# OPTIMIZE

## MERCURY BUSINESS AVAILABILITY CENTER™

### Business Process Monitor Administration

MERCURY™

BUSINESS TECHNOLOGY OPTIMIZATION

# Mercury Business Availability Center

## Business Process Monitor Administration

Version 6.1

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MERCURY™

Mercury Business Availability Center, Version 6.1
Business Process Monitor Administration

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# Table of Contents

**Welcome to Business Process Monitor Administration ..... vii**
How This Guide Is Organized ..... vii
Who Should Read This Guide ..... viii
Getting More Information ..... ix

**Chapter 1: Introducing Business Process Monitor ..... 1**
Business Process Monitor ..... 2
Business Process Monitor Admin ..... 4
Using Mercury Global Monitor ..... 5

**Chapter 2: Deploying Business Process Monitor ..... 7**
About Business Process Monitor Deployment ..... 8
System Requirements ..... 9
Requirements for Installation ..... 10
Installing Business Process Monitor on a Windows Platform ..... 15
Installing Business Process Monitor on a Solaris or Linux Platform ..... 17
Running a Silent Installation ..... 20
Upgrading Business Process Monitor Remotely ..... 25
Uninstalling Business Process Monitor/Topaz Agent ..... 26
Deployment Troubleshooting ..... 29

**Chapter 3: Working with Business Process Monitor ..... 31**
Business Process Monitor Operation ..... 32
Supported Recording Tools ..... 33
Requirements and Limitations for Running Tasks ..... 34
Running Business Process Monitor ..... 38
Accessing Business Process Monitor Admin ..... 40
Moving Around the Business Process Monitor Admin Window ..... 41

**Chapter 4: Business Process Monitor Host Page ..... 43**
Introducing the Business Process Monitor Host Page ..... 44
Configuring Business Process Monitor Instances ..... 45
Working with Business Process Monitor Directories ..... 54
Running the Whole Business Process Monitor as a Specific User/System User ..... 59
Restarting Business Process Monitor ..... 62
Running an On-Demand Page Component Breakdown ..... 63
Running WebTrace ..... 65

**Chapter 5: Instance Page ..... 67**
Instance Properties ..... 68
Instance Profiles ..... 69
Administering the Instance ..... 70
Viewing Instance Log Files ..... 71

**Chapter 6: Profile Page ..... 73**
Profile Properties ..... 73
Profile Tasks ..... 75
Profile Schedules ..... 77
Profile Start Offset ..... 79
Run Schedule for Profile Tasks ..... 82

**Chapter 7: Task Page ..... 85**
Task Properties ..... 86
Configuring Log Settings for a Script ..... 88
Viewing Task Reports ..... 90
Understanding Response Time Breakdown Reports ..... 94
Understanding WebTrace Reports ..... 104
Browsing the Script Log Files ..... 105

**Chapter 8: Business Process Monitor Configuration Files ..... 107**
About Business Process Monitor Configurable Options ..... 108
Parameters in topaz_agent_ctrl.cfg ..... 109
Parameters in agent1.cfg ..... 117
Parameters in topaz_data_server.cfg ..... 123
Parameters in sconn.cfg ..... 131

**Chapter 9: Advanced Configuration Options ..... 137**
Enabling Log File Write ..... 138
Moving the Workspace Logs ..... 139
Setting User Permissions for Specific Users ..... 140
Changing the Default Port ..... 141
Optimizing Profile Scheduling ..... 143
Viewing the Catalina DOS Window ..... 144
Enabling User Authentication ..... 145
Running Tomcat as a Specific User ..... 146
Running Oracle Protocol Scripts ..... 148
Changing the Maximum Number of Hops for WebTrace ..... 149
Disabling the Close Application Mechanism ..... 150

**Chapter 10: Workspace Directory and Log Files ..... 151**
About Business Process Monitor Logs ..... 152
Log Archives ..... 153
Log Entry Format ..... 153
Workspace Directory Architecture ..... 154
Agent1 Directory ..... 156
Data Directory ..... 157
Site1 Directory ..... 158

**Index ..... 159**

# Welcome to Business Process Monitor Administration

This guide provides detailed instructions on how to deploy and administer the Mercury Business Process Monitor data collector.

## How This Guide Is Organized

The guide contains the following chapters:

**Chapter 1 Introducing Business Process Monitor**

Introduces Business Process Monitor and the Business Process Monitor Admin tool.

**Chapter 2 Deploying Business Process Monitor**

Describes how to install Business Process Monitor on a Windows, Solaris, or Linux platform, and how to perform remote upgrades.

**Chapter 3 Working with Business Process Monitor**

Provides information on Business Process Monitor functioning, and describes how to access and navigate in Business Process Monitor Admin.

**Chapter 4 Business Process Monitor Host Page**

Describes the functionality available from the Business Process Monitor Host page in Business Process Monitor Admin.

**Chapter 5 Instance Page**

Describes how to administer and monitor the Business Process Monitor instance from the Instance page.

**Chapter 6 Profile Page**

Describes how to monitor the profiles for each Business Process Monitor instance from the Profile page.

**Chapter 7 Task Page**

Describes how to monitor the tasks for each Business Process Monitor instance from the Task page.

**Chapter 8 Business Process Monitor Configuration Files**

Describes configurable file parameters for Business Process Monitor and Business Process Monitor Admin.

**Chapter 9 Advanced Configuration Options**

Describes describes configurable options for Business Process Monitor and Business Process Monitor Admin.

**Chapter 10 Workspace Directory and Log Files**

Describes the logs and files that relate to running Business Process Monitor.

## Who Should Read This Guide

This guide is intended for the following users of Mercury Business Availability Center:

- Mercury Business Availability Center administrators
- Mercury Business Availability Center data collector administrators

Readers of this guide should be knowledgeable about enterprise system administration, scripting, and Mercury Business Availability Center data collectors.

## Getting More Information

For information on using and updating the Mercury Business Availability Center Documentation Library, reference information on additional documentation resources, typographical conventions used in the Documentation Library, and quick reference information on deploying, administering, and using Mercury Business Availability Center, refer to *Getting Started with Mercury Business Availability Center*.

# 1

# Introducing Business Process Monitor

This chapter introduces Mercury Business Process Monitor 6.1 and Business Process Monitor Admin, and provides information about Mercury Global Monitor.


| This chapter describes: | On page: |
|---|---|
| Business Process Monitor | 2 |
| Business Process Monitor Admin | 4 |
| Using Mercury Global Monitor | 5 |

# Business Process Monitor

Business Process Monitor is one of the Mercury Business Availability Center data collectors. Business Process Monitor proactively monitors enterprise applications in real time, identifying performance problems before users experience them. It enables you to monitor sites from various locations, emulating the end-user experience, and so assess site performance from different client perspectives.

You install Business Process Monitor on host machines on your local network or on the Internet. Once installed, Business Process Monitor runs independently as a service on the host machine. You generally deploy Business Process Monitors on multiple host machines, but you can also use each Business Process Monitor installed on a host machine as the basis for many logical Business Process Monitor instances. For example, you may want to use each instance on the host machine to run tests for a different division of your organization, or use duplicate instances during the staging period for Mercury Business Availability Center upgrade to communicate with the different Mercury Business Availability Center versions.

Each instance can be connected to a different Mercury Business Availability Center platform, or there may be several instances connected to a single Mercury Business Availability Center platform (using a unique logical host name for each).

After installing Business Process Monitor on a machine, the machine is added to the list of data collectors in Mercury Business Availability Center Monitor Administration and Platform Administration. Each additional Business Process Monitor instance that you define is also added to the list of available data collectors. Each Business Process Monitor can then be designated as a host for your Business Process profiles, which are defined in Monitor Administration. For details on creating and editing profiles, see "Managing Business Process Profiles and Creating Client Monitor Profiles" in *End User Management Data Collector Configuration*.

Business Process Monitor monitors applications by executing the tasks specified in the Business Process profiles. This includes running scripts (transaction monitors) and collecting transaction performance data (application response time and availability), and running WebTrace and collecting server/network performance data. Performance data is collected from various points throughout the infrastructure, as well as from external locations. Business Process Monitor also logs event information and errors during the execution of the tasks. The Business Process Monitor logs are described in Chapter 10, "Workspace Directory and Log Files."

Business Process Monitor sends the collected data to Mercury Business Availability Center, where you can use the applications to view and analyze the data, in order to monitor the performance of your business applications and infrastructure.

In general, Business Process Monitors do not require configuration and administration. Where configuration is required, you generally access the Web-based Business Process Monitor Admin tool, described in "Business Process Monitor Admin" on page 4. In addition, certain configuration changes can be made directly in the Business Process Monitor files, as described in Chapter 8, "Business Process Monitor Configuration Files."

Business Process Monitor can be installed on Windows, Solaris, or Linux operating systems. For details on system requirements, see "System Requirements" on page 9.

If required, you can use Mercury Global Monitor to gather data from remote host machines. For more information, see "Using Mercury Global Monitor" on page 5.

# Business Process Monitor Admin

You use the Web-based Business Process Monitor Admin for managing and monitoring all Business Process Monitor instances on the machine, and for customizing Business Process Monitor settings. Business Process Monitor Admin is installed on the host machine during Business Process Monitor installation.

Business Process Monitor Admin manages the run of Business Process Monitor on the host machine. You can configure new instances, and then modify settings and view activity for each Business Process Monitor instance. You can also use Business Process Monitor Admin to view transaction and page component breakdown for Web-based scripts, and to view reports for WebTrace requests.

All Business Process Monitor Admin events are reported to a log file.

# Using Mercury Global Monitor

Organizations that want to install and run Business Process Monitors on host machines at remote locations, but are unable to do so on their own, can use Mercury Global Monitor.

Global Monitor is a Web-based service that enables you to control Business Process Monitors associated with your applications from Points of Presence in key geographic locations across the globe. Mercury provides a worldwide network of remote host machines for monitoring site performance, leveraging the extensive network infrastructure of most of the world's significant ISPs.

You sign up for Global Monitor, and select suitable remote locations. Once you are assigned your locations, you configure and manage them from the Global Monitor Web site. You then associate your Business Process profiles with your Global Monitor instances, to run scripts from the assigned remote locations.

## Getting Started with Global Monitor

For general information on Global Monitor, and a list of Global Monitor sites, see the Global Monitor Web site, http://www.mercury.com/us/products/application-management/foundation/monitors/global.html. To start working with Global Monitor, contact your Mercury Customer Support representative; you will be directed on how to set up your Global Monitor account and select the Points of Presence locations that suit your monitoring needs. When you are notified that the Global Monitor instances on your remote hosts have been activated, you can remotely configure them using the Global Monitor Management tool.

For each assigned location, you specify the URL for your Core Server and, if required, a user name and password for server authentication. Write down each Global Monitor's host name and location, as you need this information when adding Global Monitor hosts to your Business Process profiles. Note that, in order for a remote Global Monitor to access the Core Server, the Server must be outside the firewall or allowed access by Global Monitor through the firewall.

### Integrating Remote Hosts into Business Process Profiles

Once you have configured Global Monitor instances, you integrate them into your Business Process profiles in Mercury Business Availability Center Monitor Administration, in the same way you add host machines on which Business Process Monitor is installed. For details, see "Adding and Editing Transaction Monitors" in *End User Management Data Collector Configuration*.

# 2

# Deploying Business Process Monitor

This chapter describes how to deploy Mercury Business Process Monitor on a Windows, Solaris, or Linux platform.


| This chapter describes: | On page: |
|---|---|
| About Business Process Monitor Deployment | 8 |
| System Requirements | 9 |
| Requirements for Installation | 10 |
| Installing Business Process Monitor on a Windows Platform | 15 |
| Installing Business Process Monitor on a Solaris or Linux Platform | 17 |
| Running a Silent Installation | 20 |
| Upgrading Business Process Monitor Remotely | 25 |
| Uninstalling Business Process Monitor/Topaz Agent | 26 |
| Deployment Troubleshooting | 29 |

# About Business Process Monitor Deployment

You install Business Process Monitor 6.1 on designated host machines running on Windows, Solaris, or Linux platforms. The machines can be located on your local network or on the Internet, and must have HTTP or HTTPS access to the Mercury Business Availability Center Core Server. For Web-based protocols, HTTP or HTTPS access is also required for the applications being monitored.

The installation process installs both Business Process Monitor and Business Process Monitor Admin (the Business Process Monitor management component).

The number and locations of host machines you use should reflect factors such as the number of transactions you plan to run, the geographic dispersion of typical end-users who access your application, the location of remote servers, the locations of ISPs that provide connectivity to your Web site, and so forth. You can always install Business Process Monitor on additional host machines at a later time.

If you require host machines at remote locations, consider using Mercury Global Monitor. For details, see "Using Mercury Global Monitor" on page 5.

If you are using secure communication (over SSL) between Business Process Monitor and the Core Server, you must configure Business Process Monitor to support HTTPS communication. For details, see *Hardening the Platform*.

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**Note:** Business Process Monitor 6.1 works with Topaz 4.1 Service Pack 3, all Topaz 4.5 versions, and all Mercury Business Availability Center 5.x, 6.x versions.

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# System Requirements

| | |
|---|---|
| Computer/Processor | **Windows:** Personal computer with a Pentium III 750 MHz or later processor<br>**Solaris:** Sun workstation or server with an UltraSPARC Processor |
| Operating System | **Windows:**<br>➤ Windows 2000 Server/Advanced Server, Service Pack 4 and later<br>➤ Windows 2000 Professional Service Pack 4<br>➤ Windows 2003 Server standard/enterprise editions<br>➤ Window XP Professional (Note: If you want Business Process Monitor to run WebTrace, then it is recommended that you do not install Service Pack 2 for Windows XP)<br>**Solaris:** Sun Solaris 9 (2.9) – Entire Distribution plus OEM support + latest recommended Patch Cluster (patches can be downloaded from the SunSolve Web site, http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access)<br>Sun Solaris 8 – Entire Distribution plus OEM support + latest recommended Patch Cluster (patches can be downloaded from the SunSolve Web site, http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access)<br>**Linux:** Red Hat Linux 9, Red Hat Enterprise Linux 3 |
| Memory | Minimum 512 MB RAM |
| Free Hard Disk Space | Minimum 500 MB<br>(If log and data files are stored on a different drive from the application files, then the requirements for each drive are minimum 250 MB) |
| Temporary Directory | Minimum 100 MB (200 MB recommended) |

| | |
|---|---|
| Web Browser | Internet Explorer (IE) 5.5 Service Pack 2 and later; Mozilla Navigator 1.6 |
| Support for WebTrace over Modem | Windows 2000; Window XP Professional |

**Note:** The online documentation is best viewed from a browser with Java support. If you do not have Java support on your browser, then you should download the Sun Java plug-in from the Sun Java Web site: http://java.com/en/index.jsp.

## Requirements for Installation

The Business Process Monitor installation program can be accessed from one of the following locations:

- The Downloads page in Mercury Business Availability Center Platform Administration.
- The appropriate Mercury Business Availability Center 6.1 Components CD-ROM, supplied with your Mercury Business Availability Center package. Run the required setup program directly from the CD-ROM.

  For details on the Components CD-ROMs and their contents, see "Available Components and Setup Files" in *Deploying Servers*.

**Note:** For the Business Process Monitor (or any other data collector) setup files to be available on the Downloads page, they must first be installed in Mercury Business Availability Center.

For details on installing the data collector setup files on a Windows platform, see "Installing Components Setup Files for a Windows Platform" in *Deploying Servers*.

If you have a previous installation of Business Process Monitor 4.5.2 or earlier, or Topaz Agent, on the host machine, then it is recommended that you uninstall the previous installation before installing Business Process Monitor 6.1.

If you were previously using Business Process Monitor 4.5.2 or later, the uninstall process saves the configuration settings on the machine for the new installation. For details on uninstalling, see "Uninstalling Business Process Monitor/Topaz Agent" on page 26.

If you have Business Process Monitor 5.0 or later installed on the host machine, you are not required to uninstall before upgrading to Business Process Monitor 6.1. If you do not uninstall, then you should install the upgraded version to the same location as the existing Business Process Monitor or Agent. You also have the option to upgrade the Business Process Monitor machine remotely from Mercury Business Availability Center. For details, see "Upgrading Business Process Monitor Remotely" on page 25.

During a new installation (with no saved configuration settings), you specify if you want the data collection mechanism used by Business Process Monitor to run as the system (root) user or as a specific user. Running Business Process Monitor as a specific user may be necessary to enable Business Process Monitor to access monitored machines on your network. Note that after installation, you can configure this setting from within Business Process Monitor Admin. For details, see "Running the Whole Business Process Monitor as a Specific User/System User" on page 59.

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**Note:** Users with advanced knowledge of Mercury Business Availability Center can install Business Process Monitor using a silent installation procedure. For details, see "Running a Silent Installation" on page 20.

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**Note:** For last-minute technical and troubleshooting information for Business Process Monitor, refer to the readme file available in:

- the **Documentation\readme** directory on the Mercury Business Availability Center Documentation and Utilities CD-ROM.
- the Mercury Documentation Portal in the Mercury Customer Support Web site (http://support.mercury.com/cgi-bin/portal/CSO/docViewAndSearch.jsp).
- the root directory on the Mercury Business Availability Center Setup CD-ROM.

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## Details Required During Installation

You should have the following information ready when installing Business Process Monitor:

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**Note:** If during installation you select to use configuration settings from an earlier Business Process Monitor version, then you are generally not required to supply the following information.

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- Business Process Monitor maintenance number (provided with your Business Process Monitor package).
- Logical names to use for the host name and location (for example, Atlanta). These logical names are used by the first Business Process Monitor instance (defined as part of the installation process) to register with Mercury Business Availability Center. They do not have to match the actual machine's host name and location. (Note that Setup provides the actual machine host name as the default value for the **Host name** parameter.)
- The protocol that will be used to access Mercury Business Availability Center (HTTP or HTTPS).

➤ The name of the machine on which you installed the Mercury Business Availability Center Core server, and the port number to be used by Business Process Monitor to access Mercury Business Availability Center.

For a distributed deployment, you need the name of the Core Server machine, or the load balancer machine behind which servers are installed.

➤ If you want to run the data collection mechanism used by Business Process Monitor as a specific user, you need the login parameters (user name, password, domain) for the user.

➤ For Solaris installations: If you want it to run Business Process Monitor Admin as a specific user, you need the login parameters (user and group) for the user.

### Important Information for Installation

Note the following before installing:

➤ It is recommended (but not essential) that you install Business Process Monitor on a separate machine from all other Mercury Business Availability Center components. This should be a dedicated machine for Business Process Monitor. Business Process Monitor must not be installed on the same machine as Mercury SiteScope.

➤ If Business Process Monitor *is* installed on the same machine as any other Mercury Business Availability Center component, it is highly recommended that you define a host name for Business Process Monitor that is not the actual name of the machine.

➤ The logical host name for each Business Process Monitor instance must be unique within a Mercury Business Availability Center platform. When two Business Process Monitor instances are each connected to a different Mercury Business Availability Center platform, they can use the same logical host name.

➤ Business Process Monitor should not be installed on a network drive.

- It is recommended that you run Business Process Monitor on Windows and Solaris platforms as a specific user. You select this option during setup. Note that if you set Business Process Monitor to run as a specific user on Windows platforms, the user must have Administrator privileges on the local machine. (You can also set Business Process Monitor to run as a specific user after installation, from Business Process Monitor Admin. For details, see "Running the Whole Business Process Monitor as a Specific User/System User" on page 59.)

  Note that the whole Business Process Monitor does not run as a specific user on Linux; however, you can run an instance as a specific user.

- You can set Business Process Monitor Admin for Solaris/Linux platforms to run as a specific user, by selecting the appropriate option during Setup. (You can also set Business Process Monitor Admin to run as a specific user after installation from the nanny file, as described in "Configuring Tomcat on a Solaris/Linux Platform" on page 147.)

- Business Process Monitor can be run on a machine with a different language locale to the Mercury Business Availability Center system.

- During installation, use only English names for the host name and location. If necessary, you can change the names to non-English after installation, within Business Process Monitor Admin.

- You cannot install Business Process Monitor to an installation path that contains special characters (for example, **# () %**). On Solaris or Linux platforms, you also cannot install to an installation path that contains spaces.

- When installing Business Process Monitor from a network drive at a remote location, if the Business Process Monitor user does not have network permissions to all the network, you may not be able to run the installation remotely. To install, you need to do one of the following:

  - copy the installation file to the local machine and install from there (this will greatly reduce the download time and enable you to control when Business Process Monitor will be down during installation).

  - copy the file from the network path to a Web server (either Mercury Business Availability Center or any other Web server).

➤ Business Process Monitor supports basic (HTTP) and NTML authentication, as well as SSL with client side certification and/or server side certification.

When connecting via proxy, Business Process Monitor supports basic and NTLM proxy authentication.

## Installing Business Process Monitor on a Windows Platform

This procedure describes how to install/upgrade directly on the Business Process Monitor machine. For information on upgrading remotely (from the Mercury Business Availability Center machine), see "Upgrading Business Process Monitor Remotely" on page 25.

You must have administrative privileges on the machine on which you are installing Business Process Monitor.

**To install Business Process Monitor on a Windows platform:**

**1** Launch your Web browser and navigate to Mercury Business Availability Center. You log in to Mercury Business Availability Center using the URL provided to you by your Mercury Business Availability Center administrator. You can access Mercury Business Availability Center from any computer on your organization's intranet, or from the Internet, as long as the client machine has appropriate access permissions.

The default URL is **http://<hostname>/MercuryAM**, where **hostname** is the name of the machine on which the Centers Server is installed.

**2** The Mercury Business Availability Center login page loads. Type the name and password of a user defined in your database.

➤ If you are logging in to Mercury Business Availability Center for the first time, type **admin** in both the **Login Name** box and the **Password** box. This is the login name and password of the default user, **administrator**, which Mercury Business Availability Center adds to your database during Mercury Business Availability Center server installation.

➤ If additional users have been defined, you can log in using the login name and password of a user who has administrator privileges. You define Mercury Business Availability Center users in the Users and Permissions page of Mercury Business Availability Center Platform Administration. For details, see "User and User Group Management" in *Platform Administration*.

**3** Click **Log In**. The Mercury Business Availability Center default page is displayed.

**4** In the **Admin** menu, select **Platform**, then select the **Setup and Maintenance** tab > **Downloads**. Mercury Business Availability Center opens the Downloads page.

**5** Click the **Business Process Monitor for Windows** link.

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**Note:** The link is displayed only if you have previously installed the setup file. For more information, see "Requirements for Installation" on page 10.

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Depending on your browser type, you will either be prompted to save the file to your computer, or given the choice of opening or saving the file:

➤ If you choose to open the file, it will not be saved to your computer, and the setup program will start immediately. In this case, depending on your browser security settings, you might receive a security warning dialog box. Confirm that you want to proceed.

➤ If you choose to save the file to your computer, double-click the downloaded .exe file to begin installation.

**6** The Business Process Monitor InstallShield Wizard is invoked. Follow the on-screen instructions.

Note the following during Setup:

- If there are configuration settings on the machine from a previous Business Process Monitor 4.5.2 or later installation, Setup prompts you to select whether you want to apply the existing settings to the upgraded Business Process Monitor, or to configure the settings again after installation.
- Setup gives you the option of selecting the installation folder for Business Process Monitor and for the log and data files. It is recommended that you install Business Process Monitor on a drive with at least 500 MB of free disk space. If log and data files are stored on a different drive from the application files, then the requirement for each drive is minimum 250 MB.

**7** After Setup completes the installation process, Mercury Business Process Monitor is added as a service on the machine. When Business Process Monitor is launched (as described in "Running Business Process Monitor on a Windows Platform" on page 38), the Business Process Monitor icon appears in the system tray.

## Installing Business Process Monitor on a Solaris or Linux Platform

This procedure describes how to install/upgrade directly on the Business Process Monitor machine. For information on upgrading remotely (from the Mercury Business Availability Center machine), see "Upgrading Business Process Monitor Remotely" on page 25.

There are two installation modes for Business Process Monitor on a Solaris or Linux platform: console mode in text format (the recommended mode for installation) and UI mode. The console mode provides exactly the same installation options as UI mode, but in text format.

If you want to run the installation in UI mode, make sure that the DISPLAY environment variable is properly configured on the Business Process Monitor host machine, and that the machine from which you are installing is running an X-server (for example, a UNIX machine console or a Linux X-server).

Note the following before installing:

- You must be a root user to install Business Process Monitor.
- When installing on a Solaris or Linux platform, if you are installing via Exceed, it is recommended that you use console mode. Installation with Exceed in UI mode may slow the pace of the installation, and may adversely affect the appearance and functionality of the GUI.
- If you are using MS-DOS Telnet or any kind of serial console connection, you must install in console mode.

**To install Business Process Monitor on a Solaris or Linux platform:**

**1** Launch your Web browser and navigate to Mercury Business Availability Center. You log in to Mercury Business Availability Center using the URL provided to you by your Mercury Business Availability Center administrator. You can access Mercury Business Availability Center from any computer on your organization's intranet, or from the Internet, as long as the client machine has appropriate access permissions.

The default URL is **http://<hostname>/MercuryAM**, where **hostname** is the name of the machine on which the Centers Server is installed.

The Mercury Business Availability Center login page loads. Type the name and password of a user defined in your database.

- If you are logging in to Mercury Business Availability Center for the first time, type **admin** in both the **Login Name** box and the **Password** box. This is the login name and password of the default user, **administrator**, which Mercury Business Availability Center adds to your database during Mercury Business Availability Center server installation.

➤ If additional users have been defined, you can log in using the login name and password of a user who has administrator privileges. You define Mercury Business Availability Center users in the Users and Permissions page of Mercury Business Availability Center Platform Administration. For details, see "User and User Group Management" in *Platform Administration*.

**2** Click **Log In**. The Mercury Business Availability Center default page is displayed.

**3** In the **Admin** menu, select **Platform**, then select the **Setup and Maintenance** tab > **Downloads**. Mercury Business Availability Center opens the Downloads page.

**4** Click the **Business Process Monitor** link appropriate to the operating system on which your application server is running. A dialog is displayed asking if you want to open the Setup file or save it to your computer.

➤ If you choose to open the file, it will not be saved to your computer, and the setup program will start immediately. In this case, depending on your browser security settings, you might receive a security warning dialog box. Confirm that you want to proceed.

➤ If you choose to save the file to your computer, double-click it to begin installation, or open an X-terminal window and move to the appropriate drive and directory for the Business Process Monitor setup file, then type:

For Solaris platforms: **MercuryBPMSetup_solv4.bin**

For Linux platforms: **MercuryBPMSetup_linux.bin**

If you want to install in console mode, add **-console** to the command line.

**5** The Business Process Monitor InstallShield Wizard is invoked. Follow the on-screen instructions.

Note the following during Setup:

➤ If there are configuration settings on the machine from a previous Business Process Monitor 4.5.2 or later installation, Setup prompts you to select whether you want to apply the existing settings to the upgraded Business Process Monitor, or to configure the settings again after installation.

➤ Setup gives you the option of selecting the installation directory for Business Process Monitor and for the log and data files. It is recommended that you install Business Process Monitor on a drive with at least 500 MB of free disk space. If log and data files are stored on a different drive from the application files, then the requirement for each drive is minimum 250 MB.

**6** After completing the installation process, Setup launches Business Process Monitor.

## Running a Silent Installation

You can use a silent installation procedure to run the Business Process Monitor Setup. A silent installation does not prompt you for input, so there is no need to run the Setup dialog boxes. Instead, all configuration parameters are allocated default values. To run silent installations for different configurations, you can change these default values by running installation with a response file (for single Business Process Monitor installations) or with a tsettings.ini file (for multiple Business Process Monitor installations).

Note the following when using a silent installation method for Business Process Monitor:

➤ You must uninstall any previous installations of Business Process Monitor (prior to 5.0) from the machine before installing a new version using the silent installation procedure. (You can also uninstall the old Business Process Monitor installation as part of the silent installation using a response file, as described in "Installation Using a Response File" on page 22.)

➤ When running an installation in silent mode, no messages are displayed. Instead, you can view installation information in the log files, including information on whether the installation was successful. The installation log files for Windows platforms can be found under the **..\<system Temp folder>\Mercury Interactive** folder, and for Solaris platforms under the home directory of the root user.

- The parameter **-silent** should appear only once, either in the response file or on the command line. If it appears more than once (in both the command line and the response file), the installation will not run (and no error will show, unless you have added the output log path to the launcher).
- To troubleshoot installation issues, you can add the command line **-is:log <path of output log>** to the launcher. For example:
  setup.exe -silent -options c:\temp\BPM_SetupOptions.txt -is:log c:\temp\launcher.log

  Note that this is the only way to view certain errors.

---

**Important:** When you specify the URL to the Core Server, it must end with **/topaz** and not **/MercuryAM**.

---

This section contains the following topics:

- "Silent Installation on a Single Machine Using Default Settings"
- "Installation Using a Response File" on page 22
- "Installation Using the tsettings.ini File" on page 22

### Silent Installation on a Single Machine Using Default Settings

The Business Process Monitor Setup is zipped into a self-extracting executable file that you can download from the Mercury Business Availability Center site. You can run the process of extracting the Setup files and executing Setup itself in silent mode by running Setup from the command line with the addition of the silent parameter. When Setup runs in silent mode, all dialog parameters are filled using the Business Process Monitor default values.

- For Windows: In the Run window (**Start** > **Run**) type the location of the downloaded file, followed by:
  **MercuryBPMSetup_win.exe -silent**.
- For Solaris: Move to the drive and directory of the downloaded file and run:
  **MercuryBPMSetup_solv4.bin -silent**

➤ For Linux: Move to the drive and directory of the downloaded file and run: **MercuryBPMSetup_linux.bin -silent**

### Installation Using a Response File

You can execute Setup of a single Business Process Monitor in silent mode using customized values for the configuration parameters, by running Setup with a response file. (The response file cannot hold data for multiple Business Process Monitors.)

The response file can also be used during regular installation to replace the default values with customized values. In this case, remove the silent installation key from the file.

In the response file, you change the default values for the setting keys as required. A template for the response file can be found on **Mercury Business Availability Center Documentation and Utilities CD-ROM\tools and utilities\BPM_Setup_Options.txt**.

You can edit the file as required and save it to the local drive, then install each Business Process Monitor by running the Setup script with an extra command line, as follows:

➤ For Windows:
**MercuryBPMSetup_win.exe -options <path to response file>**

➤ For Solaris:
**MercuryBPMSetup_solv4.bin -options <path to response file>**

➤ For Linux:
**MercuryBPMSetup_linux.bin -options <path to response file>**

### Installation Using the tsettings.ini File

If you need to install multiple Business Process Monitors with different installation configurations, Setup can be run with a **tsettings.ini** file that holds the required information. The tsettings.ini file contains the information for each Business Process Monitor installation in a separate section, identified by the machine name on which you want to install each Business Process Monitor. You can run silent installation with a tsettings.ini file on Windows, Solaris, or Linux platforms.

You create the **tsettings.ini** with the customized information you require, as described in "Creating the tsettings.ini File" on page 23. You can then place the file in a central location to which all machines have access, and download the file to the local drive for each installation.

To tell Setup where the file is located and how to copy it from the local drive, you add the following to the Setup script (as described in "Silent Installation on a Single Machine Using Default Settings" on page 21) on the command line:

**-W loadTsettingsIni.tsettingsPath=<path of tsettings.ini>**

The path should include the name of the **tsettings.ini file**. For example, for a Windows platform:

```
MercuryBPMSetup_win.exe -silent -W
loadTsettingsIni.tsettingsPath=c:\temp\tsettings.ini
```

reads the **tsettings.ini** file located in the **temp** directory on the **C** drive.

### Creating the tsettings.ini File

You create the tsettings.ini file with the following information:

**[GeneralSettings]**

This section contains general settings that apply to all Business Process Monitors. If there is one Core Server for all the monitors, this section contains the Core Server URL. For example:

```
topaz_agent_ctrl_Site1_SiteUrl=http://www.mercury.com/
topaz
```

(If individual Business Process Monitors are working against different Core Servers, you can specify each Core Server URL under the relevant machine name section.)

In this section, you can also specify customized values for the setting keys, when the values apply to all Business Process Monitor installations. Where a different setting key value is required for each specific Business Process Monitor (for example, the host name), the setting key and its value should be listed under the relevant machine name section.

If a value is not defined for a setting key, Setup uses the default value for the key. The setting keys and their default values are as follows:

```
topaz_agent_ctrl_Site1_JobPoll="2"
topaz_agent_ctrl_Site1_HostLocation="machine name"
topaz_agent_ctrl_Site1_SiteUrl="http://machine name/topaz"
topaz_agent_ctrl_Site1_HostName="machine name"
topaz_agent_ctrl_General_path="agent home"
topaz_agent_ctrl_General_Workspace="agent home\workspace"
agent_general_TaskTimeoutMinutes=15
agent_ProfileDistribution_Factor=0
topaz_data_server_PCBD_Policy=runnum
topaz_data_server_PCBD_Runnum=4
```

**[<machine_name>]**

This section contains settings for Business Process Monitor installed on a specific machine. Replace **<machine_name>** with the name of the machine.

In this section, you specify the host name (this is a logical host name, not necessarily the same as the machine name) and a logical host location, and make changes to any other setting keys that require a specific value for this Business Process Monitor installation. For example:

```
[black]
topaz_agent_ctrl_Site1_HostName=bpm1
topaz_agent_ctrl_Site1_HostLocation=paris
agent_general_TaskTimeoutMinutes=20
```

The above example installs Business Process Monitor on black with the host name bpm1, location of Paris and a time-out setting of 20 minutes. Business Process Monitor will work with the Mercury Business Availability Center site specified under the **GeneralSettings** section, and will use default values for the other setting keys (unless alternative setting key values are specified in the **GeneralSettings** section).

You create a separate **<machine_name>** section for each machine on which you want to install Business Process Monitor. The Business Process Monitor Setup automatically identifies the section that pertains to the local machine on which you are installing Business Process Monitor.

# Upgrading Business Process Monitor Remotely

You can remotely upgrade individual or multiple Business Process Monitors from the Data Collection tab of Mercury Business Availability Center Platform Administration. The upgrade is performed silently, directly on the selected Business Process Monitor(s).

To perform the upgrade, you enter an HTTP/HTTPS URL for the setup file (or the path to the setup file copied onto the local machine) in the Data Collection Maintenance page (under the Data Collection tab). The setup file (**.jar**) is found in the Mercury Business Availability Center Components Setup CD-ROM. The .jar is signed by mercury, and this signature is checked before the upgrade runs. (If you are installing a patch, the relevant .jar file is supplied by your Mercury Customer Support representative.)

For more details on how to upgrade your Business Process Monitor version remotely, see "Upgrading a Business Process Monitor" in *Platform Administration*.

Note that when upgrading Business Process Monitor from a network drive at a remote location, if the Business Process Monitor user does not have network permissions to all the network, you may not be able to run the upgrade remotely. To upgrade, you need to do one of the following:

- Copy the setup file to the local machine and install from there (this will greatly reduce the download time and enable you to control when Business Process Monitor will be down during installation).
- Copy the setup file from the network path to a Web server (either Mercury Business Availability Center or any other Web server).

---

**Note:** If the Mercury Business Availability Center server is using basic authentication, there are additional steps for performing the remote upgrade. For details, see "Auto Upgrading Data Collectors Remotely when Using Basic Authentication" in *Hardening the Platform*.

---

# Uninstalling Business Process Monitor/Topaz Agent

Before installing Business Process Monitor 6.1, you must uninstall any previous installation of Business Process Monitor (prior to 5.0) or Topaz Agent on the host machine.

If you are uninstalling the Topaz Business Process Monitor 4.5.2 or later, the uninstall process saves configuration settings on the machine for future installation.

## Uninstalling Business Process Monitor on a Windows Platform

The following procedure relates to uninstalling Business Process Monitor, version 4.5.2 or later, on a Windows platform. For directions on uninstalling Topaz Agent 4.5 or earlier, see "Uninstalling the Topaz Agent on a Windows Platform" on page 27.

The path for Business Process Monitor varies according to the version. For each step, use the path appropriate to the version that you are uninstalling.

---

**Note:** You can run a silent uninstall for Business Process Monitor versions 5.0 and later on a Windows platform by running: **<Business Process Monitor root directory>_uninst\uninstall -silent**

---

**To uninstall Business Process Monitor on a Windows platform:**

1. On the host machine, shut down Business Process Monitor Admin and Business Process Monitors (select:
**Start** > **Programs** > **Mercury Business Process Monitor** > **Stop Mercury Business Process Monitor Service**
or
**Start** > **Programs** > **Topaz** > **Business Process Monitor** > **Stop Business Process Monitor Service**).
2. Wait two minutes.

3 Run the Business Process Monitor uninstall program (select **Start** > **Programs** > **Mercury Business Process Monitor** > **Uninstall Mercury Business Process Monitor**
or:
**Start** > **Programs** > **Topaz** > **Business Process Monitor** > **Uninstall Business Process Monitor**)
and restart the machine if prompted to do so.

4 Check if Business Process Monitor still appears in the **Start** > **Programs** or **Start** > **Programs** > **Topaz** menu. If yes, right-click the **Business Process Monitor** entry and select **Delete** from the displayed menu.

5 (**Important:** This step should only be performed if you do *not* want to save the configuration settings for use by a future Business Process Monitor installation.)

Delete the Business Process Monitor root installation folder from the machine (**..\Program Files\Mercury Interactive\Business Process Monitor** or **..\Program Files\Mercury Interactive\Topaz\Business Process Monitor** or **Agent**).

## Uninstalling the Topaz Agent on a Windows Platform

The following procedure relates to uninstalling the Topaz Agent, version 4.5 or earlier. For directions on uninstalling Business Process Monitor 4.5.2 or later, see "Uninstalling Business Process Monitor on a Windows Platform" on page 26.

**To uninstall the Topaz Agent on a Windows platform:**

1 Shut down the Topaz Agent Controller and the Topaz Agent on the host machine (select **Start** > **Programs** > **Topaz** > **Agent** > **Stop Agent Service**).

2 Wait two minutes.

3 (Optional step to clean out old files.)

Open the Windows Registry Editor (select **Start** > **Run**, and type **Regedit**), and browse to the AgentsPath registry key:
(**HKEY_LOCAL_MACHINE\SOFTWARE\Mercury Interactive\Topaz\Agents\AgentsPath**). Double-click the key name to open the **Edit String** window, and copy the path in the **Value data** box, for example, **D:\temp\TopazAgent**.

Use this path to locate the **TopazAgent** temp folder (you can select **Start** > **Run**, and paste the path into the box), and delete the entire folder from the machine.

4 Run the Business Process Monitor uninstall program (select **Start** > **Programs** > **Topaz** > **Agent** > **Uninstall Agent**) and restart the machine if prompted to do so.

5 Select **Start** > **Programs** > **Topaz** and right-click **Agent**. Select **Delete** from the displayed menu.

6 Delete the Business Process Monitor root installation folder from the machine (**..\Program Files\Mercury Interactive\Topaz\Agent**).

### Uninstalling on a Solaris/Linux Platform

The path for Business Process Monitor varies according to the version. For each step, use the path appropriate to the version that you are uninstalling.

The default installation directory for Business Process Monitor on a Solaris/Linux platform is **/opt/topaz/bpm** or **opt/MercuryBPM**.

---

**Note:** You can run a silent uninstall for Business Process Monitor versions 4.5.2 and later on a Solaris/Linux platform by running: **<Business Process Monitor root directory>/_uninst/uninstall -silent**

---

**To uninstall Business Process Monitor on a Solaris or Linux platform:**

1 Access the installation directory.

2 Stop Business Process Monitor using:

```
./scripts/topaz_agent stop
```

or:

```
./scripts/business_process_monitor stop
```

**3** Check for remaining processes (such as JRE).

➤ To view the processes, use:

```
ps –ef
```

➤ To view a specific process, use:

```
ps –ef | grep <process name>
```

➤ To kill the process, use:

```
kill -9 <pid>
```

**4** Uninstall Business Process Monitor using:

```
./_uninst/uninstall –console
```

(The **–console** parameter does not run uninstall UI.)

**5** Delete the subdirectories **/opt/topaz/bpm** (or **opt/MercuryBPM**) and **/tmp** using:

```
rm –Rf <dir name>
```

# Deployment Troubleshooting

The following describes common problems that you may encounter when deploying Business Process Monitor, and their solutions.

### Windows Platforms

If you (mistakenly) set the whole Business Process Monitor to run as a specific user for a user that does not have write permissions to the **<Business Process Monitor root directory>\config** directory, Business Process Monitor will fail to run, and you will not be able to switch to a different user using the **Set BPM as User** option in Business Process Monitor Admin. In order to set a different user, use the following procedure:

**To set a different user:**

1. Stop Business Process Monitor.
2. Open the <**Business Process Monitor root directory**>**\config\topaz_agent_ctrl.cfg** file in a text editor.
3. Under the **[general]** section, remove the three lines beginning with:

   UserDomain=
   UserPasswd=
   UserName=
4. Save the file and restart Business Process Monitor. Business Process Monitor will now run as a system user.
5. From Business Process Monitor Admin, set Business Process Monitor to run as a new specific user (with Administrator permissions).

### Solaris Platforms

Business Process Monitor may not function after Oracle protocol scripts are scheduled to run on it. To resolve the problem, you need to define certain environment variables for Business Process Monitor. For details on how to do this, see "Running Oracle Protocol Scripts" on page 148.

# 3

# Working with Business Process Monitor

This chapter provides information on Mercury Business Process Monitor functioning, and describes how to access and navigate in Business Process Monitor Admin.


| This chapter describes: | On page: |
|---|---|
| Business Process Monitor Operation | 32 |
| Supported Recording Tools | 33 |
| Requirements and Limitations for Running Tasks | 34 |
| Running Business Process Monitor | 38 |
| Accessing Business Process Monitor Admin | 40 |
| Moving Around the Business Process Monitor Admin Window | 41 |

# Business Process Monitor Operation

The Business Process Monitor service performs the following operations:

- ➤ retrieves Business Process profile information, including recorded scripts, from the profile database(s) via the Core Server
- ➤ performs the work defined in the profile (including running scripts and running WebTrace)
- ➤ monitors the task and aggregates the collected data, performing all necessary calculations
- ➤ returns the aggregated data to the loaders via the Core Server

Note that the scripts are sent over the network (from Mercury Business Availability Center Monitor Administration to the database and from the database to the Business Process Monitor machine) in zipped format. This improves performance and reduces network load.

Business Process Monitor saves detailed log entries for every executed task, and for general Business Process Monitor operation. For more information on the logs, see Chapter 10, "Workspace Directory and Log Files."

Business Process Monitor synchronizes time with the Mercury Business Availability Center server once an hour (default **Time Poll Interval** setting). If you change the time on the Business Process Monitor machine, the Business Process Monitor reports may contain incorrect times until Mercury Business Availability Center is next polled for time synchronization. To avoid this, you can restart Business Process Monitor/the relevant Business Process Monitor instance, or change the **Time Poll Interval** setting for an instance to a value smaller than 60 minutes. (See "Restarting Business Process Monitor" on page 62, or "Modifying an Instance" on page 52.)

---

**Note:** Business Process Monitor saves persistency information after registration with Mercury Business Availability Center, and after each job update, enabling work to continue even if the Core Server is temporarily unavailable.

---

# Supported Recording Tools

Business Process Monitor 6.1 supports scripts recorded using the following Mercury tools. Each tool (with the exception of Mercury Virtual User Generator) must be installed on the Business Process Monitor machine before Business Process Monitor can run scripts recorded with that tool.

- **QuickTest Professional 9.0** (runs on Windows platforms only)

  Note that this version can also run scripts from earlier versions, enabling Business Process Monitor to run older QuickTest Professional scripts.

  Business Process Monitor supports QuickTest Professional scripts for a number of development environments including:

  - QuickTest Professional Java Add-in
  - QuickTest Professional Oracle Add-in (supports both Web-based and Java-based Oracle applications)
  - QuickTest Professional .NET Add-in
  - QuickTest Professional Add-in for SAP Solutions (supports both Windows-based and Web-based SAP solutions)
  - QuickTest Professional Siebel Add-in
  - QuickTest Professional Terminal Emulator Add-in
  - QuickTest Professional Web Services Add-in
  - QuickTest Professional Stingray Add-in
  - QuickTest Professional VisualAge Smalltalk Add-in
  - QuickTest Professional PeopleSoft Add-in

- **QuickTest Professional for mySAP.com Windows Client**
- **Virtual User Generator** 8.1 and earlier

**Note:** It is not recommended to use scripts recorded with WinRunner 7.6 with Business Process Monitor. It is preferable to work with QuickTest Professional instead. If you need to use WinRunner scripts, please first consult Mercury Customer Support.

## Requirements and Limitations for Running Tasks

Business Process Monitor has the following requirements and limitations when running scripts and WebTrace.

This section includes the following topics:

➤ "General" on page 34

➤ "Virtual User Generator Scripts" on page 36

➤ "QuickTest Professional Scripts" on page 36

➤ "WinRunner Scripts" on page 37

### General

➤ It is recommended that you run scripts for all protocols (with the exception of Web protocols) with the Business Process Monitor instance /whole Business Process Monitor set to run as a specific user.

➤ When running scripts, Business Process Monitor clears the snapshot cache prior to starting a transaction. Thus, if an error occurs and no snapshot is available, no snapshot is displayed in the Error Summary report. (Previously, the snapshot cache was not cleared and as a result, a snapshot that was captured during the script run, but before the start of that transaction, was displayed with the error.)

- When running Business Process Monitor on a Solaris or Linux platform, if you add the **sleep** command to functions in scripts, keep in mind that in UNIX environments the parameter passed is treated as seconds (and not milliseconds, as with Windows). This can cause differences in reported response times when running scripts across platforms. It is recommended to use the lr_think_time command instead.
- If there is a problem with a script (for example, due to a missing client installation, a download failure, corruption in the script, and so forth), then the script may fail to initialize. In this case, the profile containing the script will also fail to initialize, with the result that none of the profile scripts or WebTraces will be run on Business Process Monitor.
- Scripts that include an HTML replay mode cannot download Active-X components.
- Business Process Monitor is not case sensitive to transaction names, so you should ensure that each transaction has a unique name. Two transactions that have the same name, but with case-sensitive differences, are handled as a single transaction by Business Process Monitor. Business Process Monitor will report both transactions to Mercury Business Availability Center using a single transaction ID, and the reports will show results for only one transaction.
- Page component breakdown is supported only for certain Virtual User Generator protocols.
- WebTrace does not support the use of domain names that begin with a digit, for example, www.1800mercury.com. An error message is displayed. Instead, use the IP address for the destination.
- Scripts of stopped profiles are still downloaded to Business Process Monitor, so that if the profile restarts, the Business Process Monitor will not need to download the scripts. To avoid overload problem, unwanted profiles should be deleted rather than just leaving them in Mercury Business Availability Center in stopped mode.

### Virtual User Generator Scripts

- If you are running scripts recorded with Virtual User Generator that include protocols which require a client to run (for example, Oracle Client or RealPlayer), you must have the protocol's client installed on the Business Process Monitor machine.
- Citrix recording and playback is supported only on Windows platforms.
- Business Process Monitor supports Virtual User Generator scripts for all Oracle NCA protocols. If you run an Oracle NCA protocol task, you can view transaction breakdown data for tasks that use HTTP or Servlet connection methods (breakdown data for Socket communication is not supported). Note, however, that page name and page component breakdown data (if included in the task report) have no relevance for Oracle NCA protocol scripts.
- To run Oracle protocol scripts on a Solaris platform, you need to define certain environment variables for Business Process Monitor. For details, see "Running Oracle Protocol Scripts" on page 148.

### QuickTest Professional Scripts

---

**Note:** For tips and recommendations on recording scripts in QuickTest Professional to run on Business Process Monitor, see "QuickTest Professional Recording Tips" in *Script Recording Tips*.

---

- The last step (may also be multiple last steps) in a QuickTest Professional script should close the application being tested, as well as any child processes that are running. This cleanup step enables the next run of the script to open the application again.

  However, if a script fails before it finishes running, it does not run the last step. From version 6.1, Business Process Monitor supports a special close application mechanism that automatically closes the application being tested, when a QuickTest Professional script fails. This mechanism is intended for fallback purposes only. Although the mechanism closes the application being tested, it does not necessarily release all of the tested application's resources. Also, any unsaved data is lost.

This mechanism is enabled by default. If required, you can disable it for a specific test, as described in "Disabling the Close Application Mechanism" on page 150.

- Business Process Monitor does not support QuickTest Professional scripts that require access to external resources (such as shared object repository, function library, external Data Table, external actions, and so forth). Scripts that require external resources may fail to run on Business Process Monitor. (However, if the resource can be found on the network, QuickTest Professional will use it.)
- It is recommended that you set every Business Process Monitor instance that will be used to run QuickTest Professional scripts, to run as a specific user before assigning the scripts. It is also recommended to log in as that user.
- When running QuickTest Professional scripts, changing the whole Business Process Monitor or a Business Process Monitor instance to run as a specific user instead of a system user may cause all QuickTest Professional scripts to fail. In this case, you need to restart Business Process Monitor machine to run the scripts.
- Business Process Monitor can run only one QuickTest Professional script at a time. Make sure there are not multiple profiles with QuickTest Professional scripts set to run concurrently, or a profile with more than one QuickTest Professional script set to run in **Concurrent** run mode. (For information on run modes, see "Run Schedule for Profile Tasks" on page 82.)
- Ensure that QuickTest Professional is closed on the computer before running a QuickTest Professional script in Business Process Monitor.
- QuickTest Professional cannot run tests on a computer that is logged off, locked, or running QuickTest Professional as a non-interactive service.
- You cannot use the **ResultDir** QuickTest Professional environment variable when running a script in Business Process Monitor.
- QuickTest Professional scripts for SAP 6.2 can be run only as a specific user.

### WinRunner Scripts

- It is not recommended to use WinRunner with Business Process Monitor. If you need to use WinRunner, consult Mercury Customer Support.

➤ WinRunner scripts must run with the Business Process Monitor instance /whole Business Process Monitor set to run as a specific user; in addition, the user must have administrator permissions on the local machine.

## Running Business Process Monitor

Once Business Process Monitor is active on a host machine, it can continue running indefinitely. When Business Process Monitor starts, it automatically starts each Business Process Monitor instance.

### Running Business Process Monitor on a Windows Platform

When you install Business Process Monitor on a host machine running on a Windows platform, **Mercury Business Process Monitor Service** is added as a service on the host. Mercury Business Process Monitor Service automatically starts Business Process Monitor whenever the host machine is started.



When Business Process Monitor starts, the Mercury Business Process Monitor icon appears in the system tray.

**To start Business Process Monitor on a Windows platform:**

➤ Use one of the following methods to start Business Process Monitor if it is not running:

- ➤ Select **Start** > **Programs** > **Mercury Business Process Monitor** > **Start Business Process Monitor Service**.
- ➤ Restart the host machine.

**To shut down Business Process Monitor on a Windows platform:**

➤ Select **Start** > **Programs** > **Mercury Business Process Monitor** > **Stop Business Process Monitor Service**.

## Running Business Process Monitor on a Solaris/Linux Platform

The default installation directory for Business Process Monitor on Solaris/Linux platforms is **/opt/MercuryBPM**.

**To start Business Process Monitor on a Solaris/Linux platform:**

➤ If Business Process Monitor is not running, enter the Scripts directory and execute the command:

```
./business_process_monitor start
```

**To shut down Business Process Monitor on a Solaris/Linux platform:**

➤ Enter the Scripts directory and execute the command:

```
./business_process_monitor stop
```

# Accessing Business Process Monitor Admin

You access Business Process Monitor Admin via a Web browser, from any computer connected to your intranet or to the Internet.

---

**Note:** For details on accessing Business Process Monitor Admin securely, see "Using SSL in Mercury Business Availability Center" in *Hardening the Platform*.

---

**To access Business Process Monitor Admin:**

You can access Business Process Monitor Admin in one of the following ways:

- In a browser window, enter the URL **http://<host machine>:2696**, for example, http://cats:2696.
- On the Business Process Monitor host machine, you can select **Start** > **Programs** > **Mercury Business Process Monitor** > **Business Process Monitor Admin**. Business Process Monitor Admin opens in a browser window.
- In Mercury Business Availability Center, you can access the **Admin** > **Platform** > **Data Collection** > **Data Collector Maintenance** > **Business Process Monitor** page and click the **BPM Admin** link for a Business Process Monitor host to open the Business Process Monitor Admin for that host in a new browser window.

---

**Note:** 2696 is the default port for Business Process Monitor Admin. You can configure a new port if required. For details, see "Changing the Default Port" on page 141.

---

# Moving Around the Business Process Monitor Admin Window

The Business Process Monitor Admin browser window is divided into three areas:

### Left Menu

The left navigation menu of the Business Process Monitor Admin window provides links to the pages for the Business Process Monitor instances, profiles, and profile tasks included on the host machine.




The following icons are used for each page:

| Icon | Represents: |
|---|---|
|  | Instance – registration data received (from Mercury Business Availability Center or from persistency files), and no fatal errors occurred for this instance |
|  | Instance – checking connectivity status |
|  | Instance – problem occurred (for example, connectivity to Mercury Business Availability Center failed, or failed to create a specific user for that instance) |

| Icon | Represents: |
|---|---|
|  | Profile |
|  | Task |

### Top Bar

The top bar contains the Hide/Show Menu arrow, which you click to hide or show the left navigation menu, and the **Help** menu. Place the cursor over the **Help** link to display the menu options:

- **Business Process Monitor Administrator's Guide** – opens the guide in a new browser window.
- **What's New?** – displays information on what's new for this Business Process Monitor version.
- **About Business Process Monitor** – displays information on the Business Process Monitor version.

### Info Area

When you select a page in the left menu, Business Process Monitor Admin displays the page in the info area. The info area also contains a **Help** button, which opens the *Mercury Business Process Monitor Administrator's Guide* to the topic that describes the current browser page.

The following chapters describe the pages in Business Process Monitor Admin:

- Business Process Monitor Host Page
- Instance Page
- Profile Page
- Task Page

# 4

# Business Process Monitor Host Page

This section describes the Business Process Monitor Host page in Business Process Monitor Admin. The Business Process Monitor Host page provides administrative management for Business Process Monitor installation, enabling you to add and remove Business Process Monitor instances, view log and configuration files, and restart Business Process Monitor instances. You can also invoke a page component breakdown for a Web page or run a WebTrace.


| This chapter describes: | On page: |
|---|---|
| Introducing the Business Process Monitor Host Page | 44 |
| Configuring Business Process Monitor Instances | 45 |
| Working with Business Process Monitor Directories | 54 |
| Running the Whole Business Process Monitor as a Specific User/System User | 59 |
| Restarting Business Process Monitor | 62 |
| Running an On-Demand Page Component Breakdown | 63 |
| Running WebTrace | 65 |

# Introducing the Business Process Monitor Host Page

The Business Process Monitor Host page **Properties** area displays the logical host name (as defined during Business Process Monitor installation), and the number of Business Process Monitor instances defined on the host machine.

The **Instances** area displays a list of the instances Business Process Monitor instances defined on the host machine, and the communication status (**enabled** or **disabled**) with Mercury Business Availability Center for each instance. (The status is changed to disabled if you block communication using the **Disable Communication** button in the Instance page, as described in "Administering the Instance" on page 70.) You click an instance name link to display the page for that instance.

From the Instances area, you add instances, delete instances, and edit instance settings.

---

**Tip:** Click a column header to organize the Instances list according to that column, in ascending or descending alphanumeric order.

---

From the Business Process Monitor Host page you can:

- configure Business Process Monitor instances (add/remove instances)
- view Business Process Monitor workspace or configuration file data
- set the whole Business Process Monitor to run as a specific user/system user
- restart the Business Process Monitor
- invoke page component breakdowns
- invoke WebTrace

# Configuring Business Process Monitor Instances

Your Business Process Monitor installation can be used as the basis for multiple Business Process Monitor instances on the host machine. For example, you may require additional instances on the host machine to work with different Mercury Business Availability Center Core Servers. Each instance runs its own tasks and reports independently to the relevant server.

The initial installation of Business Process Monitor on the host machine automatically creates the first Business Process Monitor instance in Business Process Monitor Admin. During installation, you specify the name of the Core Server machine for this instance. If you create additional instances, you can specify the same Core Server, or, if are using multiple Core Servers, you can specify a different Core Server for communication with each Business Process Monitor instance.

Each instance is assigned a unique host alias, referred to as the host name. This host alias is used when designating hosts to run your Business Process profiles in Mercury Business Availability Center Monitor Administration. (Note that the host name does not imply the host machine name.) You also define a location name for each instance, used when defining the Business Process profiles. The same location name can be used for multiple instances, and does not need to be the location of the Business Process Monitor host machine.

For each instance, you specify server authentication, SSL, and proxy server information, as necessary. Business Process Monitor supports basic and NTLM authentication schemes. (If you receive an error message when the server tries to communicate with the instance, check which authentication scheme is in use, and that the correct authentication and proxy information is defined for the instance).

---

**Note when using NTLM authentication:** Unlike working with Microsoft Internet Explorer (where NTLM authentication is transparent to users), when Business Process Monitor is working with NTLM authentication, you are required to specify the authentication user name and password parameters when creating or editing the instance.

---

In addition, you can configure the Business Process Monitor instance to run as a specific user, so that all tasks defined for the instance run as a specific user. Running the Business Process Monitor instance as a specific user may be necessary to solve access permission problems on your network.

---

**Note:** You can also set all Business Process Monitor instances on the machine to run as a specific user, as described in "Running the Whole Business Process Monitor as a Specific User/System User" on page 59.

---

This section contains the following topics:

➤ "Adding an Instance"

➤ "Configuring Add Instance Parameters" on page 47

➤ "Modifying an Instance" on page 52

➤ "Removing an Instance" on page 53

## Adding an Instance

After creating a Business Process Monitor instance, the host name for the instance is added to the list of available hosts for running profiles in Monitor Administration. For details on specifying hosts for profiles, see "Managing Business Process Profiles and Creating Client Monitor Profiles" in *End User Management Data Collector Configuration*.

**To add a Business Process Monitor instance:**

1. In the Business Process Monitor Host page, click **Add Instance**. The Add Instance page is displayed.

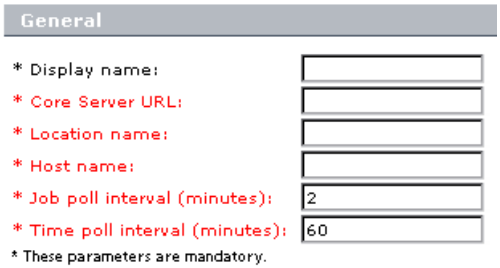
2. Enter the required information in each of the categories of the Add Instance page. For information on the instance parameters, see "Configuring Add Instance Parameters" on page 47.

3. Click **Add** to add the instance. The new Business Process Monitor instance is displayed in the Instances list and communication is automatically established with the server (indicated by the instance icon changing from gray to green).

## Configuring Add Instance Parameters

You configure parameters for an instance in the following categories:

### General




| Parameter | Description |
|---|---|
| **Display name** | Type a display name for this instance. This name is only used within Business Process Monitor Admin. If you do not specify a name, the default name for the instance will consist of the Core Services URL, the host location, and the host name. |
| **Core Server URL** (mandatory field) | Type the full URL of the Core Server, for example, http://<servername>/topaz, where <servername> is the name of a Core Server. Note that the URL is case sensitive. |
| **Location name** (mandatory field) | Type a location name. Keep in mind that the location specified will be used by Mercury Business Availability Center to break down and organize reports on application performance. You can use the same location name for as many instances as you want. |
| **Host name** (mandatory field) | Type a unique host name for this instance. Keep in mind that the host name is used to identify the Business Process Monitor instance when you create profiles and view reports. |

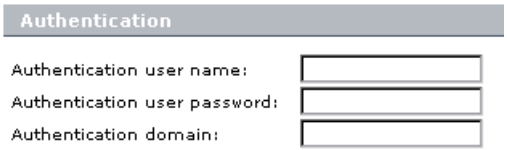
| Parameter | Description |
|---|---|
| **Job poll interval (minutes)** (mandatory field) | Type a value in minutes to determine the frequency with which Business Process Monitor polls the database for assigned tasks (for example, running scripts or Webtrace) and changes to the profiles. The default value is two minutes. |
| **Time poll interval (minutes)** (mandatory field) | Type a value in minutes to determine the frequency with which Business Process Monitor polls the Mercury Business Availability Center server for time synchronization. The default value is 60 minutes. |

**Important:** Note the following when configuring the **General** parameters:

- The Core Server URL must end with **/topaz** and not **/MercuryAM**.
- The host name for each Business Process Monitor instance must be unique within each Mercury Business Availability Center environment.
- Do not use special characters in the host name or location name for Business Process Monitor instances, if these characters are not supported in Mercury Business Availability Center. Unsupported characters are blocked by Business Process Monitor Admin. (For a full list of supported special characters in Mercury Business Availability Center, see "Allowed Names in Mercury Business Availability Center" in *Reference Information*.)
- If you use non-English strings for the host name or location name, the Invoke Task option (described in "Viewing Task Reports" on page 90) is not supported.
- If a time change is made on the Mercury Business Availability Center server, for example, for daylight saving time, then the time poll interval value should be changed to a value smaller than the default of 60 minutes, for each Business Process Monitor instance.

  If this is not done, it may take up to an hour for Business Process Monitor to be synchronized with the time change in Mercury Business Availability Center, and during this period the Business Process Monitor samples will be reported with the wrong time stamp.

### Authentication




Define authentication parameters for the Business Process Monitor instance to support the authentication scheme in use by the server (basic or NTLM authentication).

Type the user name, password, and domain name of a user recognized by the Core Server.

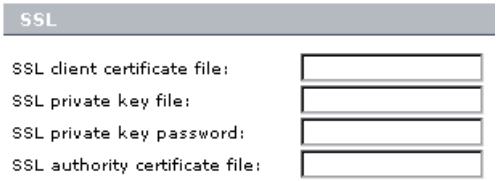
For more information on using basic authentication in Mercury Business Availability Center, see "Using Basic Authentication in Mercury Business Availability Center" in *Hardening the Platform*.

---

**Note:** To define basic authentication requirements for accessing Business Process Monitor Admin, see "Enabling User Authentication" on page 145.

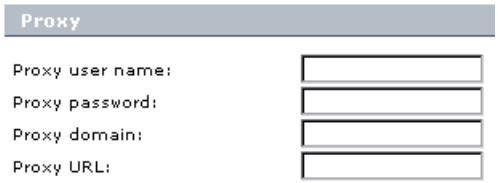
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### SSL



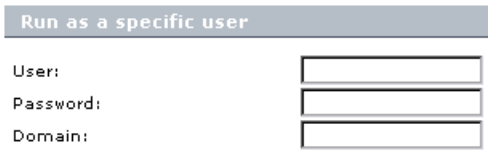

If the Business Process Monitor instance is communicating with the server using SSL, type the required information in the relevant boxes. For more information on supporting SSL communication, see "Using SSL in Mercury Business Availability Center" in *Hardening the Platform*.

### Proxy




If the Business Process Monitor instance is accessing the Core Server through a proxy server, define authentication parameters for proxy requests (basic or NTLM proxy authentication). Type the user name, password, domain name, and URL for the proxy server.

### Run as a Specific User




By default, each Business Process Monitor instance runs on the host machine as the system user, unless you configured the whole Business Process Monitor to run as a specific user (as described in "Running the Whole Business Process Monitor as a Specific User/System User" on page 59).

If you want to configure only certain Business Process Monitor instances to run as specific users, and not the whole Business Process Monitor, you type the user name, password (for Windows platforms), and domain in the relevant boxes of the **Run as a specific user** category.

If you are running the Business Process Monitor instance as a specific user, then you need to set full control permissions for the user under the default Workspace directory and (for Windows platforms only) under the user Temp folder and the Windows installation folder. The procedure for this is described below.

If you are running a Business Process Monitor instance as a specific user without administrator permissions on the local machine, you need to set additional permissions for the user. For details, see "Setting User Permissions for Specific Users" on page 140.

---

**Note:** To set the Business Process Monitor instance to run as a system user after previously setting it to run as a specific user, open the instance for editing (as described in "Modifying an Instance" on page 52) and clear all boxes in the **Run as a specific user category**.

---

---

**Note:** If you want to run QuickTest Professional scripts as a specific user, it is recommended that you set each relevant Business Process Monitor instance to run as a specific user before assigning the QuickTest Professional scripts.

After running QuickTest Professional scripts as the system user, if you then set the Business Process Monitor instance to run as a specific user, the script may fail. In this case, restart the Business Process Monitor machine.

---

**To set full control permissions on the Temp and Workspace directories:**

1 (**Windows platforms only**) Browse to the user Temp folder (default user or user that runs the Business Process Monitor, usual path is **C:\Documents and Settings\<User name>\Local Settings\Temp**) and perform the following actions:

- ➤ Select **Properties** from the right-click menu for the folder.
- ➤ In the displayed Temp Properties window, select the **Security** tab.
- ➤ Select the user in the **Name** area, then in the **Permissions** area select the **Allow** check box for **Full Control**.
- ➤ Click **OK** to save your changes and close the window.

2 (**Windows platforms only**) Browse to the Windows installation folder (usual path **C:\WINNT\Temp**) and repeat the actions described in step 1.

3 (**Windows, Solaris, and Linux platforms**) Browse to the default Workspace directory for Business Process Monitor and repeat the actions described in step 1.

### Modifying an Instance

You modify parameters for an instance in the Edit Instance page. When saving your changes, you have the option to save with/without restarting the instance. If you choose not to restart the instance, then most changes will be applied only when you next restart Business Process Monitor (using the **Restart BPM** button).

Certain parameters for the instance can be configured in run-time, without need to restart the instance. These parameters are:

- **Display name**
- **Job poll interval**
- **Time poll interval**

Please check the information in the Notes and Limitations section (below) before editing an instance.

**To edit a Business Process Monitor instance:**

1 In the Instances list on the Business Process Monitor Host page, click the edit icon for the instance you want to modify. The Edit Instance page opens.



---

**Note:** You can also open the Edit Instance page directly from the relevant instance page by clicking **Edit Instance**.

---

2 Modify the settings as required. For information on the instance parameters, see "Configuring Add Instance Parameters" on page 47.

3 To apply your changes later, or if you made changes only in the run-time parameters, click **Save Changes**. If you want to apply non-run-time changes immediately (by restarting the Business Process Monitor instance), click **Save Changes and Restart Instance.**

### Notes and Limitations

- If you save your changes on the Edit Instance page without restarting the instance/Business Process Monitor, then reopen the Edit Instance page, it displays the previous parameter values from before making the changes (for all non-run-time changes). To still apply your changes, click **Cancel**, then restart Business Process Monitor. To reapply the values now displayed in the Edit Instance page, click **Save Changes** or **Save Changes and Restart Instance**.
- If you change the host name for an instance, Mercury Business Availability Center assigns a new HostID value to the Business Process Monitor instance. As a result, the Business Process Monitor instance will not run profiles that use the original host name. To enable profiles to run correctly after changing the host name, you must update your profiles in Monitor Administration to use the new instance host name.
- Do not change the location for a Business Process Monitor instance that is designated as the host for a profile, when the database for the profile is down. Doing so will remove the mapping from the profile to the instance, with no recovery.
- Restarting an instance will cause the loss of any data that has not yet been reported by Business Process Monitor to Mercury Business Availability Center.

## Removing an Instance

When you remove an instance, it is removed from the list of instances in Business Process Monitor Admin when the current iteration ends (this may take several minutes); however, it will continue to appear in Mercury Business Availability Center Monitor Administration and Platform Administration until it is removed from there.

**To remove a Business Process Monitor instance:**

1. In the Instances list on the Business Process Monitor Host page, select the check box for each instance you want to remove.
2. Click **Remove Instance**. A confirmation message is displayed.
3. Click **OK**. The instances are removed from Business Process Monitor Admin.

# Working with Business Process Monitor Directories

From Business Process Monitor Admin, you can view various Business Process Monitor configuration and log files stored on the host machine, and create directory zip files, as described in the following sections:

- "Viewing Configuration and Log Files" below
- "Zipping Workspace and Config Files" on page 58

## Viewing Configuration and Log Files

Business Process Monitor Admin enables you to view files stored in the following directories:

- **Config directory** – comprises configuration files that contain the options defined for Business Process Monitor. For information on the contents of the configuration files, see "Business Process Monitor Configuration Files" on page 107.
- **Workspace directory** – comprises log files and other files that relate to Business Process Monitor operation. The log files document event information and errors for Business Process Monitor and its instances. For information on the contents of the log files, see "Workspace Directory and Log Files" on page 151.

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**Note:** You cannot edit the files from Business Process Monitor Admin, only view the file contents.

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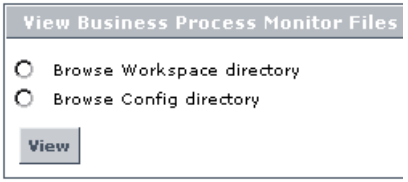
**Note:** If your log files contains non-English data, you must open them in a viewer that supports UTF-8 format parsing, for example, Notepad.

Log files that are saved in the default encoding of the server where Business Process Monitor Admin is installed will be shown correctly in the View BPM Files window.

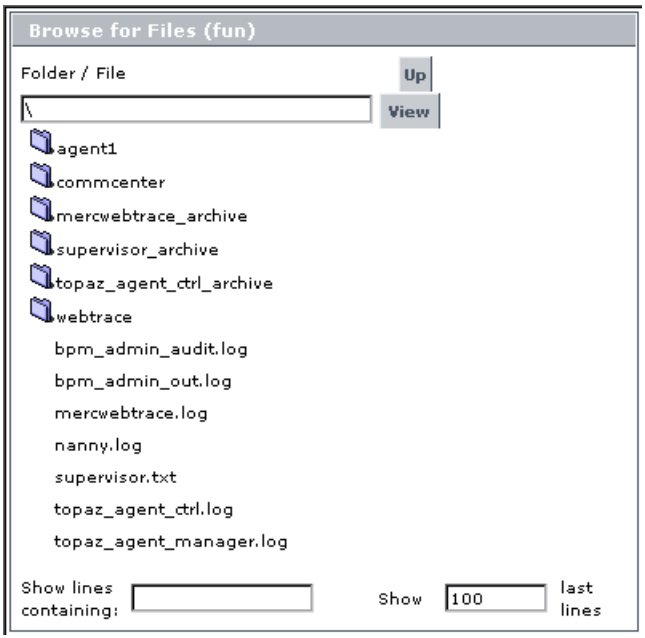
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**To view Workspace or Config directory files:**

1. In the Business Process Monitor Host page, click the **View BPM Files** button.
2. In the displayed window, select the required directory in the **View Business Process Monitor Files** area.



**3** Click **View**. Business Process Monitor Admin opens a window displaying the contents of the selected directory in the left pane. The following example shows the directories and files contained in the Workspace directory for machine Fun.




**4** Browse to the required file, or enter the path in the **Folder/File** box and click **View**.

---

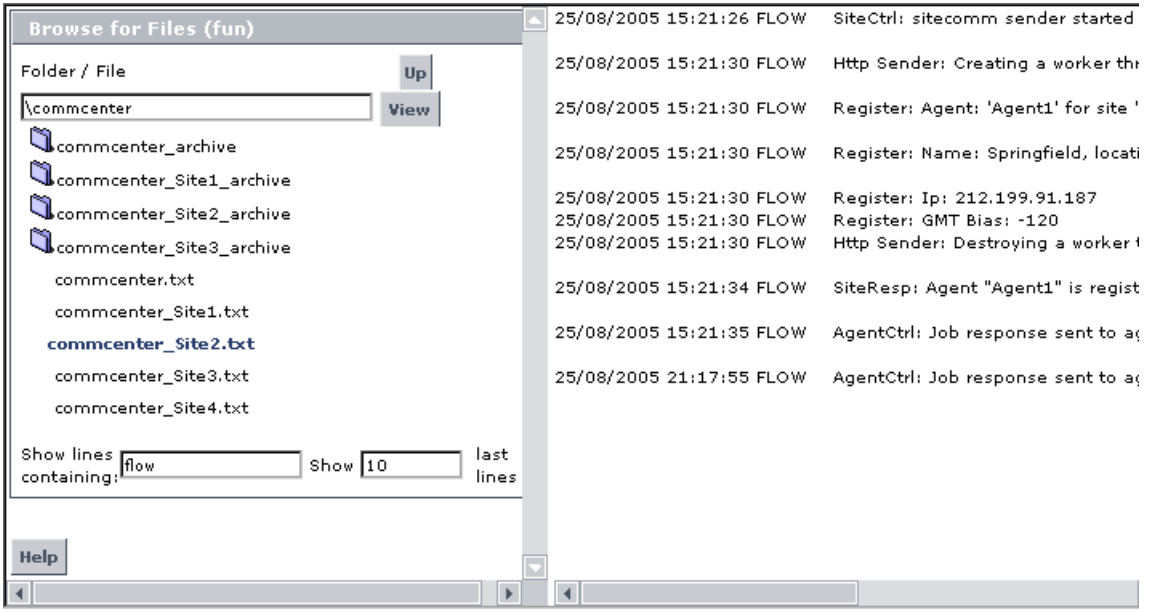
**Tip:** Use the **Up** button to return to the parent file level within the directory.

---

**5** Select a file name to display the information in the file in the right pane. If the file is empty, the right pane will also remain empty.

**6** You can filter the information displayed in the right pane using one or both of the following options:

- In the **Show lines containing:** box, enter the required text (for example, ERROR) and click the name of a file. The right pane displays all lines in the file that contain the entered text.
- In the **Show <x> last lines** box, enter a number (default value is **100**) and click the name of a file. The right pane displays the last lines of the file up to the number entered, or, if you also defined a text filter, the **x** last lines containing that text. For example, you can define a filter to show the 10 last lines containing "flow".




Note that the filter values stay in effect for each selected file until you delete or change them.

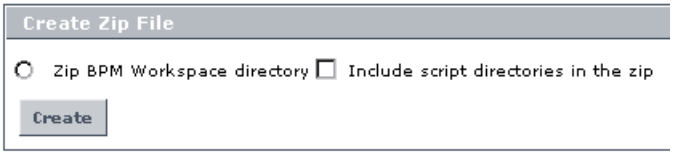
## Zipping Workspace and Config Files

From the Business Process Monitor Host page, you can create a zip file of the entire Workspace and Config directories. You can then download the zip file and send it to another location for analysis or support purposes.

The zip file is created by default without the script directories, minimizing the file size and enabling you to keep the script contents confidential. If the script directories are required, you can select to include them in the file, but note that this may considerable increase the size of the zip file.

**To create a zip file of Workspace and Config files:**

1. In the Business Process Monitor Host page, click the **View BPM Files** button.
2. In the displayed window, in the **Create Zip File** area, select **Zip BPM Workspace directory** to create a zip file of all Workspace and Config files. If you want to include the script directories in the zip file, also select that option.




3. Click **Create**.
4. In the Zip BPM Working Directory window, click the **Download Workspace directory zip file** link and follow the online instructions to download the zipped file.

# Running the Whole Business Process Monitor as a Specific User/System User

From the Business Process Monitor Host page, you can set the data collection mechanism used by Business Process Monitor to run as a specific user (recommended), so that all Business Process Monitor-related processes, as well as all tasks defined for all Business Process Monitor instances, will run as that user. This enables the data collection mechanism to access resources and applications that the system user cannot access.

You can also set Business Process Monitor to run as a specific user during Business Process Monitor installation, or set an individual Business Process Monitor instance to run as a specific user (as described in "Run as a Specific User" on page 50). Note that you cannot set the whole Business Process Monitor to run as a specific user if you have any individual Business Process Monitor instances set as specific user. You must first revert all instances to run as system user.

It is recommended that you run scripts for all protocols (with the exception of Web protocols) with the Business Process Monitor instance/whole Business Process Monitor set to run as a specific user.

---

**Note:** For troubleshooting problems when setting Business Process Monitor as a specific user, see "Deployment Troubleshooting" on page 29.

---

This section contains the following topics:

➤ "Setting Business Process Monitor to Run as a Specific User"

➤ "Setting Business Process Monitor to Run as a System User" on page 61

## Setting Business Process Monitor to Run as a Specific User

If you set Business Process Monitor to run as a specific user, then you need to set full control permissions for the user under the default Workspace directory and (for Windows platforms only) under the user Temp folder and the Windows installation folder. The procedure for this is described below.

---

**Important:** If you set the whole Business Process Monitor to run as a specific user on a Windows platform, whether during installation or from the Business Process Monitor Host page, the user must have administrator permissions on the local machine.

---

---

**Note:** If you want to run QuickTest Professional scripts, it is recommended that you set Business Process Monitor to run as a specific user before assigning the QuickTest Professional scripts.

After running QuickTest Professional scripts as the system user, if you then set Business Process Monitor to run as a specific user, the script may fail. In this case, restart the Business Process Monitor machine.

---

**To run Business Process Monitor as a specific user:**

1. In the Business Process Monitor Host page, click the **Set BPM as User** button. The Set BPM Specific User page is displayed.
2. Enter the required user name, password, and domain in the boxes.
3. Click **Set and Restart BPM**.

**To set full control permissions on the Temp and Workspace directories:**

1. (**Windows platforms only**) Browse to the user Temp folder (default user or user that runs the Business Process Monitor, usual path is **C:\Documents and Settings\<User name>\Local Settings\Temp**) and perform the following actions:

   ➤ Select **Properties** from the right-click menu for the folder.

➤ In the displayed Temp Properties window, select the **Security** tab.

➤ Select the user in the **Name** area, then in the **Permissions** area select the **Allow** check box for **Full Control**.

➤ Click **OK** to save your changes and close the window.

**2** (**Windows platforms only**) Browse to the Windows installation folder (usual path **C:\WINNT\Temp**) and repeat the actions described in step 1.

**3** (**Windows, Solaris, and Linux platforms**) Browse to the default Workspace directory for Business Process Monitor and repeat the actions described in step 1.

### Setting Business Process Monitor to Run as a System User

If you previously set Business Process Monitor to run as a specific user and want to revert to running it as system user (meaning no specific user defined), you must implement the following procedure.

**To run Business Process Monitor as a system user:**

**1** In the Business Process Monitor Host page, click the **Set BPM as User** button. The Set BPM Specific User page is displayed.

**2** Delete the information in all boxes.

**3** Click **Set and Restart BPM**.

# Restarting Business Process Monitor

You restart Business Process Monitor by clicking the **Restart BPM** button on the Business Process Monitor Host page.

After several seconds, Business Process Monitor Admin restarts all Business Process Monitor instances on the host machine. Note that it may take a minute or longer for Business Process Monitor Admin to reconnect to Business Process Monitor.

---

**Note:** When multiple profiles are running on a host, Business Process Monitor generates start offset values in order to optimally distribute script runs over time. Restarting Business Process Monitor prompts the recalculation of the start offset values.

If you create or delete Business Process profiles in Monitor Administration, you can restart Business Process Monitor in order to reset the automatic distribution of script runs. For more information on the automatic distribution feature, see “Profile Start Offset” on page 79.

---

# Running an On-Demand Page Component Breakdown

From the Business Process Monitor Host page, you can run an on-demand page component breakdown (PCBD) request for any Web page. Business Process Monitor measures response time while running the request, and collects breakdown data for each component of the accessed Web page. This information enables you to assess whether the response time was affected by page content.

You can view the resulting data report in table or graph format. The data collected is reported only to Business Process Monitor Admin (not to Mercury Business Availability Center).

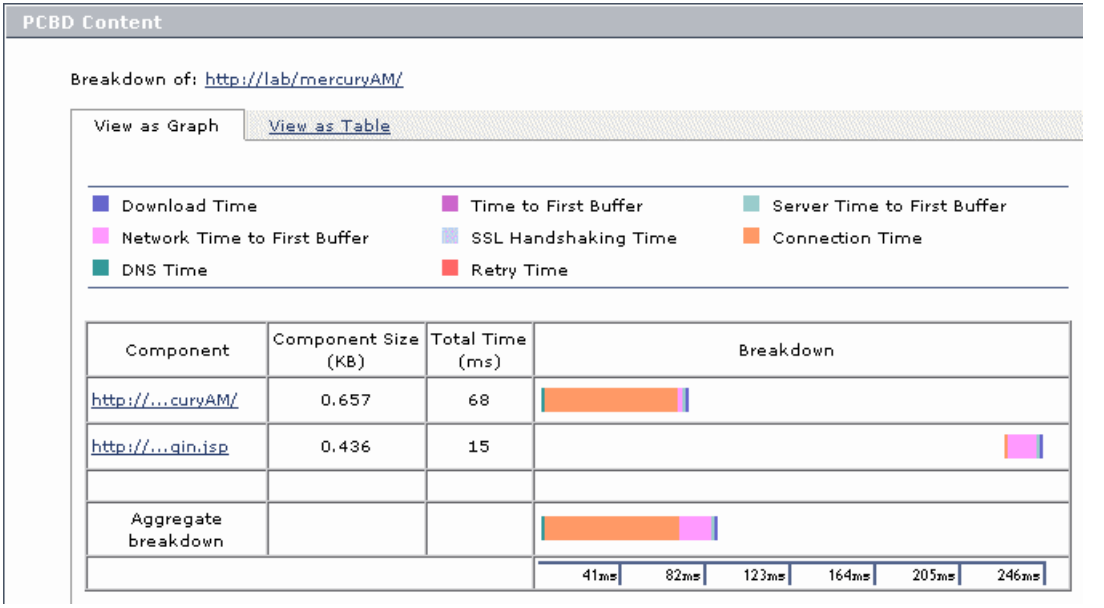
If the target Web page can only be accessed using authentication parameters, you enter them as part of the invoke PCBD request.

**To view page component breakdown data:**

1. In the Business Process Monitor Host page, click the **Invoke PCBD** button. The Invoke PCBD window is displayed.
2. In the **PCBD address** box, enter an address for the target Web page. This may be:
   - ➤ the name of a server on the local network
   - ➤ a Web address
   - ➤ the full URL for the page, for example:

     http://www.mercury.com/
3. If the destination requires authentication, type the user name and password of a recognized user in the **Authentication** boxes (or leave the password box empty if the URL requires a blank password).
4. Enter a timeout value in minutes in the **Timeout** box (default value is 15 minutes). This value determines how long Business Process Monitor will attempt to retrieve the page component data before timing out.

**5** Click **Invoke Now**. After a few moments, the PCBD Content page opens, where you can view the component breakdown report in graph or table format.




For information on using the page component breakdown report, and an explanation of the breakdown categories, see “Understanding Response Time Breakdown Reports” on page 94.

# Running WebTrace

From the Business Process Monitor Host page, you can run WebTrace to a destination Web site, and view the resulting report. The WebTrace report provides information on network performance, which helps you analyze application performance issues.

The data collected is reported only to Business Process Monitor Admin (not to Mercury Business Availability Center).

---

**Note:** Business Process Monitor cannot run WebTrace concurrently for more than 40 addresses.

---

**To view WebTrace report data:**

1. In the Business Process Monitor Host page, click the **Invoke WebTrace** button. The Invoke WebTrace window is displayed.
2. Type a destination Web address in the **WebTrace address** box. Do not include the string *http://* or *https://* when typing the server address. For example:

   www.mercury.com
3. If required, modify the default port (80) in the **Port** box. If Business Process Monitor is accessing the Internet through a proxy server, or if the destination address requires access via HTTPS, specify port 443.
4. Enter a timeout value in minutes in the **Timeout** box (default value is 15 minutes).
5. Click **Invoke Now**. After a few moments, the WebTrace Content window opens.

   For an explanation of the WebTrace report data, see "Understanding WebTrace Reports" on page 104.

# 5

# Instance Page

The Business Process Monitor Admin Instance page enables you to administer and monitor the Mercury Business Process Monitor instance.


| This chapter describes: | On page: |
|---|---|
| Instance Properties | 68 |
| Instance Profiles | 69 |
| Administering the Instance | 70 |
| Viewing Instance Log Files | 71 |

# Instance Properties

The **Properties** area displays properties defined for the Business Process Monitor instance, and information on the status of, and tasks for, the instance. The following properties are included:

| Property | Description |
|---|---|
| **Name** | The display name defined for the instance in Business Process Monitor Admin. |
| **Core Server URL** | The URL of the Core Server to which this instance sends collected data. |
| **Host name** | The host name defined for the instance. |
| **Location name** | The location defined for the instance. |
| **Job poll interval (minutes)** | The defined frequency (in minutes) with which Business Process Monitor polls the database for assigned tasks and profile changes. |
| **Time poll interval (minutes)** | The defined frequency (in minutes) with which Business Process Monitor polls Mercury Business Availability Center for time synchronization. |
| **Queue size** | The number of task reports (for completed runs of scripts, WebTraces, and so forth) waiting to be relayed to the Core Server. |
| **Status** | The communication status for the instance with Mercury Business Availability Center, either **enabled** or **disabled**. The status is changed using the **Disable Communication** button, as described on page 70. |
| **Number of profiles** | The number of profiles currently associated with this instance. |

# Instance Profiles

The **Profiles** area lists the profiles running on the Business Process Monitor instance and their current status.

| Property | Description |
|---|---|
| **Name** | The name of the profile. You click a profile name link to display the page for that profile. |
| **ID** | The ID number assigned to the profile. |
| **Last Run Start Time** | The start time of the last run of the profile on this instance, according to the local time on the Business Process Monitor machine. |
| **Last Run Duration** | The time, in seconds, it took to execute the last run of the profile. |
| **Status** | The current status of the profile. Displays one of the following options:<br>**Currently running** if the profile is currently running tasks.<br>**Idle** if the profile is running, but has no tasks running at this time.<br>**Stopped** if the profile is stopped.<br>**Not initialized** if the profile has not yet started its initial run.<br>**Note:** If the profile status is **Not initialized**, the profile is in the process of getting ready to run—creating the schedules, downloading the required scripts. If there is a problem (for example, if the script does not download or if there is an incorrect schedule definition) the profile will remain at this status and an error "failed to initialize profile X ..." will be written in the agent log and in the agent_SiteX log. |

---

**Tip:** Click a column header to organize the Profiles list according to that column, in ascending or descending alphanumeric order.

---

# Administering the Instance

You administer the Business Process Monitor instance from the Instance page using the following buttons:

- **Update Queue Size** – updates the Queue Size value to display the number of task reports (for completed runs of scripts, WebTraces, and so forth) waiting to be relayed to the Core Server, and displays the time of the last queue size update. (Note that the Queue Size value does not update automatically while the Instance page is open.)
- **Update Jobs** – updates changes made in Mercury Business Availability Center Monitor Administration to Business Process Monitor. This button enables you to manually prompt Business Process Monitor to poll the database for changes; Business Process Monitor also automatically polls the database for updates, according to the defined job poll interval (default = 2 minutes).
- **Purge Queue** – removes all task reports waiting to be relayed to the Core Server from the queue.

---

**Important:** Once you have clicked the **Purge Queue** button, all waiting data is purged from the Business Process Monitor memory and cannot be retrieved.

---

- **Disable/Enable Communication** – stops and restarts communication between the instance and Mercury Business Availability Center. Note that the status displayed for the instance (**Enabled** or **Disabled**) depends on whether or not communication is blocked by using this button; if you have not disabled communication, the status will be Enabled, even if the instance fails to connect to Mercury Business Availability Center.
- **Edit Instance** – enables you to edit all parameters for the instance. For details, see "Modifying an Instance" on page 52.
- **View Log Files** – enables you to view selected log information for this Business Process Monitor instance. For details, see "Viewing Instance Log Files" on page 71.

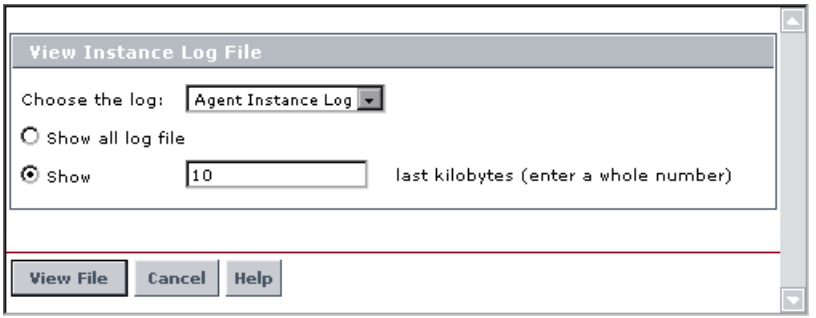
# Viewing Instance Log Files

While the Business Process Monitor instance is running, all event messages for it are written to log files, stored on the Business Process Monitor machine. From the Instance page, you can view log entries for the instance as follows:

- **Agent Instance Logs:** These logs are saved by default in an **agent_Site<#>.txt** file for the instance, where the # represents the instance's alias, as defined in the configuration file example path: **<Business Process Monitor root directory>\Workspace\agent1\agent_Site1.txt**).
- **Reports (Data) Logs:** These logs are saved by default in a **data_depot_Site<#>.txt** file for the instance (example path: **<Business Process Monitor root directory>\Workspace\agent1\data\data_depot_Site1.txt**).
- **Controller Logs:** These logs are saved by default in a **commcenter_Site<#>.txt** file for the instance (example path: **<Business Process Monitor root directory>\Workspace\commcenter\commcenter_Site1.txt**).

**To view instance log file data:**

1. In the Instance page, click **View Log Files**. The View Instance Log File window is displayed.




2. Select the required log file from the **Choose the log** list.

**3** Define how much of the log file you want to view by selecting one of the following:

- ➤ Select the **Show all log file** radio button to view all entries in the file.
- ➤ Select the **Show** radio button to view the last entries in the file. Enter a whole number (in kilobytes) in the box to define how much of the file you want to view (the default is 10 kilobytes).

**4** Click **View File**. The Log File Contents window displays the log file entries.

# 6

# Profile Page

The Business Process Monitor Admin Profile page enables you to monitor a profile running on a Mercury Business Process Monitor instance.


| This chapter describes: | On page: |
|---|---|
| Profile Properties | 73 |
| Profile Tasks | 75 |
| Profile Schedules | 77 |
| Profile Start Offset | 79 |
| Run Schedule for Profile Tasks | 82 |


## Profile Properties

Most of the properties for a Business Process profile are defined in Mercury Business Availability Center Monitor Administration and Platform Administration.

The Properties area for a profile displays the following properties:

| Property | Description |
|---|---|
| **Name** | The name of the profile. |
| **ID** | The ID number assigned to the profile. |
| **Schedule** | The schedule for running the profile on this Business Process Monitor instance. If the profile has multiple schedules, all schedules are shown. (For more information, see "Profile Schedules" on page 77.)<br>Also displays the start offset, which specifies the delay between the profile schedule time and the actual run time. (For information on how the start offset is calculated, see "Profile Start Offset" on page 79.) |
| **Number of tasks** | The number of tasks (to run a script or WebTrace) that are currently assigned to the profile. |
| **Status** | The current status of the profile. Displays one of the following options:<br>**Currently running** if the profile is currently running tasks.<br>**Idle** if the profile is running, but has no tasks running at this time.<br>**Stopped** if the profile is stopped.<br>**Not initialized** if the profile has not yet started its initial run.<br>**Note:** If the profile status is **Not initialized**, the profile is in the process of getting ready to run—creating the schedules, downloading the required scripts. If there is a problem (for example, if the script does not download or if there is an incorrect schedule definition) the profile will remain at this status and an error "failed to initialize profile X ..." will be written in the agent log and in the agent_SiteX log. |
| **Last start time** | The start time of the last run of the profile on this instance, according to the local time on the Business Process Monitor machine. |
| **Last run duration** | The time, in seconds, it took to execute the last run of the profile. |

# Profile Tasks

A Business Process profile consists of the scripts and WebTrace schemes that have been defined for the profile in Monitor Administration.

The **Tasks** area of the Profile page lists the tasks (for example, scripts, WebTrace) associated with this profile that are scheduled to be run on this Business Process Monitor instance.




The **Tasks** area in the Profile page displays the following information:

| Property | Description |
|---|---|
| **Name** | The names of the scripts or WebTrace schemes that the profile is scheduled to run on this Business Process Monitor instance. You click a task name link to display the page for that task. |
| **Status** | The current status of the task for this instance. Displays one of the following options:<br>**Not initialized** – The task has not yet been initialized.<br>**Running** – The task is currently running on this Business Process Monitor instance.<br>**Idle** – The task is not currently running on this instance. |
| **Type** | The type of task, **Script** or **WebTrace**. |

| Property | Description |
|---|---|
| **Last Run** | The status at the end of the last run for the task. For script tasks, click the Last Run value to display the MDRV log for the task run (if an MDRV log file exists).<br>Displays one of the following options:<br>**Finished properly** – The task finished running with no errors.<br>**Finished (errors occurred)** – The task finished running; however, there may be some errors in the task reports (for example, a failed transaction, or the traceroute server may report "progress aborted" for a WebTrace request), or there may be have been an error when trying to compile the script. Check the MDRV log file for further information on the error(s) encountered.<br>**Failed to start** – The task failed to start running (for example, when some of the script files are missing).<br>**Terminated unexpectedly** – The task failed during the run.<br>**Error: Aborted** – The task was aborted (for example, by calling the lr_abort() function in a script).<br>**Aborted (timeout)** – The task was timed-out and stopped running.<br>**End status is not set** – The task has not run yet, therefore no end status is available.<br>**n/a** – Run status is not applicable for the task, for example, if the profile is stopped. |
| **Running Dependencies** | The running schedule for the task, determined according to the run mode defined for the profile. For example, the script may be scheduled to run immediately after the profile starts, or after another, named script has run. In the latter case, you can click on the script name to view the Task page for the preceding script.<br>For more information on run schedules, see "Run Schedule for Profile Tasks" on page 82. |

**Tip:** Click a column header to organize the **Tasks** list according to that column, in ascending or descending alphanumeric order, or for **Running Dependencies**, in ascending or descending running order.

Note that only an approximate order is shown for Running Dependencies as it is sometimes impossible to predict the exact running order.

## Profile Schedules

Each Business Process profile running on a Business Process Monitor instance runs according to a schedule defined in Monitor Administration (for details, see "Configuring Profile, Host, and Monitor Settings" in *End User Management Data Collector Configuration*). Each profile can also have multiple schedules defined for it, as described in "Multiple Schedules for a Profile" on page 78.

The schedule defines the frequency of iterations of the profile after the first profile run. The actual run time of the profile is determined by the start offset value for the profile, which specifies the delay between the profile schedule time and the run time, as described in "Profile Start Offset" on page 79.

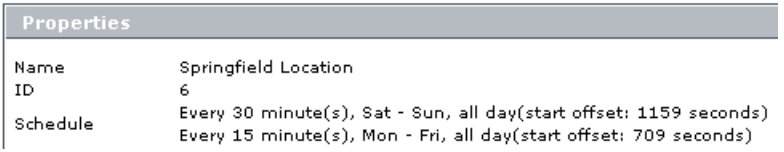
Note that if a profile run overruns the scheduled time for the next run iteration, then Business Process Monitor skips the missed iteration and continues with the next scheduled iteration. For example, if the profile schedule is set to run every 5 minutes, and the profile run actually takes 6 minutes, then Business Process Monitor runs iteration 1, skips iteration 2, and continues with iteration 3 (10 minutes after the first iteration).

Information on skipped runs is logged in the **agent.txt** log for the Business Process Monitor instance.

## Multiple Schedules for a Profile

In Monitor Administration, you can define multiple schedules for a Business Process profile running on a specific Business Process Monitor instance. This enables you to have the profile run on Business Process Monitor using different schedules at different times. For example, you can have the profile run every 15 minutes during the working week and every hour during weekends.

When a profile has multiple schedules defined for it, each schedule (and its start offset value) is shown in the **Schedule** property on the Profile page, as in the following example:




---

**Note:** If the multiple schedules for a Business Process profile overlap, then Business Process Monitor runs the profile according to both schedules. If a profile run (initiated according to one of the schedules) overruns the scheduled time of a run iteration according to the second schedule, then Business Process Monitor skips the second iteration, and continues with the next scheduled iteration. Information on skipped runs is logged in the **agent.txt** log for the Business Process Monitor instance.

---

# Profile Start Offset

Mercury Business Availability Center enables you to apply an offset to the start time of each run of a profile. This enables the optimal distribution of script runs over time, and minimizes the parallel running of many scripts (when there are different Business Process Monitor hosts running the same profile). Staggering the runs provides a more even distribution of the workload, avoiding overload on the monitored server and excessive bandwidth demand, and enabling better utilization of machine CPU and memory.

The start offset value, displayed in the **Schedule** property on the Profile page, specifies the delay between the profile schedule time and the actual run time, for each run of the profile. The start offset for each profile can be calculated automatically by Business Process Monitor, or can be user-defined; you determine the method and value when defining the profile schedule. When the start offset is configured manually, you can avoid the possibility that profiles running on more than one Business Process Monitor will run at the same time.

After the initial run, Business Process Monitor will continue to run the profile according to the original schedule defined for the profile (in Monitor Administration), and will reapply the start offset for every run of the profile.

For example, a profile has a start offset value of 120 seconds, and a schedule of every 15 minutes, every day from 10:00 to 16:00. Each day, the first run of the profile begins after the start offset, at 10:02 AM. The next run is 15 minutes later, at 10:17 AM, and repeats every 15 minutes after that till the end of the day's schedule.

---

**Note:** For profile schedules that run all day, all week, the start offset is applied from 00:00 AM, so that for a schedule of 15 minutes and start offset of 120 seconds, the profile will run at 15 minute intervals from 00:02 AM.

---

**Note:** If you define multiple schedules to run a profile on a single Business Process Monitor, a different start offset value may be used for each schedule. For more information, see "Multiple Schedules for a Profile" on page 78.

There are two methods for staggering the run start time:

### User-Defined Start Offset

When defining a profile schedule (in Monitor Administration), you have the option to select **User defined** for the start offset, and enter a start offset value. When you manually define the start offset in this way, you can ensure that profiles running on more than one Business Process Monitor will not run at the same time, by entering a different start offset value for each profile schedule.

The start offset value is saved as part of the profile schedule data, and applied by each Business Process Monitor that handles the profile. If a Business Process Monitor is restarted, the same offset value is applied again for the profile.

If you define the start offset value as 0, then no offset is applied for the profile in Business Process Monitor; the profile run will start at the time specified in the profile schedule.

### Start Offset Determined by Business Process Monitor

Business Process Monitor is able to generate start offset values for profiles, so enabling staggered run times for the profiles. Start offset values are allocated to all profiles that have **BPM default** defined for the profile schedule start offset in Monitor Administration.

The start offset is calculated when the profile is initialized. The calculation takes into account all existing start offset values for the profiles on the machine; this includes start offset values that were defined in Monitor Administration, and the start offset values of stopped profiles. Business Process Monitor analyses where there is the lowest concentration of offsets over the distribution period, and allocates a start offset value in that area. The start offset value is always smaller than the schedule interval defined for the profile.

Business Process Monitor uses an algorithm to calculate the dispersal rate, and to allocate start offset values to the profiles in a balanced and semi-random manner. The random factor means that when there are two or more Business Process Monitor instances running the same profile with the same schedule, each instance will run the profile at a different time. (If there was no random factor, each Business Process Monitor instance would run the profile at exactly the same time.) The random factor does not change the order that the profiles run, and the interval between each run of the profile on each Business Process Monitor instance will remain constant. For example, on Business Process Monitor A the profile may run at 10:05, 10:20, 10:35, and on Business Process Monitor B it may run at 10:10, 10:25, 10:40.

The algorithm calculation includes a distribution period value. This value is set by default to one hour, which is an optimum value if the most common schedule used for your profiles is every 15 minutes (the default schedule option when defining profiles in Monitor Administration), and all schedule intervals are less than an hour.

The default distribution period will also function if you are commonly using other schedule intervals for your profiles; however, if you would like to optimize the dispersion of the start offset values for your profile schedules, or if you experience load problems on the machine, you can change the default distribution value in order gain maximum efficiency. For information on changing the distribution value (OffsetDistPeriodSec), see “Parameters in agent1.cfg” on page 117.

Note that if Business Process Monitor is restarted, it calculates new start offset values for the profiles (except for profiles that have user-defined values from the profile schedule).

# Run Schedule for Profile Tasks

The **Tasks** area of the Profile page shows the **Running Dependencies** for the scripts in the profile. This identifies the order that Business Process Monitor uses when executing each script in the profile, during each run of the profile on the Business Process Monitor instance.

The order and timing for running the tasks within the profile are determined by the profile run mode, as described in the following section.

## Profile Run Mode

The profile run mode determines how Business Process Monitor runs the tasks in a profile when the profile begins an iteration. Some of the run modes run the tasks in a specific order; in this case, the scripts run in the order defined in the profile.

Both the run mode and the script order are defined for the profile in Monitor Administration (see "Configuring Profile, Host, and Monitor Settings" in *End User Management Data Collector Configuration*).

The following profile run modes are supported:

- **Classic** – All scripts in the profile run sequentially, according to the order defined in Monitor Administration. All WebTrace schemes run concurrently with the first script, once the profile begins an iteration.
- **Dialup** – If a profile has two or more scripts, the first script begins running when the profile begins an iteration. When the first script completes its run, all WebTrace schemes and scripts, excluding the first and last scripts, run in Classic mode. When all tasks stop running, the last script runs. If a profile has fewer than two scripts, it runs in Classic mode.

---

**Note:** If the first script completes its run, the last script will always run.

---

- **Sequential** – All profile tasks run sequentially (with only one task running at a time). The script tasks run according to the order defined in Monitor Administration. WebTrace tasks run after the last script is completed, with an undefined (though consistent) order.

- **Concurrent** – All tasks begin running simultaneously when the profile begins an iteration. (This run mode is set in Monitor Administration by selecting **Stepped** run mode and setting the **Step** value as 0.)
- **Stepped** – (Note that this run mode, and the step for it, can only be set in Monitor Administration.) Each task begins running after a defined time period (step) has passed from the time the previous task started. In this case, the **Running Dependencies** column in the Business Process Monitor Admin Profile page displays, for example: 5 seconds after the beginning of the following task: X_transaction, meaning that the task will run only after a step of 5 seconds has elapsed since X_transaction task started running. The scripts run according to the order defined in Monitor Administration. The WebTrace tasks also run in stepped mode after the last script has started, in an undefined (though consistent) order.

---

**Note:** In all of the above cases, the profile cannot be stopped or deleted until the current task runs are completed.

---

# 7

# Task Page

The Business Process Monitor Admin Task page enables you to view information for a profile task, and to change log settings for the task, or prompt Mercury Business Process Monitor to run the task immediately.


| This chapter describes: | On page: |
|---|---|
| Task Properties | 86 |
| Configuring Log Settings for a Script | 88 |
| Viewing Task Reports | 90 |
| Understanding Response Time Breakdown Reports | 94 |
| Understanding WebTrace Reports | 104 |
| Browsing the Script Log Files | 105 |

# Task Properties

The **Properties** area in the Task page displays the following properties:

| Property | Description |
|---|---|
| **Name** | The name of the script or the WebTrace destination, that the profile is scheduled to run. |
| **Type** | The type of task, **Script** or **WebTrace**. |
| **Status** | The current status of the task for this instance. Displays one of the following options:<br>**Not initialized** – The task has not yet been initialized.<br>**Running** – The task is currently running on this Business Process Monitor instance.<br>**Idle** – The task is not currently running on this instance. |
| **Last start time** | The start time of the last run of the task, according to the local time on the Business Process Monitor machine. |
| **Last run duration** | The time, in seconds, it took to execute the last run of the task. |
| **Log level** (only displayed for script tasks) | The level of information that is logged when the script runs:<br>**Disabled** – This is the default setting for all scripts, minimum information is logged.<br>**Brief** – Creates a standard log of functions and messages sent during script execution.<br>**Extended** – Creates an extended log, including warnings and other messages. |

| Property | Description |
|---|---|
| **Last run end status** | The status at the end of the last run for the task. Click the status value to display the MDRV log for the task run (if an MDRV log file exists).<br>Displays one of the following options (for an explanation of each option, see "Last Run" on page 76):<br>**Finished properly**<br>**Finished (errors occurred)**<br>**Failed to start**<br>**Terminated unexpectedly**<br>**Error: Aborted**<br>**Aborted (timeout)**<br>**End status is not set**<br>**n/a** |
| **Running dependencies** | The running schedule for the task, determined according to the run mode defined for the profile. For example, the script may be scheduled to run immediately after the profile starts, or after another, named script has run. In the latter case, you can click on the script name to view the Task page for the preceding script.<br>For more information on run schedules, see "Run Schedule for Profile Tasks" on page 82. |

# Configuring Log Settings for a Script

By default, Business Process Monitor logs certain minimum information for the run of a script, every time the script is executed.

If you want Business Process Monitor to log more extensive information for the script run, you can define log settings using the **Advanced** option on the Task page for the script. For example, you can set a different logging level or request the creation of an additional log file, as described in the following sections.

## Setting the Log Level

Many scripts (for example, Mercury LoadRunner scripts, Mercury Virtual User Generator scripts for Web-based protocols) include run-time settings that determine the extent of the information logged to the output when the script is run. There are three settings for logging: **Disabled**, **Brief**, and **Extended**. By default, Business Process Monitor runs the scripts using the Disabled log level; this means that only minimum information is logged to the MDRV log for each run of the script.

You can change the log level for all runs of a particular script, but note that changing the log level to Brief or Extended introduces extra overhead in the MDRV log files, and may slow down the run of the script (so affecting the measured run times). An Extended log is helpful for debugging a script, but is otherwise not recommended.

---

**Note:** You can also change the log level when you invoke a single run of the script, as described in "Viewing Task Reports" on page 90.

---

### Setting Log File Write

Some of the scripts recorded using the Virtual User Generator include a **Log file write** option. By default, this option is disabled for Business Process Monitor and so does not appear in the Business Process Monitor Admin windows for any scripts.

The following protocols support the log file write option:

- **SAP Web**
- **Siebel Web**
- **QTWeb**
- **HTTP**
- **SOAP**
- **PS8**
- **PS8WebJS**
- **WinSockWeb**
- **OracleWebJS**
- **WebJS**
- **WS-SOAP**

If you configure Business Process Monitor to support the log file write option, you can then select the option for a script in the Business Process Monitor Admin windows. When this option is set for a particular script, Business Process Monitor creates a LogFileWrite.log file for the script each time it is run.

If you want this option available, you must change the **lfw** value to 1 in the **<Business Process Monitor root directory>\ServletContainer\conf\ agentview.props** file. For more details on changing the file setting, see "Enabling Log File Write" on page 138.

---

**Note:** You can also set the log file write option (if it is enabled in Business Process Monitor) when you invoke a single run of the script, as described in "Viewing Task Reports" on page 90.

---

**To set the log level or log file write for every run of a script:**

1. In the Task page for the script, click **Advanced**. The Log Configuration window opens.
2. Select the required **Log level** from the list.
3. (Applicable only if Business Process Monitor is supporting log file write.) If you want Business Process Monitor to create a log file for each run of the script, select the **Log file write** checkbox.
4. Click **OK**. The changes takes affect starting from the next run of the script.

# Viewing Task Reports

You can trigger a single run of a task (script or WebTrace), and view a report for the run, using the Invoke Task option in the Task page for the task. This option prompts Business Process Monitor to run the task immediately, and returns the data to Business Process Monitor Admin (not to Mercury Business Availability Center), where the results can be viewed in the Invoke Task window.

This run does not affect the task's regular scheduling in Business Process Monitor, or the run of any other task in Business Process Monitor.

### Running WebTrace Tasks

When you use the Invoke Task option for a WebTrace task, the WebTrace is run according to the to the settings configured in Mercury Business Availability Center Monitor Administration.

For an explanation of the WebTrace report contents, see "Understanding WebTrace Reports" on page 104.

**To view task data for WebTrace tasks:**

1. In the Task page for the WebTrace, click **Invoke Task**. The Invoke Task window opens.
2. After a few moments, the window displays data for the WebTrace run, and each hop that it required.

## Running Script Tasks

When you use the Invoke Task option for a script task, the script is run according to the settings configured in Monitor Administration; however, you have the option to add additional command line parameters, or to change the log level. (For more information on changing the log level, see "Configuring Log Settings for a Script" on page 88.) Note that these changes are only applicable for this run of the script.

For scripts set to collect component breakdown data, Business Process Monitor measures response time for each specific transaction in the script, and collects breakdown data—information about network/server activity during the transaction—for each component of every Web page accessed in the transaction. This information enables you to assess whether transaction response times were affected by page content. You can also view a page component breakdown report for each monitored Web page in graph or table format.

For more information on the response time breakdown, see "Understanding Response Time Breakdown Reports" on page 94.

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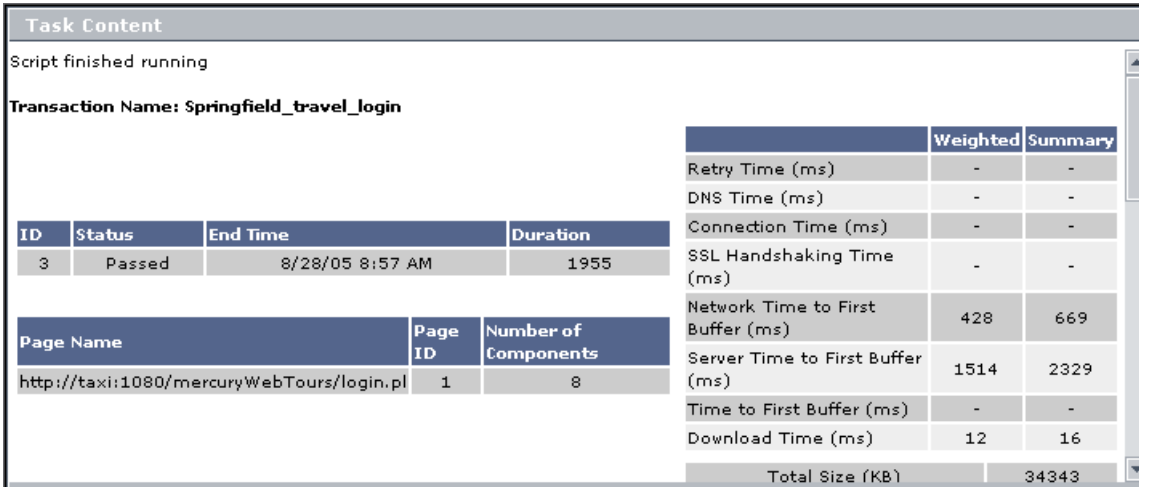
**Note:**

- Page component breakdown is supported only for certain Virtual User Generator protocols. See "Understanding Response Time Breakdown Reports" on page 94.
- For Oracle NCA protocol scripts, the page name and page component breakdown data (if shown in the script Task Content page) have no relevance.

---

**To view task data for script tasks:**

1. In the Task page, click **Invoke Task**. The Task Content window opens.
2. Select the required **Log level**.
3. If you want to add additional parameters to the command line, enter the information in the appropriate box.
4. Click **Invoke Now**. After a few moments, the Task Content window displays data for the script run, broken down by transaction.




For an explanation of the breakdown categories shown in the window, see "Understanding Breakdown Categories" on page 101.

---

**Note:** If the script run failed, or if component breakdown is not supported for the script, the Task Content window will show end time and duration for the script run, and an error description as appropriate, with no breakdown information.

---

**5** Where relevant for the script, the Task Content window includes a **Breakdown** area, which provides component breakdown data for each Web page. The Breakdown area contains a graph of aggregated transaction breakdown for the transactions in the script, described in "Breakdown Summary Report" on page 95.

To view the page component breakdown report for each Web page involved in the transactions, select the required option from the dropdown list (top-right corner of **Breakdown** area) and click **OK**. For an explanation of these reports, see "Page Component Breakdown Report" on page 96.

**6** The Invoke Task window contains the following buttons (at the bottom of the window):

- **MDRV Log** – opens the View Agent Log File window, where you can view the contents of the MDRV log for this run of the script. (The MDRV log is created if the log level was set as **Brief** or **Extended**. If the log level was set as **Disabled**, the log is created if there were errors during the run.)
- **Browse** – opens the BPM Log Browser at the directory for the script, enabling you to view log entries for this run of the script. For details on using the BPM Log Browser window, see "Working with Business Process Monitor Directories" on page 54.

---

**Note:** When you open the BPM Log Browser from the Invoke Task window, the directory for the script is the highest directory level that you can view.

---

# Understanding Response Time Breakdown Reports

You can view page component breakdown data (PCBD) by invoking script tasks that access Web pages (where the script is set to collect page component breakdown data), as described in "Running Script Tasks" on page 91.

You can also perform an on-demand page component breakdown of any Web page using the **Invoke PCBD** option, as described in "Running an On-Demand Page Component Breakdown" on page 63.

When invoking script tasks, page component breakdown will run only if:

- in Mercury Business Availability Center Monitor Administration, the transaction monitor for the script was set to perform component breakdown.
- the script was recorded using one of the following protocols: **SAP Web**, **Siebel Web**, **QTWeb**, **HTTP**, **SOAP**, **PS8**, **PS8WebJS**, **WinSockWeb**, **Oracle NCA**, **OracleWebJS**, **WebJS**, **WS-SOAP**.

---

**Note:** This is the default protocol list; if necessary, you can edit the list in the <**Business Process Monitor root directory**>**config****agent1.cfg** file, under **BdSupportedProtocols**.

---

The page component breakdown report displays a breakdown of transaction response times (in milliseconds) over time, for each component. You use the report to analyze network, server, and client health in real time. It helps you identify problematic elements of a Web page, for example, images that download slowly, or broken links. The report can also help you identify where along the network problems are occurring (for example, during DNS Resolution, or during Network Time to First Buffer).

---

**Note:** Page component breakdown will not function for streaming objects, such as Java Applets, sounds, and movies. This is because the engine that runs the page component breakdown uses technology that only handles components that can be parsed directly from the HTML code (for example, images).

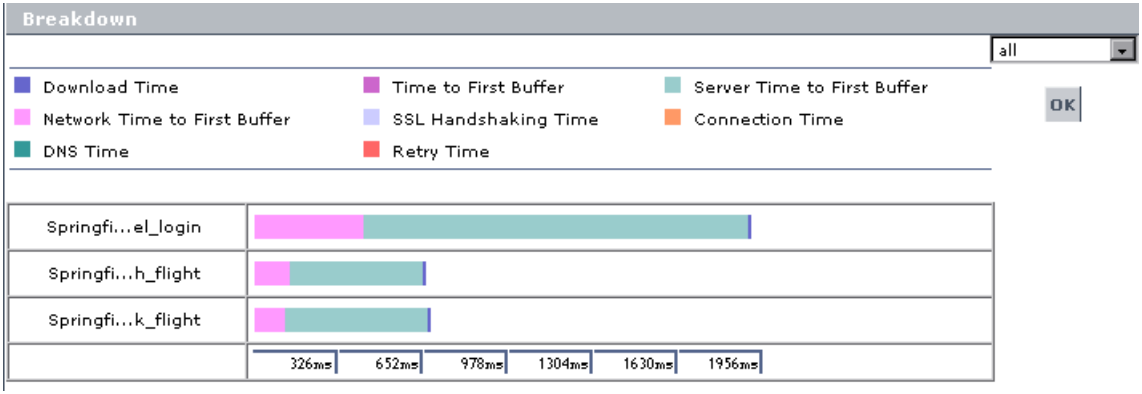
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This section contains:

- "Breakdown Summary Report" on page 95, describing the aggregated transaction breakdown graph (not relevant for on-demand page component breakdown).
- "Page Component Breakdown Report" on page 96, describing the page component breakdown graph and table.
- "Understanding Breakdown Categories" on page 101, describing what each breakdown category is measuring.

### Breakdown Summary Report

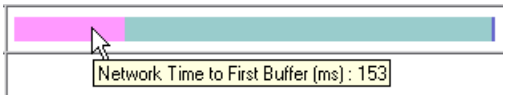
When you invoke a script task, the Task Content window **Breakdown** area displays the breakdown summary report for the task in graph format.



Each row of the breakdown summary report represents results for one transaction in the script, showing aggregated transaction breakdown for all the components in the transaction. The report's x-axis is not a time line, but rather an indicator of transaction times in milliseconds.

The color-coded bars enable you to differentiate between the various breakdown categories for the transaction, with each colored bar representing the total time for its corresponding measurement. For example, you can view the overall DNS time for the transaction. (For explanations of the breakdown categories, see "Understanding Breakdown Categories" on page 101.)

Hold the cursor over each breakdown category in the colored bar to show a tooltip with the total time for that category.




You can correlate the breakdown summary data with transaction response time information to assess whether poor transaction response times are being caused by DNS resolution or connection problems, network latency or server delay, or client delay.

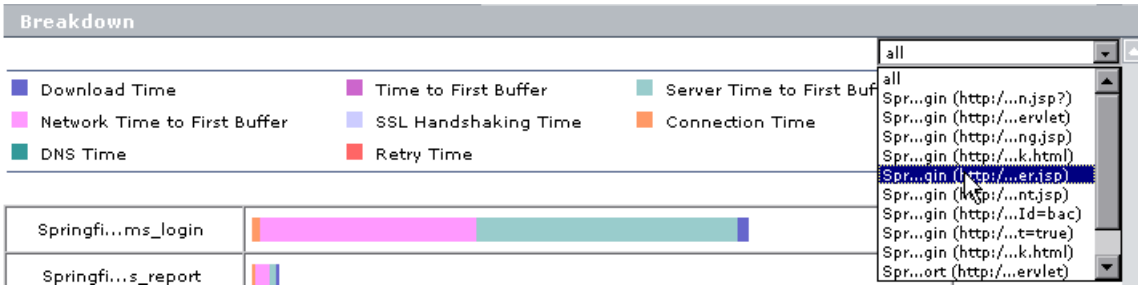
You can move from the breakdown summary report to the page component breakdown reports for each page in the transactions. For details, see the following section.

### Page Component Breakdown Report

The page component breakdown report enables you to assess whether transaction response times and service availability are being affected by page content. The report displays the size (in KB) of each component in a specified Web page, the total time it takes for each component to download, and the offset time for each component. The offset time for a specific component is the time that passes from the start time of the first component on the page until the start time of the specific component.

The report further breaks down each component by the breakdown categories, described in "Understanding Breakdown Categories" on page 101.

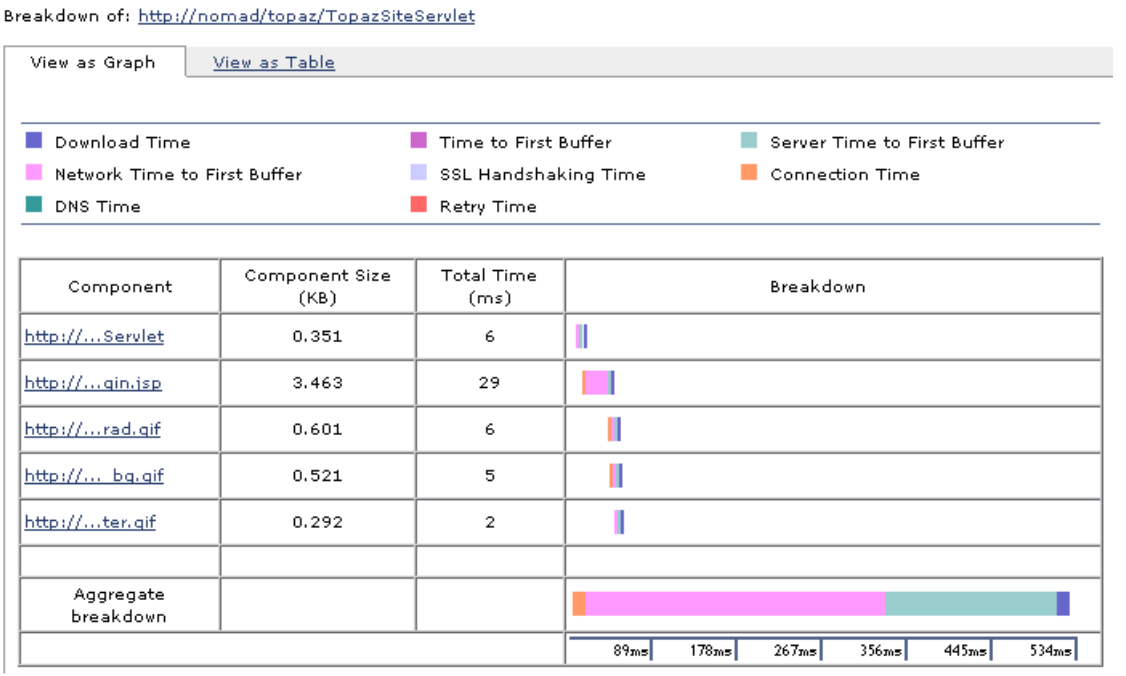
After invoking a **script task**, you view the page component breakdown report for each Web page involved in the transactions by selecting the required option from the dropdown list (top right corner) and clicking **OK**. The list displays transaction names for transactions that contain only one page, or transaction name followed by page name if there are multiple pages.




You can select **All** from the list to return to the breakdown summary report.

For **on-demand page component breakdowns**, the PCBD Content page opens directly to the report for the Web page.

The page component breakdown report is available in graph and table formats. The report opens with the **View as Graph** tab displayed.




Each row of the graph represents results for one component in the page. The color-coded bars enable you to differentiate between the various breakdown categories for that component.

The report's x-axis is not a time line, but rather an indicator of transaction times in milliseconds. Each colored bar represents the total time for its corresponding measurement.

Click the **View as Table** tab to view the breakdown in table format.

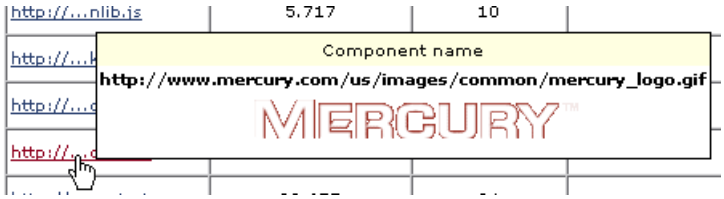
Breakdown of: http://nomad/topaz/TopazSiteServlet

View as Graph | View as Table

| Component | Component Size (KB) | Total Time (ms) | Offset Time (ms) | Retry Time (ms) | DNS Time (ms) | Connection Time (ms) | SSL Handshaking Time (ms) | Network Time to First Buffer (ms) | Server Time to First Buffer (ms) | Time to First Buffer (ms) | Download Time (ms) | Error Messag |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| http://...Servlet | 0.351 | 6 | 7 | - | - | - | - | 1 | 4 | - | 1 | - |
| http://...qin.jsp | 3.463 | 29 | 13 | - | - | 2 | - | 25 | 0 | - | 2 | - |
| http://...rad.gif | 0.601 | 6 | 42 | - | - | 2 | - | 3 | 0 | - | 1 | - |
| http://... bg.gif | 0.521 | 5 | 43 | - | - | 1 | - | 4 | 0 | - | 0 | - |
| http://...ter.gif | 0.292 | 2 | 48 | - | - | - | - | 2 | 0 | - | 0 | - |

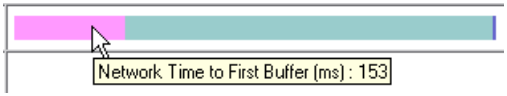
The following functionality is available for the page component breakdown reports:

- Click the **Breakdown of** link to open the monitored Web page for the component breakdown report in a new browser window.
- Hold the cursor over the name of a component (in the graph or table views) to show the full name and a depiction of the component (for icons).



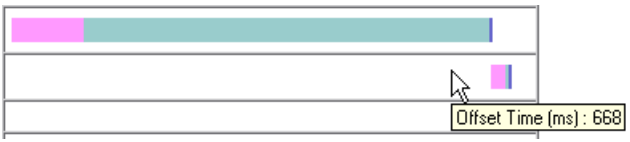

Click the name link to view the component in a new browser window.

- In the graph view, hold the cursor over each breakdown category in the colored bar to show a tooltip with the response time taken for that category.




In the table view, the time for each category is specified under the relevant column in the table.

➤ In the graph view, hold the cursor over the white space to the left of a component's colored bar to show a tooltip with the offset time for that component.




In the table view, the offset time is specified in a separate column in the table.

---

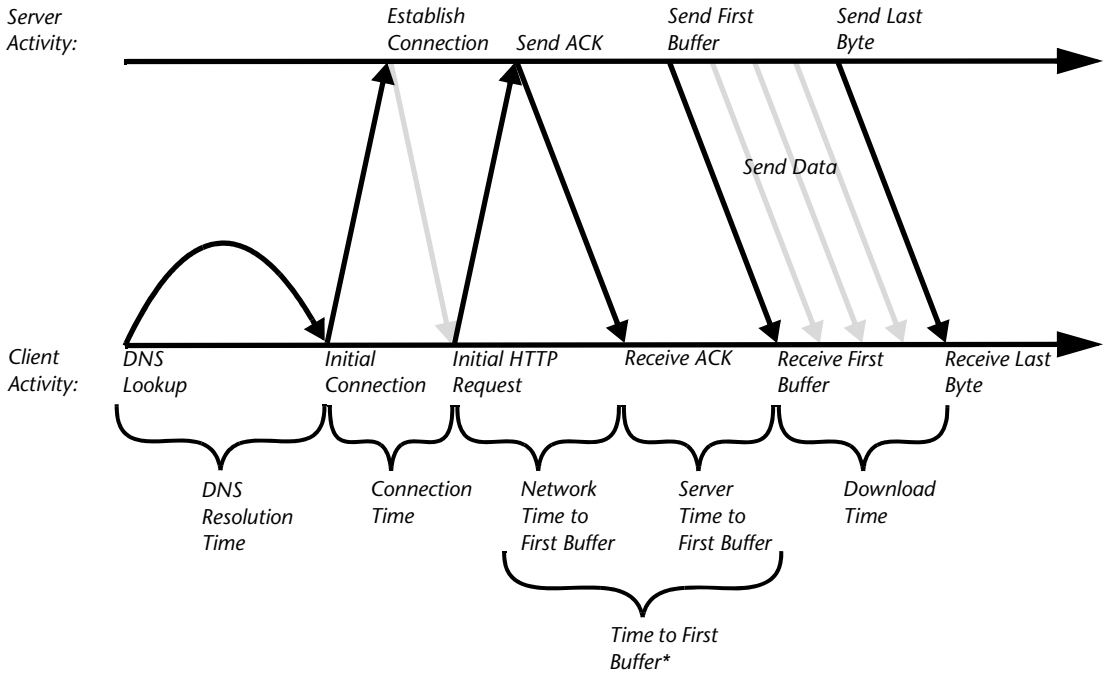
**Note:** Gaps in time between components (time between one component finishing and the next one starting) represent processing time—client-side delays caused by browser think time, CPU think time, HTML page processing time, time needed to open sockets or threads, and so forth.

---

## Understanding Breakdown Categories

Transaction, page, and page component response times are broken down into the following categories: retry time, DNS resolution time, connection time, network time to first buffer, server time to first buffer, download time, and offset time. If your site uses SSL authentication, SSL handshaking time also appears.

The following diagram illustrates the relationship between the report's main breakdown categories (shown along the bottom of the diagram) and client/server activity during transaction execution. Note that retry time, SSL handshaking time, and client time are not shown in this diagram (they are described in the table on page 102).




** Business Process Monitor combines Network Time to First Buffer and Server Time to First Buffer into Time to First Buffer in certain circumstances. For details, see the note below.*

The following table describes the breakdown categories.

| Name | Description |
|---|---|
| **Retry Time** | Displays the overall amount of time that passes from the moment an HTTP request is started until the moment an HTTP or TCP error message is returned. Retry time only relates to HTTP or TCP errors that execute a retry after the error. |
| **DNS Time** | Displays the average amount of time needed to resolve the DNS name to an IP address, using the closest DNS server. The DNS Lookup measurement is a good indicator of slow DNS resolution or other problems with the DNS server. |
| **Connection Time** | Displays the amount of time needed to establish an initial connection with the Web server performing the transaction. The connection measurement is a good indicator of problems along the network or whether the server is responsive to requests. |
| **SSL Handshaking Time** | Displays the amount of time taken to establish an SSL connection (includes the client hello, server hello, client public key transfer, server certificate transfer, and other—partially optional—stages). After this point, all the communication between the client and server is encrypted.<br>The SSL handshaking measurement is only applicable for HTTPS communications. |
| **Network Time to First Buffer** | Displays the amount of time that passes from the moment the first HTTP request is sent until receipt of ACK.<br>The network measurement is a good indicator of network quality (look at the time/size ratio to calculate download rate). |

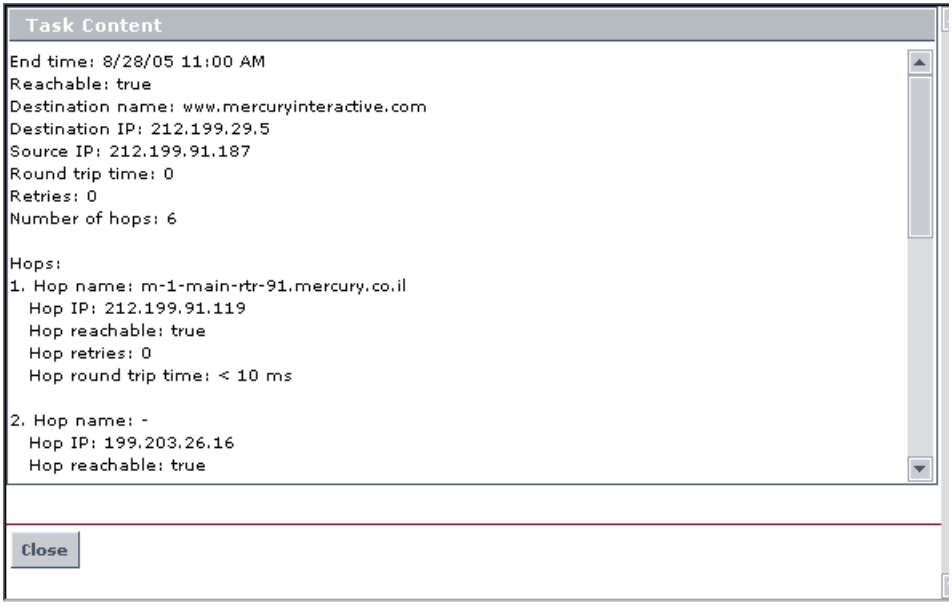
| Name | Description |
|---|---|
| **Server Time to First Buffer** | Displays the amount of time that passes from the receipt of ACK of the initial HTTP request (usually GET) until the first buffer is successfully received back from the Web server. The server time to first buffer measurement is a good indicator of Web server delay.<br>**Note:** Because server time to first buffer is being measured from the client, network time may influence this measurement if there is a change in network performance from the time the initial HTTP request is sent until the time the first buffer is sent. |
| **Download Time** | Displays the time from the receipt of the first buffer until the last byte arrives.<br>Download time is a combination of server and network time, since each server (as specified by the URL(s) in the script) sends data over two or four connections, and therefore is usually working while data is being transmitted over the network.<br>As a Web page is retrieved, its various components (images, applets, and so forth) travel in data packets from server to client across the connections, so that some data packets may be traveling over the network through one of the connections, while others are being processed by the server through another connection. |
| **Offset Time** | Displays the time from the from the moment the first HTTP request is sent until the client activity for the component begins. |

**Note:** In certain circumstances, for example, when Business Process Monitor is using a proxy server, the transaction breakdown mechanism cannot differentiate between server time to first buffer and network time to first buffer. In these cases, the report displays the time between initial HTTP request and receipt of first buffer as Time to First Buffer.

## Understanding WebTrace Reports

WebTrace is a network diagnostics tool that provides traceroute information to a specified destination. WebTrace records the route through the Internet from your host machine to the destination Web server. Business Process Monitor supports WebTrace over TCP, UDP, and ICMP

The WebTrace report provides information on network performance, which helps you analyze application performance issues.



For each destination, the WebTrace report breaks down route time from the host machine to the destination machine, to include the following information for the WebTrace run:

- **Round trip time** – the time it takes, in milliseconds, for a packet of data to be sent from the host machine to the destination Web site.
- **Retries** – the number of times a data packet tries, but fails, to reach its destination due to timeout, network difficulty, and so forth.
- **Number of hops** – the number of intermediate servers the data packet encounters before it reaches its destination.

In addition, the WebTrace report displays the following routing details:

- **<Hop number>** – the position of the hop in the order that the hops occur
- **Hop name** – the name of the intermediate server
- **Hop IP** – the IP address of the intermediate server
- **Hop reachable** – whether it was possible to reach the specific hop
- **Hop round trip time** – the time, in milliseconds, from the source to the specific hop

## Browsing the Script Log Files

You can view the log files for all runs of a script by clicking **Browse** in the Task page to open the Log Browse window. (This button is disabled until Business Process Monitor sends the path for the script directory to Business Process Monitor Admin, generally after the first run of the script.)

You use the Log Browse window in the same way as the browse windows for the Config and Workspace directories, as described in "Viewing Configuration and Log Files" on page 54.

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**Note:** When you view log files from the script Task page, the directory for the script is the highest directory level that you can view.

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# 8

# Business Process Monitor Configuration Files

This chapter describes parameters in the Mercury Business Process Monitor configuration files.


| This chapter describes: | On page: |
|---|---|
| About Business Process Monitor Configurable Options | 108 |
| Parameters in topaz_agent_ctrl.cfg | 109 |
| Parameters in agent1.cfg | 117 |
| Parameters in topaz_data_server.cfg | 123 |
| Parameters in sconn.cfg | 131 |

# About Business Process Monitor Configurable Options

The Business Process Monitor configuration files define default parameter values that are used for Business Process Monitor functioning. Some of these values can be changed within the configuration files, while other parameter values should only be changed using Business Process Monitor Admin, or should not be changed at all.

**To change parameter values within a configuration file:**

1. Stop Business Process Monitor.
2. Open the configuration file in a text editor.
3. Modify the value of the parameter as required.
4. Save the file and restart Business Process Monitor.

---

**Note:** When working on a Windows platform in languages other than English, do not edit and save configuration files in Notepad. Saving configuration files in UTF-8 format in Notepad may cause severe functionality problems in Business Process Monitor.

---

# Parameters in topaz_agent_ctrl.cfg

The **<Business Process Monitor root directory>\config\topaz_agent_ctrl.cfg** file, which controls communication between the Core Server and Business Process Monitor, contains the following parameters:

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| commcenter | DisableSubLogs | Instructs Business Process Monitor on whether to create the commcenter_Site#.txt logs for the instance.<br>The following two options are available:<br>➤ **0** – the logs are created<br>➤ **1** – the logs are not created | 0 | The value can be changed in the topaz_agent_ctrl.cfg file. |
| commcenter | LogMaxSize | Determines the maximum **<Business Process Monitor root directory>\Workspace\ commcenter\ commcenter.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the topaz_agent_ctrl.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| commcenter | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher to the **commcenter.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the topaz_agent_ctrl.cfg file. |
| commcenter | LogBackupOnOpen | Instructs Business Process Monitor to back up the existing **commcenter.txt** log file when opening a new log file. | True | The value can be changed in the topaz_agent_ctrl.cfg file. |
| commcenter | LogBackupOnMaxSize | Instructs Business Process Monitor to back up the **commcenter.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the topaz_agent_ctrl.cfg file. |
| commcenter | LogBackupDuration | Determines the duration (in hours) for which the backups of the **commcenter.txt** log file are kept. | 168 hours | The value can be changed in the topaz_agent_ctrl.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| HTTPSender | HTTPSender TimeoutSec | The timeout, in seconds, for HTTP requests from Mercury Business Availability Center. | 600 seconds | Do not change this value. |
| General | HostVersion | The version of Business Process Monitor installed on the machine. | <Business Process Monitor version> | Do not change this value. |
| General | UserDomain | The domain of the user that is to run all the Business Process Monitor processes, if they are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |
| General | UserPasswd | The encrypted password of the user that is to run all the Business Process Monitor processes, if they are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |
| General | UserName | The name of the user that is to run all the Business Process Monitor processes, if they are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |
| General | RegistrationHour Interval | The interval at which Business Process Monitor communicates with Mercury Business Availability Center to check whether registration data is valid. | 12 hours | Do not change this value. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| General | Workspace | The directory in which the Business Process Monitor log files are stored.<br>Note that if you change this value, only some of the log files under the Workspace directory are moved to the new path (logs in commcenter and agent1 directories), not all.<br>If you want to change the location of *all* logs under the Workspace directory, see "Moving the Workspace Logs" on page 139. | **For Windows:** <Business Process Monitor root directory>\ Workspace<br>**For UNIX:** <Business Process Monitor root directory>/ workspace | The value can be changed in the topaz_agent_ ctrl.cfg file. |
| Site# | SiteURL | The Mercury Business Availability Center URL. | <Mercury Business Availability Center URL> | The value can be changed in Business Process Monitor Admin. |
| Site# | JobPoll | The interval, in minutes, between requests to Mercury Business Availability Center to send jobs. | 2 minutes | The value can be changed in Business Process Monitor Admin. |
| Site# | SiteVersion | The Mercury Business Availability Center version. | <Mercury Business Availability Center version> | Do not change this value. |
| Site# | UserPasswd | The encrypted password of the user that is to run the instance's transactions, if these are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | UserDomain | The domain of the user that is to run the instance's transactions, if these are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | HostLocation | The location defined for the host machine. This is a logical location that is used by Business Process Monitor for registration to Mercury Business Availability Center.<br>The default value is the name of the Business Process Monitor host machine. | <Business Process Monitor machine location> | The value can be changed in Business Process Monitor Admin. |
| Site# | UserName | The name of the user that is to run the instance's transactions, if these are to be run by a specific user. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | DisplayName | The name of the default instance displayed in the Business Process Monitor Admin table and tree. | <display name> | The value can be changed in Business Process Monitor Admin. |
| Site# | TimePoll | The interval, in minutes, between requests to the Centers Server to send its local time. | 60 minutes | The value can be changed in Business Process Monitor Admin. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | HostId | The ID of the Business Process Monitor machine. | <Business Process Monitor machine ID> | Do not change this value. |
| Site# | Pause Communication | Instructs Business Process Monitor to stop communication to Mercury Business Availability Center. When the value of this parameter is 0, communication with Mercury Business Availability Center is enabled; when the value is 1, communication is stopped. | 0<br>(no pause) | The value can be changed in Business Process Monitor Admin. |
| Site# | LocationId | The ID of the Business Process Monitor machine location. | <Business Process Monitor machine location ID> | Do not change this value. |
| Site# | HostName | The name defined for the host machine. This is a logical name that is used by Business Process Monitor for registration to Mercury Business Availability Center.<br>The default value is the actual name of the Business Process Monitor host machine. | <Business Process Monitor machine name> | The value can be changed in Business Process Monitor Admin. |
| Site# | Pause Measurements | Instructs Business Process Monitor to stop running transactions and WebTrace schemes. The following two options are available:<br>➤ **0** – no pause<br>➤ **1** – pause | 0<br>(no pause) | Do not change this value. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | TimeDelta | The difference, in seconds, between Centers Server site time and Business Process Monitor time. | <time difference> | Do not change this value. |
| Site# | ForceLegacy | Instructs the Business Process Monitor instance to use a specific protocol to communicate with Mercury Business Availability Center (the protocol that was used for communication in Business Process Monitor 4.5,) regardless of the Mercury Business Availability Center version being used.<br>The following two options are available:<br>➤ **0** – do not force (permit use of the protocol used in the current Mercury Business Availability Center version)<br>➤ **1** – force (use the Business Process Monitor 4.5 protocol) | 0 (do not force) | Consult Mercury Customer Support if you want to change this value. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | ForceVersion | Instructs the Business Process Monitor instance to behave as though it is connected to the Mercury Business Availability Center version set in the **SiteVersion** parameter, and ignore the version returned by Mercury Business Availability Center itself.<br>The following two options are available:<br>➤ **0** – do not force (use version returned by Mercury Business Availability Center)<br>➤ **1** – force (use the version defined in SiteVersion)<br>Note that **ForceLegacy** can still be set, as it only affects communication, and not the rest of the behavior. | 0 (do not force) | Consult Mercury Customer Support if you want to change this value. |
| Agent1 | DisplayName | The name of the Business Process Monitor machine. | <Business Process Monitor machine name> | Do not change this value. |
| Agents | Agent1 | The list of Business Process Monitor instances. | <site1, site2,...> | Do not change this value. |

# Parameters in agent1.cfg

The **<Business Process Monitor root directory>\config\agent1.cfg** file, which controls Business Process Monitor behavior, contains the following parameters:

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| general | TaskTimeout Minutes | Determines the amount of time after which Business Process Monitor times out all scripts and WebTrace schemes that are still running. | 15 minutes | The value can be changed in the agent1.cfg file. |
| general | Concurrent Profiles | Determines the number of profiles that can be run concurrently. The following options are available:<br>➤ **0** – An unlimited number of profiles can run concurrently.<br>➤ **A value other than 0** – The number specified is the maximum number of profiles that can run concurrently. | 0<br>(an unlimited number of profiles can run concurrently.) | The value can be changed in the agent1.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| general | GlobalRun Handler | The run mode Business Process Monitor allocates when the run mode is not previously defined for the profile. The run mode determines how Business Process Monitor runs the tasks in a profile when the profile begins an iteration.<br>For an explanation of the run modes, see "Run Schedule for Profile Tasks" on page 82.<br>The following options are available:<br>➤ **Classic**<br>➤ **Dialup**<br>➤ **Sequential**<br>➤ **Concurrent** | Classic | The value can be changed in the agent1.cfg file. |
| general | Webreplay Concurrent Connection Backward Compatible | Determines the WebReplay behavior for the VuGen scripts. The following options are available:<br>➤ **Auto** – Old scripts (VuGen 7.5 and below) use old WebReplay behavior and new scripts (VuGen 7.6 and higher) use new WebReplay behavior.<br>➤ **Always** – scripts always use old WebReplay behavior.<br>➤ **Never** – scripts always use new WebReplay behavior. | Auto | The value can be changed in the agent1.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| general | AdjustScheduleToDST | Determines whether time settings in Business Process Monitor are adjusted for Daylight Savings Time (DST). The following options are available:<br>➤ **1** or **true** – times are adjusted for DST.<br>➤ **0** or **false** – times are not adjusted for DST. | true | The value can be changed in the agent1.cfg file. |
| Offset Distributer | OffsetDistPeriodSec | Determines the offset distribution period (in seconds) used by the algorithm that calculates the start offset for the run of each profile.<br>The value can be from 4 to 86400 seconds.<br>For more information, see "Optimizing Profile Scheduling" on page 143. | 3600 seconds | The value can be changed in the agent1.cfg file. |
| agent | DisableSubLogs | Instructs Business Process Monitor on whether to create the agent_Site#.txt logs for the instance.<br>The following two options are available:<br>➤ **0** – the logs are created.<br>➤ **1** – the logs are not created. | 0 | The value can be changed in the agent1.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| agent | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher in the <**Business Process Monitor root directory**>**Workspace**\ **agent1****agent.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the agent1.cfg file. |
| agent | LogBackupOn Open | Instructs Business Process Monitor to back up the existing **agent.txt** log file when opening a new log file. | True | The value can be changed in the agent1.cfg file. |
| agent | LogBackupOn MaxSize | Instructs Business Process Monitor to back up the **agent.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the agent1.cfg file. |
| agent | LogMaxSize | Determines the maximum **agent.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the agent1.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| agent | LogBackup Duration | Determines the duration (in hours) for which the backups of the **agent.txt** log file are kept. | 168 hours | The value can be changed in the agent1.cfg file. |
| Agent_Site#<br>(This section can be manually added to set the log parameters for each instance.) | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher in the **<Business Process Monitor root directory>\Workspace\ agent1\agent_Site#.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the agent1.cfg file. |
| Agent_Site# | LogBackupOn Open | Instructs Business Process Monitor to back up the existing **agent_Site#.txt** log file when opening a new log file. | True | The value can be changed in the agent1.cfg file. |
| Agent_Site# | LogBackupOn MaxSize | Instructs Business Process Monitor to back up the **agent_Site#.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the agent1.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Agent_Site# | LogMaxSize | Determines the maximum **agent_Site#.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the agent1.cfg file. |
| Agent_Site# | LogBackup Duration | Determines the duration (in hours) for which the backups of the **agent_Site#.txt** log file are kept. | 168 hours | The value can be changed in the agent1.cfg file. |
| Script Launcher | ScriptLauncher UseTCP | Determines the protocol through which Business Process Monitor communicates with the scripts. The following options are available:<br>➤ **1** – TCP protocol<br>➤ **0** – shared memory | 0<br>(shared memory) | Do not change this value. |
| Script Launcher | ScriptLauncher SyncEnd | Determines whether the end of a script run is synchronized with the end of a Business Process Monitor process. The following options are available:<br>➤ **1** – there is synchronization.<br>➤ **0** – there is no synchronization. | 0<br>(no synchronization) | Do not change this value. |

# Parameters in topaz_data_server.cfg

The **<Business Process Monitor root directory>\config\topaz_data_server.cfg** file, which controls the transmission of data from Business Process Monitor to the Core Server, contains the following parameters:

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| data_depot | DisableSubLogs | Instructs Business Process Monitor on whether to create the data_depot_Site#.txt logs for the instance.<br>The following two options are available:<br>➤ **0** – the logs are created<br>➤ **1** – the logs are not created | 0 | The value can be changed in the topaz_data_server.cfg file. |
| data_depot | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher in the **<Business Process Monitor root directory>\Workspace\ agent1\data\ data_depot.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the topaz_data_server.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| data_depot | LogBackupOn Open | Instructs Business Process Monitor to back up the existing **data_depot.txt** log file when opening a new log file. | True | The value can be changed in the topaz_ data_server.cfg file. |
| data_depot | LogBackupOn MaxSize | Instructs Business Process Monitor to back up the **data_depot.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the topaz_ data_server.cfg file. |
| data_depot | LogMaxSize | Determines the maximum **data_depot.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the topaz_ data_server.cfg file. |
| data_depot | LogBackup Duration | Determines the duration (in hours) for which the backups of the **data_depot.txt** log file are kept. | 168 hours | The value can be changed in the topaz_ data_server.cfg file. |
| data_depot | ReportAndForget | Determines whether failed reports are resent to Mercury Business Availability Center. The following two options are available:<br>➤ **True** – Failed reports are ignored and not resent to Mercury Business Availability Center.<br>➤ **False** – Business Process Monitor tries to resend failed reports to Mercury Business Availability Center. | False | Do not change this value. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| transdata | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher in the **<Business Process Monitor root directory>\Workspace\ agent1\data\ clients\transdata.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the topaz_ data_server.cfg file. |
| transdata | LogBackupOn Open | Instructs Business Process Monitor to back up the existing **transdata.txt** log file when opening a new log file. | True | The value can be changed in the topaz_ data_server.cfg file. |
| transdata | LogBackupOn MaxSize | Instructs Business Process Monitor to back up the **transdata.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the topaz_ data_server.cfg file. |
| transdata | LogMaxSize | Determines the maximum **transdata.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the topaz_ data_server.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| transdata | LogBackup Duration | Determines the duration (in hours) for which the backups of the **transdata.txt** log file are kept. | 168 hours | The value can be changed in the topaz_ data_server.cfg file. |
| transdata | MaxSnapshot Size | Determines the maximum size of the snapshot HTML file. | 60 kilobytes | Do not change this value. |
| wtdata | LogLevel | Instructs Business Process Monitor to log only entries of the specified level or higher in the **<Business Process Monitor root directory>\Workspace\ agent1\data\ clients\wtdata.txt** file. The following levels exist:<br>➤ fatal<br>➤ error<br>➤ warning<br>➤ flow<br>➤ debug<br>If this parameter is set to **debug**, all entries will be logged; if the parameter is set to **flow**, all entries aside from debug will be logged; if the parameter is set to **warning**, both the flow and debug entries will not be logged, and so forth. | Flow | The value can be changed in the topaz_ data_server.cfg file. |
| wtdata | LogBackupOn Open | Instructs Business Process Monitor to back up the existing **wtdata.txt** log file when opening a new log file. | True | The value can be changed in the topaz_ data_server.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| wtdata | LogBackupOn MaxSize | Instructs Business Process Monitor to back up the **wtdata.txt** log file when it reaches its defined maximum size. | True | The value can be changed in the topaz_ data_server.cfg file. |
| wtdata | LogMaxSize | Determines the maximum **wtdata.txt** log file size (in kilobytes). | 5120 kilobytes | The value can be changed in the topaz_ data_server.cfg file. |
| wtdata | LogBackup Duration | Determines the duration (in hours) for which the backups of the **wtdata.txt** log file are kept. | 168 hours | The value can be changed in the topaz_ data_server.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| PCBD | Policy | Determines the page component breakdown reporting policy. The following two options are available:<br>➤ **Runnum** – Data is automatically reported after the specified number of runs.<br>➤ **Threshold** – Data is only reported if during the transaction run, the threshold status changes to the **Poor** (red) status (because the previous run was less than the higher threshold, and the current run is over that threshold) and not when it changes *from* red status.<br>The transaction thresholds are defined as part of the Business Process profile properties within Monitor Administration. | Runnum<br>**Note:** The default policy value for Mercury Managed Services is **Threshold**. | The value can be changed in the topaz_data_server.cfg file. |
| PCBD | Runnum | Determines the number of runs after which Business Process Monitor reports page component breakdown data (applicable when the value of the Policy parameter is **Runnum**). | 4 runs | The value can be changed in the topaz_data_server.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| txhttp | WakeupMinutesTime | Determines the amount of time, in minutes, after which all the transaction samples in the queue are reported. After this amount of time has elapsed, the transaction samples in the queue are reported, regardless of the number of samples in queue. | 1 minute | Do not change this value without consulting Mercury Customer Support. |
| txhttp | WakeupCount | Determines the number of transaction samples that must be collected before all the transaction samples in the queue are reported. After this number of transaction samples are collected, all the transaction samples in the queue are reported, regardless of the amount of time that has elapsed since the last report. | 40 samples | Do not change this value without consulting Mercury Customer Support. |
| txhttp | MaxChunk | Determines the maximum number of transaction samples that can be sent in one HTTP request. | 100 samples | Do not change this value without consulting Mercury Customer Support. |
| txhttp | Priority | This parameter is not currently implemented. | | |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| wthttp | WakeupMinutesTime | Determines the amount of time, in minutes, after which all the WebTrace samples in the queue are reported. After this amount of time has elapsed, the WebTrace samples in the queue are reported, regardless of the number of samples in queue. | 1 minute | Do not change this value without consulting Mercury Customer Support. |
| wthttp | WakeupCount | Determines the number of WebTrace samples that must be collected before all the WebTrace samples in the queue are reported. After this number of WebTrace samples are collected, all the transaction samples in the queue are reported, regardless of the amount of time that has elapsed since the last report. | 1 sample | Do not change this value without consulting Mercury Customer Support. |
| wthttp | MaxChunk | Determines the maximum number of WebTrace samples that can be sent in one HTTP request. | 100 samples | Do not change this value without consulting Mercury Customer Support. |
| wthttp | Priority | This parameter is not currently implemented. | | |
| HTTPSender | HTTPSenderTimeoutSec | The timeout, in seconds, for HTTP requests to Mercury Business Availability Center. | 300 seconds | Do not change this value without consulting Mercury Customer Support. |

# Parameters in sconn.cfg

The **<Business Process Monitor root directory>\config\sconn.cfg** file, which controls the configuration options pertaining to the communication between Business Process Monitor and the Core Server, contains the following parameters:

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | AuthUser | Determines the user name to be used for basic authentication, if required by Mercury Business Availability Center. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | AuthDelay | If you defined authentication parameters for Business Process Monitor, this parameter determines whether authentication is set only after HTTP code 401 is returned, or from the first request to the Web server.<br>The following options are available:<br>➤ **0** – Set authentication parameters from the first request.<br>➤ **1** (default behavior) – Set authentication parameters only after HTTP code 401 is returned. | 1 | Do not change this value without consulting Mercury Customer Support. |
| Site# | AuthDomain | Determines the domain name to be used for basic authentication, if required by Mercury Business Availability Center. | "" | The value can be changed in Business Process Monitor Admin. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | AuthPasswd | Determines the encrypted password to be used for basic authentication, if required by Mercury Business Availability Center. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | HandleBinary ContentType | Determines whether to change the content type in the HTTP header of requests sent by the Business Process Monitor, when the post buffer is binary. The content type in such case will be **application/octet-stream** (and not **application/x-www-form-urlencoded**).<br>The following two options are available:<br>➤ **0** – do not change content type<br>➤ **1** – change content type | 0 (do not change) | Do not change this value without consulting Mercury Customer Support. |
| Site# | HeaderName | Determines the name of the header which should be added or changed, in order to add or override headers to the HTTP request sent by Business Process Monitor to Mercury Business Availability Center. For more information, see "Adding or Overriding HTTP Request Headers" on page 135.<br>If this parameter is empty (or does not exist), it is ignored and no addition or change is made to the header. | "" | The value can be added/ changed in the sconn.cfg file. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | HeaderValue | Determines the value of the header (as defined by parameter **HeaderName**, above) which should be added or changed. | "" | The value can be added/ changed in the sconn.cfg file. |
| Site# | ProxyName | Determines the user name to be used to connect to the proxy server, if you are connecting to Mercury Business Availability Center using a proxy server. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | ProxyDomain | Determines the domain name to be used to connect to the proxy server, if you are connecting to Mercury Business Availability Center using a proxy server. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | ProxyPasswd | Determines the encrypted user password to be used to connect to the proxy server, if you are connecting to Mercury Business Availability Center using a proxy server. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | ProxyUrl | Determines the proxy server URL to be used if you are connecting to Mercury Business Availability Center using a proxy server. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | SSLClientCert | Determines the SSL client certificate file to be used if SSL client authentication is required by Mercury Business Availability Center. Note that this file must be in PEM format. | "" | The value can be changed in Business Process Monitor Admin. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | SSLServerCert | Determines the SSL authority certificate file to be used if the SSL protocol is required for Business Process Monitor to communicate with Mercury Business Availability Center. Note that this file must be in PEM format. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | SSLPVK | Determines the SSL private key file used as the pair key of the public key in the SSL client certificate file. This file is required if SSL client authentication is required by Mercury Business Availability Center. Note that this file must be in PEM format. | "" | The value can be changed in Business Process Monitor Admin. |
| Site# | SSLPVKPasswd | Determines the encrypted SSL private key password to be used if SSL client authentication is required by Mercury Business Availability Center. | "" | The value can be changed in Business Process Monitor Admin. |

| Section | Parameter | Description | Default Value | Changing the Value |
|---|---|---|---|---|
| Site# | SSLServer Validate | If you defined an SSL authority certificate file, this parameter determines whether to validate the certificate received in the SSL handshake. By default, the certificate is validated. If you do not want the certificate to be validated, set this parameter to 2. | 1 (validate) | Do not change this value without consulting Mercury Customer Support. |
| Site# | SSLHostName Validate | If you defined an SSL authority certificate file, this parameter determines how the host name in the server certificate is validated. The following options are available:<br>➤ **1** – Full validation.<br>➤ **2** – Validates the existence of the host name only.<br>➤ **3** – Skips host name validation. | 1 (full validation) | Do not change this value without consulting Mercury Customer Support. |

### Adding or Overriding HTTP Request Headers

In order to add or override headers to the HTTP request sent by Business Process Monitor to Mercury Business Availability Center, you define the parameters **HeaderName** and **HeaderValue** in the sconn.cfg file, as described in the above table.

Note the following guidelines:

➤ In order to add/change more than one header, use HeaderName2 for the second name, HeaderName3 for the third, and so forth. Follow the same principle for the HeaderValue parameter.

➤ The number of header names must match the number of header values. Otherwise all header names and values will be ignored.

➤ The first header should be configured with the original parameter names (no index). Business Process Monitor only reads additional headers if they are sequentially numbered. For example, if the following information is added to the sconn.cfg file, only the first two headers will be handled. **HeaderName4** and **HeaderValue4** will be ignored:

```
[Site1]

AuthDomain=""
ProxyPasswd=""
ProxyName=""
SSLClientCert=""
SSLHostNameValidate="1"
AuthDelay="0"
ProxyUrl=""
SSLServerCert=""
SSLPVK=""
ProxyDomain=""
SSLServerValidate="1"
SSLPVKPasswd=""
HeaderValue="Mozilla/4.0 (compatible; MSIE 5.5; Windows NT 5.0)"
HeaderName="User-Agent"
HeaderName2="Content-Type"
HeaderValue2="application/x-www-form-urlencoded;charset=UTF-8"
HeaderName4="Content-length"
HeaderValue4="100"
```

# 9

# Advanced Configuration Options

This chapter describes advanced configuration for Mercury Business Process Monitor functionality.


| This chapter describes: | On page: |
|---|---|
| Enabling Log File Write | 138 |
| Moving the Workspace Logs | 139 |
| Setting User Permissions for Specific Users | 140 |
| Changing the Default Port | 141 |
| Optimizing Profile Scheduling | 143 |
| Viewing the Catalina DOS Window | 144 |
| Enabling User Authentication | 145 |
| Running Tomcat as a Specific User | 146 |
| Running Oracle Protocol Scripts | 148 |
| Changing the Maximum Number of Hops for WebTrace | 149 |
| Disabling the Close Application Mechanism | 150 |

# Enabling Log File Write

Certain scripts (for example, Mercury Virtual User Generator Web-based scripts) include a log file write option. By default, this option is disabled for all scripts in Business Process Monitor. If you enable the log file write parameter in the agentview.props file, Business Process Monitor Admin then enables you to select the option for the run of applicable scripts (as described in "Setting Log File Write" on page 89).

**To enable log file write:**

1. Open the <**Business Process Monitor root directory**>**ServletContainer****conf****agentview.props** file in a text editor.
2. Change the line:
   lfw= 0
   to
   lfw=1
3. Save the file.
4. Restart Business Process Monitor.

# Moving the Workspace Logs

If required, you can change the path for the Workspace directory in the topaz_agent_ctrl.cfg file, to store the log files in a new location. However, this only moves some of the log files under the Workspace directory (logs in commcenter and agent1 directories), not all.

If you want to change the location of *all* logs under the Workspace directory, use the following procedure. All file paths are under the **<Business Process Monitor root directory>.** Edit all files in a text editor.

**To move all Workspace logs:**

1. Stop Business Process Monitor.
2. In the **..\config\topaz_agent_ctrl.cfg** file, change the path for the **Workspace** parameter to the required path.
3. In the **..\ServletContainer\conf\agentview.props** file, change the path for the **mdrvfile** parameter to the new Workspace path.
4. In the **..\launch_service\dat\nanny\topaz_agent_ctrl.nanny** file, find the section that relates to your platform (Windows/Solaris/Linux), and within the section change the path after **-out** to the new Workspace path.
5. In the **..\launch_service\dat\nanny\webtrace.nanny** file, find the section that relates to your platform (for Windows/Solaris/Linux), and within the section change the path after **-out** to the new Workspace path.
6. In the **..\launch_service\dat\nanny.ini** file, change the path for the **log_output_dir** parameter to the new Workspace path.
7. (For Windows platforms) In the **..\servletcontainer\bin\catalina.bat** file, search for **-Dbpm.workspace**, and change the path for the parameter to the new Workspace path.
8. (For Solaris/Linux platforms) In the **../servletcontainer/bin/catalina.sh** file, search for **-Dbpm.workspace**, and change the path for the parameter to the new Workspace path.
9. Restart Business Process Monitor.

## Setting User Permissions for Specific Users

If you are running a Business Process Monitor instance as a specific user without administrator permissions on the local machine, you should set the following permissions for the user:

- Read & Execute permissions to the Business Process Monitor installation directory.
- Full Control permissions to the relevant directory for the instance. For example, the first instance must have access rights to the **..\Workspace\agent1\site1** directory.
- Write permissions to the **..\Workspace\agent1\data\snapshots** directory.
- Write permissions to the default user temp directory. All MDRV based programs in the system use this directory for certain processes, for example when using a script with parameters. The directory is usually located under **..\Documents and Settings\Default User\Local Settings\Temp**.

# Changing the Default Port

By default, Business Process Monitor Admin uses port 2696 on the host machine. If required, you can change the port. Use the new port value in the URL when accessing Business Process Monitor Admin from a browser window.

**To change the default port:**

1. Stop Business Process Monitor and make sure that all processes are stopped.
2. Open **<Business Process Monitor root directory>\ServletContainer\conf\server.xml** in a text editor.
3. Look for the XML element **Connector** with an attribute scheme set to **http** or **https**. Change the attribute port to the required port value, and save the file.

   If you are working on a Windows platform, continue with the next step.

   For other platforms, skip to step 13.
4. (For Windows platforms only) Select **Start** > **Programs** > **Mercury Business Process Monitor**, then right-click the **Business Process Monitor Admin** link. Select **Properties** from the displayed menu to open the Business Process Monitor Admin Properties window.
5. If the Business Process Monitor Admin Properties window contains a **Web Document** tab, open the tab and change the port in the **URL** box to the new port value, then click **Apply**. Skip to step 13.

   If the Business Process Monitor Admin Properties window does not contain a Web Document tab, continue with the next step.
6. Open the **General** tab and find the **Location** field. Open a Windows Explorer window and browse to the path that appears in the **Location** field (for example, **C:\Documents and Settings\All Users\Start Menu\Programs\Mercury Business Process Monitor**).
7. Delete the **Business Process Monitor Admin** shortcut from the folder.
8. Select **File** > **New** > **Shortcut**. The first window of the Create Shortcut wizard is displayed.

**9** In the **Type the location of the item** box, enter the Business Process Monitor Admin URL using the new port number: http://localhost:<new port value>/bpm/

Click **Next**.

**10** In the **Type a name for this shortcut** box, enter **Business Process Monitor Admin**.

Click **Finish**.

**11** Check that a new Internet shortcut has been created in the folder.

**12** Select **Start** > **Programs** > **Mercury Business Process Monitor**, right-click the **Business Process Monitor Admin** link, and select **Properties**. In the displayed Business Process Monitor Admin Properties window, access the **Web Document** tab and check that the new port value is now displayed in the **URL** box.

**13** Restart Business Process Monitor.

# Optimizing Profile Scheduling

Business Process Monitor uses an algorithm to calculate the start offset for profile scheduling, as described in "Start Offset Determined by Business Process Monitor" on page 80. The distribution period for the algorithm is defined by the parameter **OffsetDistPeriodSec** in the **<Business Process Monitor root directory>\config\agent1.cfg** file. The default value for this parameter is one hour (3600 seconds), which is an optimum value when the majority of your profile schedules use the default schedule option of every 15 minutes, or a multiple of 15, for example, 30 minutes or 7.5 minutes.

If you are commonly using other schedule intervals for your profiles (meaning that the majority of your profile schedule intervals are not multiples of 15 minutes), you can change the default distribution period to fine tune the offset balancing, enabling profile runs to be more evenly dispersed. The value you use for **OffsetDistPeriodSec** is calculated using the formula **common_profile_interval * ($2^x$)**, where the common profile interval represents the schedule interval most commonly used for your profiles (or, if there is no predominant schedule interval, the highest schedule interval).

For example, if the majority of your profiles are set to run every 20 minutes (schedule interval 20), then the parameter **OffsetDistPeriodSec** should be set to one of the following:

$20 * 2^0 = 20$ minutes = 1200 seconds
$20 * 2^1 = 40$ minutes = 2400 seconds
$20 * 2^2 = 80$ minutes = 4800 seconds

and so forth.

It is recommended that the distribution period value be equal or greater to the highest schedule interval used in your profiles. For example, if the majority of your profiles have a schedule interval of 20 minutes, but one has a schedule of 45 minutes, then you could set the distribution period to 80 minutes. The minimum value for the period is 4 seconds, the maximum is 24 hours.

If you need assistance in determining the distribution period value that will give you maximum efficiency, contact Mercury Customer Support.

**Note:** If you do not configure the distribution period to fit the schedule intervals used in your profiles, Business Process Monitor will use the default value to schedule start offset values for the profiles. In most cases, this value will be adequate; however, there may be cases where the scheduling process is not optimum (profiles will not run with equal distribution in the period).

## Viewing the Catalina DOS Window

By default, the Catalina DOS window is hidden when running Business Process Monitor. You can use the following procedure to keep it visible.

**To view the Catalina DOS window:**

1. Open the <**Business Process Monitor root directory**>**\launch_service\dat\nanny\catalina.nanny** file in a text editor.
2. Change the line:
   show_window= 0
   to
   show_window=1
3. Save the file.
4. Restart Business Process Monitor.

# Enabling User Authentication

The following procedure enables you to define the Web users permitted to access the Business Process Monitor Admin tool using basic authentication.

**To define users for basic authentication:**

1. Stop Business Process Monitor and make sure that all processes are stopped.
2. Open the **<Business Process Monitor root directory>\ServletContainer\conf\web.xml** in a text editor.
3. Uncomment the section called **Security Constraint and Login Configuration** and save the file.
4. Open the **<Business Process Monitor root directory>\ServletContainer\conf\tomcat-users.xml** in a text editor and add the list of allowed users for Business Process Monitor. All users must be assigned **roles="bpm_admin"**.

   For example, the line:

   ```
   <user name="user1"   password="abc" roles="bpm_admin" />
   ```

   will add a user called "user1" with a password of "abc" to the users who are allowed to access Business Process Monitor Admin.
5. Save the file.
6. Restart Business Process Monitor.

# Running Tomcat as a Specific User

Business Process Monitor Admin uses Tomcat (Catalina) as its Web server. In general Tomcat is not considered a secure Web server. To improve security, it is recommended not to run Tomcat:

- as a system user
- on a Windows platform, as a user with administrator permissions
- on a Solaris or Linux platform, as the root user

By default, Tomcat runs under the same user to which Business Process Monitor is configured—the system user (default setting).

To configure Tomcat to run as a specific user, follow the instructions for Windows platforms, below, or for Solaris/Linux platforms on page 147.

## Configuring Tomcat on a Windows Platform

On a Windows platform, you can configure Tomcat to run as a specific user using one of the methods described:

- Run the Business Process Monitor service as a specific user (currently, Tomcat and the Business Process Monitor processes run under the same Business Process Monitor Service). This solution is not recommended, unless specifically advised by Mercury Customer Support.

  You configure the Business Process Monitor service as a specific user from the **Log On** tab in the Mercury Business Process Monitor Properties dialog box (**Control Panel** > **Administrative Tools** > **Services**, then right-click **Business Process Monitor** and select **Properties**).

  The problem with this solution is that if the user does not have administrator privileges on the machine, WebTrace tasks will fail. Further, the Business Process Monitor processes, as well as the scripts it runs, will be run as that user. Thus, if you want to run different Business Process Monitor instances as different users, this solution is not practical.

---

**Note:** Starting Business Process Monitor from the Start menu recreates the Business Process Monitor Service as a system user. As such, after configuring the service to run as a specific user using the method described above, make sure to start the service itself—do not use the Start menu. (To start the service, select **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Services**, and then select **Start** from the **Mercury Business Process Monitor** right-click menu.)

---

➤ Configure the user to run Tomcat alone. This involves disabling nanny monitoring of Tomcat and then running Tomcat from a command line. This option is problematic for two reasons: it is not possible to monitor Tomcat; when the user logs off, Tomcat stops.

**To configure the user to run Tomcat alone:**

1. Stop Business Process Monitor.
2. Open the file **<Business Process Monitor root directory>\launch_service\dat\nanny\catalina.nanny** in a text editor.
3. Change enable="1" to enable="0".
4. Save the file and restart Business Process Monitor.
5. In a Command Prompt window, move to **<Business Process Monitor root directory>\ServletContainer\bin** and execute catalina run.

### Configuring Tomcat on a Solaris/Linux Platform

On Solaris or Linux platforms, you can configure Tomcat to run as a specific user during Business Process Monitor installation (by defining the user that will be used to run Business Process Monitor Admin), or after installation, using the following procedure:

**To configure Tomcat to run as a specific user after installation:**

1. Open the file **<Business Process Monitor root directory>/launch_service/dat/nanny/catalina.nanny** in a text editor.

**2** Edit the relevant line (**start_solv4** for Solaris or **start_linux** for Linux) so that its last parameter is the username. There is no need for a password. For example, to run Business Process Monitor Admin on Solaris as user my_user, change the line in catalina.nanny from:

```
start_solv4="/opt/MercuryBPM/bin/wait_deamon.sh^
"="/opt/MercuryBPM/ServletContainer/bin/catalina.sh start"
"="/opt/MercuryBPM/ServletContainer/logs/catalina.pid" 5"
```

to:

```
start_solv4="/opt/MercuryBPM/bin/wait_deamon.sh^
"="/opt/MercuryBPM/ServletContainer/bin/catalina.sh start"
"="/opt/MercuryBPM/ServletContainer/logs/catalina.pid" 5 my_user"
```

## Running Oracle Protocol Scripts

In order to run Oracle protocol scripts (recorded with VuGen) from a Business Process Monitor installed on a Solaris platform, you must define certain environment variables in the scripts running Business Process Monitor. Business Process Monitor will not function if Oracle protocol scripts are included in its designated profiles, until the environment is defined.

---

**Note:** For Windows platforms, the environment for Oracle protocol scripts is defined automatically by the Oracle Client. Oracle protocol scripts are not supported on Linux platforms.

---

The variables are defined in the following files:

- **<Business Process Monitor root directory>/scripts/topaz_agent_env.sh**
- **<Business Process Monitor root directory>/scripts/topaz_agent_env.csh**

Add the variables listed below to the file. The example values given are for topaz_agent_env.sh—modify the paths as appropriate for your machine:

- **MERQ_MCHAN_SOCKNOTIFY=1; export MERQ_MCHAN_SOCKNOTIFY**

- **ORACLE_BASE=/tools/oracle/solv4/app/oracle;export ORACLE_BASE**
- **ORACLE_HOME=/tools/oracle/solv4/app/oracle/product/8.1.7**
- **OPENWINHOME=/usr/openwin; export LD_LIBRARY_PATH**
- **LD_LIBRARY_PATH=${M_LROOT}/bin:${LD_LIBRARY_PATH}: ${ORACLE_HOME}/lib**

## Changing the Maximum Number of Hops for WebTrace

Business Process Monitor is set to access a maximum of 30 hops when using WebTrace to reach a site. If 30 hops are not enough to reach the site, it will be reported as unreachable.

If required, you can increase or decrease the maximum number of hops by editing the default value in the **webtrace.ini** file.

**To modify the maximum number of hops value:**

1. On the Business Process Monitor machine, open the **<Business Process Monitor root directory>\dat\webtrace.ini** file in a text editor.
2. Look for:

   **[Request]**
   **DefaultMaxTTL=30**
3. Change the value for **DefaultMaxTTL** to the required number of hops.
4. Save your changes.
5. Restart Business Process Monitor for the change to take effect.

# Disabling the Close Application Mechanism

The mechanism to automatically close the application being tested when running QuickTest Professional scripts (described in "QuickTest Professional Scripts" on page 36) is enabled by default for scripts run on Business Process Monitor.

If required, you can disable the mechanism for a specific script.

**To disable the mechanism:**

1. Browse to the **<QuickTest Professional>\Tests\<script name>** folder and open the **default.cfg** file in a text editor.
2. In the **General** section, add the following:

   ```
   DisableEndProcessesOnFail=1
   ```

   ---

   **Note:** To re-enable the mechanism, delete the statement.

   ---

3. Save the file. The mechanism will no longer close an application being tested if the QuickTest Professional script fails before it runs the last step (which closes the application).

# 10

# Workspace Directory and Log Files

This chapter contains information on the logs and files located in the Business Process Monitor Workspace directory that relate to running Mercury Business Process Monitor.


| This chapter describes: | On page: |
|---|---|
| About Business Process Monitor Logs | 152 |
| Log Archives | 153 |
| Log Entry Format | 153 |
| Workspace Directory Architecture | 154 |
| Agent1 Directory | 156 |
| Data Directory | 157 |
| Site1 Directory | 158 |

# About Business Process Monitor Logs

The Business Process Monitor processes can be divided into three main categories:

- Controller
- Agent
- Data server

Each category has one or more log files, all stored under the Workspace directory. There are different types of log files:

- logs that record flow and logics information for events.
- logs that contain resource-related issues, such as memory, communication, threads, and so forth (MDRV logs). These logs only report errors, so an entry indicates a problem in the process.

Each log file has a default memory limit of 5 MB. A new log file is started automatically for a log when the log file reaches its memory limit, or when Business Process Monitor is stopped and restarted.

Note that the default values for each log can be edited in the Business Process Monitor configuration files. For more information, see Chapter 8, "Business Process Monitor Configuration Files."

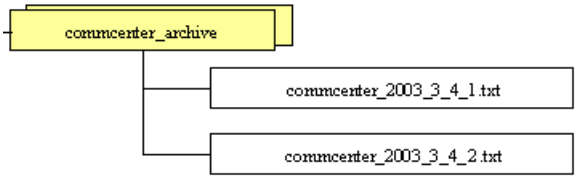
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**Note:** For Solaris/Linux platforms, there is an additional Business Process Monitor log, **files_removed.log**, outside of the Workspace directory (<**Business Process Monitor root directory**>**.persist_dir****files_removed.log**). This log records the number of files removed from **.persist_dir** the last time the Business Process Monitor's **stop** script was called.

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## Log Archives

Most logs have a corresponding archive. Each archive holds the most recent files for the relevant log (prior to the currently active log file), up to a default maximum of five log files. When a new log file is started, the previous log file is added to the archive and, if the archive already contains the maximum number of files, the oldest file is dropped. The following example shows the archive file structure for the **commcenter_archive** directory, containing two older files for the **commcenter.txt** log.




## Log Entry Format

The following are examples of log entries:

01/12/2003 20:57:04 FLOW  task 'war_http' (id=52) of profile 'AA_Sanity' (id=27) is running

26/11/2003 16:08:03 ERROR  AgentCtrl: "send configuration" could not be passed to the agent: Failed to post a message to agent 'Agent1' (error -1).

Each line starts with the date and time, then the level of the message. Business Process Monitor uses the following log levels for events:

- Fatal
- Error
- Warning
- Flow
- Debug

By default, Business Process Monitor is set to log only entries of level Flow and higher (meaning that Debug events are not included). You can change the default setting (to show a different level and higher) in the Business Process Monitor configuration files, as described in "Parameters in topaz_agent_ctrl.cfg" on page 109.

As one Business Process Monitor can serve more than one Business Process Monitor instance, some of the messages targeted to a general log (for example, **agent.txt**) are also duplicated to the log for a specific instance (for example, **agent_Site#.txt**). The instance logs for a component are located in the same directory as the component general log (the source log). In the general/source log, each duplicated message ends with **[owner: 'Site#']**. For example:

```
02/12/2003 06:14:01 FLOW    running task 'testik' (id=56) of profile 'bpm_Sanity'
(id=57) with timeout of 900 seconds [owner: 'Site3']
```

## Workspace Directory Architecture

The Workspace directory contains the following logs and files for Business Process Monitor:

- **agent1** – directory for all the logs and files relevant for the agent category. For details, see Agent1 Directory.
- **bpm_admin_audit.log** (and archive) – the log for each API call performed through Business Process Monitor Admin or the Business Process Monitor SOAP API. This includes tasks such as adding an instance, removing an instance, invoking a task, and so forth.
- **bpm_admin_out.log** (and archive) – the log of the Catalina output. (This file contains the same information printed to the Catalina DOS window, that is hidden by default. If you prefer to view the output in the window, see "Viewing the Catalina DOS Window" on page 144.)
- **commcenter** – directory for controller logs. The directory contains the following files (and corresponding archives):
  - **commcenter.txt** (and archive) – the commcenter (controller) log, logging events such as registration, and job and time poll intervals.

- **commcenter_site1.txt** (and archive) – the commcenter (controller) log for a specific Business Process Monitor instance. Each instance log contains all the entries in the **commcenter.txt** log that are relevant for the instance.

- **manager_task_invoker** – directory for all output files and logs created for a run of a script, when the script run is invoked using the **Invoke Task** option in Business Process Monitor Admin. The directory also contains the LogFileWrite.log files, when log file write is enabled in Business Process Monitor and the option is set for the script run.
- **mercwebtrace.log** (and archive) – a log for the mercwebtrace component used with WebTrace in Business Process Monitor.
- **nanny.log** – the log of the nanny component (responsible for launching the following processes and making sure they are up: tp_bpm_admin, tp_bpm_ctrl, and mercwebtrace).
- **RemoteActionsExecuter0.log** – this log contains data on remote upgrade activity, such as downloading and installing the upgrade file, Setup status, and failures.
- **supervisor.txt** (and archive) – this log contains data regarding the launch/failure of the following processes: tp_bpm_admin, tp_bpm_ctrl, and mercwebtrace.
- **topaz_agent_ctrl.log** (and archive) – the MDRV log for the controller category.
- **topaz_agent_manager.log** (and archive) – the log for the TAM's jmdrv. Logs low-level Business Process Monitor Admin events.
- **webtrace** – directory for logs relating to the mercwebtrace component, used to handle WebTrace. The directory contains the following files (with corresponding archives, as required):
  - **webtrace.txt** – the log of the management level for WebTrace, logging events such as request handling.
  - **network.txt** – the log of the networking layer in WebTrace.

# Agent1 Directory

The agent1 directory contains logs and files that relate to the operation of the agent category.

---

**Note:** Site1, Site2, and so forth, are internal names for the Business Process Monitor instances. You can check which internal name is assigned to each instance in the **<Business Process Monitor root directory>\config\ topaz_agent_ctrl.cfg** file.

---

The agent1 directory contains the following files:

- **agent_Site1.txt** (and archive) – logs the flow of the agent for a specific Business Process Monitor instance. Each instance log contains all the entries in the **agent.txt** log that are relevant for the instance.
- **agent.txt** (and archive) – logs the flow of the agent. Logs events such as processing scripts, running profiles, downloads, processing errors (for all Business Process Monitor instances).
- **agent_task_invoker.txt** (and archive) – logs information regarding invoked tasks (invoked using the Invoke Now option in Business Process Monitor Admin).
- **agent1_drvlog.txt** (and archive) – the MDRV log for the whole agent category.
- **agent1_drvlog_launcher.txt** (and archive) – a log for internal Mercury use.
- **data** – this directory contains all logs and files relevant for the data server. For details, see Data Directory.
- **downloads** – a temporary directory for downloads of scripts, without connection to the logs.
- **Site1** – each "SiteX" directory contains information relating to a specific Business Process Monitor instance. For details, see Site1 Directory.
- **task_invoker** – this directory contains files regarding the runs of tasks invoked using the Invoke Now option in Business Process Monitor Admin.

- **traceroute** – a directory for traceroute server logs. The directory contains the following file (and corresponding archive):
  - **tracert_drvlog.txt** (and archive) – the MDRV log for the traceroute server component.

## Data Directory

The data directory contains the following logs and files relating to the Business Process Monitor data server:

- **clients** – this directory contains information about the transaction and WebTrace data that will be reported to the Mercury Business Availability Center site. The information for each finished transaction/WebTrace appears in the client logs at the moment the data is ready to be sent, while the data depot log records what data is actually sent.

  The directory contains the following files (and corresponding archives):
  - **transdata.txt** (and archive) – the log for finished transaction data.
  - **wtdata.txt** (and archive) – the log for finished WebTrace data.
- **data_depot.txt** (and archive) – the log for all information relating to reported data, for all Business Process Monitor instances. For example, this file logs if data reporting was successful or failed, and the number of samples (in a queue) that were included in a report.
- **data_depot_Site1.txt** (and archive) – the log of all information relating to reported data, for a specific Business Process Monitor instance. Each instance log contains all the entries in the **data_depot.txt** log that are relevant for the instance.
- **datasrv_drvlog.log** – the MDRV log for the whole data server category.
- **queues** – this directory contains the persistency queues for transaction and WebTrace reports that have not yet been sent to the Mercury Business Availability Center site, or that have not yet been acknowledged by Mercury Business Availability Center. (If Business Process Monitor is stopped, the reports are stored in the persistency queues until they can be sent.)

- **snapshots** – this is a temporary directory holding the snapshots (when the Snapshot on Error option is enabled for a script) that are reported by Business Process Monitor to Mercury Business Availability Center. For more information on the Snapshot on Error function, see Error Summary Report in *Using End User Management*.

## Site1 Directory

The Site1 (or Site2, Site3, and so forth) directory contains the following logs and files regarding the specific instance's job (when running a script):

- **input_job.xml** – this is the last received .xml file, describing the last job with which the instance dealt (the file may contain only the difference between the last job and the previous one).
- **persistency_job.xml** (and archive) – this .xml file stores persistency information for all jobs currently assigned to the instance.
- **<profile_id#>** – this directory contains information concerning the run of a profile, for a specific profile that the instance is assigned to run. It contains:
  - **<script_id#>** – this directory contains files relating to a script in the profile:
    - **<script1>** – this directory contains files concerning the run of the script. These files include the script itself, additional files for the script, and the res directory where the output files for the script's run are stored.
    - **<script>.crc** – the .crc file for the script, containing information needed by Business Process Monitor to run the script, as defined in the database.
  - **<WebTrace_id#>** – this directory is identified by an ID value between 100–199, and is generally empty.

# Index


## A

Agent Instance log 71
Agent# directory, logs in 156
agent1.cfg file 117
archives, for log files 153
authentication
  for Business Process Monitor instance 49

## B

basic authentication
  for Business Process Monitor Admin 145
  for Business Process Monitor instance 49
  for proxy server access 50
breakdown
  categories 101
  PCBD for Web pages 96
  summary report for script tasks 95
Business Process Monitor
  administering instance 70
  advanced configuration 137
  configuration files 107
  configuring log settings scripts 88
  deployment 7
  enabling log file write 138
  Host page 43
  installing on Solaris or Linux platform 17
  installing on Windows platform 15
  log files 70
  logs 151
  Mercury Business Process Monitor Service 38
  operation 32
  optimizing profile scheduling 143
  restarting 62
  running 38
  running as a specific user 59
  running as a system user 61
  running on Solaris/Linux platform 39
  running on Windows platform 38
  script run distribution 79
  silent installation procedure 20
  start offset values 79
  supported recording tools 33
  system requirements 9
  system tray icon 38
  uninstalling 26
  upgrading remotely 25
  viewing Catalina DOS window for 144
  viewing configuration files 54
  viewing log files 54
  What's New 42
  working with 31
  working with directories 54
Business Process Monitor Admin
  access using basic authentication 145
  accessing 40
  Business Process Monitor Host page 43
  Instance page 67
  moving around 41
  port 40
  Profile page 73
  Task page 85
Business Process Monitor instance
  authentication settings 49
  proxy server settings 50
  SSL communication settings 49
Business Process Monitor logs. *See* logs

## C

Catalina DOS window, viewing 144
Catalina, running under specific user 146
Classic profile run mode 82
close application mechanism, for QuickTest Professional scripts 36, 150
communication with Mercury Business Availability Center 70
component breakdown
  connection time 102
  DNS resolution 102
  download time 103
  network time to first buffer 102
  offset time 103
  retry time 102
  server time to first buffer 103
  SSL handshaking 102
  time to first buffer 104
Concurrent profile run mode 83
Config directory
  creating zip file of 58
  viewing files for 54
configuration files
  agent1.cfg 117
  changing values in 108
  for Business Process Monitor 107
  sconn.cfg 131
  topaz_agent_ctrl.cfg 109
  topaz_data_server.cfg 123
  viewing from Business Process Monitor Admin 54
configuration options, for Business Process Monitor 137
configuring
  Business Process Monitor instance 45
  default port for Business Process Monitor 141
connection time
  component breakdown 102
Controller Log 71

## D

data collectors. *See* Business Process Monitor
Data directory, logs in 157
deployment
  Business Process Monitor 7
  troubleshooting 29
Dialup profile run mode 82
DNS resolution
  component breakdown 102
download time
  in component breakdown 103

## E

environment variables, defining for Oracle scripts 148

## G

Global Monitor
  getting started 5
  integrating remote hosts into profiles 6

## H

Help link for Business Process Monitor 42
host name 47

## I

icon
  for Business Process Monitor pages 41
  for starting Business Process Monitor 38
ID, for profile 69, 74
installation
  Business Process Monitor 7
  information required for Business Process Monitor during 12
  limitations for Business Process Monitor 13
  on Solaris or Linux platform 17
  on Windows platform 15
  requirements for Business Process Monitor 10
  silent, for Business Process Monitor 20
  using a response file 22
  using tsettings.ini file 22

instance
adding to Business Process Monitor 46
communication status 68
configuring for Business Process Monitor 45
configuring specific user settings 50
configuring system user for 51
editing settings 52
host name 47
location name 47
profile information 69
properties 68
removing 53
setting specific user permissions 140
Instance page, in Business Process Monitor Admin 67
invoke
on-demand PCBD 63
task 90, 91
WebTrace 65

## J

job poll interval 48, 68

## L

last run duration
for profile 69, 74
for task 86
last start time
for profile 69, 74
for task 86
Linux platform
installing Business Process Monitor on 17
running Business Process Monitor on 39
uninstalling Business Process Monitor 28
location
name 47
log file write
enabling for Business Process Monitor 138
setting for scripts 89
log files 70
Agent Instance log 71
changing location of Workspace logs 139
Controller Log 71
in Agent# directory 156
in Data directory 157
in Site# directory 158
in Workspace directory 154
Reports (Data) Log 71
viewing for Business Process Monitor instance 71
viewing from Business Process Monitor Admin 54
log level
for scripts 86, 88
logs
archives for 153
for Business Process Monitor 151
format 153
levels used in Business Process Monitor logs 153
logging levels for scripts 88

## M

menu, for page links 41
Mercury Business Process Monitor Service 38
Mercury Business Process Monitor. *See* Business Process Monitor
Mercury Global Monitor. *See* Global Monitor
modifying
Business Process Monitor instances 52
multiple schedules, for profile 78

## N

network time to first buffer
component breakdown 102
NTLM authentication
for Business Process Monitor instance 49
for proxy server access 50

## O

offset time, component breakdown 103
Oracle
  running scripts on Business Process Monitor 148

## P

page component breakdown
  on-demand, for designated Web page 63
  report categories 101
  reports 94
PCBD 94
  on-demand, for designated Web page 63
  reports 96
ports
  changing default for Business Process Monitor 141
  for Business Process Monitor Admin 40
profile
  ID 69, 74
  information for 69
  last run duration 69, 74
  last start time 69, 74
  multiple schedules for 78
  optimizing scheduling 143
  profile run mode 82
  properties for 73
  running dependencies for scripts 82
  schedule for 74, 77
  start offset 79
  status 69, 74
  tasks 75
Profile page, in Business Process Monitor Admin 73
profile run mode 82
  Classic 82
  Concurrent 83
  Dialup 82
  Sequential 82
  Stepped 83
properties
  for Business Process Monitor instance 68
  for profile 73
  for tasks 86
proxy server settings 50
purge queue, for Business Process Monitor 70

## Q

queue size
  for instance 68
  updating on instance 70
QuickTest Professional
  close application mechanism for scripts 36
  disabling the close application mechanism 150
  supported version for Business Process Monitor 33

## R

recording tools, supported by Business Process Monitor 33
remote upgrade
  for Business Process Monitor 25
removing a Business Process Monitor instance 53
reports
  for PCBD 94
  for WebTrace 104
Reports (Data) Log 71
response file
  for installation 22
response time breakdown
  categories 101
restarting Business Process Monitor 62
retry time
  component breakdown 102
running Business Process Monitor 38, 39
running dependencies, for tasks 76, 82, 87

## S

schedule
for profile 74, 77
sconn.cfg file 131
scripts
breakdown summary report 95
log file write 89, 138
log level 86, 88
page component breakdown reports 96
response time breakdown reports 94
running 91
Sequential profile run mode 82
server time to first buffer
component breakdown 103
silent installation, for Business Process Monitor 20
Site# directory, logs in 158
Solaris platform
installing Business Process Monitor on 17
running Business Process Monitor on 39
running Oracle protocol scripts 148
uninstalling Business Process Monitor 28
specific user
for Business Process Monitor instance 50
for Tomcat 146
for whole Business Process Monitor 59
setting permissions for 140
setting whole Business Process Monitor to run as 60
SSL
communication settings 49
SSL handshaking, in component breakdown 102
start offset 79
defined by Business Process Monitor 80
defining manually in the Administration Console 80
optimizing distribution period 143
status
for instance 68
for profile 69, 74
for task 75, 86
last run end status 76, 87
Stepped profile run mode 83
system requirements
for Business Process Monitor 9
system user
setting Business Process Monitor instance to run as 51
setting whole Business Process Monitor to run as 61

## T

Task page, in Business Process Monitor Admin 85
tasks
for profile 75
invoking 91
last run duration 86
last start time 86
properties 86
running dependencies 76, 82, 87
status at end of last run 76, 87
status for 75, 86
type 75, 86
viewing data for 90
WebTrace 90
time poll interval 48, 68
time to first buffer
component breakdown 104
Tomcat
running as a specific user 146
topaz_agent_ctrl.cfg file 109
topaz_data_server.cfg file 123
transactions
breakdown summary report 95
component breakdown categories 101
data for 91
troubleshooting
for deployment 29
tsettings.ini file, for installation 22

## U

uninstalling
Business Process Monitor 26
on Solaris/Linux platform 28
on Windows platform 26, 27
update jobs, to Business Process Monitor 70
upgrade
from remote location 25
user authentication, enabling 145

## V

View Instance Log File window 70
Virtual User Generator
supported version for Business Process Monitor 33

## W

WebTrace
changing default number of hops 149
report data, for designated Web site 65
running 90
understanding reports 104
what's new
for Business Process Monitor 42
Windows platform
installing Business Process Monitor on 15
running Business Process Monitor on 38
uninstalling Business Process Monitor 26
uninstalling the Topaz Agent 27
WinRunner
supported version for Business Process Monitor 34
Workspace directory
creating zip file of 58
logs in 154
viewing files for 54
Workspace logs, changing path for 139

## Z

zip, of Workspace and Config directories 58