Dell PowerConnect W-Series Instant Access Point

MIB Reference Guide

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This manual is for network administrators and operators responsible for managing Dell PowerConnect W-IAPs.

Contents

This guide provides information about Dell PowerConnect Instant MIBs. Unless otherwise stated in the following table, each chapter provides information about the hierarchy, OIDs, and descriptions of the statistical information the MIBs provide.

Chapter	Contents
Chapter 1, "MIBs Overview"	Introductory information about Dell Instant MIBs.
Chapter 2, "Using MIBs"	Information and tips about Dell Instant MIB files.
Chapter 3, "Instant MIB"	Information about the supported Instant MIB tables.
Chapter 4, "SNMP MIBs Reference"	Reference list of SNMP MIBs and associated OIDs.

Related Documents

The complete documentation set for Dell Instant 5.0.3.0 -1.1.0.0 software release are:

- *Dell PowerConnect W-Series Instant Access Point MIB Reference Guide (this guide)*
- *Dell PowerConnect W-Series Instant Access Point Quick Start Guide*
- *Dell PowerConnect W-Series Instant Access Point User Guide*
- *Dell PowerConnect W-Series Instant Access Point 5.0.3.0-1.1.0.0 Release Notes*

Frequently Used Acronyms

Table 1 defines frequently used acronyms.

Table 1 *Frequently Used Acronyms*

Acronym	Definition
3DES	Triple DES
ACL	Access Control List
AM	Air Monitor
AP	Access Point
ARM	Adaptive Radio Management
BSSID	Basic Service Set Identifier
CA	Certificate Authority

Table 1 *Frequently Used Acronyms (Continued)*

Acronym	Definition
CAC	Call Admission Control
CHAP	Challenge Handshake Authentication Protocol
CLI	Command Line Interface
CRL	Certificate Revocation List
CSA	Channel Switch Announcement
CSR	Certificate Signing Request
CW	Contention Window
DA	Destination Address
DES	Data Encryption Standard
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Service
DOS	Denial of Service
DPD	Dead Peer Detection
DSS	Direct Spread Spectrum
EAP	Extensible Authentication Protocol
EDCA	Enhanced Distributed Channel Access
EIRP	Effective Isotropic Radiated Power
ESI	External Services Interface
ESSID	Extended Service Set Identifier
GRE	Generic Routing Encapsulation
GUI	Graphical User Interface
HAT	Home Agent Table
HT	High Throughput
IAS	Internet Authentication Service
IDS	Intrusion Detection System
IGMP	Internet Group Management Protocol
IKE	Internet Key Exchange
IP	Internet Protocol
IV	Initialization Vectors
kB	Kilobyte
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
LI	Listening Interval
MAC	Media Access Control

Table 1 *Frequently Used Acronyms (Continued)*

Acronym	Definition
MB	Megabyte
MCHAP	Microsoft Challenge Handshake Authentication Protocol
MIB	Management Information Base
NAS	Network Address Server
NAT	Network Address Translation
NIC	Network Interface Card
NTP	Network Time Protocol
OFDM	Orthogonal Frequency Division Multiplexing
OID	Object Identifier
OUI	Organizational Unit Identifier
PAP	Password Authentication Protocol
PEAP	Protected EAP
PEF	Policy Enforcement Firewall
PIN	Personal Identification Number
PoE	Power over Ethernet
PPTP	Point-to-Point Tunneling Protocol
PSK	Pre-Shared Key
QoS	Quality of Service
RADIUS	Remote Authentication Dial In User Service
RAP	Remote Access Point
RF	Radio Frequency
RMON	Remote Monitor
RSA	Rivest-Shamir-Aldeman (encryption algorithm)
SIP	Session Initiation Protocol
SNMP	Simple Network Management Protocol
SSH	Secure Shell
SSID	Service Set Identifier
TIM	Traffic Indication Map
TLS	Transport Layer Security
ToS	Type of Service
TSPEC	Traffic Specification
VLAN	Virtual Local Area Network
VoIP	Voice over IP
VPN	Virtual Private Network

Table 1 *Frequently Used Acronyms (Continued)*

Acronym	Definition
VRRP	Virtual Router Redundancy Protocol
VSA	Vendor Specific Attributes
WEP	Wired Equivalent Protocol
WINS	Windows Internet Naming Service
WLAN	Wireless Local Area Network
WMM	Wireless MultiMedia / Wi-Fi Multimedia
WMS	WLAN Management System
WPA	Wi-Fi Protected Access

Contacting Support

Table 2 *Contacting Support*

Main Site	http://www.dell.com
Support Site	https://support.dell.com
Documentation Website	https://support.dell.com/manuals

Chapter 1

MIBs Overview

This chapter provides an overview of the Dell Enterprise MIBs in the following sections:

MIBs

A Management Information Base (MIB) is a virtual database that contains information that is used for network management. Each managed device contains MIBs that define the properties of that device. A separate MIB is provided for each defined property, such as the group of physical ports that are assigned to a VLAN or the statistical data of packets that are transferred at a specific rate.

MIB objects, such as a MIB table or a specific element of data in a MIB table, are identified with Object Identifiers (OIDs). The OIDs are designated by text strings and integer sequences.

The hardware MIBs are assigned under the Dell organization code, while all others are under the Aruba organization code. For example, *Dell* and *1.3.6.1.4.1.674* both represent the private enterprise node *Aruba*, as shown in Figure 1 on page 14.

Dell is the parent of most of the proprietary MIBs that are supported on Dell PowerConnect W-Series Mobility Controllers.

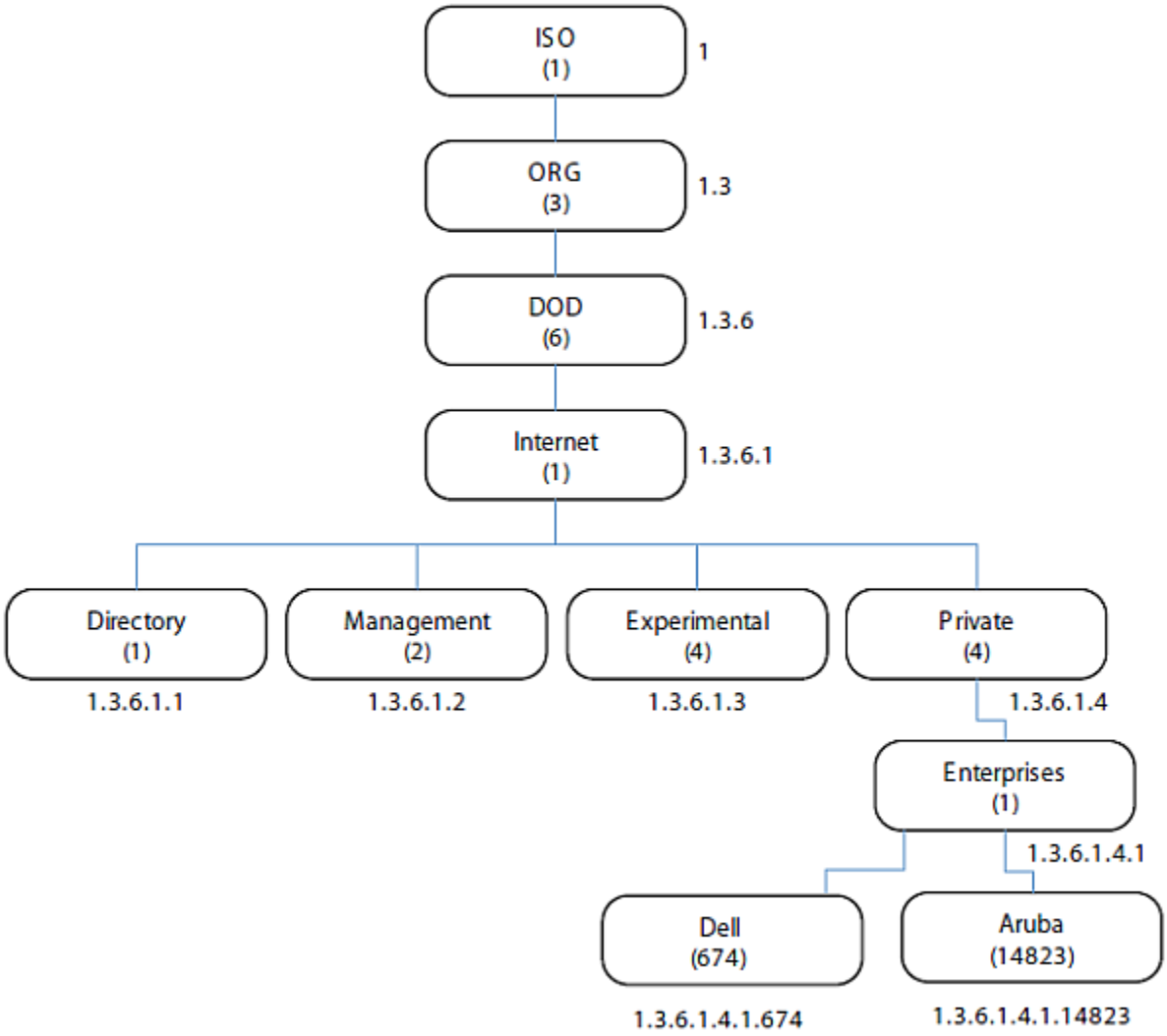
The numerical string lists the nodes of the enterprise MIB hierarchy, as shown in Table 3.

Table 3 *MIB Node Identification - Enterprise Nodes*

Integer	String	Name
1	1	OSI
3	1.3	ORG
6	1.3.6	DOD
1	1.3.6.1	Internet
4	1.3.6.1.4	Private
1	1.3.6.1.4.1	Enterprise
674	1.3.6.1.4.1.674	Dell

Figure 1 illustrates the high-level hierarchy of the MIBs. This document only covers the enterprise MIBs, objects designed to specifically support Dell devices. Standard MIBs are not covered.

Figure 1 *High-level MIB Hierarchy*



MIB is one of the elements of Simple Network Management Protocol (SNMP), which is used to manage network devices. To deliver information between devices, every object referred to in an SNMP message must be listed in the MIB. If a component of a device is not described in a MIB, that component cannot be recognized by SNMP—there is no information for SNMP managers and SNMP agents to exchange.

The information provided by a MIB is a file that describes network elements with numerical strings. This information is compiled into readable text by the SNMP manager. For information about reading MIB text files, see "Reading MIB Files" on page 18.

SNMP

Three significant elements of SNMP are Managers, Agents, and MIBs.

- Managers (software application) are consoles that are used to communicate with and manage devices that support SNMP Agents. Managers collect information by polling Agents. Managers can also be used to send configuration updates or send controlling requests to actively manage a network device.

- Agents (software application) provide information from the network devices to the Managers. Network devices include workstations, routers, microwave radios, and other network components. Agents are embedded in the Mobility Access Switch firmware, unlike some devices such as servers that require the agent to be installed separately.
- MIBs are used for communication between the Managers and the Agents. The OIDs of the MIBs enable the Managers and Agents to communicate specific data requests and data returns.
- To ensure functionality with SNMP, MIB objects must be defined with the proper *keywords*, as shown in Table 4.

ArubaOS Enterprise MIBs support SNMPv1, SNMPv2, and SNMPv3.

Table 4 *MIB Keywords*

Keyword	Description
Sequence	The sequence of objects of the MIB. This keyword is used mostly with entry MIB objects to list the MIB objects that exchange information.
Syntax	Textual conventions, such as *Integer32*.
Max-Access	Defines the object accessibility: • *read-only*: can be retrieved but not modified • *read-write:* can be retrieved and modified • *not-accessible*: cannot be retrieved; it is for internal (device) use only • *accessible-for-notify*: can be retrieved when a trap message (notification) is sent
Status	Defines the status of the object: • *current*: up to date • *deprecated*: obsolete, and to be phased out in the future.
Description	A text string that describes the object.

Chapter 2

Using MIBs

This chapter provides information on and examples of using MIBs.

Downloading MIB Files

The most recent Dell MIB files are available for registered customers at: https://download.dell-pcw.com

For assistance to set up an account and access files, please contact customer service. See Contacting Support.

Monitoring WLAN Health

This section lists SNMP MIBs that are frequently used to run health checks on Dell Instant devices, which can be performed through a MIB browser application. To retrieve information from a MIB, the following information is required:

- SNMP version
- SNMP community name—public or private
- The IP Address of the Dell Instant
- The OID of the MIB value you want to monitor

In addition, MIB files can be placed in the appropriate disk location to assist the user in locating desired OID values for monitoring. If MIB files need to be acquired, see Downloading MIB Files, above.

It is assumed that the workstation is connected to the Dell Instant and that a MIB browser is available. For most applications, the root of the MIB must be included in the OID—the OID begins with a decimal point as shown below.

```
.1.3.6.1.4.1.674.2.2.1.1.2.1
```

MIB Browsers

If using an application that is run through CLI (a cmd window), the command would resemble the following:

```
snmpget -v 2c -c <community name> <Instant IP address><MIB OID>
```

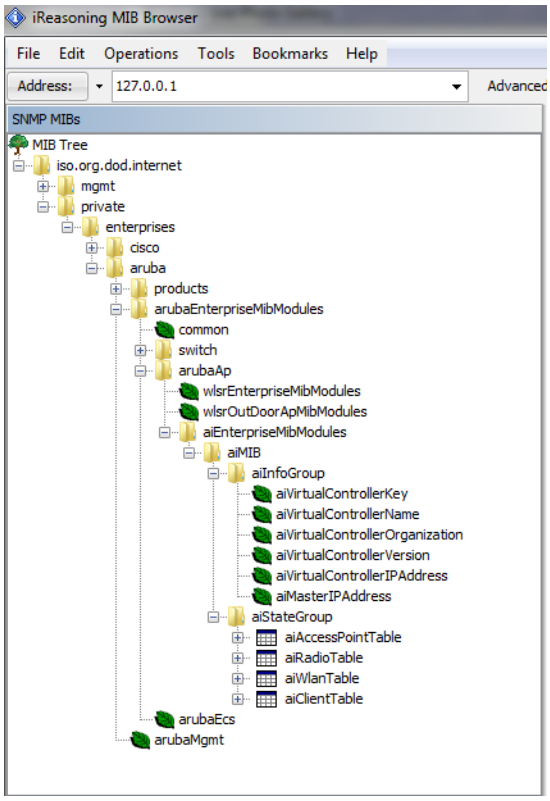
Figure 2 shows an example of submitting a command to obtain information.

Figure 2 *CLI Interface*

```
C:\usr\bin>snmpget -v 2c -c public 10.100.101.59 .1.3.6.1.4.1.14823.2.2.1.1.1.1
WLSX-SWITCH-MIB::wlsxHostName = GLOBALS: Aruba200
```

Figure 3 shows how information may be obtained through a graphical user interface (GUI). The user interface and the available features vary by application.

Figure 3 *Graphical User Interface*



Reading MIB Files

This section describes how to interpret the basic components of a MIB file. To determine the OIDs, viewing the file snmp.h may be necessary, which is described in "SNMP File" on page 20. For additional information about MIB files, see "MIBs" on page 13. For a listing of SNMP MIB OIDs, see Chapter 4, "SNMP MIBs Reference" on page 39.

MIB files describe a specific component of a network device. The files are numerical strings that are converted to ASCII text by the compiler of the SNMP manager. A word processor or text editor can be used to open the ASCII file. The contents of an example Instant enterprise MIB file, *aruba-cts.my*, are described below.

Opening Line

Following is the opening line, the beginning of the MIB file.

```
AI-AP-MIB DEFINITIONS ::= BEGIN
```

Imports

The Imports section lists the objects that are defined in external ASN.1 files and are used in the current MIB file.

```
IMPORTS
       TEXTUAL-CONVENTION
           FROM SNMPv2-TC

       MODULE-IDENTITY,
       OBJECT-TYPE,
       snmpModules,
       Integer32,
       Counter32,
       Counter64,
       IpAddress,
```

```
        NOTIFICATION-TYPE
            FROM SNMPv2-SMI

        DisplayString,
        PhysAddress,
        TimeInterval,
        RowStatus,
        StorageType,
        TestAndIncr,
        MacAddress,
        TruthValue
        FROM SNMPv2-TC

        OBJECT-GROUP
            FROM SNMPv2-CONF
                 aiEnterpriseMibModules
                         FROM ARUBA-MIB;
```

Inheritence

This section shows the vendor of the MIB and the inheritance, and provides an overall description.

A significant part of inheritance is the OID. The entire OID is not listed for each MIB object—instead, the parent of the object is shown. The OID can be determined from the parent object as follows.

aiEnterpriseMibModules `is the parent object –its OID is 1.3.6.1.4.1.674.2.3.3.`

aiStateGroup OBJECT IDENTIFIER ::= { aiMIB 2 }, the OID is `1.3.6.1.4.1.674.2.3.3.1.2.`

aiVirtualControllerKey OBJECT-TYPE, the OID is `1.3.6.1.4.1.674.2.3.3.1.1.1.0`.

All MIBs and their related OIDs are listed in the snmp file of Instant. For more information, see "SNMP File" on page 20.

```
aiEnterpriseMibModules
FROM ARUBA-MIB;
```

Identity

Identity is the opening description of the MIB. The information includes contact information for the vendor and a general description of the MIB.

```
aiMIB MODULE-DENTITY
        LAST-UPDATED "0804160206Z"
        ORGANIZATION "Aruba Wireless Networks"
        CONTACT-INFO
             "Postal:    1322 Crossman Avenue
                         Sunnyvale, CA 94089
             E-mail:     dl-support@arubanetworks.com
             Phone:      +1 408 227 4500"
        DESCRIPTION
            "This MIB is for managing Aruba Instant WLAN"
        REVISION        "0804160206Z"
        DESCRIPTION
            "The initial revision."
        ::= { aiEnterpriseMibModules 1 }
```

MIB Modules

MIB objects can be placed in logical groups, Group and Table. One MIB file can consist of multiple groups. A group typically contains at least one table. The table lists the MIB objects that contain the information that is exchanged.

The first object of a table is an Entry. The keyword SEQUENCE lists the objects of the table that contain device information. Each subsequent object (Informative MIB Objects) inherits the OID of the Entry, and contains information sorted by keywords: Syntax, Access, Status, Description. For details about keywords, see "MIBs" on page 13.

The OID of the Entry is aiAccessPointEntry is aiAccessPointTable 1, which represents 1.3.6.1.4.1.674.2.3.3.1.2.1.1. The OIDs of the subsequent objects of this table are appended increments of the Entry OID.

Group

```
aiStateGroup              OBJECT IDENTIFIER ::= { aiMIB 2 }
```

Table

```
aiAccessPointTable  OBJECT-TYPE
       SYNTAX       SEQUENCE OF AiAccessPointEntry
       MAX-ACCESS   not-accessible
       STATUS       current
       DESCRIPTION
                "This contains all access points connected to the
                virtual controler. This table is empty on AP where
                virtual controller is not active"
       ::= { aiStateGroup 1 }
```

Entry

```
aiAccessPointEntry OBJECT-TYPE
       SYNTAX       AiAccessPointEntry
       MAX-ACCESS   not-accessible
       STATUS       current
       DESCRIPTION
             " "
          INDEX { aiAPMACAddress }
       ::= { aiAccessPointTable 1 } AiAccessPointEntry ::=
   SEQUENCE {
        aiAPMACAddress      MacAddress,
        aiAPName            DisplayString,
        aiAPIPAddress       IpAddress,
        aiAPSerialNum       DisplayString,
        aiAPModel           OBJECT IDENTIFIER,
        aiAPModelName       DisplayString,
        aiAPCPUUtilization  Integer32,
        aiAPMemoryFree      Integer32,
        aiAPUptime          TimeTicks
```

Closing Line

Following is the closing line—the end of the MIBs file.

```
END
```

SNMP File

The snmp.h file lists the OIDs of all MIBs. Following are sections from snmp.h that show the complete OID of each of the Controller Transport Service (CTS) MIB elements. The list starts from the ancestral parent iso.

The SNMP file with all Dell MIBs is listed in Chapter 4, "SNMP MIBs Reference" on page 39.

All Instant MIBs inherit their OIDs from the Dell MIB node. The following rows list the MIBs that precede CTS, starting from iso.

```
{ "iso", HASHNEXT("1") },
{ "org", HASHNEXT("1.3") },
{ "dod", HASHNEXT("1.3.6") },
{ "internet",HASHNEXT("1.3.6.1") },
{ "private",HASHNEXT("1.3.6.1.4") },
{ "enterprises", HASHNEXT("1.3.6.1.4.1") },
{ "aruba",HASHNEXT("1.3.6.1.4.1.674") },
{"arubaEnterpriseMibModules",HASHNEXT("1.3.6.1.4.1.674.2") },
```

HP OpenView

To install the Dell module for HP OpenView, log in as the root user and execute the following script:

```
# $OV_CONTRIB/NNM/Dell/install
```

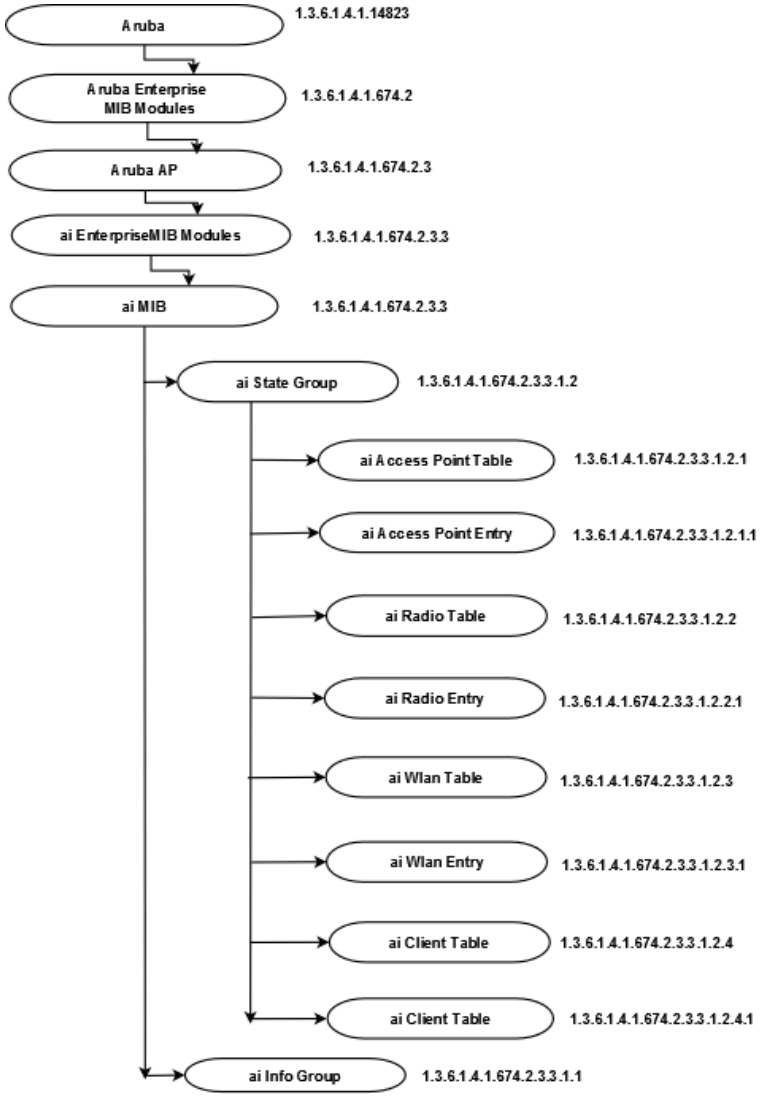
Chapter 3

Instant MIB

The chapter provides information about the Dell Instant MIB, as well as entities that are attempting to access the network.

Figure 4 shows the architecture of the Dell Instant MIB relative to 1.3.6.1.4.1.674 (iso.org.dod.internet.private.enterprise.dell). The Instant MIB is listed in the file dell-instant.my. For information about downloading Dell Instant MIB file, see "Downloading MIB Files" on page 17.

Figure 4 *Instant MIB Hierarchy*



The supported tables in the Instant MIB are listed and summarized in Table 5. The objects of the supported tables are described in the following sections.

The following table lists the supported tables in the Instant MIB:

Table 5 *Supported Instant MIB Tables*

Group	Description
aiAccessPointTable	Contains all the access points connected to the virtual controller. This table is indexed by the MAC Address of the W-IAP.
aiRadioTable	Contains all the radios of the access points connected to the virtual controller.This table is indexed by the MAC Address and radio number.
aiWlanTable	Contains all the BSSIDs that are active on the virtual controller. This table is indexed by the MAC address and a WLAN Index of the W-IAP.
aiClientTable	Contains information about all the clients connected to the virtual controller. When a client roams from one access point to another, all the counters in this table are reset to 0.

aiAccessPointTable

The objects of the aiAccessPointTable provide information about all the W-IAPs connected to the virtual controller.

Table 6 *aiAccessPointTable OIDs*

Object	Object ID	
aiAccessPointEntry	1.3.6.1.4.1.674.2.3.3.1.2.1.1	aiAccessPointTable 1
aiAPMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.1.1.1	aiAccessPointEntry 1
aiAPName	1.3.6.1.4.1.674.2.3.3.1.2.1.1.2	aiAccessPointEntry 2
aiAPIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.1.1.3	aiAccessPointEntry 3
aiAPSerialNum	1.3.6.1.4.1.674.2.3.3.1.2.1.1.4	aiAccessPointEntry 4
aiAPModel	1.3.6.1.4.1.674.2.3.3.1.2.1.1.5	aiAccessPointEntry 5
aiAPModelName	1.3.6.1.4.1.674.2.3.3.1.2.1.1.6	aiAccessPointEntry 6
aiAPCPUUtilization	1.3.6.1.4.1.674.2.3.3.1.2.1.1.7	aiAccessPointEntry 7
aiAPMemoryFree	1.3.6.1.4.1.674.2.3.3.1.2.1.1.8	aiAccessPointEntry 8
aiAPUptime	1.3.6.1.4.1.674.2.3.3.1.2.1.1.9	aiAccessPointEntry 9

aiAccessPointEntry

Syntax	aiAccessPointEntry
Max-Access	not-accessible
Status	current
Description	Server entry.
Index	{ authServerName }

aiAPMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	MAC address of the Access Point.

aiAPName

Syntax	DisplayString (SIZE(0..64))
Max-Access	read-only
Status	current
Description	Name of the Access Point.

aiAPIPAddress

Syntax	IpAddress
Max-Access	read-only
Status	current
Description	IP address of the Access Point.

aiAPSerialNum

Syntax	DisplayString (SIZE(0..64))
Max-Access	read-only
Status	current
Description	Serial number of the Access Point.

aiAPModel

Syntax	OBJECT IDENTIFIER
Max-Access	read-only
Status	current
Description	Access Point System OID.

aiAPModelName

Syntax	DisplayString (SIZE(0..32))
Max-Access	read-only
Status	current
Description	Model name of the Access Point.

aiAPCPUUtilization

Syntax	Integer32
Max-Access	read-only
Status	current
Description	CPU utilization of the Access Point.

aiAPMemoryFree

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Amount of memory free in the access point in bytes.

aiAPUptime

Syntax	TimeTicks
Max-Access	read-only
Status	current
Description	Uptime of the Access Point.

aiRadioTable

The objects of the aiRadioTable provide information about all the radios and the related information of the

Access Points.

Table 7 *aiRadioTable OIDs*

Object	Object ID	
aiRadioEntry	1.3.6.1.4.1.674.2.3.3.1.2.2.1	aiRadioTable 1
aiRadioAPMacAddress	1.3.6.1.4.1.674.2.3.3.1.2.2.1.1	aiRadioEntry 1
aiRadioIndex	1.3.6.1.4.1.674.2.3.3.1.2.2.1.2	aiRadioEntry 2
Ai RadioMacAddress	1.3.6.1.4.1.674.2.3.3.1.2.2.1.3	aiRadioEntry 3
aiRadioChannel	1.3.6.1.4.1.674.2.3.3.1.2.2.1.4	aiRadioEntry 4
aiRadioTransmitPower	1.3.6.1.4.1.674.2.3.3.1.2.2.1.5	aiRadioEntry 5
aiRadioNoiseFloor	1.3.6.1.4.1.674.2.3.3.1.2.2.1.6	aiRadioEntry 6
apRadioUtilization4	1.3.6.1.4.1.674.2.3.3.1.2.2.1.7	aiRadioEntry 7
apRadioUtilization64	1.3.6.1.4.1.674.2.3.3.1.2.2.1.8	aiRadioEntry 8
aiRadioTxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.9	aiRadioEntry 9
aiRadioTxMgmtFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.10	aiRadioEntry 10
aiRadioTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.11	aiRadioEntry 11
aiRadioTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.2.1.12	aiRadioEntry 12
aiRadioTxDrops	1.3.6.1.4.1.674.2.3.3.1.2.2.1.13	aiRadioEntry 13
aiRadioRxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.14	aiRadioEntry 14
aiRadioRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.15	aiRadioEntry 15
aiRadioDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.2.1.16	aiRadioEntry 16
aiRadioRxMgmtFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.17	aiRadioEntry 17
aiRadioRxBad	1.3.6.1.4.1.674.2.3.3.1.2.2.1.18	aiRadioEntry 18
aiRadioPhyEvents	1.3.6.1.4.1.674.2.3.3.1.2.2.1.19	aiRadioEntry 19

aiRadioEntry

Syntax	aiRadioEntry
Max-Access	not-accessible
Status	current
Description	Server entry.
Index	{ authServerName }

aiRadioAPMacAddress

Syntax	MAcAddress
Max-Access	read-only
Status	current
Description	MAC Address of the Access Point where this radio is active.

aiRadioIndex

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio number of the Access Point.

aiRadioMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	Radio MAC address of the Access Point.

aiRadioChannel

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio channel of the Access Point.

aiRadioTransmitPower

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio transmit power of the Access Point.

aiRadioNoiseFloor

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio noise of the Access Point in dBm.

aiRadioUtilization4

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio channel utilization 4 second average.

aiRadioUtilization64

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Radio channel utilization 64 second average.

aiRadioTxTotalFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of frames transmitted.

aiRadioTxMgmtFrames

Syntax	Counter32

Max-Access	read-only
Status	current
Description	Total number of management frames transmitted.

aiWlanTable

The objects of the aiWlanTable provide information about all the BSSIDs active on the virtual controller.

Table 8 *aiWLANTable OIDs*

Object	Object ID	
AiWlanEntry	1.3.6.1.4.1.674.2.3.3.1.2.3.1	aiWlanTable 1
aiWlanAPMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.3.1.1	aiWlanEntry 1
aiWlanIndex	1.3.6.1.4.1.674.2.3.3.1.2.3.1.2	aiWlanEntry 2
aiWlanESSID	1.3.6.1.4.1.674.2.3.3.1.2.3.1.3	aiWlanEntry 3
aiWlanMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.3.1.4	aiWlanEntry 4
aiWlanTxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.5	aiWlanEntry 5
aiWlanTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.6	aiWlanEntry 6
aiWlanTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.3.1.7	aiWlanEntry 7
aiWlanRxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.8	aiWlanEntry 8
aiWlanRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.9	aiWlanEntry 9
aiWlanRxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.3.1.10	aiWlanEntry 10

AiWlanEntry

Syntax	AiWlanEntry
Max-Access	not-accessible
Status	current
Description	Server entry.
Index	{ authServerName }

aiWlanAPMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	MAC Address of the Access Point where WLAN is active.

aiWlanIndex

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Index of the WLAN. This is a unique index assigned to the active WLAN on the Access Point.

aiWlanESSID

Syntax	DisplayString
Max-Access	read-only
Status	current
Description	ESSID of the WLAN

aiWlanMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	BSSID of the WLAN

aiWlanTxTotalFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of frames transmitted.

aiWlanTxDataFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of data frames transmitted.

aiWlanTxDataBytes

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of data bytes transmitted.

aiWlanRxTotalFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of received frames.

aiWlanRxDataFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of received data frames.

aiWlanRxDataBytes

Syntax	Counter32

Max-Access	read-only
Status	current
Description	Total number of received data bytes.

aiClientTable

The objects of the aiClientTable provide information about all the clients connected to the virtual controller.

Table 9 *aiClientTable OIDs*

Object	Object ID	
aiClientTable Entry	1.3.6.1.4.1.674.2.3.3.1.2.4.1	aiClientTable 1
aiClientMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.1	aiClientEntry 1
aiClientWlanMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.2	aiClientEntry 2
aiClientIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.3	aiClientEntry 3
aiClientAPIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.4	aiClientEntry 4
aiClientName	1.3.6.1.4.1.674.2.3.3.1.2.4.1.5	aiClientEntry 5
aiClientOperatingSystem	1.3.6.1.4.1.674.2.3.3.1.2.4.1.6	aiClientEntry 6
aiClientSNR	1.3.6.1.4.1.674.2.3.3.1.2.4.1.7	aiClientEntry 7
aiClientTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.4.1.8	aiClientEntry 8
aiClientTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.4.1.9	aiClientEntry 9
aiClientTxRetries	1.3.6.1.4.1.674.2.3.3.1.2.4.1.10	aiClientEntry 10
aiClientTxRate	1.3.6.1.4.1.674.2.3.3.1.2.4.1.11	aiClientEntry 11
aiClientRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.4.1.12	aiClientEntry 12
aiClientRxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.4.13	aiClientEntry 13
aiClientRxRetries	1.3.6.1.4.1.674.2.3.3.1.2.4.14	aiClientEntry 14
aiClientRxRate	1.3.6.1.4.1.674.2.3.3.1.2.4.15	aiClientEntry 15
aiClientUpTime	1.3.6.1.4.1.674.2.3.3.1.2.4.16	aiClientEntry 16

aiClientTable Entry

Syntax	aiClientTable Entry
Max-Access	not-accessible
Status	current
Description	Server entry.
Index	{ authServerName }

aiClientMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	MAC Address of the client.

aiClientWlanMACAddress

Syntax	MacAddress
Max-Access	read-only
Status	current
Description	BSSID of WLAN where client is associated.

aiClientIPAddress

Syntax	IpAddress
Max-Access	read-only
Status	current
Description	IP address of the client.

aiClientAPIPAddress

Syntax	IpAddress
Max-Access	read-only
Status	current
Description	IP Address of the associated Access Point.

aiClientName

Syntax	DisplayString
Max-Access	read-only
Status	current
Description	Name of the user using the client.

aiClientOperatingSystem

Syntax	DisplayString
Max-Access	read-only
Status	current
Description	Operating system of the client.

aiClientSNR

Syntax	Integer32
Max-Access	read-only
Status	current
Description	Signal to noise ratio of the client connected to the Access Point

aiClientTxDataFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of frames transmitted by the client.

aiClientTxDataBytes

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of bytes transmitted by the client.

aiClientTxRetries

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of retry frames transmitted by the client.

aiClientTxRate

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Transmission rate of the client in mbps.

aiClientRxDataFrames

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of frames received by the client in mbps.

aiClientRxDataBytes

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of bytes received by the client in mbps.

aiClientRxRetries

Syntax	Counter32
Max-Access	read-only
Status	current
Description	Total number of retry frames received by the client.

aiClientRxRate

Syntax	Integer32

Max-Access	read-only
Status	current
Description	Receiving rate of the client in mbps.

aiClientUptime

Syntax	TimeTicks
Max-Access	read-only
Status	current
Description	Client uptime. On mobility event all counters are reset to 0 and uptime resets to 0.

Chapter 4

SNMP MIBs Reference

This section provides lists of the SNMP MIB OIDs that are related to Dell Instant. The following table defines the sysObjectIds for Dell PowerConnect W-Series Instant products.

Table 10 *SNMP OIDs returned as sysObjectID for Dell PowerConnect W-Series Instant products*

Object	Object ID
aiInfoGroup	1.3.6.1.4.1.674.2.3.3.1.1
aiStateGroup	1.3.6.1.4.1.674.2.3.3.1.1.2.0
aiVirtualControllerKey	1.3.6.1.4.1.674.2.3.3.1.1.3.0
aiVirtualControllerName	1.3.6.1.4.1.674.2.3.3.1.1.4.0
aiVirtualControllerOrganization	1.3.6.1.4.1.674.2.3.3.1.1.5.0
aiVirtualControllerVersion	1.3.6.1.4.1.674.2.3.3.1.1.6.0
aiVirtualControllerIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.1
aiMasterIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.1.1
aiAccessPointTable	1.3.6.1.4.1.674.2.3.3.1.2.1.1.1
aiAccessPointEntry	1.3.6.1.4.1.674.2.3.3.1.2.1.1.2
aiAPMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.1.1.3
aiAPName	1.3.6.1.4.1.674.2.3.3.1.2.1.1.4
aiAPIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.1.1.5
aiAPSerialNum	1.3.6.1.4.1.674.2.3.3.1.2.1.1.6
aiAPModel	1.3.6.1.4.1.674.2.3.3.1.2.1.1.7
aiAPModelName	1.3.6.1.4.1.674.2.3.3.1.2.1.1.8
aiAPCPUUtilization	1.3.6.1.4.1.674.2.3.3.1.2.1.1.9
aiAPMemoryFree	1.3.6.1.4.1.674.2.3.3.1.2.2
aiAPUptime	1.3.6.1.4.1.674.2.3.3.1.2.2.1
aiRadioTable	1.3.6.1.4.1.674.2.3.3.1.2.3
aiRadioEntry	1.3.6.1.4.1.674.2.3.3.1.2.3.1
aiWlanTable	1.3.6.1.4.1.674.2.3.3.1.2.4
aiWlanEntry	1.3.6.1.4.1.674.2.3.3.1.2.4.1
aiClientTable	1.3.6.1.4.1.674.2.3.3.1.2.2.1.1
aiClientEntry	1.3.6.1.4.1.674.2.3.3.1.2.2.1.2
aiRadioAPMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.2.1.3
aiRadioIndex	1.3.6.1.4.1.674.2.3.3.1.2.2.1.4
aiRadioMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.2.1.5

Table 10 *SNMP OIDs returned as sysObjectID for Dell PowerConnect W-Series Instant products (Continued)*

Object	Object ID
aiRadioChannel	1.3.6.1.4.1.674.2.3.3.1.2.2.1.6
aiRadioTransmitPower	1.3.6.1.4.1.674.2.3.3.1.2.2.1.7
aiRadioNoiseFloor	1.3.6.1.4.1.674.2.3.3.1.2.2.1.8
aiRadioUtilization4	1.3.6.1.4.1.674.2.3.3.1.2.2.1.3
aiRadioUtilization64	1.3.6.1.4.1.674.2.3.3.1.2.2.1.9
aiRadioUtilization64	1.3.6.1.4.1.674.2.3.3.1.2.2.1.10
aiRadioTxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.11
aiRadioTxMgmtFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.12
aiRadioTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.13
aiRadioTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.2.1.14
aiRadioTxDrops	1.3.6.1.4.1.674.2.3.3.1.2.2.1.15
aiRadioRxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.16
aiRadioRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.17
aiRadioRxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.2.1.18
aiRadioRxMgmtFrames	1.3.6.1.4.1.674.2.3.3.1.2.2.1.19
aiRadioRxBad	1.3.6.1.4.1.674.2.3.3.1.2.3.1.1
aiRadioPhyEvents	1.3.6.1.4.1.674.2.3.3.1.2.3.1.2
aiWlanAPMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.3.1.3
aiWlanIndex	1.3.6.1.4.1.674.2.3.3.1.2.3.1.4
aiWlanESSID	1.3.6.1.4.1.674.2.3.3.1.2.3.1.5
aiWlanMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.3.1.6
aiWlanTxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.7
aiWlanTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.8
aiWlanTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.3.1.9
aiWlanRxTotalFrames	1.3.6.1.4.1.674.2.3.3.1.2.3.1.10
aiWlanRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.4.1.1
aiWlanRxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.4.1.2
aiClientMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.3
aiClientWlanMACAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.4
aiClientIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.5
aiClientAPIPAddress	1.3.6.1.4.1.674.2.3.3.1.2.4.1.6
aiClientName	1.3.6.1.4.1.674.2.3.3.1.2.4.1.7
aiClientOperatingSystem	1.3.6.1.4.1.674.2.3.3.1.2.4.1.8
aiClientSNR	1.3.6.1.4.1.674.2.3.3.1.2.4.1.9

Table 10 *SNMP OIDs returned as sysObjectID for Dell PowerConnect W-Series Instant products (Continued)*

Object	Object ID
aiClientTxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.4.1.10
aiClientTxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.4.1.11
aiClientTxRetries	1.3.6.1.4.1.674.2.3.3.1.2.4.1.12
aiClientTxRate	1.3.6.1.4.1.674.2.3.3.1.2.4.13
aiClientRxDataFrames	1.3.6.1.4.1.674.2.3.3.1.2.4.14
aiClientRxDataBytes	1.3.6.1.4.1.674.2.3.3.1.2.4.15
aiClientRxRetries	1.3.6.1.4.1.674.2.3.3.1.2.4.16
aiClientRxRate	1.3.6.1.4.1.674.2.3.3.1.1
aiClientUptime	1.3.6.1.4.1.674.2.3.3.1.2