Template table to the desired data-type value.

Step 3   Set the isdnSupTempEntryStatus to valid (1).

Command Format

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> createRequest

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> valid

Example

SNMP_SET isdnSupTempEntryStatus.5 integer 2

SNMP_SET isdnSupTempTime.5 integer 1

SNMP_SET isdnSupTempAlerting.5 integer 2

SNMP_SET isdnSupTempEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for ISDN supervision template number 5 to createRequest.
- The second command sets the Time object in the template to ok.
- The third command sets the Alerting object in the template to okrep.
- The fourth command sets the EntryStatus object to valid. This command verifies the settings and releases the template.

Deleting an ISDN Supervision Template

To delete a template, use the following steps:

Step 1   Set the isdnSupTempEntryStatus of the ISDN Supervision Template you want to delete to underModification (3).

Step 2   Set all the object(s) from the ISDN Supervision Template you want to delete to empty (0).

> ✎
>
> **Note**   You must set all the objects to empty (0), then set the template to valid (1), and then invalid (4) before you can delete the entire template.

Step 3   Set the isdnSupTempEntryStatus to valid (1).

Step 4   Set the isdnSupTempEntryStatus to invalid (4).

Command Format

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> underModification

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> empty

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> empty

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> valid

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> invalid

Example

SNMP_SET isdnSupTempEntryStatus.5 integer 3

SNMP_SET isdnSupTempTime.5 integer 0

SNMP_SET isdnSupTempAlerting.5 integer 0

SNMP_SET isdnSupTempEntryStatus.5 integer 1

SNMP_SET isdnSupTempEntryStatus.5 integer 4

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for ISDN supervision template number 5 to underModification. This command indicates to other cooperating management stations that you are modifying this template.

- The second command sets the Time object to empty.

- The third command sets the Alerting object to empty.

- The fourth command sets the EntryStatus object to valid.

- The fifth command sets the EntryStatus object to invalid. This command deletes the template.

Modifying ISDN Supervision Template Parameters

When you modify the ISDN Supervision Template parameters, you choose how you want the template to function.

To modify a template, use the following steps:

Step 1   Set the isdnSupTempEntryStatus to underModification (3).

Step 2   Set the object(s) in the ISDN Supervision Template table you want to modify to the desired data-type value. Refer to Chapter 6, "Single-Span ISDN Card Group," for a list of possible values for each object.

Step 3   Set the isdnSupTempEntryStatus to valid (1).

Command Format

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> underModification

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnSupTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnSupTempEntryStatus.<TemplateNumber> valid

Example

SNMP_SET isdnSupTempEntryStatus.5 integer 3

SNMP_SET isdnSupTempTime.5 integer 3

SNMP_SET isdnSupTempAlerting.5 integer 4

SNMP_SET isdnSupTempEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for the ISDN supervision template number 5 to underModification. This indicates to other cooperating management stations that you are modifying this template.

- The second command sets the Time object to ansbk.

- The third command sets the Alerting object to ansrep.

- The fourth command sets the EntryStatus object to valid. This command verifies the settings and releases the template.

Viewing an ISDN Supervision Template

Command Format

SNMP_GET <ObjectName>.<TemplateNumber>

Example

SNMP_GET isdnSupTempDialTone.5

In this example, the status of the dial tone object in ISDN Supervision Template number 5 is displayed.

Error Status

If any of the operations described in the preceding sections fail, enter an SNMP_GET command on the ErrorStatus object. Refer to the isdnSupTempErrorStatus object in Chapter 6, "Single-Span ISDN Card Group," for a list of the error messages.

Example

SNMP_GET isdnSupTempErrorStatus.5

In this example, the value returned is the numerical value for the error. These values are defined in the ErrorStatus object for each table in the MIB.

ISDN Message Templates

Up to 96 message templates can be defined for use in rule processing of ISDN calls. Template processing is reported to the host through the ISDN Inpulse Rule Complete and ISDN Port Change of State reports. (For more information concerning these reports, refer to the *Cisco VCO/4K Extended Programming Reference*.) When reporting is done in conjunction with inpulse or outpulse rule processing, timing of the reports is controlled by the reporting control tokens contained in the rule, or by the supervision template.

Adding an ISDN Message Template

To add a new template, use the following steps:

Step 1   Set the isdnMessageTempEntryStatus to createRequest (2).

Step 2   Set the isdnMessageTempMessage to Alerting (2).

Step 3   Set the isdnMessageTempRT to Transmit (2).

Step 4   Set the isdnTempAction to IE (5).

Step 5   Set the isdnTempIeData to Bearer (1).

Step 6   Set the isdnMessageTempEntryStatus to valid (1).

Command Format

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> createRequest

SNMP_SET isdnMessageTempMessage.<TemplateNumber> <value>

SNMP_SET isdnMessageTempRT.<TemplateNumber> <value>

SNMP_SET isdnTempAction.\<TemplateNumber>.1 \<value>

SNMP_SET isdnTempIeData.\<TemplateNumber>.1 \<value>

SNMP_SET isdnMessageTempEntryStatus.\<TemplateNumber> valid

Example

SNMP_SET isdnMessageTempEntryStatus.5 integer 2

SNMP_SET isdnMessageTempMessage.5 integer 2

SNMP_SET isdnMessageTempRT.5 integer 2

SNMP_SET isdnTempAction.5.1 integer 5

SNMP_SET isdnTempIeData.5.1 integer 1

SNMP_SET isdnMessageTempEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus object for ISDN message template number 5 to createRequest.
- The second command sets the Message object to alerting.
- The third command sets the RT object to t (transmit).
- The fourth command sets the TempAction object to ie (construct an IE for D-Channel transmit).
- The fifth command sets the TempIeData object to bearer.
- The sixth command sets the EntryStatus object to valid. This verifies the settings and releases the template.

Deleting an ISDN Message Template

To delete an ISDN Message Template, use the following steps:

Step 1 Set the isdnMessageTempEntryStatus to underModification (3).

Step 2 Set all the isdnTempAction objects to empty (0).

✎
Note It is necessary to set all the objects to empty (0) to delete them, then set the template to valid (1), and then invalid (4).

Step 3 Set the isdnMessageTempRT to empty (0).

Step 4 Set the isdnMessageTempMessage to empty (0).

Step 5 Set the isdnMessageTempEntryStatus to valid (1).

Step 6 Set the isdnMessageTempEntryStatus to invalid (4).

Command Format

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> underModification

SNMP_SET isdnTempAction.<TemplateNumber(N to 1)> empty

SNMP_SET isdnMessageTempRT.<TemplateNumber> empty

SNMP_SET isdnMessageTempMessage.<TemplateNumber> empty

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> valid

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> invalid

Example

SNMP_SET isdnMessageTempEntryStatus.5 integer 3

SNMP_SET isdnTempAction.<TemplateNumber(1 to N)> integer 0

SNMP_SET isdnMessageTempRT.5 integer 0

SNMP_SET isdnMessageTempMessage.5 integer 0

SNMP_SET isdnMessageTempEntryStatus.5 integer 1

SNMP_SET isdnMessageTempEntryStatus.5 integer 4

In this example, the commands perform the following functions:

- The first command sets the EntryStatus for ISDN message template number 5 to underModification. This indicates to other cooperating management stations that you are modifying this template.

- The second command sets the Action object(s) to empty.

- The third command sets the RT object to empty.

- The fourth command sets the Message object to empty.

- The fifth command sets the EntryStatus object to valid.

- The sixth command sets the Entry Status object to invalid. The command verifies the settings and deletes the template.

Modifying ISDN Message Template Parameters

When you modify the ISDN Message Template parameters, you choose how you want the template to function. You can modify the following parameters:

- isdnMessageTempMessage

- isdnMessageTempEntryStatus

- isdnMessageTempRT

- isdnTempAction

- isdnMessageTempOwnerString

- isdnTempIeData

To modify a template, use the following steps:

Step 1   Set the isdnMessageTempEntryStatus to underModification (3).

Step 2   Set the object(s) in the ISDN Message Template table you want to modify to the desired data-type value.

Step 3   Set the isdnMessageTempEntryStatus to valid (1).

Command Format

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> underModification

SNMP_SET isdnMessageTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnMessageTemp<ObjectName>.<TemplateNumber> <value>

SNMP_SET isdnMessageTempEntryStatus.<TemplateNumber> valid

Example

SNMP_SET isdnMessageTempEntryStatus.5 integer 3

SNMP_SET isdnMessageTempMessage.5 integer 3

SNMP_SET isdnMessageTempRT.5 integer 2

SNMP_SET isdnTempAction.5.1 integer 6

SNMP_SET isdnTempIeData.5.1 integer 2

SNMP_SET isdnMessageTempEntryStatus.5 integer 1

In this example, the commands have the following meanings:

- The first command sets the EntryStatus object of ISDN message template number 5 to underModification. This indicates to other cooperating management stations that you are modifying this template.

- The second command sets the Message object to callproc (call proceeding).

- The third command sets the RT object to t (transmit).

- The fourth command sets the Action object to data (specify hexadecimal bytes for D Channel transmit).

- The fifth command sets the IeData object to cause.

- The sixth command sets the EntryStatus object to valid. This command verifies the settings and releases the template.

Viewing an ISDN Message Template

Command Format

SNMP_GET <ObjectName>.<TemplateNumber>

Example

SNMP_GET isdnMessageTempEntryStatus.5

In this example, the EntryStatus for ISDN Message Template number 5 is displayed.

Error Status

If any of the operations described in the preceding sections fail, enter an SNMP_GET command on the ErrorStatus object. Refer to the isdnMessageTempErrorStatus object in Chapter 6, "Single-Span ISDN Card Group," for a list of the error messages.

Example

SNMP_GET isdnMessageTempErrorStatus.5

In this example, the value returned is the numerical value for the error. These values are defined in the ErrorStatus object for each table in the MIB.

Routing Tables

The Routing Tables define call routes (resource group hunted and inpulse/outpulse rule executed) based on pattern matching of the dialed digits. Up to 1000 routes can be defined and distributed among the ten route tables. The routes do not have to be divided equally among the route tables (for example, one table can have 217 routes, another 105 routes, and so forth); users can also assign all 1000 possible routes to a single routing table.

Three exception routes (Exception Routing Table) are dedicated to handling the following conditions:

* Fewer than the minimum number of digits received
* No digits received
* No match found—invalid digits or table problems

A fourth route is dedicated to direct routing without pattern matching.

When a route is added, modified, or deleted, all matching or routing information is sorted and ordered numerically according to the pattern. For more information concerning routing tables, refer to the *Cisco VCO/4K TeleRouter Reference Guide*.

You can perform the following routing functions using SNMP:

* Add a routing table
* Add a route to a routing table
* Delete a routing table
* Modify the routing table parameters
* View the routing table parameters
* Get the error status

Adding a Routing Table

To add a new routing table, use the following steps:

Step 1   Set the routeGrpEntryStatus of a particular routeGrpIndex to createRequest (2).

Step 2   Set the routeGrpTableName (1 to 12 alphanumeric characters).

Step 3   Set the routeGrpTemplateSize (from 1 to 20).

Step 4   Set the routeGrpTemplateStart position (from 1 to 20).

Step 5   Set the routeGrpMinimumDigits for pattern matching (from 0 to 20).

Step 6   Set the routeGrpEntryStatus to valid (1).

Command Format

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> createRequest

SNMP_SET routeGrpTableName.<RouteGrpNumber> string

SNMP_SET routeGrpTemplateSize.<RouteGrpNumber> integer

SNMP_SET routeGrpTemplateStart.<RouteGrpNumber> integer

SNMP_SET routeGrpMinimumDigits.<RouteGrpNumber> integer

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> valid

Example

SNMP_SET routeGrpEntryStatus.3 integer 2

SNMP_SET routeGrpTableName.3 string "Example"

SNMP_SET routeGrpTemplateSize.3 integer 4

SNMP_SET routeGrpTemplateStart.3 integer 4

SNMP_SET routeGrpMinimumDigits.3 integer 7

SNMP_SET routeGrpEntryStatus.3 integer 1

In this example, the commands perform the following functions:

- The first command creates a new route group entry.
- The second command assigns a name to the route group.
- The third command determines the number of consecutive digits used in pattern matching for the table.
- The fourth command determines the starting position of the digits used in pattern matching for the table.

Note   This value must be less than or equal to the difference between the template size and 20, plus 1.

- The fifth command determines the number of digits the switch must detect when it uses pattern matching in the table.

- The sixth command sets the EntryStatus to valid. This command verifies the settings and releases the table.

Adding a Route to a Routing Table

When you add a new route to a table, the system sorts all the entries numerically according to the pattern specified. To add a new route to a table, use the following steps.

Note   You must add routes in sequence.

Step 1   Set the routeGrpEntryStatus to underModification (3).

Step 2   Set the routeAdd to a string value.

Step 3   Set the routePrimaryGroup to the resource group number (0 to 63).

Step 4   Set the routePrimaryRule to the inpulse/outpulse rule number (0 to 30).

Step 5   Set the routeSecondaryGroup to the resource group number (0 to 63).

Step 6   Set the routeSecondaryRule to the inpulse/outpulse rule number (0 to 30).

Step 7   Set the routeFinalGroup to the resource group number (0 to 63).

Step 8   Set the routeFinalRule to the inpulse/outpulse rule number (0 to 30).

Step 9   Set the routeGrpEntryStatus to valid (1).

Command Format

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> underModification

SNMP_SET routeAdd.<RouteGrpNumber>.<RouteNumber> string

SNMP_SET routePrimaryGroup.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routePrimaryRule.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeSecondaryGroup.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeSecondaryRule.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeFinalGroup.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeFinalRule.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> valid

Example

SNMP_SET routeGrpEntryStatus.3 integer 3

SNMP_SET routeAdd.3.5 string "555"

SNMP_SET routePrimaryGroup.3.5 integer 6

SNMP_SET routePrimaryRule.3.5 integer 8

SNMP_SET routeSecondaryGroup.3.5 integer 8

SNMP_SET routeSecondaryRule.3.5 integer 8

SNMP_SET routeFinalGroup.3.5 integer 8

SNMP_SET routeFinalRule.3.5 integer 8

SNMP_SET routeGrpEntryStatus.3 integer 1

In this example, the commands perform the following functions:

- The first command sets the routeGrpEntryStatus to underModification so a new route can be added.
- The second command adds a new route (5) to the routing group and sets the route pattern to 555.
- The third command sets the Primary group of route number 5 to route group number 6.
- The fourth through eighth commands set resource group numbers and inpulse/outpulse rule numbers associated with the particular route (5).
- The ninth command sets the resGrpEntryStatus to valid.

Deleting a Route from a Routing Table

To delete a route from a routing table, use the following steps:

Step 1 Set the routeGrpEntryStatus of the Routing Table you want to delete to underModification (3).

Step 2 Set the routeDelete to the valid route number.

> **Note** You must delete all the routes in reverse order.

Step 3 Set the routeGrpEntryStatus to valid (1).

Command Format

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> underModification

SNMP_SET routeDelete.<RouteGrpNumber>.<RouteNumber> integer

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> valid

Example

SNMP_SET routeGrpEntryStatus.5 integer 3

SNMP_SET routeDelete.5 integer 1

SNMP_SET routeGrpEntryStatus.5 integer 1

In this example, the commands perform the following functions:

- The first command sets the routeGrpEntryStatus for route group number 5 to underModification.

- The second command deletes route number 1 (a single route) from route group 5.

- The third command sets the routeGrpEntryStatus for route group 5 to valid.

Deleting a Routing Table

To delete a routing table, use the following steps:

Step 1   Set the routeGrpEntryStatus of the Routing Table you want to delete to underModification (3).

Step 2   Set the routeDelete to the valid route number.

Note   You must delete all the routes in reverse order.

Step 3   Set the routeGrpEntryStatus to valid (1).

Step 4   Set the routeGrpEntryStatus to invalid (4).

Command Format

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> underModification

SNMP_SET routeDelete.<RouteGrpNumber>.<RouteNumber> integer

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> valid

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> invalid

Example

SNMP_SET routeGrpEntryStatus.5 integer 3

SNMP_SET routeDelete.5.1 integer 1

SNMP_SET routeGrpEntryStatus.5 integer 1

SNMP_SET routeGrpEntryStatus.5 Integer 4

In this example, the commands perform the following functions:

- The first command sets the routeGrpEntryStatus for route group number 5 to underModification.

- The second command deletes route number 1 from route group 5 (deletes all the routes in the route group).

- The third command sets the routeGrpEntryStatus for route group 5 to valid.

- The fourth command sets the routeGrpEntryStatus for route group 5 to invalid. This command deletes route group 5.

Modifying Routing Table Parameters

When you modify the Routing Table parameters, you choose how you want the table to function. You can modify the following parameters:

- exrteFinalGroup

- exrteFinalRule

- exrtePrimaryGroup

- exrtePrimaryRule

- exrteSecondaryGroup

- exrteSecondaryRule

- routeAdd

- routeDelete

- routeFinalGroup

- routeFinalRule

- routeGrpEntryStatus

- routeGrpMinimumDigits

- routeGrpOwnerString

- routeGrpTableName

- routeGrpTemplateSize

- routeGrpTemplateStart

- routeGrpTest

- routePrimaryGroup

- routePrimaryRule

- routeSecondaryGroup

- routeSecondaryRule

To modify a routing table, enter an SNMP_GET Command to see all the read-write parameters. Decide which parameters you need to modify, and then perform the following steps:

Step 1   Set the routeGrpEntryStatus to underModification (3).

Step 2   Set the object(s) in the Routing Group Table, Exception Routing Table, or Route Table you want to modify to the desired data-type value.

Step 3   Set the routeGrpEntryStatus to valid (1).

Cisco VCO/4K Management Information Base (MIB) Reference ■

Command Format

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> underModification

SNMP_SET route<ObjectName>.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET route<ObjectName>.<RouteGrpNumber>.<RouteNumber> <value>

SNMP_SET routeGrpEntryStatus.<RouteGrpNumber> valid

Example

SNMP_SET routeGrpEntryStatus.3 integer 3

SNMP_SET routePrimaryGroup.3.1 integer 6

SNMP_SET routePrimaryRule.3.1 integer 6

SNMP_SET routeGrpEntryStatus.3 1

In this example, the commands perform the following functions:

- The first command sets the EntryStatus of the route group to underModification.
- The second command sets the value for routePrimaryGroup to 6. This indicates the resource group from which the switch should hunt for an outgoing port if the dialed digits match the corresponding pattern.
- The third command sets the value for routePrimaryRule to 6. This indicates the inpulse/outpulse rule that the switch should execute if the dialed digits match the corresponding pattern.
- The fourth command sets the EntryStatus of the route group to valid.

Viewing the Routing Table Parameters

To view the Routing Table parameters, enter an SNMP_GET command. The following subsections show the sample commands for viewing the parameters for routing tables, for route groups, routes, and exception routes.

Viewing Route Group Parameters

Command Format

SNMP_GET routeGrp<ObjectName>.<RouteGrpNumber>

Example

SNMP_GET routeGrpMinimumDigits.3

This example displays the parameters for the MinimumDigits object.

Viewing Route Parameters

Command Format

SNMP_GET route<ObjectName>.<RouteGrpNumber>.<RouteNumber>

Example

SNMP_GET routePrimaryGroup.3.1

This example displays the parameters for the PrimaryGroup object.

Viewing Exception Route Parameters

Command Format

SNMP_GET exrte<ObjectName>.<RouteGrpNumber>.<RouteNumber>

Example

SNMP_GET exrteSecondaryRule.3.2

This example displays the parameters for the SecondaryRule object.

Error Status

If any of the operations described in the preceding sections fails, enter an SNMP_GET command on the ErrorStatus object. Refer to the routeGrpErrorStatus object in Chapter 10, "Data Group," for a list of the error messages.

The following example performs an SNMP_GET request on Routing Group Table 3.

Example

SNMP_GET routeGrpErrorStatus.3

In this example, the value returned is the numerical value for the error in route group number 3. These values are defined in the ErrorStatus object for each table in the MIB.

Cisco VCO/4K Management Information Base (MIB) Reference

Card Error Messages

Card Error Messages

Table A-1 shows the object identifiers for the respective ErrorStatus objects.

Table A-1   Card Error Messages

Object Name	Object Identifier
lcErrorStatus	1.3.6.1.4.1.886.1.2.1.1.11
tcErrorStatus	1.3.6.1.4.1.886.1.3.1.1.13
ptcErrorStatus	1.3.6.1.4.1.886.1.4.1.1.27
isdnErrorStatus	1.3.6.1.4.1.886.1.5.1.1.42
nbcErrorStatus	1.3.6.1.4.1.886.1.6.4.1.10
dtgCardErrorStatus	1.3.6.1.4.1.886.1.7.1.1.11
rcErrorStatus	1.3.6.1.4.1.886.1.7.6.1.11

Message Listing

Table A-2 shows the meanings for the error message values.

Table A-2   Message Listing

Value	Message
256	Invalid Operation Specified
257	Card Already Exists
260	Invalid Port
262	NBC and BRC Do Not Have Ports
263	NBC in 1-1-1 for A-side 1-1-2 for B side
264	Cannot Add NBC in Non-redundant System
265	Only NBC In This Slot
266	Only BRC In Slot One of Expansion Rack
267	ISDN Not Installed
268	No Available Port Memory
269	BRC Cannot Be Added to 1-1-1
270	Invalid BRC Rack Level Slot Position
272	Invalid Card Type
273	Cannot Be Put Into Diagnostic
274	Card Does Not Support Remote Loopback
275	Cannot Be Put Into Maintenance
276	This Card Is Not Out Of Service
277	Card Must Be Active, Diag or Campon
278	Invalid Status Change Request
280	Can't Change Status of NBC
282	Card Already Active
283	Download In Progress On This Card
284	An Alarm Exists On This Card
285	No Standby DTG, Cannot Change State
286	Ports Active—Put in Campon
287	Card Must Be Active, Maint Or Campon
289	Ports Still In Resource Group #[1]
290	Ports Still Active—Left in Campon
292	No Standby BRC pair, Cannot Change State
296	No Available Card Memory
299	Card Does Not Support Payload Loopback
305	Span Must Be Active, Diag or Campon
306	Span Must Be Active, Maint or Campon
308	Exceeded Time-Slot Capacity
309	Standby Capacity is Zero
310	Invalid card location

Table A-2   Message Listing (continued)

Value	Message
2560	Invalid card status specified
2561	Card already in the status specified
2562	Code download in progress
2563	Alarms exist for the card
2564	No standby BRC card
2565	Only one dtg card exists in the system
2566	Card is in Out Of Service, Must be in Active or Maint, Diag
2567	Card must be in Active or Maintenance state

1. This number symbol (#) is replaced by the group number.

Screen to Object Cross-Reference

This appendix lists the fields on the system administration and ISDN screens and cross-references the fields to the objects in the MIB. Each table lists the fields on a single screen. Fields not directly connected to an object in the MIB are listed with the notation N/A (not available) in the MIB object column. The choices in the administration menus are not listed as they do not have any modifiable fields. Screens are listed in the order in which they appear in the *Cisco VCO/4K System Administrator's Guide.* The "Unsupported Fields" section on page B-25 lists the fields not supported by the MIB.

Database Administration Screens

Database administration refers to the group of functions used to specify line and trunk card characteristics, resource groups, inpulse rules, and outpulse rules.

Card Summary Screen

Use the Card Summary Screen to view the location, type, status, and number of unused ports for all Network Bus Controller (NBC), Bus Repeater Card (BRC), network interface, and internal service circuit cards in the system. This screen also provides access to the Line Card and Trunk Card Configuration screens. However, you cannot add or delete cards with this screen. Table B-1 shows the correspondences between Card Summary screen fields and MIB objects.

Table B-1   Card Summary Screen Fields

Screen Fields	MIB Object	MIB Table
Location R L S	lcIndex	
Card Type	lcType	
Status	lcStatus	lcTable
Unused Ports	lcUnusedPorts	
Disp Card	N/A	N/A

Line Card Configuration Screen

Use the Line Card Configuration Screen to assign a name, default inpulse rule, and class of service (COS) to individual ports on a SLIC. However, you cannot add, delete, or assign cards to a resource group using this screen. Table B-2 shows the correspondences between Line Card Configuration screen fields and MIB objects.

Table B-2   Line Card Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Card Location	lcIndex	
Card Type	lcType	lcTable
Card Status	lcStatus	
Port (number)	lcPortIndex	
Name	lcPortName	lcPortTable
Group (number)	lcResGroupIndex	
Group Name	resGroupName	resGroupTable
Inpulse Rule	lcInpulseRuleIndex	lcPortTable
COS	lcPortCos	lcPortTable

Trunk Card Configuration Screen

Use the Trunk Card Configuration screen to assign a name, hardware type, default inpulse rule, and class of service (COS) to individual ports on a trunk card. Cards are not added, deleted, or assigned to a resource group using this screen. Table B-3 shows the correspondences between Trunk Card Configuration screen fields and MIB objects.

Table B-3   Trunk Card Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Card Location	tcIndex (Card Maintenance)	
Card Type	tcType (Card Maintenance)	tcTable
Card Status	tcStatus (Card Maintenance)	
Signaling Mode	N/A	N/A
Port (number)	tcPortIndex	tcPortTable
Trunk Name	tcPortName	
Group (number)	tcResGroupIndex	
Group Name	resGroupName	resGroupTable
Hdwr. Type	tcPortHwType	
Inpulse Rule	tcInpulseRuleIndex	tcPortTable
COS	tcPortCos	

Programmable Trunk Card Configuration Screen

Use the Programmable Trunk Card Configuration screen to modify span configuration and port signaling options, and access the Trunk Timing Configuration screen. Currently, the Four Span T1, Four Span E1, and MVDC-T1 cards provide programmable trunks. Table B-4 shows the correspondences between Programmable Trunk Card Configuration screen fields and MIB objects.

Table B-4   Programmable Trunk Card Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Span Location R, L, S	ptcIndex	ptcSpanTable
Card Type	ptcType (Card Maintenance)	
Txgain	ptcTxGain	
Rxgain	ptcRxGain	
TcClck	ptcTxClck	
RfClck	ptcRfClck	
Status	ptcStatus (Card Maintenance)	
Span Type	ptcSpanType	
Slip	ptcSlip	
OOF	ptcOutOfFrame	
Port (number)	progPortIndex	
Trunk Name	progPortName	progPortTable
Group (number)	progResGroupIndex	progPortTable
Group Name	resGroupName	resGroupTable
Sig Type	progSigType	progPortTable
Inpulse Rule	progInpulseRuleIndex	progPortTable
COS	progCos	progPortTable
Timing	N/A	N/A

Trunk Timing Configuration Screen

Use the Trunk Timing Configuration screen to specify the timing for each port on a programmable trunk card. Table B-5 shows the correspondences between Trunk Timing Configuration screen fields and MIB objects.

Table B-5   Trunk Timing Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Span Location R, L, S	ptcSpanNum	ptcSpanTable
Card Type	ptcType	ptcSpanTable
Status	ptcStatus	ptcSpanTable

Table B-5   Trunk Timing Configuration Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Port	progPortIndex	
Name	progPortName	
Wink-Det Min	progWinkMin	
Wink-Det Max	progWinkMax	
Wink Send	progWinkSend	progPortTable
Flash-Det Min	progFlashMin	
Flash-Det Max	progFlashMax	
Flash Send	progFlashSend	
OffHk Min	progOffHk	
Guard	progGuard	

PRI Card Configuration Screen

Use the PRI Card Configuration Screen to define the operating characteristics of the PRI/N card and assign port names to the B-channels on that card. Cards are not added, deleted, or assigned to a resource from this screen. Table B-6 shows the correspondences between PRI Card Configuration screen fields and MIB objects.

Table B-6   PRI Card Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Card Location: R, L, S	isdnRack isdnLevel isdnSlot	isdnCardTable
Type	isdnCardType	
Status	isdnCardStatus	
Display Protocol Parameters		
Access Type	isdnAccessType	
Switch Type	isdnSwitchType	
Span Length	isdnSpanLength	
TRX Clock	isdnTrxClock	
REF Clock	isdnRefClock	
SpanType	isdnSpanType	
CA IP Rule	isdnCaInpulseRuleIndex	isdnCard Table
NCA IP Rule	isdnNcaInpulseRuleIndex	
A/ Mu Law	isdnLaw	
Slip Maint Limit	isdnSlipLimit	
OOF Maint Limit	isdnOof	
Port	isdnIndex	

Table B-6   PRI Card Configuration Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Name	isdnPortName	isdnPortTable
Group	isdnResGroupIndex	
Grp Name	resGroupName	resGroupTable
COS	isdnPortCos	isdnPortTable

PRI Card Protocol Configuration Screen

Use the PRI Card Protocol Configuration screen to change how the PRI/N handles certain ISDN Link Layers and Network Layer parameters such as timers. Table B-7 shows the correspondences between PRI Card Protocol Configuration screen fields and MIB objects.

Table B-7   PRI Card Protocol Configuration Screen Field Fields

Screen Fields	MIB Object	MIB Table
Card Location: R, L, S	isdnRack isdnLevel isdnSlot	isdnCardTable
Type	isdnCardType	
Status	isdnCardStatus	
Access	isdnAccessType	
Switch Type	isdnSwitchType	
Restore Default Values	N/A	N/A

Table B-7   PRI Card Protocol Configuration Screen Field Fields (continued)

Screen Fields	MIB Object	MIB Table
Link Layer Parameters		
T200	isdnProtocolT200	
T201	isdnProtocolT201	
T203	isdnProtocolT203	
N200	isdnProtocolN200	
N201	isdnProtocolN201	
Window Size	isdnProtocolWindow Size	
Network Layer Parameters		
T303	isdnProtocolT303	
T305	isdnProtocolT305	isdnCardTable
T308	isdnProtocolT308	
T309	isdnProtocolT309	
T310	isdnProtocolT310	
T313	isdnProtocolT313	
T315	isdnProtocolT315	
T316	isdnProtocolT316	
T321	isdnProtocolT321	
T3M1	isdnProtocolT3M1	
TM01	isdnProtocolTM01	
NM01	isdnProtocolNM01	

ISDN Message Template Summary Screen

Use the ISDN Message Template Summary screen to view a listing of all messages for which a template has been defined and whether the template is an IDSN Receive Message Template (R) or and ISDN Transmit Message Template (T). This screen also provides access to the ISDN Message Template screens. Table B-8 shows the correspondences between ISDN Message Template Summary screen fields and MIB objects.

Table B-8   ISDN Message Template Summary Screen Fields

Screen Fields	MIB Object	MIB Table
No	isdnMessageTempIndex	
Message	isdnMessageTempMessage	isdnMessageTempTable
R/T	isdnMessageTempRT	
DSP	N/A	N/A

ISDN Message Templates Screens

Use the ISDN Message Templates screens to configure up to 96 templates for use in rule processing for ISDN calls. Table B-9 shows the correspondences between ISDN Message Templates screen fields and MIB objects.

Table B-9   ISDN Message Templates Screen Fields

Screen Fields	MIB Object	MIB Table
Tmpl	isdnMessageTempIndex	
Message	isdnMessageTempMessage	isdnMessageTempTable
R/T	isdnMessageTempRT	

ISDN Supervision Templates Screen

Use the ISDN Supervision Template screens to configure up to 24 supervision templates for use with the ISDN SUP [xx] outpulse rule token. Each template defines a set of system responses to the detection of specific ISDN messages, such as ALERTING, CONNECT, PROGRESS, and CALL PROC (Call Proceeding). Table B-10 shows the correspondences between ISDN Supervision Templates screen fields and MIB objects.

Table B-10   ISDN Supervision Templates Screen Fields

Screen Fields	MIB Object	MIB Table
Time	isdnSupTempTime	
Alerting	isdnSupTempAlerting	
Connect	isdnSupTempConnect	
Progress	isdnSupTempProgress	
CallProc	isdnSupTempCallProc	isdnSupTempTable
Conn Ack	isdnSupTempConnAck	
User Info	isdnSupTempUserInfo	
Congest	isdnSupTempCongest	
Facil Ack	isdnSupTempFacilAck	
Facil Rej	isdnSupTempFacilRej	

Port Display Screen

Use the Port Display screen to view current call processing activity for any port. This utility is a valuable debugging tool because it enables the application designer to watch a call's progress. You can also monitor call processing states, rule processing, links, paths, and digit collection activity from this screen.

The Port Display screen contains the following fields that are specific to ISDN channels:

• ISDN Port State

• ISDN Call State

• ISDN Call ID

Table B-11 shows the correspondences between Port Display screen fields and MIB objects.

Table B-11   Port Display Screen Fields

Screen Fields	MIB Object	MIB Table
R L S P	Rack, Level, Slot objects	isdnCardTable
PA	isdnPhyAdd	isdnCardTable
COS	isdnPortCos	isdnPortTable
Trace		
Host		
NBC	N/A	N/A
Voice		
Current State		
Major	isdnPortMajorState	isdnPortTable
Supplementary	isdnPortSuppState	isdnPortTable
In/Outpulse Rule	N/A	N/A
Token	N/A	N/A
Resource Group	isdnResGroupIndex	isdnPortTable
Conference	N/A	N/A
Current Links	N/A	N/A
R L S P	Rack, Level, and Slot objects	isdnCardTable
Listening to RLSP (voice path)		
PA		
ISDN IN-SERV I_CONNECT		
Conf/Assoc Port RLSP		
PA		
Call ID		
Port Pointer	N/A	N/A
Dynamic Data Pointer		
Start Record Pointer		
End Record Pointer		
Attempts		
Completions		
Errors/Threshold		
Rehunts/Threshold	resGroupRhuntThres	resGroupTable

NFAS Group Summary Screen

Use the NFAS Group Summary screen to view a listing of NFAS groups and the number of B-channels in each group, name an NFAS group, and provide access to the NFAS Configuration screens. You can configure up to 37 NFAS groups for the system. Table B-12 shows the correspondences between NFAS Group Summary screen fields and MIB objects.

Table B-12   NFAS Group Summary Screen Fields

Screen Fields	MIB Object	MIB Table
No	nfasGroupIndex	nfasGroupTable
Name	nfasGroupName	nfasGroupTable
Count	N/A	N/A
Dsp	N/A	N/A

NFAS Configuration Screen

Use the NFAS Configuration screen to create NFAS Groups. An NFAS Group is a listing of all PRI/N and T1 cards for which a specific D-channel receives call control messages. Each group consists of the following components:

- A group name and number
- The R,L,S hardware address of the Primary D-channel
- The R,L,S hardware address of the Backup D-channel (optional)
- The R,L,S hardware address of each PRI/N and T1 card assigned to the group

Table B-13 shows the correspondences between NFAS Configuration screen fields and MIB objects.

Table B-13   NFAS Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Group ____or _____	nfasGroupIndex	
Group Name	nfasGroupName	
Primary D-Channel RLS	nfasGroupPriDChannelCardIndex	
State	nfasGroupPriDChannelState	
Backup D-Channel RLS	nfasGroupBkupDChannelCardIndex	nfasGroupTable
State	nfasGroupBkupDChannelState	
Cmd	nfasGroupCmd	
Interface		
R L S	nfasInterfaceCardIndex	nfasInterfaceTable
Status	isdnCardStatus	isdnCardTable
DSP	N/A	N/A

IPRC Card Configuration Screen

Use the IPRC Configuration Screen to define the IPRC configuration parameters. The IPRC Configuration Screen also contains display fields that show rack position, SCSI attached state, and card operating state. Table B-14 shows the correspondences between IPRC Card Configuration screen fields and MIB objects.

Table B-14   IPRC Card Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Card Location R, L, S	rcIndex	iprcTable
Status	rcStatus	
PCM Limit	iprcPcmLimit	
Playback Ports	iprcPlaybackPorts	
Record Channels	iprcRecChannels	
End of Record Chop	iprcEORecChop	
Checksum Verification Interval Timer	iprcChecksumTimer	
Allocated Prompt Capacity	iprcAlloPrompt	
Available Prompt Capacity	iprcAvaPrompt	
Supported Prompt Libraries	pmptLibName	pmptLibTable

Resource Group Summary Screen

Use the Resource Group Summary screen to name a resource group, specify the way in which resources of that group are selected for use, and provide access to the Resource Group Configuration screens. Table B-15 shows the correspondences between Resource Group Summary screen fields and MIB objects.

Table B-15   Resource Group Summary Screen Fields

Screen Fields	MIB Object	MIB Table
No (number)	resGroupIndex	resGroupTable
Name	resGroupName	
Hunt Type	resGroupHuntType	
Port CNT	resGroupPortCnt	
Thresholds RHunt	resGroupRhuntThres	
Thresholds Busy	resGroupBusyThres	
DSP	N/A	N/A

Resource Group Configuration Screen

Use the Resource Group Configuration screen to assign ports, or spans in a card to a resource group. You can add an entire span to a resource group, but not to the entire card. Each port can belong to only one resource group. The card or port information must already be entered into the database. Table B-16 shows the correspondences between Resource Group Configuration screen fields and MIB objects.

Table B-16   Resource Group Configuration Screen Fields

Screen Fields	MIB Objects	MIB Table
Resource Group	resGroupName	resGroupTable
Name	resGroupname	resGroupTable
Pos(ition)	resGroupPortPosition	resGroupPortTable
Port Name		Line or trunk card Port Table
Add/Delete/Card (A/D/C)	N/A	N/A
Pos(ition) R L S P	N/A	N/A

Inpulse Rules Table Screen

Use the Inpulse Rules Table screens to define inpulse rules for use in call processing. Table B-17 shows the correspondences between Inpulse Rules Table screen fields and MIB objects.

Table B-17   Inpulse Rules Table Screen Fields

Screen Fields	MIB Object	MIB Table
Rule #	inpulseRuleIndex	inpulseRuleTable
Token	inpulseRuleToken	inpulseRuleInstructionTable
Additional data field	inpulseRuleArg	inpulseRuleInstructionTable

Outpulse Rules Table Screen

Use the Outpulse Rules Table screens to define outpulse rules for use in call processing. Table B-18 shows the correspondences between Outpulse Rules Table screen fields and MIB objects.

Table B-18   Outpulse Rule Table Screen Fields

Screen Fields	MIB Object	MIB Table
Rule #	outpulseRuleIndex	outpulseRuleTable
Token	outpulseRuleToken	outpulseRuleInstructionTable
Additional data field	outpulseRuleArg	outpulseRuleInstructionTable

BRC Configuration Summary Screen

Use the BRC Configuration Summary screen to maintain a software listing of BRC hardware connections. When the system is equipped with redundant BRCs, this listing also indicates which BRC pair is active and which is standby. All BRCs in the system must be entered in the system database before they can be configured using this screen. A BRC is identified by its R,L,S hardware address. Table B-19 shows the correspondences between BRC Configuration Summary screen fields and MIB objects.

Table B-19   BRC Configuration Summary Screen Fields

Screen Fields	MIB Object	MIB Table
Master BRC	brcIndex	
Current Status	brcStatus	
Slave BRC	brcIndex	brcTable
Current Status	brcStatus	
Redundant Master BRC	brcRedMasterIndex	
Connect BRC at _ _ _to BRC at:_ _ _	brcConn	

Answer Supervision Templates

Use the Answer Supervision Template screens to configure answer supervision templates for use with WAIT SUP [xx] and FINAL SUP [xx] outpulse rule tokens. Each template is a set of system responses to the detection of specific signaling events. Signaling events include detection of call progress tones such as dial tone, ringback, busy tone, reorder, and special information (SIT) tones. Other recognized signaling events are voice detection, voice cessation, wink, true answer, grace timing, pager cue tones and hookflash. Table B-20 shows the correspondences between Answer Supervision Templates screen fields and MIB objects.

Table B-20   Answer Supervision Templates Screen Fields

Screen Fields	MIB Object	MIB Table
Dial Tone	ansSupTempDialTone	
Ringback	ansSupTempRingback	
Busy	ansSupTempBusy	
Reorder	ansSupTempReorder	ansSupTempTable
SIT Tones	ansSupTempSitTones	
Ring Cess(ation)	ansSupTempRingCess	
Voice Det(ection)	ansSupTempVoiceDet	
Voice Cess(ation)	ansSupTempVoiceCess	

Table B-20   Answer Supervision Templates Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Wink	ansSupTempWink	
Answer	ansSupTempAnswer	
Time	ansSupTempTime	ansSupTempTable
Hook Flash	ansSupTempHookFlash	
Pager Cue	ansSupTempPagerCue	
ISUP Tone	ansSupTempIsupTone	
ISUP Cess(ation)	ansSupTempIsupCess	

System Configuration Screens

System Configuration refers to the group of functions used to configure system interaction with peripheral equipment, storage devices, and host computers.

The tables in the following sections list the objects that relate to the fields on the system configuration screens in the *Cisco VCO/4K System Administrator's Guide.*

Peripheral Configuration Screen

Use the Peripheral Configuration screen to define operating parameters for system peripheral equipment. System peripherals can include local administration consoles, remote administration consoles connected to the system by a modem, and system printers.

System administration is performed with one of the following interface types:

- Local Video Display Terminal (VDT)
- Remote TTY
- Telnet TTY (if the system is equipped with the Ethernet Communications option)

In redundant systems the peripheral configuration information is not transferred over the update channel. Therefore, it must be configured for both CPUs. Table B-21 shows the correspondences between Peripheral Configuration Screen fields and MIB objects.

Table B-21   Peripheral Configuration Screen Fields

Screen Fields	MIB Objects	MIB Table
Local TTY		
Baud Rate	periphLocalBaud	
Stop Bits	periphLocalStop	
Keyboard Type	periphLocalKBType	
Bits/Char	periphLocalBits	
Parity	periphLocalParity	
Remote TTY		
Baud Rate	periphRemoteBaud	Peripheral Configuration Table
Stop Bits	periphRemoteStop	
Keyboard Type	periphRemoteKBType	
Bits/Char	periphRemoteBits	
Parity	periphRemoteParity	
Telnet TTY		
Keyboard Type	periphTelnetKBType	
Printer		
End of Line Terminator	periphPrinterEOL	

File System Configuration Screen

Use the File System Configuration screen to specify the storage devices and directories for storing and retrieving the following file systems:

- System log files
- System trace files

Table B-22 shows the correspondences between File System Configuration screen fields and MIB objects.

Table B-22   File System Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Boot/Download Files		
Default Device	fsBootDevice	
Default Directory	fsBootDirectory	
System Database Files		
Default Device	fsDatabaseDevice	
Default Directory	fsDatabaseDirectory	File System Table
System Log Files		
Default Device	fsLogDevice	
Default Directory	fsLogDirectory	
System Trace Files		
Default Device	fsTraceDevice	
Default Directory	fsTraceDirectory	

Host Configuration Screen

The Host Configuration utility consists of three screens: Host Configuration, System Features, and System Host Configuration. Users can press the Prev Field and Next Field keys to page through each screen's listing. Use the Print Screen key to obtain a hard copy of these screens. Table B-23 shows the correspondences between Host Configuration screen fields and MIB objects.

Table B-23   Host Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Interface	hostType	
Host Name	hostName	Host Configuration Table
Trace (1/0)	N/A	N/A

Table B-23   Host Configuration Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Protocol	hostProtocol	
Reset Time	hostResetTime	
Connect Password	hostPassword	
Rem. Inet. Addr.	hostAddress	
Failure Action	hostFailureAction	
Alarm State	hostAlarm	
Loc. Port	hostLocalPort	Host Configuration Table
Rem. Port	hostRemotePort	
Poll Timeout	hostPollTimeout	
Retry Counter	hostRetryCount	
Block Factor	hostBlockFactor	
Baud Rate	hostBaud	
Parity	hostParity	
Modem	hostModem	
Format	hostFormat	

Password Configuration Screen

Use the Password Configuration screen to create or change system passwords and set access levels for up to 16 users. The ability to update this configuration information is limited by a user's access level.

The Password Configuration screen has two main areas: a display area that lists the current users and their associated access levels, and a data entry area that enables adding, deleting, or changing of user password configuration information. Table B-24 shows the correspondences between Password Configuration screen fields and MIB objects.

Table B-24   Password Configuration Screen Fields

Screen Fields	MIB Object	Table
Username	userName	
Access Level	accessLevel	
Add/Del/Change	passwdEntryStatus	
Username	userName	passwdTable
Current Password	PasswdString	
New Password	PasswdString	
Access Level	accessLevel	
Verify Password	N/A	N/A

Clock/Calendar Configuration Screen

Use the Clock/Calendar Configuration screen to change the system date, time, and day-of-week settings. Time can also be reset by the host using the Configure VCA/Set System Clock ($C0 00) command. Table B-25 shows the correspondences between Clock/Calendar Configuration screen fields and MIB objects.

Table B-25   Clock/Calendar Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Day of Week	sysDay	
Month	sysMonth	
Date	sysDate	Clock/Calendar Configuration
Year	sysYear	
Hours	sysHour	
Minutes	sysMin	
Seconds	sysSec	

System Features Screen

Use the System Features configuration screen to view all currently enabled system features and to modify system operating characteristics to meet specific application requirements. Table B-26 shows the correspondences between System Features screen fields and MIB objects.

Table B-26   System Features Screen Fields

Screen Fields	MIB Object	MIB Table
Redundant Systems	featureRedundantSystem	
Output Periodic Alarm Reports	featureOutputPeriodicAlarmReports	
NoCard/Alarm Status at Init.	featureNoCardAlarmStatusAtInit	
Manual Intervention for SLIP/OOF	featureManualInterventionForSLIPOOF	
Enable Grace Timing on Null Rule	featureEnableGraceTimingOnNullRule	
Disable Card Error Report/Reset	featureDisableCardErrorReportReset	
Enable Digit Field Reporting	featureEnableDigitFieldReporting	
Suppress PSC/Rule Abort Messages	featureSuppressPSCRuleAbort Messages	
Enable Host Password Check	featureEnableHostPasswordCheck	
Force Bearer/Lap Activation	featureForceBearerLapActivation	
Enable MFC-R2 Supervised Clear	featureEnableMFCR2SupervisedClear	
Enable SLIC Guarded Disconnect	featureEnableSLICGuardedDisconnect	
Enable CPA Monitor Disconnect	featureEnableCPAMonitorDisconnect	
Revert to Basic Redundancy	featureRevertToBasicRedundancy	System Feature Table
Send Reports Before Guard Time	featureSendReportBeforeGuardTime	
Enable ISDN Manual Disconnect	featureEnableISDNManualDisconnect	
Send All ISDN Connect Reports	featureSendAllISDNConnectReports	
Enable $66 Cmd Host Checking	featureEnable66CmdHostChecking	
Cut Thru For Non-ISDN Alerting	featureCutThruForNonISDNAlerting	
Enable 4th Column DTMF	featureEnabel4thColumnDTMF	
Set MVDC Backplane to A-law	featureSet MVDCBackplaneToAlaw	

Software/Firmware Configuration Screen

The Software/Firmware Configuration screen displays the following items for the system controller (Side A or B) to which the system administration terminal is currently connected:

- Version, revision, field software revision (FSR), and checksum for all V4.0 Generic executable files on the floppy disk drive, hard disk drive, or loaded into system memory (DRAM)

- Version, revision, field software revision (FSR), and checksum for all data download files on the floppy disk drive (boot.sds file must be present), hard disk drive, or loaded into system memory (DRAM)

- Version and revision of the VRTX operating system currently installed

Table B-27 shows the correspondences between Software/Firmware Configuration screen fields and MIB objects.

Table B-27   Software/Firmware Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
VRTX OS	firmwareVrtxVersion	Firmware Version Table
IFX	firmwareIfxVersion	
TNX	firmwareTnxVersion	
Detailed Directory of Device	firmwareDevice	
VER. REV. FSR	firmwareGenericVersion	
File Name	firmwareExeName	firmwareExeTable
Ver. Rev. FSR	firmwareExeVersion	
Check Sum	firmwareExeChecksum	

License Configuration Screen

Use the License Configuration screen to update your Time-Slot Allocation License or display the system's current usage of time-slots. Table B-28 shows the correspondences between License Configuration screen fields and MIB objects.

Table B-28   License Configuration Screen Fields

Screen Fields	MIB Object	MIB Table
Number of Time-Slots Allocated	sysTimeSlotAllotted	sysLicenseTable
Number of Time-Slots Licensed	sysTimeSlotLicensed	
Number of Time-Slots Remaining	sysTimeSlotRemaining	
Serial Number	sysSerialNum	
License Number	sysLicenseNum	

System Host Configuration Screen

Use the System Host Configuration screen to define general system-wide host configuration parameters, including:

- Host setup timer functionality
- Response to all host link failure conditions
- Host control of call load
- Host control verification
- Distribution of new incoming calls
- Reporting no host alarms at initialization
- Reporting system initialization to all hosts

Table B-29 shows the correspondences between System Host Configuration screen fields and MIB objects.

Table B-29   System Host Configuration Screen Fields

Screen Fields	MIB Objects	MIB Table
Host Setup Timer	sysHostSetupTimer	System Host Configuration
All Host Link Failure Action	sysHostAllHostLinkFailureAction	
Host Control of Call Load	sysHostControlCallLoad	
Host Control Checking	sysHostControlChecking	
Incoming Call Distribution	sysHostIncomingCallDistribution	
No Host Alarm Reports At Init	sysHostNoAlarmReportsAtInit	
Report System Init to All Hosts	sysHostReportInitToAll	

Maintenance Screens

Maintenance refers to the group of functions used when changes are made to the system hardware or software.

Maintenance utilities enable the following tasks:

- Add, delete, or change the status of line, trunk, or service circuit cards in the system
- View directory listings on either the hard or floppy diskette
- Copy, delete, or rename files
- Backup or retrieve system database files
- Display the hex and ASCII contents of a file
- Format a hard or floppy disk
- Print or display system logs
- Print or display system trace files
- Switch the active controller in redundant systems
- Set internal, incoming, or external timing link selection for digital trunks
- Display alarm status of an individual card
- Display system alarm status
- Shutdown the system and close all system files
- Add, delete, edit, update, or test files in Voice Prompt Libraries

Card Maintenance Screen

From the Card Maintenance screen, you can

- Add cards to the database
- Delete cards from the database
- Change the status of a card
- Change the status of a port on a card
- Change the status of a span on a card

Table B-30 shows the correspondences between Card Maintenance screen fields and MIB objects.

Table B-30   Card Maintenance Screen Fields

Screen Fields	MIB Object	MIB Table
R L S	Rack, Level, and Slot object for each card	Card Tables
Card Type	Card Type object	
V. RV	Version and Revision objects	Line card and trunk card tables
S (tatus)	Status objects	Line card and trunk card tables
Add, Delete, Change Status	EntryStatus object	Card tables

Master Timing Link Selection Screen

Use the Master Timing Link Selection screen to select the system T1 or PRI timing source. Timing can be derived from system internal clocking or from an incoming T1 or PRI bit stream. If the incoming reference is lost when incoming timing is used, the system automatically tries to resynchronize using the internal clock. Table B-31 shows the correspondences between Master Timing Link Selection screen fields and MIB objects.

Table B-31   Master Timing Link Selection Screen Fields

Screen Fields	MIB Object	MIB Table
Current Timing Source	masTimingSource	Master Timing Link
Change Timing Source To	masTimingSource	
Incoming E1/T1/PRI Link		
Primary	masPrimaryTimingCardPhyAddr	
Secondary	masSecondaryTimingCardPhyAddr	

Card Alarm Display Screen

Use the Card Alarm Display function to view a listing of the current alarm conditions for all network interface and internal service circuit cards. Alarms pertaining to a specific card can also be located and viewed with this function. Alarm conditions are automatically set and cleared at system reboot. Table B-32 shows the correspondences between Card Alarm Display screen fields and MIB objects.

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Table B-32 Card Alarm Display Screen Fields

Screen Fields	MIB Object	MIB Table
Major/Minor Alarm	N/A	Card Tables
Card to Display	N/A	
R L S	<cardtype>Index	
Alarm State	<cardtype>Alarm	

System Alarm Display Screen

Use the System Alarm Display screen to view a listing of the types of alarms present on the system. If the alarm is caused by a card-related failure, the Card Alarm Display is used to determine its exact cause. You can also silence the external alarm contact on the AAC with this display. Table B-33 shows the correspondences between System Alarm Display screen fields and MIB objects.

Table B-33 System Alarm Display Screen Fields

Screen Fields	MIB Object	MIB Table
Alarm Severity	systemAlarmSeverity	systemAlarmTable
Audible Cutoff	N/A	N/A
Alarm Description	systemAlarmDescr	systemAlarmTable
Occurrences	systemAlarmOccur	systemAlarmTable

Prompt Library Maintenance Screen

The Prompt Library Maintenance screen provides access to multiple prompt libraries. The prompt library configuration information (library name and directory) is maintained automatically on both sides of a redundant controller. Table B-34 shows the correspondences between Prompt Library Maintenance screen fields and MIB objects.

Table B-34 Prompt Library Maintenance Screen Fields

Screen Fields	MIB Object	MIB Table
Library	pmptLibIndex	pmptLibTable
Name	pmptLibName	
Total Usage (mins.)	pmptLibTotalUsage	
Directory	N/A	N/A

Table B-34   Prompt Library Maintenance Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
ID	pmptFileId	
Filename	pmptFileName	
Version	pmptFileVersion	
Description	pmptFileDescription	pmptFileTable
Law	pmptFileLaw	
Duration	pmptFileLength	
Command	pmptAddFile,	
Filename	pmptDeleteFile, pmptUpdateFile,	
ID	pmptTestFile	

Diagnostic Screens

Diagnostics refers to the group of functions used to test or view the operating status of various system components. These functions are accessed from the Diagnostics menu.

Diagnostics utilities enable the following tasks:

- Creating voice paths between ports
- Displaying card or port data
- Displaying conference data
- Testing service circuit and network interface port cards
- Displaying virtual call generation port data
- Monitoring call progress tones during call processing
- Configure and enable or disable system message tracing

Card Display Screen

Use the Card Display screen to view the current status of any card in the system data base. This screen also provides access to the Port Display screen described later in this section. Table B-35 shows the correspondences between Card Display screen fields and MIB objects.

Table B-35   Card Display Screen Fields

Screen Fields	MIB Object	MIB Table
R, L, S	Card table objects	Card tables
Display Port Y/N	N/A	N/A
1st Port Adr	Port table objects	Port tables
Card Type	Card table objects	Card tables
FW	Card table objects	Card tables
Card Status	Card table objects	Card tables

Cisco VCO/4K Management Information Base (MIB) Reference

Table B-35   Card Display Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Comm Errors	N/A	N/A
Poll queue	N/A	N/A
Port Available	Port table objects	Port tables
On (0)/ Off (1) Hook	N/A	N/A
Diagnostics	N/A	N/A
Voice Path Trace	N/A	N/A
NBC Msg. Trace	N/A	N/A
Host Msg. Trace	N/A	N/A
Alarm States	N/A	N/A

Port Display Screen

Use the Port Display screen to view current call processing activity for any port. This facility is a valuable debugging tool because it allows the application designer to watch a call's progress. Call processing states, rule processing, links, paths, and digit collection activity can all be monitored from the Port Display. Table B-36 shows the correspondences between Port Display screen fields and MIB objects.

Table B-36   Port Display Screen Fields

Screen Fields	MIB Object	MIB Table
R L S P	Port table Rack, Level, and Slot objects	
PA (Port address)	Port table PhyAdd objects	Port tables
COS	Port table COS object	
Trace		
Host		
NBC	N/A	N/A
Voice		
Current State		
Major	PortMajorState object	Card tables
Supplementary	PortSuppState object	
ISDN In-Serv	N/A	N/A
In/Outpulse Rule	PortInpulseRuleIndex	
Resource Group	PortResGroupIndex	Card tables

Table B-36   Port Display Screen Fields (continued)

Screen Fields	MIB Object	MIB Table
Listening to RLSIP	N/A	N/A
Conf/Assoc Port RLSIP		
PA		
Token		
Conference		
Current Links R L S P		
Call-ID		
Port Pointer		
Dynamic Data Pointer		
Start Record Pointer		
End Record Pointer		
Attempts		
Completions		
Errors/Threshold		
Rehunts/Threshold		

Unsupported Fields

The fields on the following screens are not supported by objects in the MIB. If you want to modify or see any of the information that is shown in any of these fields, use the system administrator's console.

- Screen Access Configuration
- Conference Menu
- Conference Display
- Service Circuit Port Test Utility
- Test Port Card
- Call Generation Ports Display
- Call Progress Tone Monitor
- System Trace Configuration

■ **Unsupported Fields**