AutoPilot/JBoss Plug-in

Version 4.0

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Chapter 1: Introduction

Welcome to the AutoPilot/JBoss Plug-in Installation and User's Guide. This guide explains how to install and use the AP/JBoss Plug-in. Please review this guide carefully before installing the product.

This plug-in is designed to work with AutoPilot, its components and other plug-ins, and run simultaneously without interference or performance degradation.

1.1   How This Guide is Organized

Chapter 1: Identifies the users and history of the document. System requirements for this plug-in are outlined. All other system and platform information is listed in the AutoPilot Installation and User's Guides.

Chapter 2: Contains a brief description of AP/JBoss along with a listing of features.

Chapter 3: Provides instructions for new installations of the AP/JBoss Plug-in.

Chapter 4: Provides instruction for using the AP/JBoss Plug-in.

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

Appendix B: Contains conventions used in AutoPilot and documents typographical conventions.

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

Index: Contains an alphanumeric cross-reference of all topics and subjects of importance within the guide.

1.2   History of This Document

1-1. Document History			
Release Date:	**Document Number**	**For AutoPilot Version**	**Summary**
May 2006	**AP/JBoss 400.001**	**AP 4.0 or higher**	**Initial document release**

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 INSTALL.TXT and README.TXT files on installation CD and should be accessible on wherever AutoPilot is installed. (For example: `[C:\AutoPilot]\documents`). README.TXT is also available on the Nastel Resource Center.

1.5   Intended Audience

The AP/JBoss Plug-in Guide is intended for use by installers and administrators of Nastel's AutoPilot. There are three user groups defined for the purpose of installation and use.

- **Installer:** The installer should be familiar with Java Run Time Environment 1.4.1 (JRE 1.4.1) or higher (included in AutoPilot 4.0 for Solaris, AIX, HP-UX and Linux). Procedures for installing software on the target platform such as Windows and/or UNIX. Basic understanding of TCP/IP.

- **Administrator:** The administrator should have a working knowledge of middleware, TCP/IP, and system management. The Administrator should also have an understanding of Java Runtime Environment (JRE) and TCP/IP. Installation procedures for the platform where AutoPilot is installed (for example, Windows, NT, UNIX, etc.)

- **User:** Requires only local operating system operations knowledge and basic knowledge of AutoPilot.

1.6   System Requirements

This section defines system and platform prerequisite support requirements for AP/JBoss.

1.6.1   Platforms

AP/JBoss is compatible with the following platforms:

- Windows NT/2000/XP
- Unix (Solaris, AIX, HP-UX, Linux)

1.6.2   JBoss Application Servers

AP/JBoss is compatible with the following JBoss Application Servers:

- Version 4.0 and above

1.6.3   Other Requirements

AP/JBoss requires the following conditions:

- AutoPilot 4.0
- Installed on a managed node on the same computer running JBoss Server.
- Not installed on the same managed node as the WAS JMX or WAS PMI Plug-in.
- Java Run Time Environment 1.4.1 (JRE 1.4.1) or higher (included in AutoPilot 4.0)
- Installer may need administrative privileges for the target platform.

1.7   Terms and Abbreviations

A list of Terms and Abbreviations used in this document is located in the Glossary.

1.8   Technical Support

If you need additional technical support, you can contact Nastel Technologies 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. 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.

1.9   Conventions

Refer to Appendix B for conventions used in this guide.

Chapter 2: About AP/JBoss Plug-in

2.1   Introduction

JBoss is an open source application server program for use with Java 2 Platform, Enterprise Edition (J2EE) and Enterprise Java Beans. Because it is Java-based, JBoss is cross-platform, usable on any operating system that supports Java. J2EE allows the use of standardized modular components and enables the Java platform to handle many aspects of programming automatically.

The AP/JBoss Plug-in expands the monitoring solution to Open Source and monitors the following:

- Web applications
- J2EE
- Web services deployed within JBoss

JBoss can run on numerous operating systems including Windows and many Posix platforms, as long as a suitable Java Virtual Machine (JVM) is present.

JBoss is the leading Open Source J2EE Application Server.

2.1.1   AP/JBoss Features

AP/JBoss provides the following management features:

- Detects application response time degradation
- Pinpoints bottlenecks at run time as they occur
- Performance measurements
- Transaction Pulls
- Configuration Changes
- Non intrusive - monitors from the outside in

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Chapter 3: Installation

3.1   Installation Preparation

This section contains general information related to preparing for and installing the installation of JBoss software.

3.1.1   Installation Materials

Installation can be performed by download through the Nastel Resource Center or by installation CD. The CD installation can be automatically initiated, then continued using the installation wizard, or manually installed. The installation CD contains all required AutoPilot components for Java 2 platforms.

3.1.1.1 Technical Documents

Prior to installation, review all text files and installation procedures provided on the Nastel Resource Center. It is recommended that all installation related materials are printed to allow the installer to review prior to installation, and better follow the detailed instructions within.

3.1.2   Licensing Information

A copy of the standard Licensing Agreement is imbedded in the installation software. The formal licensing agreement has been furnished in the purchase agreement package.

3.2   Installation

This section provides instructions for installing JBoss on the compatible platforms.

Review all installation related materials prior to commencing installation procedures. Reviewing materials will allow installers to pre-determine installation options and familiarize themselves with associated requirements.

3.2.1   Before Installing AP/JBoss

Ensure AutoPilot Managed Node is running on the same machine as JBoss.

3.2.2   Installing AP/JBoss from the Nastel Resource Center

This section outlines the typical procedures for installing AutoPilot/JBoss.

1. Download the AutoPilot/JBoss Plug-in from the Nastel Resource Center.
2. Save your work and logoff AutoPilot.

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

3. Stop the Nodes and/or Domain Servers that will be updated as specified in the *AutoPilot User's Guide*.
4. Copy JBossJMX.pkg into the `[AUTOPILOT_HOME]\updates directory.`
5   At the command prompt run:
    `[AUTOPILOT_HOME]\bin\pkgman ..\updates\JBossJMX.pkg`
6. Enter the path to your JBoss installation.
7. Verify plug-in installation: `[AUTOPILOT_HOME]\bin\pkgman –info.`

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

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Chapter 4: Using AP/JBoss JMX

4.1   Experts

All experts are agents knowledgeable about the subject they are assigned to monitor. Experts are mobile and act as connectors to other AutoPilot and optional plug-in experts. Experts are contained in target managed resources (nodes) and collect system's status information, which are analyzed by assigned policies, then filtered by AutoPilot managers to be viewed in a Business View Viewer. Experts publish facts. Facts in AutoPilot are basic true statements about current run-time values, indicating an object's state in a managed resource. AP/JBoss JMX Experts maintain the same strengths and qualities as all AutoPilot/Experts. Refer to the AutoPilot User's Guide (AP/IT-USR 400.004) for additional information on expert deployment and configuration.

4.1.1   Deploying JBoss JMX Experts

1. Click ![icon] **Deployment Tool** to display *Directory Viewer*.
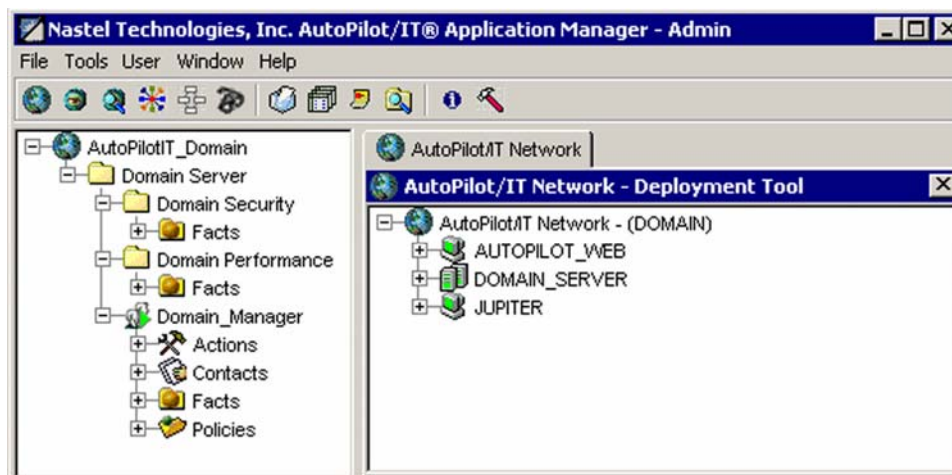
Figure 4-1. Deployment Tool and Networked Nodes

2. Click on the desired node.
3. Right click Node to display *Node Menu*. Click **Deploy Expert**. The Expert pop-up menu is displayed.
4. Click **JBoss 4 JMX Monitor**.
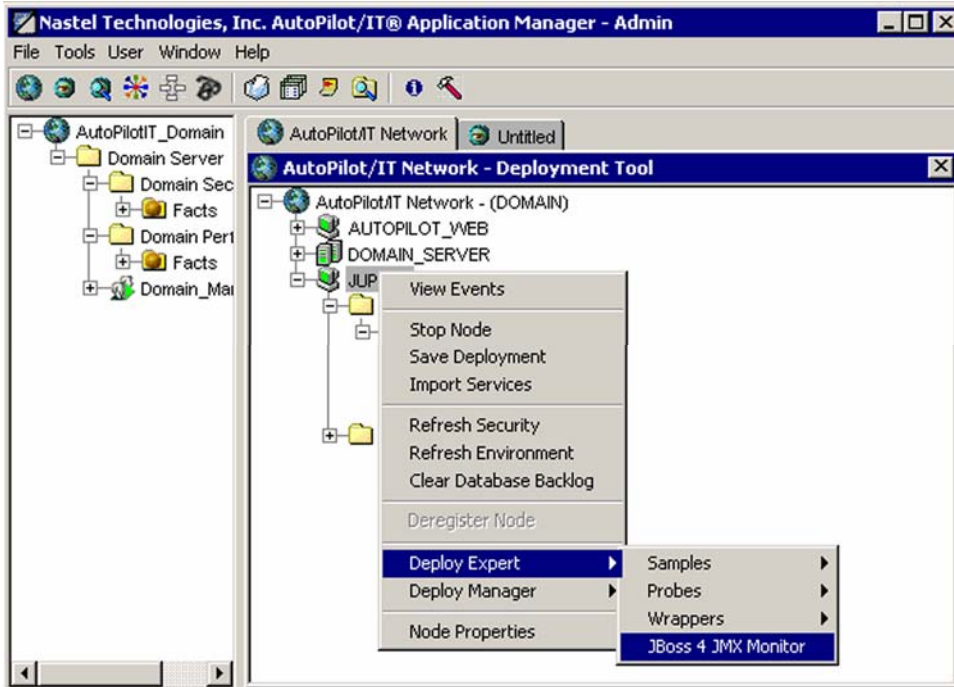
Figure 4-2. Deploying JBoss Experts

5. Review the JBOSS JMX Expert configuration in the screens displayed. Refer to Configuring JBoss JMX Experts instructions for further detail.

6. Click **Apply**. The JBoss JMX Expert will be deployed only on node selected in step 2 above.

4.2   Configuring JBoss JMX Experts

This paragraph provides detailed instructions and information for configuring the JBoss JMX Expert. Other Software/Platform specific and standard experts are addressed in supporting documentation for that software/platform plug-in and the AutoPilot User's Guide. Only the JBoss JMX Expert is discussed in this Guide.
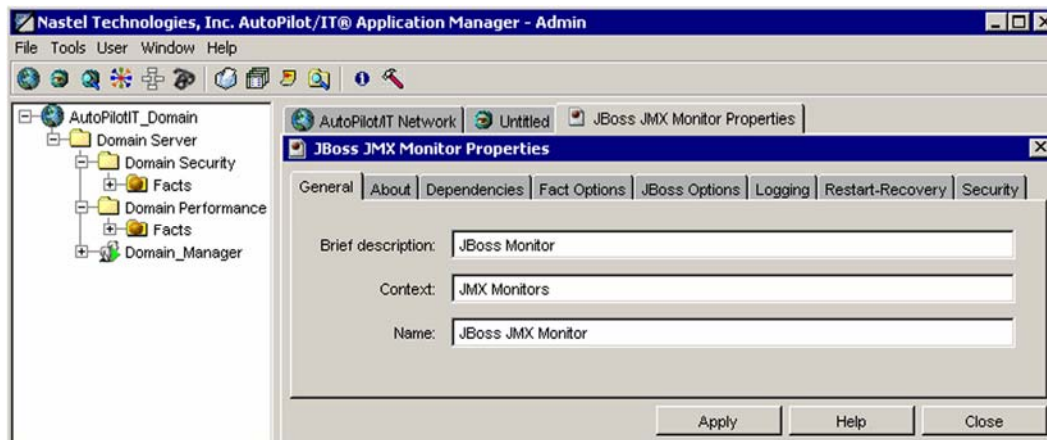
Figure 4-3. Configuring Experts

The JBoss JMX Expert consists of eight screens of user definable configuration data. The following procedure explains the entries for each category of the JBoss JMX Expert.

📒	**NOTE:**	Each Expert deployed in the AutoPilot network must have a unique name.

1. **General:** This screen is common to all Experts. Review (if updating existing Expert) or configure data elements as follows:

4-1. JBoss JMX Expert Properties: General	
Element	**Description**
Brief description	Short description of the service. This name will appear in brackets (example: [Process Monitor]) on screen with listed Node.
Content	User defined category that will be registered in the Domain Server. Context is displayed as folder icon under each Managed Node. The default name is WebSphere Experts.
Name	Name that uniquely identifies the service in the Domain Server. Enter or modify the Service Name as required, or in accordance with local guidelines. Variations of names are used when deploying services on multiple Nodes. No spaces or blanks are allowed in Service Name formats. The default name is "Service_", plus a 12 digit random number (example: `Service_123456789012`).
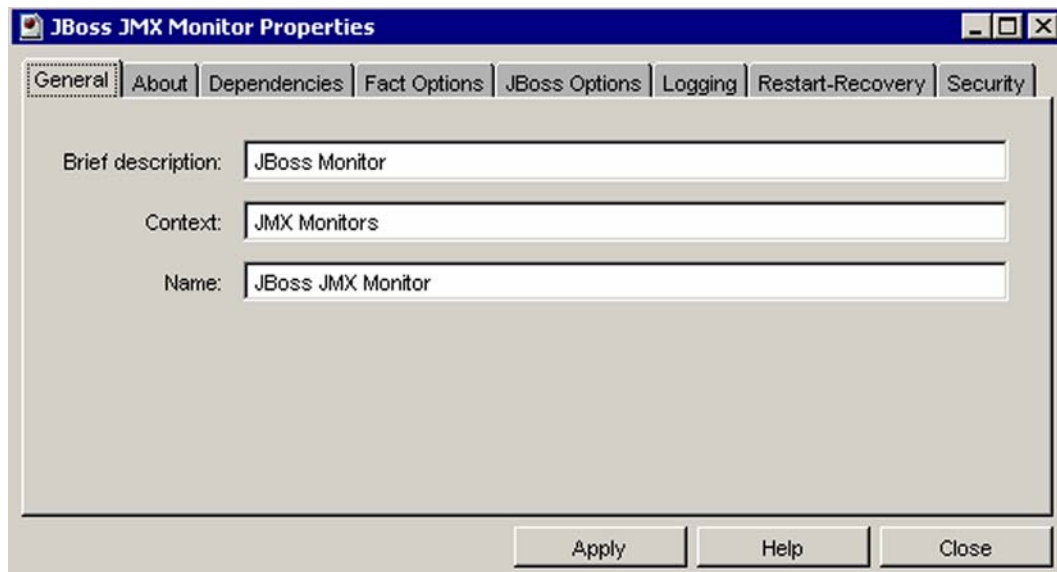
Figure 4-4. JBoss JMX Expert General Configuration

2   **About:** This screen is common to all Experts and cannot be changed.

4-2. JBoss JMX Expert Properties: About	
Element	**Description**
Package Title	Implementation title of source package.
Package vendor	Name of implementation vendor.
Package version	Package version as assigned by the vendor.
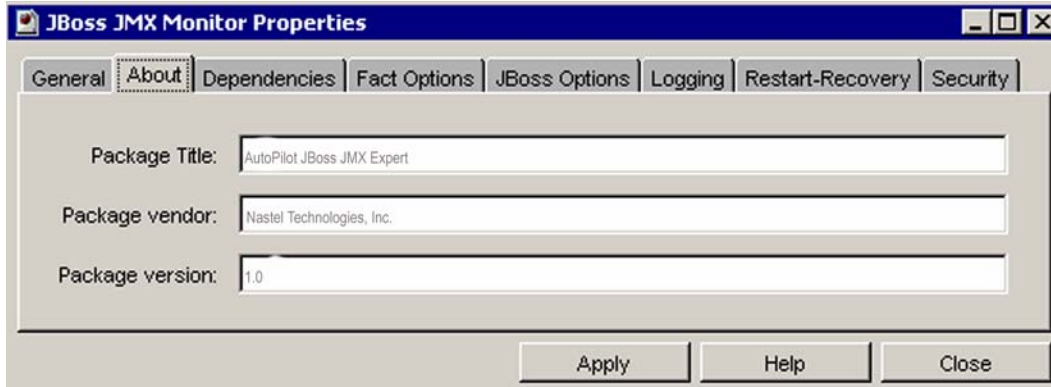
Figure 4-5. JBoss JMX Expert About Configuration

3.   **Dependencies:** (Reserved) Leave blank unless required. Dependencies are comma delimited lists of services within a Managed Node. The lists must be available to the specified service prior to loading. The sequence of service loading is determined n\by the list.

4-3. JBoss JMX Expert Properties: Dependencies	
Element	**Description**
Platform dependencies	Comma separated list of operating system platforms this expert is dependant on.
Service dependencies	Comma separated list of services this expert is dependant on.
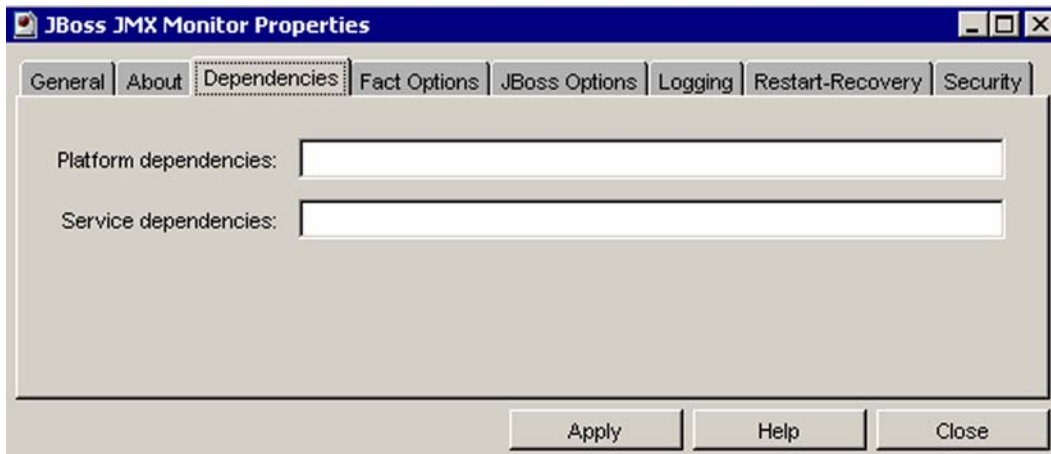
Figure 4-6. JBoss JMX Expert Dependencies Configuration

4. **Fact Options:** This screen is common to all Experts. Review (if updating existing Expert) or configure data elements as follows:

<table>
<tr><td colspan="2" align="center">**4-4. JBoss JMX Expert Properties: Fact Options**</td></tr>
<tr><td align="center">**Element**</td><td align="center">**Description**</td></tr>
<tr><td>Exclude Fact Filters</td><td>Comma separated list of fact paths to exclude during publishing</td></tr>
<tr><td>Expire facts(ms)</td><td>Automatically expire facts that have not been updated in the specified time (ms).</td></tr>
<tr><td>Fact History Size</td><td>Automatically maintains the specified number of samples for each published fact in memory.</td></tr>
<tr><td>Include Fact Filters</td><td>Comma separated list of fact paths to include during publishing.</td></tr>
</table>
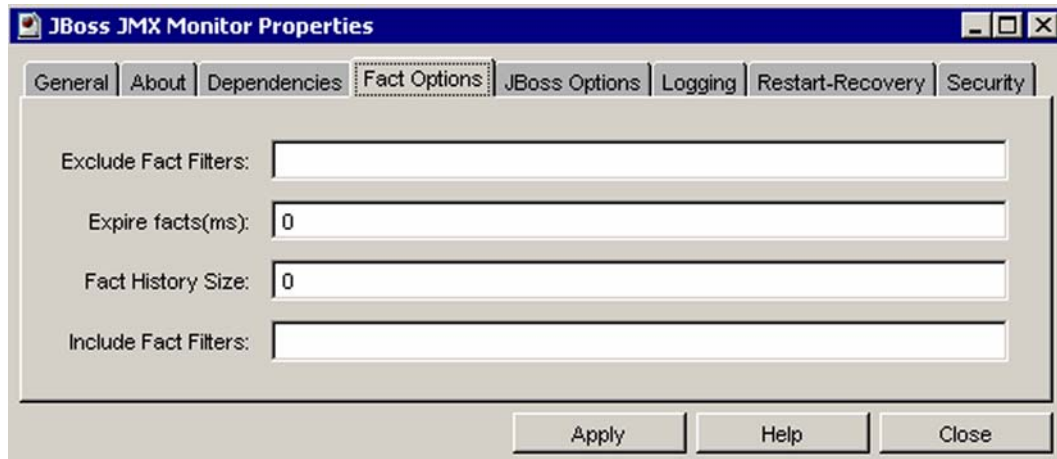
Figure 4-7. JBoss JMX Expert Fact Options Configuration

5. **JBoss Options:** Review (if updating existing Expert) or configure data elements as follows:

4-5. JBoss JMX Expert Properties: JBoss Options	
Element	**Description**
Connector host name	The host name or IP address of the computer running the JMX agent and connector.
Connector name	The JNDI name of the connector.
Connector port	The TCP/IP port number of the connector on the JMX agent.
MBean filter	Only display MBeans whose names match this MBean filter.
Sampling interval (sec.)	Sampling frequency in seconds.
Short name keys	Comma separated keys for shortening MBean names.
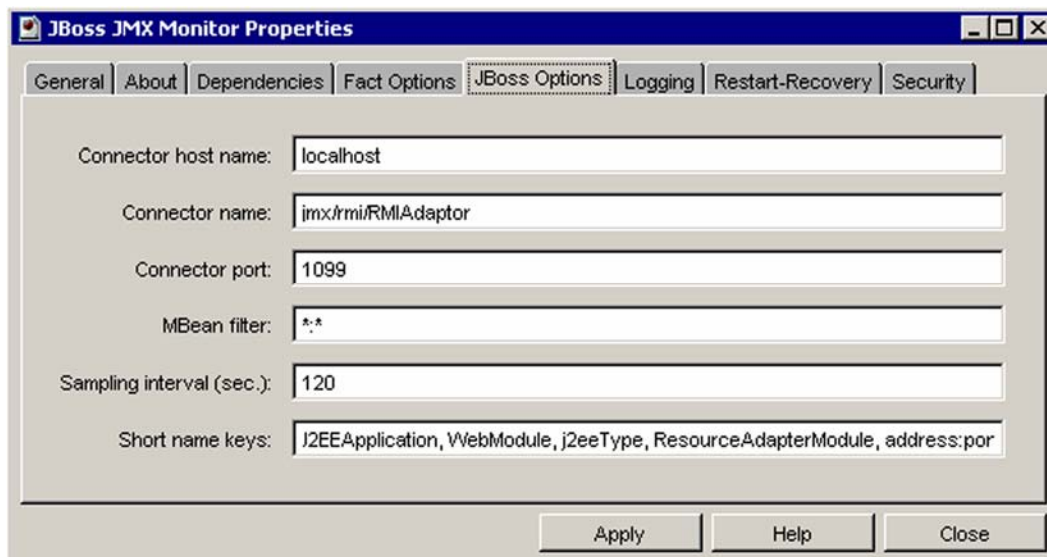
Figure 4-8. JBoss JMX Expert JBoss Options Configuration

6. **Logging:** This screen is common to all Experts. Review (if updating existing Expert) or configure data elements as follows:

| 4-6. JBoss JMX Expert Properties: Logging	
Element	**Description**
Audit	Enable/Disable service audit trace. Default is disabled.
Log name	Log name associated with the service. The default name is Services, but may be changed as required. (Example: `Task_Progress_Process_Log`).
Log service activity	Enable/Disable service activity trace. Default is disabled.
Log size (bytes)	Log size in bytes. Real log size is the maximum value of the server.log.size and logsize.
Record Facts	Enable/Disable fact recording for this service. Default is enabled. Managed node records all facts produced by this service into an .fct file which can be replayed back using the apfact utility. Recording occurs only when managed node is started with -logfacts option or the environmental variable property server.service.fact.logging=true is defined in global.properties or node.properties.
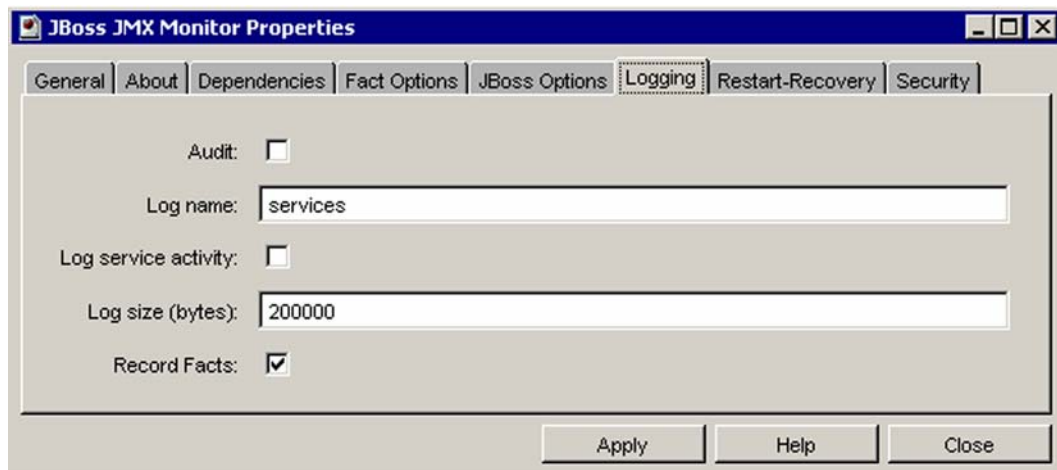
Figure 4-9. JBoss JMX Expert Logging Properties

7. **Restart-Recovery:** This screen is common to all Experts. Review (if updating existing Expert) or configure data elements as follows

4-7. JBoss JMX Expert Properties: Restart-Recovery	
Element	**Description**
Automatic start	Enable/disable automatic start. Default is enabled.
Save in registry	Persistent services are saved in Registry .xml file. Default is enabled.
Synchronous Control	Enable/Disable synchronous service initiation. Default is enabled.
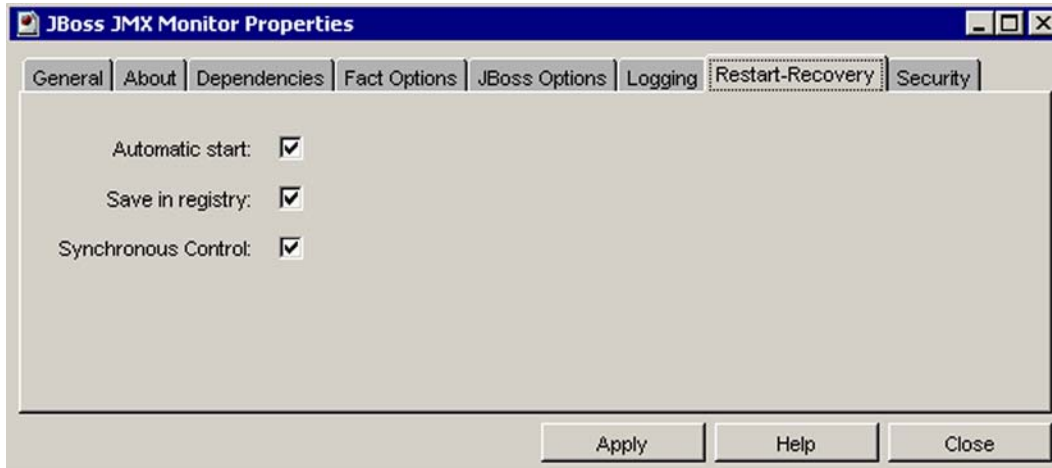
Figure 4-10. JBoss JMX Expert Restart-Recovery Properties

8. **Security:** This screen is common to all Experts. Review (if updating existing Expert) or configure
    data elements as follows:

4-8. JBoss JMX Expert Properties: Security		
Property	**Description**	
Inherit permissions from owner	Enable/disable inherit permission from owner's permission masks. Default is enabled.	
Owner	User that owns the object.	
Permissions	Permissions for users in the same group and users in other groups. Enable/disable as required.	
	Group:	Others:
Read	Group members may read/view attributes of an object.	Other users may read/view attributes of an object.
Change	Group members may change the attributes of an object.	Other users may change the attributes of an object.
Delete	Group members may delete the object.	Other users may delete the object.
Control	Group members may execute control actions such as start, stop, and disable.	Other users may execute control actions such as start, stop, and disable.
Execute	Group members may execute operational commands on the object.	Other users may execute operational commands on the object.
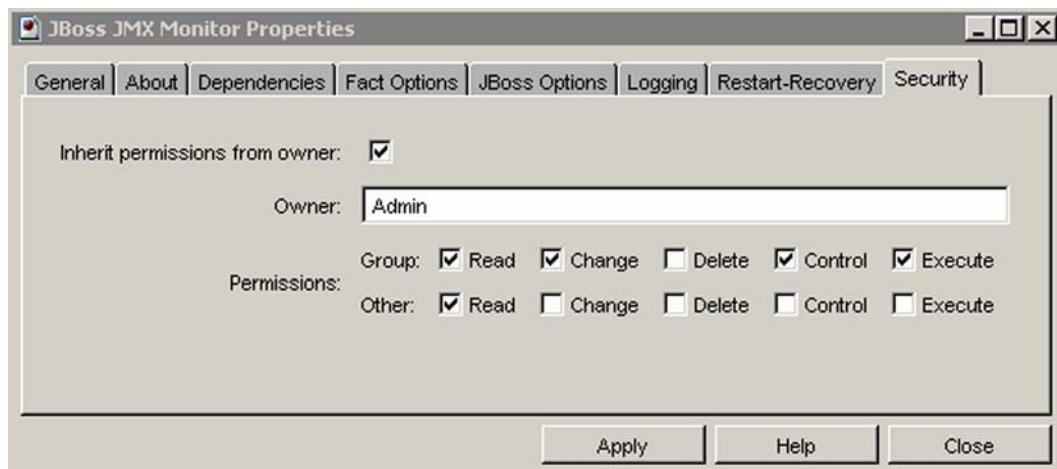
Figure 4-11. JBoss JMX Expert Security Properties

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Chapter 5: AP/JBoss Configuration Metrics

This section describes the JBoss Java Management Extensions (JMX) metrics collected by the AP/JBoss Plug-in expert. They are published as facts and are available under each expert as shown below:
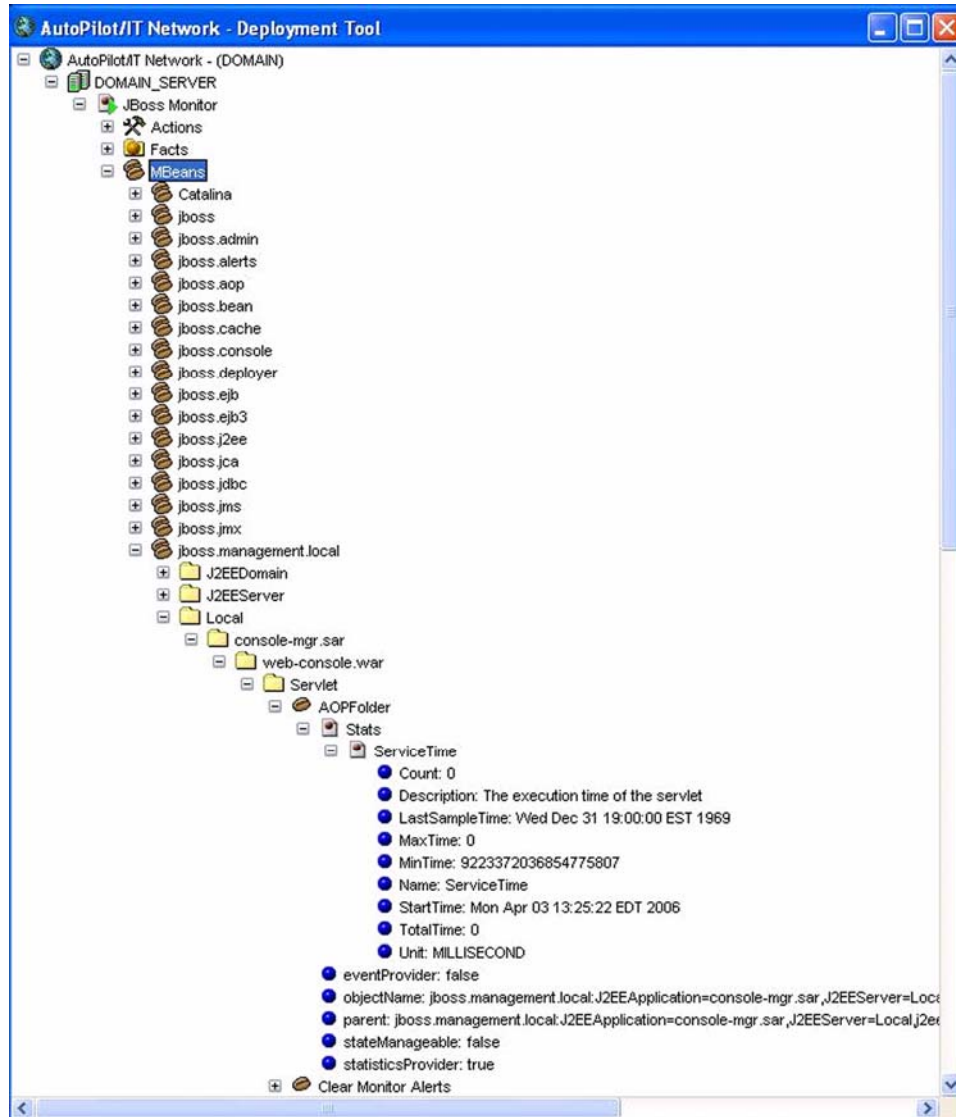
Figure 5-1. JBoss Metrics

Once published, these facts can be included in one or more business views for validation, automation, notifications, logging and alerts.

JBoss JMX monitor publishes facts that follow structure below:

```
Facts\<jmx_domain>\<jmx_mbean_name>\<jmx_attribute>
```

5.1   Facts Published by AP/JBoss Expert

The AP/JBoss expert publishes the following facts:

- Catalina
- jboss.admin
- jboss.alerts
- jboss.aop
- jboss.bean
- jboss.cache
- jboss.console
- jboss.deployer
- jboss.ejb
- jboss.ejb3
- jboss.j2ee
- jboss.jca
- jboss.jdbc
- jboss.jms
- jboss.jmx
- jboss.management.local
- jboss.mq.destination
- jboss.mq
- jboss.remoting
- jboss.security
- jboss.system
- jboss.web
- jboss.web.deployment
- jboss.ws4ee
- jboss
- JMImplementation

Appendix A: References

A.1   Nastel Documentation

AP/INS 400.003 *Nastel AutoPilot Installation Guide*

AP/USR 400.004 *Nastel AutoPilot User's Guide*

AP/WBI 400.001 *AutoPilot/WebSphere Business Integration*

AP/OSM 400.001 *AutoPilot/Operating System Monitor Plug-in*

AP/WS 400.001 *AutoPilot/WebSphere Application Server Plug-in*

AP/WMQ-INS 410.004 *AutoPilot/WebSphere MQ Installation Guide*

AP/WMQ-ADM 420.001 *AutoPilot/WebSphere MQ Administrator's Guide*

A.2   Java™

http://java.sun.com/products/JavaManagement/reference/docs/index.html

http://www.hp.com/products1/unix/java/infolibrary/index.html

http://developer.java.sun.com/developer/technicalArticles/Servlets/corba/

http://java.sun.com/javaee/index.jsp

A.3   MS Windows

http://www.microsoft.com/windows/default.mspx

A.4   UNIX

http://www.unix.org/

A.5   Solaris

http://www.sun.com/software/solaris/

A.6   HP-UX

http://welcome.hp.com/country/us/en/welcome.html

A.7   Linux

http://www.linux.org/

A.8   JBoss

http://www.jboss.org/

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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**.
Italic Print	*Used to identify a title, menu, screen name, user inputs, or other categories.*
monospaced bold	**Used to identify keystrokes/data entries, file names, directory name etc.**
Monospaced italic	*Used to identify variables in an address location.* *Example: [C:\AutoPilot_Home]\documents.* *Where the portion of the address in 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 throughout 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 for WebSphere MQI
MQSeries Plug-in for AutoPilot	WebSphere MQ Plug-in for AutoPilot
AutoPilot/WMQ	AutoPilot for WebSphere MQ
MQSeries	WebSphere MQ (IBM)

Glossary

AutoPilot/WMQ: Nastel Technologies' WebSphere MQ management solution.

AutoPilot/WMQ-Explorer: Nastel's Client win32 application for AutoPilot/WMQ server.

AutoPilot/WMQ-MM: Nastel's WWW implementation of MMF

AutoPilot/Message Tracking (AP/MT): Nastel's AutoPilot/Message Tracking plug-in that enables Nastel AutoPilot to intercept message exits and forward the statistical data to a Nastel AutoPilot expert.

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

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

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.

Client: Any programming component that uses the AutoPilot infrastructure; for example, the AutoPilot Console.

Common Object Request Broker Architecture (CORBA): A 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.

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 use 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.

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

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

Derby: a relational database management system that is based on Java and SQL. Derby will run in any certified Java Virtual Machine.

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

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.

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

Graphical 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* Graphical User Interface.

IIS: *See* Internet Information Services

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

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

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 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.

Java Management Extensions (JMX): The Java Management Extensions (JMX) technology is an open technology for management and monitoring that can be deployed wherever management and monitoring are needed. By design, this standard is suitable for adapting legacy systems, implementing new management and monitoring solutions and plugging into those of the future.

Java Platform, Enterprise Edition (Java EE): The industry standard for developing portable, robust, scalable and secure server-side Java applications. Building on the solid foundation of Java SE, Java EE provides web services, component model, management, and communications APIs that make it the industry standard for implementing enterprise class service-oriented architecture (SOA) and web 2.0 applications.

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.

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

JDBC: *See* Java Database Connectivity.

JDK: *See* Java Developer's Kit.

JMX: *See* Java Management Extensions

JRE: *See* JAVA Run-time Environment.

JSP: *See* Java Server Pages

JVM: *See* JAVA Virtual Machine.

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.

Message-Oriented Middleware (MOM): A category of inter-application communication software that relies on asynchronous message passing as opposed to a request/response metaphor.

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.

MOM: *see* Message-Oriented Middleware.

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

MQI: *see* Message Queue Interface

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

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

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

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

ORB: Object Request Broker.

Orbix: CORBA product distributed by IONA Technologies.

Package Manager: The command line utility that allows users to list, install, uninstall, verify and update AutoPilot installation on any Managed Node

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.

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

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

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.

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

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

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

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.

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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, 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 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.

The Resource Center

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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Nastel Technologies is a pioneer in on-demand monitoring solutions that enable businesses to operate in real-time. Nastel's AutoPilot Suite helps companies achieve greater business agility by automating the management of the enterprise application infrastructure from end-to-end. AutoPilot's flexibility makes it easier to align IT and business perspectives. With AutoPilot, everyone having a stake in business integration has secure web access with role-based views to see what is really going on – from their own perspective to ensure smooth, uninterrupted business operations.

Numerous Fortune 1000-sized companies around the world, including some of the world's largest banks, financial institutions, retail chains, insurance underwriters operate more efficiently in real-time with AutoPilot. Nastel is a privately held company headquartered in New York, and serves its customer with a network of integration partners throughout Europe, the Middle East, and Asia.

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