IPSWITCH

WhatsUpGold

v12

Database Schema

IPSWITCH

CHAPTER 1 Overview

CHAPTER 2 Action Tables

CHAPTER 3 Active Discovery Tables

CHAPTER 4 Active Monitor Tables

CHAPTER 5 Credential Tables

CHAPTER 6 Device Tables

CHAPTER 1

Overview

In This Chapter

Database Schema Overview

This document describes the database schema for the WhatsUp Gold database, which stores information about the devices, monitors, and actions needed to run the WhatsUp Gold family of products.

Naming Conventions

All tables follow a consistent naming convention to describe their contents and make their relationships more predictable.

Field Names

All field names contain a prefix indicating the type of data allowed for the field. The values used to indicate the type of field data are:

n = Number (integer)
f = Floating point number
s = String (nvarchar, nchar, etc)
d = Date (date,time,etc)
b = Boolean

For example, nPollInterval is a numeric field, sDescription is a string field, dPollTime is a date field, and bGatherPerformanceData is a boolean field.

Primary Keys

Each table has a single primary key—the identity column. The identity column is automatically populated with a sequentially incremented 32-bit unique ID. The name of the identity column (i.e., the primary key) is based on the table name.

n + Table Name + ID

For example, the identity column for the Device table is nDeviceID, and the identity column for the SystemActivityLog table is nSystemActivityLogID.

Pivot Tables

Another method used to connect tables are pivot tables. Pivot tables always start with the word "Pivot" and then the names of the two tables as follows:

Pivot + Table1Name + To + Table2Name

Pivot tables join two or more tables by including the primary key for both tables. The second and third fields will always be the primary keys for the two tables being connected.

Although they primarily exist to connect two tables, pivot tables sometimes contain their own unique data. For instance, the table called PivotActiveMonitorTypetoDevice stores the polling interval (nPollInterval) for an active monitor and also indicates whether the sample data should be recorded (bGatherPerformanceData).

Foreign Keys

Foreign keys are used to create secondary relationships between tables. If a table is linked to another table with a foreign key, the first table will include the other table's primary key. For example, if the table "Device" has a foreign key relationship with the DeviceType table, then the "Device" table will have a field named nDeviceTypeID which links to the DeviceType table. Foreign keys are enforced by the database, so their values will always be valid.

Triggers

Certain records in the database contain triggers that ensure that the database remains in sync when making changes to tables. For instance, deleting a record for a device requires that other tables with foreign keys to the Device table (such as **PivotDeviceToDeviceGroup**, **PivotActiveMonitorTypeToDevice**, **NetworkInterface**, **PivotPassiveMonitorToDevice**) be cleaned up (i.e., the foreign keys must be deleted) before the record from the Device table can be deleted. SQL automatically deletes the dependent fields when a field with triggers is deleted. Checking and updating these dependencies takes time, so when making changes to a record with many dependencies there may be a slight delay as the triggers are executed.

Delete Triggers

Table with Delete Trigger	Trigger Name	Dependent Table Changes (that SQL follows for cleaning up data)
ActionPolicy	ActionPolicy_DeleteTrigger ActionPolicy_ForDelete	DELETE FROM PivotActionTypeToActionPolicy UPDATE Device UPDATE PivotActiveMonitorTypeToDevice UPDATE PivotPassiveMonitorTypeToDevice

ActionType	ActionType_DeleteTrigger	DELETE FROM ActionTypeData DELETE FROM PivotActionTypeToActionPolicy DELETE FROM ActionActivityLog
ActiveDiscovery	ActiveDiscovery_DeleteTrigger	DELETE FROM ActiveDiscoveryLog
ActiveMonitor ActivityLog	ActiveMonitorActivityLog_ InsertTrigger	DELETE FROM ActiveMonitorActivityLog INSERT INTO ActiveMonitorActivityLog
ActiveMonitorType	ActiveMonitorType_ DeleteTrigger	DELETE FROM ActiveMonitorTypeData DELETE FROM PivotActiveMonitorTypeToDevice
CredentialType	CredentialType_DeleteTrigger	DELETE FROM CredentialTypeData DELETE FROM PivotCredentialTypeToDevice
Device	Device_DeleteTrigger	DELETE FROM PivotDeviceToGroup DELETE FROM PivotActiveMonitorTypeToDevice DELETE FROM NetworkInterface DELETE FROM PivotPassiveMonitorTypeToDevice DELETE FROM DeviceAttribute DELETE from Layer2DeviceDetails DELETE FROM ActionPolicy DELETE FROM PivotCredentialTypeToDevice
DeviceGroup	DeviceGroup_DeleteTrigger	DELETE FROM PivotDeviceToGroup DELETE FROM MapView DELETE FROM PivotWebUserToDeviceGroup
DeviceMenuSet	DeviceMenuSet_TriggerDelete	UPDATE Device UPDATE DeviceType DELETE FROM DeviceMenuItem

DeviceType	DeviceType_DeleteTrigger	DELETE FROM PivotActiveMonitorTypeToDeviceType DELETE FROM PivotPassiveMonitorTypeToDeviceType UPDATE dbo.Device
Diagnostic	Diagnostic_DeleteTrigger	DELETE FROM dbo.DiagnosticData
MapView	MapView_DeleteTrigger	DELETE FROM Annotation
MonitorState	MonitorState_DeleteTrigger MonitorState_ForUpdateDelete	DELETE FROM PivotActionTypeToActionPolicy
NetworkInterface	NetworkInterface_DeleteTrigger	DELETE FROM PivotActiveMonitorTypeToDevice DELETE FROM StatisticalPing DELETE FROM StatisticalPingPacketLoss
PassiveMonitor ActivityLog	PassiveMonitorActivityLog_ DeleteTrigger	DELETE FROM PassiveMonitorSampleData
PassiveMonitor Type	PassiveMonitorType_ DeleteTrigger	DELETE FROM PassiveMonitorTypeData DELETE FROM PivotPassiveMonitorTypeToDevice
PivotActiveMonitor TypeToDevice	PivotActiveMonitorTypeTo Device_DeleteTrigger	DELETE FROM ActiveMonitorActivityLog DELETE FROM WebAlarmLog DELETE FROM ActiveMonitorSampleDataHourly DELETE FROM ActiveMonitorSampleDataDaily DELETE FROM ActiveMonitorStateChangeLog DELETE FROM ActionActivityLog DELETE FROM ActionPolicy DELETE FROM PivotDependencyToDeviceDetail
PivotDependency ToDevice	PivotDependencyToDevice_ DeleteTrigger	DELETE FROM PivotDependencyToDeviceDetail

PivotPassive MonitorType ToDevice	PivotPassiveMonitorType ToDevice_DeleteTrigger	DELETE FROM NetworkInterface DELETE FROM PassiveMonitorActivityLog DELETE FROM PassiveMonitorSampleDataHourly DELETE FROM PassiveMonitorSampleDataDaily DELETE FROM ActionPolicy
PivotStatistical MonitorType ToDevice	PivotStatisticalMonitorType ToDevice_DeleteTrigger	DELETE FROM StatisticalCpuIdentification DELETE FROM StatisticalDiskIdentification DELETE FROM StatisticalMemoryIdentification DELETE FROM StatisticalNumeric DELETE FROM StatisticalMonitorTypeConfigurationData
RecurringAction	RecurringAction_DeleteTrigger	DELETE FROM RecurringActionLog
RecurringReport	RecurringReport_DeleteTrigger	DELETE FROM RecurringReportLog
RemoteDevice	RemoteDevice_DeleteTrigger	DELETE FROM RemoteActiveMonitor DELETE FROM RemoteDevice
RemoteServer	RemoteServer_DeleteTrigger	DELETE FROM RemoteReportQuery DELETE FROM RemoteMonitorState DELETE FROM RemoteDeviceGroup DELETE FROM RemoteDevice DELETE FROM RemoteServer
StatisticalCpu	StatisticalCpu_ InsertUpdateTrigger StatisticalCpu_DeleteTrigger	UPDATE StatisticalCpuCache DELETE FROM StatisticalCpuCache
StatisticalCpu Identification	StatisticalCpuIdentification_ DeleteTrigger	DELETE FROM StatisticalCpu DELETE FROM StatisticalCpuCache
StatisticalDisk	StatisticalDisk_DeleteTrigger StatisticalDisk_ InsertUpdateTrigger	DELETE FROM StatisticalDiskCache UPDATE StatisticalDiskCache
StatisticalDisk Identification	StatisticalDiskIdentification_ DeleteTrigger	DELETE FROM StatisticalDisk DELETE FROM StatisticalDiskCache
StatisticalInterface	StatisticalInterface_ InsertUpdateTrigger StatisticalInterface_ DeleteTrigger	UPDATE StatisticalInterfaceCache DELETE FROM StatisticalInterfaceCache
StatisticalInterface Identification	StatisticalInterfaceIdentification_ DeleteTrigger	DELETE FROM StatisticalInterface DELETE FROM StatisticalInterfaceCache

StatisticalMemory	StatisticalMemory_ InsertUpdateTrigger StatisticalMemory_DeleteTrigger	UPDATE StatisticalMemoryCache INSERT INTO StatisticalMemoryCache DELETE FROM StatisticalMemoryCache
StatisticalMemory Identification	StatisticalMemoryIdentification_ DeleteTrigger	DELETE FROM StatisticalMemory DELETE FROM StatisticalMemoryCache
StatisticalMonitor Type	StatisticalMonitorType_ DeleteTrigger	DELETE FROM StatisticalMonitorTypeData DELETE FROM PivotStatisticalMonitorTypeToDevice
StatisticalPing	StatisticalPing_ InsertUpdateTrigger	UPDATE StatisticalPingCache
StatisticalPing PacketLoss	StatisticalPingPacketLoss_ InsertUpdateTrigger	UPDATE StatisticalPingPacketLossCache
TranslationGroup	TranslationGroup_ DeleteTrigger	DELETE FROM Translation
Translation Language	TranslationLanguage_ DeleteTrigger	DELETE FROM Translation
WebUser	WebUser_DeleteTrigger	DELETE FROM Workspace DELETE FROM WebStickyProperty DELETE FROM PivotReportToCategory DELETE FROM PivotWebUserToDeviceGroup DELETE FROM SsgGraph
WorkspaceReport	WorkspaceReport_DeleteTrigger	DELETE FROM PivotWorkspaceReportToCategory
WorkspaceReport Category	WorkspaceReportCategory_ DeleteTrigger	DELETE FROM PivotWorkspaceReportToCategory

Note: In order for trigger and tables names to fit in the table above, some have been broken across multiple lines. In reality, all trigger and table names should always be used on a single line without spaces or carriage returns.

Insert Trigger

Table with Insert Trigger	Dependent Tables
ActiveMonitorActivityLog	ActiveMonitorActivityLog

CHAPTER 2

Action Tables

In This Chapter

ActionActivityLog

This table records all actions (such as e-mail, pager, SMS) that get triggered and it logs the monitor state that triggered it, the date and time it occurred, and whether the action successfully executed.

Field Name	Description
nActionActivityLogID	Primary key to the table. Identity column--generated automatically as a unique incremental value.
nActionTypeID	Foreign key to the **ActionType** (on page 11) table. Links to the **ActionType** (on page 11) table to get the action that occurred. (pager, e-mail, etc)
dDateTime	Date and time that the action was logged.
sCategory	Indicates the status of the action; for example, an e-mail action was successfully sent. - Success - Failure - Cancel - Retry - Blacked out (Not executed due to blackout period.)
sDetails	Explains what occurred; for example, an e-mail action was sent to the mail server; or, a pager message was unable to connect to a service provider.

Field Name	Description
nDeviceID	Foreign key to the **Device** (on page 29) table. Links to the **Device** (on page 29) table to identify the device in context. For example, if a web server goes down, and the action fires, this would get the ID of the web server device, which can provide the display name, IP address, and other device properties.
nPivotActiveMonitorTypeToDeviceID	Foreign key to the **PivotActiveMonitorTypeToDevice** (on page 25) table. Links to the **PivotActiveMonitorTypeToDevice** (on page 25) to identify the Active Monitor in context, if any. If the Action is assigned to a Device or a Passive Monitor, this field is null.
nPivotPassiveMonitorTypeToDeviceID	Foreign key to the **PivotPassiveMonitorTypeToDevice** (on page 42) table. Links to the **PivotPassiveMonitorTypeToDevice** (on page 42) to identify the Passive Monitor in context, if any. If the Action is assigned to a Device or an Active Monitor, this field is null.
nMonitorStateID	Defines what state the Device or Monitor entered to trigger the action. The value can be cross referenced against the **MonitorState** (on page 24) table.

ActionPolicy

This table stores the policy ID, policy name, whether or not to execute all the actions in the policy and if the policy is global or not. Actions are linked to a policy with the **PivotActionTypeToActionPolicy** table.

Field Name	Description
nActionPolicyID	Primary key to the table. Identity column--generated automatically as a unique incremental value.
sPolicyName	User-defined name for the action policy.

Field Name	Description
bExecuteAll	Boolean value. Defines whether to execute all actions in the policy for the given state when the device/monitor is detected in that state. If True, all actions are executed for the state regardless of priority. If False, the actions are executed in the priority (nPriority in the **PivotActionTypeToActionPolicy** (on page 12)) order until an action is executed successfully. Consider this example action policy: **Name**: Custom Action **PolicyPivotActionTypeToActionPolicy**: - E-mail on Down 2, nPriority = 0 - Popup on Down 2 - nPriority = 2 - Page on Down 2 - nPriority = 1 Suppose you have assigned this policy to Host123. When Host123 is detected in Down 2 state and the bExecuteAll flag is true for the action policy, the WhatsUp Gold engine will execute all three actions. If bExecuteAll is false the WhatsUp Gold engine will attempt to execute the actions in the policy, based on nPriority, until one is successful. So, the WhatsUp Gold engine attempts the E-mail action. If that fails, it then attempts the Page action. If the Page is successful, the Popup will not be executed.
bGlobalActionPolicy	Boolean value. Defines if the action policy is global or local. If the policy is defined from the **Configure > Action Policies** menu, it is a global policy and this value is True. If you assign individual actions to a device or a monitor, then a local policy is created and this value is False.

ActionType

This table defines the actions that can be used. Actions are grouped into an action policy (see **ActionPolicy** (on page 10) table), which is then attached to a device or active/passive monitor.

Field Name	Description
nActionTypeID	Primary key to the table. Identity column--generated automatically as a unique incremental value.
nCLSID	References the Class ID (CLSID) for the action plug-in. The CLSID was created when the plug-in was generated in Visual Studio.

Field Name	Description
sActionTypeName	User-defined name of this action type. Maximum length is 150 characters.
sActionTypeDescription	User-defined description of this action type. Maximum length is 50 characters.
sTypeBlackoutSchedule	Reserved for future use.
bGlobalActionType	Reserved for future use.

ActionTypeData

This table contains the details in name-value pairs about how each action type is configured.

Name-value pairs are stored and accessed through the INMSerialize object and should not be managed directly. For more information, see Accessing Data with INMSerialize.

Field Name	Description
nActionTypeDataID	Primary key to the table. Identity column--generated automatically as a unique incremental value.
nActionTypeID	Foreign key to the **ActionType** (on page 11) table. Links to the **ActionType** (on page 11) table to associate the name-value pairs with the related action type.
sName	Developer-defined name for data that configures an action type. Maximum length is 100 bytes. EXAMPLE: Timeout
sValue	Developer-defined value for data that configures an action type. Maximum length is 7500 bytes. EXAMPLE: 5000 (value for Timeout property)

PivotActionTypeToActionPolicy

This table links the action policy to specific action types, putting the action type in the action policy.

Field Name	Description
nPivotActionTypeToActionPolicyID	Identity column--generated automatically as a unique incremental value. Primary key to the table.

Field Name	Description
nActionTypeID	Links to the table, which lists all of the available actions. Foreign key to the **ActionTypeData** (on page 12) table.
nActionPolicyID	Links to the table, which creates groups of actions. Foreign key to the **ActionPolicy** (on page 10) table.
nMonitorStateID	Links to the **MonitorState** (on page 24) table. Actions are fired when the monitor or device enters this state. Foreign key to the **MonitorState** (on page 24) table.
nPriority	Sets the priority in which to execute Actions, if the bExecuteAll field (in the **ActionPolicyTable** (on page 10)) is False.
sBlackoutSchedule	Reserved for future use.
nDownStateID	Links to the **MonitorState** (on page 24) table. Relates an Up action with a specific DownState (down time) that must occur before the Up action is triggered. This DownState is selected by the user when an Action is added to an Action Policy. (Examples: None, Down 2 minutes, Down 10 minutes) Foreign key to the **MonitorState** (on page 24) table.

RecurringAction

This table contains actions that the WhatsUp Gold user has configured as a recurring action, meaning it occurs on a scheduled basis. Recurring actions give users the ability to fire actions based on a regular schedule, independent of the status of devices. Users can configure an existing action as a recurring action by using **Configure > Recurring Actions** in the console.

Field Name	Description
nRecurringActionID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	User-defined name for the recurring action. This name will appear on the Recurring Action dialog.

Field Name	Description
sTime	The time of day and the selected days on which the action will occur. The schedule is defined in XML format and lists the parameters set when the user configured the recurring action. For example: <RecurringActionSchedule> <RecurringActionItem nScheduleType="2" nDayMask="26" nHour="8" nMinute="0"/> </RecurringActionSchedule> where: nScheduleType="2" means "weekly" schedule. Other values are: 3 = "monthly" 4 = "interval" (which is the user-specified interval) nDayMask defines the days of the week the action should execute. The bits from right to left mark the days from Sunday, Monday, to Saturday. So 26 will be in binary 0011010, and means the action is sent Monday, Wednesday, and Thursday. nHour and nMinute is on the 24 hour clock, so the example shows 8:00 AM.
sBlackoutSchedule	The time of day and the selected days, within the schedule specified in sTime, on which the action will be suspended.
nActionTypeID	Links to the **ActionType** (on page 11) table to identify the associated action. Foreign key to the **ActionType** (on page 11) table.
bDisabled	Boolean value. True = Disabled, the action will not execute. False = Enabled, the action will execute according to the selected schedule.

CHAPTER 3

Active Discovery Tables

In This Chapter

ActiveDiscovery

This table stores the configuration for the active discovery. The options selected when using the Discovery wizard (in the WhatsUp Gold console) are stored in this table.

Field Name	Description
nActiveDiscoveryID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	The user-defined name for this Active Discovery task. Maximum length is 150 characters.
sDescription	The user-defined entry that describes this Active Discovery task. Maximum length is 150 characters.
bDisabled	Boolean value. Indicates whether this Active Discovery task will be run (False = Enabled) or not (True = Disabled).
sXMLDiscoveryParams	The list of parameters entered by the user when configuring this Active Discovery task. This includes settings such as the type of scan (IP range, SNMP Smart Scan), whether to scan for services, SNMP Read Communities, whether to resolve hostnames, and so on.
bRemoved	Boolean value. Determines whether the active discovery configuration should be removed from the system. If True, the configuration information will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the device were deleted.

ActiveDiscoveryLog

This table records information that the Active Discovery process reports during discovery. This includes successfully completed tasks and errors.

Field Name	Description
nActiveDiscoveryLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveDiscoveryID	Identifies the *Active Discovery* (on page 15) task associated with this log entry. Foreign key to the **ActiveDiscovery** (on page 15) table.
dDateTime	Date and time that the activity was logged.
sCategory	Indicates the type of message: - Success - Failure - Disabled - Cancel
sDetails	A text description of what has occurred.

ActiveDiscoveryResult

This table records the number of new devices, and number of new services on those devices, that were found by the Active Discovery wizard.

Field Name	Description
nActiveDiscoveryResultID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveDiscoveryLogID	Identifies the *Active Discovery log* (on page 16) instance associated with this entry. Foreign key to the **ActiveDiscoveryLog** (on page 16) table.
dDateTime	Date and time that the entry was logged.
sDescription	A text description of new devices and new services found. Maximum length is 250 characters.

ActiveDiscoveryResultDeviceDetail

This table records information about each new device found and any services discovered on the device. It creates a record for each device. This device information is linked back to the related item in the **ActiveDiscoveryResult** table.

Field Name	Description
nActiveDiscoveryResultDeviceDetailID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveDiscoveryResultID	Links the Device information in this table to the results from the Active Discovery task (or instance). Foreign key to the **ActiveDiscoveryResult** (on page 16) table.
sHostName	The hostname of the device; for example: host.domain.com (256 character limit)
sIPAddress	The IP Address of the device; for example: 192.0.0.1 (50 character limit)
sXMLDeviceParams	XML formatted list of additional parameters needed to create the device, such as Active Monitors found, or SNMP information found.
nProcessedState	0 = unprocessed (when first created) 1 = device added (the user chose to add) 2 = device cleared (the user cleared it)
sDescription	Lists of all Active Monitors that the user selected for this device; for example (HTTP, FTP, SNMP) (250 character limit)

ActiveDiscoveryResultServiceDetail

This table records information about the services found on each new device. It creates a record for each service discovered. This service information is linked back to the related item in the **ActiveDiscoveryResult** table.

Field Name	Description
nActiveDiscoveryResultServiceDetailID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveDiscoveryResultID	Links the Service information in this table to the results from the Active Discovery task (or instance). Foreign key to the **ActiveDiscoveryResult** (on page 16) table.
sHostName	The hostname of the device; for example: host.domain.com (256 character limit)

Field Name	Description
sIPAddress	The IP Address of the device; for example: 192.0.0.1 (50 character limit)
nProcessedState	0 = unprocessed 1 = service added (the user chose to add) 2 = service cleared (the user cleared it)
sDescription	A text description of the service monitor; for example, HTTP, FTP, SNMP. (250 character limit)
sXMLActiveMonitorDetails	The parameters defined for this service monitor; for example: port number, timeout setting, and any script information.

ActiveDiscoveryResultStatisticalMonitorDetails

This table creates a record for each statistical monitor found for a device. The device can be new or an existing device to which a statistical monitor was added since the last active discovery. This device information is linked back to the related item in the **ActiveDiscoveryResult** table.

Field Name	Description
nActiveDiscoveryResultStatisticalMonitorDetailsID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveDiscoveryResultID	Links the Device statistical monitor information in this table to the results from the Active Discovery task (or instance). Foreign key to the **ActiveDiscoveryResult** (on page 16) table.
sHostname	The hostname of the device; for example: host.domain.com (256 character limit)
sIPAddress	The IP Address of the device; for example: 192.0.0.1 (50 character limit)
nProcessedState	0 = unprocessed (when first created) 1 = device added (the user chose to add) 2 = device cleared (the user cleared it)
sDescription	A text description of the statistical monitor. For example: Interface Utilization, Memory Utilization.
sXMLStatisticalMonitorDetails	XML formatted list of parameters for the statistical monitors found.

CHAPTER 4

Active Monitor Tables

In This Chapter

ActiveMonitorStateChangeLog

This table records the monitor state changes for a particular active monitor (its state history). This table is used for reporting purposes. The data in this table is stored for one year from the `dStartTime` value.

Field Name	Description
`nActiveMonitorStateChangeLogID`	Identity column--generated automatically as a unique incremental value. Primary key to the table.
`nPivotActiveMonitorTypeToDeviceID`	Links to the **PivotActiveMonitorTypeToDevice** (on page 25) table to get both the active monitor and device. Foreign key to the **PivotActiveMonitorTypeToDevice** (on page 25) table.
`nMonitorStateID`	Links to the **MonitorState** (on page 24) table to get the current monitor state (`sStateName`, `nInternalMonitorState`, and `nInternalStateTime`). Foreign key to the **MonitorState** (on page 24) table.
`dStartTime`	Exact time that the active monitor entered the state specified by `nMonitorStateID`.
`dEndTime`	Exact time that the monitor leaves the state specified by `nMonitorStateID`. This value is null when the record is created. It will then match the `dStartTime` for the next `nMonitorStateID` added to this table.

Field Name	Description
sResult	Records the internal monitor state. - Unknown State - Not Responding - Maintenance - Responding - Request timed out
bAcknowledged	Boolean value. Indicates whether the state change has been acknowledged by the user (the user selects **Tools > Acknowledge** in the console). - True = acknowledged - False = has not been acknowledged

ActiveMonitorType

This table lists all of the configured active monitors in the system that can be applied to a device. Using the CLSID, this table enables the connection to the COM plug-in that monitors a device. This table also provides the default values for an active monitor such as its name, description, and whether it should be used during the discovery process. Configuration details for the monitor are stored in the **ActiveMonitorTypeData** (on page 23) table.

Field Name	Description
nActiveMonitorTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCLSID	CLSID (also called GUID) used to identify the COM object that will be used to perform the polling or monitoring. The CLSID is automatically assigned to the COM plug-in when it is created with the Ipswitch WhatsUp Gold Developer. The CLSID is stored in the main CPP file (monitorname.cpp, which is generated by the WhatsUp Gold Developer wizard) and stored in the registry under HKEY_Local_machine\software\ipswitch\network monitor\WhatsUp Gold plugins\active monitors\monitorname.
sMonitorTypeName	Freeform display name of the monitor that appears in the **Name** column of the Active Monitor Types dialog. Maximum length is 150 characters.
sMonitorTypeDescription	Freeform description field that appears in the **Description** column of the Active Monitor Types dialog. Maximum length is 150 characters.

Field Name	Description
bUseInDiscovery	Boolean field. If True, then the device is checked for the service matching the active monitor type. If False, then the device is not available to the user during discovery. During the discovery process, WhatsUp Gold loads the monitor, calls it for that particular device, and if the monitor succeeds adds the monitor to the new device. The number of services checked during discovery directly impacts the speed of the discovery process. In the WhatsUp Gold console, this option is set by a checkbox on the monitor configuration dialog.
bGlobalMonitorType	Boolean field. Set to True if the active monitor is global.
bRemoved	Boolean field. Determines whether the active monitor type should be removed from the system. If True, the active monitor type will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the active monitor type were deleted.

ActiveMonitorTypeData

This table stores the parameters that were configured by the user through the user interface as name-value pairs. Typically, there are multiple active monitor type data entries per active monitor type. This table allows developers to store any parameters they choose for an active monitor.

Name-value pairs are stored and accessed through **INMSerialize** object and should not be managed directly. For more information, see Appendix B: Accessing Data with INMSerialize.

Field Name	Description
nActiveMonitorTypeDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nActiveMonitorTypeID	Links to the **ActiveMonitorType** (on page 22) table, which contains a list of all of the available active monitors, including their name and description. Foreign key to the **ActiveMonitorType** (on page 22) table.
sName	Developer-defined name for a plug-in property.
sValue	Developer-defined value for a plug-in property.

MonitorState

This table defines the states that an active monitor or a device can go through by default. There is an unknown state (initial state after discovery), 4 down states (with increasing associated down time), a maintenance state, and 2 up states (with increasing associated up time).

Everything starts in unknown state. After a monitor/device is checked the first time, it moves to the up zero or down zero state (it either responded or it didn't). Every time the monitor/device is checked, the state may change. State changes are logged in the **ActiveMonitorStateChangeLog** (on page 21) table. This table also includes fields that describe the visual representation of the monitor/device state. The Map View in Network Monitor shows a colored shape behind each device icon. The colors and shapes can change for each available state.

Field Name	Description
nMonitorStateID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sStateName	Descriptive name of this monitor state. The values for this field show up in the Status field on list of devices and in other places in the Network Monitor. EXAMPLE: Unknown, Down (at least 4 minutes), Down (at least 2 minutes), Down, Maintenance, Up, Up (at least 5 minutes)
nInternalMonitorState	Last reported state of the monitor. You can think of this as a general category. 1 = Not responding 2 = Maintenance 3 = Responding -1 = Unknown
nInternalStateTime	Length of time a monitor must be in the specified internal monitor state (see nInternalMonitorState in this table) to transition into this monitor state. EXAMPLE: 0 minutes, 2 minutes, 5 minutes, 20 minutes
nStateFillColor	Hex value for color to use for the fill color of the shape.
nStateLineColor	Reserved for future use.
nShapePoints	Number of points for the shape. EXAMPLE: Four points makes a square/diamond. Three is a triangle. Multiple points (20+) creates a circle.
nShapeInnerRadius	Used to determine the shape. Specifies where the points for the inner and outer radius are placed in relation to each other.

Field Name	Description
nShapeOuterRadius	Used to determine the shape. Specifies where the points for the inner and outer radius are placed in relation to each other.
nShapeDirection	Sets the rotation for the shape. For example, the shape can be changed from a square to a diamond.
bSystemType	Boolean value. If True, this monitor state was created by the system so certain values (name, state, and time) cannot be edited by the users.

PivotActiveMonitorTypeToDevice

This table maps one or more active monitors to an individual device.

Field Name	Description
nPivotActiveMonitorTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains a list of all available devices. Foreign key to the **Device** (on page 29) table.
nActiveMonitorTypeID	Links to the **ActiveMonitorType** (on page 22) table, which contains a list of all available active monitors. Foreign key to the **ActiveMonitorType** (on page 22) table.
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table, which specifies how we connect to the device for each monitor type. This field is usually null, which means to use the default network interface for the device (specified in the Device table). Only specify a value in this table if you want the active monitor to be applied to a specific interface. Foreign key to the **NetworkInterface** (on page 58) table.
bAssumedState	Copies the value from the bAssumed field in the **Device** (on page 29)table.
nMonitorStateID	Links to the **MonitorState** (on page 24) table, which indicates the current state for the active monitor. Use to determine the worst state/best state for the entire device. Foreign key to **MonitorState** (on page 24) table.
dLastInternalStateTime	The exact time that this monitor entered its current state.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which specifies which action policy to use for this active monitor. Foreign key to the **ActionPolicy** (on page 10) table.

Field Name	Description
nPollInterval	Specifies a specific polling interval, in seconds, for the active monitor. **Note**: Specify null if you want to use the polling interval from the **Device** (on page 29) table (nPollInterval). Any value in this field other than null overrides the default value.
bGatherPerformanceData	Boolean value. Determines whether performance data passed back from this active monitor is stored for reporting. If True, any performance data returned from this active monitor is stored in the **ActiveMonitorSampleData** table. If False, no performance data is stored. If Null, this field inherits the value for bGatherPerformanceData in the **Device** (on page 29) table.
bFireActions	Reserved for future use.
bDisabled	Boolean value. Indicates whether the passive monitor type is assigned to a device. If True, the passive monitor is no longer assigned to a device.
bRemoved	Boolean field. Determines whether the active monitor type should be removed from the system. If True, the active monitor type will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the active monitor type were deleted.
sArgument	This value is passed to the monitor when it is checked. For example, the Interface monitor, which is a variant of the SNMP monitor, uses the Argument as a sequential number of an interface. When the monitor is checked (Interface with Argument number), it checks that exact interface.
sComment	This value is passed to the monitor when it is checked.

CHAPTER 5

Credential Tables

In This Chapter

CredentialType

This table contains a list of the user-defined credential types. Credentials are the community string information for SNMP v1 and v2 type; authentication information for SNMP v3 type; or login information for Windows type. Credentials are configured in the Credentials Library (found on the console main menu at **Configure > Credentials**) and used in several places throughout the application. They can be associated to devices in **Device Properties > Credentials**, or through the Credentials bulk field change option.

A device needs SNMP credentials applied to it before SNMP-based Active Monitors will work. Similarly, NT Service Checks must have Windows credentials applied.

Field Name	Description
nCredentialTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCredentialType	The type of Credential: SNMP v1; SNMP V2, SNMP v3, Windows
sDisplayName	User-defined name for the credential type. This name appears in the Credentials Library list (in the console).
sDescription	User-defined description for this credential. The description appears with the name in the Credentials Library list.

CredentialTypeData

This table stores the name-value pairs that configure a credential type. Credentials are the community string information for SNMP v1 and v2 type; authentication information for SNMP v3 type; or login information for Windows type. Credentials are configured in the Credentials

Library (found on the console main menu at **Configure > Credentials**) and used in several places throughout the application. They can be associated to devices in **Device Properties > Credentials**, or through the Credentials bulk field change option.

A device needs SNMP credentials applied to it before SNMP-based Active Monitors will work. Similarly, NT Service Checks must have Windows credentials applied.

Field Name	Description
nCredentialTypeDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCredentialTypeID	Links to the **CredentialType** (on page 27) table to associate the name-value pairs with the associated credential type. Foreign key to the **CredentialType** (on page 27) table.
sName	User-defined name for data that configures a credential type. Maximum length is 150 bytes. Example: CredSnmpV1:ReadCommunity; CredSnmpV1:WriteCommunity
sValue	User-defined value for data that configures a credential type. Maximum length is 150 bytes. Example: fred12; frank13 (read community string; write community string)

PivotCredentialTypeToDevice

This table associates a credential type (community string information for SNMP v1 and v2 type; authentication information for SNMP v3 type; or login information for Windows type) with a specific device.

Field Name	Description
nPivotCredentialTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCredentialTypeID	Links to the **CredentialType** (on page 27) table to identify the type used by the device identified in nDeviceID. Foreign key to the **CredentialType** (on page 27) table.
nDeviceID	Links to the **Device** (on page 29) table to identify the associated device. Foreign key to the **Device** (on page 29) table.

CHAPTER 6

Device Tables

In This Chapter

Device

The **Device** table maintains a list of all available devices, including those identified during the discovery process and those added manually.

Field Name	Description
`nDeviceID`	Identity column--generated automatically as a unique incremental value. Primary key to the table.
`sDisplayName`	User-defined name for the device that helps better identify the device within its environment. This value is independent of the device IP address or hostname. Examples: First floor router, Main web server

nDeviceTypeID	Links to the **DeviceType** (on page 37) table, which determines the type of the device. A device is a particular instance of a device type. For instance, the device type may be "Router" and the device may be one of many routers. WhatsUp Gold uses the device type to determine which icon to display for a device. Foreign key to the **DeviceType** (on page 37) table.
nDeviceMenuSetID	Links to the **DeviceMenuSet** (on page 37) table, which defines what set of menu items are available for the device or device type (**Device Properties > Menu**). These menu items appear if you right-click the device or device type. The **DeviceMenuItem** (on page 35) table defines the individual items as well as the set they belong to. Refer to *Appendix C: Adding Context Menus* (on page 109) for more information about how context menus are created. Foreign key to the **DeviceMenuSet** (on page 37) table.
nDeviceWebMenuSetID	Defines the set of menu items available from the web interface.
bSnmpManageable	(Boolean value) Determines whether a device has SNMP capabilities. NOTE: This value must be True to consider the other SNMP values in this table.
sSnmpOID	SNMP OID of the device.
bAssumedState	Boolean value. This value is `True` if the state is set due to a dependency. For example, if Device1 is Up dependent on Device2, the WhatsUp Gold engine polls Device1 only if Device2 is Up. If Device2 is down, the engine assumes that Device1 is in an unknown state and does not poll it. When this value is `True`, it means the WhatsUp Gold engine did not poll the device and the current state of the device is assumed to be the one indicated in `nMonitorStateID` field.
nWorstStateID	Links to the **MonitorState** (on page 24) table to store the worst state of all active monitors attached to this device. Foreign key into the **MonitorState** (on page 24) table using `nMonitorStateID`.
nBestStateID	Links to the **MonitorState** (on page 24) table to store the best state of all active monitors attached to this device. Foreign key to the **MonitorState** (on page 24) table using `nMonitorStateID`.
nPollInterval	Determines the default polling time to use for an active monitor, if the monitor does not specify its own polling interval. The default is 60 seconds. **Note**: If the active monitor specifies a polling interval, the value for `nPollInterval` is overridden.

nDefaultNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table, which specifies which network interface to use as the default address for the device. **Note**: Devices can have multiple network interfaces. For instance, Web servers often have several IP addresses with different domain names mapped to each one so the domain will resolve to a specific IP address. Setting the default network interface tells WhatsUp Gold which IP address and hostname to use when labeling a device. Foreign key into the **NetworkInterface** (on page 58) table using nNetworkInterfaceID.
sNote	Free-form text field with a maximum size of 8000 characters used to store additional information about a device. Devices added during discovery include an entry in this field that records the date/time the device was added as well as basic SNMP information. Some users may use this field to track other device-specific information such as services performed for maintenance or troubleshooting.
sStatus	Describes the status of the device. This field only contains text when something is wrong with a device. The encoded message that the users see includes the monitor name and state. **Note**: The engine constructs the message in an automatically generated proprietary format. OEMs should not change this field.
sL2MainIPAddress	Reserved for future use.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which specifies which action policy is attached to the device. An action policy is a set of action-state pairs. When a device state change is detected, WhatsUp Gold scans the **ActionPolicy** table and fires any actions that match the new device state. **Note**: Action policies can also be attached to active monitors.
bGatherPerformanceData	Boolean field. Determines whether performance data passed back from the active monitors associated with this device is collected. If True, any performance data returned from any active monitors associated with this device is stored in the **ActiveMonitorSampleData** and **ActiveMonitorActivityLog** tables. **Note**: Essentially, this setting establishes a default (to record sample data) for all active monitors attached to this device. If you want to collect data only for a specific active monitor, set the value in this table to Null and go to the **PivotActiveMonitorTypeToDevice** (on page 25) table to set bGatherPerformanceData to True for one or more specific active monitors.

bFireActions	Reserved for future use.
bRemoved	Boolean field. Determines whether the device should be removed from the system. If True, the device will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the device were deleted.

sMaintenanceSchedule	Defines a weekly schedule that shows when the device should be put in maintenance mode by the WhatsUp Gold engine. The schedule is defined in XML format and lists the parameters set when the user configured maintenance. For example:
	
	`<MaintenanceSchedule>`
	`<MaintenanceItem`
	`nScheduleType="2"`
	`nDayMask="102"`
	`nStartHour="6"`
	`nStartMinute="0"`
	`nEndHour="8"`
	`nEndMinute="0"/>`
	
	`<MaintenanceItem`
	`nScheduleType="2"`
	`nDayMask="65"`
	`nStartHour="0"`
	`nStartMinute="0"`
	`nEndHour="0"`
	`nEndMinute="0"/>`
	`</MaintenanceSchedule>`
	
	where:
	
	`nScheduleType = "2"` means "weekly schedule." This is the only value supported for now.
	
	`nDayMask` is a bit mask of the days of the week that the start-end time should be applied.
	
	The bits represent the days from Sunday, Monday to Saturday, from right to left.
	
	So, 102 in binary format is 1100110, which means the schedule times are for Monday, Tuesday, Friday and Saturday.
	
	65 in the example above in binary format is 1000001, which means it represents Sunday and Saturday.
	
	`nStartHour, nStartMinute, nEndHour, nEndMinute` represent the (Start, End) times that the device should be in maintenance for the given days of week.
	
	So, for the example above, the device should be put in maintenance between 6:00AM and 8:00AM on Monday, Tuesday, Friday and Saturday, and
	
	Between 12:00AM and 12:00AM (the whole day) on Saturday and Sunday.
	
	The individual items in the schedule can have overlapping times, but the WhatsUp Gold engine can handle that and respect the schedules.

bManualMaintenanceMode	Boolean value. `True` indicates the device was put in maintenance mode manually. `False` indicates the device was not put in maintenance mode manually.

nUnAcknowledgedPassiveMonitors	When the WhatsUp Gold engine receives a Passive Monitor it sets this value from 0 to 1 to indicate new Passive Monitors. In the Map view, a diamond is displayed on the device icon to show the device has unacknowledged passive monitors. The console (web or desktop console) will set this from 1 to 0 when the monitor on the device is acknowledged.
nUnAcknowledgedActiveMonitors	Reserved for future use.

DeviceAttribute

This table contains the details in name-value pairs for user-defined attributes assigned to a device. These attributes, such as Contact, Location, and Description, are specified on the Attributes page of the Device Properties dialog.

Field Name	Description
nDeviceAttributeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains the details about each device. Foreign key to the **Device** (on page 29) table.
sName	User-defined name for an attribute the user wants to assign to this device. Default attributes are Contact, Description, Location. The users can add any other attributes. Maximum length is 150 bytes. EXAMPLE: Location
sValue	User-defined value for data a device attribute. Maximum length is 3000 bytes. EXAMPLE: 3rd floor server room

DeviceGroup

This table establishes the relationship between groups, creating a hierarchy of parent-child relationships. Device groups allow users to group devices based on subnet or some other logical representation of a group such as office location, device type, or responsibility.

Field Name	Description
nDeviceGroupID	Identity column--generated automatically as a unique incremental value. Primary key to the table.

Field Name	Description
nParentGroupID	Specifies the parent group of each device group. This field allows one group to belong to another group so you could group your devices in meaningful ways such as by location, department, or area of support responsibility. **Note**: The topmost device group does not point to another group. It has a nParentGroupID value of -1. The device group with a value of 0 is the top level group, called "My Network".
sGroupName	Display name defined by the user for the group.
nMonitorStateID	Stores the worst monitor state of any device or group inside this group. Foreign key to the **MonitorState** (on page 24) table. **Note**: The parent shows the worst problem state in the lower level folders to make sure that the user can see problems with devices when the parent folder is collapsed.
sStatus	Describes the status of the device group. This field only contains text when something is wrong with a device in the group. The encoded message that the users see includes the monitor name and state. **Note**: The engine constructs the message in an automatically generated proprietary format. OEMs should not change this field.
sNote	Free-form text field used to store additional information about a device group. Maximum size is 8000 characters.
bDynamicGroup	Boolean field that determines whether a group is a dynamic group or a regular static group.
sFilter	Specifies the SQL statement used to determine the contents of a dynamic group. The SQL statement should produce a recordset with a single column (nDeviceID) that represents the subset of devices that should appear in the dynamic group.
sFilterDesign	Reserved for future use.

DeviceMenuItem

This table defines the menu items found on the Device menu. To see this menu, in WhatsUp Gold, right-click on a device. A user can customize this menu by using the **Device Properties > Menu** dialog.

Field Name	Description
nDeviceMenuItemID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sDisplayName	The name that appears on the right-click menu for this item; for example: Ping 150 character limit
sCommand	The command that executes when the menu item is selected; for example: %SystemRoot%\System32\cmd.exe 1024 character limit
sArguments	Any arguments to the command; for example: /C "ping %Device.Address && pause" 1024 character limit
nDeviceMenuSetID	Links to the **DeviceMenuSet** (on page 37) table, which defines what set of menu items are available for the device or device type (**Device Properties > Menu**). These menu items appear if you right-click the device or device type. The **DeviceMenuItem** (on page 35) table defines the individual items as well as the set they belong to. For more information, see *Appendix C: Adding Context Menus* (on page 109). Foreign key to the **DeviceMenuSet** (on page 37) table.
nDisplayOrder	Determines the order of appearance for each menu item. Default is random order. 1 = First, 2 = Second, 3 = Third, etc.

DeviceMenuItemMultiSelect

This table defines the optional menu items found on the Device menu. This table is used by both the Device view and the Map view on multi-selections of devices. To see this menu, in WhatsUp Gold, right-click on a device.

Field Name	Description
nDeviceMenuItemMultiSelectID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sDisplayName	The name that appears on the right-click menu for this item; for example: Ping 150 character limit

Field Name	Description
sCommand	The command that executes when the menu item is selected; for example: %SystemRoot%\System32\cmd.exe 1024 character limit
sArguments	Any arguments to the command; for example: /C "ping %Device.Address && pause" 1024 character limit
nDisplayOrder	Determines the order of appearance for each menu item. 1 = First, 2 = Second, 3 = Third, etc.

DeviceMenuSet

This table specifies how menu items are grouped together for a device or device type. This allows sets of menus to be shared.

Field Name	Description
nDeviceMenuSetID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDescription	This is a text description of the menu set, used internally. For example: "Custom menu for Windows 2003 Server"

DeviceType

This table establishes a class of devices. Each class of devices gets its own visual representation (icon, color, etc.).

EXAMPLE: Workstation, Server, Router, Switch, Hub, Bridge, Cisco Device 1, Cisco Device 2, Cisco Device 3

Field Name	Description
nDeviceTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.

Field Name	Description
nDeviceTypeCategoryID	Links to the **DeviceTypeCategory** (on page 39) table, which lists categorizes that can be used to visually group device types. - 0 = Device Types (Basic) - 1 = Device Types (Advanced) - 2 = Cisco Devices Foreign key to the **DeviceTypeCategory** (on page 39) table.
sDisplayName	Determines text that appears in the user interface for the device categories.
sMapViewIcon	Specifies the file name for the image to use to represent the device type. Can be ICO, or EMF, PNG, BMP or JPEG file (in order of recommended preference). The path is relative to the DATA\ICONS directory in the install folder.
sSnmpOID	Used during the discovery process. Any device that has this OID will become this device type. **Note**: Partial OIDs are supported
sOverlayText	Provides text that will overlay the icon so the same icon can be used for multiple device types. EXAMPLE: You could specify the model number of a device and have the devices share the same base icon.
nDeviceMenuSetID	Links to the **DeviceMenuSet** (on page 37) table, defines what set of menu items are available for the device or device type (**Device Properties > Menu**). These menu items appear if you right-click the device or device type. The *DeviceMenuItem* (on page 35) table defines the individual items as well as the set they belong to. Refer to *Appendix C: Adding Context Menus* (on page 109) for more information about how context menus are created. Foreign key to the *DeviceMenuSet* (on page 37) table.
nDeviceWebMenuSetID	Specifies what set of context menu items are available for this particular device type in the WhatsUp Gold web interface.
nAddressType	Specifies the protocol for the interface. It can be: 0 = ADDRESSTYPE_UNKNOWN 1 = ADDRESSTYPE_IP 2 = ADDRESSTYPE_IPX 3 = ADDRESSTYPE_NETBIOS 4 = ADDRESSTYPE_IP6

Field Name	Description
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which specifies which action policy is attached to the device. An action policy is a set of action-state pairs. When a device state change is detected, WhatsUp Gold scans the **ActionPolicy** table and fires any actions that match the new device state. **Note**: Action policies can also be attached to active monitors. Foreign key to the **ActionPolicy** (on page 10) table.

DeviceTypeCategory

This table lists categories of device types referenced by the **DeviceType** table to further classify device types (for example, by manufacturer).

Field Name	Description
nDeviceTypeCategoryID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sCategoryName	Descriptive name of the category.

PivotActiveMonitorTypeToDeviceType

This table maps active monitors to a device type.

During the discovery process, any device found with all of the active monitors specified here will become that device type. However, the sSnmpOID takes precedence over these.

Field Name	Description
nPivotActiveMonitorTypeToDeviceTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceTypeID	Links to the **DeviceType** (on page 37) table, which contains a list of all device types. Foreign key to the **DeviceType** (on page 37) table.
nActiveMonitorTypeID	Links to the **ActiveMonitorType** (on page 22) table, which contains a list of all available active monitors. Foreign key to the **ActiveMonitorType** (on page 22) table.

PivotCredentialTypeToDevice

This table associates a credential type (community string information for SNMP v1 and v2 type; authentication information for SNMP v3 type; or login information for Windows type) with a specific device.

Field Name	Description
nPivotCredentialTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCredentialTypeID	Links to the **CredentialType** (on page 27) table to identify the type used by the device identified in nDeviceID. Foreign key to the **CredentialType** (on page 27) table.
nDeviceID	Links to the **Device** (on page 29) table to identify the associated device. Foreign key to the **Device** (on page 29) table.

PivotDependencytoDevice

This table maps dependencies, and details about the dependency, to the appropriate devices.

Field Name	Description
nPivotDependencyToDeviceID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Device with a configured dependency. Foreign key to the **Device** (on page 29) table.
nDependencyDeviceID	Device on which the configured device is dependent. Foreign key to the **Device** (on page 29) table.
bUpDependency	Boolean value that indicates whether the dependency is an up dependency or a down dependency. False = this is a down dependency. True = this is an up dependency.
bAny	Boolean value that indicates whether the dependency is triggered when all active monitors match or only if one or more match. False = Poll only if option is set to every one. True = Poll only if option is set to any one.

Field Name	Description
bAllActiveMonitors	Boolean value that indicates whether all active monitors or only certain monitors should be used to trigger the dependency. False = the monitor selection is set to Specific active monitors. True = the monitor selection is set to All active monitors.

PivotDependencytoDeviceDetail

This table establishes a link to the specific active monitors of the dependency. This table will only have entries in it if the specific active monitors option was selected in the dependency setup. It will contain a row for each of the selected active monitors.

Field Name	Description
nPivotDependencyToDeviceDetailID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nPivotDependencyToDeviceID	The dependency ID for this row. Foreign key to the **PivotDependencyToDevice** (on page 40) table.
nPivotActiveMonitorTypeToDeviceID	The active monitor configured in the dependency. Foreign key to the **PivotActiveMonitorTypeToDevice** (on page 25) table.

PivotDeviceToGroup

This table determines how a device gets into a device group. A device can belong to multiple groups.

Field Name	Description
nPivotDeviceToGroupID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains a list of all available devices. Foreign key to the **Device** (on page 29) table.

Field Name	Description
nDeviceGroupID	Links to the **DeviceGroup** (on page 34) table, which contains a list of all device groups and their relationships to each other. Foreign key to the **DeviceGroup** (on page 34) table.

PivotPassiveMonitorTypeToDevice

This table links the **PassiveMonitorType** table to the **Device** (on page 29) table, mapping a passive monitor to a device.

Field Name	Description
nPivotPassiveMonitorTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains the details about each device. Foreign key to the **Device** (on page 29) table.
nPassiveMonitorTypeID	Links to the **PassiveMonitorType** (on page 62) table, which lists all of the available passive monitors. Foreign key to the **PassiveMonitorType** (on page 62) table.
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table, which lists the network interfaces for a device. If this field is Null, it inherits the value for nDefaultNetworkInterface from the Device table. Foreign key to the **NetworkInterface** (on page 58) table.
nMonitorStateID	Links to the **MonitorState** (on page 24) table, which indicates the current state for the monitor. Use to determine the worst state/best state for the entire device. Foreign key to the **MonitorState** (on page 24) table.
dLastEventTime	Time that the last event was received by the passive monitor.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which associates an action policy with this passive monitor. Foreign key to the **ActionPolicy** (on page 10) table.

Field Name	Description
bGatherPerformanceData	Boolean value. Determines whether data received by this passive monitor is stored for reporting. If True, any data received by this passive monitor is stored in the **PassiveMonitorSampleData** table. **Note**: This field is related to bGatherPerformanceData in the **Device** (on page 29) table. If you only want to collect data for this specific monitor, set the value to True in this table. If you want to collect data for all monitors on a device, set the value to False in this table and go the Device table to set bGatherPerformanceData to True.
bDisabled	Boolean value. Indicates whether the passive monitor type is disabled on this device. Disabled passive monitors are not used by the system.
bRemoved	Boolean field. Determines whether the passive monitor type should be removed from the system. If True, the passive monitor type will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the active monitor type were deleted.

PivotPassiveMonitorTypeToDeviceType

This table maps Passive Monitors to a *device type* (on page 29). During the discovery process, any device found with all of the passive monitors specified here will become that device type. However, the sSnmpOID takes precedence over these.

Field Name	Description
nPivotPassiveMonitorToDeviceTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPassiveMonitorTypeID	Links to the **PassiveMonitorType** (on page 62) table, which lists all of the available passive monitors. Foreign key to the **PassiveMonitorType** (on page 62) table.
nDeviceTypeID	Links to the **DeviceType** (on page 37) table, which contains a list of all device types. Foreign key to the **Device** (on page 29) table.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which associates an action policy with this passive monitor. Foreign key to the **ActionPolicy** (on page 10) table.

PivotStatisticalMonitorTypeToDevice

This table links a statistical monitor to a device and sets how often data for the device should be collected.

Field Name	Description
nPivotStatisticalMonitorTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nStatisticalMonitorTypeID	Links to the **StatisticalMonitorType** (on page 84) table to identify the type of data being collected. Foreign key to **StatisticalMonitorType** (on page 84) table.
nDeviceID	Links to the **Device** (on page 29) table to identify the device for which the data is being collected. Foreign key to **Device** (on page 29) table.
bEnabled	Boolean value. Indicates whether the **StatisticalMonitorType** type is enabled on this device.
nDataCollectionInterval	The interval (in minutes) between statistical monitor polls (for this monitor on this device).
nPollType	This table column has been deprecated.

PivotWebUserToDeviceGroup

This table determines how a web user gets into a device group. A web user can belong to multiple groups.

Field Name	Description
nPivotWebUserToDeviceGroupID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nWebUserID	Links to the **WebUser** (on page 29) table, which contains a list of all users who have access to the web interface. Foreign key to the **WebUser** (on page 29) table.
nDeviceGroupID	Links to the **DeviceGroup** (on page 34) table, which contains a list of all device groups and their relationships to each other. Foreign key to the **DeviceGroup** (on page 34) table.

Field Name	Description
bGroupRead	Boolean field.
bGroupWrite	Boolean field.
bDeviceRead	Boolean field.
bDeviceWrite	Boolean field.

CHAPTER 7

Diagnostic Tables

In This Chapter

Diagnostic

This table lists the system and performance checks that can be run on the WhatsUp Gold system. It also contains the associated messages that can be displayed in the System Diagnostic Report.

For information on how to add a diagnostic test to this table, go to the *Ipswitch Knowledgebase* (http://support.ipswitch.com/kb/) and search for "System Diagnostic Report."

Field Name	Description
nDiagnosticID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sDisplayName	The developer-defined name that appears in the System Diagnostic Report to identify the diagnostic test. For example: SQL Server Option: Database Size (MB)
nDiagnosticType	The type of diagnostic test. This tells WhatsUp Gold how to execute the diagnostic and interpret the results.
bEnabled	Boolean value. Indicates whether this diagnostic test will be run (1= Enabled) or not (0 = Disabled).
sCommandXml	The data that describes the diagnostic test. For an example, see the KB article referenced above.
sInformation	The associated message to be displayed in the System Diagnostics Report. Example: The database value (839) is less than or equal to the desired maximum (1536).

DiagnosticData

This table records the data from the specified diagnostic test. This data is used to generate information for the System Diagnostic Report.

Field Name	Description
nDiagnosticDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDiagnosticID	Links to the **Diagnostic** (on page 47) table to identify the diagnostic test that generates the data in this table. Foreign key to the **Diagnostic** (on page 47) table.
dRunTime	Time stamp of when the diagnostic test was run.
bSuccess	Boolean value. Indicates whether the diagnostic passed (True) or failed (False). The status is shown in the System Diagnostic Report as Green (passed) or Red (failed).
sResults	The message generated by the diagnostic (this could be a success message or a failure message).

CHAPTER 8

Distributed/MSP Tables

In This Chapter

RemoteDevice

This table is used by a Central site (server) to store information about the devices configured in each of its Remote Site (client) installations. Information such as the device's display name, IP address, host name, and current state is stored here.

Field Name	Description
nRemoteDeviceID	Primary key to the table.
nRemoteServerID	Links to the **RemoteServer** (WuDBRemoteServer.htm) table, which contains a list of all Remote Sites (distributed clients) that have connected to this Central Site (distributed server).
dDateTime	Timestamp for the most recent status update of this device from the Remote site.
sDisplayName	Display name of this device, as configured on the Remote Site system.
sNetworkAddress	IPv4 or IPv6 address of this device, as configured on the Remote Site system.
sNetworkName	Hostname of this device, as configured on the Remote Site system.
sDeviceTypeName	Display name of this device's configured device type, as configured on the Remote Site system.
nBestStateID	Links to the nRemoteMonitorStateID column of the **RemoteMonitorState** table, which stores the configuration of Remote Site's (client's) Device States.
nWorstStateID	Links to the nRemoteMonitorStateID column of the **RemoteMonitorState** table, which stores the configuration of distributed client's Device States.

CHAPTER 9

Log Tables

In This Chapter

SystemActivityLog

The SystemActivityLog table records important system events such as:

- Nmservice start/stop
- Webservice start/stop
- Polling on/off
- Passive Monitor listener on/off
- Port conflict
- Service errors
- License expiration (in service)
- SSL not enabled
- Catastrophic failure

Each entry that is added here is also added to the Windows NT event log. The fields in this table mirror those in the Windows NT event log. The reason that we store this data in our own table is to make it easier to write reports against the data.

Field Name	Description
nSystemActivityLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nType	Event log type. 1 = Error 2 = Warning 4 = Informational
dDateTime	Date and time that the event was logged.

sSource	Value passed from the plug-in, which should identify the plug-in. EXAMPLE: HTTP Monitor
sCategory	Indicates the category of the message (i.e., where it originated). 1 = NMService 2 = NMConsole 3 = NMActiveMonitor 4 = NMPassiveMonitor 5 = NMAction
sData	Text description of the event message.

GeneralErrorLog

This table compiles all errors reported by WhatsUp Gold. This log allows for search and sort capabilities. It can be used, for example, to produce a report of all Success or all Failure messages.

Field Name	Description
nGeneralErrorLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dDateTime	Date and time that the error was logged.
sCategory	Indicates the type of message: - Success - Failure - Cancel - Retry - Blacked out (Not executed due to blackout period.)
sSource	States what activity generated the log entry; for example a Monitor deletion failure. The source can be: - Device/Monitor deletion errors - Engine startup errors (Device load error, Group load error) - Exception thrown (check service, process internal event) - Passive Monitor startup errors - Recurring Report load errors - Rollup activity/failure - State update error - Statistics update error - SQL statement errors

Field Name	Description
sDetails	A description of what occurred; for example the name of the Monitor that was to be deleted.

RecurringActionLog

This table records any activity involving recurring actions.

Field Name	Description
nRecurringActionLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nRecurringActionID	Links to the **RecurringAction** (on page 13) table to identify the recurring action associated with the log entry. Foreign key to the **RecurringAction** (on page 13) table.
dDateTime	Date and time that the activity was logged.
sCategory	Indicates the type of message: - Success - Failure - Information
sDetails	A text description of what occurred; for example "Recurring Action successfully sent to SMTP Server."

WebAlarmLog

This table records any activity involving web alarms. A Web Alarm is an action type that plays a sound over the web interface when a device state change occurs. All users logged in via the web interface will see these alarms.

Field Name	Description
nWebAlarmLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dDateTime	Date and time that the activity was logged.
nDeviceID	Links to the **Device** (on page 29) table to identify the device associated with the log entry. Foreign key to the **Device** (on page 29) table.

Field Name	Description
nMonitorStateID	Links to the **MonitorState** (on page 24) table to identify the up or down status of the device (nDeviceID). Foreign key to the **MonitorState** (on page 24) table.
nPivotActiveMonitorTypeToDeviceID	Links to the **PivotActiveMonitorTypeToDevice** (on page 25) table to identify the status of any Active Monitors assigned to this device. Foreign key to the **PivotActiveMonitorTypeToDevice** (on page 25) table.
sMessage	Text description of the alarm.
sSoundFileName	A sound file for this web alarm. Sound files are installed in your Program Files\Ipswitch\WhatsUp Gold\HTML\1033\NMconsole\WebSounds directory.

WebUserActivityLog

This table records when a user logs on or off the web interface, and the actions taken while logged on.

Field Name	Description
nWebUserActivityLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nWebUserID	The user who made the change.
sUserName	The user-defined login name for the user in context. There are two default accounts: admin, guest
dDateTime	Date and time that the activity was logged.
sCategory	Indicates the type of activity. - Login/log off - Add/Edit/Delete (of Device, Group, Active Monitor, Passive Monitor, Action, Action Policy, User, LDAP configuration)
sDetails	Name-value pair that specifies details of the activity, such as the name of the user logged in, or the ID of a device created.
sDescription	A text description of what occurred; for example: "The device named Router1 was deleted."

CHAPTER 10

Map Tables

In This Chapter

Annotation

This table contains a list of the annotations that are assigned to device groups and devices in the **MapView** table and defines how an annotation is displayed.

Field Name	Description
nAnnotationID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nMapViewID	Links to the **MapView** (on page 55) table, which contains a list of all **MapView** configurations and defines the details of how the map is displayed. Foreign key to the **MapView** (on page 55) table.
nZorder	This describes which annotation is layered over another. For example a square in front of a circle. Devices and device groups are set to 9999 and appear in front of plain annotation objects.
sDefinition	An XML encoded description of the annotation object. This XML contains the size, location, annotation type, and drawing properties of the annotation (for example color, line thickness, etc).
nDeviceID	Links to the **Device** (on page 29) table, which contains a list of all available devices. Foreign key to the **Device** (on page 29) table.

MapView

This table contains a list of all **MapView** configurations and defines the details of how the map is displayed.

Field Name	Description
nMapViewID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceGroupID	Links to the **DeviceGroup** (on page 34) table, which contains a list of all device groups and their relationships to each other. This relates the map to the device group. Foreign key to the **DeviceGroup** (on page 34) table.
nMapType	Reserved for future use. Currently all maps are type 0 maps.
sDefinition	An XML encoded description of how the map should be displayed. A list of the parameters (some selected by the user from the right-click menu) that determine the configuration of this Map View. For example, whether to display Device Icons, Polling Dependency Arrows, Unconnected Links.

CHAPTER 11

Miscellaneous Tables

In This Chapter

DatabaseProperty

This table contains the details in name-value pairs about how the database is configured. This table is used internally by WhatsUp Gold to check installation properties. It should not be modified.

Field Name	Description
nDatabasePropertyID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	Developer-defined name for data that configures a database property. EXAMPLE: Version
sValue	Developer-defined value for data that configures a database property. EXAMPLE: 102202 (value associated with Version)

GlobalSettings

This table is a settings table used much like the registry. It contains simple name-value pairs of data.

Field Name	Description
nGlobalSettingsID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	Global Settings name.
sValue	Global Settings value.

SsgGraph

This table contains the data necessary to run saved web performance monitor graphs.

Field Name	Description
nSsgGraphID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sGraphName	Specifies the name the user's saved web performance monitor graph.
nWebUserID	Specifies the user id of the user that created the graph.
sXml	Contains the XML which holds the properties to run the graph (i.e. each wmi/snmp counter).

NetworkInterface

This table stores information about a device's L3 interfaces. A device may have multiple network interfaces. This table will contain one entry per network interface or address.

Field Name	Description
nNetworkInterfaceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains the details about each device. Foreign key to the **Device** (on page 29) table.
nPhysicalInterfaceID	Links to the **PhysicalInterface** table, which contains the (L2) physical address for each device (Mac address). Foreign key to the **PhysicalInterface** table.
nAddressType	Indicates the network protocol being used for this connection. 1 = ICMP 2 = IPX 3 = NetBIOS

Field Name	Description
bPollUsingNetworkName	Boolean value. If this field is True, then the network name will be resolved and polling will be performed using the resolved address, not the address specified in the sNetworkAddress field. This is useful for non-static IP addresses.
sNetworkAddress	Specifies the network address for this network interface, usually the IP address of the device. For the polling type NetBIOS, only the sNetworkName field is used. The sNetworkAddress is ignored. For the polling type ICMP, the sNetworkName will be the DNS name of the device and sNetworkAddress will be the IP address of the device. For the polling type IPX (Novell), both the sNetworkName and sNetworkName are used.
sNetworkName	Specifies the DNS/NetBIOS name for this network interface.

CHAPTER 12

Passive Monitor Tables

In This Chapter

PassiveMonitorActivityLog

This table records the event descriptions and time for any passive monitor event such as SNMP or syslog messages. This table works along with **PassiveMonitorSampleData** to track events gathered by passive monitors.

Field Name	Description
nPassiveMonitorActivityLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotPassiveMonitorTypeToDeviceID	Links to the **PivotPassiveMonitorTypeToDevice** (on page 42) table, which provides access to the passive monitor and device supplying the log entry. Foreign key to the **PivotPassiveMonitorTypeToDevice** (on page 42) table.
nCLSID	CLSID (also called GUID) used to identify the plug-in that will be used for editing the passive monitor. The CLSID is automatically assigned to the plug-in when it is created with the Ipswitch WhatsUp Gold Developer. The CLSID is stored in the main CPP file (monitorname.cpp, which is generated by the WhatsUp Gold Developer wizard) and stored in the registry under HKEY_Local_machine\software\ipswitch\network monitor\WhatsUp Gold plugins\passive monitors\monitorname.
dEventTime	Indicates the date/time that the event was gathered by the passive monitor. To store sample data for a passive monitor, the bPerformanceData value must be true in either the **PivotPassiveMonitorTypeToDevice** (on page 42) or **Device** (on page 29) table.

Field Name	Description
sSource	The address that the passive monitor event originated from.
sProxy	The address that forwards the passive monitor event for the originator (sSource).
sPayload	Message text for the event.
bAcknowledged	Boolean value. Indicates whether the passive monitor log has been acknowledged by the user (the user selects **Tools > Acknowledge** in the console). - True = acknowledged - False = has not been acknowledged

PassiveMonitorErrorLog

This table records connection errors related to the WinEvent Passive Monitor. The WinEvent Passive Monitor uses Windows Management Instrumentation (WMI) to get information. Thus, this Passive Monitor needs to monitor that the WMI registration is still valid and will use this error log to monitor changes in the status of the connection.

Field Name	Description
nPassiveMonitorErrorLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotPassiveMonitorTypeToDeviceID	The type of monitor associated with this log entry. Foreign key to the **WebUser** (on page 24) table.
dDateTime	Date and time that the error was logged.
sCateory	Indicates the type of message: - Connection established - Connection failed - Authorization error
sDetails	A text description of what has occurred.

PassiveMonitorType

This table lists all of the configured passive monitors in the system that can be applied to a device. Using the CLSID, this table enables the connection to the COM plug-in that listens. This table also provides the default values for a passive monitor such as its name and

description. Configuration details for the monitor are stored in the **PassiveMonitorTypeData** (on page 63) table.

Field Name	Description
nPassiveMonitorTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nCLSID	CLSID (also called GUID) used to identify the plug-in that will be used for editing the passive monitor. The CLSID is automatically assigned to the plug-in when it is created with the Ipswitch WhatsUp Gold Developer. The CLSID is stored in the main CPP file (monitorname.cpp, which is generated by the WhatsUp Gold Developer wizard) and stored in the registry under HKEY_Local_machine\software\ipswitch\network monitor\WhatsUp Gold plugins\passive monitors\monitorname.
nServerCLSID	Class ID that the service uses to create the passive monitor server instance.
sMonitorTypeName	Freeform display name of the monitor that appears in the Name column of the Passive Monitor Types dialog. Maximum length is 150 characters.
sMonitorTypeDescription	Freeform description field that appears in the Description column of the Passive Monitor Types dialog. Maximum length is 150 characters.
bGlobalMonitorType	Boolean field. Set to `True` if the passive monitor is global.
bRemoved	Boolean field. Determines whether the passive monitor should be removed from the system. If `True`, the passive monitor will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the passive monitor were deleted.

PassiveMonitorTypeData

This table stores the parameters that were configured by the user through the user interface as name-value pairs. Typically, there are multiple passive monitor type data entries per passive monitor type.

Name-value pairs are stored and accessed through INMSerialize object and should not be managed directly. For more information, see Appendix C: Accessing Data with INMSerialize.

Field Name	Description
nPassiveMonitorTypeDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPassiveMonitorTypeID	Links to the **PassiveMonitorType** (on page 62) table, which contains a list of all passive monitors. Foreign key to the **PassiveMonitorType** (on page 62) table.
sName	Developer-defined name for the plug-in property.
sValue	Developer-defined value for the plug-in property.

PivotPassiveMonitorTypeToDevice

This table links the **PassiveMonitorType** table to the **Device** (on page 29) table, mapping a passive monitor to a device.

Field Name	Description
nPivotPassiveMonitorTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nDeviceID	Links to the **Device** (on page 29) table, which contains the details about each device. Foreign key to the **Device** (on page 29) table.
nPassiveMonitorTypeID	Links to the **PassiveMonitorType** (on page 62) table, which lists all of the available passive monitors. Foreign key to the **PassiveMonitorType** (on page 62) table.
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table, which lists the network interfaces for a device. If this field is Null, it inherits the value for nDefaultNetworkInterface from the Device table. Foreign key to the **NetworkInterface** (on page 58) table.
nMonitorStateID	Links to the **MonitorState** (on page 24) table, which indicates the current state for the monitor. Use to determine the worst state/best state for the entire device. Foreign key to the **MonitorState** (on page 24) table.
dLastEventTime	Time that the last event was received by the passive monitor.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which associates an action policy with this passive monitor. Foreign key to the **ActionPolicy** (on page 10) table.

Field Name	Description
bGatherPerformanceData	Boolean value. Determines whether data received by this passive monitor is stored for reporting. If True, any data received by this passive monitor is stored in the **PassiveMonitorSampleData** table. **Note**: This field is related to bGatherPerformanceData in the **Device** (on page 29) table. If you only want to collect data for this specific monitor, set the value to True in this table. If you want to collect data for all monitors on a device, set the value to False in this table and go the Device table to set bGatherPerformanceData to True.
bDisabled	Boolean value. Indicates whether the passive monitor type is disabled on this device. Disabled passive monitors are not used by the system.
bRemoved	Boolean field. Determines whether the passive monitor type should be removed from the system. If True, the passive monitor type will be deleted in the background when the deletion process checks for this flag (occurs every 60 seconds). **Note**: This flag was added to avoid making the user wait while the records related to the active monitor type were deleted.

PivotPassiveMonitorTypeToDeviceType

This table maps Passive Monitors to a *device type* (on page 29). During the discovery process, any device found with all of the passive monitors specified here will become that device type. However, the sSnmpOID takes precedence over these.

Field Name	Description
nPivotPassiveMonitorToDeviceTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPassiveMonitorTypeID	Links to the **PassiveMonitorType** (on page 62) table, which lists all of the available passive monitors. Foreign key to the **PassiveMonitorType** (on page 62) table.
nDeviceTypeID	Links to the **DeviceType** (on page 37) table, which contains a list of all device types. Foreign key to the **Device** (on page 29) table.
nActionPolicyID	Links to the **ActionPolicy** (on page 10) table, which associates an action policy with this passive monitor. Foreign key to the **ActionPolicy** (on page 10) table.

CHAPTER 13

Report Tables

In This Chapter

Report

This table maintains a list of all available reports.

Field Name	Description
nReportID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	The name of the report. For example: Health (device Health report)
sDescription	A description of the report. For example, for the device Health report, the descriptions states "A Snapshot of the current status of each monitor on a device."
sFilename	The filename of the report. For example for the device Health report: DeviceHealth.asp
nReportType	1 = Device reports 2 = Device Group reports 3 = System level reports

ReportCategory

This table contains all the category groupings for full reports.

Field Name	Description
nReportCategoryID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nParentReportCategoryID	ID of the parent category for this report category. Foreign key to the **ReportCategory** (on page 69) table.
sCategoryName	The name for this report category.
sDescription	The description for this report category.

RecurringReport

This table maintains a list of configurations for recurring reports. Recurring Reports are configured in the WhatsUp Gold console by selecting **Configure** > **Recurring Reports**.

Field Name	Description
nRecurringReportID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sName	User-defined name for the report. This name will appear on the Recurring Report dialog.
sURL	The full URL of the report that was selected to be sent as part of this recurring report. This can be any of the existing reports. For example: DeviceHealth.asp

Field Name	Description
sTime	The time of day and the selected days on which the report will be sent. The schedule is defined in XML format and lists the parameters set when the user configured the recurring report. For example: <RecurringReportSchedule> <RecurringReportItem nScheduleType="2" nDayMask="26" nHour="8" nMinute="0"/> </RecurringReportSchedule> where: nScheduleType="2" means "weekly" schedule. Other values are: 3 = "monthly" 4 = "interval" (which is the user-specified interval) nDayMask defines the days of the week the action should execute. The bits from right to left mark the days from Sunday, Monday, to Saturday. So 26 will be in binary 0011010, and means the action is sent Monday, Wednesday, and Thursday. nHour and nMinute is on the 24 hour clock, so the example shows 8:00 AM.
sEmailTo	The e-mail address to which the report is sent.
sServer	The IP address or hostname of the mail server the report is sent through. For example: mail.domain.com
nPort	The port on which the mail server is running. Port 25 is the default for SMTP mail.
sEmailFrom	The E-mail address in the From field of the E-mail that is sent with the report.
bDisabled	Boolean value. True = Disabled, the report will not be sent. False = Enabled, the report will be sent according to the selected schedule.
sEmailSubject	The subject of the email.
bAttachment	Boolean field. Set to true if the report is sent as an attachment.
nTimeout	The SMTP timeout for sending mail.
bSmtpAuth	Boolean field. Set to true if the SMTP server requires authentication.
bUseTLS	Boolean field. Set to true if using SSL.
sUsername	The username used when bSmtpAuth set to true.
sPasswordEncrypted	The password used when bSmtpAuth set to true.

RecurringReportLog

This table records any activity involving Recurring Reports.

Field Name	Description
nRecurringReportLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nRecurringReportID	Identifies an instance of a Recurring Report. Foreign key to the **RecurringReport** (on page 69) table.
dDateTime	Date and time that the activity was logged.
sCategory	Indicates the type of message: Success Failure Information
sDetails	A text description of what occurred; for example "Recurring Report successfully sent to SMTP Server."

PivotReportToCategory

This table associates full reports to their categories. It also contains the entries for user defined favorite reports.

Field Name	Description
nPivotReportToCategoryID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nReportCategoryID	Category in which this report belongs. Foreign key to the **ReportCategory** (on page 69) table.
nReportID	The ID of the full report. Foreign key to the **Report** (on page 69) table.
nWebUserID	ID of a web user. Only used for reports that are saved as a user's favorite. Foreign key to the **WebUser** (on page 96) table.

CHAPTER 14

SMS Tables

In This Chapter

SMSProvider

This table maintains a list of SMS provider configurations. For each provider, the table records the information needed to connect to the provider's SMS service, such as the Provider's name, mail server address, phone number, password, etc. This is the information entered when an SMS Action was configured in the WhatsUp Gold console.

Field Name	Description
nSMSProviderID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nSMSScriptID	Links to the **SMSScript** (on page 74) table, which identifies the script used to connect to this provider. The script will be one of the following: Default TAP, Default UCP, No EOT TAP, No LF TAP Foreign key to the **SMSScript** (on page 74) table.
sProviderName	The name of the provider. For example: SkyTel1, Link, Vodafone.
sCountryName	The country in which the provider operates.
sMailServer	IP address of the mail server to use. Used when bMailEnabled is True.
sMailFrom	The provider's From (email) address used on the mail message. Used when bMailEnabled is True.
bMailEnabled	Boolean value. Specifies whether or not to send the SMS message using an email gateway. True = send the message via email False = do not send the message via email

Field Name	Description
bDialupEnabled	Boolean value. True = send the message via dialup connection False = do not send via dialup connection. If this value is set to True, values are required for the remaining fields in this table.
sPhoneNumber	The phone number for this provider account.
sPassword	The password for this account.
sInitString	The modem initialize command for dial-up access. For example: ATE0Q0V1X4F1
sComport	The COM port to which the modem is attached.
sParity	The type of parity expected by the modem (Even, None)
nBaud	The speed (measured in bits per second) at which the serial port will communicate with the modem.
nDataBits	The type of data bit transmission used to communicate with the selected port. (6, 7, or 8 data bits)
nStopBits	The stop bits used to communicate with the selected port. (1 or 2 data bits)
nMaxCharacters	Sets the maximum number of characters available in the Message text box.
nRetry	Number of times to retry when the modem connection fails.

SMSScript

This table defines the script used to send an SMS message. Each SMS provider configuration uses one of the four available scripts. WhatsUp Gold ships with a pre-defined set of providers, for which the script is already set. If you add a provider, you will need to select the appropriate script.

Field Name	Description
nSMSScriptID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sScriptName	Default TAP, Default UCP, No EOT TAP, No LF TAP
sScript	The SMS script that contains commands that the SMS plugin will use to send a message.

CHAPTER 15

Statistical Monitor Tables

In This Chapter

StatisticalCpu

This table stores the statistics used in the CPU Utilization Report. The CPU load statistics are calculated from the data gathered when the CPU statistical monitor (configured in **Device > Statistical Monitors**) polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalCpuID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
nProcessorLoad_Avg	The average CPU load (percent of fully loaded) as calculated by the statistical monitor.
nProcessorLoad_Min	The minimum CPU load (percent of fully loaded) as calculated by the statistical monitor.
nProcessorLoad_Max	The maximum CPU load (percent of fully loaded) as calculated by the statistical monitor.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalCpuIdentificationID	Links to the StatisticalCPUIdentification table to identify the CPU for which the data is being collected. Foreign key to the **StatisticalCpuIdentification** (on page 77) table.

StatisticalCpuCache

This table stores the cached statistics used in the CPU Utilization Report. The CPU load statistics are calculated from the data gathered when the CPU statistical monitor (configured in **Device > Statistical Monitors**) polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalCpuID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
nProcessorLoad_Avg	The average CPU load (percent of fully loaded) as calculated by the statistical monitor.
nProcessorLoad_Min	The minimum CPU load (percent of fully loaded) as calculated by the statistical monitor.
nProcessorLoad_Max	The maximum CPU load (percent of fully loaded) as calculated by the statistical monitor.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalCpuIdentificationID	Foreign key to the **WuDBStatisticalCpuIdentification** (on page 77) table.

StatisticalCpuIdentification

This table maintains the SNMP index and description data for processors monitored by the CPU Utilization Performance Monitor.

Field Name	Description
nStatisticalCpuIdentificationID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	ID of the entry in the **PivotStatisticalMonitorTypeToDevice** (on page 44) table. Foreign key to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table.
nIndex	SNMP instance/index for this CPU.
sDescription	SNMP description for this CPU as captured from this OID: 1.3.6.1.2.1.25.3.2.1.3.instance.
sProcessorID	Reserved for future use.

StatisticalDisk

This table stores the statistics used in the Disk Statistics Report. The disk statistics are calculated from the data gathered by the Disk Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalDiskID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
nIndex	Index of the individual disk.
sType	Type of disk being monitored.
nSize	Total disk space, in bytes.
nUsed_Avg	The average amount of used disk space, in bytes.
nUsed_Min	The minimum amount of used disk space, in bytes.
nUsed_Max	The maximum amout of used disk space, in bytes.

Field Name	Description
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalDiskIdentificationID	Links to the **StatisticalDiskIdentification** (on page 78) table to identify the disk for which the data is being collected. Foreign key to **StatisticalDiskIdentification** (on page 78) table.

StatisticalDiskCache

This table stores the cached statistics used in the Disk Statistics Report. The disk statistics are calculated from the data gathered by the Disk Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalDiskID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
sType	Type of disk being monitored.
nSize	Total disk space, in bytes.
nUsed_Avg	The average amount of used disk space, in bytes.
nUsed_Min	The minimum amount of used disk space, in bytes.
nUsed_Max	The maximum amount of used disk space, in bytes.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalDiskIdentificationID	Foreign key to the **WuDBStatisticalDiskIdentification** (on page 78) table.

StatisticalDiskIdentification

This table maintains the SNMP index and description data for disks monitored by the Disk Utilization Performance Monitor.

Field Name	Description
nStatisticalDiskIdentificationID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	ID of the entry in the **PivotStatisticalMonitorTypeToDevice** (on page 44) table. Foreign key to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table.
nIndex	SNMP instance/index for this Disk.
sDescription	SNMP description for this Disk as captured from this OID: 1.3.6.1.2.1.25.3.2.1.3.instance.

StatisticalInterface

This table stores the statistics used in the Interface Statistics Report. The interface statistics are calculated from the data gathered by the Interface Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalInterfaceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
nIfSpeedIn	The speed of the interface (bits per second) and incoming traffic.
nIfType	Interface type.
nIfOperStatus	Operational status of the interface at the time of the poll.
nIfInOctets_Avg	Average amount of inbound data (bytes per second).
nIfInOctets_Min	Minimum amount of inbound data (bytes per second).
nIfInOctets_Max	Maximum amount of inbound data (bytes per second).
nIfInOctets_Total	Total amount on inbound data (bytes per second).
nIfOutOctets_Avg	Average amount of outbound data (bytes per second).
nIfOutOctets_Min	Minimum amount of outbound data (bytes per second).
nIfOutOctets_Max	Maximum amount of outbound data (bytes per second).

Field Name	Description
nIfOutOctets_Total	Total amount of outbound data (bytes per second).
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalInterfaceIdentificationID	Links to the **StatisticalInterfaceIdentification** (on page 81) table to identify the interface for which the data is being collected. Foreign key to **StatisticalInterfaceIdentification** (on page 81) table.
IfSpeedOut	The speed of the interface (bits per second) and outgoing traffic.

StatisticalInterfaceCache

This table stores the cached statistics used in the Interface Statistics Report. The interface statistics are calculated from the data gathered by the Interface Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalInterfaceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
nIfSpeedIn	Speed of the inbound interface (bits per second).
nIfType	Interface type
nIfOperStatus	Operational status of the interface at the time of the poll.
nIfInOctets_Avg	Average amount of inbound data (bytes per second)
nIfInOctets_Min	Minimum amount of inbound data (bytes per second)
nIfInOctets_Max	Maximum amount of inbound data (bytes per second)
nIfInOctets_Total	Total amount on inbound data (bytes per second)
nIfOutOctets_Avg	Average amount on inbound data (bytes per second)
nIfOutOctets_Min	Minimum amount of outbound data (bytes per second)
nIfOutOctets_Max	Maximum amount of outbound data (bytes per second)
nIfOutOctets_Total	Total amount of outbound data (bytes per second)

Field Name	Description
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalInterfaceIdentificationID	Foreign key to the **WuDBStatisticalInterfaceIdentification** (on page 81) table.
nIfSpeedOut	Speed of the outbound interface (bits per second).

StatisticalInterfaceIdentification

This table maintains the SNMP index and description data for interfaces monitored by the Interface Utilization Performance Monitor.

Field Name	Description
nStatisticalInterfaceIdentificationID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	ID of the entry in the **PivotStatisticalMonitorTypeToDevice** (on page 44) table. Foreign key to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table.
nIfIndex	SNMP instance/index for this interface.
sIfDescr	Description captured from the 1.3.6.1.2.1.2.2.1.2 instance.
nIfInSpeedCustom	User defined inbound speed in bps.
nIfOutSpeedCustom	User defined outbound speed in bps.
sIfPhysAddress	MAC address (Not Used)
sIfDisplayName	Value of IfAlias 1.3.6.1.2.1.31.1.1.1.18 instance if it is set. If IfAlias is not set, returns the value of IfDescr.

StatisticalMemory

This table stores the statistics used in the Memory Utilization Report. The memory statistics are calculated from the data gathered by the Memory Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalMemoryID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
sType	Type of memory.
nSize	Total amount of memory, in Megabytes (MB).
nUsed_Avg	Average amount of memory used, in MB.
nUsed_Min	Minimum amount of memory used, in MB.
nUsed_Max	Maximum amount of memory used, in MB.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.
nStatisticalMemoryIdentificationID	Links to the **StatisticalMemoryIdentification** (on page 83) table to identify the memory for which the data is being collected. Foreign key to **StatisticalMemoryIdentification** (on page 83) table.

StatisticalMemoryCache

This table stores the cached statistics used in the Memory Utilization Report. The memory statistics are calculated from the data gathered by the Memory Utilization statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. The data in this table is updated on each poll.

Field Name	Description
nStatisticalMemoryID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dPollTime	Timestamp for this set of poll data.
sType	Type of memory.
nSize	Total amount of memory, in Megabytes (MB).
nUsed_Avg	Average amount of memory used, in MB.
nUsed_Min	Minimum amount of memory used, in MB.
nUsed_Max	Maximum amount of memory used, in MB.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nDataType	Database record type used for rollup.

Field Name	Description
nStatisticalMemoryIdentificationID	Foreign key to the **WuDBStatisticalMemoryIdentification** (on page 83) table.

StatisticalMemoryIdentification

This table maintains the SNMP index and description data for memory monitored by the Memory Utilization Performance Monitor.

Field Name	Description
nStatisticalMemoryIdentificationID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	ID of the entry in the **PivotStatisticalMonitorTypeToDevice** (on page 44) table. Foreign key to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table.
nIndex	SNMP instance/index for memory.
sDescription	SNMP description for this Disk as captured from this OID: 1.3.6.1.2.1.25.2.3.1.3.instance.

StatisticalMonitorLog

This table records connection errors from the Statistical Monitor system.

Field Name	Description
nStatisticalMonitorLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dDateTime	Date and time that the error was logged.
sCategory	Indicates the type of message: - Connection established - Connection failed - Authorization error
sSource	Indicates the source of the message.
sDetails	A text description of what has occurred.

Field Name	Description
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table to identify the associated device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.

StatisticalMonitorType

This table lists the statistical monitors available to the WhatsUp Gold engine along with the CLSID used to call the plug-in for the data source. This table is used by the Statistical Monitoring system to gather SNMP or WMI statistics for reports. The following monitor plug-ins are built- in to the Statistical Monitoring system: CPU Utilization, Disk Utilization, Interface, Memory, Ping.

Field Name	Description
nStatisticalMonitorTypeID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sStatisticalMonitorTypeName	Descriptive name of the statistical monitor, which is used for display purposes only.
sCLSID	The Class ID (CLSID) used to identify the COM object used to monitor the specified StatisticalMonitorType. The CLSID is automatically assigned to the COM plug-in by the WhatsUp Gold application.
sStatisticalMonitorTypeDescription	Text description of the monitor.
nDeviceID	Links to the **Device** (on page 29) table to identify the associated device. The DeviceID is optional; it is used for monitors that are available only to an individual device. Foreign key to the **Device** (on page 29) table.

StatisticalMonitorTypeConfigurationData

This table stores configuration data for individual statistical monitors. These parameters are configured, by the user, in the WhatsUp Gold user interface. Parameters are stored as name-value pairs.

Field Name	Description
nStatisticalMonitorTypeConfigurationDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this statistical monitor with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
sName	Name of the configuration property. These names and associated values are specific to each statistical monitor type.
sValue	Value of the configuration property.

StatisticalMonitorTypeData

This table stores the SNMP and WMI data used to configure statistical monitors. Data is stored as name-value pairs.

Field Name	Description
nStatisticalMonitorTypeDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nStatisticalMonitorTypeID	Links to the **StatisticalMonitorType** (on page 84) table, which associates this statistical monitor with a particular device. Foreign key to the **StatisticalMonitorType** (on page 84) table.
sName	Name of the configuration property. These names and associated values are specific to each statistical monitor type.
sValue	Value of the configuration property.

StatisticalNumeric

This table stores the data gathered by the WMI Monitor when it polls a device for specified WMI objects. There is one entry added to this table for each WMI monitor poll.

Field Name	Description
nStatisticalNumericID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
dPollTime	Timestamp for this set of data.
nValue_Avg	The average of the values returned for the WMI object.
nValue_Min	The minumum value.
nValue_Max	The maximum value.
nTimeDelta	Interval in seconds between polls by the WMI monitor).
nDataType	Database record type used for rollup.

StatisticalPing

This table stores the statistics used in the Ping Availability Report. The polling statistics are calculated from the data gathered by the Ping Latency and Availability statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. There is one entry added to this table for each statistical monitor poll.

Field Name	Description
nStatisticalPingID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
dPollTime	Timestamp for this set of poll data.
nRoundTripTime_Avg	Round trip time is the time it takes a ping (ICMP packet) sent from the WhatsUp Gold engine to return a response from the specified device.
nRoundTripTime_Min	The minumum round trip time.
nRoundTripTime_Max	The maximum round trip time.

Field Name	Description
nDataType	Database record type used for rollup.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table to identify the network interface for which data is being collected. Foreign key to the **NetworkInterface** (on page 58) table.

StatisticalPingCache

This table stores the cache of the statistics used in the Ping Availability Report. The polling statistics are calculated from the data gathered by the Ping Latency and Availability statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. There is one entry added to this table for each statistical monitor poll.

Field Name	Description
nStatisticalPingID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDevice** (on page 44) table.
dPollTime	Timestamp for this set of poll data.
nRoundTripTime_Avg	Round trip time is the time it takes a ping (ICMP packet) sent from the WhatsUp Gold engine to return a response from the specified device.
nRoundTripTime_Min	The minumum round trip time.
nRoundTripTime_Max	The maximum round trip time.
nDataType	Database record type used for rollup.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nNetworkInterfaceID	Links to the **NetworkInterfaceID** (on page 58) table to identify the interface. Allows the statistical monitoring system to support Ping on multiple interfaces. Foreign key to the **NetworkInterface** (on page 58) table.

StatisticalPingPacketLoss

This table stores the packet loss statistics used in the Ping Availability Report. The polling statistics are calculated from the data gathered by the Ping Latency and Availability statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. There is one entry added to this table for each statistical monitor poll.

Field Name	Description
nStatisticalPingPacketLossID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
dPollTime	Timestamp for this set of poll data.
nPacketsSent	The number of "pings" (ICMP packets) sent.
nPacketsLost	The number of "pings" (ICMP packets) for which there was not a response.
nDataType	Database record type used for rollup.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nPercentAvailable	For the time period, the percent of the time that this device was available (up and running).
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table to identify the interface. Allows the statistical monitoring system to support Ping on multiple interfaces. Foreign key to the **NetworkInterface** (on page 58) table.

StatisticalPingPacketLossCache

This table stores the cached packet loss statistics used in the Ping Availability Report. The polling statistics are calculated from the data gathered by the Ping Latency and Availability statistical monitor (configured in **Device > Statistical Monitors**) when it polls a device. There is one entry added to this table for each statistical monitor poll.

Field Name	Description
nStatisticalPingPacketLossID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
dPollTime	Timestamp for this set of poll data.
nPacketsSent	The number of "pings" (ICMP packets) sent.
nPacketsLost	The number of "pings" (ICMP packets) for which there was not a response.
nDataType	Database record type used for rollup.
nTimeDelta	Interval in seconds between polls (by the statistical monitor).
nPercentAvailable	For the time period, the percent of the time that this device was available (up and running).
nNetworkInterfaceID	Links to the **NetworkInterface** (on page 58) table to identify the interface. Allows the statistical monitoring system to support Ping on multiple interfaces. Foreign key to the **NetworkInterface** (on page 58) table.

StatisticalWmi

This table stores the data gathered by the WMI Monitor when it polls a device for specified WMI objects. There is one entry added to this table for each WMI monitor poll.

Field Name	Description
nStatisticalWmiID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nPivotStatisticalMonitorTypeToDeviceID	Links to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table, which associates this StatisticalMonitorType with a particular device. Foreign key to the **PivotStatisticalMonitorTypeToDeviceID** (on page 44) table.
dPollTime	Timestamp for this set of data.

Field Name	Description
nValue_Avg	The average of the values returned for the WMI object.
nValue_Min	The minumum value.
nValue_Max	The maximum value.
nTimeDelta	Interval in seconds between polls by the WMI monitor).
nDataType	Database record type used for rollup.

PivotStatisticalMonitorTypeToDevice

This table links a statistical monitor to a device and sets how often data for the device should be collected.

Field Name	Description
nPivotStatisticalMonitorTypeToDeviceID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nStatisticalMonitorTypeID	Links to the **StatisticalMonitorType** (on page 84) table to identify the type of data being collected. Foreign key to **StatisticalMonitorType** (on page 84) table.
nDeviceID	Links to the **Device** (on page 29) table to identify the device for which the data is being collected. Foreign key to **Device** (on page 29) table.
bEnabled	Boolean value. Indicates whether the **StatisticalMonitorType** type is enabled on this device.
nDataCollectionInterval	The interval (in minutes) between statistical monitor polls (for this monitor on this device).
nPollType	This table column has been deprecated.

CHAPTER 16

Translation Tables

In This Chapter

Translation

This table contains translated text strings for the web interface.

Field Name	Description
nTranslationID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nTranslationGroupID	ID of the translation group that this string belongs to. Foreign key to the **TranslationGroup** (on page 93) table.
sControlName	An abbreviated label for a translated text string.
nTranslationLanguageID	The translation language code that this string belongs to. Foreign key to the **TranslationLanguage** (on page 94) table.
sTranslatedText	The translated text string that is displayed on the screen.

TranslationGroup

This table contains all the page groups for translation in the web interface.

Field Name	Description
nTranslationGroupID	Identity column generated automatically as a unique incremental value. Primary key to the table.

Field Name	Description
sPageName	Relative URL to a page which contains translatable text. Pages find their translatable strings by finding their respective page URL in this table.

TranslationLanguage

This table contains all available languages for the web interface.

Field Name	Description
nTranslationLanguageID	Locale ID (LCID) for this language as entered by the user when creating the language. Primary key to the table.
sLanguage	Display name for the language in the Language Library dialogue.
sLanguageCode	Abbreviated language code/subtag for the language. A complete list of subtags can be found at *IANA language subtag registry* (http://www.iana.org/assignments/language-subtag-registry)

CHAPTER 17

Web Tables

In This Chapter

WebAlarmLog

This table records any activity involving web alarms. A Web Alarm is an action type that plays a sound over the web interface when a device state change occurs. All users logged in via the web interface will see these alarms.

Field Name	Description
nWebAlarmLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
dDateTime	Date and time that the activity was logged.
nDeviceID	Links to the **Device** (on page 29) table to identify the device associated with the log entry. Foreign key to the **Device** (on page 29) table.
nMonitorStateID	Links to the **MonitorState** (on page 24) table to identify the up or down status of the device (nDeviceID). Foreign key to the **MonitorState** (on page 24) table.
nPivotActiveMonitorTypeToDeviceID	Links to the **PivotActiveMonitorTypeToDevice** (on page 25) table to identify the status of any Active Monitors assigned to this device. Foreign key to the **PivotActiveMonitorTypeToDevice** (on page 25) table.
sMessage	Text description of the alarm.

Field Name	Description
sSoundFileName	A sound file for this web alarm. Sound files are installed in your Program Files\Ipswitch\WhatsUp Gold\HTML\1033\NMconsole\WebSounds directory.

WebStickyProperty

This table stores configuration data for the web interface (column sorting, last selected items, etc.).

Field Name	Description
nWebStickyPropertyID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nWebUserID	ID of a web user that the property belongs to. Foreign key to the **WebUser** (on page 96) table.
sContext	A relative URL to the page that will use the data from this row.
sName	A name for the attribute/data being stored.
sValue	The value of the attribute.

WebUser

This table maintains a list of all users created using the WhatsUp Gold web interface.

Field Name	Description
nWebUserID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
sUserName	The user-defined login name for this user account. There are two default accounts: admin and guest.
sPassword	The password for this user account.

Field Name	Description
nUserRightsMask	A bit mask used to determine what rights (permissions) this user has. The bits represent which of the following permissions are available to this user: 1 = Manage Users 2 = Configure LDAP Credentials 4 = Change Your Password 8 = Configure Monitors 16 = Configure Actions 32 = Manage Device Types 64 = Recurring Notifications 128 = Access Tools 256 = Manage Groups 512 = Manage Devices 1024 = Access Group and Device Reports 2048 = Manage IP Security 4096 = Manage Web Server 8192 = Access System Reports
nAuthenticationType	Determines how the user is authenticated: 1 = uses WhatsUp Gold's internal authentication -1 = uses LDAP
nHomeDeviceGroupID	Determines which device group the user will see on login.
nLanguageID	Reserved for future use.
sWebConfigurationSettings	An XML string used to preserve web user settings such as layout and user preferences. For example, in the Top 10 report, the user can configure which reports he sees and what order they go in.

WebUserActivityLog

This table records when a user logs on or off the web interface, and the actions taken while logged on.

Field Name	Description
nWebUserActivityLogID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nWebUserID	The user who made the change.

Field Name	Description
sUserName	The user-defined login name for the user in context. There are two default accounts: admin, guest
dDateTime	Date and time that the activity was logged.
sCategory	Indicates the type of activity. - Login/log off - Add/Edit/Delete (of Device, Group, Active Monitor, Passive Monitor, Action, Action Policy, User, LDAP configuration)
sDetails	Name-value pair that specifies details of the activity, such as the name of the user logged in, or the ID of a device created.
sDescription	A text description of what occurred; for example: "The device named Router1 was deleted."

WebUserData

This table is a settings table containing mostly user preferences.

Field Name	Description
nWebUserDataID	Identity column--generated automatically as a unique incremental value. Primary key to the table.
nWebUserID	The user id of the user.
sName	The name of the user preference.
sValue	The value of the user preference.

PivotWebUserToDeviceGroup

This table determines how a web user gets into a device group. A web user can belong to multiple groups.

Field Name	Description
nPivotWebUserToDeviceGroupID	Identity column--generated automatically as a unique incremental value. Primary key to the table.

Field Name	Description
nWebUserID	Links to the **WebUser** (on page 29) table, which contains a list of all users who have access to the web interface. Foreign key to the **WebUser** (on page 29) table.
nDeviceGroupID	Links to the **DeviceGroup** (on page 34) table, which contains a list of all device groups and their relationships to each other. Foreign key to the **DeviceGroup** (on page 34) table.
bGroupRead	Boolean field.
bGroupWrite	Boolean field.
bDeviceRead	Boolean field.
bDeviceWrite	Boolean field.

CHAPTER 18

Workspace Tables

In This Chapter

Workspace

The Workspace table stores the configuration information for each workspace view.

Field Name	Description
nWorkspaceID	Identity column generated automatically as a unique incremental value. Primary key to the table.
sWorkspaceName	Display name for the workspace view
nWorkspaceType	The workspace type value. 1 = Device Status 4 = Home 16 = Top 10
nWebUserID	The web user that this workspace view belongs to. A NULL value indicates a default workspace view that was created during install. Foreign key to the **WebUser** (on page 96) table.
nLayoutMode	Layout mode for this workspace view. **Note**: Currently, we only implement table layout, so this value will always be 2.
sXml	The layout of the workspace, including the position of the workspace reports and their configuration; defined in XML format.
bDefaultWorkspace	The default view for the matching workspace type (used if there is not a match on the last view for the workspace type, for this user, in the **WebStickyProperty** table).

WorkspaceReport

This table contains all available workspace reports on the system.

Field Name	Description
nWorkspaceReportID	Identity column generated automatically as a unique incremental value. Primary key to the table.
sReportName	Name of the report as it appears in the workspace report pickers.
sReportUrl	URL to the workspace report.
sConfigureUrl	URL to the configuration dialogue for this workspace report.
nWorkspaceType	Type of workspace report. 4 = Home 5 = Device 13 = Other/Custom
sHelpUrl	URL to the help page for this workspace report.
sDependencies	Reserved for future use.
sReportDefaultTitle	Default title for this workspace report when added to a workspace view.
sPreviewUrl	Relative URL to the preview image for this workspace report, as seen in the workspace report pickers.
sReportType	Reserved for future use.
sIconFilename	Relative URL to the report type icon seen in the workspace report picker tree control.
nAccessRight	Indicates what user rights are necessary to view the data in this workspace report. 0 = none (group access rights control the access to the data in this report) 1 = Access System Reports 2 = Access Group and Device Reports

WorkspaceReportCategory

This table contains all available categories for the workspace report pickers.

Field Name	Description
nWorkspaceReportCategoryID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nParentWorkspaceReportCategoryID	ID of the parent category for this report category. Foreign key to the **WorkspaceReportCategory** (on page 102) table.
sCategoryName	The name of the workspace report category.
sDescription	Reserved for future use.
nAccessRight	Workspace report categories used by Remote/Central sites.

WorkspaceReportData

This table stores custom data for the Home Custom Links and the Free Form Text/HTML workspace reports.

Field Name	Description
nWorkspaceReportDataID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nGuid	Unique ID for a workspace report. Matches to a workspace report's GUID in `Workspaces.sXml`.
sName	Name of the workspace report.
sValue	Custom data for the workspace report.

PivotWorkspaceReportToCategory

This table associates workspace reports to their categories in the workspace report pickers.

Field Name	Description
nPivotWorkspaceReportToCategoryID	Identity column generated automatically as a unique incremental value. Primary key to the table.
nWorkspaceReportCategoryID	Category in which this workspace report belongs. Foreign key to the **WorkspaceReportCategory** (on page 102) table.

Field Name	Description
nWorkspaceReportID	The ID of the full workspace report. Foreign key to the **WorkspaceReport** (on page 102) table.

APPENDIX A

FAQs

Where can I find the IP address of a device?

The IP Address for a device is stored in the **NetworkInterface** (on page 58) table. Note, however, that a device may have more than one network interface and, therefore, more than one IP address.

Where can I get a list of devices?

The **Device** (on page 29) table contains a list of all devices known to the system; however, devices are grouped into device groups, so you should access devices by the **DeviceGroup** table rather than directly through the **Device** table. By default, all devices are placed in one default group (`nDeviceGroupID = 0`), which is called "My Network."

What is the difference between attaching an action to an active monitor versus attaching it directly to the device?

Applying the action to an active monitor, the action will only get triggered when the state of that active monitor reaches the configured state for the action. If you attach an action directly to a device, then the action will be triggered by any state change the device has that matches the action setup.

What is the relationship between an action type and an action policy?

An action type represents something that happens such as a beep, a page, or an e-mail. An action policy can include multiple action types.

Where can I see the state of a monitor?

The **MonitorState** (on page 24) table maintains a list of current monitor states. The **ActiveMonitorStateChangeLog** (on page 21) table maintains the state history for an active monitor.

APPENDIX B

Viewing the Database

You can access the WhatsUp database with any database tool such as SQL Server or Microsoft Access. The computer you use will need MSDE or SQL Server as a way to connect to the database through ODBC. When the database service is running, you will see it listed as Mssql$whatsup in the list of services.

To access the database with Microsoft Access:

1. Open Microsoft Access on the machine where you want to access the WhatsUp Gold database.
2. On the right panel under New, select **Project (Existing Data)**.
3. In the filename field, type a name for the database. This name can be any name you choose.
4. When the Data Link Properties dialog appears, complete the fields as follows:
   a) For **Server Name**, enter `.\whatsup`

Note: The dot indicates that the database is local. If you are not running Access on the same machine as the database, you will need to provide the path to the database here instead of using the dot.

   b) Check **Use Windows NT Security**.
   c) Select WhatsUp from the list of databases.
   d) Click **Test Connection**.
5. After the connection is validated, click **OK**.

To access the database with OSQL command line utility:

1. Open a DOS command prompt.
2. Enter `OSQL -E -D WhatsUp`
3. Now you can enter SQL commands. Following are some examples of SQL commands that you might find useful:
   - To backup a database, enter `backup database whatsup to disk = 'c:\temp\backup.dat' go`
   - To restore a database, enter `restore database whatsup to disk = 'c:\temp\backup.dat' go`

APPENDIX C

Adding context menus

The information in this appendix can be used to create context menus for devices and monitors manually.

Per Device

The context menu feature, allows the user to create customized menu items that appear on the right-mouse menu when the device is right-clicked. The menu is configured on the Menu tab of the Device Properties dialog. During configuration, the following items are set for each menu item:

- **Display name**. This is the identifying name that will appear on the right-mouse menu for that device.
- **Command**. This is the command that will be executed when the context menu item is selected on the right-mouse menu. The command can be anything that can be executed through the Windows Run dialog, such as; http, ftp, telnet, etc.
- **Arguments**. Anything added to the argument box will be appended to the command as it is executed.

Per Device Type

Context menus can also be set on device types so that when a new device of that type is added to the device list, that device will have the context menu of that type. See creating a Device Type Context Menu below, for more information.

To create a device type context menu:

The following explains how to manually create a device type, and associated context menus.

1. Open the WhatsUp Gold database in MS Access.
2. Open the **DeviceType** table and insert a new record.
3. Enter the appropriate information in the columns for the type you want to create.
4. Leave the `nDeviceMenuSetId` column blank for the moment, and open the **DeviceMenuSet** table.
5. Create a new entry, and assign that entry a number. This number will be your menu set ID. In the `sDescription` column, enter a phrase that describes the menu set (for example "Standard Router Management Commands"). This field is not currently shown in the UI but may be used in the future to help identify common sets of menus.
6. Open the **DeviceMenuItem** table.
7. Enter information in the columns to create the context menus you want to add to the device type.
   - The `sDisplayName` column contains the text that appears in the context menu.
   - The `sCommand` column contains the command that will be executed when the menu item is selected.

- The `sArguments` column contains arguments that will be appended to the command once it is executed. Percent Variables can be used here. For more information, see the percent variables topic in the WhatsUp Gold Help.

8. Enter the menu set ID you created in the **DevceMenuSet** table in the `nDeviceMenuSetId` column.
9. Go back to the **DeviceType** table and enter the new menu set ID in the `nDeviceMenuSetId` column for the device type you created in step 5.

After these steps are complete, you are ready to use the new device type. After a device of the new type is created, the new menu will appear in the right-mouse menu of the device.

Index

R

S

T

V

W