



AP/MSSQL 100.001

AutoPilot/MSSQL Server Plug-in

Installation and User's Guide

Version 1.0

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PUBLISHED BY:

RESEARCH & DEVELOPMENT
NASTEL TECHNOLOGIES, INC.
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MELVILLE, NY 11747

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DOCUMENT TITLE: **AUTOPILOT/MSSQL SERVER PLUG-IN**

VERSION: **1.0**

DOCUMENT RELEASE DATE: **DECEMBER 2004**

NASTEL DOCUMENT NUMBER: **AP/MSSQL 100.001**

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Chapter 1: Introduction

Welcome to the *AutoPilot/Microsoft SQL Server Plug-in Guide*. This guide describes installation and uses of the plug-in. Please review this guide carefully before installing the product. AutoPilot for Microsoft SQL Server Plug-in will hereinafter be identified as AutoPilot/MSSQL and further abbreviated as AP/MSSQL.

1.1 How This Guide is Organized

Chapter 1: Identifies the users and history of the document, as well as additional and alternate documents. System requirements are outlined in addition to supplying support and reference information.

Chapter 2: Contains a brief functional description of AutoPilot/MSSQL Server Plug-in.

Chapter 3: Provides instructions for new installations of the AutoPilot/MSSQL Server Plug-in.

Chapter 4: Provides instructions for configuring and deploying the MSSQL expert.

Chapter 5: Defines the AutoPilot/MSSQL metrics.

Appendix A: Provides a detailed list of all reference information available for the installation of AutoPilot.

Appendix B: Contains conventions used in this document.

Glossary: Contains a listing of unique and common acronyms and words and their definition.

1.2 History of This Document

1-1. Document History			
Release Date:	Document Number	For AutoPilot Versions:	Summary
December 2004	AP/MSSQL 100.001	AP/IT 4.0 SU 9 and higher AP/WMQ 4.1 and higher	Version 1.0

1.2.1 User Feedback

Nastel encourages all users and administrators of AutoPilot to submit comments, suggestions, corrections, and recommendations for improvement for all AutoPilot documentation. Please send your comments via post/mail, or by e-mail. Send messages to: support@nastel.com. You will receive a written response, along with status of any proposed change, update, or correction.

1.3 Related Documents

The complete listing of related and referenced documents is listed in [Appendix A](#) of this guide.

1.4 Release Notes

See README.HTM files on installation CD or AutoPilot installation directory. Release notes and updates are also available through the [Nastel Resource Center](#)

**CAUTION!**

When upgrading AutoPilot/IT you must upgrade all installations within the domain. AutoPilot 3.0 and 4.0 are not compatible

1.5 Intended Audience

This document is intended for personnel installing and customizing Nastel's AutoPilot products. The installer should be familiar with:

- Target operating system environment.
- The installer may need administrative privileges for the target platform.
- Procedures for installing software on the target platform such as Windows, UNIX, OS etc.

1.6 System Requirements

The AutoPilot/MSSQL Plug-in is compatible with AutoPilot/IT 4.0, SU9.5 and Microsoft SQL Server 7.0 or higher. System requirements for MSSQL Server can be found at the Microsoft Web site:

<http://www.microsoft.com/sql/evaluation/sysreqs/2000/default.asp>

The plug-in can be installed on any AutoPilot managed node in the AutoPilot network. The AutoPilot/MSSQL Server Plug-in must be installed where it can access the target application over TCP/IP. The AutoPilot/SQL Server Plug-in installation requires 1M of disk space or less.

1.7 Terms and Abbreviations

A list of terms and abbreviation used in this document is located in the Glossary.

1.8 Technical Support

If you need additional technical support, you can contact Nastel by telephone or by e-mail.

To contact Nastel technical support by telephone, call **(800) 963-9822 ext. 1**, if you are calling from outside the United States dial **001-631-761-9190**.

To contact Nastel technical support by e-mail, send a message to <mailto:support@nastel.com>. You can also contact Nastel support via the support website.

To access the Nastel automated support system (user id and Password required), go to:

<http://support.nastel.com/>, or visit the Nastel Resource center at www.nastel.com/resources. Contact your local AutoPilot Administrator for further information.

1.9 Conventions

Refer to [Appendix B](#) for typographical and naming conventions used in all AutoPilot documentation.

Chapter 2: About AutoPilot/MSSQL Server

This chapter describes Nastel's AutoPilot/MSSQL Server Plug-in and its application with AutoPilot. MSSQL Server is a fully enterprise-class database product, providing core support for Extensible Markup Language (XML) and Internet queries

The AutoPilot/MSSQL Server plug-in is an extensible data collector build on AutoPilot's completely modular platform. When added to AutoPilot, it instantly enables real-time visibility of the performance and health of business processes flowing across MSSQL Server systems.

2.1 Functional Description

The AutoPilot/MSSQL Server plug-in can retrieve information about the MSSQL Server database which provides a common method to create, send, receive, and read an enterprise messaging system's messages.

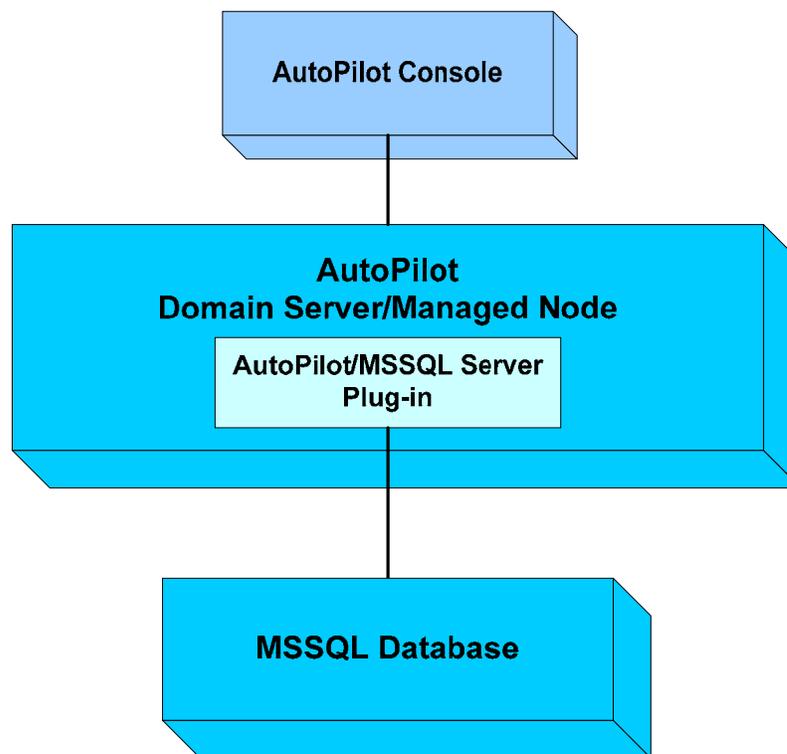


Figure 2-1. The AutoPilot/MSSQL Server Plug-in

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Chapter 3: AutoPilot/MSSQL Server Installation

This chapter provides instructions for the typical installation and setup requirements for the *AutoPilot/MSSQL Server Plug-in*.

3.1 Before Installation

3.1.1 Technical Documents

Prior to installation you should review all text files and installation procedures on the installation CD or printed documentation provided. You should print, as needed, all of the installation related materials to give yourself quick access to any required information during any installation or migration procedures. Additional sets of printed documents are available from your Nastel representative or Nastel Support.

3.1.2 Installation Requirements

The AP/MSSQL Server plug-in should be installed on the AutoPilot domain server or any managed node within the AutoPilot network.

3.1.3 Download the MSSQL Plug-in

Download the AP/MSSQL Server Plug-in from the Nastel Resource Center at www.nastel.com/resources, or copy from your installation CD.

3.2 Installing the Plug-in

1. Save your work and logoff AutoPilot.



NOTE: There are no specific logoff procedures required to exit AutoPilot Console

2. Stop the Nodes and/or Domain Server that will be updated with the AP/MSSQL Server plug-in.
3. Copy AP40_MSSQL.pkg into the [AUTOPILOT_HOME]\updates directory.
4. At the command prompt run:
[AUTOPILOT_HOME]/bin/pkgman ..\updates\AP40_MSSQL.pkg.

```

CA Command Prompt (2)
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\tmiller>cd..
C:\Documents and Settings>cd..
C:\>cd nastel
C:\Nastel>cd autopilotit
C:\Nastel\AutoPilotIT>cd bin
C:\Nastel\AutoPilotIT\bin>pkgman ..\updates\AP40_MSSQL.pkg
AutoPilot/IT Package Manager Version 4.0-JR1.4
Copyright (C) 1998-2004 Nastel Technologies, Inc. All rights reserved.

Installing package "AP40_MSSQL.pkg"...
Checking installed packages...

Installing "MSSQL-Plugin 1.0.0"...
-----Updating system files-----
Backing up "lib/mssql_expert.jar"...
Creating "lib/mssql_expert.jar"...
Backing up "lib/msutil.jar"...
Creating "lib/msutil.jar"...
Backing up "lib/msbase.jar"...
Creating "lib/msbase.jar"...
Backing up "lib/mssqlserver.jar"...
Creating "lib/mssqlserver.jar"...
-----Applying plugin settings-----
Backing up "localhost/plugin.properties"...
Changing "localhost/plugin.properties"...
"MSSQL-Plugin 1.0.0" installed.

C:\Nastel\AutoPilotIT\bin>_

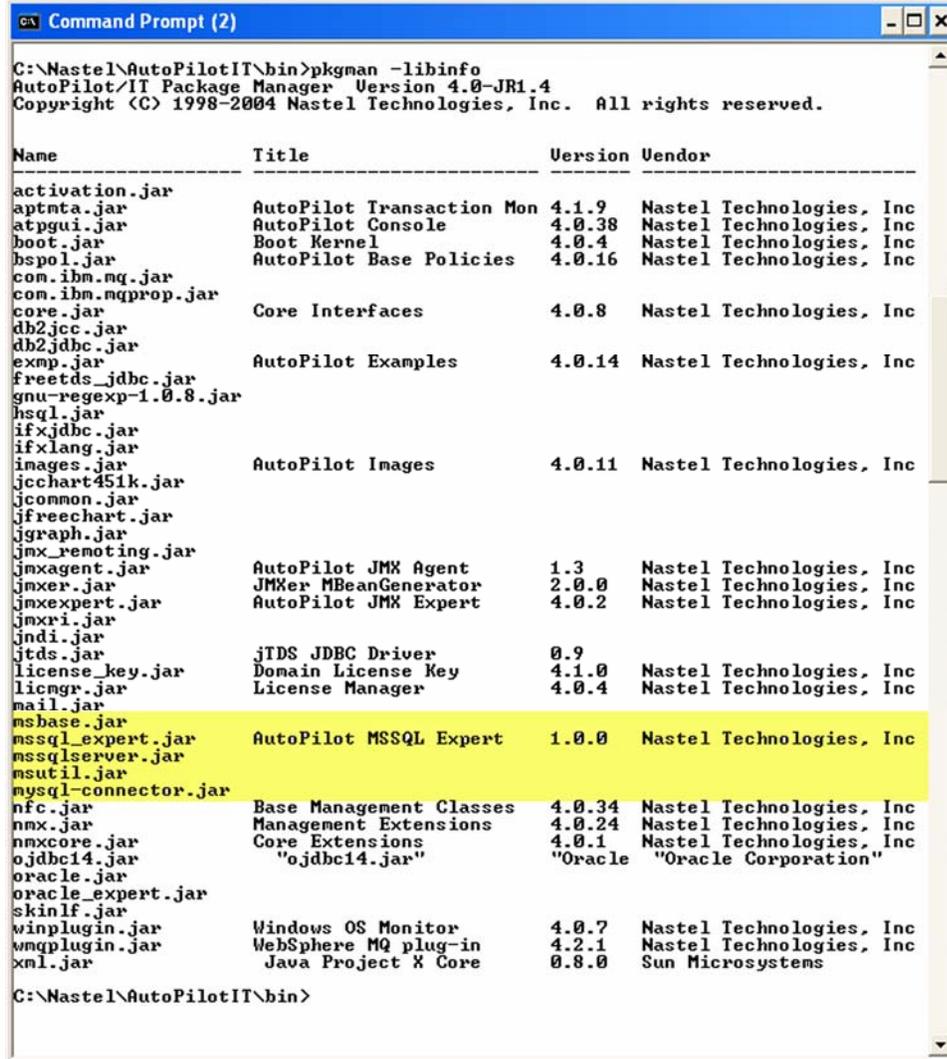
```

Figure 3-1. MSSQL Server Plug-in Installation



NOTE: Make sure there are no errors posted at the bottom of the screen.

- Verify plug-in installation by running: `[AUTOPILOT_HOME]\bin\pkgman -libinfo`. The details of the library are listed. Verify that the `msbase.jar`, `msutil.jar`, `msgserver.jar`, `mysql-connector.jar` and `mssql_expert.jar` files have been created in the `lib` directory.



```

C:\Nastel\AutoPilotIT\bin>pkgman -libinfo
AutoPilot/IT Package Manager Version 4.0-JR1.4
Copyright (C) 1998-2004 Nastel Technologies, Inc. All rights reserved.

Name          Title          Version  Vendor
-----
activation.jar
aptnta.jar    AutoPilot Transaction Mon 4.1.9   Nastel Technologies, Inc
atpgui.jar    AutoPilot Console         4.0.38  Nastel Technologies, Inc
boot.jar      Boot Kernel                4.0.4   Nastel Technologies, Inc
bspol.jar     AutoPilot Base Policies   4.0.16  Nastel Technologies, Inc
con.ibm.nq.jar
con.ibm.nqprop.jar
core.jar      Core Interfaces            4.0.8   Nastel Technologies, Inc
db2jcc.jar    db2jcc                    4.0.14  Nastel Technologies, Inc
db2jdbc.jar   AutoPilot Examples        4.0.14  Nastel Technologies, Inc
expm.jar
freetds_jdbc.jar
gnu-regexp-1.0.8.jar
hsqldb.jar
ifxjdbc.jar
ifxlang.jar
images.jar    AutoPilot Images          4.0.11  Nastel Technologies, Inc
jchart451k.jar
jcommon.jar
jfreechart.jar
jgraph.jar
jmx_remoting.jar
jmxagent.jar  AutoPilot JMX Agent       1.3     Nastel Technologies, Inc
jmxer.jar     JMXer MBeanGenerator      2.0.0   Nastel Technologies, Inc
jmxexpert.jar AutoPilot JMX Expert       4.0.2   Nastel Technologies, Inc
jmxri.jar
jndi.jar
jtds.jar      jTDS JDBC Driver          0.9     Nastel Technologies, Inc
license_key.jar Domain License Key         4.1.0   Nastel Technologies, Inc
licmgr.jar    License Manager            4.0.4   Nastel Technologies, Inc
mail.jar
msbase.jar
mssql_expert.jar AutoPilot MSSQL Expert    1.0.0   Nastel Technologies, Inc
msgserver.jar
msutil.jar
mysql-connector.jar
nfc.jar       Base Management Classes   4.0.34  Nastel Technologies, Inc
nmx.jar       Management Extensions     4.0.24  Nastel Technologies, Inc
nmxc core.jar Core Extensions            4.0.1   Nastel Technologies, Inc
ojdbc14.jar   "ojdbc14.jar"             "Oracle "Oracle Corporation"
oracle.jar
oracle_expert.jar
skinlf.jar
winplugin.jar Windows OS Monitor         4.0.7   Nastel Technologies, Inc
wmpplugin.jar WebSphere MQ plug-in      4.2.1   Nastel Technologies, Inc
xml.jar       Java Project X Core        0.8.0   Sun Microsystems

C:\Nastel\AutoPilotIT\bin>

```

Figure 3-2. Detail of Installed Library List

- Restart AutoPilot services stopped in step 2.

Chapter 4: Using AutoPilot/MSSQL Server

4.1 Deploying MSSQL Experts

1. Open your AutoPilot Console
2. Right-click on the managed node that has AutoPilot/MSSQL Server expert is installed.
3. Click **Deploy Expert>DBMS>MSSQL Expert**. The expert displayed in the figure (menu) below is described in detail in Chapter 5.

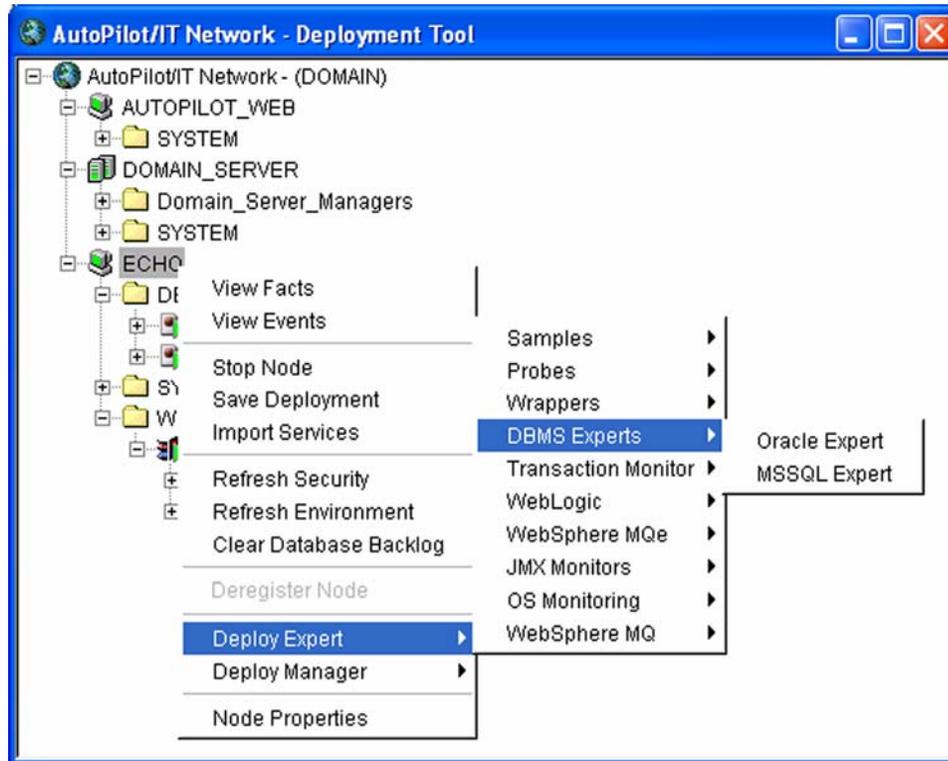


Figure 4-1. Deploy MSSQL Expert

4. It is recommended that you update the description, context and name to define your expert. At a minimum apply a definitive name to your agent.

4-1. MSSQL Expert Properties: General	
Property	Description
Brief Description:	A short, user defined description of the service. The default is the subject expert name.
Context:	A user define category that will be registered with the domain server. The default is:
Database Server:	Address of MSSQL Database server to be monitored.
Database Service Port:	Database Service Port.
Database User Name:	MSSQL Database User Name.
Database user Password	User password.
Name:	Name that uniquely identifies the service in the domain. The default name system assigned with the word service and twelve random digits (Example: Service_123456789012). You can change the name to anything that suites your needs.
MSSQL Database SID:	Instance name
Retry Connect Rate(sec):	Connection retry rate in seconds.
Sampling rate (sec):	Time interval in seconds for sampling transactions message data and reporting to facts board. Default value is 60 seconds (1 minute).

The screenshot shows a Windows-style dialog box titled "Create MSSQL Expert". It has a tabbed interface with "General" selected. The fields are as follows:

- Brief description: MSSQL Expert
- Context: DBMS Experts
- Database server: (empty)
- Database service port: 1521
- Database user name: (empty)
- Database user password: (masked with asterisks)
- Name: Service_1102706818203
- MSSQL Database SID: (empty)
- Retry Connect Rate (sec): 60
- Sampling Rate (sec): 60

Buttons at the bottom: Deploy, Deploy On..., Help, Close.

Figure 4-2. MSSQL Expert: General

5. Click the *About* tab, if required. Identify and format dependencies as defined in the table.

4-2. MSSQL Expert: About	
Property	Description
Package Title	Implementation title of the source package
Package vendor:	Name of the implementation vendor.
Package version:	Vendor assigned package version

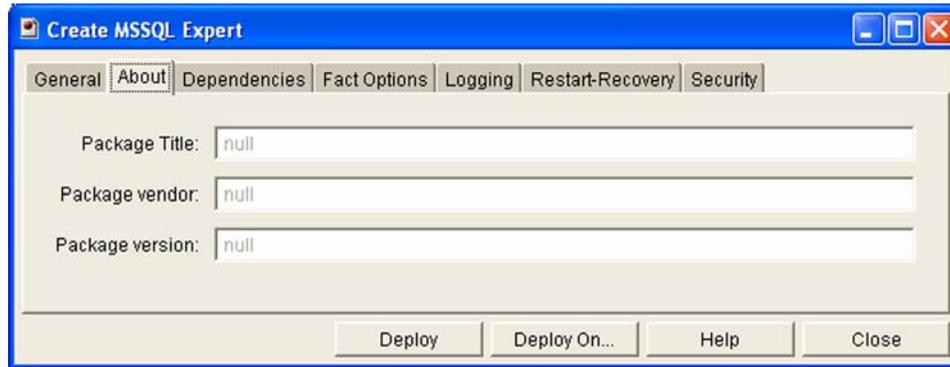


Figure 4-3. MSSQL Expert: About

6. Click the *Dependencies* tab, if required. Identify and format dependencies as defined in the table. These parameters are common to all experts.

4-3. Common Properties: Dependencies	
Property	Description
Platform Dependencies:	Dependencies on OS platforms, comma separated list.
Service Dependencies:	Dependencies on other services, comma separated list.

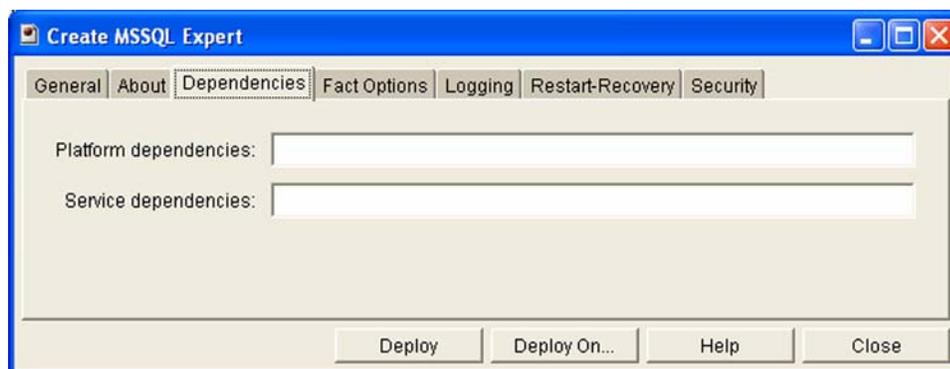


Figure 4-4. Common Properties: Dependencies

7. Click the *Fact Options* tab, if required. Identify and format dependencies as defined in the table. These parameters are common to all experts.

4-4. Common Properties: Fact Options	
Property	Description
Expire facts (ms):	Automatically expires facts that have not been updated within a specific time (ms)
Fact History Size:	Automatically maintain the specified number of samples for each published fact in memory

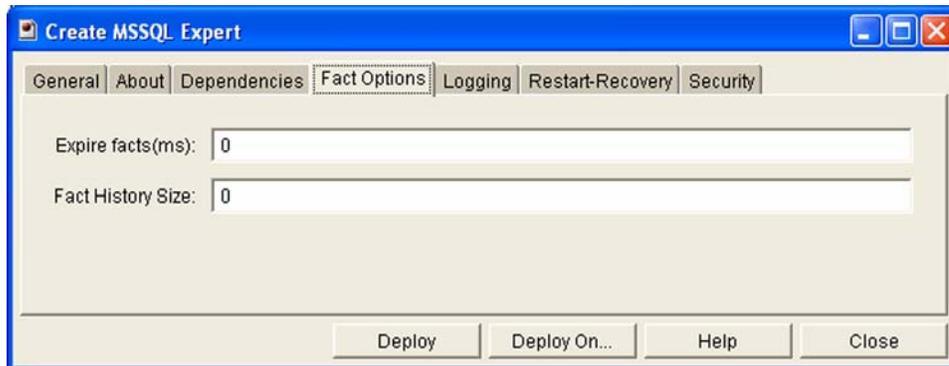


Figure 4-5. Common Properties: Fact Options

8. Click the *Logging* tab, if required. Identify, and format logging requirements as defined in the table. These parameters are common to all experts.

4-5. Common Properties: Logging	
Property	Description
Audit:	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> service audit trace.
Log Name:	Log name associated with the service.
Log Service Activity:	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> service activity trace.
Log Size (bytes):	Enter log file size if the activity is enabled. Default value: 200000.

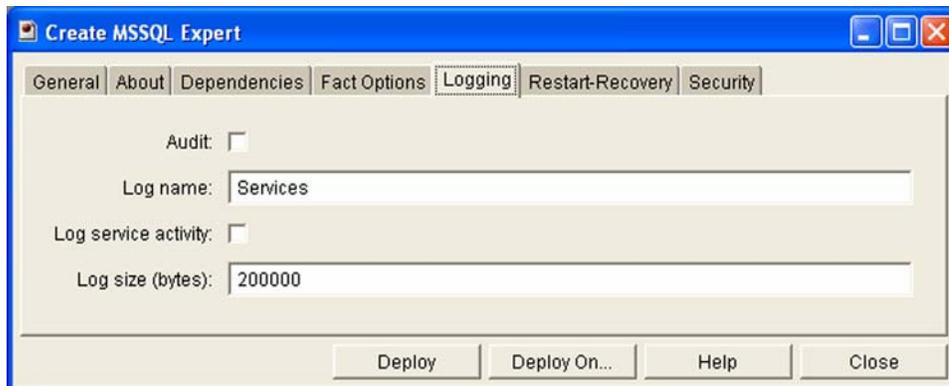


Figure 4-6. Common Properties: Logging

9. Click the *Restart-Recovery* tab, if required. Identify and enable requirements as defined in the table. These parameters are common to all experts.

4-6. Common Properties: Restart-Recovery	
Property	Description
Automatic Start:	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> automatic start.
Save in registry:	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> saving persistent services in registry.
Synchronous Control:	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> synchronous service initiation.

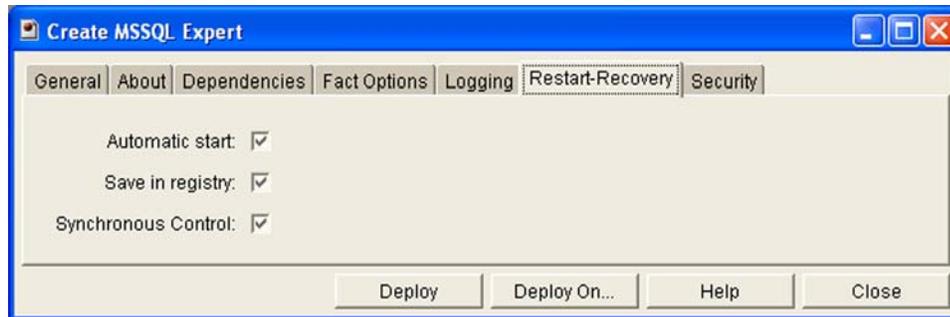


Figure 4-7. Common Properties: Restart-Recovery

10. Click the *Security* tab. Enter or enable requirements as defined in the table below. These parameters are common to all experts.

4-7. Common Properties: Security		
Property	Description	
Inherit Permission from Owner	Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> inheriting of permission from owners permission masks.	
Owner	User that owns the object.	
Permissions:	Permissions for users of the same group and others. Enable/disable <input checked="" type="checkbox"/> / <input type="checkbox"/> as required.	
	Group:	Others Users:
Read	Group members may read/view attributes of an object.	Others may read/view attributes of an object.
Change	Group members may change the attributes of an object.	Others may change the attributes of an object.
Delete	Group members may delete the object.	Others may delete the object.
Control	Group members may execute control actions such as start, stop, and disable.	Others may execute control actions such as start, stop, and disable.
Execute	Group members may execute operational commands on the object.	Others may execute operational commands on the object.

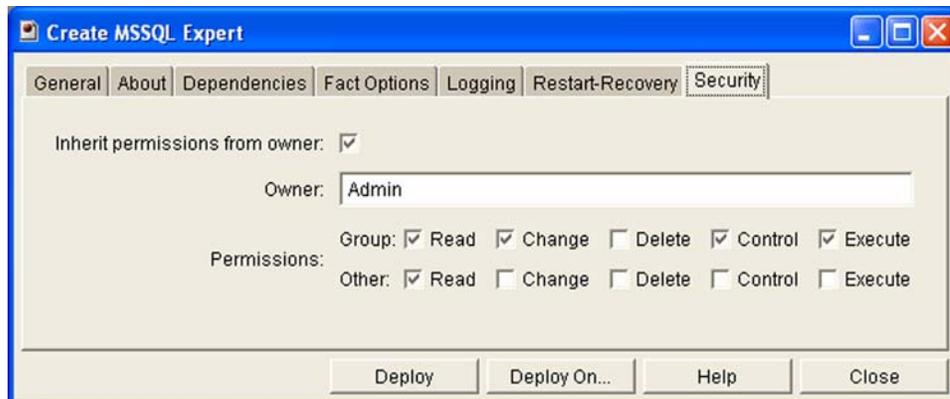


Figure 4-8. Security

11. Click the **Deploy** button. The expert will be deployed. The verification screen will confirm the expert name and node where your expert was deployed.



Figure 4-9. MSSQL Expert Deployed

- or Click **Deploy On** to deploy on multiple nodes within the AutoPilot domain. Select the name to be used, and select the node to receive the expert. Note, if you applied a name to your expert in step 4, a unique name is needed for each deployment location when deploying across multiple experts. The default is “name@node name”. The figure below depicts multiple deployments with an exception. The deployed experts show a green check, the exception shows a red X and an explanation in the dialog window.

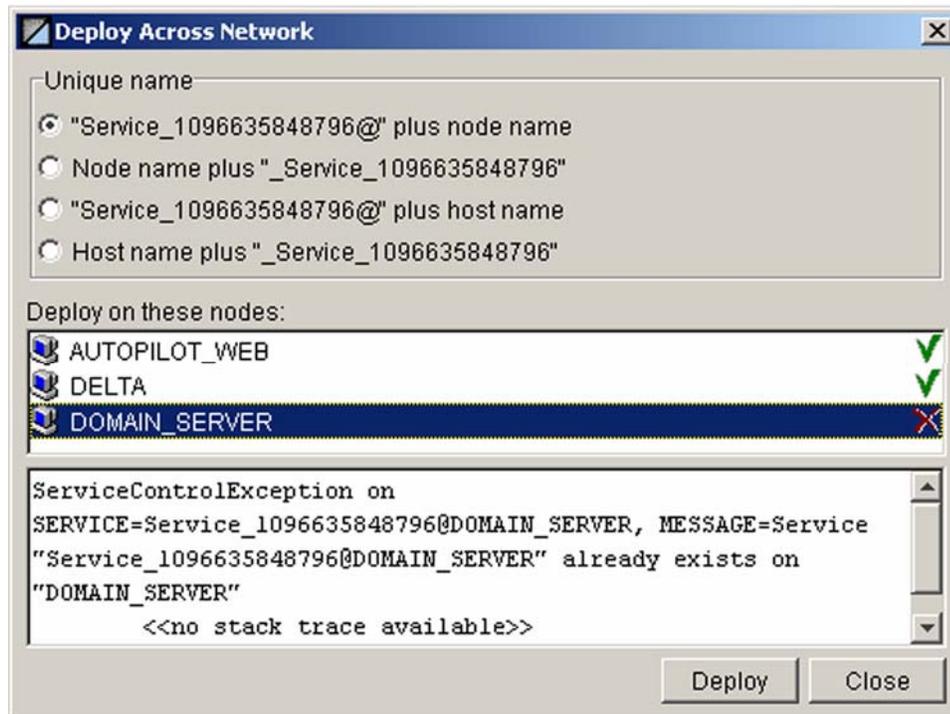


Figure 4-4. Multiple Expert Deployments

10. The deployed expert (s) will be displayed under the node they were deployed, as in the sample below. The facts produced by each expert are defined in: [Chapter 5: AutoPilot/MSSQL Server Metrics](#).

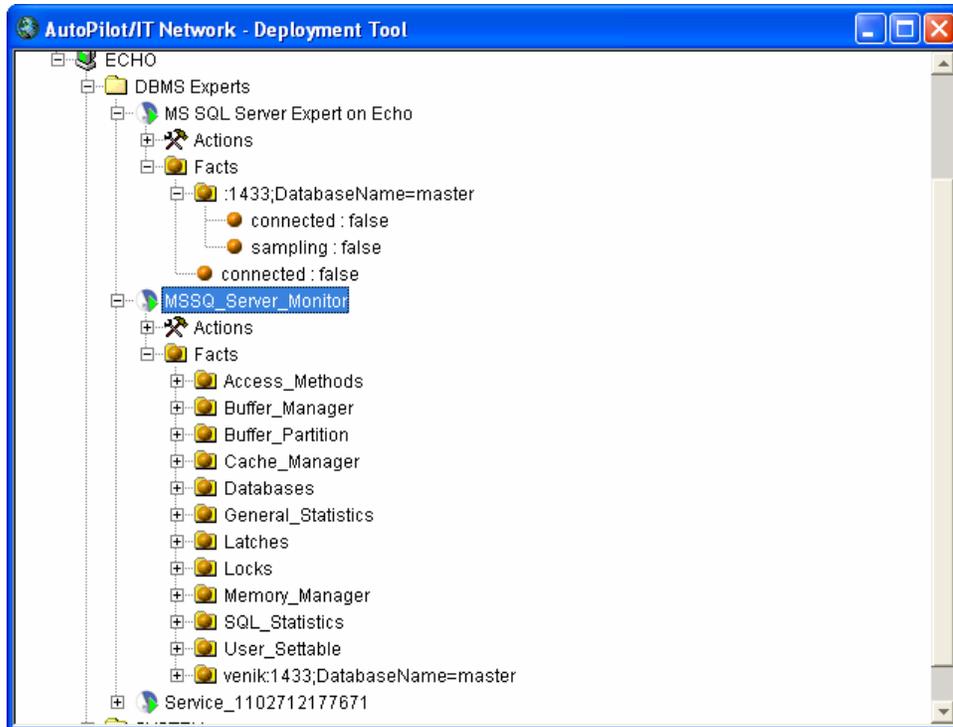


Figure 4-5. Deployed MSSQL Server Experts

Chapter 5: AutoPilot/MSSQL Metrics

This section describes the transaction analyzer metrics collected by the AutoPilot/Transaction Analyzer Plug-in expert. The TA publishes facts into the following categories:

5.1 MSSQL Server Expert Metrics

The MSSQL Server facts are published in a hierarchical organized format as:

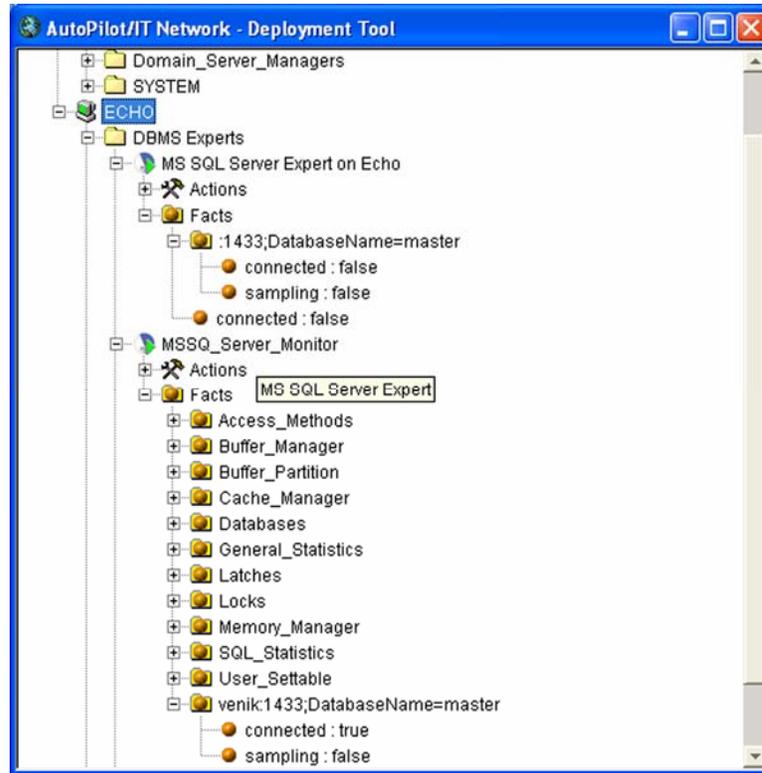


Figure 5-1. MSSQL Server Expert

5-1. MSSQL Server Expert Metrics	
Name	Description
Access Methods	See Table 5-2
Buffer Manager	See Table 5-3.
Buffer Partition	See Table 5-4
Cache Manager	See Table 5-5
Databases	See Table 5-6
General Statistics	See Table 5-7
Latches	See Table 5-8
Locks	See Table 5-9
Memory Manager	See Table 5-10
SQL_Statistics	See Table 5-11
User_Settable	See Table 5-12

5-2. MSSQL Server Metrics: MSSQL Access Methods

Name	Description	Possible Values
Extent Deallocations/sec	Number of extents deallocated from database objects.	0 (zero) or positive decimal number
Extents Allocated/sec	Number of extents allocated to database objects for storing index or data records.	
Forwarded Records/sec	Number of records fetched through forwarded record pointers.	
FreeSpace Page Fetches/sec	Number of pages returned by free space scans to satisfy requests to insert record fragments.	
FreeSpace Scans/sec	Number of scans initiated to search for free space to insert a new record fragment.	
Full Scans/sec	Number of unrestricted full scans. These can either be base table or full index scans.	
Index Searches/sec	Number of index searches. Index searches are used to start range scans, single index record fetches, and to reposition within an index.	
Mixed page allocations/sec	Number of pages allocated from mixed extents. Used for storing the first eight pages allocated to an index or table.	
Page Deallocations/sec	Number of pages deallocated.	
Page Splits/sec	Number of page splits occurring as the result of index pages overflowing.	
Pages Allocated/sec	Number of pages allocated to database objects for storing index or data records.	
Probe Scans/sec	Number of probe scans. A probe scan is used to directly look up rows in an index or base table.	
Range Scans/sec	Number of qualified range scans through indexes.	
Scan Point Revalidations/sec	Number of times the scan point had to be revalidated to continue the scan.	
Skipped Ghosted Records/sec	Number of ghosted records skipped during scans.	
Table Lock Escalations/sec	The number of times locks on a table were escalated.	
Workfiles Created/sec	Number of workfiles created in the last second.	
Worktables Created/sec	Number of worktables created in the last second.	
Worktables From Cache Ratio	Percent of worktables created where the initial pages were available in the worktable cache.	

5-3. MSSQL Server Metrics: Buffer Manager

Name	Description	Possible Values
AWE lookup maps/sec	Number of AWE map calls made for pages found in the buffer pool.	0 (zero) or positive decimal number
AWE stolen maps/sec	Number of AWE map calls made for pages stolen from the buffer pool.	
AWE unmap calls/sec	Number of AWE unmap calls.	
AWE unmap pages/sec	Number of AWE pages unmapped.	
AWE write maps/sec	Number of AWE map calls made for pages to be written to disk.	
Buffer cache hit ratio	Percentage of pages that were found in the buffer pool without having to incur a read from disk.	
Checkpoint pages/sec	Number of pages flushed by checkpoint or other operations that require all dirty pages to be flushed.	
Database pages	Number of pages in the buffer pool with database content.	
Free list stalls/sec	Number of requests that had to wait for a free page.	
Free pages/sec	Total number of pages on all free lists.	
Lazy writes/sec	Number of buffers written by buffer manager's lazy writer.	
Page life expectancy	Number of seconds a page will stay in the buffer pool without references.	
Page lookups/sec	Number of requests to find a page in the buffer pool.	
Page reads/sec	Number of physical database page reads issued.	
Page writes/sec	Number of physical database page writes issued.	
Procedure cache pages	Number of pages used to store compiled queries.	
Readahead pages/sec	Number of pages read in anticipation of use.	
Reserved pages	Number of buffer pool reserved pages.	
Stolen pages	Number of pages used for miscellaneous server purposes (including procedure cache).	
Target pages	Ideal number of pages in the buffer pool.	
Total pages	Number of pages in the buffer pool (includes database, free, and stolen).	

5-4. MSSQL Server Metrics: Buffer Partition

Name	Description	Possible Values
Free list empty/sec	Number of times a free page was requested and none were available.	0 (zero) or positive decimal number
Free list requests/sec	Number of times a free page was requested.	
Free pages	Total number of pages on all free lists.	

5-5. MSSQL Server Metrics: Cache Manager

Name	Description	Possible Values
Each of the following caches produce the below listed metrics: _Total, Adhoc SQL Plans, Cursors, Execution Contexts, Misc. Normalized Trees, Prepared SQL Plans, Procedure Plans, Replication Procedure Plans, Trigger Plans		
Cache Hit Ratio	Ratio between cache hits and lookups	0 (zero) or positive decimal number
Cache Object Counts	Number of cache objects in the cache	
Cache Pages	Number of 8k pages used by cache objects	
Cache Use Counts/sec	Times each type of cache object has been used	

5-6. MSSQL Server Metrics: Databases

Name	Description	Possible Values
NOTE: Each DB separately		
Active Transactions	Number of active transactions for the database.	0 or positive integer number
Backup/Restore Throughput/sec	Read/write throughput for backup/restore of a database.	0 or positive decimal number
Bulk Copy Rows/sec	Number of rows bulk copied.	
Bulk Copy Throughput/sec	Kilobytes bulk copied.	
Data File(s) Size (KB)	The cumulative size of all the data files in the database.	0 or positive integer number
DBCC Logical Scan Bytes/sec	Logical read scan rate for DBCC commands	0 or positive decimal number
Log Bytes Flushed/sec	Total number of log bytes flushed.	
Log Cache Hit Ratio	Percentage of log cache reads that were satisfied from the log cache.	
Log Cache Reads/sec	Reads performed through the log manager cache.	
Log File(s) Size (KB)	The cumulative size of all the log files in the database.	0 or positive integer number
Log File(s) Used Size (KB)	The cumulative used size of all the log files in the database.	
Log Flush Wait Time	Total wait time (milliseconds).	
Log Flush Waits/sec	Number of commits waiting on log flush.	0 or positive decimal number
Log Flushes/sec	Number of log flushes.	
Log Growths	Total number of log growths for this database.	0 or positive integer number
Log Shrinks	Total number of log shrinks for this database.	
Log Truncations	Total number of log truncations for this database.	
Percent Log Used	The percent of space in the log that is in use.	
Repl. Pending Xacts	Number of pending replication transactions in the database.	
Repl. Trans. Rate	Replication transaction rate (replicated transactions/sec.).	0 or positive decimal number
Shrink Data Movement Bytes/sec	The rate data is being moved by Autoshrink, DBCC SHRINKDATABASE, or SHRINKFILE.	
Transactions/sec	Number of transactions started for the database.	

5-7. MSSQL Server Metrics: General Statistics

Name	Description	Possible Values
Logins/sec	Total number of logins started per second.	0 or positive decimal number
Logouts/sec	Total number of logouts started per second.	
User Connections	Number of users connected to the system.	0 or positive integer number

5-8. MSSQL Server Metrics: Latches

Name	Description	Possible Values
Average Latch Wait Time (ms)	Average latch wait time (milliseconds) for latch requests that had to wait.	0 or positive decimal number
Latch Waits/sec	Number of latch requests that could not be granted immediately and had to wait before being granted.	
Total Latch Wait Time (ms)	Total latch wait time (milliseconds) for latch requests that had to wait in the last second.	

5-9. MSSQL Server Metrics: Locks

Name	Description	Possible Values
NOTE: _Total, Database, Extent, Key, Page, RID, Table		
Average Wait Time (ms)	The average amount of wait time (milliseconds) for each lock request that resulted in a wait.	0 or positive decimal number
Lock Requests/sec	Number of new locks and lock conversions requested from the lock manager.	
Lock Timeouts/sec	Number of lock requests that timed out. This includes internal requests for NOWAIT locks.	
Lock Wait Time (ms)	Total wait time (milliseconds) for locks in the last second.	
Lock Waits/sec	Number of lock requests that could not be satisfied immediately and required the caller to wait before being granted the lock.	
Number of Deadlocks/sec	Number of lock requests that resulted in a deadlock.	

5-10. MSSQL Server Metrics: Memory Manager

Name	Description	Possible Values
Connection Memory (KB)	Total amount of dynamic memory the server is using for maintaining connections	0 or positive integer number
Granted Workspace Memory (KB)	Total amount of memory granted to executing processes. This memory is used for hash, sort and create index operations.	
Lock Blocks	The current number of lock blocks that are in use on the server. Refreshed periodically.	
Lock Blocks Allocated	The current number of allocated lock blocks.	
Lock Memory (KB)	Total amount of dynamic memory the server is using for locks	
Lock Owner Blocks	The number of lock owner blocks that are currently in use on the server. Refreshed periodically.	
Lock Owner Blocks Allocated	The current number of allocated lock owner blocks.	
Maximum Workspace Memory (KB)	Total amount of memory granted to executing processes. This memory is used primarily for hash, sort, and create index operations.	
Memory Grants Outstanding	Current number of processes that have successfully acquired a workspace memory grant	
Memory Grants Pending	Current number of processes waiting for a workspace memory grant	
Optimizer Memory (KB)	Total amount of dynamic memory the server is using for query optimization	
SQL Cache Memory (KB)	Total amount of dynamic memory the server is using for the dynamic MSSQL cache	
Target Server Memory (KB)	Total amount of dynamic memory the server is willing to consume	
Total Server Memory (KB)	Total amount of dynamic memory the server is currently consuming	

5-11. MSSQL Server Metrics: MSSQL Statistics		
Name	Description	Possible Values
Auto-Param Attempts/sec	Number of auto-parameterization attempts.	0 or positive decimal number
Batch Requests/sec	Number of MSSQL batch requests received by server.	
Failed Auto-Params/sec	Number of failed auto-parameterizations.	
Safe Auto-Params/sec	Number of safe auto-parameterizations.	
SQL Compilations/sec	Number of MSSQL compilations.	
SQL Re-Compilations/sec	Number of MSSQL re-compiles.	
Unsafe Auto-Params/sec	Number of unsafe auto-parameterizations.	

5-12. MSSQL Server Metrics: MSSQL Statistics		
Name	Description	Possible Values
NOTE: User counter [1 through 10]		
Query	As defined by the user.	0 or positive decimal number

Appendix A: References

A.1 Nastel Documentation

AP/IT-INS 400.001 AutoPilot/IT Installation Guide

AP/USR 400.002 AutoPilot/IT User's Guide

WMQ/AP 420.001 WebSphere MQ Plug-in for AutoPilot

AP/WMQ 410.003 AutoPilot/WebSphere MQ Installation Guide

AP/OS 400.001 AutoPilot Operating System Monitor Plug-in Guide

AP/WS 400.001 AutoPilot/WebSphere Application Server (J2EE) Plug-in Guide

AP/JMX 400.001 AutoPilot/JMX Plug-in Guide

AP/OSM 400.001 AutoPilot/OS Monitor Plug-in Guide

AP/TEMS 100.001 AutoPilot/TIBCO EMS Plug-in Guide

AP/TM 100.001 AutoPilot/Transaction Monitor

AP/TP 100.001, Transaction Probe for WebSphere MQ Plug-in Guide

AP/OR 100.001 AutoPilot/Oracle Plug-in

A.2 Other Documentation

Microsoft SQL Server 7 documentation is available at the documentation web site listed below:

<http://www.microsoft.com/sql/evaluation/70/default.asp>

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Appendix B: Conventions

B.1 Typographical Conventions

B-1. Typographical Conventions	
Convention	Description
Blue/Underlined	Used to identify links to referenced material or websites. Example: support@nastel.com
Bold Print	Used to identify topical headings, glossary entries, and to identify toggle or buttons used in procedural steps. Example: Click EXIT .
<i>Italic Print</i>	Used to identify on a title, menu, screen name, user inputs, or other categories.
monospaced bold	Used identify keystrokes/data entries, file names, directory name etc.
<i>Monospaced italic</i>	Used to identify variables in an address location. Example: [C: \AutoPilot_Home] \documents, where the portion of the address within the brackets[] are variable.
monospaced text	Used to identify addresses, commands, script etc.
Normal Text	Typically used for general text throughout the document.
Table Text	Table text is generally a smaller size to conserve space. 10, 9, and 8 point type is used in tables through the AutoPilot product family documents

B.2 Naming Conventions

Naming conventions have been adjusted to accommodate IBM's re-naming of MQSeries products to WebSphere MQ.

Nastel has adapted AutoPilot products to reflect IBM's product naming changes. In the redesign of AutoPilot, we have also better defined many elements within the AutoPilot product line.

B-2. AutoPilot Related Naming Conventions	
Old Name	New Name
AutoPilot/MQSI	AutoPilot/WBI
MQSeries Plug-in for AutoPilot	WebSphere MQ Plug-in for AutoPilot
MQControl	AutoPilot for WebSphere MQ (AP/WMQ or AutoPilot/WMQ)
MQSeries	WebSphere MQ (IBM)

Nastel Glossary

access control lists (ACL): Restrict user and program access to WebSphere MQ objects. The Access Control Lists are maintained by the WebSphere MQ Object Authority Manager (OAM).

see also Object Authority Manager

ACL: *see* Access Control Lists

agent: Also called an intelligent agent, it is a program that gathers information or performs some other service without an administrator's immediate presence and on some regular schedule. In AutoPilot/WMQ, the workgroup agent and the APWMQ agent are intelligent agents.

API: Application Programming Interface. *See* AutoPilot/WMQ API

audit statements: Lines in the permits.ini file that enable the trace of granting and denying of permissions to execute commands, with respect to user name and object type.

authentication: An AutoPilot/WMQ security mechanism that ensures that only commands that originate in Nastel software are accepted by the workgroup agent and APWMQ agent. Authentication is activated by specifying the "+a" parameter in the workgroup agent and APWMQ agent's startup parameters. *See also* permits.ini.

authorization: An AutoPilot security mechanism that ensures that commands received by the workgroup agent and APWMQ agent have been submitted by authorized external users. Authorization is activated by specifying the "+u" parameter in the Group and APWMQ agents' startup parameters. *See also* permits.ini.

APWMQ agent: An intelligent agent that runs on a WebSphere node and executes management commands on the queue managers within the local node.

AutoPilot/IT: Nastel Technologies' Enterprise Application Management Platform. AutoPilot/IT monitors and automates the management of eBusiness integration components such as middleware application, application servers, and user applications.

AutoPilot/WMQ: Nastel Technologies' WebSphere MQ management solution. Formerly known as MQControl, re-branded as AutoPilot/WMQ with release 4.0, prior releases retain the MQControl trademark

AutoPilot/WMQ API (Application Programming Interface): It enables users to form PCF messages and to communicate with remote PCF-compliant entities. It also provides TCP/IP functionality, as well as a direct access to WebSphere MQ services.

AutoPilot/WMQ Explorer: A Windows-based front-end of AutoPilot/WMQ that allows users to view, monitor and manage WebSphere objects such as queue managers, queues, channels and processes from a single location. It presents a hierarchical view of WebSphere network. It also enables users to manage AutoPilot/WMQ Groups and WebSphere MQ nodes.

AutoPilot/WMQ Management Database: A central repository for data about MQSeries objects, used essentially by the Workgroup agent. It contains:

- Object definitions (descriptions of MQSeries objects)
- Event history (information about system events)
- Change history (information about changes to MQSeries objects)

AutoPilot/Web: AutoPilot/Web is a browser-based interface that provides monitoring and operational control over managed resources and applications. It allows users:

AutoPilot/WebSphere (AP/WS): AutoPilot/WebSphere plug-into enables AutoPilot/IT to monitor and manage eBusiness applications for continuous operations in addition to its standard features.

AutoPilot/WebSphere Message Queue Integrator (AP/WMQI): Formerly AP/MQSI

B

BSV: *see* Business Views

business view (BSV): A collection of rules that define a desired state of an *e*Business environment. Business Views can be tailored to presents information in the form most suited to a given user, as defined by the user.

batch file (.bat): A text file that contains a sequence of commands for a computer operating system. It is usually created for command sequences for which a user has a repeated need. A batch file has the file name extension “.bat”.

boolean: In computer operation with binary values, Boolean logic can be used to describe electromagnetically charged memory locations or circuit states that are either charged (1 or true) or not charged (0 or false). The computer can use an AND gate or an OR gate operation to obtain a result that can be used for further processing.

C

CCM: *see* Change and Configuration Management

central processing unit (CPU): An older term for processor and microprocessor, the central unit in a computer containing the logic circuitry that performs the instructions of a computer's programs.

certificate revocation list (CRL): One of two common methods when using a public key infrastructure for maintaining access to servers in a network. It is a list of subscribers paired with a digital certificate status. The list enumerates revoked certificates along with the reason(s) for revocation. The dates of certificate issue, and the entities that issued them, are also included. In addition, each list contains a proposed date for the next release. When a potential user attempts to access a server, the server allows or denies access based on the CRL entry for that particular user.

change and configuration management (CCM): Requires that all changes to system components, such as operating system versions, patch applications, etc. are recorded and archived to ensure a coherent and efficient system administration.

ciphertext: The scrambled or otherwise encoded text of an encrypted message.

clients: Applications connected to the workgroup agent, such as AutoPilot/WMQ Explorer, Message Explorer, etc. (FROM IBM) A run-time component that provides access to queuing services on a server for local user applications. The queues used by the applications reside on the server. *See also MQSeries client.*

client explorer (AP/WMQ): A front-end component of Autopilot/WMQ that displays all programs connected to a particular Workgroup agent.

common object request broker architecture (CORBA): Common object request broker architecture (CORBA) object can be invoked from a Web browser using CGI scripts or applets.

console: The console acts as the graphical interface for AutoPilot.

contacts: A subordinate to a given Manager or Expert.

CORBA: *see* Common Object Request Broker Architecture.

CPU: *see* Central Processing Unit

CRL: *see* Certificate Revocation List

CSD: *see* Cumulative Service Distribution

CSP: *see* Cumulative Service Pack

cumulative service distribution (CSD): Un updated release of an IBM's software package.

cumulative service pack (CSP): Upgrade to an AutoPilot product that includes all patches provided since the previous product release or since the last CSP. In addition to cumulative patches, a CSP may contain new enhancements.

D

database: *See* AutoPilot/WMQ management database

data source name: A Data Source Name (DSN) is the logical name that is used by Open Database Connectivity (ODBC) to refer to the drive and other information that is required to access data. The name is used by Internet Information Services (IIS) for a connection to an ODBC data source, (Example: Microsoft SQL Server database). The ODBC tool in Control Panel is used to set the DSN. When ODBC DSN entries are used to store the connection string values externally, you simplify the information that is needed in the connection string. This makes changes to the data source completely transparent to the code itself.

dead-letter queue (IBM): A queue that a queue manager or application sends messages that it cannot deliver to the specified destination.

decision support system (DSS): An AutoPilot-based service designed to monitor, store, and display any event information generated by AutoPilot enabled middleware and applications.

dependent WebSphere MQ node: A WebSphere node that is not managed directly by AutoPilot/WMQ. Because dependent nodes do not run an AutoPilot/WMQ APWMQ agent, they must be managed by proxy.

deploy: To put to use, to position for use or action.

discovery policy: Allows the workgroup agent to auto-discover WebSphere nodes in order to be included in the workgroup agent's management group.

DLQ: *see* Dead Letter Queue

domain server: A specialized managed node that maintains the directory of managed nodes, experts etc. The domain server is also capable of hosting experts, managers etc

DSN: *see* Data Source Name

DSS: *see* Decision Support System

E

EVT: Event Log file extension (e.g.: *sample.evt*).

event: An *Event* is something that happens to an object. Events are logged by AutoPilot and are available for use by AutoPilot Policies or the user.

expert: Services that monitor specific applications such as an applications server, web-server or specific components within the applications (Example channels in MQSeries. Experts generate facts

effective user name mapping: An external user name is mapped to an internal user ID in order to simplify the management of external user ID's. *See also* permits.ini.

event policy: Specifies which type of events are collected by the Workgroup agent and displayed in AutoPilot/WMQ Explorer or MQControl Express.

extended Programmable Command Format (EPCF): Published by Nastel as a part of the AutoPilot/WMQ product, EPCF is a super set of PCF. It provides additional commands and events not supported by standard PCF.

F

fact: Facts are single pieces of data that has a unique name and value. One or more facts are used to determine the health of the object, application, or server

G

get (IBM): In message queuing, to use the MQGET call to remove a message from a queue.

graphic user interface (GUI): A type of environment that represents programs, files, and options by means of icons, menus, and dialog boxes on the screen. The user can select and activate these options by pointing and clicking with a mouse or, often, with the keyboard. Because the graphical user interface provides standard software routines to handle these elements and report the user's actions (such as a mouse click on a particular icon or at a particular location in text, or a key press); applications call these routines with specific parameters rather than attempting to reproduce them from scratch.

GUI: *see* Graphic User Interface.

H

HAQS: *see* High Availability Queuing Service

High Availability Queuing Service:

I

IETF: Internet Engineering Task Force

IIS: *See* internet information services

independent WebSphere MQ node: A WebSphere MQ node that runs an APWMQ agent and which is managed directly by an AutoPilot/WMQ workgroup agent. Independent nodes can be used as proxy nodes for managing dependent nodes. *See also* proxy management

interactive MQSC (WebSphere MQ Commands): Real-time, configuration, management and monitoring WebSphere MQ commands.

Internet Engineering Task Force (IETF): The body that defines standard Internet operating protocols such as TCP/IP. The IETF is supervised by the Internet Society Internet Architecture Board (IAB). IETF members are drawn from the Internet Society's individual and organization membership. Standards are expressed in the form of Requests for Comments (RFCs).

Internet Information Services: Microsoft's brand of Web server software, utilizing HTTP to deliver World Wide Web documents. It incorporates various functions for security, allows CGI programs, and also provides for Gopher and FTP services

Internet Protocol Security (IPsec): A developing standard for security at the network or packet processing layer of network communication. Earlier security approaches have inserted security at the application layer of the communications model. IPsec provides two choices of security service: Authentication Header (AH), which essentially allows authentication of the sender of data, and Encapsulating Security Payload (ESP), which supports both authentication of the sender and encryption of data as well. The specific information associated with each of these services is inserted into the packet in a header that follows the IP packet header.

IPsec: Internet Protocol Security

J

Java®: A platform-independent, object-oriented programming language developed and made available by Sun Microsystems

Java Developer's Kit (JDK): A set of software tools developed by Sun Microsystems, Inc., for writing Java applets or applications. The kit, which is distributed free, includes a Java compiler, interpreter, debugger, viewer for applets, and documentation.

JDBC: *See* Java Database Connectivity.

Java Database Connectivity (JDBC): The JDBC API provides universal data access from the Java programming language. Using the JDBC 2.0 API, you can access virtually any data source, from relational databases to spreadsheets and flat files. JDBC technology also provides a common base on which tools and alternate interfaces can be built. The *JDBC Test Tool* that was developed by Merant and Sun Microsystems may be used to test drivers, to demonstrate executing queries and getting results, and to teach programmers about the JDBC API.

Java Server Pages (JSP): JSP technology enables rapid development of web-based applications that are platform independent. Java Server Pages technology separates the user interface from content generation enabling designers to change the overall page layout without altering the underlying dynamic content. Java Server Pages technology is an extension of the [Java™ Servlet technology](#).

Java Virtual Machine (JVM): The “virtual” operating system that JAVA-written programs run. The JVM is a hardware- and operating system-independent abstract computing machine and execution environment. Java programs execute in the JVM where they are protected from malicious programs and have a small compiled footprint.

JDK: *See* Java Developer's Kit.

JRE: JAVA Run-time Environment. The minimum core JAVA required to run JAVA Programs

JSP: *See* Java Server Pages

JVM: *see* JAVA Virtual Machine.

K**L**

LDAP: *see* Lightweight Directory Access Protocol

license (AutoPilot/WMQ): A binary file, one per workgroup agent, that contains identification and license entitlement information for an AutoPilot/WMQ installation. The license file name consists of the workgroup agent's name plus the file extension .lic.

Lightweight Directory Access Protocol (LDAP): A software protocol for enabling anyone to locate organizations, individuals, and other resources such as files and devices in a network, whether on the public Internet or on a corporate intranet. LDAP is a "lightweight" (smaller amount of code) version of Directory Access Protocol (DAP), which is part of X.500, a standard for directory services in a network.

listener (IBM): In WebSphere MQ distributed queuing, a program that monitors for incoming network connections.

M

MAC: *see* Message Authentication Code

manage a node: A node is being managed when it is registered in a workgroup agent's management group and available for commands. *See also* unmanage a node

Manager: Managers are the home or container for policies. All business views must reside on managers, and manager must be deployed prior to deploying a business view or policy.

Managed Node: A container that can host any number of AutoPilot/IT services such as experts, managers, policies etc.,. Unlike managed nodes, it is a physical process.

Message Explorer (Autopilot/WMQ): An Autopilot/WMQ front-end that runs on supported Windows platforms and that is designed for the management of WebSphere MQ messages. From a single location, the user can perform various message-related operations, such as view, copy, move, reroute, delete, find, or edit a message.

Message Queue Interface: The Message Queue Interface (MQI) is part of IBM's Networking Blueprint. It is a method of program-to-program communication suitable for connecting independent and potentially non-concurrent distributed applications.

Management Information Base (MIB): A formal description of a set of network objects that can be managed using the Simple Network Management Protocol (SNMP). The format of the MIB is defined as part of the SNMP.

Microsoft SQL Server: MS SQL Server is a client/server database management system. A client/ server database management system consists of two components: a front-end component (the client), which is used to present and manipulate data; and a backend component (the database server), which is used to store, retrieve, and protect the databases. *see also* SQL

MOM: *see* Message-Oriented Middleware.

MQControl: Nastel Technologies' MQSeries management product. Re-designated as AutoPilot/MQ with release 4.0, prior releases retain the MQControl trademark

MQI: *see* Message Queue Interface

MQSeries: IBM's message queuing product. Renamed by IBM as WebSphere MQ

Message Queue Interface (MQI): The programming interface provided by the WebSphere MQ queue managers. This programming interface allows application programs to access message queuing services.

MIB: Management Information Base

MMF (Message Management Facilities) Server: The back-end component of AutoPilot/WMQ Message Explorer.

MQConsole (AutoPilot/WMQ): A visual, Windows-based tool for entering and executing MQSeries commands and for viewing MQSeries events.

AutoPilot/WMQ explorer: *see* AutoPilot/WMQ Explorer

MQControl Express: A lightweight version of combined AutoPilot/WMQ Explorer and AutoPilot/WMQ Message Explorer.

MQ event publisher (AutoPilot/WMQ): Replicates WebSphere MQ system events and publishes them to subscribed applications and management platforms.

mqgroup.ini: An AutoPilot/WMQ configuration file that contains a list of all groups (workgroup agents) defined on the network.

MQI: *see* message queue interface

mqproxy.ini: An AutoPilot/WMQ configuration file that contains a list of all WebSphere queue managers that are managed by proxy. By default, it is supplied as mqproxy.sam which needs to be edited and renamed to mqproxy.ini.

MQSeries: A family of IBM licensed programs that provide message queuing services. MQSeries was re-branded as WebSphere MQ.

N

Naming Service: A common server records “names” of objects and associates them with references, locations and properties

NetView: A Tivoli product that provides TCP/IP management functions on mainframe platforms. *See also* Tivoli

nsqfix (AutoPilot/WMQ): A utility used to repair a damaged AutoPilot/WMQ management database. *See also* AutoPilot/WMQ management base

nsqmake utility (AutoPilot/WMQ): Creates a new group management database used by the AutoPilot/WMQ workgroup agent.

nsqmqsc utility (AutoPilot/WMQ): Used to submit MQSC (MQSeries Commands) scripts in batches. *See also* MQSeries Commands; batch file

nsqrc.ini (Autopilot/WMQ): A configuration file that contains MQSeries return codes and their explanations.

nsqregst (AutoPilot/WMQ): Node registration utility.

nsqsev.ini (AutoPilot/WMQ): A configuration file that contains reason codes and severity levels.

O

OAM: *see* object authority manager

object authority manager (OAM):

In WebSphere MQ on UNIX systems and WebSphere for Windows, the default authorization service for command and object management. The OAM can be replaced by, or run in combination with, a customer-supplied security service.

Object Identifier: Provides a unique identification of each WebSphere MQ object.

OID”: Object Identifier

ORB: Object Request Broker.

Orbix: CORBA product distributed by IONA Technologies.

P

package manager: The command line utility that allows users to list, install, uninstall, verify and update AutoPilot installation on any managed node

PCF (programmable command format): A type of MQSeries message used by:

- User administration applications, to put PCF commands onto the system command input queue of a specified queue manager
- User administration applications, to get the results of a PCF command from a specified queue manager
- A queue manager, as a notification that an event has occurred

See also extended PCF

PCF command server for MVS/ESA: Nastel’s equivalent of the WebSphere MQ command server for MVS/ESA platforms. It requires the WebSphere MQ command server to run and supports only MQSC commands.

permits.ini:

A simple text file that contains the workgroup agent's and the APWMQ agent's security settings used when processing commands.

PK: public key

PKGMAN: *see* package manager

policy/business views: Business views are a collection of one or more sensors. Business views are used to visually present the health and status of the different systems as well as automatically issue remedial actions.

Probe: *See* transaction probe

program temporary fix (PTF): In IBM, a program temporary fix (PTF) is a temporary solution to a bug in an IBM software product that is made available for customers to install.

proxy management: The indirect management of WebSphere objects by an intermediate entity. For example, a proxy queue manager might be used to handle another queue manager.

PSM: *see* programmable system management (IBM)

PTF: program temporary fix

public key: In cryptography, a public key is a value provided by some designated authority as an encryption key that, combined with a private key derived from the public key, can be used to effectively encrypt messages and digital signatures. The use of combined public and private keys is known as asymmetric cryptography. A system for using public keys is called a public key infrastructure (PKI).

put: Write a small unit of data, typically to a file, such as a single character.

Q

queue: A WebSphere MQ object. Message queuing applications can put messages on, and get messages from, a queue. A queue is owned and maintained by a queue manager. Local queues can contain a list of messages waiting to be processed. Queues of other types cannot contain messages, they point to other queues, or can be used as models for dynamic queues.

queue manager: (1) A system program that provides queuing services to applications. It provides an application-programming interface so that programs can access messages on the queues that the queue manager owns. *See also local queue manager and remote queue manager.* (2) A WebSphere object that defines the attributes of a particular queue manager.

R

RSA: An Internet encryption and authentication system that uses an algorithm developed in 1977 by Ron Rivest, Adi Shamir, and Leonard Adleman. The RSA algorithm is the most commonly used encryption and authentication algorithm and is included as part of the Web browsers from Microsoft and Netscape.

S

SCM: *see* Software Configuration Management

SDK: *see* software development kit

sensor: A rule that is used to determine the health of an object or application based on one or more facts. Actions can then be issued, based on the health.

service level agreement (SLA): A contract between a network service provider and a customer that specifies, usually in measurable terms, what services the network service provider will furnish.

services (AutoPilot/WMQ): During the installation of WebSphere on supported Windows platforms, some components can be optionally installed as Windows services. These include workgroup agents, APWMQ agents, message server, event watcher, MQ event publisher, SNMP master agent, and AutoPilot/WMQ SNMP subagent.

Simple Network Management Protocol (SNMP): SNMP is the protocol governing network management and the monitoring of network devices and their functions. It is not necessarily limited to TCP/IP networks.

SLA: *see* service level agreement

snapshot: Stored configuration information of a queue manager for eventual recovery purposes. A snapshot is generated by using the nsqmqsc utility and is subsequently stored in the workgroup agent's database.

SNMP: *see* Simple Network Management Protocol

SNMP master agent: Allows for SNMP implementation on a specific platform. In the AutoPilot/WMQ hierarchy, a master agent acts as a bridge between an SNMP management platform and an SNMP subagent.

SNMP subagent:

Distributed with AutoPilot/WMQ (for Windows and HP_UX platforms) to allow for integration with any SNMP-based management platform. One SNMP subagent is required per workgroup agent. It resides on a node where AutoPilot/WMQ is installed and, for faster communication, can be installed directly on a workgroup agents node.

snmpdm.exe: native HP OpenView master agent.

socket: An identifier for a particular service on a particular node on a network. The socket consists of a node address and a port number, which identifies the service. (There are eight more definitions, but all a physical connections i.e.: plug/receptacle)

Software Development Kit (SDK): A set of programs used by a computer programmer to write application programs. Typically, an SDK includes a visual screen builder, an editor, a compiler, a linker, and sometimes other facilities. The term is used by Microsoft, Sun Microsystems, and a number of other companies.

Sensor: A rule that is used to determine the health of an object or application based on one or more facts. Actions can then be issued, based on the health.

Simple Mail Transfer Protocol (SMTP): A TCP/IP protocol for sending messages from one computer to another on a network. This protocol is used on the Internet to route e-mail. *See also* communications protocol, TCP/IP. *Compare* CCITT X series, Post Office Protocol.

SMTP: *see* Simple Mail Transfer Protocol.

SQL: *see* Structured Query Language.

Structured Queue Language (SQL): SQL (Structured Query Language) is a computer language that is used to extract data in a relational database. SQL is relatively easy to work with and is commonly used in hundreds of software products including Oracle, MS Access, FoxPro, Dbase, etc. SQL is what is known as a “Declarative” language in that when using it, you specify the end result that you would like rather than the how to get the end result such as you do with “Procedural” languages such as Java and C++.

T

TCP/IP: *see* Transmission Control Protocol/Internet Protocol.

Tivoli: Tivoli Systems is an IBM-owned company that develops software that allows a business to manage its computing environment.

Transaction Analyzer: The Transaction Analyzer is an AutoPilot expert that collects the transaction message data (published by transaction probes), analyzes it in real-time, and publishes metric facts to the AutoPilot facts board as summary statistics. The facts collected can then be recorded in a database for report generation, and/or used to build business views that address your specific needs.

Transaction Monitor (TM): The AutoPilot/Transaction Monitor (TM) detects, gathers, and then analyzes transactions and message data in real time, on demand, and then summarizes the collective data into useful facts/metrics. The TM also logs data to a database, and provides reports (optional) for analyzing data and troubleshooting transaction problems. The transaction and message data is obtained from transaction probes specific to transaction process applications.

Transaction Probes (TP): Transaction Probes are application programs that are executed at user-defined places in a transaction processing application and collects transaction-related data. Transaction probes intercept the transaction message data and publish the data to the transaction analyzer. Probe applications can be written in C/C++, Java, Cobol, or shell scripts as long as you publish the data using AutoPilot’s apfact utility format.

Transmission Control Protocol/Internet Protocol (TCP/IP): A protocol developed by the Department of Defense for communications between computers. It is built into the UNIX system and has become the de facto standard for data transmission over networks, including the Internet.

trust statement: A mandatory line in the workgroup agent’s permits.ini file that verifies the permission for a user to connect to the workgroup agent.

U

UAT: *see* User Acceptance Testing

UDP: user datagram protocol used to send SNMP packets.

unmanage a node: To exclude (temporarily) an already registered node from a workgroup agent's management group. The unmanage command does not remove the node from the group. Rather, the node is unavailable for the workgroup agent's commands.

user acceptance Testing (UAT): In software development, user acceptance testing (UAT) - also called beta testing, application testing, and end user testing - is a phase of software development in which the software is tested in the "real world" by the intended audience.

user datagram protocol (UDP): A communications protocol that offers a limited amount of service when messages are exchanged between computers in a network that uses the internet protocol (IP). UDP is an alternative to the transmission control protocol (TCP) and, together with IP, is sometimes referred to as UDP/IP. Like the TCP, UDP uses the IP to actually get a data unit (called a datagram) from one computer to another. Unlike TCP, however, UDP does not provide the service of dividing a message into packets (datagrams) and reassembling it at the other end. Specifically, UDP doesn't provide sequencing of the packets that the data arrives in. This means that the application program that uses UDP must be able to make sure that the entire message has arrived and is in the right order. Network applications that want to save processing time because they have very small data units to exchange (and therefore very little message reassembling to do) may prefer UDP to TCP. The Trivial File Transfer Protocol (TFTP) uses UDP instead of TCP.

V

virtual machine: Software that mimics the performance of a hardware device, such as a program that allows applications written for an Intel processor to be run on a Motorola chip. *Also See* Java Virtual Machine

W

WebSphere MQ (WMQ): IBM's message queuing product. Formally known as MQSeries

WebSphere MQ commands (MQSC): Human readable commands that are uniform across all platforms, and are used to manipulate WebSphere MQ objects.

Contrast with Programmable Command Format (PCF).

WebSphere MQ client (IBM): Part of an MQSeries product that can be installed on a system without installing the full queue manager. The WebSphere client accepts MQI calls from applications and communicates with a queue manager on a server system

WebSphere MQ manager: A specialized manager capable of hosting one or more WebSphere MQ specific policies, apart from the regular policies.

WebSphere MQ objects: WebSphere structures (logical or physical) used to send and/or store messages across WebSphere MQ networks. They include queue managers, queues, process definitions, channels, namelists (MVS/ESA only), and a storage class (MVS/ESA only).

wireless application protocol (WAP): An open global specification that is used by most mobile telephone manufacturers. WAP determines how wireless devices utilize Internet content and other services. WAP enables devices to link diverse systems contents and controls.

WMQ: *See* WebSphere MQ

wildcard character: A wildcard character is a special character that represents one or more other characters. The most commonly used wildcard characters are the asterisk (*), which typically represents zero or more characters in a string of characters, and the question mark (?), which typically represents any one character. For example, in searching "run*" would mean "any word that starts with 'run' and has any kind of ending."

workgroup (AP/WMQ): A set of AutoPilot/WMQ nodes (up to 255) managed by a single workgroup agent

workgroup agent (AutoPilot/WMQ): A smart agent that collects information about a group of registered WebSphere nodes. The workgroup agent keeps this information in its local management database and makes it readily available for management applications. It can also be used to issue WebSphere MQ commands, without having to set up WebSphere MQ channels.

See also WebSphere MQ management database

workgroup license: *see* license

Nastel Support

If you need technical support, you can contact Nastel Technologies by telephone, e-mail or through the online support system. To contact Nastel technical support by phone, call [\(800\) 963-9822 ext. 1](tel:8009639822), if you are calling from outside the United States dial [001-631-761-9190](tel:0016317619190).

To contact Nastel technical support by e-mail, send a message to support@nastel.com

To access the Nastel automated support system (user id and Password required), go to: <http://support.nastel.com/>. Contact your local AutoPilot Administrator for further information.

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The Resource Center is where AutoPilot solution users solve problems, exchange ideas, and learn best practices from peers and Nastel staffers. This online community is a service provided by Nastel Support. Our experts often participate in these discussion groups to share their advice, but, these groups are intended as a peer-to-peer resource. The Resource Center also provides access to downloads, updates, documentation, support articles, product news, and a lot more. Registration and access are free to all users. We encourage everyone using Nastel products to join. www.nastel.com/resources

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