HP Business Availability Center

for the Windows and Solaris operating systems

Software Version: 7.0

Business Process Monitor Administration

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- Software version number, which indicates the software version
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To register for an HP Passport ID, go to:
http://h20229.www2.hp.com/passport-registration.html

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

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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 or Solaris 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 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 HP Business Availability Center:

➤ HP Business Availability Center administrators

➤ HP Business Availability Center data collector administrators

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

Getting More Information

For a complete list of all online documentation included with HP Business Availability Center, additional online resources, information on acquiring documentation updates, and typographical conventions used in this guide, see the *HP Business Availability Center Deployment Guide* PDF.

1

Introducing Business Process Monitor

This chapter introduces HP Business Process Monitor and Business Process Monitor Admin.

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Business Process Monitor

Business Process Monitor is one of the HP 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 HP Business Availability Center upgrade to communicate with the different HP Business Availability Center versions.

Each instance can be connected to a different HP Business Availability Center platform, or there may be several instances connected to a single HP 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 HP Business Availability Center End User Management 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 End User Management Administration. For details on creating profiles, see "Creating Business Process Profiles" in *Using End User Management*. For details on managing profiles, see "Managing Business Process Profiles" in *Using End User Management*.

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 HP 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 16. 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 or Solaris operating systems. For details on system requirements, see "System Requirements" on page 19.

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, transaction and component breakdown for non-Web based (TCP) scripts, and to view reports for WebTrace requests.

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

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Deploying Business Process Monitor

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

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About Business Process Monitor Deployment

You install Business Process Monitor on designated host machines running on Windows or Solaris platforms. The machines can be located on your local network or on the Internet, and must have HTTP or HTTPS access to the HP Business Availability Center Gateway 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 are using secure communication (over SSL) between Business Process Monitor and the Gateway Server, you must configure Business Process Monitor to support HTTPS communication. For details, see the the *HP Business Availability Center Hardening Guide* PDF.

Note: Business Process Monitor 7.0 works with Topaz 4.1 Service Pack 3, all Topaz 4.5 versions, and all Business Availability Center 5.x, 6.x versions.

System Requirements

Computer/Processor	**Windows:** Personal computer with a Pentium III 750 MHz or later processor
	Solaris: Sun workstation or server with an UltraSPARC Processor
Operating System	**Windows:**
	➤ Windows 2000 Server/Advanced Server, Service Pack 4 and later
	➤ Windows 2000 Professional Service Pack 4
	➤ Windows 2003 Server standard/enterprise editions (Service Pack 1, Service Pack 2)
	➤ Window XP Professional (Note: If Service Pack 2 for Windows XP is installed, you must change the communication protocol used by Webtrace to ICMP. For details on changing the Webtrace communications protocol, see "Changing the Communication Protocol Used by WebTrace" on page 184.)
	Solaris: Sun Solaris 10, 9 (2.9), or 8
	In all cases, install 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)
Memory	Minimum 512 MB RAM
Free Hard Disk Space	Minimum 500 MB (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

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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 following topics discuss the requirements and limitations for installation:

➤ "General Installation Information" on page 20

➤ "Details Required During Installation" on page 23

➤ "Notes and Limitations" on page 24

General Installation Information

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

➤ The Downloads page in HP Business Availability Center Platform Administration.

➤ For versions delivered on DVD, in the Data Collectors and Components directory on the HP Business Availability Center DVD. Run the required setup program directly from the DVD.

For details on the contents of the Data Collectors and Components directory on the HP Business Availability Center DVD, see "Available Components and Setup Files" in the *HP Business Availability Center Deployment Guide* PDF.

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 HP Business Availability Center. The procedure for installing the data collector setup files differs, depending on whether HP Business Availability Center is running on a Windows or Solaris platform.

For details on installing the data collector setup files on a Windows platform, see "Installing Component Setup Files to the HP Business Availability Center Downloads Page" in the the *HP Business Availability Center Deployment Guide* PDF. For details on installing the data collector setup files on a Solaris platform, see "Installing Component Setup Files to the HP Business Availability Center Downloads Page" in the *HP Business Availability Center Deployment Guide* PDF.

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 7.0.

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 37.

If you have Business Process Monitor 5.0 or later installed on the host machine, upgrading to Business Process Monitor 7.0 requires you to uninstall the previous version of Business Process Monitor, but provides the option of retaining the existing configuration settings.

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 73.

Note: Users with advanced knowledge of HP Business Availability Center can install Business Process Monitor using a silent installation procedure. For details, see "Running a Silent Installation" on page 31.

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

➤ the release download area, for Web delivery versions.

➤ the Documentation Portal in the Customer Support Web site (http://support.mercury.com/cgi-bin/portal/CSO/docViewAndSearch.jsp).

➤ the root directory on the HP Business Availability Center DVD, for versions delivered on DVD.

Details Required During Installation

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

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.

➤ 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 HP 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 HP Business Availability Center (HTTP or HTTPS).

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

For a distributed deployment, you need the name of the Gateway 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.

Notes and Limitations

➤ It is recommended (but not essential) that you install Business Process Monitor on a separate machine from all other HP Business Availability Center components. This should be a dedicated machine for Business Process Monitor.

➤ If Business Process Monitor *is* installed on the same machine as any other HP 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 HP Business Availability Center platform. When two Business Process Monitor instances are each connected to a different HP 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 73.)

➤ You can set Business Process Monitor Admin for Solaris 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 Platform" on page 182.)

➤ Business Process Monitor can be run on a machine with a different language locale to the HP 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 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 HP 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.

For required parameter settings when configuring NTML authentication, see "Parameters in sconn.cfg" on page 162.

Installing Business Process Monitor on a Windows Platform

This procedure describes how to install/upgrade directly on the Business Process Monitor machine.

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

Note: To enable Business Process Monitor to run scripts correctly, you must install the following on the machine prior to installing Business Process Monitor:

➤ Microsoft .NET framework 2.0

➤ Web Services Enhancements (WSE) 2.0 SP3 for Microsoft .NET

➤ Web Services Enhancements (WSE) 3.0 for Microsoft .NET

➤ Microsoft XML Core Services (MSXML) 6

➤ Microsoft Visual C++ 2005 redistributable

The installation files for these products are available from the Downloads page in HP Business Availability Center Platform Administration, or in the Data Collectors and Components directory on the HP Business Availability Center DVD, for versions delivered on DVD.

For details on the Data Collectors and Components directory on the HP Business Availability Center DVD, see "Available Components and Setup Files" in the *HP Business Availability Center Deployment Guide* PDF.

To install Business Process Monitor on a Windows platform:

1 Launch your Web browser and navigate to HP Business Availability Center. You log in to HP Business Availability Center using the URL provided to you by your HP Business Availability Center administrator. You can access HP 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>/HPBAC**, where **hostname** is the name of the machine on which the Gateway Server is installed.

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

➤ If you are logging in to HP 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 HP Business Availability Center adds to your database during HP 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 HP Business Availability Center users in the Users and Permissions page of HP Business Availability Center Platform Administration. For details, see "User Management" in *Platform Administration*.

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

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

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

Note: The link is displayed only if you have previously installed the setup file. For more information, see "Requirements for Installation" on page 20.

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:

➤ You may be required to restart the machine before the installation can start. Restart the machine if prompted to do so.

➤ 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.

➤ It is recommended to restart the machine after the installation has finished.

 7 After Setup completes the installation process, HP 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 50), the Business Process Monitor icon appears in the system tray.

Installing Business Process Monitor on a Solaris Platform

This procedure describes how to install/upgrade directly on the Business Process Monitor machine.

There are two installation modes for Business Process Monitor on a Solaris 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).

Note the following before installing:

➤ You must be a root user to install Business Process Monitor.

➤ When installing on a Solaris 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 platform:

1 Launch your Web browser and navigate to HP Business Availability Center. You log in to HP Business Availability Center using the URL provided to you by your HP Business Availability Center administrator. You can access HP 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>/HPBAC**, where **hostname** is the name of the machine on which the Gateway Server is installed.

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

➤ If you are logging in to HP 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 HP Business Availability Center adds to your database during HP 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 HP Business Availability Center users in the Users and Permissions page of HP Business Availability Center Platform Administration. For details, see "User Management" in *Platform Administration*.

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

3 In the **Admin** menu, select **Platform**, then select the **Setup and Maintenance** tab > **Downloads**. HP 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:

MercuryBPMSetup_solv4.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).

Read Notes and Limitations on page 36 before using any of the silent installation methods.

Important: When you specify the URL to the Gateway Server, it must end with **/topaz**.

This section contains the following topics:

➤ "Silent Installation on a Single Machine Using Default Settings"

➤ "Installation on a Single Machine Using a Response File" on page 32

➤ "Installation on Multiple Machines Using a tsettings.ini File" on page 33

➤ "Notes and Limitations" on page 36

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 HP 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 dialog box (**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

Installation on a Single Machine 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—for information on installing multiple Business Process Monitors in silent mode, see "Installation on Multiple Machines Using a tsettings.ini File" on page 33.)

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 **HP Business Availability Center DVD\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>

Installation on Multiple Machines Using a 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 or Solaris platforms.

You create the **tsettings.ini** with the customized information you require, as described in "Creating a tsettings.ini File" on page 34. 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 32) 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

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

Creating a tsettings.ini File

To run a silent installation for multiple Business Process Monitors, you use a tsettings.ini file, as described in "Installation on Multiple Machines Using a tsettings.ini File" on page 33.

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

GeneralSettings Section

The **[GeneralSettings]** section contains general settings that apply to all Business Process Monitors. If there is one Gateway Server for all the monitors, this section contains the Gateway Server URL. For example:

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

(If individual Business Process Monitors are working against different Gateway Servers, you can specify each Gateway 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> Section

The **[<machine_name>]** 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 HP 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.

Notes and Limitations

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 on a Single Machine Using a Response File" on page 32.)

➤ 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** 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.

➤ When you specify the URL to the Gateway Server, it must end with **/topaz**.

Uninstalling Business Process Monitor/Topaz Agent

Before installing Business Process Monitor 7.0, 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.

This section includes the following topics:

➤ "Uninstalling Business Process Monitor on a Windows Platform" on page 37

➤ "Uninstalling the Topaz Agent on a Windows Platform" on page 38

➤ "Uninstalling on a Solaris Platform" on page 39

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 38.

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 > HP Business Process Monitor > Stop HP 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 from the **Add/Remove
Programs** option in the **Control Panel** (select **Start > Settings > Control
Panel > Add/Remove Programs > HP Business Process Monitor**, and click
Change/Remove>).

4 Restart the machine if prompted to do so.

5 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.

6 (**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.

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 37.

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** dialog box, 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.

Uninstalling on a Solaris 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 platform is **/opt/HPBPM**.

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

To uninstall Business Process Monitor on a Solaris 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 directory in which HP Business Process Monitor was installed 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 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 182.

3

Working with Business Process Monitor

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

Business Process Monitor Operation

The Business Process Monitor service performs the following operations:

➤ retrieves Business Process profile information, including recorded scripts, from the profile databases via the Gateway 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 Gateway Server

Note that the scripts are sent over the network (from HP Business Availability Center End User Management 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 HP 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 HP 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 76, or "Modifying an Instance" on page 66.)

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

Supported Recording Tools

Business Process Monitor 7.0 supports scripts recorded using the following HP tools. Each tool (with the exception of HP 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 9.2** (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** 9.0 and earlier

Note: You cannot use WinRunner scripts with Business Process Monitor. All WinRunner scripts should be converted to QuickTest Professional scripts.

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

➤ 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 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.

➤ When a script in a profile is run, but for some reason does not finish successfully (that is, it does not end with a status of **Finished properly** or **Finished (errors occurred)**), samples for transactions that were part of the script, but were not run, will be sent to Business Availability Center 6.2 or later for inclusion in the Triage report. For details on the Triage report, see "Triage Report" in *Using End User Management*.

➤ 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 HP 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.1800hp.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 HP 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).

➤ 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 182.

➤ If you have added jars or classes to the classpath in VuGen and are running a java based protocol in Business Process Monitor, you must perform one of the following actions to ensure that the script can locate the jars:

  ➤ Remove the jar names from the **run-time-settings** > **classpath** list and place the jar files in the script folder (where the **.usr** file is). The script searches for all jars in the script folder and automatically adds them to the classpath.

  ➤ Specify a full path to the jar in the **run-time-settings** > **classpath** list. For example:

  C:\Program Files\Mercury Interactive\BPM\workspace\agent1\
  Site1\bpm_4\12\ejb_001_lg\wlclient.jar

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 *Using End User Management*.

➤ 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 185.

➤ 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 96.)

➤ 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

You cannot use WinRunner scripts with Business Process Monitor. All WinRunner scripts should be converted to QuickTest Professional scripts.

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, **HP Business Process Monitor Service** is added as a service on the host. HP Business Process Monitor Service automatically starts Business Process Monitor whenever the host machine is started.

 When Business Process Monitor starts, the HP 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** > **HP 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** > **HP Business Process Monitor** > **Stop Business Process Monitor Service**.

Running Business Process Monitor on a Solaris Platform

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

To start Business Process Monitor on a Solaris 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 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 HP Business Availability Center" in the the *HP Business Availability Center Hardening Guide* PDF.

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** > **HP Business Process Monitor** > **Business Process Monitor Admin**. Business Process Monitor Admin opens in a browser window.

➤ In HP 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 175.

Changing the Language of the Business Process Monitor User Interface

In Business Process Monitor 7.0 and later, the Business Process Monitor user interface can be viewed in the following languages in your Web browser:

Language	Language Preference in Web Browser
Chinese	Chinese (China) [zh-cn]
English	English (United States) [en-us]
French	French (France) [fr]
Japanese	Japanese [ja]
Korean	Korean [ko]

Use the language preference option in your browser to select how to view Business Process Monitor Admin. The language preference chosen affects only the user's local machine and not the Business Process Monitor machine or any other user accessing the same Business Process Monitor. The language is determined when you first open Business Process Monitor Admin; changing the language preference in your browser once you are working in Business Process Monitor Admin will have no affect until you close and reopen Business Process Monitor Admin.

To view Business Process Monitor Administration in a specific language using Internet Explorer:

1 Select **Tools** > **Internet Options** and click **Languages**. The Language Preference dialog box opens.

2 Highlight the language in which you want to view Business Process Monitor Administration.

If the language you want is not listed in the dialog box, click **Add** to display the list of languages. Select the language you want to add and click **OK**.

3 Click **Move Up** to move the selected language to the first row.

4 Click **OK** to save the settings.

5 Refresh the page: the Business Process Monitor Administration user interface is displayed in the selected language.

To view Business Process Monitor Administration in a specific language using FireFox:

1 Select **Tools** > **Options** > **Advanced**. Click **Edit Languages**. The Language dialog box opens.

2 Highlight the language in which you want to view Business Process Monitor Administration.

If the language you want is not listed in the dialog box, expand the **Select language to add...** list, select the language, and click **Add**.

3 Click **Move Up** to move the selected language to the first row.

4 Click **OK** to save the settings. Click **OK** to close the Language dialog box.

5 Refresh the page: the Business Process Monitor Administration user interface is displayed in the selected language.

Notes and Limitations

➤ Starting from Business Process Monitor version 7.0, there is no language pack installation. All translated languages are integrated into Business Process Monitor Multi-lingual User interface (MLU).

➤ Data stays in the language it was entered in, even if the language of the Web browser changes. Changing the language of the Web browser on your local machine does not change the language of Business Process Monitor definitions and configurations.

➤ In case a user selects a language which is not supported by the Business Process Monitor Multi-lingual User interface, the Business Process Monitor Administration user interface will appear in English.

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 HP 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 HP 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 *HP 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.

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 HP 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 84.) 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 HP Business Availability Center Gateway 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 Gateway Server machine for this instance. If you create additional instances, you can specify the same Gateway Server, or, if are using multiple Gateway Servers, you can specify a different Gateway 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 HP Business Availability Center End User Management 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). For required parameter settings when configuring NTML authentication, see "Parameters in sconn.cfg" on page 162.

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 73.

This section contains the following topics:

➤ "Adding an Instance"
➤ "Configuring Add Instance Parameters" on page 61
➤ "Modifying an Instance" on page 66
➤ "Removing an Instance" on page 68

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 End User Management Administration. For details on specifying hosts for profiles, see "Managing Business Process Profiles" in *Using End User Management*.

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 61.

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 Gateway Server URL, the host location, and the host name.
Core Server URL (mandatory field)	Type the full URL of the Gateway Server, for example, http://<servername>/topaz, where <servername> is the name of a Gateway Server. Note that the URL is case sensitive.

Parameter	Description
Location name (mandatory field)	Type a location name. Keep in mind that the location specified will be used by HP 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.
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 HP Business Availability Center server for time synchronization. The default value is 60 minutes.

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

➤ The Gateway Server URL must end with **/topaz**.

➤ The host name for each Business Process Monitor instance must be unique within each HP 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 HP Business Availability Center. Unsupported characters are blocked by Business Process Monitor Admin. (For a full list of supported special characters in HP Business Availability Center, see "Naming Conventions" 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 104) is not supported.

➤ If a time change is made on the HP 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 HP 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 Gateway Server.

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

Note:

➤ To define basic authentication requirements for accessing Business Process Monitor Admin, see "Enabling User Authentication" on page 179.

➤ For required parameter settings when configuring NTML authentication, see "Parameters in sconn.cfg" on page 162.

SSL

SSL	
SSL client certificate file:	
SSL private key file:	
SSL private key password:	
SSL authority certificate file:	

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 HP Business Availability Center" in the the *HP Business Availability Center Hardening Guide* PDF.

Proxy

Proxy	
Proxy user name:	
Proxy password:	
Proxy domain:	
Proxy URL:	

If the Business Process Monitor instance is accessing the Gateway 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

Run as a specific user	
User:	
Password:	
Domain:	

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 73).

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 174.

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 66) and clear all boxes in the **Run as a specific user category**.

➤ 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 dialog box, 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 dialog box.

2 (**Windows platforms only**) Browse to the Windows installation folder (usual path **C:\WINNT\Temp**) and repeat the actions described in step 1 on page 66.

3 (**Windows and Solaris platforms**) Browse to the default Workspace directory for Business Process Monitor and repeat the actions described in step 1 on page 66.

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**

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 61.

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, HP 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 End User Management 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 HP 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 HP Business Availability Center End User Management 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 72

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 133.

➤ **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 191.
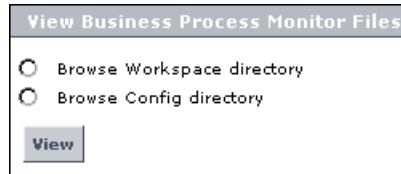
Note:

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

➤ 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 dialog box.
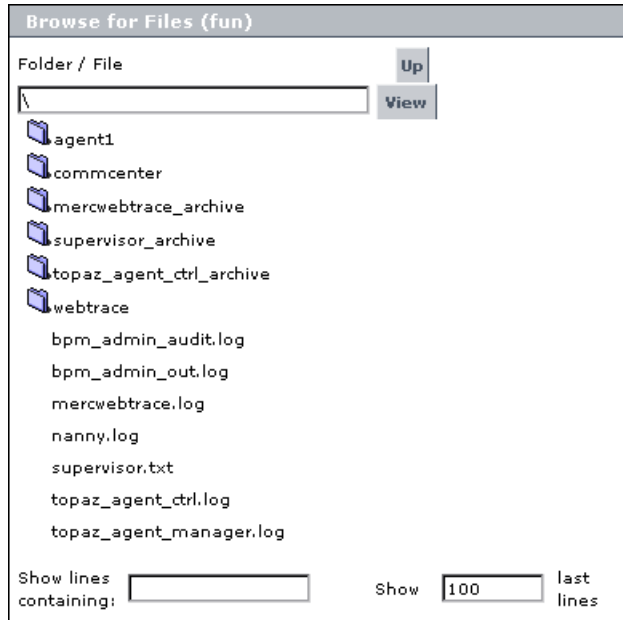
To view Workspace or Config directory files:

1 In the Business Process Monitor Host page, click the **View BPM Files** button.

2 In the displayed dialog box, select the required directory in the **View Business Process Monitor Files** area.

3 Click **View**. Business Process Monitor Admin opens a dialog box 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.

Browse for Files (fun)

Folder / File   Up

\   View

- agent1
- commcenter
- mercwebtrace_archive
- supervisor_archive
- topaz_agent_ctrl_archive
- webtrace

   bpm_admin_audit.log

   bpm_admin_out.log

   mercwebtrace.log

   nanny.log

   supervisor.txt

   topaz_agent_ctrl.log

   topaz_agent_manager.log

Show lines containing: [_____]   Show [100] last lines

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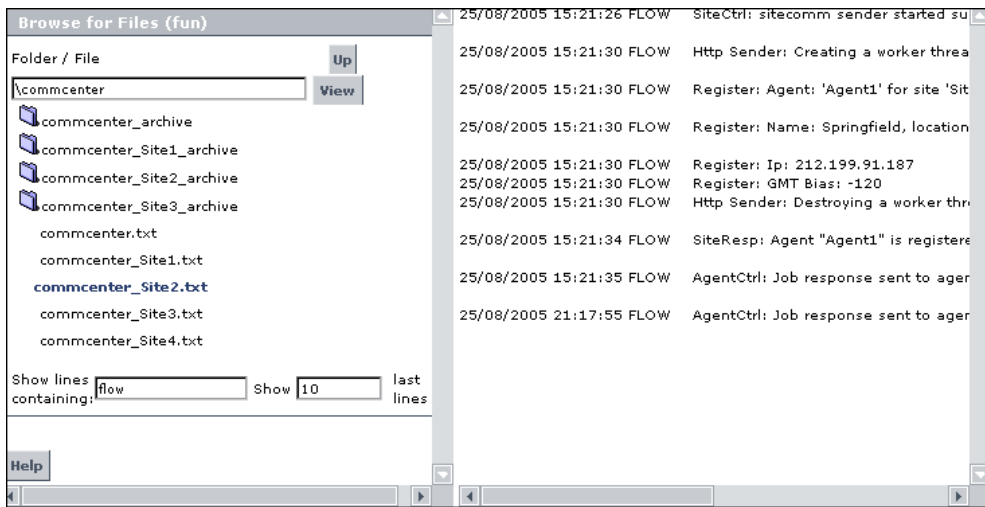
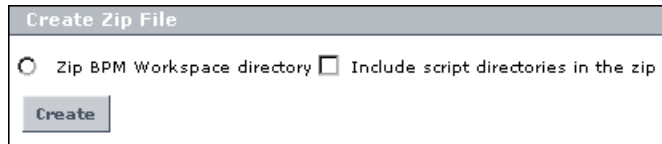Note that the filter values stay in effect for each selected file until you delete or change them.

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 dialog box, 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 dialog box, 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 64). 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 41.

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 75

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 dialog box, 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 dialog box.

2 (**Windows platforms only**) Browse to the Windows installation folder (usual path **C:\WINNT\Temp**) and repeat the actions described in step 1 on page 75.

3 (**Windows and Solaris platforms**) Browse to the default Workspace directory for Business Process Monitor and repeat the actions described in step 1 on page 75.

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 End User Management 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 93.

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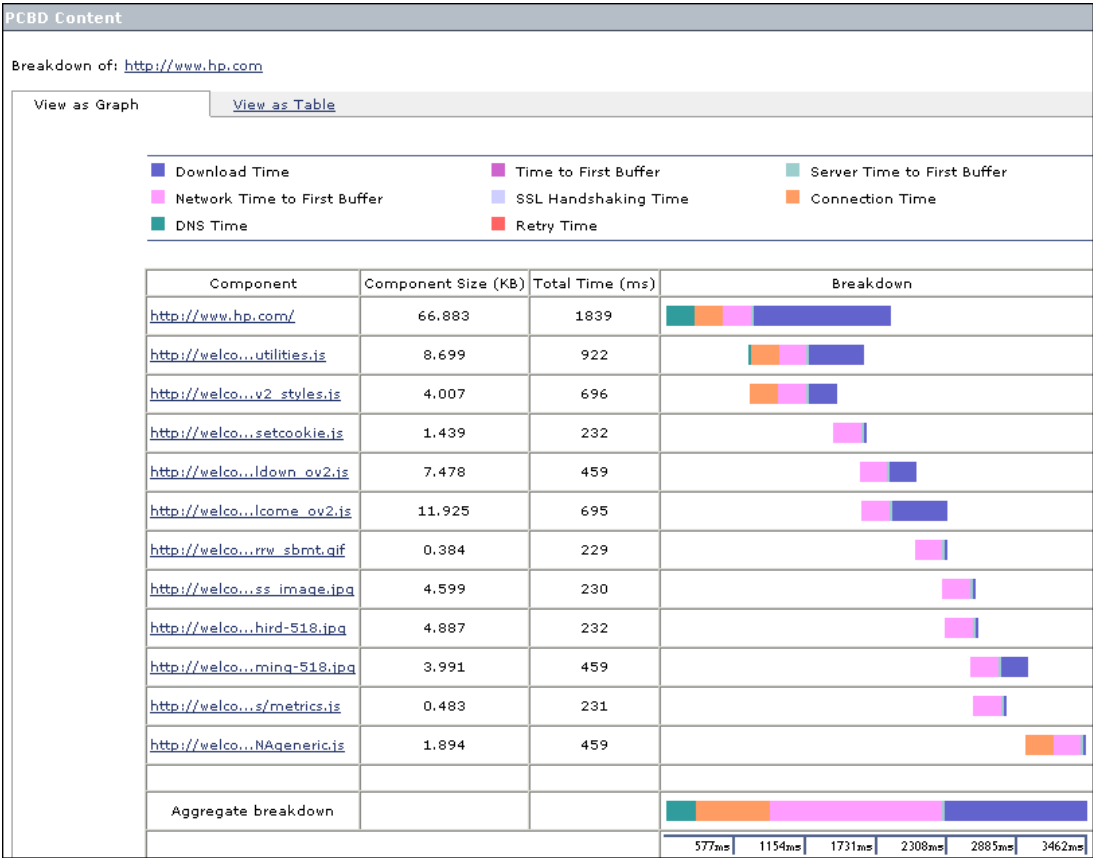
You can view the resulting data report in table or graph format. The data collected is reported only to Business Process Monitor Admin (not to HP Business Availability Center).

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 dialog box 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.hp.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 window opens, where you can view the component breakdown report in graph or table format.

PCBD Content

Breakdown of: http://www.hp.com

View as Graph   View as Table

Legend:
- Download Time
- Network Time to First Buffer
- DNS Time
- Time to First Buffer
- SSL Handshaking Time
- Retry Time
- Server Time to First Buffer
- Connection Time

Component	Component Size (KB)	Total Time (ms)	Breakdown
http://www.hp.com/	66.883	1839	
http://welco...utilities.js	8.699	922	
http://welco...v2_styles.js	4.007	696	
http://welco...setcookie.js	1.439	232	
http://welco...ldown_ov2.js	7.478	459	
http://welco...lcome_ov2.js	11.925	695	
http://welco...rrw_sbmt.gif	0.384	229	
http://welco...ss_image.jpg	4.599	230	
http://welco...hird-518.jpg	4.887	232	
http://welco...ming-518.jpg	3.991	459	
http://welco...s/metrics.js	0.483	231	
http://welco...NAgeneric.js	1.894	459	
Aggregate breakdown			

577ms 1154ms 1731ms 2308ms 2885ms 3462ms

 For information on using the page component breakdown report, and an explanation of the breakdown categories, see "Understanding Response Time Breakdown Reports" on page 108.

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 HP 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 dialog box 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.hp.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 130.

5

Instance Page

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

This chapter describes:	On page:
Instance Properties	82
Instance Profiles	83
Administering the Instance	84
Viewing Instance Log Files	85

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 Gateway 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 HP 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 Gateway Server.
Status	The communication status for the instance with HP Business Availability Center, either **enabled** or **disabled**. The status is changed using the **Disable Communication** button, as described on page 84.
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: **Currently running** if the profile is currently running tasks. **Idle** if the profile is running, but has no tasks running at this time. **Stopped** if the profile is stopped. **Not initialized** if the profile has not yet started its initial run. **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 Gateway 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 HP Business Availability Center End User Management 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 Gateway Server from the queue.

Note: 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 HP 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 HP Business Availability Center.

➤ **Edit Instance.** Enables you to edit all parameters for the instance. For details, see "Modifying an Instance" on page 66.

➤ **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 85.

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 dialog box is displayed.
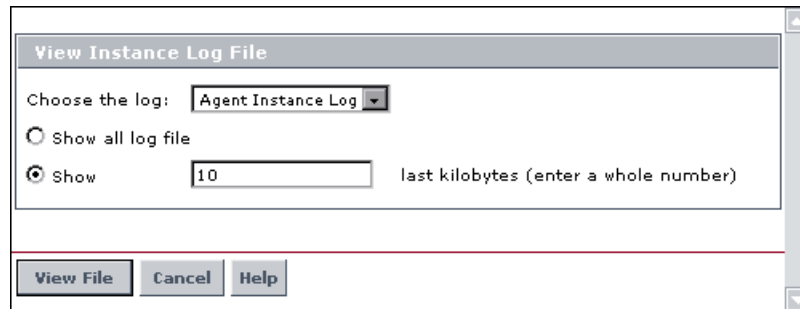
2 Select the required log file from the **Choose the log** list.

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 page displays the log file entries.

6

Profile Page

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

This chapter describes:	On page:
Profile Properties	87
Profile Tasks	89
Profile Schedules	91
Profile Start Offset	93
Run Schedule for Profile Tasks	96

Profile Properties

Most of the properties for a Business Process profile are defined in HP Business Availability Center End User Management 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 91.) 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 93.)
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: **Currently running** if the profile is currently running tasks. **Idle** if the profile is running, but has no tasks running at this time. **Stopped** if the profile is stopped. **Not initialized** if the profile has not yet started its initial run. **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 End User Management 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.

Tasks				
Name ▲	**Status**	**Type**	**Last Run**	**Running Dependencies**
Springfield_Infra_Support	Idle	Script	Finished properly	After the beginning of the profile's iteration
Springfield_Travel_Services	Idle	Script	Finished properly	At the end of: Springfield_Infra_Support

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: **Not initialized** – The task has not yet been initialized. **Running** – The task is currently running on this Business Process Monitor instance. **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).
	Displays one of the following options:
	Finished properly – The task finished running with no errors.
	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.
	Failed to start – The task failed to start running (for example, when some of the script files are missing).
	Terminated unexpectedly – The task failed during the run.
	Error: Aborted – The task was aborted (for example, by calling the lr_abort() function in a script).
	Aborted (timeout) – The task was timed-out and stopped running.
	End status is not set – The task has not run yet, therefore no end status is available.
	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.
	For more information on run schedules, see "Run Schedule for Profile Tasks" on page 96.

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 End User Management Administration (for details, see "Configuring Profile, Host, and Monitor Settings" in *Using End User Management*). Each profile can also have multiple schedules defined for it, as described in "Multiple Schedules for a Profile" on page 92.

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 93.

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 End User Management 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:

Properties	
Name	Springfield Location
ID	6
Schedule	Every 30 minute(s), Sat - Sun, all day(start offset: 1159 seconds)
	Every 15 minute(s), Mon - Fri, all day(start offset: 709 seconds)

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

HP 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 End User Management 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.

➤ 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 92.

There are two methods for staggering the run start time:

User-Defined Start Offset

When defining a profile schedule (in End User Management 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 End User Management 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 End User Management 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 End User Management 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 143.

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 End User Management Administration (see "Configuring Profile, Host, and Monitor Settings" in *Using End User Management*).

The following profile run modes are supported:

➤ **Classic.** All scripts in the profile run sequentially, according to the order defined in End User Management 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 End User Management 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 End User Management 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 End User Management 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 End User Management 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 HP Business Process Monitor to run the task immediately.

This chapter describes:	On page:
Task Properties	100
Configuring Log Settings for a Script	102
Viewing Task Reports	104
Understanding Response Time Breakdown Reports	108
Understanding WebTrace Reports	130
Browsing the Script Log Files	131

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: **Not initialized** – The task has not yet been initialized. **Running** – The task is currently running on this Business Process Monitor instance. **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: **Disabled** – This is the default setting for all scripts, minimum information is logged. **Brief** – Creates a standard log of functions and messages sent during script execution. **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).
	Displays one of the following options (for an explanation of each option, see "Last Run" on page 90):
	Finished properly
	Finished (errors occurred)
	Failed to start
	Terminated unexpectedly
	Error: Aborted
	Aborted (timeout)
	End status is not set
	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 the script name to view the Task page for the preceding script.
	For more information on run schedules, see "Run Schedule for Profile Tasks" on page 96.

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, HP LoadRunner scripts, HP 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 104.

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 172.

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 104.

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 dialog box 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 HP 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 HP Business Availability Center End User Management Administration.

For an explanation of the WebTrace report contents, see "Understanding WebTrace Reports" on page 130.

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 End User Management 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 102.) 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 client, network, and server activity during the transaction—for each component of every Web page accessed in Web based transactions, and for each component (request) in non-Web based (TCP) transactions. This information enables you to assess whether transaction response times were affected. For example, in Web based transactions, a page content may affect response times and in non-Web based transactions, request size or the number of requests may affect response times. You can also view a page component breakdown report for each monitored Web page or TCP request in graph or table format.

For more information on the response time breakdown, see "Understanding Response Time Breakdown Reports" on page 108.

Note:

➤ Component breakdown is supported only for certain Virtual User
   Generator protocols. See "Understanding Response Time Breakdown
   Reports" on page 108.

➤ For non-Web (TCP) based protocols, the page name has no relevance in
   breakdown reports.

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 Web Based Transaction Breakdown Reports" on page 114
and "Understanding Non-Web Based TCP Transaction Breakdown Reports"
on page 119.

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.

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 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 109.

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 110.

 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 68.

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 (where the script is set to collect page component breakdown data), as described in "Running Script Tasks" on page 105.

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 77.

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

➤ in HP Business Availability Center End User Management Administration, the transaction monitor for the script was set to perform component breakdown.

➤ the script was recorded using one of the configured protocols.

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) for Web based transactions, or problematic TCP activity (for example, failed connections to the server) for non-Web based (TCP) transactions. The report can also help you identify where along the network problems are occurring (for example, during DNS Resolution, or during Time to First Buffer). Web based transactions comprise Web components and TCP based transactions comprise TCP requests.

This section contains:

➤ "Breakdown Summary Report" on page 109, describing the aggregated transaction breakdown graph (not relevant for on-demand page component breakdown).

➤ "Page Component Breakdown Report" on page 110, describing the page component breakdown graph and table.

➤ "Understanding Web Based Transaction Breakdown Reports" on page 114, describing what each breakdown category is measuring in Web based transactions.

➤ "Understanding Non-Web Based TCP Transaction Breakdown Reports" on page 119, describing what each breakdown category is measuring in non-Web based (TCP) transactions.
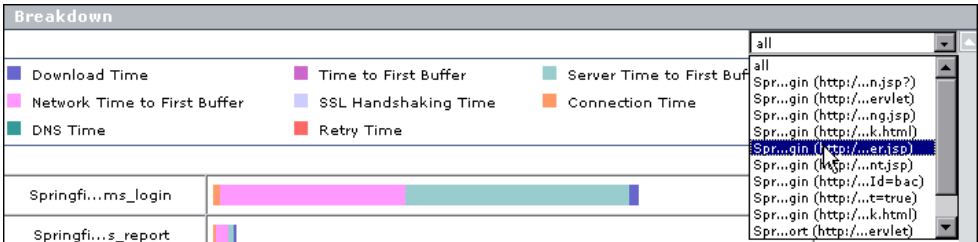
Breakdown Summary Report

Note: This section is applicable for Web based transactions. For the differences in breakdown reports for non-Web based (TCP) transactions, see "Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions" on page 126.

When you invoke a script task, the Task Content window **Breakdown** area displays the breakdown summary report for the task in graph format.
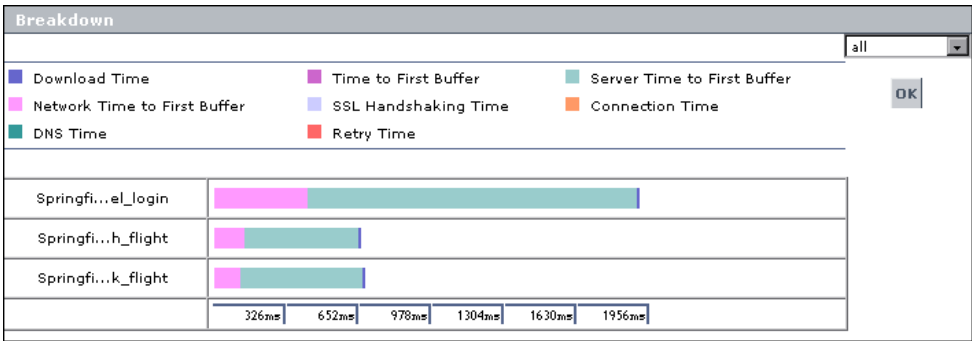
Each row of the breakdown summary report represents results for one transaction in the script, showing aggregated transaction breakdown for all the components in the transaction. The report's x-axis is not a time line, but rather an indicator of transaction times in milliseconds.

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 Transaction Breakdown Categories" on page 115.)

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

Note: This section is applicable for Web based transactions. For the differences in breakdown reports for non-Web based (TCP) transactions, see "Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions" on page 126.

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 Transaction Breakdown Categories" on page 115.

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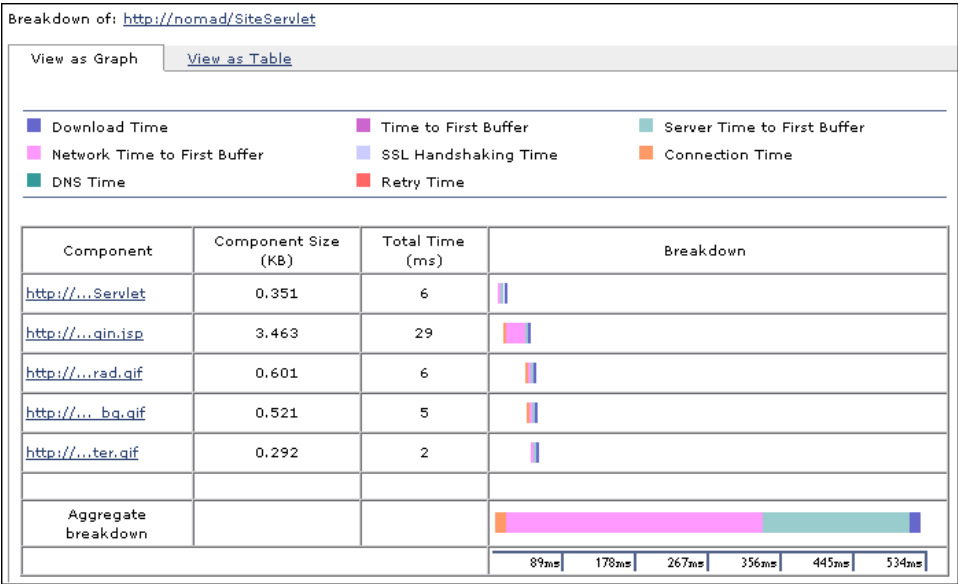
Each row of the graph represents results for one component in the page. The color-coded bars enable you to differentiate between the various breakdown categories for that component.

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/SiteServlet

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 Message
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).

http://welco...setcookie.js	1.439	156	
http://welco...ldown_ov2.js	7.478	308	
http://welco...lcome_ov2.j		Component name	
http://welco...rrw_sbmt.gif		http://welcome.hp-ww.com/img/hpweb_1-2_arrw_sbmt.gif	

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.

Network Time to First Buffer (ms) : 153
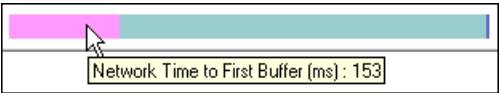
In the table view, the time for each category is specified under the relevant column in the table.

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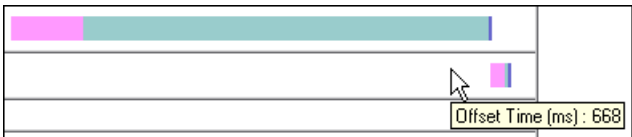
In the table view, the offset time is specified in a separate column in the table.

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 Web Based Transaction Breakdown Reports

The Web based protocols for which Business Process Monitor can perform transaction breakdown are configured in the **BdSupportedProtocols** setting in the **agent1.cfg** file on the Business Process Monitor machine. For details on the agent1.cfg file, see "Parameters in agent1.cfg" on page 143. If a script for which Business Process Monitor is configured to collect transaction breakdown data contains multiple protocols, Web based breakdown is used providing one of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting.

Note:

➤ Transaction breakdown is not supported by Business Process Monitors running scripts recorded in wininet mode in HP Virtual User Generator.

➤ 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).

This section includes the following topics:

➤ "Understanding Transaction Breakdown Categories" on page 115

➤ "Understanding Download Time" on page 119

Understanding Transaction Breakdown Categories

The transaction breakdown reports display a breakdown of average transaction response times (in milliseconds) over time, for the selected time frame. Response times are broken down by retry time, DNS resolution time, connection time, network time to first buffer, server time to first buffer, download time, and client time. If your site uses SSL authentication, SSL handshaking time appears in the chart after connection time.

The diagram below 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 breakdown category table. For details, see "DNS Resolution" on page 117.
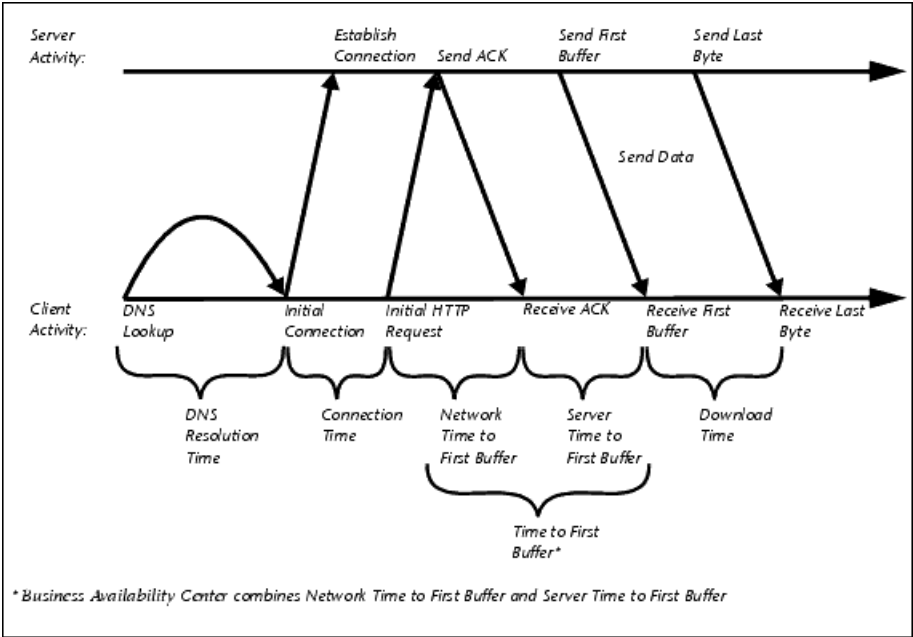
The following table describes the report's breakdown categories. Times are calculated by taking the average of all transaction runs within the specified time period.

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 Resolution	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 average 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 average 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. **Note:** The SSL handshaking measurement is only applicable for HTTPS communications.
Network Time to First Buffer	Displays the average amount of time that passes from the moment the first HTTP request is sent until receipt of ACK. 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 average 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. **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. Download time is a combination of server and network time, since the server typically sends data over multiple connections, and therefore is usually working while data is being transmitted over the network. For more details, see "Understanding Download Time" on page 119.
Client Time	Displays the average amount of time that passes while a request is delayed on the client machine. Client-related delays can include browser think time, CPU think time, HTML page processing time, time needed to open sockets, application delays caused by heavy applets, and so on. **Note:** Client time is calculated by subtracting all other measured times from the total transaction time.

Note: In certain circumstances, for example, when the 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 Download Time

When a Business Process Monitor running a script communicates with a Web server (specified by the URL(s) in the script), communication is carried out, by default, over four connections simultaneously.

As the Web page is retrieved, its various components (images, applets, and so on) travel in data packets from server to client across these multiple connections.

As a result, at any point along the time line after the server sends the first buffer until the client receives the last byte for the page, data packets may be traveling over the network through some of the connections while others are being processed by the server through the remaining connections. The download time in the report represents the sum total of the time when network resources and server resources are in use at the same time, between the time the client receives the first buffer and the last byte.

Understanding Non-Web Based TCP Transaction Breakdown Reports

The non-Web based (TCP) protocols for which Business Process Monitor can perform transaction breakdown are configured in the **AdvancedTcpBdSupportedProtocols** setting in the **agent1.cfg** file on the Business Process Monitor machine. For details on the agent1.cfg file, see "Parameters in agent1.cfg" on page 143. If a script for which Business Process Monitor is configured to collect transaction breakdown data

contains multiple protocols, TCP breakdown is used providing one of the protocols is a non-Web based protocol that is included in the **AdvancedTcpBdSupportedProtocols** configuration setting and none of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting (in which case Web based breakdown is used).

Note:

➤ Non-Web based (TCP) transaction breakdown is supported on Windows only.

➤ Supported protocols must be TCP request/response based protocols.

➤ Non-Web based (TCP) transaction breakdown cannot be used with VuGen Speed Simulation.

This section includes the following topics:

➤ "Understanding How HP Business Availability Center Breaks Down Transaction Response Times" on page 121

➤ "Understanding Transaction Breakdown Categories for Non-Web Based (TCP) Transactions" on page 121

➤ "Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions" on page 126

➤ "Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions" on page 126

➤ "Notes and Limitation for Non-Web Based (TCP) Protocols" on page 127

Understanding How HP Business Availability Center Breaks Down Transaction Response Times

When HP Business Availability Center runs a Business Process Monitor script and measures response time for a specific transaction, HP Business Availability Center collects breakdown data—information about TCP activities during the transaction—for each request (component) of the transaction. A TCP request (component) represents a sequence of measurements starting with a DNS resolution, TCP Connect operation, or a Send operation on an open connection and ending with the last Receive operation for the relevant starting operation.

Because some TCP based protocols can use multiple connections, at any given moment in time there can be an overlap in the various breakdown categories.

HP Business Availability Center uses a weighted algorithm to display the breakdown data that it collects. Every breakdown category for every element of the connection requests is taken into consideration, and weight is given to the element according to its value relative to the other elements in the concurrent time period. For example, the Connect time for each request in the connection is collected, weighted, and then displayed under the Connect time category.

Understanding Transaction Breakdown Categories for Non-Web Based (TCP) Transactions

The transaction breakdown reports display a breakdown of average transaction response times (in milliseconds) over time, for the selected time frame. Response times are broken down by DNS resolution time, connection time, time to first buffer, download time, and client time.

The diagram below illustrates the relationship between the report's main breakdown categories (shown along the bottom of the diagram) and TCP client/server activity during transaction execution. In the diagram, there are two sequential TCP requests included in the same connection.

Note that client time is not shown in this diagram and is described in the breakdown category table. For details, see "Client Time" on page 125.
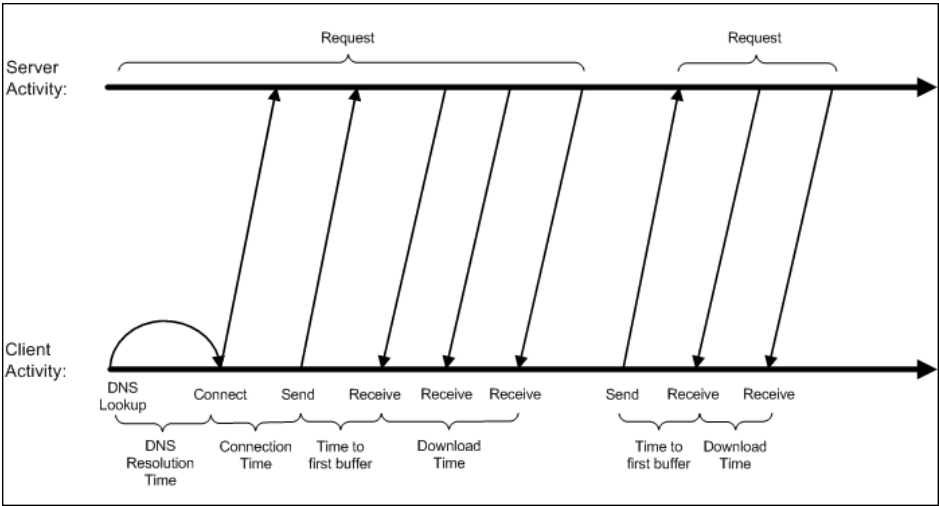
The following table describes the report's breakdown categories, which comprise a TCP request. Times are calculated by taking the average of all transaction runs within the specified time period.

Name	Description
DNS Resolution	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. **Note:** If the DNS resolution is adjacent to a Connect for the same IP address, it is considered part of the request (component) and its time is displayed in the breakdown reports. Otherwise, the DNS resolutions of one or more hosts without an adjacent Connect are considered as a separate request (component). In such cases, only the DNS Resolution time is displayed for that request and for all other measurements, a minus sign (-) is displayed.
Connection Time	Displays the average amount of time needed to establish an initial connection with the TCP server performing the transaction. The connection measurement is a good indicator of problems along the network or whether the server is responsive to requests. **Note:** If a connection did not occur within a requests's (component's) context, a minus sign (-) is displayed for the connection time in the breakdown reports.

Name	Description
Time to First Buffer	Displays the average amount of time that passes from the first TCP Send up to and including the first Receive of a component.
	This measurement includes both network time and server time that are required for handling the first TCP buffer and therefore, it is a good indicator of both network quality and server delay.
	Note:
	➤ This measurement is only shown if both Sends and Receives are included in the request (component).
	➤ If there are no Sends or Receives within a request (component), a minus sign (-) is displayed in the breakdown reports.
Network Time to First Buffer	Displays the time from the first Send up to and including the last Send. This measurement is a good indicator of network quality.
	Note: This measurement is only shown if there are Sends included in the request (component), but no Receives.
Server Time to First Buffer	This measurement is only shown if there are Sends included in the request (component), but no Receives. A minus sign (-) is displayed in the breakdown reports.

Name	Description
Download Time	Displays the time from the receipt of the second TCP buffer up to and including receipt of the last byte.
	Download time usually only includes network time and will be influenced by both network quality and component size.
	For more details, see "Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions" on page 126.
	Note: If a download did not occur within a request's (component's) context, a minus sign (-) is displayed for the download time in the breakdown reports.
Client Time	Displays the average amount of time that passes while a request is delayed on the client machine. Client-related delays can include CPU think time, processing time, time needed to open sockets, time between the last Receive of a request and the first Send of the next request in the same connection, and so on.
	Note: Client time is calculated by subtracting all other measured times from the total transaction time.

Note: Either Time to First Buffer or Network Time to First Buffer and Server Time to First Buffer are displayed.

Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions

Time to First Buffer includes both network time (for sending the packet) and server time (for processing the packet), whereas Download time usually includes only network time (for downloading the rest of the reply packets). This means that if both Time to First Buffer and Download times increase, it is a good indicator of network quality problems and if only Time to First Buffer increases, it is usually a good indicator of server delay problems.

Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions

The same breakdown reports are used to display Web based breakdown data and non-Web based (TCP) breakdown data, but the following differences apply when viewing non-Web based (TCP) breakdown data:

➤ The **Page** column (which displays page names for Web based transactions) is not applicable for non-Web based transactions and a minus sign (-) is displayed in this column for all non-Web based components.

➤ The **Retry Time** and **SSL Handshake Time** columns are not applicable for non-Web based transactions and a minus sign (-) is displayed in these columns for all non-Web based components.

➤ In the **Component/Request** column (which displays URLs for Web based breakdown data), the name of the TCP request (component) is displayed. The name can be one of the following:

  ➤ **TCP_BdwnDns<nnn>.** For DNS only components (for example, a DNS component that does not have an adjacent Connect component correlated to the same IP address). The number in the display is sequentially incremented for each component entry. For such entries, only the DNS Resolution time is displayed and for all other measurements, a minus sign (-) is displayed.

  ➤ **TCP_BdwnReq<nnn>.** For TCP request components. The number in the display is sequentially incremented for each component entry.

➤ For non-Web based (TCP) components, there is no tooltip available for the **Page** column.

➤ You cannot click a non-Web based (TCP) component to drill down to further information about it.

Notes and Limitation for Non-Web Based (TCP) Protocols

The following table lists the TCP protocols for which breakdown data can be displayed, together with special notes and limitations where applicable:

Protocol	Notes and Limitations
SAP GUI	Multi-threaded protocol.
SMTP	N/A
POP3	The communication in a POP3 script usually starts with a server's greeting message. Consequently, the first TCP breakdown component (request) in the script is usually reported with valid DNS and Connect times, whereas the Download time is reported as 0 and all other time measurements are not applicable and are shown with a minus (-) sign in the reports.
IMAP	The communication in an IMAP script usually starts with a server's greeting message. Consequently, the first TCP breakdown component (request) in the script is usually reported with valid DNS and Connect times, whereas the Download time is reported as 0 and all other measurements are not applicable and are shown with a minus (-) sign in the reports.
Oracle 2-Tier	Some of the steps in an Oracle 2-Tier script end with data being sent by the client, without receiving any response. Consequently, there are TCP breakdown components reported with a Network Time to First Buffer value >= 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.
ODBC	N/A
FTP	Both FTP passive and FTP active modes are supported.
LDAP	The last step in an LDAP script (which terminates the connection to the server) usually ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value >= 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.

Protocol	Notes and Limitations
EJB	Multi-threaded protocol.
RMI Java	➤ Multi-threaded protocol. ➤ Both RMI over IIOP and RMI over JRMP are supported. ➤ Some Java applications which use the RMI protocol send many ping requests between application-driven RMI calls. Consequently, the TCP breakdown reports many components with a small Time to First Buffer value and with a Download size of approximately 1 byte. ➤ The last step in an RMI script (which terminates the connection to the server) sometimes ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value >= 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.

Protocol	Notes and Limitations
Java Record/Replay	➤ This is a new protocol added in VuGen 9.0 which supports and combines the following Java protocols–RMI, CORBA, JMS, JACADA, and Custom Hooks. TCP breakdown is supported only when the script is recorded using RMI protocol calls. If the script includes other protocol calls, TCP breakdown results are not defined. ➤ Multi-threaded protocol. ➤ Both RMI over IIOP and RMI over JRMP are supported. ➤ Some Java applications which use the RMI protocol send many ping requests between application-driven RMI calls. Consequently, the TCP breakdown reports many components with a small Time to First Buffer value and with a Download size of approximately 1 byte. ➤ The last step in a Java Record/Replay script (which terminates the connection to the server) sometimes ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value >= 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.
Oracle NCA	If the script works over HTTP communications, you can run it using Web breakdown (which is the default). If the protocol is run using TCP socket communications instead of HTTP, Web breakdown is not applicable and you can run it using TCP breakdown instead, providing that: ➤ the script is recorded in such a way so that the Active Types with which the script is recorded are Oracle NCA only (that is, the script does not include WEB(HTTP/HTML)). ➤ you move the Oracle NCA protocol from the **BdSupportedProtocols** list to the **AdvancedTcpBdSupportedProtocols** list in the **agent1.cfg** file on the Business Process Monitor machine.

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.

```
WebTrace Content

End time: 5/28/07 12:19 PM
Reachable: true
Destination name: www.hp.com
Destination IP: 192.151.52.187
Source IP: 16.59.38.222
Round trip time: 171
Retries: 2
Number of hops: 21

Hops:
1. Hop name: -
    Hop IP: 16.59.38.1
    Hop reachable: true
    Hop retries: 0
    Hop round trip time: < 10 ms

2. Hop name: -
    Hop IP: 10.168.195.17
    Hop reachable: true
    Hop retries: 0
    Hop round trip time: < 10 ms

3. Hop name: -
    Hop IP: 199.203.26.16
```

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 68.

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.

8

Business Process Monitor Configuration Files

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

This chapter describes:	On page:
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Parameters in agent1.cfg	143
Parameters in topaz_data_server.cfg	153
Parameters in sconn.cfg	162

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. Not all of the parameters automatically appear in the configuration files, but can be added manually if you want to override the default value used by Business Process Monitor.

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 Gateway 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. The following two options are available: ➤ **0** – the logs are created ➤ **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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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	LogNumOf Backups	Determines the number of log history files to keep.	5	The value can be changed in the topaz_agent_ ctrl.cfg file.
commcenter	LogBackupOn Open	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	LogBackupOn MaxSize	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.

Section	Parameter	Description	Default Value	Changing the Value
commcenter	LogBackup Duration	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.
HTTPSender	HTTPSender TimeoutSec	The timeout, in seconds, for HTTP requests from HP 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 HP 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. 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. If you want to change the location of *all* logs under the Workspace directory, see "Moving the Workspace Logs" on page 173.	**For Windows:** <Business Process Monitor root directory>\ Workspace **For UNIX:** <Business Process Monitor root directory>/ workspace	The value can be changed in the topaz_agent_ ctrl.cfg file.
Site#	SiteURL	The HP Business Availability Center URL.	<HP Business Availability Center URL>	The value can be changed in Business Process Monitor Admin.
Site#	JobPoll	The interval, in minutes, between requests to HP Business Availability Center to send jobs.	2 minutes	The value can be changed in Business Process Monitor Admin.
Site#	SiteVersion	The HP Business Availability Center version.	<HP 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 HP Business Availability Center. 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 Gateway 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 HP Business Availability Center. When the value of this parameter is 0, communication with HP Business Availability Center is enabled; when the value is 1, communication is stopped.	0 (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 HP Business Availability Center. 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: ➤ **0** – no pause ➤ **1** – pause	0 (no pause)	Do not change this value.
Site#	TimeDelta	The difference, in seconds, between Gateway Server site time and Business Process Monitor time.	<time difference>	Do not change this value.

Section	Parameter	Description	Default Value	Changing the Value
Site#	ForceLegacy	Instructs the Business Process Monitor instance to use a specific protocol to communicate with HP Business Availability Center (the protocol that was used for communication in Business Process Monitor 4.5,) regardless of the HP Business Availability Center version being used. The following two options are available: ➤ **0** – do not force (permit use of the protocol used in the current HP Business Availability Center version) ➤ **1** – force (use the Business Process Monitor 4.5 protocol)	0 (do not force)	Consult 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 HP Business Availability Center version set in the **SiteVersion** parameter, and ignore the version returned by HP Business Availability Center itself. The following two options are available: ➤ **0** – do not force (use version returned by HP Business Availability Center) ➤ **1** – force (use the version defined in SiteVersion) Note that **ForceLegacy** can still be set, as it only affects communication, and not the rest of the behavior.	0 (do not force)	Consult Customer Support if you want to change this value.
Site#	HostIPFor Registration	Sets a specific IP address to be used when the Business Process Monitor instance is registered to HP Business Availability Center. For example, if the Business Process Monitor machine has more than one network card, you can specify which card to use when registering the Business Process Monitor instance.	<Business Process Monitor machine default IP address>	The value can be changed in the topaz_agent_ ctrl.cfg file.
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: ➤ **0** – An unlimited number of profiles can run concurrently. ➤ **A value other than 0** – The number specified is the maximum number of profiles that can run concurrently.	0 (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. For an explanation of the run modes, see "Run Schedule for Profile Tasks" on page 96. The following options are available: ➤ **Classic** ➤ **Dialup** ➤ **Sequential** ➤ **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: ➤ **Auto** – Old scripts (VuGen 7.5 and below) use old WebReplay behavior and new scripts (VuGen 7.6 and higher) use new WebReplay behavior. ➤ **Always** – scripts always use old WebReplay behavior. ➤ **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	AdjustSchedule ToDST	Determines whether time settings in Business Process Monitor are adjusted for Daylight Savings Time (DST). The following options are available: ➤ **1** or **true** – times are adjusted for DST. ➤ **0** or **false** – times are not adjusted for DST.	true	The value can be changed in the agent1.cfg file.
general	SaveHistoricLRW Files	If a script is configured to generate a logfilewrite log, this parameter determines whether to save only the current logfilewrite log file for the script, or to save previous logfilewrite log files as well. The following options are available: ➤ **1** – historical files are saved. ➤ **0** – historical files are not saved. Historical logfilewrite log files must be deleted manually. To avoid unnecessary use of disk space, delete old files and reset the parameter to 0 when not needed.	0	The value can be changed in the agent1.cfg file.

Section	Parameter	Description	Default Value	Changing the Value
general	SendSOEToBAC	Determines whether to send Snapshot on Error data to HP Business Availability Center, or to store it locally on the Business Process Monitor machine. The following options are available: ➤ 1 – never send snapshots to HP Business Availability Center. ➤ 2 – always send snapshots to HP Business Availability Center. ➤ 3 – use the script configuration to determine whether or not to send snapshots to HP Business Availability Center.	3	The value can be changed in the agent1.cfg file.
Offset Distributer	OffsetDistPeriod Sec	Determines the offset distribution period (in seconds) used by the algorithm that calculates the start offset for the run of each profile. The value can be from 4 to 86400 seconds. For more information, see "Optimizing Profile Scheduling" on page 177.	3600 seconds	The value can be changed in the agent1.cfg file.

Section	Parameter	Description	Default Value	Changing the Value
agent	DisableSubLogs	Instructs Business Process Monitor on whether to create the agent_Site#.txt logs for the instance. The following two options are available: ➤ **0** – the logs are created. ➤ **1** – the logs are not created.	0	The value can be changed in the agent1.cfg file.
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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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.

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Section	Parameter	Description	Default Value	Changing the Value
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.
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	LogNumOf Backups	Determines the number of log history files to keep.	5	The value can be changed in the agent1.cfg file.

Section	Parameter	Description	Default Value	Changing the Value
Agent_Site# (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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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.
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.

Section	Parameter	Description	Default Value	Changing the Value
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: ➤ **1** – TCP protocol ➤ **0** – shared memory	0 (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: ➤ **1** – there is synchronization. ➤ **0** – there is no synchronization.	0 (no synchronization)	Do not change this value.
Protocols	BdSupported Protocols	List of Web based protocols that Business Process Monitor can run with the breakdown option. Business Process Monitor will run a script with the breakdown option provided the script type is included in this setting. If a script contains multiple protocols, it will be run with the breakdown option provided that one of the protocols is included in this setting.	SAP_Web, Siebel_Web, QTWeb, HTTP, SOAP, PS8, PS8WebJS, WinSockWeb, Oracle NCA, OracleWebJS, WebJS, WS_SOAP	Do not change this value

Section	Parameter	Description	Default Value	Changing the Value
Protocols	AdvancedTcpBd Supported Protocols	List of non-Web based protocols that Business Process Monitor can run with the TCP advanced breakdown option. Business Process Monitor will run a script with the TCP advanced breakdown option provided the script type is included in this setting. If a script contains multiple protocols, it will be run with the TCP advanced breakdown option provided that one of the protocols is included in this setting and none of the protocols is included in the **BdSupportedProtocols** setting (in which case, the regular breakdown option will be used). **Note:** For notes and limitations about the non-Web based protocols, see "Notes and Limitation for Non-Web Based (TCP) Protocols" on page 127.	SAP GUI, SMTP, POP3,IMAP, Oracle 2-Tier, ODBC, FTP, LDAP, EJB, RMI Java, Java Record/Replay	Do not change this value

Section	Parameter	Description	Default Value	Changing the Value
Protocols	Coloring Supported Protocols	Determines for which protocols Business Process Monitor transactions will be colored in HP Diagnostics (if the option is selected in End User Management Administration). If the protocol replay run by the Business Process Monitor is changed, and contains an HTTP based protocol that is not included in this parameter, the protocol can be added to the list, separated by a comma. There should be no reason to remove protocols from the list.	A list of all the Web-based Vugen protocols (that is, those using HTTP)	The value can be changed in the agent1.cfg file.

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 Gateway 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. The following two options are available: ➤ **0** – the logs are created ➤ **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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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.

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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	LogNumO Backups	Determines the number of log history files to keep.	5	The value can be changed in the topaz_ data_server.cfg file.

Section	Parameter	Description	Default Value	Changing the Value
data_depot	ReportAndForget	Determines whether failed reports are resent to HP Business Availability Center. The following two options are available: ➤ **True** – Failed reports are ignored and not resent to HP Business Availability Center. ➤ **False** – Business Process Monitor tries to resend failed reports to HP Business Availability Center.	False	Do not change this 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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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
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.
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	LogNumOf Backups	Determines the number of log history files to keep.	5	The value can be changed in the topaz_ data_server.cfg file.
transdata	MaxSnapshot Size	Determines the maximum size of the snapshot HTML file reported to HP Business Availability Center 4.5.2 and earlier.	60 kilobytes	Do not change this value.
transdata	NumberOfSaved SnapshotDays	Determines the number of days to keep old snapshot data that is stored locally on the Business Process Monitor machine.	5	The value can be changed in the topaz_ data_server.cfg file.

Section	Parameter	Description	Default Value	Changing the Value
transdata	MaxSnapshot Size	Determines the maximum size of the snapshot HTML file reported to HP Business Availability Center 5.0 and later.	256 kilobytes	The value can be changed in the topaz_ data_server.cfg file.
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: ➤ fatal ➤ error ➤ warning ➤ flow ➤ debug 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.
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.

Section	Parameter	Description	Default Value	Changing the Value
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.
wtdata	LogNumOf Backups	Determines the number of log history files to keep.	5	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: ➤ **Runnum** – Data is automatically reported after the specified number of runs. ➤ **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. The transaction thresholds are defined as part of the Business Process profile properties within End User Management Administration.	Runnum **Note:** The default policy value for HP Managed Software Solutions 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 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 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 Customer Support.
txhttp	Priority	This parameter is not currently implemented.		
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 Customer Support.

Section	Parameter	Description	Default Value	Changing the Value
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 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 Customer Support.
wthttp	Priority	This parameter is not currently implemented.		
HTTPSender	HTTPSender TimeoutSec	The timeout, in seconds, for HTTP requests to HP Business Availability Center.	300 seconds	Do not change this value without consulting 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 Gateway 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 HP 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. The following options are available: ➤ **0** – Set authentication parameters from the first request. ➤ **1** (default behavior) – Set authentication parameters only after HTTP code 401 is returned.	1	Do not change this value without consulting Customer Support.
Site#	AuthDomain	Determines the domain name to be used for basic authentication, if required by HP 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 HP 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**). The following two options are available: ➤ **0** – do not change content type ➤ **1** – change content type	0 (do not change)	Do not change this value without consulting 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 HP Business Availability Center. For more information, see "Adding or Overriding HTTP Request Headers" on page 168. 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 HP 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 HP 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 HP 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 HP Business Availability Center using a proxy server.	""	The value can be changed in Business Process Monitor Admin.

Section	Parameter	Description	Default Value	Changing the Value
Site#	ResetConnection OnFailure	Reset the caching data saved for the Business Process Monitor connection to HP Business Availability Center in case of a communication failure. Determines whether to re-open a new communication session to HP Business Availability Center in case of an HTTP, TCP or SSL connectivity failure. This enables communication caching data (such as SSL or DNS cached data) to be saved. The following options are available: ➤ **0** – Do not open a new communication session when there is a connectivity failure. ➤ **1** (default behavior) – Open a new communication session when there is a connectivity failure. ➤ **No value** – The default option is used and a new communication session is opened when there is a connectivity failure.	1	The value can be added/ changed in the sconn.cfg file.
Site#	SSLClientCert	Determines the SSL client certificate file to be used if SSL client authentication is required by HP 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 HP 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 HP 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 HP Business Availability Center.	""	The value can be changed in Business Process Monitor Admin.
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 Customer Support.

Section	Parameter	Description	Default Value	Changing the Value
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: ➤ **1** – Full validation. ➤ **2** – Validates the existence of the host name only. ➤ **3** – Skips host name validation.	1 (full validation)	Do not change this value without consulting Customer Support.
Site#	UseNTLMAuth	Determines whether to use NTLM authentication when communicating with HP Business Availability Center. If authentication parameters are defined and this parameter is set to **1**, NTLM authentication is used. If this parameter is missing, or set to any value other than 1, basic authentication is used.	0	The value can be added/ changed in the sconn.cfg file.
Site#	UseNTLMProxy Auth	Determines whether to use NTLM authentication when communicating with proxy. If authentication parameters are defined for proxy and this parameter is set to 1, NTLM authentication is used. If this parameter is missing, or set to any value other than 1, basic authentication is used.	0	The value can be added/ changed in the sconn.cfg file.

Note: In order to enforce the Business Process Monitor to use NTLM authentication for communication with HP Business Availability Center or via a proxy server, you must make sure that under each **Site#** section (where NTLM authentication is required) one or both of the **UseNTLMAuth** and **UseNTLMProxyAuth** parameters are set to **1**, as required.

Adding or Overriding HTTP Request Headers

In order to add or override headers to the HTTP request sent by Business Process Monitor to HP 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 HP Business Process Monitor functionality.

Enabling Log File Write

Certain scripts (for example, HP 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 103).

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 or Solaris), 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 or Solaris), 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 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 on page 176.

4 (For Windows platforms only) Select **Start** > **Programs** > **HP 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 dialog box.

5 If the Business Process Monitor Admin Properties dialog box 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 on page 176.

If the Business Process Monitor Admin Properties dialog box 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\HP Business Process Monitor**).

7 Delete the **Business Process Monitor Admin** shortcut from the folder.

8 Select **File** > **New** > **Shortcut**. The first page 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** > **HP Business Process Monitor**, right-click the **Business Process Monitor Admin** link, and select **Properties**. In the displayed Business Process Monitor Admin Properties dialog box, 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 94. 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 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 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 platforms on page 182.

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 Customer Support.

You configure the Business Process Monitor service as a specific user from the **Log On** tab in the HP 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 **HP 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 Platform

On Solaris 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 procedure that follows.

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**) 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/HPBPM/bin/wait_deamon.sh^
"="/opt/HPBPM/ServletContainer/bin/catalina.sh start"
"="/opt/HPBPM/ServletContainer/logs/catalina.pid" 5"
```

to:

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

Running Oracle Protocol Scripts

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.

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/9.2.0.1**

➤ **OPENWINHOME=/usr/openwin; export LD_LIBRARY_PATH**

➤ **LD_LIBRARY_PATH=${M_LROOT}/bin:${LD_LIBRARY_PATH}: ${ORACLE_HOME}/lib**

You must also modify the **bin/lrd.ini** file so that it uses the correct version of the shared library for Oracle support. For example, if you want to use Oracle 9i release 2 (that is, Oracle 9.2.0.1), then in the **ORACLE_SOLARIS** section of the bin/lrd.ini file ensure that the line **9201=liblrdsolo9201.so** is not commented out and the lines above it relating to other Oracle versions are commented out.

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.

Changing the Communication Protocol Used by WebTrace

Business Process Monitor is set to use TCP when running WebTrace to reach a site. WebTrace will not run successfully using TCP when Business Process Monitor is installed on a Windows XP machine with Service Pack 2.

If required, you can change the default communication protocol by editing the default value in the **webtrace.ini** file.

To modify the default communication protocol 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]
DefaultProtocol=tcp

3 Change the value for **DefaultProtocol** to **icmp**.

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 49) 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).

Configuring Snapshot on Error

When recording scripts with HP Virtual User Generator or QuickTest Professional (QTP), you can enable the Snapshot on Error option.

For details on enabling Snapshot on Error in HP Virtual User Generator, see the HP Virtual User Generator documentation. For details on enabling Snapshot on Error in QuickTest Professional see the *HP QuickTest Professional User's Guide*.

Once enabled, during a script run HP Business Availability Center saves a snapshot of a page as it appears when an error occurs during the script run. The snapshots can be viewed in the Error Summary Report and in the Triage Raw Data report. For details, see "Business Process Reports" and "Triage Raw Data Report" in *Using End User Management*.

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HP Business Availability Center supports Snapshot on Error for the following HP Virtual User Generator protocols:

➤ **Web protocols** – Oracle Web Applications 11i, PeopleSoft Enterprise, SAP-Web, Siebel-Web, and Web (HTTP/HTML)

➤ **Non-Web protocols** – Citrix_ICA, SAPGUI

Note: When HP Business Availability Center records a snapshot for scripts recorded using one of the Web protocols, it saves only HTML code. Resources such as images and JavaScript are not saved. Thus, errors that occur due to missing resources may be difficult to trace later on from the snapshot, especially in cases where the missing resource problem has been fixed. For example, if an image resource is missing during a script run, causing an error to be recorded, but the missing image problem is later fixed, the image will be present when you open the snapshot of the page.

Storing Snapshots

You can configure Business Process Monitor to send snapshots to HP Business Availability Center or to store them locally on the Business Process Monitor machine, and you can also configure how long to keep the locally saved snapshots.

Snapshots that are stored locally on the Business Process Monitor machine are stored under the **<Business Process Monitor root directory>\agent1\ data\clients\saved_snapshots** directory. A subdirectory is created for each day on which snapshots are taken, in the format of day_month (for example, for snapshots taken on April 20 a subdirectory called **20_4** is created). A further subdirectory is created for each snapshot in the format of profile name_transaction name_hour.minute. For example, for a snapshot generated at **11:25 PM** in transaction **trans1** in profile **prof1**, the subdirectory **prof1_trans1_23.25** is created. The actual snapshot is stored in the directory as a zip file called **snapshot.zip**. For the example above, the full pathname and file is:

<Business Process Monitor root directory>\agent1\data\clients\ saved_snapshots\20_4\prof1_trans1_23.25\snapshot.zip

---

Note: If more than one snapshot file is generated for the same transaction in the same profile within a single minute, the additional snapshot files will be sequentially numbered in the format of snapshot.number.zip – for example, **snapshot.2.zip**.

To configure where snapshots are stored:

1 Edit the **SendSOEToBAC** parameter in the **[general]** section of the **<Business Process Monitor root directory>\config\agent1.cfg** file. The possible values for the parameter are:

   ➤ **1.** Never send Snapshot on Error data to HP Business Availability Center.

   ➤ **2.** Always send Snapshot on Error data to HP Business Availability Center.

   ➤ **3.** Use the script configuration to determine where to send Snapshot on Error data (see point 2 on page 187 below). This is the default option that is used if the SendSOEToBAC parameter has not been set.

2 If the Business Process Monitor has been configured to use the script configuration to determine where to send Snapshot on Error data (that is, the **SendSOEToBAC** parameter has a value of **3**), then once a script has been saved, edit the **SendSnapshotDataToBAC** parameter in the **[WEB]** section of the **default.cfg** file of the script. The possible values for the parameter are:

   ➤ **0.** Do not send Snapshot on Error data to HP Business Availability Center (that is, store it locally on the Business Process Monitor machine).

   ➤ **1.** Send Snapshot on Error data to HP Business Availability Center. This is the default setting.

To configure how long to keep locally stored snapshots:

Edit the **NumberOfSavedSnapshotDays** parameter in the **[transdata]** section of the **<Business Process Monitor root directory>\config\topaz_data_server.cfg** file and enter the number of required days to keep old snapshot data. The default setting is 5.

Since snapshot data may not be generated every day, the setting in this parameter actually refers to the number of old snapshot directories to keep (that is, the subdirectories whose name comprises the day and month they were created).

Adjusting Business Process Monitor Time to Daylight Savings Time

You can configure Business Process Monitor to take into account Daylight Savings Time (DST) in its own time zone. When so configured, Business Process Monitor uses DST when calculating the start and stop times for profiles that are configured with GMT offset schedules.

To configure Business Process Monitor to take DST into account:

Edit the **AdjustScheduleToDST** parameter in the **[general]** section of the **<Business Process Monitor root directory>\config\agent1.cfg** file. The possible values for the parameter are:

➤ **1. True** - take DST into account.

➤ **0. False** - do not take DST into account.

The following table shows the various options for a profile with an offset from GMT of +2 hours, with a running time of 08:00 - 16:00, and running on a Business Process Monitor with a time zone offset from GMT of -2 hours:

DST in Effect in the Business Process Monitor's Time Zone	AdjustSchedule ToDST Flag Setting	Business Process Monitor Bias From Profile	Start Time of Run
No	1	4 hours	04:00 Business Process Monitor local time
Yes	1	The Business Process Monitor bias is 4 hours, but since DST is in effect it is one hour ahead, so the real bias is 3 hours (4-1).	05:00 Business Process Monitor local time
No	0	4 hours	04:00 Business Process Monitor local time
Yes	0	The Business Process Monitor bias is 4 hours and although the Business Process Monitor time zone is in daylight savings time, since the **AdjustSchedule T0DST** flag is set to **0**, DST is ignored and the bias stays at 4 hours.	04:00 Business Process Monitor local time

Note:

➤ The **AdjustScheduleToDST** configuration is only relevant for profiles which are schedule to run according to offset from GMT. If the scheduling is done according to Business Process Monitor local time, the Business Process Monitor will start running the profile at the hour configured in the schedule, regardless of DST or GMT bias.

➤ In Business Process Monitor 6.x and higher, the **AdjustScheduleToDST** parameter is included in the **agent1.cfg** file with a default setting of **1**.

➤ In Business Process Monitor 5.1, the **AdjustScheduleToDST** parameter is only available after installing the **BPM51_Patch7_configure_DST_ adjustments_and_color_siebel_7_7** patch. The default setting is **1**.

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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 HP
Business Process Monitor.

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."

Note: For Solaris 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.

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.
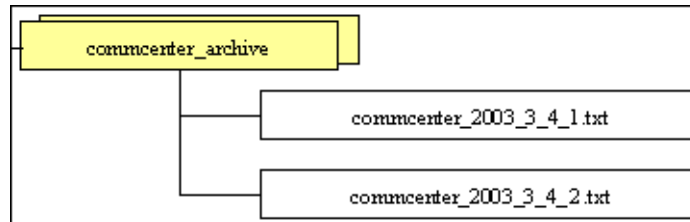
Log Entry Format

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 135.

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.** The 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 178.)

➤ **commcenter.** The 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.** The 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.** The 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 HP 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 HP 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):

  ➤ **saved_snapshots.** The directory used to store Snapshot on Error data that is not sent to HP Business Availability Center. For more information on configuring Snapshot on Error, see "Configuring Snapshot on Error" on page 185.

  ➤ **transdata.txt (and archive).** The log for finished transaction data. This log also contains entries for transactions that were not run due to problematic scripts, but for which special samples were sent to HP Business Availability Center.

  ➤ **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 HP Business Availability Center site, or that have not yet been acknowledged by HP 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 HP 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.

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