

**Allworx<sup>®</sup>**

**SNMP User Guide**

**(Phone and Server)**

Updated 11/30/2016





# Allworx® SNMP User Guide

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# Chapter 1 Introduction

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Allworx IP Phone firmware and Allworx System Software include support for an SNMP Agent to the Allworx phone and server. This feature provides a mechanism for the monitoring of Allworx Phones/servers as well as remotely debugging problems. This is especially useful if the deployment quantity of equipment is large, and the lack of physical proximity makes ready-access not feasible.

The Agent runs on the phone/server and services requests from a network manager to retrieve data used from monitoring of the device. The SNMP requests identify a particular datum of interest through its corresponding Object Identifier (OID) in the form of “<x>.<y>.<z>.<...>”.

Management Information Bases (MIB) define the OIDs. Different MIBs report different data.

## 1.1 Who Should Read this Guide

This guide is for Allworx Server Administrators that use an SNMP agent to monitor Allworx phones/servers and remotely debug problems.

## 1.2 Guide Purpose

The purpose this guide is to advise:

- Enabling and Disabling the SNMP Agent,
- Agent Communication,
- SNMP Version,
- SNMP Community,
- SNMP Protocol Data Units (PDU),
- MIB Support, and
- MIB Details.

## 1.3 Equipment Requirements

The table below is a complete list of equipment and requirements necessary to perform all operations identified in this Administrator's Guide. Each chapter has a specific list of equipment and requirements necessary to perform the operations identified with that chapter.

Equipment	Requirements
PC	<ul style="list-style-type: none"> <li>• Running OS (with latest service pack)               <ul style="list-style-type: none"> <li>• Windows 7 32-bit SP1</li> <li>• Windows 7 64-bit SP1</li> <li>• Windows 8 32-bit</li> <li>• Windows 8 64-bit</li> <li>• Windows 8.1 32-bit</li> <li>• Windows 8.1 64-bit</li> <li>• Windows 10 32-bit</li> <li>• Windows 10 64-bit</li> </ul> </li> <li>• RAM minimum: 2 GB</li> <li>• Monitor resolution: 1024 x 768 (XGA)</li> <li>• Internet connection               <ul style="list-style-type: none"> <li>• Internet Explorer 11 and later</li> <li>• Microsoft Edge</li> <li>• Google Chrome (Latest Release)</li> <li>• Mozilla Firefox (Latest Release)</li> </ul> </li> </ul>
Allworx server	<ul style="list-style-type: none"> <li>• Server Software</li> <li>• Administration permissions and passwords for each Allworx server.</li> <li>• IP Address or DNS name of each Allworx server.</li> </ul>

# Chapter 2 SNMP Support

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The following sections describe:

- enabling or disabling the SNMP agent on the Allworx server, and
- knowing the SNMP supported multiple PDU types.

## 2.1 Enabling and Disabling the SNMP Agent

Use the Allworx server administration web page for either the server or Allworx phones to enable or disable the SNMP agent.

### 2.1.1 Phone

The SNMP agent for Allworx Phones is on by default.

**To enable or disable the agent:**

1. Log onto the Allworx server admin page, and navigate to **Phone System > Handsets**.
2. Locate the Handset Preference Group, and click the **view** link. The Handset Preference Group window opens.
3. Click **modify** and locate the **SNMP** section. A check in the box indicates enabling SNMP.

<b>Note:</b>	The default Handset Preference groups cannot be modified. So a new group will need to be created to disable the SNMP agent for phones.
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4. Click **Update** to save the changes.
5. Reboot the phone.

All handsets	<ol style="list-style-type: none"> <li>1. Navigate to <b>Phone System &gt; Handsets</b>, and locate the SIP Handsets section.</li> <li>2. Click the <b>Reboot Allworx Handsets</b> button.</li> </ol>
Single handset	<ol style="list-style-type: none"> <li>1. Navigate to <b>Phone System &gt; Handsets</b>, and locate the SIP Handsets section.</li> <li>2. Locate the handset, and Click the <b>Reboot</b> link.</li> </ol>

### 2.1.2 Server

**To enable or disable the SNMP agent individually:**

1. Log onto the Allworx server admin page, and navigate to **Network > Configuration**. The Configuration page displays.
2. Click **modify** and locate the LAN Configuration section.

3. Locate LAN SNMP Agent Enable and check the box to enable the agent for the LAN interface. Checked (Enable) is the default.
4. Locate the WAN Configuration section, and then the WAN SNMP Agent Enable. Check the box to enable the agent for the WAN interface. Unchecked (Disable) is the default.
5. Reboot the server after changing either setting. See the Allworx Server Administrator's Guide for more information about rebooting the server.

## 2.2 Agent Communication

A network manager submits requests to the Allworx SNMP agent via UDP on the common SNMP request port 161. The Agent delivers responses to supported requests to the respective network manager request-source (or designated notification-target) using the common SNMP UDP port 162.

## 2.3 SNMP Version

The version of SNMP adopted is SNMPv2c (v2c). If sending any other version to the agent it does not respond, and the SNMP error counter in the SNMP MIB increments.

## 2.4 SNMP Community

This version of SNMP only supports an SNMP community name of "public". If sending any other community to the agent it does not respond, and the SNMP error counter in the SNMP MIB increments.

## 2.5 SNMP Protocol Data Units (PDU)

SNMP supports multiple PDU types. The Allworx SNMP agent supports a subset of these types.

### 2.5.1 GET

Supported SNMP GET-type PDUs include GET, GETNEXT, and GET-BULK.

### 2.5.2 SET

The Allworx SNMP agent does not support SNMP SET requests. If sending an SNMP SET request to the agent it does not respond, and the SNMP error counter in the SNMP MIB increments.

### 2.5.3 Traps

The Allworx SNMP agent does not support SNMP Trap registration requests nor does it send traps to a network manager. If sending an SNMP Trap request to the agent, it does not respond.

## 2.6 MIB Support

Within the SNMP architecture, data is arranged in groups representing objects of Management Information Bases (MIBs). Each MIB contains a specific set of data related to a protocol or physical characteristic used by the system. The following sections summarize each MIB (or portion of a MIB) supported for retrieval.

When an Allworx agent requests an unsupported MIB it returns an invalid OID response, and the SNMP error counter in the SNMP MIB increments.

### 2.6.1 SYSTEM-MIB (MIB-II.system(1))

The System MIB provides general description information that is useful to the network manager to identify the phone or server. This includes:

- a description of the system,
- system serial number,
- system contact information,
- location, and
- system provided services.

### 2.6.2 INTERFACES-MIB (MIB-II.interfaces(2))

The Interfaces MIB describes the primary network interface(s) within the device and maintains statistical reporting of the performance. The MIB presents:

- Interface configuration,
- MAC address,
- IP address,
- status (up or down),
- generic network send and receive packet counts, and
- network packet error counts that are not protocol specific for each interface supported by the device.

<b>Phone</b>	The number of interfaces included can vary dependent on hardware configuration. In addition to the phone's 'host' interface, the interface monitoring includes the ports on the phone's digital switch. The statistical information available for the switch ports is hardware dependent and certain fields of information may not be available. The MIB returns those items, either zero (0) or an empty string (or similarly appropriate null-type value) on interrogation. Expect five interfaces: <ul style="list-style-type: none"> <li>• The phone 'host' Ethernet interface.</li> <li>• The loopback interface.</li> <li>• The three ports (LAN, PC, and internal) on the phone's internal switch.</li> </ul>
<b>Server</b>	The number of interfaces included remains static. The MIB monitors the each servers WAN port, LAN port, and VPN ports as well as servers that have DMZ ports.

### 2.6.3 IP-MIB (MIB-II.ip(4))

This MIB contains data/statistics regarding the IP (Internet Protocol) subsystem of the device and is IPV4 'centric'. It contains:

- IP configuration information for the device (including IP Address, NetMask),
- IP packet send/receive statistics, and
- different error counts for IP protocol specific errors detected by the device.

### 2.6.4 ICMP-MIB (MIB-ii.icmp(5))

The ICMP MIB contains statistical counters regarding Internet Control Message Protocol (ICMP) messages sent and received (ping uses ICMP). It contains:

- ICMP configuration information for the device,
- ICMP packet send/receive statistics, and
- different error counts for ICMP protocol specific errors detected by the device.

### 2.6.5 TCP-MIB (MIB-II.tcp(6))

This MIB contains data/statistics regarding the Transmission Control Protocol (TCP) subsystem of the device. It contains:

- TCP configuration information for the device,
- TCP packet send/receive statistics, counts of TCP connections,
- tables of currently active TCP connections,
- currently active TCP listeners (servers running on the device), and
- different error counts for TCP protocol specific errors detected by the device.

### 2.6.6 UDP-MIB (MIB-II.udp(7))

This MIB contains data/statistics regarding the User Datagram Protocol (UDP) subsystem of the device. It contains:

- UDP configuration information for the device,
- UDP packet send/receive statistics,
- currently active UDP listeners (servers running on the device), and
- different error counts for UDP protocol specific errors detected by the device.

### 2.6.7 SNMP-MIB (MIB-II.snmp(11))

The SNMP MIB provides information regarding the SNMP agent activities in the device. It contains:

- SNMP configuration information for the device,
- SNMP packet send/receive statistics, and
- different error counts for SNMP specific errors detected by the device.

## 2.6.8 HOST-RESOURCES-MIB (MIB-II.hr(25))

The Host Resources MIB provides information regarding the resources of the device. This includes the:

- system up time,
- maximum number of users/processes supported by the device,
- currently active users/processes on the device, and
- storage capacity/usage (disk, Memory, flash) for the device..

<b>Phone</b>	Reports only the physical memory (RAM) for storage resources
<b>Server</b>	Reports only the physical memory (RAM) and either the Compact FLASH or the Fixed Disk (whichever is present in the server) for storage resources

## 2.6.9 NETWORK-SERVICES-MIB (MIB-II.application(27))

This MIB describes network service applications supported by the device. It contains the:

- application name,
- application version, and
- URL for a web page to configure the application (URL of the device web admin page or [www.allworx.com](http://www.allworx.com)).

<b>Phone</b>	There are two applications - the generalized phone as well as the SIP user agent of the phone.
<b>Server</b>	There are nine applications - the generalized server Web application, server Web Admin application, the SIP Server entity, DHCP Server, DNS Server, SMTP Server, POP3 Server, IMAP Server, and SNTP Server

## 2.6.10 SIP-COMMON-MIB Support (MIB-II.sipCommonMIB(149))

The SIP-COMMON-MIB contains configuration and statistics with regards to the SIP User Agent in the device. This includes:

- supported protocol version,
- agent status,
- SIP options supported by the agent,
- agent capabilities (registrar, user agent, proxy, etc.),
- agent timer values,
- agent transaction statistics, and
- SIP errors detected by the agent.

## 2.6.11 SIP-UAMIB Support (MIB-II.sipUAMIB(150))

The SIP-UA-MIB contains configuration and capabilities with regards to the server portion of the SIP User Agent in the device. This includes the listening address and sever capabilities of the SIP user agent.

## 2.6.12 SIP-SERVER-MIB (MIB-II.sipServer(151))

The SIP-SERVER-MIB contains configuration and statistics of the server portion of the SIP User Agent in the device. This includes:

- proxy configuration for the server (including proxy capabilities, authorization methods, etc.),
- registrar configuration for the server (max users, registrar timer defaults, etc.),
- SIP server statistics (registration success statistics), and
- list of currently registered users (expiration time for registration, user URI, user name, etc.).

Only the server supports this MIB.

# Appendix A MIB Details

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Within the SNMP architecture, the Management Information arrangement is a tree fashion, with a root, sub-roots, and leaf nodes representing objects of Management Information Bases (MIBs). Numbers and textual equivalents represent these nodes. The Internet Assigned Numbers Authority maintains the numbering scheme. The multitude of RFCs describe the composition of the tree. The tree structure for the MIB objects in the 'public' name-space always begins with the same prefix. For brevity sake, here is the common path prefix here and referred to later with the shorthand term - MIB-II.

```
iso(1).org(3).dod(6).internet(1).mgmt(2).mib-2(1)
```

```
1.3.6.1.2.1 == iso.org.dod.internet.mgmt.mib-2 == MIB-II
```

Allworx-specific MIB information defined for the phone and server is under the "private.enterprise" sub-note path specifically assigned to Allworx, referred to with the shorthand term - MIB-ALLWORX and defined as:

```
iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516)
```

```
1.3.6.1.4.1.38516 == iso.org.dod.internet.private.enterprises.allworx == MIB-ALLWORX
```

The following sections detail the OIDs contained in each MIB (or portion of a MIB) supported for retrieval. In general they are strict scalar variables, or they are tables of related objects. Each section begins with a textual root-OID defined for the given MIB. For brevity, OID numeric values may be collapsed into an abbreviated textual representation. Text abbreviations are unique with the exception of the term "ROW". Use this in the current context of a given chart/figure outlining the row of any given MIB table.

When the Allworx agent receives an invalid OID, it returns an invalid OID response, and the SNMP error counter in the SNMP increments.

## 3.1 SYSTEM-MIB (MIB-II.system(1))

This MIB group is a portion of the RFC 1213 and 3418 MIBs. The Allworx agent supports various sections. The System MIB provides fairly general descriptive information useful to the network

manager in identifying the phone or server.

OID	Textual Representation / Description and ASN1 Type	Expected Value	Access																				
SYS.1	SYS.sysDescr Description of the system entity. ASN_OCTET_STR	Phone: "Platform Allworx 92XX" Server: "Allworx #x"	OID.0																				
SYS.2	SYS.sysObjectID The OID sub-root within the private.enterprise sub-tree MIB section that contains product specific MIB data. ASN_OBJECT_IDENTIFIER	<p><b>Phone</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).phone(1).model(92XX).0.0.0.0</p> <hr/> <p><b>Server version 7.7 and earlier</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2).model#(6, 24, or 48).0.0.0.0</p> <hr/> <p><b>Server version 8.0 and later</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2).Product Type(#X).1.0.0.0 #X equals:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Product</th> </tr> </thead> <tbody> <tr><td>1</td><td>6X</td></tr> <tr><td>2</td><td>6X12</td></tr> <tr><td>3</td><td>24X</td></tr> <tr><td>4</td><td>48X</td></tr> <tr><td>5</td><td>Connect 731</td></tr> <tr><td>6</td><td>Connect 536</td></tr> <tr><td>7</td><td>Connect 530</td></tr> <tr><td>8</td><td>Connect 324</td></tr> <tr><td>9</td><td>Connect 320</td></tr> </tbody> </table>	Value	Product	1	6X	2	6X12	3	24X	4	48X	5	Connect 731	6	Connect 536	7	Connect 530	8	Connect 324	9	Connect 320	OID.0
Value	Product																						
1	6X																						
2	6X12																						
3	24X																						
4	48X																						
5	Connect 731																						
6	Connect 536																						
7	Connect 530																						
8	Connect 324																						
9	Connect 320																						
SYS.3	SYS.sysUpTime 100ths of a second since system initialization ASN_TIMETICKS	UINT32 : variable	OID.0																				
SYS.4	SYS.sysContact The system contact for the device. ASN_OCTET_STR	<p>Phone: Log on to the server admin page and navigate to <b>Phone System &gt; Handsets</b>. Locate the phone to change. Click <b>modify</b>. The Caller ID setting represents the SNMP contact.</p> <p>Server: Log on to the server admin page and navigate to <b>Business &gt; Contact Information</b>. Click the <b>modify</b> link. The contact information is the combination of the business "Contact_Name (Contact_Phone_Number)". The default is "()".</p>	OID.0																				
SYS.5	SYS.sysName Unique name representing the device. ASN_OCTET_STR	String: Device serial number	OID.0																				
SYS.6	SYS.sysLocation The location for the device. ASN_OCTET_STR	<p>Phone: Log on to the server admin page and navigate to <b>Phone System &gt; Handsets</b>. Locate the phone to change. Click <b>modify</b> link. The "Description" setting represents the SNMP location.</p> <p>Server: Log on to the server admin page and navigate to <b>Business &gt; Contact Information</b>. Click the <b>modify</b> link. The location is the combination of the business "Street_Address City, State Zip_Code". The default is ",".</p>																					

OID	Textual Representation / Description and ASN1 Type	Expected Value	Access
SYS.7	SyS.sysServices Fixed value indicating the set of OSI layer services offered (sum of (for each layer = 2^(L-1))). Layer 4, Layer 7 ASN_INTEGER	Phone: 72 Server: 79	OID.0

## 3.2 INTERFACES-MIB (MIB-II.interfaces(2))

This SNMP sub-tree represents a portion of the RFC 1213 MIB. The table serves to describe the primary network interface(s) within the device and maintains statistical reporting of the performance.

For the phone, the number of interfaces included can vary dependent on the hardware configuration. In addition to the 'host' interface of the phone, the interface monitoring includes the ports on the digital switch of the phone. The statistical information available for the switch ports is hardware dependent and certain fields of information may not be available. For those items, either zero (0) or an empty string (or similarly appropriate null-type value) returns on interrogation. Five interfaces will be expected: the 'host' Ethernet interface of the phone, the loopback interface, and the three ports (LAN, PC, and internal) on the internal switch of the phone.

### SWITCH-PORT STATISTICAL SUPPORT LIMITATION

Data-availability for the various counters in the interface table (IF::ifTable shown below) varies with the hardware configuration of the phone. The following table indicates which data is monitored (marked with an X). It is anticipated that SNMP support is applicable to the 92xx or later phones.

A == 92xx phone (Marvel Switch 88E6031)

B == 91xx phone (Marvel Switch 88E6021)

Interface table row-elements												
Switch	10	11	12	13	14	15	16	17	18	19	20	21
A		X*						X*				
B**	X	X	X	X	X		X	X	X	X	X	

\* value is either good or bad frames without regard to unicast vs. non-unicast  
 \*\* use of the RMON Statistics Counters

For the server, the number of interfaces included remain static. The WAN port, LAN port, and VPN port of the server is monitored for all servers as well as servers that have DMZ ports.

The root of this MIB is 1.3.6.1.2.1.2.

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
.1.3.6.1.2.1.2	MIB-II.interfaces (aka IF)	none	none
IF.1	ifNumber count of interfaces reported ASN_INTEGER	UINT32 : variable Phone: 3 on pre Gen-2 platform phones Server: 4	OID.0
IF.2	IF.ifTable (aka IFTBL) A table where each row describes a unique interface in the system.	none	none
IFTBL.1	IFTBL.ifEntry (aka ROW) Indexed by ifIndex (aka 'idx' : a 32bit signed integer > 0). Access the column-value within the row via the OID in conjunction with the index of the row desired.	none	none
ROW.1	ROW.ifIndex A unique value > 0 for each interface mapped into the system. This remains constant for the life of the application. ASN_INTEGER	UINT32	OID.<idx>
ROW.2	ROW.ifDescr Values current available: Phone: "Phone Host", "Switch LAN Port", "Switch PC port" Server: "WAN Port", "LAN Port", "mini0", "mini1", "dmz0" when port exists on the server. ASN_OCTET_STR	String : variable	OID.<idx>
ROW.3	ROW.ifType Interface type enumeration. (not expected to be other than Ethernet-csmacd) ASN_INTEGER	6 - (ethernet-csmacd)	OID.<idx>
ROW.4	ROW.ifMtu Size of largest datagram possible for interface ASN_INTEGER	UINT32 : variable	OID.<idx>
ROW.5	ROW.ifSpeed Bits/sec. bandwidth of interface ASN_GAUGE	UINT32: variable	OID.<idx>
ROW.6	ROW.ifPhysAddress String representing interfaces physical address. For all phone interfaces, this is the same - the phone's MAC address. For the server LAN and WAN ports, this is the port's MAC address. For the "mini" ports, this is 00:00:00:00:00:00 ASN_OCTET_STR	String : variable	OID.<idx>
ROW.7	ROW.ifAdminStatus The desired state of the interface: up(1), down(2), testing(3). NOTE: read-only support. ASN_INTEGER	Enumerated	OID.<idx>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW.8	ROW.ifOperStatus The current state of the interface: up(1), down(2), testing(3), unknown(4), dormant(5), notPresent(6). The values ifOperStatus should move in tandem with ifAdminStatus. If the interface is up but is waiting for some external action to complete before it can transport packets, consider it dormant. ASN_INTEGER	Enumerated	OID.<idx>
ROW.9	ROW.ifLastChange value of SYSTEM-MIG::sysUpTime at the time the interface entered its current operational state ASN_TIMETICKS	UINT32: variable	OID.<idx>
ROW.10	ROW.ifInOctets Count of octets received on interface ASN_COUNTER	"	OID.<idx>
ROW.11	ROW.ifInUcastPkts Count of unicast packets received on interface ASN_COUNTER	"	OID.<idx>
ROW.12	ROW.ifInNUcastPkts Count of non-unicast packets received on interface ASN_COUNTER	"	OID.<idx>
ROW.13	ROW.ifInDiscards Count of packets discarded with no error on interface ASN_COUNTER	"	OID.<idx>
ROW.14	ROW.ifInErrors Count of inbound packets with errors preventing delivery on interface ASN_COUNTER	"	OID.<idx>
ROW.15	ROW.ifInUnknownProtos Count of packets with unknown protocol received on interface. Unsupported at this time ASN_COUNTER	0	OID.<idx>
ROW.16	ROW.ifOutOctets Count of octets transmitted out of interface ASN-COUNTER	"	OID.<idx>
ROW.17	ROW.ifOutUcastPkts Count of unicast packets transmitted out of interface ASN_COUNTER	"	OID.<idx>
ROW.18	ROW.ifOutNUcastPkts Count of non-unicast packets transmitted out of interface ASN_COUNTER	"	OID.<idx>
ROW.19	ROW.ifOutDiscards Count of outbound packets discarded with no error on interface ASN_COUNTER	"	OID.<idx>
ROW.20	ROW.ifOutErrors Count of outbound packets not transmitted due to errors. ASN_COUNTER	"	OID.<idx>
ROW.21	ROW.ifOutQLen Length of the packet queue ASN_INTEGER	"	OID.<idx>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW.22	ROW.ifSpecific Reference to MIB definitions for media used to realize this interface. No info here, returning NULL OID ASN_OBJECT_IDENTIFIER	OID value of 0.0 (known as ccitt.zeroDotZero)	OID.<idx>

### 3.3 IP-MIB (MIB-II.ip(4))

This MIB group is a portion of RFC 1213. It contains data/statistics regarding the IP subsystem of the device and is IPV4 'centric'. The information described in this 'view' has been deprecated by IP-MIB (RFC 4293) which contains support for both IPV4 and IPV6.

The root of this MIB is 1.3.6.1.2.1.4 (aka MIB-II.ip, aka IP)

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
IP.1	IP.ipForwarding Enumerated integer indicating if this device is acting as an IP gateway forwarding datagrams forwarindg(1), not-forwarindg(2) ASN_INTEGER	Phone: 2 Server: 1	OID.0
IP.2	IP.ipDefaultTTL The default Time-To-Live field in datagrams originating from this device ASN_INTEGER	64	OID.0
IP.3	IP.ipInReceives Count of input datagrams ASN_COUNTER	UINT : variable	OID.0
IP.4	IP.ipInHdrErrors Count of input datagrams discarded due to IP header errors ASN_COUNTER	UINT: variable	OID.0
IP.5	IP.ipInAddrErrors Count of input datagrams discarded due to IP address in the header destination field not valid address for this device. ASN_COUNTER	UINT: variable	OID.0
IP.6	IP.ipForwDatagrams Count of input datagrams not destined for this device and forwarded. As we are not an IP Gateway, this would include only packets Source-Routed via the PHONE. Expect this value to be zero (0). ASN_COUNTER	UINT: variable	OID.0
IP.7	IP.ipInUnknownProtos Count of input datagrams discarded due to unknown/unsupported protocol. ASN_COUNTER	UINT: variable	OID.0
IP.8	IP.ipInDiscards Count of input datagrams discarded with no errors (e.g., lack of buffer space) ASN_COUNTER	UINT: variable	OID.0
IP.9	IP.ipInDelivers Count of input datagrams delivered to IP user-protocols. ASN-COUNTER	UINT : variable	OID.0

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
IP.10	IP.ipOutRequests Count of IP datagrams which local IP user-protocols (including ICMP) supplied to IP requests for transmission. Note that this counter does not include any datagrams counted in ipForwDatagrams ASN_COUNTER	UINT: variable	OID.0
IP.11	IP.ipOutDiscards Count of output datagrams discarded with no problem preventing transmission but discarded (e.g., lack of buffer space) ASN_COUNTER	UINT: variable	OID.0
IP.12	IP.ipOutNoRoutes Count of output datagrams discarded due to no outbound route found. ASN_COUNTER	UINT: variable	OID.0
IP.13	IP.ipReasmTimeout Maximum seconds received fragments help waiting reassembly. The current implementation does not support. ASN_COUNTER	0	OID.0
IP.14	IP.ipReasmReqds Count of IP datagrams needed reassembly. ASN_COUNTER	UINT: variable	OID.0
IP.15	IP.ipReasmOKs Count of IP datagrams reassembled. ASN_COUNTER	UINT: variable	OID.0
IP.16	IP.ipReasmFails Count of reassembly failures. ASN_COUNTER	UINT: variable	OID.0
IP.17	IP.ipFragOKs Count of datagrams successfully fragmented. ASN_COUNTER	UINT: variable	OID.0
IP.18	IP.ipFragFails Count of datagrams discarded that required fragmentation, but could not be. ASN_COUNTER	UINT: variable	OID.0
IP.19	IP.ipFragCreates Count datagram fragments generated. ASN_COUNTER	UINT: variable	OID.0
IP.20	IP.ipAddrTable (aka IPATBL) A table containing the IP addressing information for this device.	none	none
IPATBL.1	IPATBL.ipAddrEntry (aka ROW_A) Indexed by an ipAdEntAddr (aka 'idx': an octet string of length 4, e.g., '19).	none	none
ROW_A.1	IPATBL.ipAdEntAddr The IP address that this row's information pertains to. ASN_IPADDRESS	OCTET STRING (4)	OID.<idx>
ROW_A.2	ROW_A.ipAdEntIfIndex This value identifies the index used to map to the interface this address is applicable (e.g., it corresponds to the INTERFACES-MIB interface table's ifIndex value of the interface this address belongs to). ASN_INTEGER	UINT : variable	OID.<idx>
Row_A.3	ROW_A.ipAdEntNetMask The subnet mask associated with the IP address of this row. ASN_IPADDRESS	OCTET STRING (4)	OID.<idx>
ROW_A.4	ROW_A.ipAdEntBcastAddr Value of the least significant bit in the broadcast address used for sending datagrams on the interface associated with the IP address of this row. ASN_INTEGER	1	OID.<idx>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW_A.5	ROW_A.ipAdEntReasmMaxSize Size of the largest IP datagram re-assembled from incoming fragments on the interface corresponding to this row. ASN_INTEGER	65535	OID.<idx>
IP.22	IP.ipNetToMediaTable (aka IPNMTBL) A translation table mapping IP addresses to physical addresses for each interface defined in the INTERFACES_MIB ifTable. This equates to the ARP table cached in the interface. NOTE: although the interfaces present as switch ports the only ARP info available is representative of the main IP stack of the phone. ASN_INTEGER	none	none
IPNMTBL. 1	IPNMTBL.ipNetToMediaEntry (aka ROW_B) Access each row using TWO INDICES: an ipNetToMediaIfIndex (aka 'idx1' : an integer representing the interface this row's data is associated with) and ipNetToMediaNetAddress (aka 'idx2' : an OCTET STRING(4) that is the IP address)	none	none
ROW_B.1	ROW_B.ipNetToMediaIfIndex The index value into the INTERFACES-MIB ifTable that this mapping pertains to. ASN_INTEGER	UINT : variable	OID.<inx1><idx2>
ROW_B.2	ROW_B.ipNetToMediaPhysAddress The physical address mapped to the IP address of the row. ASN_OCTET_STR	OCTET STRING(6)	OID.<idx1><idx2>
ROW_B.3	ROW-B.ipNetToMediaNetAddress This IP addressed mapped to the physical address of the row. ASN_IPADDRESS	OCTET STRING(\$)	OID.<idx1><idx2>
ROW_B.4	ROW_B.ipNetToMediaType An enumerated value of either: other (1), invalid (2), dynamic (3), static (4). ASN_INTEGER	3	OID.<idx><idx2>

### 3.4 ICMP-MIB (MIB-II.icmp(5))

This MIB group is a portion of RFC 1213. It contains statistical counters regarding (Internet Control Message Protocol (ICMP) messages sent and received. The message types supported are a subset of those defined (<http://www.iana.org/assignments/icmp-parameters>). As with the IP-MIB data above, this 'view' of statistics has been deprecated. These tables are built to track IPv4 and IPv6 ICMP statistics.

The root of this MIB is 1.3.6.1.2.1.5 (aka MIB-II.icmp, aka ICMP)

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ICMP.1	ICMP.icmplnMsgs ICMP messages received count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.2	ICMP.icmplnErrors messages received with errors count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.3	ICMP.icmplnDestUnreachs Destination unreachable messages count ASN_COUNTER	UINT32 : variable	OID.0

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ICMP.4	ICMP.icmpInTimeExcds Time Exceeded messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.5	ICMP.icmpInParmProbs Parameter Problem messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.6	ICMP.icmpInSrcQuenchs Source Quench messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.7	ICMP.icmpInRedirects Redirect messages received count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.8	ICMP.icmpInEchos Echo (request) messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.9	ICMP.icmpInEchoReps Echo Reply messages received count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.10	ICMP.icmpInTimestamps Timestamp (request) messages count ASN_COUNTER	UINT32: variable	OID.0
ICMP.11	ICMP.icmpInTimestampReps Timestamp Reply messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.12	ICMP.icmpInAddrMasks Address Mask Reply messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.13	ICMP.icmpInAddrMasksReps Address Mask Reply messages count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.14	ICMP.icmpOutMsgs Count of ICMP messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.15	ICMP.icmpOutErrors Count of ICMP messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.16	ICMP.icmpOutDestUnreachs Destination Unreachable messages send count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.17	ICMP.icmpOutTimeExcds Time Exceeded messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.18	ICMP.icmpOutParmProbs Parameter Problem messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.19	ICMP.icmpOutSrcQuenchs Source Quench messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.20	ICMP.icmpOutRedirects Redirect messages sent count. Should always be 0. ASN_COUNTER	0	OID.0
ICMP.21	ICMP.icmpOutEchos Echo (request messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.22	ICMP.icmpOutEchoReps Echo Reply messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.23	ICMP.icmpOutTimestamps Timestamp (request) messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.24	ICMP.icmpOutTimestampReps Timestamp Reply messages sent count ASN_COUNTER	UINT32 : variable	OID.0

<b>OID</b>	<b>Textual Representation / Description and ASN1 Type</b>	<b>Expected value</b>	<b>Access</b>
ICMP.25	ICMP.icmpOutAddrMasks Address Mask Request messages sent count ASN_COUNTER	UINT32 : variable	OID.0
ICMP.26	ICMP.icmpOutAddrMaskReps Address Mask Reply messages sent count ASN_COUNTER	UINT32: variable	OID.0

## 3.5 TCP-MIB (MIB-II.tcp(6))

This MIB group is a portion of the RFC 1213 MIB. This section provides information regarding active TCP connections in the device, including operational characteristics and current connections. The root of this MIB is 1.3.6.1.2.1.6 (aka MIB-II.tcp, aka TCP)

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
TCP.1	TCP.tcpRtoAlgorithm Enumeration of algorithm used to determine the timeout value for retransmitting unacknowledged octets : other(1), constant(2), rsre(3) - MIL-STD-1778, vanj(4) - VanJacobson's ASN_INTEGER	1	OID.0
TCP.2	TCP.tcpRtoMin Minimum retransmission timeout (milliseconds) ASN_INTEGER	1000	OID.0
TCP.3	TCP.tcpRtoMax Maximum retransmission timeout (milliseconds) ASN_INTEGER	64000	OID.0
TCP.4	TCP.tcpMaxConn If max is dynamic, use (-1) ASN_INTEGER	Integer: -1	OID.0
TCP.5	TCP.tcpActiveOpens Number of connections initiated ASN_COUNTER	UINT32 : variable	OID.0
TCP.6	TCP.tcpPassiveOpens Number of connections accepted ASN_COUNTER	UINT32 : variable	OID.0
TCP.7	TCP.tcpAttemptFails Number of embryonic connections dropped. ASN_COUNTER	UINT32 : variable	OID.0
TCP.8	TCP.tcpEstabResets Number of established connections dropped. ASN_COUNTER	UINT32 : variable	OID.0
TCP.9	TCP.tcpCurrEstab Number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT. ASN_GAUGE	UINT32 : variable	OID.0
TCP.10	TCP.tcpInSegs Number of packets received ASN_COUNTER	UINT32 : variable	OID.0
TCP.11	TCP.tcpOutSegs Number of packets sent, excluding retransmissions ASN_COUNTER	UINT32 : variable	OID.0
TCP.12	TCP.tcpRetransSegs Number of packets retransmitted. ASN_COUNTER	UINT32 : variable	OID.0
TCP.13	TCP.tcpConnTable (aka TCPTBL) A table where rows contain informatin regarding a current TCP connection	none	none
TCPTBL.1	TCPTBL.tcpConnEntry (aka ROW) Four of the five columns within a row are used as indexes, including: tcpConnLocalAddress (aka idx1 format "a.b.c.d") tcpConnLocalPort (aka idx2) tcpConnRemAddress (aka idx3 format "a.b.c.d") tcpConnRemPort (aka idx4)	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW.1	ROW.tcpConnState Enumerated state of the port. Note: although defined as read-write, this object has read-only support. Possible values: closed(1), listen(2), synSent(3), synReceived(4), established(5), finWait1(6), finWait2(7), closeWait(8), lastAck(9), closing(10), timeWait(11). The remaining enumeration is not supported: delete TCB(12) ASN_INTEGER	Integer: enumerated value	OID. <idx1><idx2> <idx3><idx4>
ROW.2	ROW.tcpConnLocalAddress This connection's local IP address ASN_IPADDRESS	OCTET STRING (4) : variable	OID.< idx1><idx2> <idx3><idx4>
ROW.3	ROW.tcpConnLocalPort This connection's local port number. ASN_INTEGER	UINT32 : variable	OID.< idx1><idx2> <idx3><idx4>
ROW.4	ROW.tcpConnRemAddress This connection's remote IP address ASN_OCTET_STR	OCTET STRING (4) : variable	OID. <idx1><idx2> <idx3><idx4>
ROW.5	ROW.tcpConnRemPort This connection's remote port number ASN_INTEGER	UINT32 : variable	OID. <idx1><idx2> <idx3><idx4>
TCP.14	TCP.tcpInErrs Number of packets received in error. ASN_COUNTER	UINT32 : variable	OID.0
TCP.15	TCP.tcpOutRsts Number of packets containing the RST flag. ASN_COUNTER	UINT32 : variable	OID.0

### 3.6 UDP-MIB (MIB-II.udp(7))

This MIB group is a portion of the RFC 1213 MIB. This section provides information regarding active UDP connections in the device, including operational characteristics and current connections. The root of this MIB is 1.3.6.1.2.1.7 (aka MIB-II.udp, aka UDP).

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
UDP.1	UDP.udpInDatagrams Number of UPD datagrams received ASN_COUNTER	UINT32: variable	OID.0
UDP.2	UDP.udpNoPorts Number of UPD datagrams received with no application at destination port ASN_COUNTER	UINT32: variable	OID.0
UDP.3	UDP.udpInErrors Number of UPD datagrams received but not delivered due to errors (often than no application at destination port) ASN_COUNTER	UINT32: variable	OID.0
UDP.4	UDP.udpOutDatagrams Number of UPD datagrams sent out. ASN_COUNTER	UINT32: variable	OID.0

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
UDP.5	UDP.udpTable (aka UDPTBL) A table where row items represent UPD end-points established accepting datagrams.	none	None
UDPTBL.1	UDPTBL.udpEntry (aka ROW) All columns within a row are used as indexes, including: udpLocalAddress (aka idx1 format "a.b.c.d")	none	None
ROW.1	ROW.udpLocalAddress The local IP address for this UDP listener. In the case of a UDP listener which is willing to accept datagrams for any IP interface associated with the node, the value 0.0.0.0 is used ASN_IPADDRESS	OCTET STRING (4) :variable	OID.<idx1><idx2>
ROW.2	ROW.udpLocalPort This local port number for this UDP listener.	UINT32 : variable	OID.<idx1><idx2>

### 3.7 SNMP-MIB (MIB-II.snmp(11))

This MIB group is a portion of the RFC 1213 MIB. This section provides information regarding the instrumentation of the SNMP agent activities in the server and phone.

The root of this MIB is 1.3.6.1.2.1.11 (aka MIB-II.snmp, aka SNMP).

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SNMP.1	SNMP.snmpInPkts Count of incoming SNMP messages ASN_COUNTER	UINT32 : variable	OID.0
SNMP.2	SNMP.snmpOutPkts Count of outgoing SNMP messages (responses & traps) ASN_COUNTER	UINT32 : variable	OID.0
SNMP.3	SNMP.snmpInBadVersions Count of SNMP messages for an unsupported version ASN_COUNTER	UINT32 : variable	OID.0
SNMP.4	SNMP.snmpInBadCommunityNames Count of messages with unknown community name UNSUPPORTED	0	OID.0
SNMP.5	SNMP.snmpInBadCommunityUses Count of messages where SNMP operation not allowed by SNMP community (number of writes against read-only object) UNSUPPORTED	0	OID.0
SNMP.6	SNMP.snmpInASNParseErrs Count of PDU's received with ASN.1encoding errors ASN_COUNTER	UINT32 : variable	OID.0
SNMP.8	SNMP.snmpInTooBig Not Applicable for Agent	0	OID.0

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SNMP.9	SNMP.snmpInNoSuchNames Not applicable for Agent	0	OID.0
SNMP.10	SNMP.snmpInBadValues Not Applicable for Agent	0	OID.0
SNMP.11	SNMP.snmpInReadOnlys Not Applicable for Agent	0	OID.0
SNMP.12	SNMP.snmpInGenErrs Not Applicable for Agent	0	OID.0
SNMP.13	SNMP.snmpInTotalReqVars Count of MIB objects retrieved successfully via Get and Get-Next requests ASN_COUNTER	UINT32 : variable	OID.0
SNMP.14	SNMP.snmpInTotalSetVars Count of successful Set requests (will be 0 since writes not supported in this release) ASN_COUNTER	0	OID.0
SNMP.15	SNMP.snmpInGetRequests Count of GetRequest messages processed ASN_COUNTER	UINT32 : variable	OID.0
SNMP.16	SNMP.snmpInGetNexts Count of GetNext messages processed ASN_COUNTER	"	OID.0
SNMP.17	SNMP.snmpInSetRequests Count of Set messages processed (read-only support so this will be 0) ASN_COUNTER	0	OID.0
SNMP.18	SNMP.snmpInGetResponses Count of Get Response PDU's processed. ASN_COUNTER	0	OID.0
SNMP.19	SNMP.snmpInTraps Count of incoming traps processed. As an agent, we produce, not consume traps. This will be 0 ASN_COUNTER	0	OID.0
SNMP.20	SNMPsnmpOutTooBig Count of PDUs received with response error-status field marked as (1 == tooBig). This indicates the results of the operation is alrger than the agent can handle. UNSUPPORTED	0	OID.0
SNMP.21	SNMP.snmpOutNoSuchNames Count of PDUs received with response error-status field marked as (2 == noSuchName). No OID in the agent tree to support. UNSUPPORTED	0	OID.0
SNMP.22	SNMP.snmpOutBadValues Count of PDUs received with response error-status field marked as (3 ==badValue). Defined as an attempt to write the wrong type value. This release is read-only, so will be 0 until accepting read-write operations UNSUPPORTED	0	OID.0
SNMP.24	SNMP.snmpOutGenErrs Count of PDUs received with response error-status field marked as (5==readOnly) (an error other than 1-4 defined above). UNSUPPORTED	0	OID.0

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SNMP.25	SNMP.snmpOutGetRequests Count of Get Requests generated - we're an agent, so this is 0. ASN_COUNTER.	0	OID.0
SNMP.26	SNMP.snmpOutGetNexts Count of Get Next requests generated - we're an agent, so this is 0. ASN_COUNTER.	0	OID.0
SNMP.27	SNMP.snmpOutSetRequests Count of Set Requests generated - we're an agent, so this is 0. ASN_COUNTER	0	OID.0
SNMP.28	SNMP.snmpOutGetResponses Count of Get Response messages generated ASN_COUNTER	UINT32 : variable	OID.0
SNMP.29	SNMP.snmpOutTraps Count the number of Traps generated ASN_COUNTER	UINT32 : variable	OID.0
SNMP.30	SNMP.SnmpEnableAuthenTraps An enumerated (and defined as writable) value indicating if this agent can generated authentication traps. Possible values are enabled (1), disabled (2). We are read-only support so this value is disabled. ASN_INTEGER	2	OID.0

### 3.8 HOST-RESOURCES-MIB (MIB-II.hr(25))

This MIB group is a portion of the RFC 2790 MIB. This section provides information regarding the resources of the phone and server. The root of this MIB is 1.3.6.1.2.1.25 (aka MIB-II.hr, aka HR).

Only the System, Storage, and Devices are supported to achieve MIB compliance.

- **Phone:** only the physical memory (RAM) displays in the hrStorage and hrDevice tables.
- **Server:** only the physical memory (RAM) and either the Compact FLASH or the Fixed Disk (present in the server) displays in the hrStorage and hrDevice tables.

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
1.3.6.1.2.1.25	MIB-II.hr (aka HR)	none	none
HR.1	hrSystem (HRSYS) Host Resources system table.	none	none
HRSYS.1	hrSystemUpTime The amount of time since last initializing this host in 100ths of seconds. ASN_TIMETICKS	Variable time device has been up.	OID

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
HRSYS.2	<p>hrSystemDate The host's notion of the local date and time of day. ASN_OCTET_STR (DateAndTime SNMP format).</p>	Current device date/time	OID
HRSYS.3	<p>hrSystemInitialLoadDevice The index of the hrDeviceEntry for the device from which this host is configured to load its initial operation system configuration (i.e., which operating system code and/or boot parameters). ASN-INTEGER</p>	UINT32: 1'	OID
HRSYS.4	<p>hrSystemInitialLoadParameters This objects contains the parameters (e.g., a pathname and parameter) supplied to the load device when requesting the initial operating system configuration from that device. ASN_OCTET_STR</p>	String : ""	OID
HRSYS.5	<p>hrSystemNumUsers The number of user sessions this host is storing state information. A session is a collection of processes requiring a single act of user authentication and possibly subject to a collective job control. ASN_GAUGE</p>	UINT32 : 1	OID
HRSYS.6	<p>hrSystemProcesses Current number of running threads on the device. ASN_GAUGE</p>	UINT32 : variable	OID

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
HRSYS.7	hrSystemMaxProcesses Maximum number of processes that can run on the system. ASN_INTEGER	UINT32: Phone: 64 Server: 256	OID
HR.2	hrStorage (HRSTOR) Host Resources storage table.	none	none
HRSTOR.2	hrMemorySize The amount of read/write physical memory (RAM) in the system in KBytes. ASN_INTEGER	UINT32 KBYTES: variable	OID
HRSTOR.3	hrStorageTable (HRSTORTBL) The (conceptual) table of logical storage areas on the host.	none	none
HRSTORTBL.1	hrStorageTableEntry (aka ROWA) Storage device information. <ul style="list-style-type: none"> <li>• <b>Phone:</b> only physical memory.</li> <li>• <b>Server:</b> physical memory and compact FLASH or fixed disk.</li> </ul>	none	none
ROWA.1	hrStorageIndex A unique value for each logical storage area of the host. ASN_INTEGER	UINT32: <b>Phone:</b> OID.1: 1 (memory) <b>Server:</b> OID.1: 1 (Memory) OID.2: 2 (Compact FLASH) or OID.2: 4 (Fixed Disk)	OID.<index>
ROWA.2	hrStorageType The type of storage represented by this entry. Other (1), RAM (2), Virtual Memory (3), Fixed Disk (4), Removable Disk (5), Floppy Disk (6), Compact Disk (7), RAM Disk (8), Flash Memory (9), Network Disk (10) ASN_INTEGER	Enumerated <b>Phone:</b> OID.1: 2 (Memory) <b>Server:</b> OID.1: 2 (Memory) OID.2: 9 (Compact FLASH) OID.2: 4 (Fixed Disk)	OID.<index>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROWA.3	hrStorageDescr A description of the type and instance of the storage described by this entry. ASN_OCTET_STR	String: Phone: OID.1: "Physical Memory" Server: OID.1 "Physical Memory: OID.2: "Compact FLASH: or OID.2: "Fixed Disk?"	OID. <index>
ROWA.4	hrStorageAllocationUnits The size, in bytes, of the data objects allocated from this pool. If this entry is monitoring sectors, blocks, buffers, or packets, for example, this number is commonly greater than one. Otherwise this number is typically one. ASN_INTEGER	UINT32: variable	OID.<index>
ROWA.5	hrStorageSize The size of the storage represented by this entry, in units of hrStorageAllocationUnits. ASN_INTEGER	UINT32: variable	OID.<index>
ROWA.6	hrStorageUsed The amount of storage represented by this entry that is allocated, in units of hrStorageAllocationUnits. ASN_INTEGER	UINT32: variable	OID.<index>
ROWA.7	hrStorageAllocationFailures The number of requests for storage represented by this entry that could not be honored due to insufficient storage. Not currently tracked. ASN_INTEGER	UINT32: 0	OID.
HR.3	hrDevice (HRDEV) Host Resources Device table.	none	none
HRDEV.2	hrDeviceTable (HRDEVTBL) An (conceptual) entry for one device contained by the host.	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
HRDEVTBL.1	hrDeviceTableEntry (aka ROWB) Storage device information. <ul style="list-style-type: none"> <li>• <b>Phone:</b> currently only the physical memory.</li> <li>• <b>Server:</b> currently only physical memory and compact FLASH or fixed disk.</li> </ul>	none	none
ROWB.1	hrDeviceIndex A unique value for each device contained by the host. ASN_INTEGER	UINT32: Variable	OID.<index>
ROWB.2	hrDevicetype An indication for the type of device. ASN_INTEGER (Enumerated)	UINT32: Other (1), Unknown (2), Processor (3), Network (4), Printer (5), Disk Storage (6), Video (10), Audio (11) Coprocessor (12), Keyboard (13), Modem (14), Parallel Port (15), Pointing (16), Serial Port (17), Tape (18), Clock (19), Volatile Memory (20), Non-Volatile Memory (21). <b>Phone:</b> OID.1: 20 (Memory) <b>Server:</b> OID.1: 20 (Memory) OID.2: 21 (Compact FLASH) or OID.2: 6 (Disk Storage)	OID.<index>
ROWB.3	hrDeviceDescr A textual description of this device, including the manufacturer and revision, and th serial number (optional). ASN_STRING	String: <b>Phone:</b> OID.1: "Physical Memory" <b>Server:</b> OID.1: "Physical Memory" OID.2: "Compact FLASH" or OID.2: "Disk Storage"	OID.<index>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access																				
ROWB.4	hrDeviceID The product ID for this device. ASN_OBJECT_IDENTIFIER	<p><b>Phone</b></p> <p><b>OID.1:</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).phone(1). model(92XX).0.0.0.0</p> <hr/> <p><b>Server version 7.7 and earlier</b></p> <p><b>OID.1:</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2).model(#x).1.0.0.0</p> <p><b>OID.2:</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2). model (#x).1.0.0.0.</p> <hr/> <p><b>Server version 8.0 and later</b></p> <p><b>OID.1:</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2).ProductType(#X).1.0.0.0</p> <p><b>OID.2:</b> iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).allworx(38516).server(2). ProductType (#X).1.0.0.0. #X equals:</p> <table border="1" data-bbox="802 1066 980 1356"> <thead> <tr> <th><u>Value</u></th> <th><u>Product</u></th> </tr> </thead> <tbody> <tr><td>1</td><td>6X</td></tr> <tr><td>2</td><td>6X12</td></tr> <tr><td>3</td><td>24X</td></tr> <tr><td>4</td><td>48X</td></tr> <tr><td>5</td><td>Connect 731</td></tr> <tr><td>6</td><td>Connect 536</td></tr> <tr><td>7</td><td>Connect 530</td></tr> <tr><td>8</td><td>Connect 324</td></tr> <tr><td>9</td><td>Connect 320</td></tr> </tbody> </table>	<u>Value</u>	<u>Product</u>	1	6X	2	6X12	3	24X	4	48X	5	Connect 731	6	Connect 536	7	Connect 530	8	Connect 324	9	Connect 320	OID.<index>
<u>Value</u>	<u>Product</u>																						
1	6X																						
2	6X12																						
3	24X																						
4	48X																						
5	Connect 731																						
6	Connect 536																						
7	Connect 530																						
8	Connect 324																						
9	Connect 320																						
ROWB.5	hrDeviceStatus The current operational state of the device described by this row of the table. ASN_INTEGER (Enumerated)	UINT32: Unknown (1), Running (2), Warning (3), Testing (4), Down (5)	OID.<index>																				
ROWB.6	hrDeviceErrors The number of errors detected on this device. ASN_COUNTER (currently not tracked)	UINT32: 0	OID.<index>																				

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
HR.7	hrMIBAdminInfo (HRDAMIN) Host Resources MIB Administration information.	none	none
HRADMIN.3	hrMIBGroups (HRGROUPS) Host Resources MIB groups supported table.	none	none
HRGROUPS.1	hrSystemGroup OID of the Host Resources system table ASN_OBJECT_IDENTIFIER	HRSYS	OID
HRGROUPS.2	hrStorageGroup OID of the Host Resource storage table. ASN_OBJECT_IDENTIFIER	HRSTOR	OID
HRGROUPS.3	hrDeviceGroup OID of the Host Resource device table. ASN_OBJECT_IDENTIFIER	HRDEV	OID

### 3.9 NETWORK-SERVICES-MIB (MIB-II.application (27))

This MIB (published in RFC 2788) describes network service applications, maintaining a table where each row describes a monitored application in the network device.

The phone has two applications - the generalized phone and the SIP entity as implemented by the SUA module. Therefore, an SNMP 'walk' of the application table reveals two rows of data. The Allworx SNMP Agent manages the application index value to guarantee uniqueness.

The server has nine applications - the generalized server Web, server Web admin, the SIP Server entity, DHCP Server, DNS Server, SMTP Server, POP3 Server, IMAP Server, and SNTTP Server. Therefore, an SNMP 'walk' of the application reveals nine rows of data. The Allworx SNMP Agent manages the application index value to guarantee uniqueness.

The root of this MIB is 1.3.6.1.2.1.27.

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
.1.3.6.1.2.1.27	MIB-II.application (aka APP)	none	none
APP.1	APP.1pplTable (aka APPTBL) Table of application entities in the system.	none	none
APPTBL.1	APPTBL.applEntry (aka ROW) Indexed by applIndex. A column value within the row is accessed via the OID in conjunction with the index of the preferred row.	none	none
ROW.1	ROW.applIndex Effective count of network apps. Use this as an index into tables of other MIBs (e.g., tables in the SIP-COMMON-MIB). NOTE: The SNMP Agent is the supplier of a unique application index to client requests. AN_INTEGER	INT	none
ROW.2	ROW.applName Name of this network service application. ASN_OCTET_STR	String: variable	OID.<idx>
ROW.3	ROW.applDirectoryName Empty string returned - we have no directory of where static info stored. ASN_OCTET_STR	""	OID.<idx>
ROW.4	ROW.applVersion String representing the device software version (e.g., "2.4.0.5" or "7.4.0.5") ASN_OCTET_STR	String: variable	OID.<idx>
ROW.5	ROW.applUptime 100ths of a second: the value of System: sysUpTime when initializing the application. ASN_TIMETICKS	UINT32 : variable	OID.<idx>
ROW.17	ROW.applURL The RFC defines this as: "A URL pointing to a description of the application. This information is intended to identify and describe the application in a status display." <ul style="list-style-type: none"> <li>• <b>General Phone Application:</b> the URL to access the web server of the phone. Note: for the SIP entity, it is the URL of the product. <a href="http://www.allworx.com">www.allworx.com</a></li> <li>• <b>General Server Web Application:</b> the URL to access the web server of the server. "http://SERVER_LAN_ADDRESS"</li> <li>• <b>Server Web Admin Application:</b> the URL to access the web server admin of the server. "http://SERVER_LAN-ADDRESS:8080"</li> <li>• <b>All other server applications:</b> it is the URL of the product: <a href="http://www.allworx.com">www.allworx.com</a></li> </ul> ASN_OCTET_STR	String: variable	OID.<idx>

## 3.10 SIP-COMMON-MIB Support (MIB-II.sipCommonMIB9149)

The SIP-COMMON-MIB (as part of RFC 4780) contains many tables of configuration and statistics reporting objects with regards to the SIP User Agent in the phone and SIP Server/User Agent in the server. This release only supports read-only statistics and diagnostic information. Notifications defined in the MIB are not supported, and tables with read-write OIDs will not be supported in terms of manipulation by network managers. If they can be populated from the perspective of the client in a read-only fashion, they will. Deviation from the RFC will be noted below.

The area most notably impacted is the sipCommonStatusCodeTable. The principle area this affects is the collection of status codes for individual SIP methods. The standard MIB enables a network manager to create entries into the table representing the selection of SIP methods and codes of interest. However (as no sets are supported), this release establishes a table such that an snmp 'walk' of the sip CommonStatusCodeTable returns statistics for sent/received status codes for all supported methods.

The details below identify data items supported within the SIP-COMMON-MIB. Note that there are many tables defined, but the substitution name 'ROW' is redefined for use in explaining each table. To aid in visual identification, alternating groups of tables and their information items are shaded. Note that sipCommonStatusCodeNotifTable is unsupported (as allowed by the RFC). In addition, the field sipCommonCFGServiceNotifEnable is not made available (as dictated by the RFC as an outward sign that the notification table is unsupported).

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
.1.3.6.1.2.1.149	MIB-II.sipCommonMIB (aka SIP)	none	none
SIP.1	SIP.sipCommonMIBObjects (aka SOBJ)	none	none
SOBJ.1	SOBJ.sipCommonCfgBase (aka SCfgBase) base OID of configuration data items	none	none
SCfgBase.1	SCfgBase.sipCommonCfgTable (aka SCFGTBL) A table with common configuration info for SIP entities - each row an entity.	none	none
SCFGTBL.1	SCFGTBL.sipCommonCfgEntry (aka ROW_A) Indexed by 'applIndex' from the Network Services MIB.	none	none
ROW_A.1	ROW-A.sipCommonCfgProtocolVersion String indicating the version of SIP supported. The standard format appears as 'SIP/<x.y> ASN_OCTET_STR	String: variable	OID.<idx>
ROW_A.2	ROW_A.sipCommonCfgServiceOperStatus The current operational state of the SIP application: unknown(1), up(2), down(3), congested(4), restarting(5), quiescing(6), testing(7). ASN_INTEGER	Enumerated	OID.<idx>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW_A.3	ROW_A.sipCommonCfgServiceStartTime The value of SYSTEM-MIB::sysUpTime when SIP entity last started. ASN_TIMETICKS	UINT32: variable	OID.<idx>
ROW_A.4	ROW_A.sipCommonCfgServiceLastChange The value of SYSTEM-MIB::sysUpTime when SIP entity last changed its operational state. ASN_TIMETICKS	UINT32: variable	OID.<idx>
ROW_A.5	ROW_A.sipCommonCfgOrganization The organization name that the SIP entity puts into Organization headers of SIP messages. This field is OPTIONAL per RFC. We include it, but the value is NULL. ASN_OCTET_STR	String: variable	OID.<idx>
ROW_A.6	ROW_A.sipCommonCfgMaxTransactions Maximum number of simultaneous transactions/second that the SIP entity can manage. ASN_GAUGE	UINT32: variable	OID.<idx>
ROW_A.7	ROW_A.sipCommonCfgServiceNotifEnable Bit-field to specify which of three service notifications are enabled. For this release with no traps, the value defaults (and remains) to 0. Support for this field is OPTIONAL per RFC. Per the RFC, to signify that there is no support for this, and then an SNMP GET operation on this value should return 'noSuchObject' exception. Therefore, skip the creation of a note for this object. Bit value = 1 == enabled. Position Description 0.(sipCommonServiceColdStart) 1.(sipCommonServiceWarmStart) 2.(sipCommonServiceStatusChanged) ASN_BIT_STR	BYTE: NO NODE CREATED	NEED TO RETURN 'noSuchObject' exception on GET indicating NO SUPPORT
ROW-A.8	ROW_A.sipCommonCFGEntityType Bit-field to specify what type of role this SIP entity plays. Bit value = 1 == <i>participates</i> . Position Description 0 (other) 1 (userAgent) 2 (proxyServer) 3 (redirectServer) 4 (registrarServer) ASN_BIT_STR	BYTE: bit-field <b>Phone:</b> 0x40 (userAgent)  <b>Server:</b> 0x78 (userAgent, proxyServer, redirectServer, and registrarServer)	OID.<idx>
SCfgBase.2	SCfgBase.sipCommonPortTable (aka SPortTBL) A table representing the ports and protocol supported on each port for an SIP entity.	none	none
SportTBL.1	SPortTBL.sipCommonPortEntry (aka ROW_B) Two indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>) is the port number - sipCommonPort.	none	none
ROW_B.1	ROW_B.sipCommonPort 16-bit port number of Internet transport layer. ASN_UNSIGNED	USHORT : variable	OID.<idx1>.<idx2>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW_B.2	ROW_B.sipCommonPortTransportRcv Bit-field to specify what type of transport protocol is used on the port. Bit value = 1 == <i>selected</i> . Position      Description 0            (other than defined here) 1            (UDP) 2            (TCP) 3            (SCTP) 4            (tlsTCP) 5            (tlsSCTP) ASN_BIT_STR	BYTE : bit-field Phone and server: 0x40 (UDP)	OID.<idx1>.<idx2>
SCfgBase.3	SCfgBase.sipCommonOptionTagTable (aka SOptTagTBL) A table containing a list of the required, supported, or unsupported SIP option tags (SIP extensions) by the SIP entity.	none	none
SOptTagTBL.1	SOptTagTBL.sipCommonOptionTagEntry (aka ROW_C) Two indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>) is the sipCommonOptionTagIndex. ASN_INTEGER	none	none
ROW_C.1	ROW_C.sipCommonOptionTagIndex Unique identifier for the row (incrementing value starting at '1'). ASN_UNSIGNED	UINT32 : variable	none
ROW_C.2	ROW_C.sipCommonOptionTag String value option tag from RFC 3261 (e.g. "100rel", "answermode", "ice"...). ASN_OCTET_STR	String: variable	OID.<idx1>.<idx2>
ROW_C.3	ROW_C.sipCommonOptionTagHeaderField Bit-field to define the header fields used by the option tags. Bit value = 1 == selected. Position      Description 0            (require header) 1            (proxy-require header) 2            (supported header) 3            (unsupported header) ASN_BIT_STR	BYTE : bit-field	OID.<idx1>.<idx2>
SCfgBase.4	SCfgBase.sipCommonMethodSupportedTable (aka SMTBL) A table containing a list of the methods supported by the SIP entity.	none	none
SMTBL.1	SMTBL.sipCommonMethodSupportedEntry (aka ROW_D) Two indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>) is the sipCommonMethodSupportedIndex	none	none
ROW_D.1	ROW_D.sipCommonMethodSupportedIndex Unique identifier for the conceptual row ASN_UNSIGNED	UINT32 : variable	none
ROW_D.2	ROW_D.sipCommonMethodSupportedName The supported method's name that must be in upper case. ASN_OCTET_STR	String : variable	OID.<idx1>.<idx2>
SOBJ.2	SOBJ.sipCommonCfgTimer (akaSTimer) Base OID of sip timer value data items	none	none
STimer.1	STimer.sipCommonCfgTimerTable (aka STIMETBL). A table with timer configuration info for SIP entities - each row is an entity.	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
STIMETBL.1	STIMETBL.sipCommonCfgTimerEntry (aka ROW_E). One index: The 'applIndex' from the Network Services MIB.	none	none
ROW_E.1	ROW_EsipCommonCfgTimerA Initial value (milliseconds) of INVITE retransmit timer. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.2	ROW_E.sipCommonCfgTimerB Max wait time (ms) for final response to INVITE ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.3	ROW_E.sipCommonCfgTimerC Max SIP Proxy Server wait time (ms) for provisional response to INVITE ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.4	ROW_E.sipCommonCfgTimerD Max time (ms) server transaction can remain in 'Completed' state when using unreliable transports (note: TCP/SCTP == 0) UDP ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.5	ROW_E.sipCommonCfgTimerE Initial value (milliseconds) of non-INVITE retransmit timer when in 'Trying' state. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.6	ROW_E.sipCommonCfgTimerF Max time (ms) to wait for final response to non-INVITE request. ASN_UNSIGNED	UINT 32: variable	OID.<idx>
ROW_E.7	ROW_E.sipCommonCfgTimerG Initial value (milliseconds) of retransmit timer to wait for final responses to INVITE requests. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.8	ROW_E.sipCommonCfgTimerH Max time (ms) to wait by server to receive ACK once in 'Complete' state. ASN_UNSIGNED	UINT 32: variable	OID.<idx>
ROW_E.9	ROW_E.sipCommonCfgTimerI Max time (ms) to wait by server to receive ACK once in a 'Confirmed' state. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.10	ROW_E.sipCommonCfgTimerJ Max time (ms) to wait by server to receive retransmissions of non-INVITE requests. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.11	ROW_E.sipCommonCfgTimerK Max time (ms) to wait by server to receive retransmissions of responses to non-INVITE requests. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW-E.12	ROW_E.sipCommonCfgTimerT1 Time (ms) estimate of round-trip between client/server. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.13	ROW_E.sipCommonCfgTimerT2 Max retransmit interval for non-INVITE requests and INVITE responses. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
ROW_E.14	ROW_E.sipCommonCfgTimerT4 Max duration for message to remain in network. ASN_UNSIGNED	UINT32 : variable	OID.<idx>
SOBJ.3	SOBJ.sipCommonSummaryStats (aka SSumStats) Base OID of summer statistical info	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SSumStats.1	SSumStats.sipCommonSummaryStatsTable (SSSTBL) A table with summary statistics for SIP entities - each row is an entity.	none	none
SSSTBL.1	SSSTBL.sipCommonSummaryStatsEntry (aka ROW_F) One index: 'applIndex' from the Network services MIB.	none	none
ROW_F.1	ROW_F.sipCommonSummaryInRequests Roll-over counter of SIP request messages received including retransmissions. ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_F.2	ROW_F.sipCommonSummaryOutRequests Roll-over counter of SIP request messages sent out (originated + relayed). ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_F.3	ROW_F.sipCommonSummaryInResponses Roll-over counter of SIP response messages received including retransmissions. ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_F.4	ROW_F.sipCommonSummaryOutResponses Roll-over counter of SIP response messages sent out (originated + relayed). ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_F.5	ROW_F.sipCommonSummaryTotalTransactions Roll-over count of the number of transactions that are in progress and transactions that have reached the 'Terminated' state. ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_F.6	ROW_F.sipCommonSummaryDisconTime The value of SYSTEM-MIB::sysUpTime when counters in this row are reset. ASN_TIMETICKS	UINT32 : variable	OID.<idx>
SOBJ.4	SOBJ.sipCommonMethodStats (aka SMStats) Base OID of statistical info for each SIP method.	none	none
SMStats.1	SMStats.sipCommonMethodStatsTable (aka SMSTBL) A table with summary statistics for each method with SIP entities - each row is an entity.	none	none
SMSTBL.1	SMSTBL.sipCommonMethodStatsEntry (aka ROW_G) Two indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>), is the sipCommonMethodStatsName. Note the 2nd index is variable in length - requiring a beginning length indicator.	none	none
ROW_G.1	ROW_G.sipCommonMethodStatsname Upper-case method name ASN_OCTET_STR	String : variable	none
ROW_G.2	ROW_G.sipCommonMethodStatsOutbounds Roll-over counter of SIP requests for this method sent out_excluding_retransmissions. ASN_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>
ROW_G.3	ROW_G.sipCommonMethodStatsInbounds Roll-over counter of SIP requests received for this method ASN_COUNTER	String : variable	OID.<idx1>.<idx2>
ROW_G.4	ROW_G.sipCommonMethodStatsDisconTime The value of SYSTEM-MIB::sysUpTime when counters inthis row are reset. ASN_TIMETICKS	UINT32: variable	OID.<idx1>.<idx2>
SOBJ.5	SOBJ.sipCommonStatusCode (aka SSCode) Base OID of statistics with regards to return codes from SIP methods	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SSCode.1	SMStats.sipCommonStatusCodeTable (aka SSCTBL) A table with summary statistics for each method within SIP entitites - each row is an entity.	none	none
SSCTBL.1	SMSTBL.sipCommonStatuscodeentry (aka ROW_H) Three indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>) is the sipCommonStatusCodeMethod. Note the 2nd index is variable in length - requiring a beginning length indicator. The third index (<idx3>) is the sipCommonStatusCodeValue.	none	none
ROW_H.1	ROW_H.sipCommonStatusCodeMethod Upper-case method name ASN_OCTET_STR	String : variable	none
ROW_H.2	ROW_H.sipCommonStatuscodeValue Value of status code requested to monitor (assuming support for SETs by network manager). For read-only support, we accumulate all status codes encountered for each method. ASN_UNSIGNED	UINT32 : variable	none
ROW_H.3	ROW_H.sipCommonStatuscodeIns Roll-over counter of response messages received with the value in sipCommonStatusCodeValue ASN_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>.<idx3>
ROW_H.4	ROW_H.sipCommonStatusCodeOuts Roll-over counter of response messages sent with the value in sipCommonStatusCodeValue ASN_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>.<idx3>
ROW_H.5	ROW_H.sipCommonStatusCodeRowStatus Enumeration status value: in read-only mode, this table is created with the RowStatus set to 'active' (1). In read-write, the recognized choices inbound are "createAndGo" (4), or 'destroy' (6) ASN_INTEGER	INT32 : variable	OID.<idx1>.<idx2>.<idx3>
ROW_H.6	ROW_H.sipCommonStatusCodeDisconTime The value of SYSTEM-MIB::sysUpTime when counters in this row are reset. ASN_TIMETICKS	UINT32 : variable	OID.<idx1>.<idx2>.<idx3>
SSCode.2	SMStats.sipCommonStatusCodeNotifTable (aka SNOTIFTBL) A table that augments (e.g. adds columns) the sipCommonStatusCodeTable. The columns defined within the following type of row-entry are indexed with the same indexes as the sipCommonStatusCodeTable IMPORTANT NOTES: (1) The node for the row-entry items are in a different sub-tree since this table has a different OID than the sipCommonStatusCode Table. (2) The items in this table are OPTIONAL per RFC and, therefore, will not be created, resulting in a 'noSuchObject' return to an SNMP GET request.	NO NODE CREATED	none
SNOTIFTBL.1	SNOTIFTBL.sipCommonStatuscodeNotifEntry (aka ROW_I) Three indexes: first by 'applIndex' from the Network Services MIB. The second index (<idx2>) is the sipCommonStatusCodeMethod. Note the 2nd index is variable length - requiring a beginning length indicator. The third index (<idx3>) is the sipCommonStatusCodeValue.	"	"
ROW_I.1	ROW_I.sipCommonStatuscodeNotifSend Effectively a boolean indicating if notification is supported. A special SNMP type of TruthValue True (1), False (2) ASN_INTEGER	NO NODE CREATED if supported INT: [1   2]	NEED TO RETURN 'noSuchObject' exception on GET indicating NO SUPPORT

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW_I.2	ROW_I.sipCommonStatusNotifEmitMode Enumerated value indicating control-mode of notification emissions: normal (1), oneShot (2), triggered(3) ANS_INTEGER	NO NODE CREATED if supported INT: [1 - 3]	"
ROW_I.3	ROW_I.sipCommonStatusCodenotifThresh Number of response messages sent or received for a given SIP method that is considered excessive. ANS_UNSIGNED	NO NODE CREATED if supported UINT32: variable	"
ROW_I.3	ROW_I.sipCommonStatusCodeNotifInterval Time interval in seconds that should the threshold of a status-code in/out counter be exceeded, the sip... ThreshExceeded[In Out]ENotif is generated ANS_UNSIGNED	"	"
SOBJ.6	SOBJ.sipCommonStatsTrans (aka STRANS) Base OID of statistics with regards to transaction statistics	none	none
STRANS.1	STRANS.sipCommonTransCurrentTable (aka TRANSTBL) A table with summary statistics for each method within SIP entities - each row an entity.	none	none
TRANSTBL.1	TRANSTBL.sipCommonTransCurrentEntry (aka ROW_J) One index: by 'applIndex' from the Network Services MIB. From an Allworx application perspective, there is only one 'application' so the value of <idx> for access purposes is always 1.	none	none
ROW_J.1	ROW.J.sipCommonTransCurrentactions Number of transactions awaiting definitive (non-1xx) response. (increments & decrements) ANS_GAUGE	UINT : variable	OID.<idx>
SOBJ.7	SOBJ.sipCommonStatsRetry (aka SRETRY) Base OID of Retry statistics.	none	none
SRETRY.1	SRETRY.sipCommonStatsRetryTable (aka RETRYTBL) A table with retry statistics for each method within SIP entities - each row a method for an entity.	none	none
RETRYTBL.1	RETRYTBL.sipCommonTransCurrentEntry (aka ROW_K) Two indexes: first by 'applIndex' from the Network Services MIB. From an Allworx application perspective, there is only one 'application' so the value of <idx1> for access purposes is always 1. The second index (<idx2>) is the sipCommonStatsRetryMethod.	none	none
ROW_K.1	ROW_K.sipCommonStatsRetryMethod Unique name for the SIP method. AN_OCTET_STR	String : variable	none
ROW_K.2	ROW_K.sipCommonStatsRetries Total count of request transmissions sent. ANS_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>
ROW_K.3	ROW_K.sipCommonStatsRetryFinalResponses Total count of Final Response retries that have been sent. ANS_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>
ROW_K.4	ROW_K sipCommonStatsRetryNonFinalResponses Total count of non-FinalResponse retries that have been sent. ANS_COUNTER	UINT32 : variable	OID.<idx1>.<idx2>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROW_K.5	ROW_K.sipCommonStatsRetryDisconTime The value of SYSTEM-MIB::sysUpTime when counters in this row are reset. ASN_TIMETICKS	UINT32 : variable	OID.<idx1>.<idx2>
SOBJ.8	SOBJ.sipCommonOtherStats (aka SOSTAT) BASE OID of other common statistics.	none	none
SOSTAT.1	SOSTAT.sipCommonOtherStatsTable (aka ORTBL) A table with other statistics for each SIP entities - each row an entity.	none	none
ORTBL.1	ORTBL.sipCommonTransCurrentEntry (aka ROW_L One index. by 'applIndex' from the Network Services MIB. From an Allworx application perspective, there is only one 'application' so the value of <idx> for access purposes is always 1.	none	none
ROW_L.1	ROW_L.sipCommonOtherStatsNumUnsupportedUri Number of RequestURI's received with an unsupported scheme. ASN_COUNTER.	UINT32 : variable	OID.<idx>
ROW_L.2	ROW_L.sipCommonOtherStatsNumUnsupportedMethods Number of SIP requests received with unsupported methods. ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_L.3	ROW_L.sipCommonOtherStatsOtherwiseDiscardedMsgs Number of SIP messages received that, for any number of reasons, was discarded without a response. ASN_COUNTER	UINT32 : variable	OID.<idx>
ROW_L.4	ROW_L.sipCommonOtherStatsDisconTime The value of SYSTEM-MIB::sysUpTime when counters in this row are reset. ASN_TIMETICKS	OID.<idx1>	OID.<idx>

### 3.11 SIP-UAMIB Support (MIB-II.sipUAMIB(150))

The SIP-UAMIB (SIP User Agent MIB as part of RFC 4780) contains the configuration information for the SIP server portion of the SIP user agent in the system.

The detailed below are the data items supported within the SIP-UAMIB.

The root of this MIB is 1.3.6.1.2.1.150 (aka MIB-II.sipUAMIB, aka SIPUA).

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
.1.3.6.1.2.1.150	MIB-II.sipUAMIB (aka SIPUA)	none	none
SIPUA.1	SIP.sipUAMIBObjects (aka SUAOBJ)	none	none
SUAOBJ.1	SOBJ.sipUACfgServer (aka SSvrCfgBase) base OID of server configuration data items	none	none
SSvrCfgBase.1	SSvrCfgBase.sipUACfgServerTable (aka SVRCTBL) A table with server configuration info for SIP user agents - each row is an agent.	none	none

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
SVRCTBL.1	SVRCTBL.SipUACGServerEntry (aka ROW) Two indexes: first by 'applIndex' from the Network Services MIB. From an Allworx application perspective, there is only one 'application' so the value of <idx1> for access purposes is always 1. The second index (<idx2>) is the sipUACfgServerIndex.	none	none
ROW.1	ROW.sipUACfgServerIndex Unique identifier of server addresses info when multiple addresses are configured by the SIP entity. If one address is not reachable, another can be tried. ASN_INTEGER	UINT32 : variable	OID.<idx1>.<idx2>
ROW.2	ROW.sipUACfgServerAdressType Possible values are: unknown(0), ipv4(1), ipv6(2), ipv4z(3), ipv6z(4), dns(16) ASN_INTEGER	Enumerated	OID.<idx>.<idx2>
ROW.3	ROW.sipUACfgServerAddress The address of the SIP server the user agent uses to proxy/redirect calls. The following display formats depend on the type-value in sipUACfgServerAddressType. Where d = decimal, x = hex Ipv4: "1d:1d:1d:1d" Ipv6: "2x:2x:2x:2x:2x:2x:2x:2x" Ipv4z: "<Ipv4><zone>: when zone = %4d" Ipv6z: "<Ipv6><zone>: when zone = %4d" dns: char[1..255] ASN_OCTET_STR	OCTET STRING: Lengths:  Ipv4 : 4  Ipv6 : 16  Ipv4z : 8  Ipv6z : 20  Dns : 255 max	OID.<idx>.<idx2>
ROW.4	ROW.sipUACfgServerRole Bit-field to specify what type of role this SIP entity plays. Bit value = 1 == participates. Position Description 0 (other) 1 (userAgent) 2 (proxyServer) 3 (redirectServer) 4 (registrarServer) ASN_BIT-STR	BYTE: bit - field Phone: 0 x 40 (userAgent)  Server: 0x78 (userAGent, proxyServer, redirectServer, and registrarServer)	OID.<idx>.<idx2>

## 3.12 SIP-SERVER-MIB (MIB-II.sipServer (151))

This MIB group is a portion of the RFC 4780 MIB. This section provides information regarding SIP Server statistics of the server. This MIB is only supported on the server and is not supported on the phone.

The root of this MIB is 1.3.6.1.2.1.151 (aka MIB-II.sipServer, aka SIP-SRVR).

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
.1.3.6.1.2.1.151	MIB-II.sipServer (aka SIPSRVR)	none	none
SIPSRVR.1.1	sipServerCfg (SERVRCFG) SIP Server Configuration	none	none
SRVRCFG.1	sipServerCfgTable (SRVRCFGTBL) Configuration objects applicable to SIP Redirect and Proxy Servers.	none	none
SRVRCFGTBL.1	sipServerCfgEntry (ROWA) Each row represents those objects for a particular SIP server present in this sytem.	none	none
ROWA.1	sipServerCfgHostAddressType The type of Internet address by which the SIP server is reachable. Possible values are: unknown(0), ipv4(1), ipv6(2), ipv4z(3), ipv6z(4), dns(16) ASN_INTEGER	Enumerated: ipv4 (1)	OID
ROWA.2	sipServerCfgHostAddress This is the host portion of a SIP URI that is assigned to the SIP server. ASN_OCTET_STR	String: LAN Address of the server.	OID
SIPSRVR.1.3	sipServerProxyCfg (PROXYCFG) SIP SERVER Proxy Configuration	none	none
PROXYCFG.1	sipServerProxyCfgTable (PROXYCFGTBL) Contains configuration objects applicable to SIP PProxy Servers.	none	none
PROXYCFGTBL.1	sipServerProxyCfgEntry (ROWB) Each row represents those objects for a particular SIP server present in this system.	none	none.
ROWB.1	sipServerCfgProxyStatefulness This object reflects the default mode of operation for the Proxy Server entity. Possible values are: stateless(1), transactionStateful(2), callStateful(3) ASN_INTEGER	Enumerated: transactionStateful (2)	OID
ROWB.2	sipServerCfgProxyRecursion This object reflects whether or not the Proxy performs a recursive search on the Contacts provided in 3xx redirects. Possible values are: true (1), false (0) ASN_INTEGER	Enumerated: false (0)	OID
ROWB.3	sipServerCfgProxyRecordRoute This object reflects whether or not the proxy adds itself to the Record-Route header as a default action. Possible values are: true (1), false (0) ASN_INTEGER	Enumerated: false (0)	OID

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROWB.4	sipServerCfgProxyAuthMethod This object reflects the authentication methods that MAY be used to authenticate request originators. Bit value = 1 == <i>participates</i> . Position Description 0 (other) 1 (tls) 2 (digest) ASN_BIT_STR	BYTE: bit-field (digest (0x20 32))	OID
ROWB.5	sipServerCfgProxyAuthDefaultRealm This object reflects the default realm value used in Proxy-Authenticate headers. ASN_OCTET_STR	String: "realm"	OID
SIPSRVR.1.4	sipServerProxyStats (PROXYSTATS) SIP Server Proxy Statistics	none	none
PROXYSTATS.1	sipServerProxyStatsTable (PROXYSTATSTBL) contains the statistics objects applicable to all SIP Proxy Servers in this system.	none	none
PROXYSTATSTBL.1	sipServerProxyStatsEntry (ROWC) A row of summary statistics.	none	none
ROWC.1	sipServerProxyStatProxyReqFailures This object contains the number of occurrences of unsupported options being specified in received Proxy-Require headers. ASN_COUNTER	UINT32: Variable	OID
ROWC.2	sipServerProxyStatsDisconTime The value of the sysUpTime object when the counters for the server statistics objects in this row last experienced a discontinuity. ASN_TIMESTAMP	UINT32:0	OID
SIPSRVR.1.5	sipServerRegCfg (REGCFG) SIP Server Registrar Configuration	none	none
REGCFG.1	sipServerRegCfgTable (REGCFGTBL) Contains configuration objects applicable to SIP Registrars.	none	none
REGCFGTBL.1	sipServerRegCfgEntry (ROWD) A row of common Registrar configuration.	none	none
ROWD.1	sipServerRegMaxContactExpiryDuration Reflects the maximum expiry that may be requested by a User Agent for a particular Contact. ASN_GAUGE	UINT32: 0	OID
ROWD.2	sipServerRegMaxUsers The maximum number of users that the Registrar supports. ASN_GAUGE	UINT32: Variable based on server type and feature keys installed.	OID
ROWD.3	sipServerRegCurrentUsers The number of users currently registered with the Registrar. ASN_GAUGE	UINT32: 0	OID

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROWD.4	sipServerRegDfltRegActiveInterval The default time interval the Registrar considers registrations to be active. ASN_GAUGE	UINT32: 0	OID
REGCFG.2	sipServerReguserTable (REGUSRTBL) Contains information on all users registered to each Registrar in this system.	none	none
REGUSRTBL.1	sipServer RegUserEntry (ROWE) Contains information for a single user registered to this Registrar.	none	none
ROWE.1	sipServerRegUserIndex Uniquely identifies a conceptual row in the table. ASN_GAUGE	UINT32: Variable	OID.<index>
ROWE.2	sipServerRegUserUri The user's address-of-record. ASN_STR_TYPE	String: login_name@Server_LAN_Addr:Port	OID.<index>
ROWE.3	sipServerRegUserAuthenticationFailures A count of the number of times the user has failed authentication. (Not currently tracked.) ASN_COUNTER	UINT32: 0	OID.<index>
ROWE.4	sipServerRegUserDisconTime The value of the sysUpTime object when the counters for the user registration statistics objects in this row last experienced a discontinuity. ASN_TIMESTAMP	UINT32: 0	OID.<index>
REGCFG.3	sipServerRegContactTable (REGCONTACTTBL) contains information on every location where a registered user (specified by sipServerRegUserIndex) wishes to be found (i.e., the user provides contact information to each SIP Registrar in this system).	none	none
REGCONTACTTBL.1	sipServerRegContactEntry (ROWF) contains information for a single Contact.	none	none
ROWF.1	sipServerRegContactIndex Uniquely identifies a conceptual row in the table. ASN_GAUGE	UINT32: Variable	OID.<index>
ROWF.2	sipServerRegContactDisplayName This object contains the display name for the Contact. ASN_STR_TYPE	String: "Full_User_Name"	OID.<index>
ROWF.3	sipServerRegContactURI SIP URI where the user can be contacted. ASN_STR_TYPE	String: login-name@Server_LAN_Addr:Port	OID.<index>
ROWF.4	sipServerRegContactLastUpdated The time when this contact information was accepted.. (Not currently tracked) ASN_TIMESTAMP	UINT32: 0	OID.<index>

OID	Textual Representation / Description and ASN1 Type	Expected value	Access
ROWF.5	sipServerRegContactExpiry The date and time when the contact information will no longer be valid. ASN_OCTET_STR	Date and Time: 1-1-2100	OID.<index>
ROWF.6	sipServerRegContactPreference Relative preference for the particular Contact header field value compared to other bindings for this address-of-record. ASN_STR_TYPE	String: ""	OID.<index>
SIPSRVR.1.6	sipServerRegStats (REGSTATS) SIP Server Registrar Statistics	none	none
REGSTATS.1	sipServerRegStatsTable (REGSTATSTBL) Contains the summary statistics objects applicable to all SIP Registrars in this system.	none	none
REGSTATSTBL.1	sipServerRegStatsEntry (ROWG) A row of summary statistics.	none	none
ROWG.1	sipServerRegStatsAcceptedRegs Count of the number of REGISTER requests that have been accepted (status code 200) by the Registrar. ASN_COUNTER	UINT32: Variable	OID.<index>
ROWG.2	sipServerRegStatsRejectedRegs Count the number REGISTER requests that have been rejected by the Registrar. ASN_COUNTER	UINT32: Variable	OID.<index>
ROWG.3	sipServerRegStatsDisconTime The value of the sysUpTime object when the counters for the registrar statistics objects in this row last experienced a discontinuity. ASN_TIMESTAMP	UINT32: 0	OID.<index>







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