

MiVoice 5000 MIB description

07/12/2023

TECHNICAL NOTE FOR R8.2

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1. INTRODUCTION

1.1. PURPOSE OF THE DOCUMENT

The purpose of this note is to describe the MiVoice5000 MIB architecture (R8.2 release and later, MIB version V3.0).

1.2. SCOPE OF APPLICATION

This document is published to allow supervision of the MiVoice5000 solution.

1.3. ASSOCIATED RESPONSIBILITIES

The writing of this document as well as further updates is done under the responsibility of the Mitel France R&D department.

This document is approved and circulated according to the rules in force at Mitel.

2. SYSTEM OBJECTS

MIB objects are only readable.

2.1. GLOBALSTATUS

Name	globalStatus.0
Type	ENUM
Range	notInitialized(255) operational(0) minorDegradation(1) mediumDegradation(2) majorDegradation(3) criticalDegradation(4)
SNMP OID	1.3.6.1.4.1.11268.2.7.2.1.1.0
Version	All version

globalStatus describes the global state of the platform or the system. It is a computation of all the status (hardware components, applications or services, links).

A value notInitialized(255) indicates that the current state is unknown.

operational(0) indicates that all is right.

The other values indicate the different levels of degradation.

2.2. MIBVERSION

Name	mibVersion.0
Type	STRING
Range	"Vx.y"
SNMP OID	1.3.6.1.4.1.11268.2.7.2.1.2.0
Version	All version

Current version of the MIB : Major version x, minor version y.

MIB V3.0 for the release MiVoice5000 R8.2.

2.3. SOFTRELEASE

Name	softRelease.0
Type	STRING
Range	"A5000 R8.2 RC /A301"
SNMP OID	1.3.6.1.4.1.11268.2.7.2.1.3.0
Version	>= V3.0 (not initialized before)

Current MiVoice5000 software release.

2.4. GLOBALALARMCOUNTER

Name	globalAlarmCounter.0
Type	INTEGER
Range	-
SNMP OID	1.3.6.1.4.1.11268.2.7.2.1.4.0
Version	All version

The number of TRAP sent by the Call Manager. In this case, these alarms are stored in the logbook of the Call Manager. The number take into account all the managers configured (until Nx3).

2.5. TRAPSENT

Name	trapSent.0
Type	INTEGER
Range	-
SNMP OID	1.3.6.1.4.1.11268.2.7.2.1.5.0
Version	All version

The number of TRAP sent by the agent for a changing state of some supervised services (Call Manager, SIP Gateway, Duplication, Media Server, Proxy LDAP).

2.6. SITEHWSTATUS

Name	siteHwStatus.0
------	----------------

Type	ENUM
Range	notInitialized(255) operational(0) degraded0(1) degraded1(2) degraded2(3) degraded3(4) degraded4(5) degraded5(6) degraded6(7) degraded7(8)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.1.0
Version	All version

This object contains the Hardware state of the Mitel 5000 Gateway or MiVoice 5000 Server.

A value not initialized indicates that the current hardware state is unknown (255). This happens when the agent is running without the Call Manager.

A value operational indicates that all the hardware components are right (0).

A value degraded7 indicates the worst situation for the PBX (8). In this case, the globalStatus will certainly take the value **criticalDegradation** (4).

The other values indicate different levels of hardware degradation.

2.7. SITESWSTATUS

Name	siteSwStatus.0
Type	ENUM
Range	notInitialized(255) operational(0) minorDegradation(1) mediumDegradation(2) majorDegradation(3) criticalDegradation(4)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.2.0
Version	All version

This object contains the software state of of the Mitel 5000 Gateway or MiVoice 5000 Server. It is a computation of all the status of applications or services.

A value not initialized indicates that the current software state is unknown (255). This happens when the agent is running without the Call Manager.

A value operational indicates that all the software components are right (0).

A value criticalDegradation indicates the worst situation for the PBX (4). In this case, the globalStatus will certainly take the value **criticalDegradation** (4).

The other values indicate different levels of degradation.

2.8. SITETYPE

Name	siteType.0
Type	ENUM
Range	unknown(0) MitelXC(1) Mitel5000XS(2) Mitel5000XL(3) Mitel5000XD(4) MiVoice5000Server(5) Mitel5000XDduplex(6) MiVoice5000ServerDuplex(7) MitelA500(8)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.3.0
Version	All version

This object contains the type of the PBX : Mitel 5000 Gateway, MiVoice 5000 server, Duplex/Simplex.

2.9. SITENAME

Name	siteName.0
Type	STRING
Range	"Number-Name"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.4.0
Version	All version

This object contains the local site number and the name configured in "Local site name".


Telephony service

Web Admin home
Subscribers
System
Dialing plan
Network and links
Multi-site
Definition of centres and sites
Local site and centre
Reception
Voice mail and tones
Fast links

Local site and centre
Telephony service>Network and links>Multi-site>Definition of centres and sites>Local site and centre (4.3.1.1)

Local site number
Local site name
Local centre number
Local centre name
Local routing update ☐

➔ AMT-NX-MIB::siteName.0 = STRING: "040-SITE40"

2.10. SITENUM

Name	siteNum.0
Type	INTEGER
Range	-
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.5.0
Version	All version

This object contains the local site number.

2.11. SITECLUSTER

Name	siteCluster.0
Type	INTEGER
Range	-
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.6.0
Version	All version

This object contains the local node number.

- Value "2" for a MiVoice 5000 Server / Mitel 5000 Gateway standalone
- Value "3" for a MiVoice 5000 Cluster Server
- >= 4 for a cluster node.

2.12. IDDUPLICATION

Name	idDuplication.0
Type	ENUM
Range	primary(0) secondary(128) notInitialized(255)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.1.7.0
Version	All version

For a duplicated configuration, this object contains the active running system (primary/secondary).

For a system Mitel 5000 XD Duplex, "primary" identifies the UC-A card, "secondary" identifies the UC-B card.

notInitialized value for a system simplex (MiVoice 5000 server / Mitel 5000 Gateway).

3. MULTISITE AND CONNECTIONS

MIB objects are only readable.

3.1. LINKTABLE

This table is deprecated and may be removed in the future. It describes all the connections in the cluster server architecture, one entry per node.

```
[root@rocky86 ~]# snmptable -v1 10.148.65.136 linkTable
SNMP table: AMT-NX-MIB::linkTable
linkIndex remSiteId remNodeId connState connError linkAlarm
      4         40         4 inProgress    noDiag         0
      6         40         6 inProgress    noDiag         0
      7         40         7 inProgress    noDiag         0
      9         40         9 inProgress    noDiag         0
```

3.1.1. LINKINDEX

Name	linkTable[index].linkIndex
Type	INTEGER
Range	>= 4 <= 239
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.1.index
Version	All version

The linkIndex allows to access a record in linkTable[]. It contains the number of the Node.

```
[root@rocky86 ~]# snmpwalk -v1 10.148.65.136 linkIndex
AMT-NX-MIB::linkIndex.4 = INTEGER: 4
AMT-NX-MIB::linkIndex.6 = INTEGER: 6
AMT-NX-MIB::linkIndex.7 = INTEGER: 7
AMT-NX-MIB::linkIndex.9 = INTEGER: 9
```

3.1.2. REMSITEID

Name	linkTable[index].remSiteId
Type	INTEGER
Range	>= 1
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.2.index
Version	All version

The remSiteId object contains the remote site number.

3.1.3. REMNODEID

Name	linkTable[index].remNodeId
Type	INTEGER
Range	>= 4 <= 239
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.3.index
Version	All version

The remNodeId object contains the remote node number.

3.1.4. CONNSTATE

Name	linkTable[index].connState
Type	ENUM
Range	disconnected(0) inProgress(1) connected(2)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.4.index
Version	All version

This object contains the connection status.

3.1.5. CONNERROR

Name	linkTable[index].connError
Type	ENUM
Range	noDiag(0) serverUnreachable(1) unexpectedEid(2) eidAlreadyConnected(3) badSoftwareRelease(4) tlsHandshakeError(5) closeImmediate(6) closeConfirmed(7) getIdentNode(8) dclServer(9) waitRestart(10)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.5.index
Version	All version

This object contains the diagnostic of the disconnection and “noDiag” if the link is connected.

3.1.6. LINKALARM

Name	linkTable[index].linkAlarm
Type	INTEGER
Range	-
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.1.1.6.index
Version	All version

This object contains the number of disconnection (since the last startup of SNMP agent).

3.2. SITETABLE

This table describes all the connections to remote sites, one entry per site.

```
[root@rocky86 ~]# snmptable -v1 10.148.65.136 siteTable
SNMP table: AMT-NX-MIB::siteTable
numSite      nameSite      ipAddressSite connstateSite
      1 "001-CLUSTER1" "10.148.65.88"  disconnected
     20 "020-SITE20"   "172.19.58.171" disconnected
     41 "041-SITE41"   "10.148.65.140"  connected
```

3.2.1. NUMSITE

Name	siteTable[index].numSite
Type	INTEGER
Range	>= 1
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.2.1.1.index
Version	>= R8.2

The numSite allows to access a record in siteTable[]. It contains the number of the remote site.

```
[root@rocky86 ~]# snmpwalk -v1 10.148.65.136 numSite
AMT-NX-MIB::numSite.1 = INTEGER: 1
AMT-NX-MIB::numSite.20 = INTEGER: 20
AMT-NX-MIB::numSite.41 = INTEGER: 41
```

3.2.2. NAMESITE

Name	siteTable[index].nameSite
Type	STRING
Range	"Number-Name"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.2.1.2.index
Version	>= R8.2

nameSite contains the remote site number and the name configured in "Definition of remote site".

Definition of remote site 1

Telephony service>Network and links>Multi-site>Definition of centres and sites>Remote sites (4.3.1.3)

Name of site

Associated center

IP address

- via IP local card

Display by site

Telephony service>Network and links>Multi-site>Definition of centres and sites>Display by site (4.3.1.4)

Site	Centre	IP address
001-CLUSTER1	01-CENTRE1	10.148.65.88
020-SITE20	01-CENTRE1	172.19.58.171
040-SITE40	01-CENTRE1	
041-SITE41	01-CENTRE1	10.148.65.140

```
[root@rocky86 ~]# snmpwalk -v1 10.148.65.136 nameSite
```

```
AMT-NX-MIB::nameSite.1 = STRING: "001-CLUSTER1"
```

```
AMT-NX-MIB::nameSite.20 = STRING: "020-SITE20"
```

```
AMT-NX-MIB::nameSite.41 = STRING: "041-SITE41"
```

3.2.3. IPADDRESSSITE

Name	siteTable[index].ipaddressSite
Type	STRING
Range	IP Address
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.2.1.3.index
Version	>= R8.2

ipaddressSite contains the remote IP address (IP v4 or IP v6).

3.2.4. CONNSTATESITE

Name	siteTable[index].connstateSite
Type	ENUM
Range	disconnected(0) connected(1) inProgress(2) unavailable(255)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.2.1.4.index
Version	>= R8.2

connstateSite contains the current state of the connection.

3.3. NODETABLE

In a cluster architecture, this table describes all the connections to remote nodes, one entry per node. This table replaces the deprecated linkTable.

```
[root@rocky86 ~]#
[root@rocky86 ~]# snmptable -v1 10.148.65.136 nodeTable
SNMP table: AMT-NX-MIB::nodeTable

numNode      eidNode      ipAddressNode connstateNode conndiagNode      activeSoft activeState      inactiveSoft inactiveState
4 "03FF0120049247" "10.148.65.164" connected      noDiag "A5000 R7.2 SP5 /C800" valid "A5000 R7.2 SP5 /C800" valid
6 "04FF012006AE28" "" waiting      noDiag "" "" 0 "" 0
7 "03FF0120065B7C" "10.148.66.101" connected      noDiag "A5000 R7.2 RC /B301" valid "A5000 R7.2 RC /B301" valid
9 "04FF012009BF25" "" waiting      noDiag "" "" 0 "" 0
[root@rocky86 ~]#
```

This table is an export from the ihm “Intra_site links” :

Intra-site links

Telephony service>System>Monitoring>Display status>Inter IPBX links>Intra-site links (2.2.3.5.1)

Node	Identifier	State	Cause	IP address	Access time(ms)	Active version	Active Stat	e Active Version	Inacti.State
4	03FF0120049247	CONNECTED		10.148.65.164	0	A5000 R7.2 SP5 /C800	VALID	A5000 R7.2 SP5 /C800	VALID
6	04FF012006AE28	CONNECT. IN PROGRS							
7	03FF0120065B7C	CONNECTED		10.148.66.101	0	A5000 R7.2 RC /B301	VALID	A5000 R7.2 RC /B301	VALID
9	04FF012009BF25	CONNECT. IN PROGRS							

3.3.1. NUMNODE

Name	nodeTable[index].numNode
Type	INTEGER
Range	>= 4 <= 239
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.1.index
Version	>= R8.2

The numNode allows to access a record in nodeTable[]. It contains the number of the remote node.

```
[root@rocky86 ~]# snmpwalk -v1 10.148.65.136 numNode
```

```
AMT-NX-MIB::numNode.4 = INTEGER: 4
```

```
AMT-NX-MIB::numNode.6 = INTEGER: 6
```

```
AMT-NX-MIB::numNode.7 = INTEGER: 7
```

```
AMT-NX-MIB::numNode.9 = INTEGER: 9
```

3.3.2. EIDNODE

Name	nodeTable[index].eidNode
Type	STRING
Range	14 hexadecimal characters
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.2.index
Version	>= R8.2

This object contains the identification number of each node.

3.3.3. IPADDRESSNODE

Name	nodeTable[index].ipaddressNode
Type	STRING
Range	IP Address
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.3.index
Version	>= R8.2

ipaddressNode contains the IP address of the remote node (IP v4 or IP v6).

3.3.4. CONNSTATENODE

Name	nodeTable[index].connstateNode
Type	ENUM
Range	unavailable(0) waiting(1) inProgress(2) connected(3) disconnected(4)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.4.index
Version	>= R8.2

connstateNode contains the current state of the connection.

3.3.5. CONNDIAGNODE

Name	nodeTable[index].conndiagNode
Type	ENUM
Range	noDiag(0) serverUnreachable(1) unexpectedEid(2) eidAlreadyConnected(3) badSoftwareRelease(4) tlsHandshakeError(5) closeImmediate(6) closeConfirmed(7) getIdentNode(8) dclServer(9) waitRestart(10)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.5.index
Version	>= R8.2

conndiagNode contains the diagnostic of the disconnection and "noDiag" if the link is connected.

3.3.9. INACTIVESTATE

Name	nodeTable[index].inactiveState
Type	ENUM
Range	valid(1) test(2) fault(3) downloading(4) empty(5)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.2.3.1.9.index
Version	>= R8.2

inactiveState contains the status of the inactive software.

4. SERVICES

MIB objects are only readable.

4.1. SVCTABLE

This table is deprecated and may be removed in the future. It describes some services supervised by the SNMP subagent process.

```
[root@rocky87 ~]# snmptable -v2c -c public 10.148.65.136 svcTable
SNMP table: AMT-NX-MIB::svcTable
```

svcIndex	svcName	svcStatus	svcAlarm	svcPound
1	"CALL MANAGER"	started	17	criticalAlarm
2	"SIP GATEWAY"	started	0	minorAlarm
3	"MEDIA SERVER"	started	11	minorAlarm
4	"PROXY LDAP"	notInitialized	0	minorAlarm
5	"CALL SERVER SNMP AGENT"	started	0	ok

4.1.1. SVCINDEX

Name	svcTable[index].svcIndex
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.1.index
Version	All version

The svcIndex allows to access a record in svcTable[].

4.1.2. SVCNAME

Name	svcTable[index].svcName
Type	STRING
Range	"CALL MANAGER" "SIP GATEWAY" "DUPLICATION" "MEDIA SERVER" "PROXY LDAP" "CALL SERVER SNMP AGENT"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.2.index
Version	All version

Name of the service.

4.1.3. SVCSTATUS

Name	svcTable[index].svcStatus
Type	ENUM
Range	stopped(0) started(1) inProgress(2) disconnected(3) notInitialized(255)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.3.index
Version	All version

svcStatus contains the status of the service.

4.1.4. SVCALARM

Name	svcTable[index].svcAlarm
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.4.index
Version	All version

svcAlarm contains the number of trap sent by the supervisor for this service.

4.1.5. SVCPOUND

Name	svcTable[index].svcPound
Type	ENUM
Range	notInitialized(255) ok(0) warning(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.5.index
Version	All version

SvcPound contains the criticality of each service. This value is used for the computation of the global pbx state (globalStatus).

4.2. SERVICETABLE

This table describes all the services used by the MiVoice 5000 solution. This new implementation is available in R8.2.

```
[root@rocky87 ~]# snmptable -v2c -c public 10.148.65.136 serviceTable
SNMP table: AMT-NX-MIB::serviceTable
```

serviceIndex	serviceName	serviceState	serviceStartup
1	"LDAP"	"STARTED"	"AUTO"
2	"WEB"	"STARTED"	"AUTO"
3	"SNMP"	"STARTED"	"AUTO"
4	"SNMP TRAP"	"STOPPED"	"MANUAL"
5	"AGENT SNMP"	"STARTED"	"AUTO"
6	"SIP"	"STARTED"	"AUTO"
7	"FTP"	"STOPPED"	"MANUAL"
8	"TFTP"	"STOPPED"	"MANUAL"
9	"SSH"	"STARTED"	"AUTO"
10	"SYSLOG"	"STARTED"	"AUTO"
11	"DHCPv4"	"STOPPED"	"MANUAL"
12	"DHCPv6"	"STOPPED"	"MANUAL"
13	"TERMINALS"	"STARTED"	"AUTO"
14	"MEDIA SERVER"	"STARTED"	"AUTO"
15	"NTP"	"STARTED"	"AUTO"
16	"NRPE"	"STOPPED"	"MANUAL"
17	"INTERNET GATEWAY"	"STOPPED"	"MANUAL"
18	"TEL VPN"	"STOPPED"	"MANUAL"
19	"PROXY LDAP"	"STOPPED"	"MANUAL"

4.2.1. SERVICEINDEX

Name	serviceTable[index].serviceIndex
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.2.1.1.index
Version	>= R8.2

The serviceIndex allows to access a record in serviceTable[].

4.2.2. SERVICENAME

Name	serviceTable[index].serviceName
Type	STRING
Range	"LDAP", "AGENT SNMP", "SIP", "WEB", "SNMP", "SNMP TRAP", "FTP", "TFTP", "SSH", "TOOLS", "TELEPHONY", "OS", "SYSLOG", "DHCPv4", "DHCPv6", "TERMINALS", "MEDIA SERVER", "NTP", "LOCATION", "NRPE", "INTERNET GATEWAY", "TEL VPN", "PROXY LDAP"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.2.index
Version	>= R8.2

Name of the service.

4.2.3. SERVICESTATE

Name	serviceTable[index].serviceState
Type	STRING
Range	"STOPPED" "STARTED" "RESTARTING"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.3.index
Version	>= R8.2

State of the service.

4.2.4. SERVICESTARTUP

Name	serviceTable[index].serviceStartup
Type	STRING
Range	"AUTO" "MANUAL"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.3.1.1.4.index
Version	>= R8.2

serviceStartup contains the configuration of the service.

5. TELEPHONY INVENTORY

MIB objects are only readable.

Three new tables contain an export from the ihm "Inventory".

Inventory

Telephony service>System>Info>Inventory (2.1.6)

Subscriptions	Allocations	Locking	Dialing
Subscriptions	Declared	Available	
INTERNAL	1100	20899	
SECONDARY	0	20899	
BACKUP	0	20899	
MULTIUSER	0	20899	
SERVERS	0	20899	
COMMON	500	0	
GROUP	0	3000	
BACKUP GROUP	0	3000	
SUPER GROUP	0	8	
VMail GROUP	0	3000	
INTEGR. VMAIL	1	0	

5.1. SUBINVENTORY

This table is an export of the subscriptions.

```
[root@rocky87 ~]# snmptable -v2c -c public 10.148.65.136 subInventory
SNMP table: AMT-NX-MIB::subInventory
```

subIndex	subName	subDeclared	subAvailable
1	"INTERNAL"	1100	20899
2	"SECONDARY"	0	20899
3	"BACKUP"	0	20899
4	"MULTIUSER"	0	20899
5	"EXT SUBSC"	0	20899
6	"SERVERS"	0	20899
7	"COMMON"	500	0
8	"ATDC"	0	8
9	"GROUP"	0	3000
10	"BACKUP GROUP"	0	3000
11	"SUPER GROUP"	0	8
12	"VMail GROUP"	0	3000
13	"INTEGR. VMAIL"	1	0

5.1.1. SUBINDEX

Name	subInventory[index].subIndex
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.1.1.1.index
Version	>= R8.2

subIndex allows to access a record in subInventory[].

5.1.2. SUBNAME

Name	subInventory[index].subName
Type	STRING
Range	"INTERNAL", "SECONDARY", "BACKUP", "MULTIUSER", "EXT SUBSC", "SERVERS", "COMMON", "ATDC", "GROUP", "BACKUP GROUP", "SUPER GROUP", "VMAIL GROUP", "INTEGR. VMAIL"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.1.1.2.index
Version	>= R8.2

subName contains the type of subscription.

5.1.3. SUBDECLARED

Name	subInventory[index].subDeclared
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.1.1.3.index
Version	>= R8.2

subDeclared contains the number of subscriptions used.

5.1.4. SUBAVAILABLE

Name	subInventory[index].subAvailable
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.1.1.4.index
Version	>= R8.2

subAvailable contains the number of subscriptions available for each type.

5.2. ALLOCINVENTORY

This table is an export of the allocations. It contains the number of terminals assigned to a subscription.

```
[root@rocky87 ~]# snmptable -v2c -c public 10.148.65.136 allocInventory
SNMP table: AMT-NX-MIB::allocInventory
```

allocIndex	allocName	allocDeclared	allocAvailable	allocLocal	allocBackup	allocOtherSite
1	"ANALOG"	0	29913	0	0	0
2	"ANALOG. MSG LAMP"	0	0	0	0	0
3	"MSITE ANALOG"	0	29913	0	0	0
4	"PROPRIETARY"	0	29913	0	0	0
5	"MSITE PROPRIETARY"	0	29913	0	0	0
6	"ISDN S0"	0	29913	0	0	0
7	"ISDN S2"	0	29913	0	0	0
8	"DECT MOBILE"	0	500	0	0	0
9	"DAS MOBILE"	0	500	0	0	0
10	"IP PROPRIETARY"	52	29913	52	0	0
11	"VIDEO PROPRIETARY"	0	29913	0	0	0
12	"SIP"	35	29913	35	0	0
13	"DECT IP"	0	10000	0	0	0
14	"EXTERNAL SET"	0	10000	0	0	0
15	"SIP DECT CONFERENCE"	0	100	0	0	0
16	"DS ON PC"	0	4000	0	0	0
17	"VTI/XML IP"	0	20000	0	0	0
18	"H323"	0	950	0	0	0

5.2.1. ALLOCINDEX

Name	allocInventory[index].allocIndex
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.1.index
Version	>= R8.2

allocIndex allows to access a record in allocInventory[].

5.2.2. ALLOCNAME

Name	allocInventory[index].allocName
Type	STRING
Range	"ANALOG", "ANALOG. MSG LAMP", "MSITE ANALOG", "PROPRIETARY", "MSITE PROPRIETARY", "ISDN S0", "ISDN S2", "DECT MOBILE", "DAS MOBILE", "IP PROPRIETARY", "VIDEO PROPRIETARY", "SIP", "DECT IP", "EXTERNAL SET", "SIP DECT CONFERENCE", "DS ON PC", "VTI/XML IP", "H323"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.2.index
Version	>= R8.2

allocName contains the type of terminal.

5.2.3. ALLOCDECLARED

Name	allocInventory[index].allocDeclared
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.3.index
Version	>= R8.2

allocDeclared contains the number of terminals used (allocLocal+allocBackup+allocOtherSite).

5.2.4. ALLOCAVAILABLE

Name	allocInventory[index].allocAvailable
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.4.index
Version	>= R8.2

allocAvailable contains the number of terminals available for each type.

5.2.5. ALLOCLOCAL

Name	allocInventory[index].allocLocal
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.5.index
Version	>= R8.2

allocLocal contains the number of terminals assigned to a local subscription.

5.2.6. ALLOCBACKUP

Name	allocInventory[index].allocBackup
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.6.index
Version	>= R8.2

allocBackup contains the number of terminals assigned to a backup subscription.

5.2.7. ALLOCOTHERSITE

Name	allocInventory[index].allocOtherSite
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.2.1.7.index
Version	>= R8.2

allocOtherSite contains the number of terminals assigned to another site.

5.3. LOCKINVENTORY

This table is an export of the licensing. It contains the number of licenses used and available. The first lines contain the general status of the licensing.

```
[root@rocky87 ~]# snmptable -v2c -c public 10.148.65.136 lockInventory
SNMP table: AMT-NX-MIB::lockInventory
```

lockIndex	lockName	lockDeclared	lockAvailable	lockExceeded	lockState
1	"LICENSE VALIDITY"	0	0	0	"AUTHORIZED"
2	"SOFTWARE ASSURANCE"	0	27363	0	"UNTIL 01/01/2099"
3	"MV5000 REDUNDANCY"	0	0	0	"AUTHORIZED"
4	"DIRECTORY RECORDS"	1102	400000	0	" "
5	"SIP LINKS"	0	6000	0	" "
6	"INTERNET LINKS"	0	6000	0	" "
7	"MEDIA SERVER"	0	12000	0	" "
8	"DUAL HOMING"	1	20000	0	" "
9	"STANDARD IVB"	18	20000	0	" "
10	"UNIFIED IVB"	0	20000	0	" "
11	"Q23 IVR VOICE MAIL"	0	64	0	" "
12	"XML IVR VOICE MAIL"	0	100	0	" "
13	"MIV5000 ATTENDANT"	0	255	0	" "
14	"MIV5000 CTI"	0	20000	0	" "
15	"CTI CSTA"	0	20000	0	" "
16	"BLUSTAR CLIENT"	0	30000	0	" "
17	"VIRTUAL TDM"	0	30000	0	" "
18	"MOBILE"	0	30000	0	" "
19	"AUDIO PROPRIETARY"	0	30000	0	" "
20	"AUDIO GENERIC"	0	30000	0	" "
21	"VIDEO PROPRIETARY"	0	30000	0	" "
22	"VIDEO GENERIC"	0	30000	0	" "

5.3.1. LOCKINDEX

Name	lockInventory[index].lockIndex
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.1.index
Version	>= R8.2

lockIndex allows to access a record in lockInventory[].

5.3.2. LOCKNAME

Name	lockInventory[index].lockName
Type	STRING
Range	For global status : "LICENSE VALIDITY" "SUBSCRIPTION" "SOFTWARE ASSURANCE" "MV5000 REDUNDANCY" For specific licensing : "DIRECTORY RECORDS", "SIP LINKS", "INTERNET LINKS", "MEDIA SERVER", "DUAL HOMING", "STANDARD IVB", "UNIFIED IVB", "Q23 IVR VOICE MAIL", "XML IVR VOICE MAIL", "MIV5000 ATTENDANT", "MIV5000 CTI", "CTI CSTA", "BLUSTAR CLIENT", "VIRTUAL TDM", "MOBILE", "AUDIO PROPRIETARY", "AUDIO GENERIC", "VIDEO PROPRIETARY", "VIDEO GENERIC"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.2.index
Version	>= R8.2

lockName contains the type of license.

The values lockDeclared/lockAvailable/lockExceeded are always significant for a specific licensing.

The lockState string is significant for each "global status" license.

5.3.3. LOCKDECLARED

Name	lockInventory[index].lockDeclared
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.3.index
Version	>= R8.2

lockDeclared contains the number of licenses used (for a specific licensing only).

For the "MV5000 REDUNDANCY" licensing, it contains the number of days running on the secondary.

5.3.4. LOCKAVAILABLE

Name	lockInventory[index].lockAvailable
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.4.index
Version	>= R8.2

lockAvailable contains the number of licenses available with the current licensing (for a specific licensing).

For the "SUBSCRIPTION" and the "SOFTWARE ASSURANCE" licensing, lockAvailable contains the number of days remaining.

For the "MV5000 REDUNDANCY" licensing, lockAvailable contains the number of days allowed on the secondary.

5.3.5. LOCKEXCEEDED

Name	lockInventory[index].lockExceeded
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.5.index
Version	>= R8.2

For a specific licensing, lockExceeded contains the number of reservation failures.

5.3.6. LOCKSTATE

Name	lockInventory[index].lockState
Type	STRING
Range	"LICENSE VALIDITY" : "AUTHORIZED", " FORBIDDEN " "SUBSCRIPTION" / "SOFTWARE ASSURANCE" : "UNTIL xx/xx/xxxx", " EXPIRES IN xx DAYS " or " EXPIRED " "MV5000 REDUNDANCY" : "AUTHORIZED", "FORBIDDEN", " xx/xx DAYS "
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.3.1.5.index
Version	>= R8.2

lockState contains the global status of the licensing.

For the licensing "SUBSCRIPTION" and "SOFTWARE ASSURANCE", **"EXPIRES IN xx DAYS" appears if the number of days remaining is less than 30 (lockAvailable).**

For the licensing "MV5000 REDUNDANCY", **"xx/xx DAYS" appears if the MiVoice 5000 server is running on the secondary.**

trunkName contains the name defined in the IHM "Trunk group names".

Trunk group names

Telephony service>Network and links>Network>Trunk groups>Names (4.2.1.1)

Trunk group 1	FX.SIP
Trunk group 2	FX.PRI1
Trunk group 3	FX.PRI2
Trunk group 4	FX.FXO1
Trunk group 5	FX.BRI1
Trunk group 6	FX.BRI2
Trunk group 7	FX.BRI3
Trunk group 8	FX.BRI4
Trunk group 9	

5.4.3. TRUNKTYPE

Name	trunkInventory[index].trunkType
Type	STRING
Range	"STANDARD", "ROOM STATUS", "INTERNET LINK", "VOICE MAIL", "INATTEND", "MICC", "CLOUDLINK", "ED 137"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.3.index
Version	>= R8.2

STANDARD : Default value.

ROOM STATUS : This trunk group does not contain any trunk lines (Hotel configuration).

INTERNET LINK : Trunk used for SIP URI calls.

VOICE MAIL : Trunk connected to external voicemail via an SIP trunk.

INATTEND : Trunk connected to INATTEND via an SIP trunk.

MICC : Trunk connected to MICC via an SIP trunk.

CLOUDLINK : Trunk connected to CLOUDLINK via an SIP trunk.

5.4.4. TRUNKSTATE

Name	trunkInventory[index].trunkState
Type	STRING
Range	"DISCONNECTED", "CONNECTED", "NOT CONFIGURED", "WAITING FOR CALL"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.4.index
Version	>= R8.2

trunkState shows the SIP link status.

5.4.5. TRUNKREGSTATE

Name	trunkInventory[index].trunkRegState
Type	STRING
Range	"UNDEFINED", "RECORDED", "OPERATOR REJECT", "NOT CONFIGURED", "NO OPERATOR RESPONSE", "OPERATOR REJECT", "DURING", "SUBSCRIBED", "ACCEPTED"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.5.index
Version	>= R8.2

trunkRegState shows the status of the SIP registration request.

5.4.6. TRUNKAUDITSTATE

Name	trunkInventory[index].trunkAuditState
Type	STRING
Range	"UNDEFINED", "RECORDED", "OPERATOR REJECT", "NOT CONFIGURED", "NO OPERATOR RESPONSE", "OPERATOR REJECT", "DURING", "SUBSCRIBED", "ACCEPTED"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.6.index
Version	>= R8.2

A special OPTIONS message is transmitted by the iPBX and is used to audit the operator's proxy out of speech. This way, the PBX is dynamically informed whether or not the operator's proxy is available. This allows immediate overflow to another trunk if the operator's proxy is unavailable.

If this service is activated (AUDIT OUT OF SPEECH (OPTIONS) checkbox ticked), the iPBX sends regularly (30s by default) an OPTIONS message to the operator's proxy.

5.4.7. TRUNKMWISTATE

Name	trunkInventory[index].trunkMwiState
Type	STRING
Range	"UNDEFINED", "RECORDED", "OPERATOR REJECT", "NOT CONFIGURED", "NO OPERATOR RESPONSE", "OPERATOR REJECT", "DURING", "SUBSCRIBED", "ACCEPTED"
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.7.index
Version	>= R8.2

trunkMwiState shows the status of MWI service subscription requests

5.4.8. TRUNKPROXYADDR

Name	trunkInventory[index].trunkProxyAddr
Type	STRING
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.8.index
Version	>= R8.2

IP address or name of the remote SIP proxy

5.4.9. TRUNKREGADDR

Name	trunkInventory[index].trunkRegAddr
Type	STRING
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.9.index
Version	>= R8.2

IP address or name of the remote SIP server

5.4.10. TRUNKCACADDR

Name	trunkInventory[index].trunkCacAddr
Type	STRING
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.10.index
Version	>= R8.2

IP address used for the Call Admission Control.

5.4.11. TRUNKCACCENTER

Name	trunkInventory[index].trunkCacCenter
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.11.index
Version	>= R8.2

CAC center number used for the Call Admission Control (or CAC community).

5.4.12. TRUNKCACCLASSE

Name	trunkInventory[index].trunkCacClasse
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.12.index
Version	>= R8.2

CAC class number used for the Call Admission Control.

5.4.13. TRUNKCURRENTCALLS

Name	trunkInventory[index].trunkCurrentCalls
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.13.index
Version	>= R8.2

trunkCurrentCalls contains the number of calls in progress on the trunk group

5.4.14. TRUNKMAXCALLS

Name	trunkInventory[index].trunkMaxCalls
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.14.index
Version	>= R8.2

trunkMaxCalls contains the maximum number of successful simultaneous calls on the trunk group

5.4.15. TRUNKALLOWEDCALLS

Name	trunkInventory[index].trunkAllowedCalls
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.15.index
Version	>= R8.2

trunkAllowedCalls is the number of authorised calls which is actually the information configured in Menu NETWORK AND LINKS>Network>Trunk groups>Characteristics

5.4.16. TRUNKREFUSEDCELLS

Name	trunkInventory[index].trunkRefusedCalls
Type	INTEGER
Range	
SNMP OID	1.3.6.1.4.1.11268.2.7.4.1.5.4.1.16.index
Version	>= R8.2

trunkRefusedCalls contains the number of calls rejected because the threshold has been reached.

6. LINUX SUPERVISION

Some useful SNMP OIDs allow to monitor a Linux OS. This list describes the most used ones.

You can consult this website to have more details for each OID :

<https://cric.grenoble.cnrs.fr/Administrateurs/Outils/MIBS/>

These OIDs are available on the Linux target OS. This chapter is applicable to the both systems MiVoice 5000 Server and Manager.

6.1. GENERAL SYSTEM OIDS

OID 1.3.6.1.2.1.25.1

Module HOST-RESOURCES-MIB

Nom hrSystem

1.3.6.1.2.1.25.1.1 (hrSystemUptime)

1.3.6.1.2.1.25.1.2 (hrSystemDate)

1.3.6.1.2.1.25.1.3 (hrSystemInitialLoadDevice)

1.3.6.1.2.1.25.1.4 (hrSystemInitialLoadParameters)

1.3.6.1.2.1.25.1.5 (hrSystemNumUsers)

1.3.6.1.2.1.25.1.6 (hrSystemProcesses)

1.3.6.1.2.1.25.1.7 (hrSystemMaxProcesses)

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 hrSystem
```

```
.1.3.6.1.2.1.25.1.1.0 = Timeticks: (269333390) 31 days, 4:08:53.90 (hrSystemUptime)
```

```
.1.3.6.1.2.1.25.1.2.0 = STRING: 2024-2-8,15:24:37.0,+1:0
```

```
.1.3.6.1.2.1.25.1.3.0 = INTEGER: 393216
```

```
.1.3.6.1.2.1.25.1.4.0 = STRING: "BOOT_IMAGE=(hd0,gpt2)/vmlinuz-4.18.0-513.9.1.el8_9.x86_64
root=UUID=7a46dd70-357d-46bb-ae07-812bb2fad691 ro net.ifnames=0 biosde"
```

```
.1.3.6.1.2.1.25.1.5.0 = Gauge32: 1
```

```
.1.3.6.1.2.1.25.1.6.0 = Gauge32: 307 (hrSystemProcesses)
```

```
.1.3.6.1.2.1.25.1.7.0 = INTEGER: 0
```

```
[root@rocky87 ~]# uptime
```

```
15:24:39 up 31 days, 4:08, 1 user, load average: 0.01, 0.02, 0.00
```

1.3.6.1.2.1.1.3 : SNMPv2-MIB / sysUpTime is the time since the network management was restarted (snmpd).

6.2. CPU STATISTICS

CPU load in percentage :

UCD-SNMP-MIB::ssCpuUser.0 = 1.3.6.1.4.1.2021.11.9.0 (INTEGER)

UCD-SNMP-MIB::ssCpuSystem.0 = 1.3.6.1.4.1.2021.11.10.0 (INTEGER)

UCD-SNMP-MIB::ssCpuIdle.0 = 1.3.6.1.4.1.2021.11.11.0 (INTEGER)

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 1.3.6.1.4.1.2021.11
.1.3.6.1.4.1.2021.11.9.0 = INTEGER: 0 (user)
.1.3.6.1.4.1.2021.11.10.0 = INTEGER: 13 (system)
.1.3.6.1.4.1.2021.11.11.0 = INTEGER: 79 (idle)
```

Load Average (MIB laLoad) :

1 LA = 100% load on 1 CPU core. If there are two cores, the average load can reach 2 units.

1 minute Load: .1.3.6.1.4.1.2021.10.1.3.1

5 minute Load: .1.3.6.1.4.1.2021.10.1.3.2

15 minute Load: .1.3.6.1.4.1.2021.10.1.3.3

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 1.3.6.1.4.1.2021.10.1.3
.1.3.6.1.4.1.2021.10.1.3.1 = STRING: 0.48 (48% / 1 CPU)
.1.3.6.1.4.1.2021.10.1.3.2 = STRING: 0.68
.1.3.6.1.4.1.2021.10.1.3.3 = STRING: 0.32
```

➔ If all three values are 0, then the system is in standby mode. If the values increase, it means that the load is growing. If the values decrease, the load is falling.

6.3. MEMORY STATISTICS

OID 1.3.6.1.4.1.2021.4
 Module UCD-SNMP-MIB (netsnmp)
 Nom memory
 1.3.6.1.4.1.2021.4.1 (memIndex)
 1.3.6.1.4.1.2021.4.2 (memErrorName)
 1.3.6.1.4.1.2021.4.3 (memTotalSwap)
 1.3.6.1.4.1.2021.4.4 (memAvailSwap)
1.3.6.1.4.1.2021.4.5 (memTotalReal)
1.3.6.1.4.1.2021.4.6 (memAvailReal)
 1.3.6.1.4.1.2021.4.7 (memTotalSwapTXT)
 1.3.6.1.4.1.2021.4.8 (memAvailSwapTXT)
 1.3.6.1.4.1.2021.4.9 (memTotalRealTXT)
 1.3.6.1.4.1.2021.4.10 (memAvailRealTXT)
1.3.6.1.4.1.2021.4.11 (memTotalFree)
 1.3.6.1.4.1.2021.4.12 (memMinimumSwap)
 1.3.6.1.4.1.2021.4.13 (memShared)
1.3.6.1.4.1.2021.4.14 (memBuffer)
1.3.6.1.4.1.2021.4.15 (memCached)
 1.3.6.1.4.1.2021.4.16 (memUsedSwapTXT)
 1.3.6.1.4.1.2021.4.17 (memUsedRealTXT)
 1.3.6.1.4.1.2021.4.100 (memSwapError)
 1.3.6.1.4.1.2021.4.101 (memSwapErrorMsg)

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 1.3.6.1.4.1.2021.4
.1.3.6.1.4.1.2021.4.3.0 = INTEGER: 0 kB
.1.3.6.1.4.1.2021.4.4.0 = INTEGER: 0 kB
.1.3.6.1.4.1.2021.4.5.0 = INTEGER: 3740668 kB (memTotalReal)
.1.3.6.1.4.1.2021.4.6.0 = INTEGER: 1028768 kB (memAvailReal)
.1.3.6.1.4.1.2021.4.11.0 = INTEGER: 1028768 kB (memTotalFree)
.1.3.6.1.4.1.2021.4.12.0 = INTEGER: 16000 kB
.1.3.6.1.4.1.2021.4.13.0 = INTEGER: 452276 kB
.1.3.6.1.4.1.2021.4.14.0 = INTEGER: 796 kB (memBuffer)
.1.3.6.1.4.1.2021.4.15.0 = INTEGER: 1577392 kB (memCached)
.1.3.6.1.4.1.2021.4.100.0 = INTEGER: error(1)
.1.3.6.1.4.1.2021.4.101.0 = STRING: Running out of swap space (0)
```

```
[root@rocky87 ~]# free
              total        used        free      shared  buff/cache   available
Mem:           3740668      1132180      1028164        452276       1580324       1903188
Swap:              0              0              0
```

6.4. DISK STATISTICS

OID 1.3.6.1.4.1.2021.9

Module UCD-SNMP-MIB (netsnmp)

Nom dskTable

Description Disk watching information. **Partions to be watched are configured by the snmpd.conf file of the agent.**

1.3.6.1.4.1.2021.9.1.1 (dskIndex)

1.3.6.1.4.1.2021.9.1.2 (dskPath)

1.3.6.1.4.1.2021.9.1.3 (dskDevice)

1.3.6.1.4.1.2021.9.1.4 (dskMinimum)

1.3.6.1.4.1.2021.9.1.5 (dskMinPercent)

1.3.6.1.4.1.2021.9.1.6 (dskTotal)

1.3.6.1.4.1.2021.9.1.7 (dskAvail)

1.3.6.1.4.1.2021.9.1.8 (dskUsed)

1.3.6.1.4.1.2021.9.1.9 (dskPercent)

1.3.6.1.4.1.2021.9.1.10 (dskPercentNode)

1.3.6.1.4.1.2021.9.1.100 (dskErrorFlag)

1.3.6.1.4.1.2021.9.1.101 (dskErrorMsg)

/etc/snmp/snmpd.conf :

```
# disk PATH [MIN=100000]
```

```
# PATH: mount path to the disk in question.
```

```
# MIN: Disks with space below this value will have the Mib's errorFlag set.
```

```
# Check the / partition and make sure it contains at least 10 megs.
```

```
disk / 10000
```

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 1.3.6.1.4.1.2021.9
```

```
.1.3.6.1.4.1.2021.9.1.1.1 = INTEGER: 1
```

```
.1.3.6.1.4.1.2021.9.1.2.1 = STRING: /
```

```
.1.3.6.1.4.1.2021.9.1.3.1 = STRING: /dev/sda3 (dskDevice)
```

```
.1.3.6.1.4.1.2021.9.1.4.1 = INTEGER: 10000
```

```
.1.3.6.1.4.1.2021.9.1.5.1 = INTEGER: -1
```

```
.1.3.6.1.4.1.2021.9.1.6.1 = INTEGER: 40258352 (dskTotal)
```

```
.1.3.6.1.4.1.2021.9.1.7.1 = INTEGER: 8724196 (dskAvail)
```

```
.1.3.6.1.4.1.2021.9.1.8.1 = INTEGER: 31534156 (dskUsed)
```

```
.1.3.6.1.4.1.2021.9.1.9.1 = INTEGER: 78 (dskPercent)
```

```
[root@rocky87 ~]# df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
/dev/sda3	40258352	31534160	8724192	79%	/

6.5. NETWORK STATISTICS

OID	1.3.6.1.2.1.2.2.1
Module	IF-MIB
Nom	ifEntry
Description	An entry containing management information applicable to a particular interface.
1.3.6.1.2.1.2.2.1.1	(ifIndex)
1.3.6.1.2.1.2.2.1.2	(ifDescr)
1.3.6.1.2.1.2.2.1.3	(ifType)
1.3.6.1.2.1.2.2.1.4	(ifMtu)
1.3.6.1.2.1.2.2.1.5	(ifSpeed)
1.3.6.1.2.1.2.2.1.6	(ifPhysAddress)
1.3.6.1.2.1.2.2.1.7	(ifAdminStatus)
1.3.6.1.2.1.2.2.1.8	(ifOperStatus)
1.3.6.1.2.1.2.2.1.9	(ifLastChange)
1.3.6.1.2.1.2.2.1.10	(ifInOctets)
1.3.6.1.2.1.2.2.1.11	(ifInUcastPkts)
1.3.6.1.2.1.2.2.1.12	(ifInNUcastPkts)
1.3.6.1.2.1.2.2.1.13	(ifInDiscards)
1.3.6.1.2.1.2.2.1.14	(ifInErrors)
1.3.6.1.2.1.2.2.1.15	(ifInUnknownProtos)
1.3.6.1.2.1.2.2.1.16	(ifOutOctets)
1.3.6.1.2.1.2.2.1.17	(ifOutUcastPkts)
1.3.6.1.2.1.2.2.1.18	(ifOutNUcastPkts)
1.3.6.1.2.1.2.2.1.19	(ifOutDiscards)
1.3.6.1.2.1.2.2.1.20	(ifOutErrors)
1.3.6.1.2.1.2.2.1.21	(ifOutQLen)
1.3.6.1.2.1.2.2.1.22	(ifSpecific)

```
[root@rocky87 ~]# snmpwalk -v2c -c public 10.148.65.136 1.3.6.1.2.1.2.2.1
```

```
IF-MIB::ifIndex.2 = INTEGER: 2
```

```
IF-MIB::ifDescr.2 = STRING: eth0
```

```
IF-MIB::ifType.2 = INTEGER: ethernetCsmacd(6)
```

```
IF-MIB::ifMtu.2 = INTEGER: 1500
```

```
IF-MIB::ifSpeed.2 = Gauge32: 4294967295
```

```
IF-MIB::ifPhysAddress.2 = STRING: 0:50:56:99:cd:c0
```

```
IF-MIB::ifAdminStatus.2 = INTEGER: up(1)
```

```
IF-MIB::ifOperStatus.2 = INTEGER: up(1)
```

```
IF-MIB::ifLastChange.2 = Timeticks: (0) 0:00:00.00
```

```
IF-MIB::ifInOctets.2 = Counter32: 3143157156
```

```
IF-MIB::ifInUcastPkts.2 = Counter32: 8742114
```

```
IF-MIB::ifInNUcastPkts.2 = Counter32: 193
```

IF-MIB::ifInDiscards.2 = Counter32: 574
IF-MIB::ifInErrors.2 = Counter32: 0
IF-MIB::ifInUnknownProtos.2 = Counter32: 0
IF-MIB::ifOutOctets.2 = Counter32: 980984230
IF-MIB::ifOutUcastPkts.2 = Counter32: 6414062
IF-MIB::ifOutNUcastPkts.2 = Counter32: 0
IF-MIB::ifOutDiscards.2 = Counter32: 0
IF-MIB::ifOutErrors.2 = Counter32: 0
IF-MIB::ifOutQLen.2 = Gauge32: 0
IF-MIB::ifSpecific.2 = OID: SNMPv2-SMI::zeroDotZero

```
[root@rocky87 ~]# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.148.65.136 netmask 255.255.255.0 broadcast 10.148.65.255
    inet6 fe80::250:56ff:fe99:cdc0 prefixlen 64 scopeid 0x20<link>
    ether 00:50:56:99:cd:c0 txqueuelen 1000 (Ethernet)
    RX packets 8742340 bytes 3143160239 (2.9 GiB)
    RX errors 0 dropped 574 overruns 0 frame 0
    TX packets 6414091 bytes 980993291 (935.5 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

6.6. PROCESS MONITORING

OID 1.3.6.1.2.1.25.4.2.1
 Module HOST-RESOURCES-MIB
 Nom hrSWRunEntry

This table lists all the software running on the host.

1.3.6.1.2.1.25.4.2.1.1 (hrSWRunIndex) -> Process PID

1.3.6.1.2.1.25.4.2.1.2 (hrSWRunName)
 1.3.6.1.2.1.25.4.2.1.3 (hrSWRunID)
 1.3.6.1.2.1.25.4.2.1.4 (hrSWRunPath)
 1.3.6.1.2.1.25.4.2.1.5 (hrSWRunParameters)
 1.3.6.1.2.1.25.4.2.1.6 (hrSWRunType)
 1.3.6.1.2.1.25.4.2.1.7 (hrSWRunStatus)

```
[root@rocky87 ~]# ps aux | grep cmstart
```

```
root 1448437 0.8 4.2 509056 159660 ? SNI Feb06 25:08 ./cmstart
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunIndex.1448437
.1.3.6.1.2.1.25.4.2.1.1.1448437 = INTEGER: 1448437
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunName.1448437
.1.3.6.1.2.1.25.4.2.1.2.1448437 = STRING: "cmstart"
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunStatus.1448437
.1.3.6.1.2.1.25.4.2.1.7.1448437 = INTEGER: runnable(2)
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunPath.1448437
.1.3.6.1.2.1.25.4.2.1.4.1448437 = STRING: "./cmstart"
```

To list all processes as a "ps" command.

```
[root@rocky87 ~]# snmpwalk -v2c -On -c public 10.148.65.136 hrSWRunName
```

```
.1.3.6.1.2.1.25.4.2.1.2.1 = STRING: "systemd"
.1.3.6.1.2.1.25.4.2.1.2.2 = STRING: "kthreadd"
.1.3.6.1.2.1.25.4.2.1.2.3 = STRING: "rcu_gp"
.1.3.6.1.2.1.25.4.2.1.2.4 = STRING: "rcu_par_gp"
.1.3.6.1.2.1.25.4.2.1.2.5 = STRING: "slub_flushwq"
.1.3.6.1.2.1.25.4.2.1.2.7 = STRING: "kworker/0:0H-events_highpri"
.1.3.6.1.2.1.25.4.2.1.2.10 = STRING: "mm_percpu_wq"
.1.3.6.1.2.1.25.4.2.1.2.11 = STRING: "rcu_tasks_rude_"
.1.3.6.1.2.1.25.4.2.1.2.12 = STRING: "rcu_tasks_trace"
.1.3.6.1.2.1.25.4.2.1.2.13 = STRING: "ksoftirqd/0"
```

...

CPU/Memory per process.

OID 1.3.6.1.2.1.25.5.1

Module HOST-RESOURCES-MIB (CISCO)

Nom hrSWRunPerfTable

Description Table of running software performance metrics.

1.3.6.1.2.1.25.5.1.1.1 (hrSWRunPerfCPU)

1.3.6.1.2.1.25.5.1.1.2 (hrSWRunPerfMem)

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

hrSWRunPerfMem contains the total amount of real system memory allocated to this process in Kbytes.

```
[root@rocky87 ~]# top -b | grep -e 'cmstart' -e PID
```

```

  PID USER   PR NI  VIRT  RES  SHR S %CPU %MEM    TIME+  COMMAND
1448437 root    -10 10 509056 159664 51136 S   0.0   4.3   25:44.42 cmstart
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunName.1448437
```

```
.1.3.6.1.2.1.25.4.2.1.2.1448437 = STRING: "cmstart"
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunPerfMem.1448437
```

```
.1.3.6.1.2.1.25.5.1.1.2.1448437 = INTEGER: 159664 KBytes
```

```
[root@rocky87 ~]# snmpget -v2c -On -c public 10.148.65.136 hrSWRunPerfCPU.1448437
```

```
.1.3.6.1.2.1.25.5.1.1.1.1448437 = INTEGER: 154309
```

Note : hrSWRunPerfCPU allows you to calculate a CPU load between two samples over a given period.