Adding Device-Specific Support for Airespace to OmniVista 2.2.2

By default, the OmniVista Release 2.2.2 Network Management System provides generic MIB-II support for Airespace devices. This Package enables you to add device-specific support for Airespace to Omni-Vista 2.2.2. To do so, you must import the appropriate MIB files into OmniVista and integrate traps. This Package provides all required MIB files, instructions for importing the MIB files into OmniVista, and instructions for integrating SNMPv2 traps.

How to Add Device-Specific Support

1 Shut down the OmniVista server if it is currently running.

2 Copy file **trapd.conf** from the following location:

   omnivista_installation_dir**classes\com\alcatel\ov1\snmp\server\mibs**

3 Paste the file into the following location, overwriting any existing version of the **trapd.conf** file that may exist there:

   omnivista_installation_dir**data\mibs**

About file trapd.conf

File **trapd.conf** is an Alcatel OmniVista version of the trap configuration file used by HP OpenView. The file provides trap information that is not available in MIB files, such as a single-line synopsis and a severity level number for each trap. File **trapd.conf** can include all data about traps, including data already specified in the MIB files such as OIDs for trap families and individual long-form trap descriptions. However, the OmniVista implementation uses this file ONLY for information not present in the MIB files, i.e., the trap severity and the single-line synopsis.

When launched, if OmniVista finds a version of file **trapd.conf** in the **...\data\mibs** location, it will combine the trap information in that file with the trap information it finds in file **trapd.conf** in the **...\server\mibs** location. If OmniVista does not find a version of file **trapd.conf** in the **...\data\mibs** location, it uses only the trap information found in file **trapd.conf** in the **...\server\mibs** location. (A description of the logic OmniVista uses to parse a trap entry is included as a comment in file **Additions to trapdconf.txt**, which is provided in this package.)

Note. File **trapd.conf** in the **...\server\mibs** location should NOT be modified by the user. This file provides a mechanism for safe-guarding the original contents of file **trapd.conf**.

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4 Edit the **trapd.conf** file located in *omnivista_installation_dir***data****mibs** and add the trap entries for Airespace listed below to the bottom of the file. This list has been provided for your convenience. (If you are adding a third-party device other than Airespace, you must construct a list of trap entries for the device. Refer to the description of the logic OmniVista uses to parse a trap entry in file **Additions to trapdconf.txt**, which is provided in this package.)

Once the trap entries are added to file **trapd.conf**, they will display in OmniVista's Notifications application when **Trap Definition** is selected in the Tree. If desired, you can edit the traps' Severity setting and Synopsis definition from the Notifications application.

Note. If a trap's Severity setting or Synopsis is changed from the Notifications application, the **trapd.conf** file located in *omnivista_installation_dir***data****mibs** will be automatically updated accordingly. In addition, certain minor changes will be made to the file automatically, such as alphabetization of the list of trap entries.

Add the following trap entries for Airespace to the bottom of file **trapd.conf** located in *omnivista_installation_dir***data****mibs**. For added convenience, the list below is also provided as a separate .txt file, **Additions to trapdconf.txt**, which is included in this Package. The list may be copied from that location if desired.

bsnAPAssociated {} 7 0 1
AP associated. AP MAC: $2. Port number: $1
SDESC
EDESC

bsnAPCoverageProfileFailed {} 7 0 1
AP MAC: $1. AP Name: $2. AP Slot: $3. Coverage Thr: $4. Coverage FailedClients: $5. Coverage Total Clients: $6. Client MAC: $7. Client Rssi: $8. Client Snr: $9
SDESC
EDESC

bsnAPCoverageProfileUpdatedToPass {} 7 0 1
AP MAC: $1. AP Name: $2. AP Slot: $3
SDESC
EDESC

bsnAPCurrentChannelChanged {} 7 0 1
AP MAC: $1. AP Slot: $2. Channel nb: $3. Interf Energy Before Chan Upd: $4. Interf Energy After Chan Upd: $5
SDESC
EDESC

bsnAPCurrentTxPowerChanged {} 7 0 1
AP MAC: $1. AP Slot: $2. AP Phy Pwr lev: $3
SDESC
EDESC

bsnAPDisassociated {} 7 0 1
AP Disassociated. AP MAC: $1
SDESC
EDESC

bsnAPDown {} 7 0 1
AP Down. AP MAC: $1

SDESC
EDESC

bsnAPIfDown {} 7 0 1
AP Link Down. AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPIfUp {} 7 0 1
AP Link Up. AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPInterferenceProfileFailed {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPInterferenceProfileUpdatedToPass {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPLoadProfileFailed {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPLoadProfileUpdatedToPass {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPNoiseProfileFailed {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPNoiseProfileUpdatedToPass {} 7 0 1
AP MAC: $1. AP Slot: $2
SDESC
EDESC

bsnAPUp {} 7 0 1
AP Up. AP MAC: $1
SDESC
EDESC

bsnApMaxRogueCountClear {} 7 0 1
Max Rogue Count: $1. AP MAC: $2
SDESC
EDESC

bsnApMaxRogueCountExceeded {} 7 0 1
Max Rogue Count: $1. AP MAC: $2.
SDESC
EDESC

bsnAuthenticationFailure {} 7 0 1
User type: $1. User Name: $2
SDESC
EDESC

bsnConfigSaved {} 7 0 1
Please refresh NMS
SDESC
EDESC

bsnDot11EssCreated {} 7 0 1
Ess Index: $1
SDESC
EDESC

bsnDot11EssDeleted {} 7 0 1
Ess Index: $1
SDESC
EDESC

bsnDot11StationBlacklisted {} 7 0 1
AP MAC: $2. AP SLOT: $3. Reason $1. Station MAC $4
SDESC
EDESC

bsnDot11StationDisassociate {} 7 0 1
Reason $1. AP MAC: $2. AP IF SLOT: $3. Station MAC $4
SDESC
EDESC

bsnIpsecEspAuthFailureTrap {} 7 0 1
Remote IP: $2. Error Cnt: $1
SDESC
EDESC

bsnIpsecEspInvalidSpiTrap {} 7 0 1
Remote IP: $2. SPI: $1
SDESC
EDESC

bsnIpsecEspReplayFailureTrap {} 7 0 1
Remote IP: $1. Error Cnt: $2
SDESC
EDESC

bsnIpsecIkeNegFailure {} 7 0 1
Notif Rec: $1. Notif Sent: $2. Total Resp Failure: $3. Total Init No Resp: $4. Total Init Failure: $5. Ike
Auth Meth: $6. Remote Udp: $7. Remote IP: $8.
SDESC
EDESC

bsnIpsecInvalidCookieTrap {} 7 0 1
Isakmp Invalid Cookie: $1. Isakmp Responder Cookie: $2. Isakmp Initiator Cookie: $3. Remote Udp:
$4. Remote IP: $5.
SDESC
EDESC

bsnIpsecSuiteNegFailure {} 7 0 1
Notif Rec: $1. Notif Sent: $2. Suite Resp Failure: $3. Suite Init Failure: $4. Remote IP: $5.
SDESC
EDESC

bsnMaxRogueCountClear {} 7 0 1
Max Rogue Count: $1
SDESC
EDESC

bsnMaxRogueCountExceeded {} 7 0 1
Max Rogue Count: $1
SDESC
EDESC

bsnPOEControllerFailure {} 7 0 1
POE Controller FAILED
SDESC
EDESC

bsnRadiosExceedLicenseCount {} 7 0 1
License Radio Cnt: $1. Current Radio Cnt: $2
SDESC
EDESC

bsnRogueAPDetected {} 7 0 1
Rogue AP MAC: $1. Rogue Airespace AP MAC: $2. Rogue AP Airespace Slot: $3. Rogue AP SSid:
$4. Rogue AP Channel : $5. Rogue AP Airespace RSSI: $6. Rogue AP Airespace SNR: $7
SDESC
EDESC

bsnRogueAPRemoved {} 7 0 1
Rogue AP MAC: $1. Rogue Airespace AP MAC: $2. Rogue AP Airespace Slot: $3
SDESC
EDESC

bsnRrmDot11aGroupingDone {} 7 0 1
"Status Events" 1
SDESC
EDESC

bsnRrmDot11bGroupingDone {} 7 0 1
Rrm_11b Group Leader MAC: $1
SDESC
EDESC

bsnSensedTemperatureTooHigh {} 7 0 1
Sensor Temperature: $1
SDESC
EDESC

bsnSensedTemperatureTooLow {} 7 0 1
Sensor Temperature: $1
SDESC
EDESC

bsnTemperatureSensorClear {} 7 0 1
Sensor Temperature: $1

```
SDESC
EDESC

fanFailureTrap {} 7 0 1
Fan Status: $1
SDESC
EDESC

multipleUsersTrap {} 7 0 1
slot/port: $1/$2
SDESC
EDESC

powerSupplyStatusChangeTrap {} 7 0 1
Power Supply Status
SDESC
EDESC

stpInstanceTopologyChangeTrap {} 7 0 1
VLAN Index: $1
SDESC
EDESC

bsnRADIUSServerNotResponding {} 7 0 1
No RADIUS server(s) are responding to authentication requests
SDESC
EDESC

bsnTemperatureSensorFailure {} 7 0 1
Temp sensor has failed.  Temperature is unknown.
SDESC
EDESC

powerSupplyStatusChangeTrap {} 7 0 1
Power supply status change.
SDESC
EDESC
```

5 Copy the nineteen MIB files supplied in this Package (which all have a .mib file extension) to any convenient temporary directory. In this example, the MIB files will be copied to temporary directory **C:/tempmibs**. The MIB files will be imported into OmniVista from this temporary directory later in this procedure. After the MIB files are copied, the list of MIBs in **C:/tempmibs** should appear as follows, sorted alphabetically:

> **AIRESPACE-REF-MIB.mib**
> **AIRESPACE-SWITCHING-MIB.mib**
> **AIRESPACE-WIRELESS-MIB.mib**
> BRIDGE-MIB.mib
> EtherLike-MIB.mib
> IANAifType-MIB.mib
> IF-MIB.mib
> LAG-MIB DEFINITIONS.mib
> MAU-MIB.mib
> P-BRIDGE-MIB.mib
> Q-BRIDGE-MIB.mib
> RFC1155-SMI.mib
> RFC1213-MIB.mib

RFC1215-MIB.mib
rfc2668.mib
RMON-MIB.mib
SNMPv2-MIB.mib
SNMPv2-SMI.mib
SNMPv2-TC.mib

Note that the MIB files listed in bold type were provided by the Airespace manufacturer. The MIB files listed in normal type are standard MIBs.

6 The NOTIFICATION-TYPE names and OBJECTS for each trap must be copied from the manufacturer's MIB files and pasted at the bottom of the OmniVista file **mibvariables.txt**, which is located at:

*omnivista_installation_dir***\classes\com\alcatel\ov1\snmp\server\mibs\mibvariables.txt**

For Airespace devices, a list of NOTIFICATION-TYPE names and OBJECTS for each trap has already been created for your convenience. The list appears below. Copy the entire list and paste it at the bottom of file **mibvariables.txt**. The list below is also provided as a separate .txt file, **Additions to mibvariables.txt**, which is included in this Package. The list may be copied from that file if desired.

Be sure to save file **mibvariables.txt** when the paste operation is completed.

mibset Airespace
alarmIndex
alarmVariable
alarmSampleType
alarmValue
alarmRisingThreshold
broadcastStormEndTrap
bsn80211SecurityTrapControlMask
bsnAPAssociated
bsnApBigNavDosAttack
bsnAPChannelNumberTrapVariable
bsnAPContainedAsARogue
bsnAPCoverageFailedClients
bsnAPCoverageProfileFailed
bsnAPCoverageProfileUpdatedToPass
bsnAPCoverageThresholdTrapVariable
bsnAPCoverageTotalClients
bsnAPCurrentChannelChanged
bsnAPCurrentTxPowerChanged
bsnAPDisassociated
bsnAPDot3MacAddress
bsnAPDown
bsnApHasNoRadioCards
bsnAPIfDown
bsnAPIfPhyTxPowerLevel
bsnAPIfSlotId
bsnAPIfType
bsnAPIfUp
bsnAPInterferenceProfileFailed
bsnAPInterferenceProfileUpdatedToPass
bsnAPLoadProfileFailed
bsnAPLoadProfileUpdatedToPass
bsnAPMacAddrTrapVariable
bsnApMaxRogueCountClear

bsnApMaxRogueCountExceeded
bsnAPNameTrapVariable
bsnAPNoiseProfileFailed
bsnAPNoiseProfileUpdatedToPass
bsnAPParamUpdateTrapControlMask
bsnAPPortNumberTrapVariable
bsnAPProfileTrapControlMask
bsnAPSlotIdTrapVariable
bsnAPTrapControlMask
bsnAPUp
bsnAuthenticationFailure
bsnAuthenticationFailureTrapEnable
bsnAuthFailureUserName
bsnAuthFailureUserType
bsnClearTrapVariable
bsnClientMacAddr
bsnClientRssi
bsnClientSnr
bsnConfigSaved
bsnConfigSaveTrapEnable
bsnCurrentRadiosCount
bsnDot11EssCreated
bsnDot11EssDeleted
bsnDot11EssIndex
bsnDot11StationAssociate
bsnDot11StationAssociateFail
bsnDot11StationAuthenticateFail
bsnDot11StationBlacklisted
bsnDot11StationDeauthenticate
bsnDot11StationDisassociate
bsnDuplicateIpAddressReported
bsnDuplicateIpReportedByAP
bsnDuplicateIpTrapClear
bsnDuplicateIpTrapVariable
bsnIkeAuthMethod
bsnIkeTotalInitFailures
bsnIkeTotalInitNoResponses
bsnIkeTotalRespFailures
bsnInitiatorCookie
bsnInterferenceEnergyAfterChannelUpdate
bsnInterferenceEnergyBeforeChannelUpdate
bsnIpsecErrorCount
bsnIpsecEspAuthFailureTrap
bsnIpsecEspInvalidSpiTrap
bsnIpsecEspPolicyFailureTrap
bsnIpsecEspReplayFailureTrap
bsnIpsecIkeNegFailure
bsnIpsecInvalidCookieTrap
bsnIpsecOtherPolicyFailureTrap
bsnIpsecSPI
bsnIpsecSuiteNegFailure
bsnIpsecTrapsMask
bsnIsakmpInvalidCookies
bsnLicenseRadioCount

bsnMaxRogueCount
bsnMaxRogueCountClear
bsnMaxRogueCountExceeded
bsnNavDosAttackSourceMacAddr
bsnNotifiesReceived
bsnNotifiesSent
bsnPOEControllerFailure
bsnRadiosExceedLicenseCount
bsnRADIUSServerNotResponding
bsnRADIUSServerTrapEnable
bsnRemoteIPv4Address
bsnRemoteUdpPort
bsnResponderCookie
bsnRogueAdhocMode
bsnRogueAPAirespaceAPMacAddress
bsnRogueAPAirespaceAPRSSI
bsnRogueAPAirespaceAPSlotId
bsnRogueAPAirespaceAPSNR
bsnRogueAPChannelNumber
bsnRogueAPDetected
bsnRogueAPDetectedOnWiredNetwork
bsnRogueAPDot11MacAddress
bsnRogueAPOnWiredNetwork
bsnRogueAPRemoved
bsnRogueAPSsid
bsnRogueAPTrapEnable
bsnRrmDot11aGroupingDone
bsnRrmDot11aGroupLeaderMacAddr
bsnRrmDot11bGroupingDone
bsnRrmDot11bGroupLeaderMacAddr
bsnSensedTemperatureTooHigh
bsnSensedTemperatureTooLow
bsnSensorTemperature
bsnStationAPIfSlotId
bsnStationAPMacAddr
bsnStationBlacklistingReasonCode
bsnStationMacAddress
bsnStationReasonCode
bsnStationUserName
bsnSuiteInitFailures
bsnSuiteRespondFailures
bsnTemperatureSensorClear
bsnTemperatureSensorFailure
bsnTooManyUnsuccessLoginAttempts
bsnUserIpAddress
bsnWepKeyDecryptError
bsnWlanIdTrapVariable
bsnWpaMicErrorCounterActivated
dot1qVlanIndex
fanFailureTrap
linkFailureTrap
multipleUsersTrap
powerSupplyStatusChangeTrap
stpInstanceNewRootTrap

stpInstanceTopologyChangeTrap
vlanDefaultCfgFailureTrap
vlanDeleteLastTrap
vlanRestoreFailureTrap

7 Restart the OmniVista server and launch OmniVista.

8 Select **Preferences** on the File menu. The Preferences window displays. Click the Third-Party Device Support tab, as shown below.
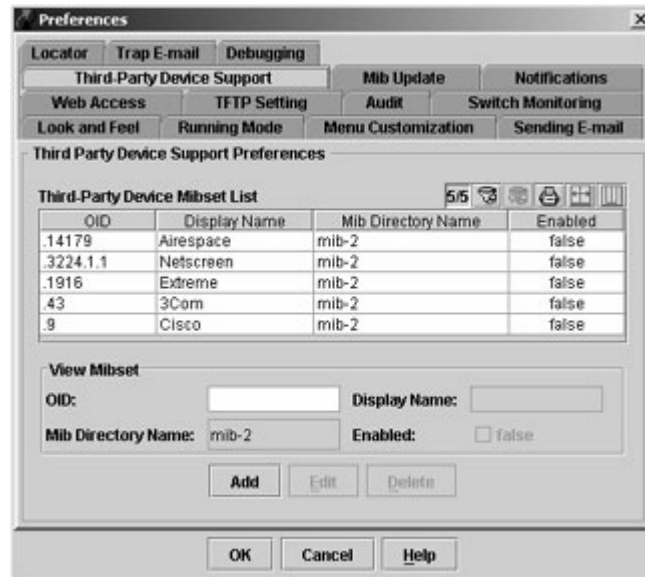

9 Select the Airespace entry and click the **Edit** button. The Third-Party Device Support tab goes into edit mode, as shown below. In the **MIB Directory Name** field, delete the directory name **mib-2**. Enter a unique name for the directory into which you will import the Airespace MIBs. (In this example the directory name **airespace** will be used.) Note that the directory need not actually exist; it will be created automatically when the import is performed later in this procedure.

It is strongly recommended that you create a unique, individual directory for each set of device-specific MIBs that you import into OmniVista.

10 Click the **Enabled** checkbox and set it to **true**. This will cause the Airespace checkbox on the first page of the Discovery Wizard to be enabled by default.

11 Click **OK** on the Third-Party Device Support tab. Then click **OK** on the Preferences window to write the change to the server.
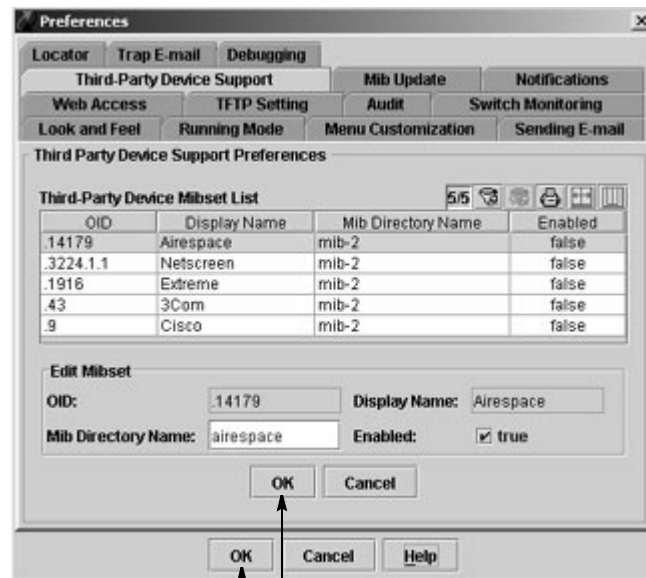
Click **OK** on the Third-Party Device Support tab when your changes are complete.

Then click **OK** on the Preferences window to write the changes to the server.

12 Launch the OmniVista application Topology. Select **Import MIBs** on the File menu. The Import MIBs window displays, as shown below.

13 Set the **Mibset To Be Updated** combo box to **airespace**, or to whatever unique directory name you entered in step 9. (The **Mibset To Be Updated** combo box automatically displays the directory name you entered in the **MIB Directory Name** field of the Third-Party Device Support tab.)
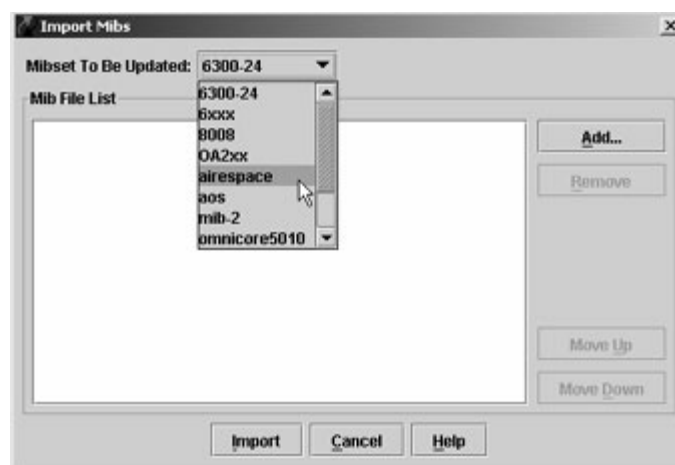
Important Note. NEVER copy MIB files into the destination directory outside of OmniVista. MIB files must be imported into the destination directory in a specific order, as described in this procedure.

**14** Click the **Add** button. The Select a Directory window opens, as shown below.

15 Navigate to the temporary directory into which you copied the nineteen MIB files in step 5. In this example, the MIB files were copied into temporary directory **C:\tempmibs**. When the name of the temporary directory displays in the **Look In** field, click the **Select** button. The Select a Directory window closes and the MIB files in the temporary directory are listed in the Import MIBs window.

Navigate to the temporary directory into which you copied the nineteen MIB files (**C:\tempmibs** in this example).
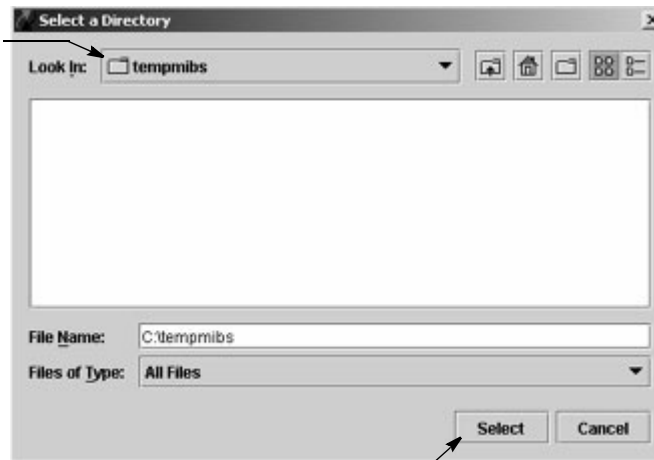
Then click the **Select** button.

The Select a Directory window closes and the MIB files in the temporary directory are listed in the Import MIBs window, as shown.
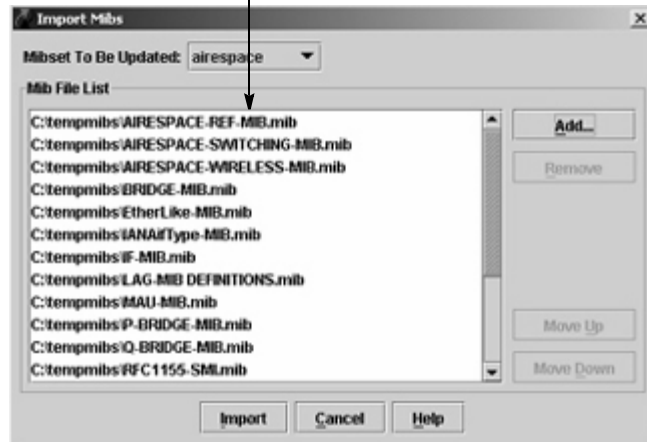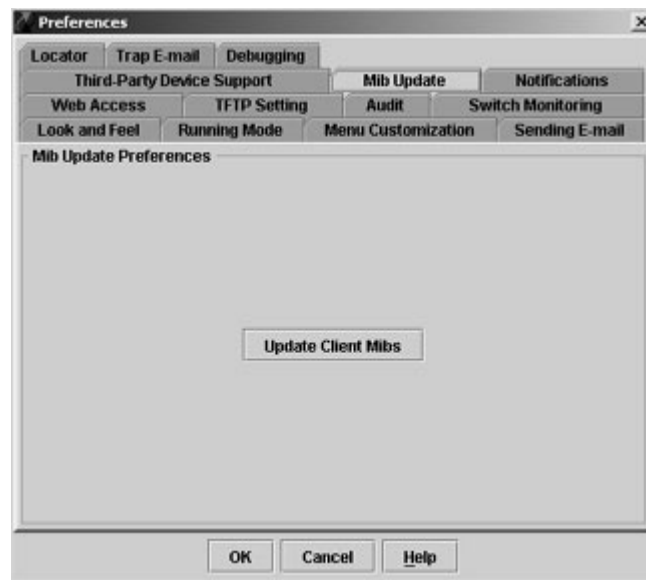
16 Click the **Import** button at the bottom of the Import MIBs window. Take no further action until the following message displays in the Status Bar (in a few seconds):

Finished importing the mibs

17 When the message above has displayed, close the OmniVista client and stop the OmniVista server.

18 Start the OmniVista server again and launch the OmniVista client. The newly-imported MIBs are parsed when the server starts.

Important Note. It is necessary to close the OmniVista client and completely stop the OmniVista server, then start the server and the client again. Do NOT use the **Restart** command. The client and server must be completely stopped before they are started.

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19 To use the OmniVista MIB Browser from OmniVista clients, you must distribute the newly-imported MIB files to the clients. The MIB Update tab in the Preferences window enables you to do this. Display the Preferences window by selecting **Preferences** on the File Menu. Click the MIB Update tab, shown below.

20 Click the **Update Client Mibs** button to update OmniVista clients with the newly-imported MIB files. The MIB update process is performed immediately. Take no further action until the following message displays in the Status Bar (in a few seconds):

Finished updating client mibs.

21 Launch the Discovery Wizard and ensure that the checkbox for **Airespace** is enabled. Perform a discovery and discover the Airespace devices in the network. Upon discovery, OmniVista will poll the device.

Note. The Traps column in the Topology application's list of All Discovered Devices will display "not configurable" for Airespace devices. This is normal and does not indicate an error condition.

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22 Don't forget that you must configure the Airespace device to send traps to the OmniVista server. This must be done from the Airespace device's CLI or Web Browser. Specify the IP address of the Omni-Vista server as the NMS station for the device.

Important Facts About Importing MIBs

Before you import MIBs, it is important to understand that the purpose of this function is to import MIB files that reside somewhere on your local file system into OmniVista. The end result of this operation is that the imported MIBs will reside in the *omnivista_installation_dir***\data\mibs** directory on the Omni-Vista server. ASCII file mibs.txt lists the order in which the MIBs will be compiled. Do NOT manually copy MIB files into the **...\data\mibs** directory. MIBs must be imported into OmniVista as described.

All MIB files imported into OmniVista, including MIB files for third-party devices, must have a .mib file extension. Before being imported, MIB files must be renamed with a .mib file extension if they are not so provided from the manufacturer.

If you create a new MIB directory for a new third-party device, you must import a complete set of MIBs into that directory, including copies of all standard MIB-2 MIBs. If any proprietary MIBs you are using have imports of standard MIBs, the standard MIBs must be included and imported into that directory also.

MIB files are imported and compiled in the order they are listed in the Import MIBs window. In order for the MIBs to compile correctly, you must order them so that all the referenced MIB files are compiled before the files that reference them. MIB compilers follow import references from one MIB to another on the fly, and do not strictly require that the MIBs be compiled in any particular order. For this to work successfully, however, the MIB filenames must match the import statements exactly, and unfortunately this is almost never the case. To avoid these problems, as stated above, order the MIB files so that all the referenced MIB files are compiled before the files that reference them. You can specify the order in which the MIB files will be compiled by using the **Move Up** and **Move Down** buttons in the Import MIBs window. As stated, MIB files will be compiled in the order that the files are listed in the Import MIBs window.

To determine the order in which MIB files must be imported, open each MIB file and examine its `IMPORTS` requirements. Any MIB file that is required as an `IMPORT` must precede the MIB file that requires it. For example, the rfc1213.mib must be imported before the rfc1215.mib because the rfc1215.mib's `IMPORTS` section requires data from the rfc1213.mib. The `IMPORTS` section of the rfc1215.mib reads:

```
IMPORTS
      snmp, ifIndex, egpNeighAddr
      FROM RFC1213-MIB
```

Important Note. Because the Airespace MIB files provided in this Package have been renamed to match the exact MIB names cited in the applicable `IMPORTS` sections, it is NOT necessary to import the Airespace MIB files provided in this Package in any particular order.

It is not advisable to add new MIB files to a MIB directory supplied by default with OmniVista. It is preferable to create a separate new directory for each new third-party device you want to support. This will ensure proper operation of the OmniVista MIB Browser. If you add a new MIB file to an existing MIB directory, you will need to re-import the existing MIB files in order for them all to display in the Omni-Vista MIB Browser.

Once you have completed the MIB importation process, OmniVista does not immediately parse the MIBs. When you discover a device with an OID that is specified for the MIB directory into which you imported the new MIBs, OmniVista will poll the device for standard MIB-II objects. If the standard MIB-II MIBs are not included in the directory, error messages will be written to file server.txt (which can be viewed from the Audit application). Any proprietary MIBs that you imported into the directory will not be parsed until you load the MIB Browser for a device with an OID that is specified for that directory. However, if you

close the OmniVista client and completely stop the OmniVista server after completing the MIB importation process, then start the server, the MIBs will be parsed when the server starts.