

IBM BigFix
Version 9.2

Web Reports Guide



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Note

Before using this information and the product it supports, read the information in “Notices” on page 93.

This edition applies to version 9, release 2, modification level 0 of IBM BigFix and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Introduction

Web Reports is a high-level web application that complements and extends the power of IBM BigFix. It connects to one or more IBM BigFix databases to aggregate and analyze your entire network. It allows you to visualize your data, with both charts and data listings, in any standard web browser. Web Reports provides you with a convenient, compact, and timely overview of your IBM BigFix network, no matter how broadly it extends.

Web Reports is prepackaged with dozens of critical reports ready to take the pulse of all your networked computers, including real-time visualization of patch rollouts, remediations, policy compliance, and much more. In addition, you can easily customize your own reports using faceted navigation to reduce your data to its essentials for fast, targeted access.

Web Reports is organized around **domains**, which are content groupings with their own set of built-in reports to get you up and running quickly. Domains also act as primary filters that allow you to limit the scope of reports and drill down into your network with finer granularity.

Chapter 2. Configuring Web Reports

Web Reports is used whenever you want to view IBM BigFix data that is spread over multiple databases in your deployment. Beyond aggregation, it is also invaluable when you need real-time information quickly, but do not have direct access to a IBM BigFix console. To use Web Reports, all you need is a browser.

You can generate listings and charts immediately with a large set of prepackaged reports. It is also easy to create custom reports to address questions or policies specific to your own network.

This guide describes all the unique features of the Web Reports Interface. Advanced topics in relevance and the low-level report language are beyond the scope of this guide. For more information about these topics, see the *IBM BigFix Relevance Language Reference* and the *Session Inspector Guide*.

Requirements

Web Reports can run on a stand-alone server or on the same machine that hosts the IBM® BigFix database.

Starting from V9.2 Patch 3, only the 64-bit architecture is supported for installing the BigFix Web Reports component on Windows systems.

Note: Ensure that the Web Reports component, like the BigFix console, has the same version of the BigFix servers to which it connects.

The requirements for the Web Reports server vary depending on the number of databases, computers, actions, and retrieved properties that you want to track.

The Web Reports primary resource requirements revolve around memory size for fast access and CPU speed for fast report processing. The disk stores a local cache to make load times faster, but the disk speeds have less impact on the Web Reports than memory size and CPU speeds.

Note: The Web Reports server is not supported on Server Core for Windows Server 2008 R2.

BigFix deployments with more than 30,000 agents can benefit by having a separate Web Reports server so that the main IBM BigFix server does not need to share its resources. You can set up multiple Web Reports servers with minimal performance impact on the main server.

Web Reports server requirements:

Number of Agents	CPU	Memory
< 10,000	2ghz	1 GB
10,001-30,000	2ghz (dual core)	2 GB
30,000-100,000	2ghz (dual core)	3 GB
100,000-200,000	2ghz (quad core)	4 GB

Supported Browsers

The approved client browsers include:

- Internet Explorer 7 and later (Windows)
- Firefox 3.5 and later (Windows)
- Safari 4 and later (Mac)
- Google Chrome (Windows, Mac)

JavaScript must be enabled on your browser to use Web Reports. To view some types of graphs, you also need to have Adobe Flash Player version 10 or higher installed.

Deploying a stand-alone Web Report server

How to deploy a stand-alone Web Report server.

You can copy the BESInstallers\Server directory from your BigFix to the dedicated system. These are the steps to take in deploying a stand-alone Web Report server:

1. On the "Select Database" window, select **Use Remote Database** and click **Next**
2. On the "Database Server" window, select the desired authentication method. If you choose Windows authentication, you need to change later the Web Reports service logon to use a Windows authenticated user logon
3. On the "Select Features" window, clear the **BES Server** and **BES Server Core Components** options. The only option that must be selected is **Web Reports**. Click **Next**
4. Choose the appropriate destination location and click **Next**
5. Choose where the Web Reports server must have its root directory and click **Next**
6. Click **Next** to begin the installation
7. Specify the database login and authentication method for the server components and then click **Next**
8. Create this new key in the registry file of the stand-alone workstation:
HKEY_LOCAL_MACHINE\SOFTWARE\BigFix\Enterprise Server\Installer:
Hostname=<hostname>, where <hostname> is the Fully Qualified Domain Name (FQDN) of the stand-alone server

Note: For versions earlier than 8.2, after you started Web Reports, you must add the *bfenterprise* database to be aggregated by clicking the **Database** link option. You must also create a Database Source Name pointing to the appropriate SQL server and *bfenterprise* database. For version 8.2 and later, you do not need to create a new Database Source Name entry on the Web Reports servers. The data source added on the Web Reports settings page must point to the root server workstation, the same when opening the console, and it might be different than the database server.

Setting the session inactivity timeout

Setting a limit to the duration of a session for the user interface.

To put a limit to the length of an inactive user interface session, you must set the Web Reports property `InactivityTimeoutLength` to the amount of inactivity minutes after which the user interface session expires. The default value is 120 minutes. To insert a different value, perform the following steps:

On Windows operating systems:

1. Open a command prompt and run Regedit.
2. In the Registry Editor window, under the HKEY_LOCAL_MACHINE\Software\BigFix\Enterprise Server\BESReports key (on 32-bit Windows operating systems) or HKEY_LOCAL_MACHINE\Software\Wow6432Node\BigFix\Enterprise Server\BESReports (on 64-bit Windows operating systems), create a REG_SZ keyword named InactivityTimeoutLength and set it to the maximum number of minutes of inactivity after which the user interface session expires.
3. Close the Registry Editor window and restart the BES Web Report Server service to apply the new InactivityTimeoutLength value.

On Linux operating systems:

1. Open the /var/opt/BESWebReportsServer/beswebreports.config configuration file.
2. Add the InactivityTimeoutLength property in the [Software\BigFix\Enterprise Server\BESReports] section as follows:
`InactivityTimeoutLength = <max_timeout_minutes>`

where `<max_timeout_minutes>` is the maximum number of minutes of inactivity after which the user interface session expires.

Note: The new value for InactivityTimeoutLength is applied the next time you launch the Web Reports application.

Integrating LDAP with Web Reports

There are two solutions for integrating LDAP with the Web Reports server. The two solutions are mutually exclusive on Windows:

- The first solution supports the integration of LDAP (both Tivoli Directory Server and Active Directory) with the Web Reports server running on both Windows and Linux systems.
- The second solution supports the integration of Active Directory with the Web Reports server running on Windows only. It works only if the computer where the Web Reports server runs is joined to an AD Domain.

When upgrading BigFix to V9.2, the Endpoint Manager 9.1 Active Directory solution is kept for compatibility with the existing environment. To switch to the LDAP solution see “LDAP integration after Windows upgrade” on page 12.

Integration with LDAP

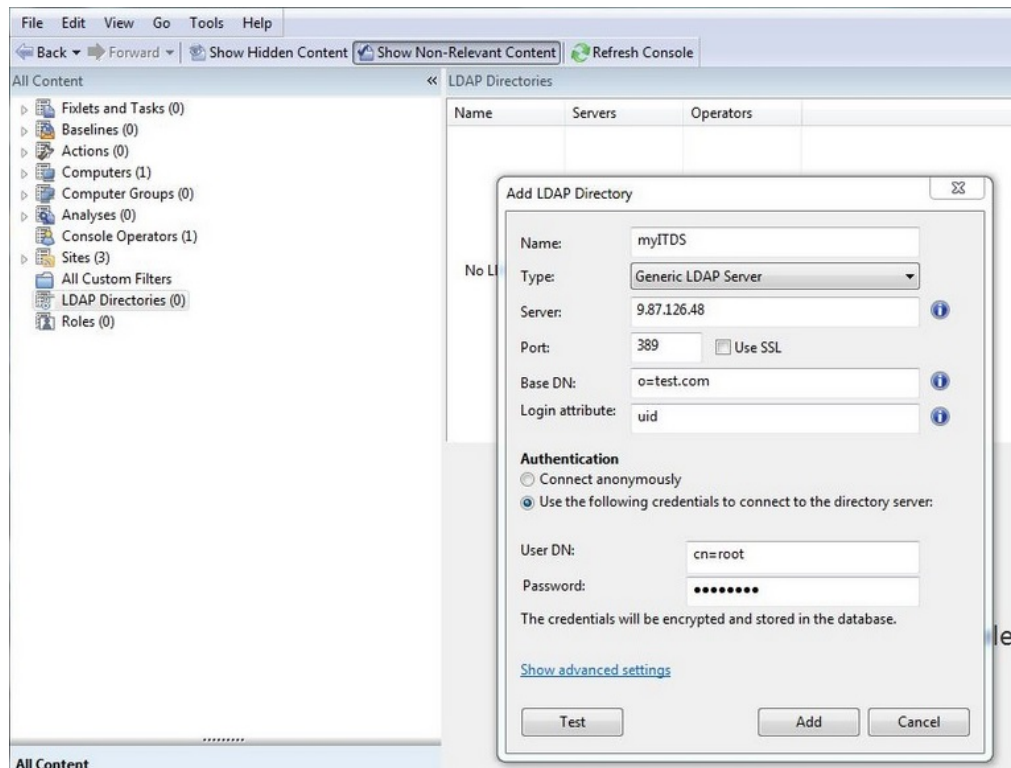
To integrate Web Reports with LDAP in a Windows or Linux environment, run the following steps:

- “Step 1: Add an LDAP directory to the BigFix Server”
- “Step 2: Assign a Web Reports role to LDAP users or groups” on page 6
- “Step 3: Log in with an LDAP user” on page 8

Step 1: Add an LDAP directory to the BigFix Server

To use the LDAP capabilities in Web Reports, you must define LDAP Directories in the BigFix server. In this way Web Reports can see the same LDAP object detail level that can be seen using the BigFix console.

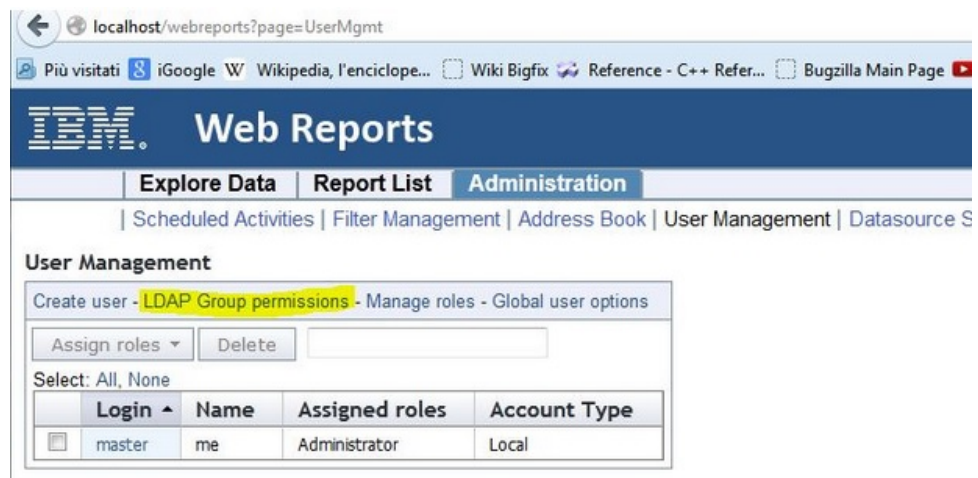
To add an LDAP directory to your deployment use the BigFix console:



You do not need to add any LDAP console operators.

Step 2: Assign a Web Reports role to LDAP users or groups

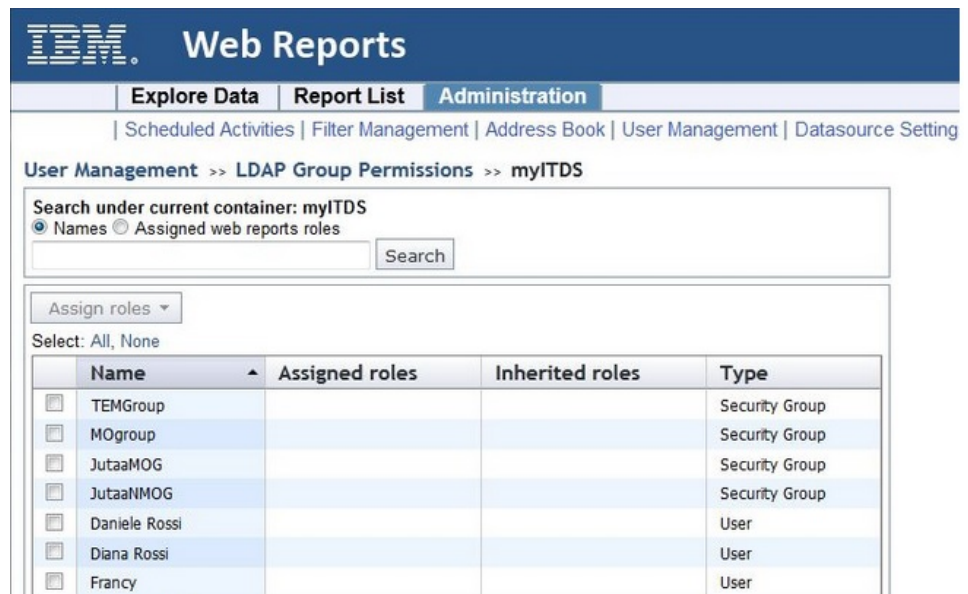
1. Log in to the Web Reports using a user with Administrator privileges, and navigate to **Administration > User Management**:



2. Click the LDAP Group permissions to see the list of the available directories among the known datasources:



- In the previous solution you see the list of AD containers. Click a directory to list all its users and groups:



- Select users or groups and assign them the Web Reports roles like that:

Note: Starting from V9.2.6, BigFix supports SAML V2.0 authentication via LDAP-backed SAML identity providers for the Web Reports and the Web UI components. This support can be used to enforce two-factors authentication for BigFix with Common Access Cards (CAC), Personal Identity Verification (PIV) cards, or other factors. This configuration uses a web based Single Sign-On authentication method from the identity provider login URL. Logged on users are automatically redirected to the components supporting SAML V2.0 authentication without the need to log in again.

Be aware that, if you implement this configuration, LDAP operators must login from the identity provider login URL and not from the usual Web Reports and Web UI login pages. Access to the BigFix Console is not affected by this enhancement.

For more information about SAML V2.0 authentication support, see <https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Endpoint%20Manager/page/SAML%20V2.0%20Authentication%20Support>.

Compatibility with NT domains:

The information contained in this topic allows your user ID to login to Web Reports with the role assigned if:

- The user ID is defined on both the NT domain and the Active Directory.
- The name of the domain used for NT authentication is different from the name of the domain specified in Active Directory.
- You integrated the Active Directory with the Web Reports in your BigFix environment.

If all the conditions are true, run the following configuration steps on the system where the Web Reports component is installed:

On Windows systems:

1. Open the registry.
2. Select:
HKLM -> Software -> Wow6432Node -> BigFix -> Enterprise Server -> BESReports
3. Specify the file converter as follows:
`NTDomainFilePath = FullPathConversionFile`

where *FullPathConversionFile* is the path name to a file containing a row for each domain name conversion that must be applied to the domain names, for example:

`my_NT_Domain|my_LDAP_domain`

4. Restart the Web Reports service.

On Linux systems:

1. In the configuration file `/var/opt/BESWebReportsServer/beswebreports.config`, specify under `[Software\BigFix\Enterprise Server\BESReports]` the file converter:
`NTDomainFilePath = FullPathConversionFile`

where *FullPathConversionFile* is the path name to a file containing a row for each domain name conversion that must be applied to the domain names, for example:

`my_NT_Domain|my_LDAP_domain`

2. Restart the Web Reports process.

After you complete these steps, the user can log in using the NT domain credentials, for example *my_user@my_NT_domain.com*, and successfully access the Web Reports.

Integration with Active Directory

You can enable Active Directory users to access the BigFix **Web Reports** server.

Note: This configuration is not supported on the BigFix **Web Reports** server running on Linux.

To integrate Active Directory with the **Web Reports** server running on Windows, perform the following steps:

1. Enable SSL support in Web Reports, to protect user Active Directory credentials.
2. If the permissions on Active Directory are set so that only some users are able to read the Active Directory data or if the **Web Reports** server does not belong to the Active Directory domain, you must configure your Web Reports Server service to run as a domain user with permissions to query Active Directory. This user does not need to be a domain administrator or have any permissions to make changes to Active Directory.

Note: Automatic Fixlet upgrades are enabled only if Web Reports service runs with the local system account.

3. Log in to Web Reports as a Web Reports administrator.
4. Navigate to **Administration > User Management**.
5. Click the **Active directory permissions** link.

Note: To display this link and start configuring Active Directory authentication over LDAP for Web Reports, you must enable LDAP user authentication from the IBM BigFix console.

6. Enter your Active Directory user name and password. The format of user name must be DOMAIN\username or username@DOMAIN as follows:



The screenshot shows the IBM Web Reports interface. At the top is a dark blue header with the IBM logo and the text "Web Reports". Below this is a navigation bar with tabs: "Explore Data", "Report List", and "Administration". The "Administration" tab is selected. Under "Administration", there is a sub-navigation bar with links: "Scheduled Activities", "Filter Management", "Address Book", "User Management", "Datasource Settings", and "Errors". Below the navigation bar, a message says "Please enter your Active Directory credentials to access this page:". There is a form with two fields: "Username:" and "Password:". The "Username:" field contains the text "zeus\Administrator" and has a hint "(e.g. DOMAIN\username)". The "Password:" field contains a series of dots. Below the form is a "Continue" button.

7. Select the domain name:

IBM Web Reports

Explore Data | **Report List** | Administration

| Scheduled Activities | Filter Management | Address Book | User Management | Datasource Settings | Errors |

User Management >> Active Directory Permissions

Search under current container: Active Directory Forest

☒ Names ☐ Assigned web reports roles

Search

Assign roles ▼

Select: All, None

	Name	Assigned roles	Inherited roles	Type	Location
<input type="checkbox"/>	zeus			Domain	

<< first < prev Showing items 1 - 1 of 1 next > last >>

8. Select the **User** container to list the available users in Active Directory for which to grant access:

IBM Web Reports

Explore Data | **Report List** | Administration

| Scheduled Activities | Filter Management | Address Book | User Management | Datasource Settings | Errors |

User Management >> Active Directory Permissions >> zeus.com

Search under current container: zeus.com

☒ Names ☐ Assigned web reports roles

Search

Assign roles ▼

Select: All, None

	Name	Assigned roles	Inherited roles	Type	Location
<input type="checkbox"/>	Builtin			Container	zeus.com
<input type="checkbox"/>	Computers			Container	zeus.com
<input type="checkbox"/>	Domain Controllers			Container	zeus.com
<input type="checkbox"/>	ForeignSecurityPrincipals			Container	zeus.com
<input type="checkbox"/>	Program Data			Container	zeus.com
<input type="checkbox"/>	System			Container	zeus.com
<input type="checkbox"/>	Users			Container	zeus.com

<< first < prev Showing items 1 - 7 of 7 next > last >>

9. Select domain groups or users, click **Assign roles**, and choose the roles or permissions that you want to assign to them:

User Management >> Active Directory Permissions >> zeus.com >> Users

Search under current container: Users

☒ Names ☐ Assigned web reports roles

Search

Assign roles ▼

All Roles

☐ Administrator

☒ Normal

☐ Read-only

Assigned Roles

☐ Administrator

☒ Normal

☐ Domain Admins

☐ Domain Computers

☐ Domain Controllers

	Assigned roles	Inherited roles	Type	Location
<input type="checkbox"/>			User	zeus.com > Users
<input type="checkbox"/>			User	zeus.com > Users
<input type="checkbox"/>			User	zeus.com > Users
<input type="checkbox"/>			User	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users
<input type="checkbox"/>			Security Group	zeus.com > Users

In this way you grant access to Web Reports according to the role definition.

LDAP integration after Windows upgrade

If you upgrade Windows BigFix to V9.1, the BigFix V9.0 Active Directory solution is kept for compatibility with the existing environment. To switch to the new Web Reports and LDAP integration functionality, perform the following steps:

1. Log in to Web Reports.
2. From **User Management** remove all the Active Directory users.
3. Change the BES Web Report Server service from Active Directory account to Local System account.
4. Set UseLegacyADLogin value in HKLM\Software\Wow6432Node\BigFix\Enterprise Server\BESReports from 1 to 0.
5. Restart the BES Web Report Server service.
6. From the console, add Active Directory or LDAP by selecting **Tool -> Add LDAP Directory**.
7. Log in to Web Reports and from **User Management** assign Web Reports roles to LDAP users and groups. For more information see Assigning a Web Reports role to LDAP users or groups.

Setting the Number of LDAP Entries to Display

The default number of LDAP entries displayed in Web Reports is 1000. If you want to change the maximum number of LDAP entries to display within Web Reports, perform the following steps:

On Windows systems:

1. Stop the BES Web Report Server service.
2. Run Regedit.
3. Under the HKEY_LOCAL_MACHINE\Software\BigFix\Enterprise Server\BESReports key (on 32-bit Windows systems) or HKEY_LOCAL_MACHINE\Software\Wow6432Node\BigFix\Enterprise Server\BESReports (on 64-bit Windows systems), create a REG_SZ keyword named LDAPSearchMaxResults and set it to the number of LDAP entries to display in Web Reports.
4. Restart the BES Web Report Server service.

On Linux systems:

1. Open the /var/opt/BESWebReportsServer/beswebreports.config configuration file.
2. Add the LDAPSearchMaxResults in the [Software\BigFix\Enterprise Server\BESReports] section as follows:
LDAPSearchMaxResults = <max_number_LDAP_entries>

where <max_number_LDAP_entries> is the maximum number of LDAP entries to display within Web Reports.

Note: The value assigned to the LDAPSearchMaxResults keyword applies to the query for users and to the query for groups. For example, if you defined in your LDAP 2000 users and 5000 groups and you set LDAPSearchMaxResults = 1000, then your queries about users and groups display up to 1000 users and 1000 groups.

Chapter 3. Using the Program

The Web Reports interface is simple and straightforward. You can create a specialized report and then print it or email it in only a few minutes, as the following tutorials demonstrate. These are quick step-by-step explorations of some of the most popular features in Web Reports, which can help you appreciate the scope of the program. Although brief, they explore a large fraction of the program's functions.

First Login

Depending on the operating system where the IBM BigFix Server is running you can have a different type of login to Web Reports.

To login to Web Reports running on Windows use the local browser to point to localhost as follows: `http://localhost/webreports` and define the first Web Reports userid. After the userid definition, you can use a remote browser.

To login to Web Reports running on Linux use the userid and password of the IBM BigFix administrator, defined at installation time. With this userid you can specify the Web Reports address in a remote browser such as: `http://
HostnameWebReportsServer/webreports`

Starting Web Reports

Web Reports is a stand-alone program available from the Start Menu. You can also start it from within the console by selecting **Tools > Launch Web Reports**. The interface is divided into three main sections, which you access by clicking items in the navigation bar at the top of the window.

When you first log in to the Web Reports program, you see a startup window with several options.



In the main window you can see at least two icons:

- **Starred:** This option shows a list of the reports that you have starred as important.
- **My Authored:** This option shows a list of reports that you have personally authored.

Other possible icons are:

- **Domain Icons:** These icons can be selected to view the list of Web Reports associated with the selected domain, such as Endpoint Protection or Security Configuration.

At the top of the window you can see a search box and two user selections:

- **Search Computers:** The search box, top right, allows you to select computers by name, IP Address, OS, CPU, and Last Report Time.
- **Preferences:** For your personal login, you can set preferences including your opening splash page and the number of results you want to print on each page. For more information, see “Setting Your Preferences” on page 25.
- **Logout:** Click this to exit from the program.

Below this are the three main section headers in tab form:

- **Explore Data:** This option lets you filter and view your data on your IBM BigFix clients, Fixlet messages, tasks, actions, operators, and more. This option also allows you to create your own custom reports as well as graphical charts. For more information, see Part Three, **Exploring**.
- **Report List:** This option shows all the reports, built-in and custom, that are available to you. You can filter the reports, modify their visibility, and set up schedules for printing them out. For more information, see Part Four, **Reporting**.
- **Administration:** This option lets you manage scheduled activities, database settings, and user databases. For more information, see **Administering the Program**.

The Explore and Report headers represent the primary functions of Web Reports. **Explore Data** lets you view your data with various filters. When you have narrowed your focus to the ideal data set, you can save it as a report that you can reuse or customize with just a few mouse clicks.

The reports that you author are shown in the **Report List** for easy selection. When you create and customize your favorite reports, this is where they are listed.

In the next sections of this guide, you can see how to use this program to create focused reports customized to suit your particular corporate network and policies.

Viewing the Data

The first thing you might do is simply to view the data that Web Reports has aggregated from your IBM BigFix databases. To do this, follow these steps:

1. Click **Explore Data** from the top tab bar.



2. The default is the **Computers** report, and it is already displayed for you.

Computer Name	IP Address	OS	CPU
PocketPC-WM_tyler_corri1	172.16.30.119	Windows Mobile 6.0 5.2.1616	930 MHz ARM version 4
QAADX51-1	192.168.105.129	AIX 5.1	380 MHz PowerPC_604e
QAADX52-1	192.168.107.115	AIX 5.2	400 MHz PowerPC_POWER3
qaax61-1	192.168.107.251	AIX 6.1	1500 MHz PowerPC_POWER5
QABES	192.168.104.37	Win2003 5.2.3790	2700 MHz Xeon
QABES-EXTRELAY	10.10.10.90	Win2003 5.2.3790	2400 MHz Xeon
qacentos48x64-1	192.168.106.235	Linux CentOS 4.8 (2.6.9-89.ELsmp)	2400 MHz Core 2
qacentos48x86-1	192.168.106.241	Linux CentOS 4.8 (2.6.9-89.ELsmp)	2400 MHz Core 2
qacentos54x64-1	192.168.106.249	Linux CentOS 5.4 (2.6.18-164.el5)	2400 MHz Core 2
qacentos54x86-1	192.168.105.233	Linux CentOS 5.4 (2.6.18-164.el5)	2400 MHz Core 2
QAESX302-1	192.168.107.118	VMware ESX Server 3.0.2 (2.4.21-47.0.1.ELvminix)	1800 MHz Pentium 4
qaesx350-1	192.168.104.63	VMware ESX Server 3.5.0 (2.4.21-58.ELvminix)	2400 MHz AuthenticAMD
QAFCX66-1	192.168.105.243	Linux CentOS 5.4 (2.6.18-164.el5)	2400 MHz Core 2

This important report is only one click away. Notice at the top that you can explore other data sets, including Fixlet **Content**, **Actions**, **Operators**, and more.

Also notice the Filter section above the report. The next tutorial shows you how to use the filter to narrow your focus.

Filtering the Data

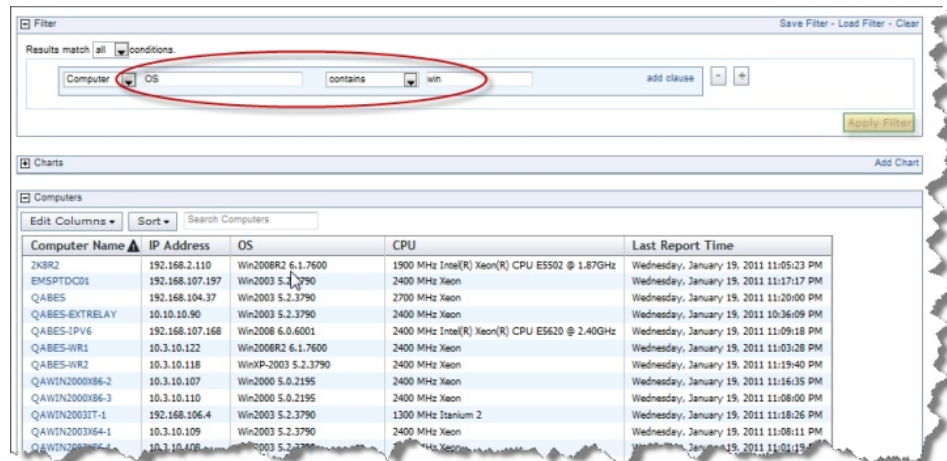
The Filter section is a key component of both exploring data and creating reports. With effective filtering, you can highlight just that segment of the data that is most important to you.

For example, to view just Windows computers, you might filter your computers like this:

1. Click **Explore Data** from the top tab bar.



2. The default **Computers** report is displayed as described in *Viewing the Data*. It displays all the computers in the database.



3. Click in the box next to the pull-down menu that says **Computer**. A pull-down menu opens, allowing you to select from the hundreds of computer properties defined across your network.
 - a. Select **OS** from the menu, or simply type it in and hit Enter.
 - b. Another pull-down opens with a list of operators. Select **contains**.
 - c. A text box opens. Enter **win** to narrow the report down to Windows computers only.
4. Click the **Apply Filter** button to get an instant view of the impact of your filter.

Filters are essential to creating tight, relevant reports. For more information, see "Filtering the Data."

Saving Reports

When you have filtered a listing down to its essential core (as described in “Filtering the Data” on page 16), you can save your filter as a proper report. Simply click the **Save Report** button at the top of the window and provide a name for your specialized report.



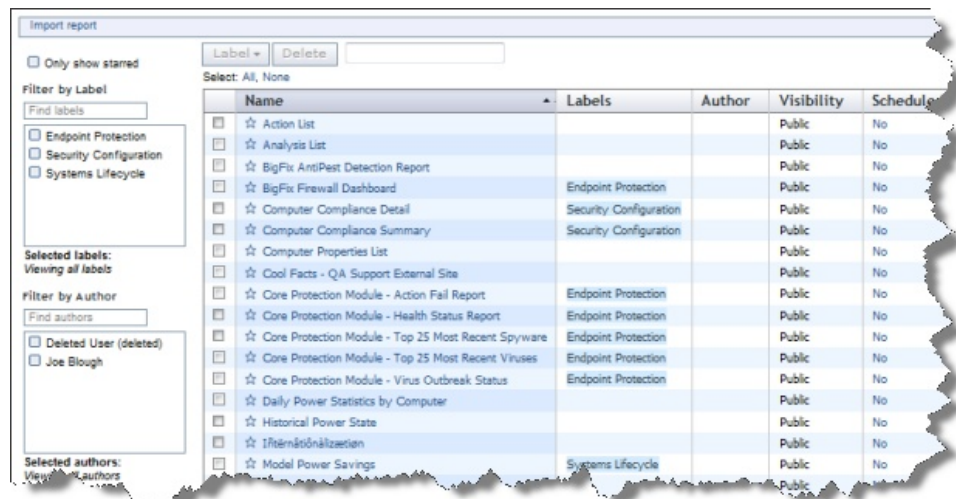
The name you provide is entered into the Report List, and labeled with you as the author.

Viewing Reports

1. Click Report List from the top tab bar.



2. The list of reports is displayed.



Simply click one of the links to see the associated report.

Note: These is the list of reports that are available by default:

- Action List
- Analysis List
- Computer Properties List
- Open Vulnerabilities List

- Operating System Distribution
 - Operator List
 - Overview
 - Progress of 10 Fixlets from Recent Actions
 - Progress of 10 Fixlets Recently Relevant
 - Vulnerability Trends Over Time
- Note the boxes at the left of the window that allow you to filter the reports by label and author to help you keep your report list short and uncluttered. Simply click the check box in front of the filter. Multiple filters are OREd together.

There are several useful features in this section. For more information, see the Report List main page.

Creating Charts

Most data views and reports can display the data graphically. From Explore Data or a Report listing, if a chart is possible, it is shown in a section just below the filter section.

Analysis List* Export to CSV :: Printable Version :: [Save Report As](#)

Filter

Save Filter Load Filter Clear

Results match **all** conditions.

Content

Visibility

is

Visible

add clause

-

+

and

Content

Type

is

Analysis

add clause

-

+

and

Content

Progress

is

Not Activated

add clause

-

+

Apply Filter

Charts

Add Historical Chart

Content

Edit Columns

Progress	Name	Sitename	Activated By (Analysis)	Activation Time (Analysis)
Not Activated	Adobe Product Detection (Windows)	BES Inventory and License Test	<none>	<none>
Not Activated	Application Information (ADK)	BES Inventory and License Test	<none>	<none>
Not Activated	Application Information (HP-UX)	BES Inventory and License Test	<none>	<none>

There are two basic chart types: ordinary and historical.

- Click the link to create a new chart. You can attach multiple charts to a report.
- Enter the title for a historical chart and click **Create Chart**.

Charts

Add Historical Chart

Configure Chart

Title: **Analysis History**

Time Span

Start date:

End date:

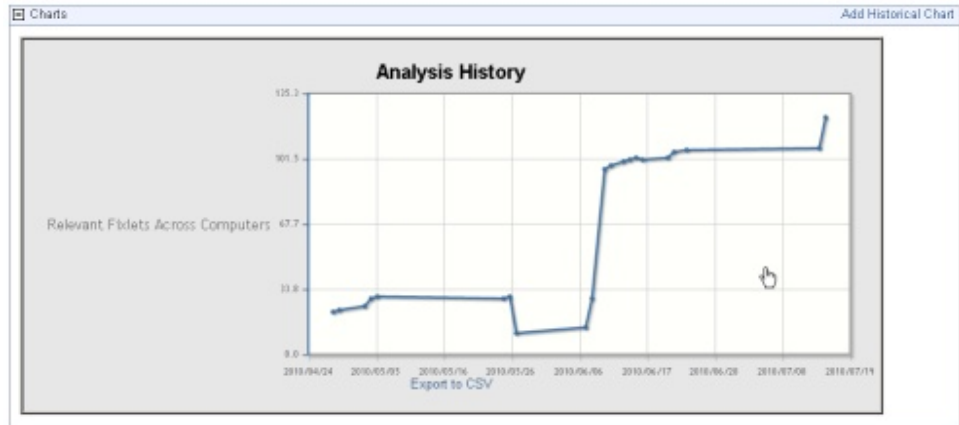
12:00 AM

12:00 AM

Group By: ☐ Hour ☐ Day ☐ Week

Create Chart Cancel

- Your chart is generated immediately.



Charts are useful for distilling a huge list of data into a simple graphic, and are extremely useful for busy administrators.

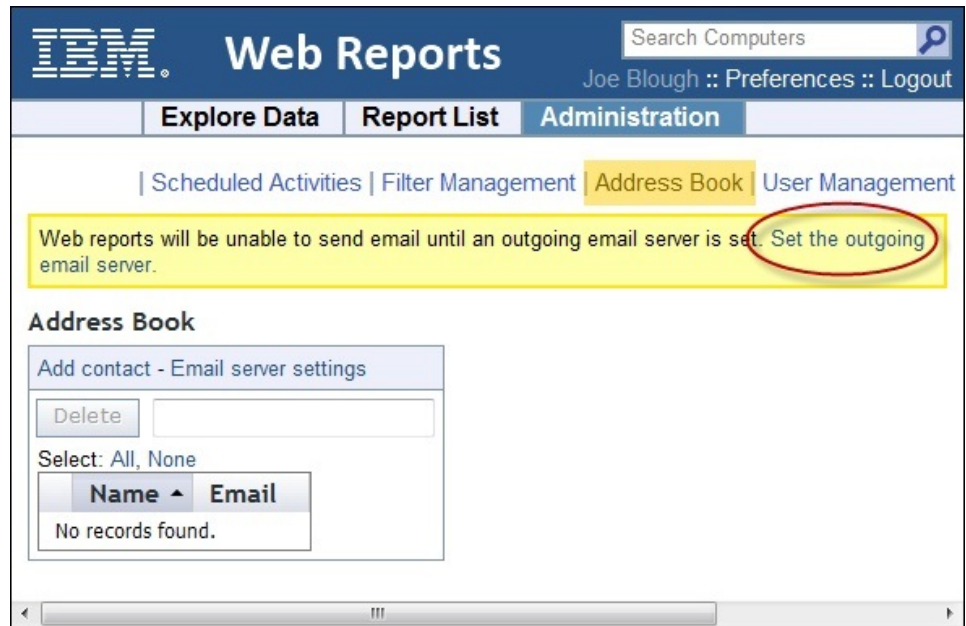
Setting Up Email

A common need is to have a report mailed to an operator or an administrator who can then easily examine various aspects of your IBM BigFix network at their leisure. Set up your email accounts and server as follows:

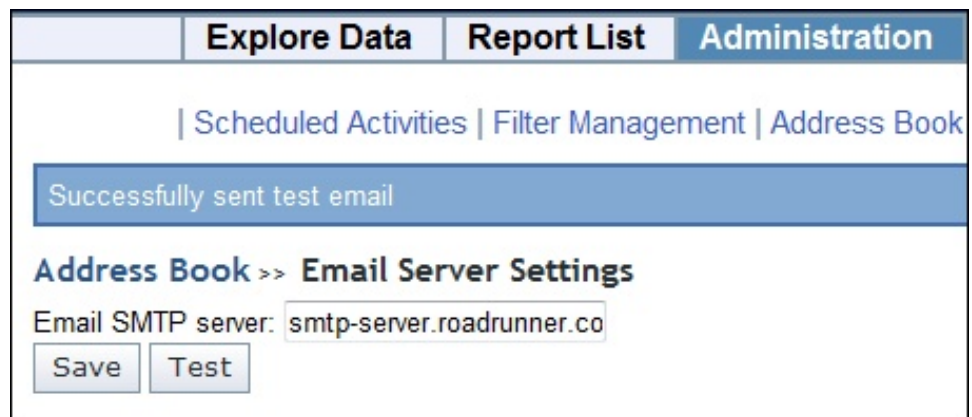
1. Click **Administration** from the top tab bar.



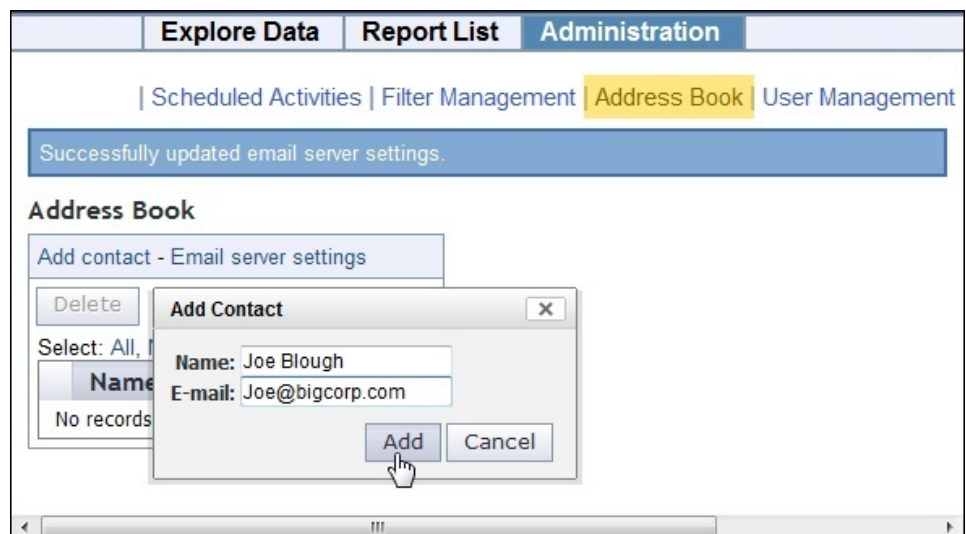
2. Click **Address Book** from the sub tabs.
3. If you have not yet set your outgoing SMTP server, click the link in the yellow reminder message.



4. Enter your SMTP server and **test** it before **saving** it.



5. Click the link labeled **Add contact** to add name(s) to the Address Book.



6. Continue to add contacts. If you need to delete a contact from the Address book, check the box in front of the name and click the **Delete** button.

You are now set up for emailing from Web Reports.

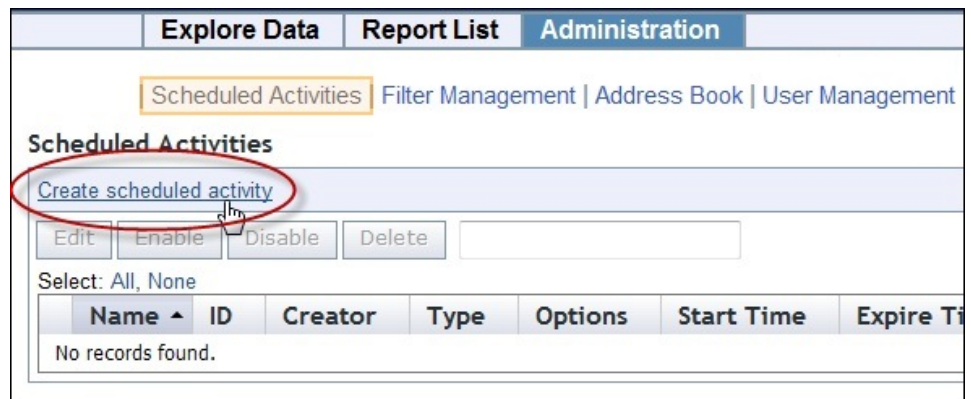
Scheduling Reports

When you have your email server set up and your Address book populated, you are ready to schedule a report and email it to yourself or another operator.

1. Click **Administration** from the top tab bar.



2. Click **Scheduled Activities** and click the **Create scheduled activity** link to create your custom event.



3. In the linked page, you can create triggers for your events as well as the actions that you want to trigger.

Start time: Jul 18 2010 at 18 : 17
 Expire time: --- -- ---- at -- : --

Activity Report:

Type:
 Report Action List
 Format: ☒ HTML ☐ CSV

Activity Triggers:

☒ Generate report every: 1 Days
☐ Generate report on every refresh (currently every 15 seconds)
☐ Generate report once

☐ Match Relevance conditions

4. The Start time defaults to the current time, and is often what you want. Below this are three sections for you to complete.
 - a. The **Activity Report** section is where you select the report you want to schedule, as well as its format. From the pull-down menu, select the report you want.
 - b. The **Activity Triggers** section is where you specify how you want to trigger your event. The most popular technique is to set a time period, such as every day or week, to trigger the report (or other activity). However, there are many other useful ways to trigger a report, as described later in this guide.
 - c. The **Activity Actions** section is where you select the action you want to trigger.

Activity Actions:

☒ Email [Edit]

Joe Blough <joe@bigcorp.com>
 Ken <ken@bigcorp.com>
 May <may@bigcorp.com>
 Scott <scottcha@roadrunner.com>
 Sue <sue@bigcorp.com>

To: joe@bigcorp.com

From: Joe Blough
 Subject: [BES System] Report Notification
 BigFix Weekly Report

Text:

☒ Include report output
☐ Include link to current report
☐ Include link to archive report

Typically that is just to email your report. To do this, click the Email check box, add contacts from your Address book, and set the subject line for the emailed report.

5. When you have finished, click Submit.

You can now set up reports and alerts to be sent or archived on your schedule.

Adding a Datasource

You can add other IBM BigFix datasources to your reports. This allows you to create aggregate reports covering hundreds of offices, each with thousands of computers.

Note: Ensure that the schema versions of the aggregated datasources are the same. You can see the schema version of every BFENT database, by running the following query:

```
select version from dbo.DBINFO
```

To add a datasource, credentials of a Master Operator must be provided. These credentials are required only once per datasource, and are not saved.

To add a new datasource, follow these steps:

1. Log in as an administrator.
2. Select **Administration > Datasource Settings > Add New Datasource**.



3. The Add Datasource page is displayed.

Enter a descriptive **Name** for your datasource.

4. Enter the URL of the root server you wish to connect to. The URL must also include the appropriate port number.
5. Enter **Master Operator Credentials**. These credentials are used only once, and are not saved.

Editing a Datasource

To edit a datasource, follow these steps:

1. Log in as an administrator.
2. Select **Administration > Datasource Settings > Edit**.



3. The **Edit Datasource** page is displayed.



Enter the URL of the root server to which to connect. The URL should also include the appropriate port number.

Note: You cannot change the name of your datasource.

4. Enter the Master Operator Credentials if the URL is changed.
5. When you have finished, click **Submit**.

Setting Your Preferences

At the top right of the Web Reports interface is the Preferences link.



Click it to edit your personal user preferences.

User Preferences

[Change password](#)

Splash page: Domain List (Default) ▼

Number of results per page (10-1000):

☐ Developer mode (disables automatic loading of custom reports)

1. Change your splash page by selecting a new page from the pull-down menu. As well as the default Domain List, you can select from a list of reports to appear in the starting splash page.
2. When you view a report, the number of rows is typically limited to 50 per page. You can change that number here.
3. You can check the box to run in Developer mode, which disables the automatic loading of custom reports.
4. Click Save to set your preferences.

Enabling FIPS cryptography on Web Reports

After installed, you can set up your Web Reports server to encrypt using FIPS cryptography.

To enable FIPS encryption, follow these steps:

1. From the **BigFix Management** Domain, open the **Computer Management** folder and click the **Computers** node.
2. Select the computer where the Web Reports server is running.
3. From the right-click context menu, select **Edit Computer Settings**.
4. From the **Edit Settings** dialog, click **Add**.
5. In the **Add Custom Setting** dialog, enter the setting name as **_BESClient_Cryptography_FipsMode**

The values for this setting are:

required

Causes the client to encrypt using FIPS cryptography.

none FIPS cryptography is not used.

6. Click **OK** to accept the value and **OK** again to complete the setting. You must enter your private key password to deploy the setting action.

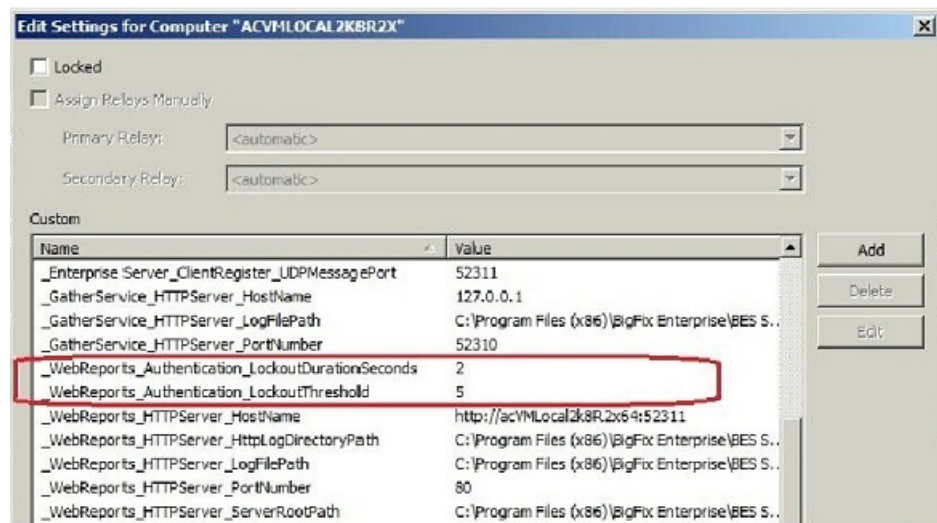
Setting the login lockout

You can set the number of invalid Web Reports login attempts that are allowed before an account is locked out.

If you are locked out, before attempting to log in again, wait for the lockout duration to expire.

To set the lockout, complete the following steps:

1. Click the **Computers** icon in the Domain Panel navigation tree to open the List Panel of client computers.
2. Select the computers on which to set the Web Reports login lockout.
3. Right-click and select **Edit Computer Settings** from the pop-up menu, or select **Edit Computer Settings** from the **Edit** menu. The Edit Settings dialog opens.



4. Change the lockout settings by editing the following keywords:

_WebReports_Authentication_LockoutThreshold

The number of invalid password attempts that are accepted before the user is locked out. Default value: 5

_WebReports_Authentication_LockoutDurationSeconds

The number of seconds for which a user is locked out after reaching the lockout threshold. Default value: 30

Note: Restart the Web Reports service to reset the lockout state for all users.

Chapter 4. Exploring

The **Explore Data** section of the program allows you to look at data collected from your entire IBM BigFix network to filter it, and to create reports. Click the **Explore Data** tab, upper left.



Want a quick peek at your network? This section of the program lets you instantly visualize your data with both charts and reports. It also allows you to filter that potentially huge data set down to something concise and useful.

Want to record your custom view? At any time you can press the **Save Report** button to save your filters, charts, and layouts, which are added to the **Report List** (available from the next tab to the right). Now you can reuse your custom template to quickly provide you with unique portraits of your network at any given moment.

There are several options for exploring Data. They make up the secondary tabs on this page:

- **Computers:** This option allows you to examine properties of your networked IBM BigFix clients and filter the list into a specialized report.
- **Content:** This option allows you to examine and create specialized reports based on Fixlet messages, baselines, tasks, and analyses.
- **Actions:** This option allows you to list and report on actions taken on any of the IBM BigFix clients in your network.
- **Operators:** This option allows you to list subsets of your IBM BigFix operators.
- **Unmanaged Assets:** This option allows you to examine the states of all your unmanaged assets, such as printers, scanners, faxes, and more.
- **Custom:** This option allows you to create free-form listings and reports.

These options are described later in this section. However, many of these options have commonalities that represent core utilities of Web Reports. These are described in the following section.

Filters

Filters are a key part of most reports. They allow you to view just one facet of the data at a time. Data fields can be filtered individually, limiting the data that is displayed. This technique is a form of Facet Navigation, and is a powerful way to reduce a huge data set to something easily tractable.

The Filter interface is nearly the same wherever you see it. This section highlights the essentials of designing powerful and effective filters, and is referred to elsewhere in this guide.

The **default filter** specifies nothing, allowing all data records to be listed.

The screenshot shows a window titled "Filter" with a header bar containing "Save Filter - Load Filter - Clear". Below the header, it says "Results match **any** conditions." There is a dropdown menu set to "Computer" and a text box labeled "Search Properties". To the right of the text box are minus and plus buttons. At the bottom right is an "Apply Filter" button.

To view a subgroup of the data, pull down the menu to filter by **computer**, **content**, **site** or a previously saved filter. The choice you make determines the secondary fields of the filter. For example, you might want to view computers that have specific operating systems. Click in the box labeled **Search Properties** and enter "OS". There might be a pause while the system collects the properties and verifies the existence of the OS property.

The screenshot shows the "Filter" window with "Results match **all** conditions." The dropdown menu is set to "Computer" and the text box contains "OS". To the right of the text box are two clauses: "contains" followed by a text box containing "win", and "contains" followed by a text box containing "linux". Each clause has a minus sign and a plus sign button. An "add clause" link is circled in red. At the bottom right is an "Apply Filter" button.

Click the link labeled **add clause** to add extra qualifiers to a filter. Click the associated X to delete any of these clauses.

Click the plus sign to the right of the filter to add a new one.

The screenshot shows the "Filter" window with "Results match **all** conditions." The first clause is "Computer" followed by "OS" and "contains" followed by "win". The second clause is "or" followed by "contains" followed by "linux". The third clause is "and" followed by "Computer" followed by "CPU" and "contains" followed by "core". Each clause has a minus sign and a plus sign button. The plus sign button for the first clause is circled in red. At the bottom right is an "Apply Filter" button.

These filters are ANDed together if you choose **all conditions**; they are ORed together if you choose **any conditions**. Click the minus sign next to a filter to delete it from the set.

Click the **Apply Filter** button to see how your custom filter affects the subsequent computer reports and charts.

When defined, click the **Save Filter** link at the upper right if you want to save your work as a custom named filter. Later you can use this filter in other circumstances by clicking the **Load Filter** link or by selecting it from the conditions pull-down menu.

Charts

Reports often include a chart to summarize the data. Charts and graphs help to clarify major trends hidden in a detailed list. Depending on the data, you can make pie charts, columnar graphs, or historical trend sheets with just a few mouse clicks.

If a chart is available, the interface can be found immediately beneath the Filter interface. Click the **Add Chart** link.



Depending on the data set you are looking at, the Chart Wizard has a default setup that is appropriate. For a chart on computers, the wizard prompts you for a computer property.

Configure Chart

Title: CPU

Computer property:
CPU

☒ Show chart: Pie ▾

☒ Show table

Create Chart Cancel

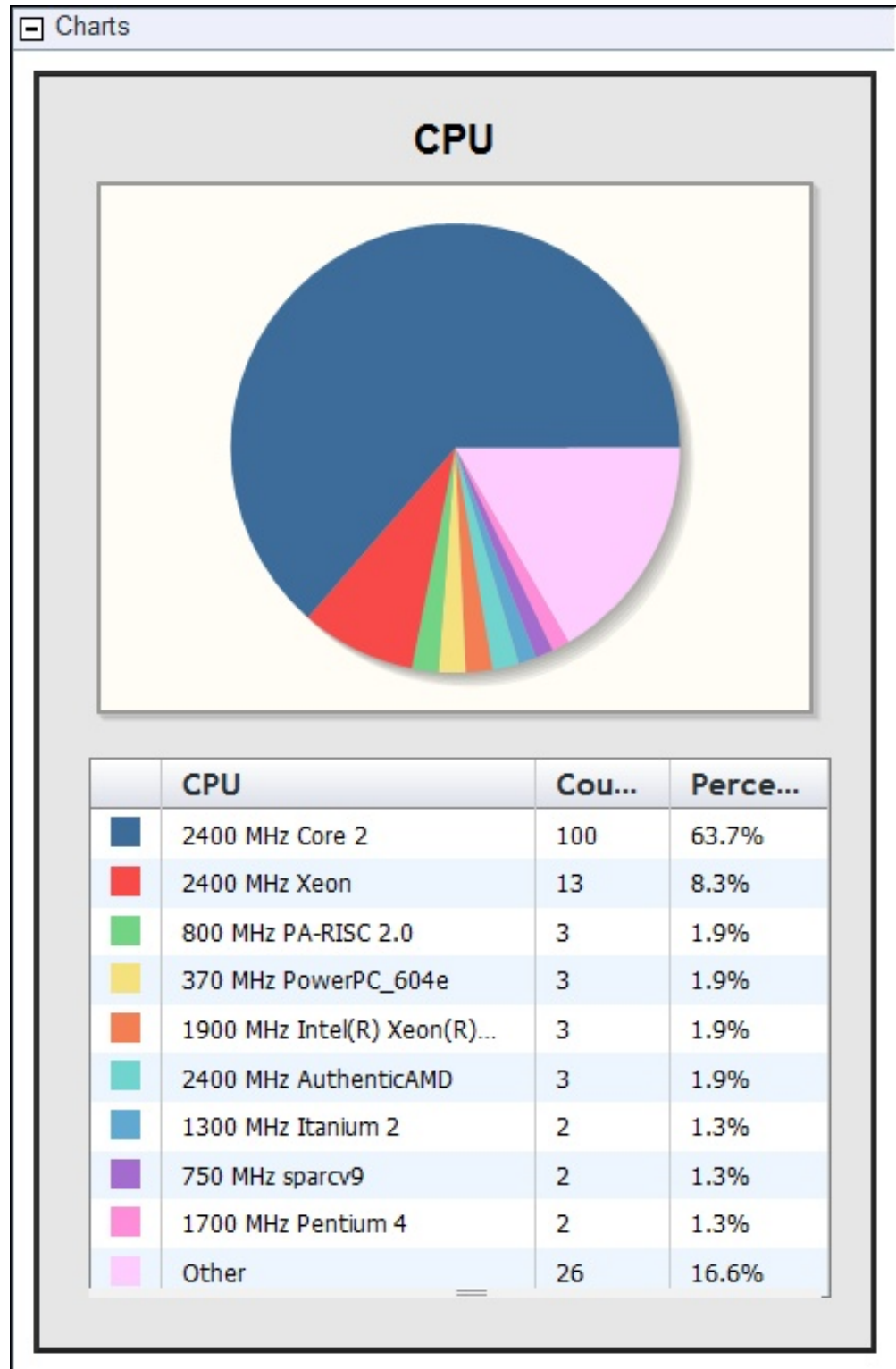
Results

- 2400 MHz Core 2 (100)
- 2400 MHz Xeon (13)
- 800 MHz PA-RISC 2.0 (3)
- 370 MHz PowerPC_604e (3)
- 1900 MHz Intel(R) Xeon(R) CPU E5502 @ 1.87GHz (3)
- 2400 MHz AuthenticAMD (3)
- 1300 MHz Itanium 2 (2)
- 750 MHz sparcv9 (2)
- 1700 MHz Pentium 4 (2)
- 400 MHz PA-RISC 2.0 (2)

Here we have used the pull-down menu to chart CPUs on our network. The title is automatically filled in to reflect our choice of computer property. You can change it if you want. Note that a typical chart includes a table below it. Use the check boxes to specify whether you want a chart, a table, or both.

We have kept the default pie chart, but we could have chosen a bar chart instead. In the dotted box at the bottom of the wizard, you can choose to give some extra order to the data by grouping records together.

When you are ready, click the **Create Chart** link.



Note that we created this chart simply by selecting a single item (CPU) from a pull-down menu.

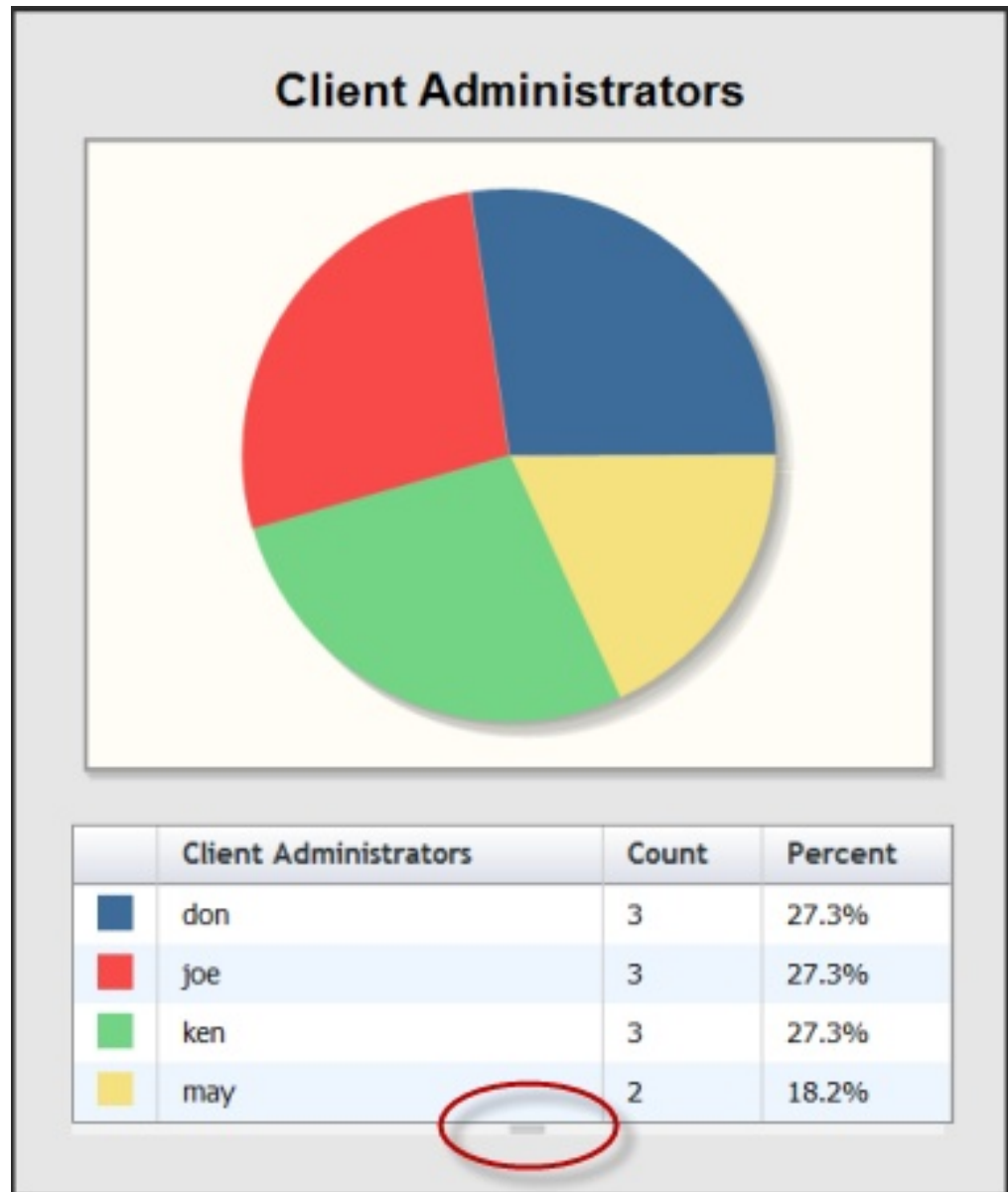
When you mouse over a chart, a tool bar appears.



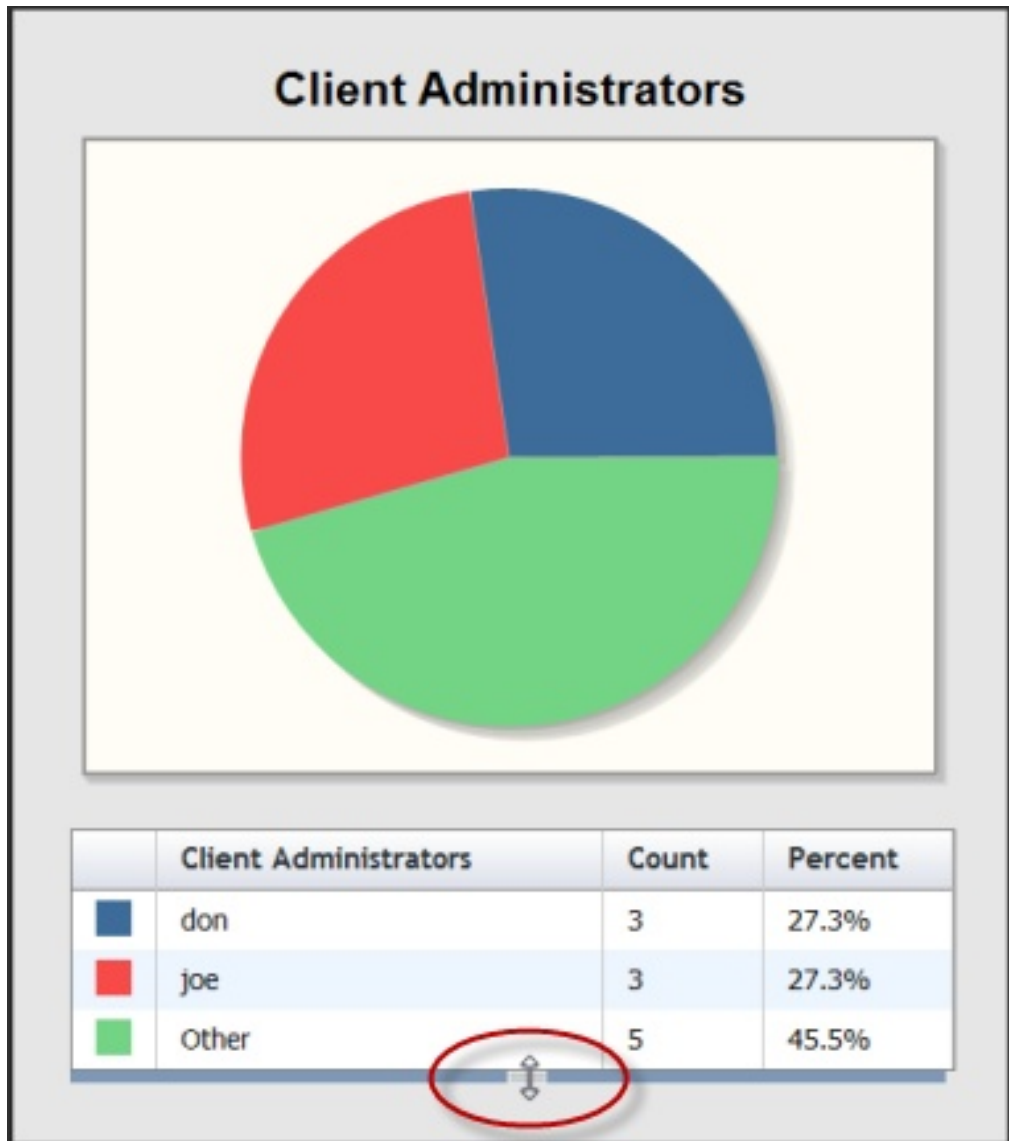
The top icon lets you delete the current chart, the wrench lets you edit the chart, and the grabber icon at the bottom lets you position the chart.

Collapsing the Table

When a chart is complete, you have another final option for editing. A small handle is available at the bottom of the list and you can drag it up or down to truncate the list.



When you change the list, the truncated items get summed into an "Other" category and the chart is dynamically updated to reflect the change.



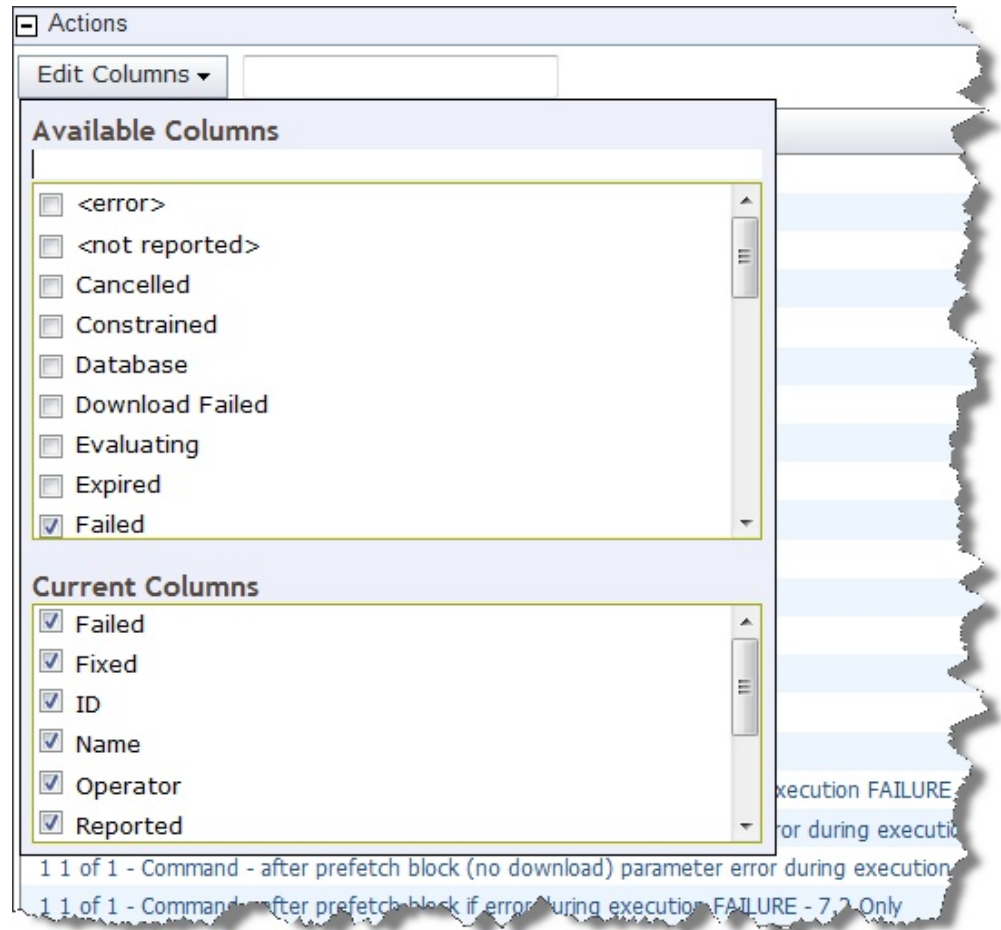
Here, Ken and May are collapsed into the **Other** category. You can continue to **Add Charts** by clicking on the link at the top of the UI.

Columnar Report

This section is directly below the Charts section and is named after the data set under review, such as Computers, Content, or Actions.

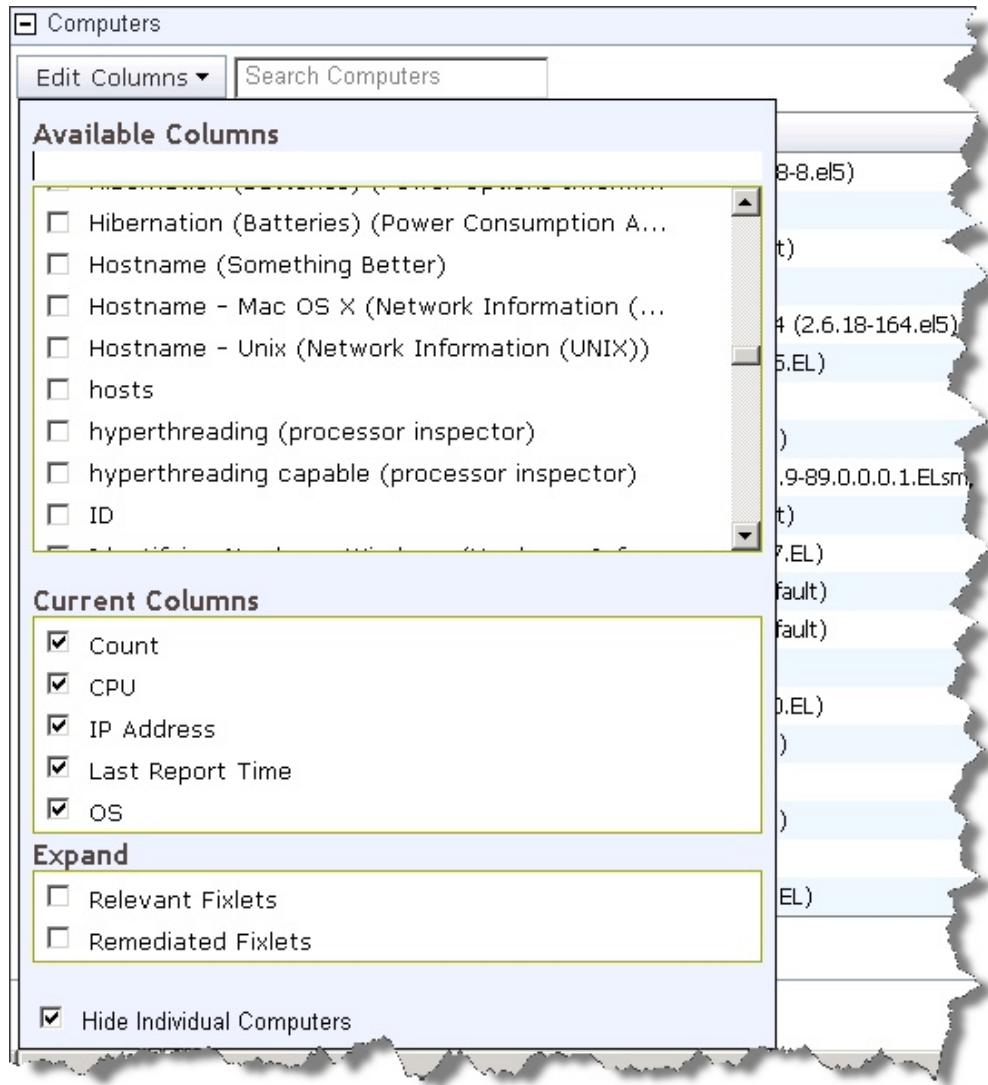
Edit Columns

Click the **Edit Columns** button (at the top of columnar views and reports) to change which columns you want to display in your report. It shows a menu of column headers that you can add and delete to create the most information in the least number of columns.



This example is from an Action report, so the headers all refer to fields in the Action database. When you check an item in the Available Columns box, it is added to the Current Columns box. When you clear an item, it becomes cleared in both boxes. The Current Columns box is generally smaller, letting you see the column layout at a glance, without having to scroll through the lengthier list of Available Columns.

The options for columns depend on what you are looking at. For computer columns, there are more possibilities.



The Expand section lets you add Relevant or Remediated Fixlet messages to the Computer list. Note that there is a check box to **Hide Individual Computers**, which lists the computer count instead of individual computer names.

The Expand section for Content lets you add Applicable and Remediated Computers to the list.

Changing Column Order

To change the order of any column in your report, simply click and drag the column to where you want it. A red line indicates legitimate targets as you drag the column.

Actions

Edit Columns ▾

Operator	ID	Fixed	Failed	Source Site
joe	00-42	1	0	BES Support
joe	00-74	1	0	BES Support
joe	00-44	1	0	Master Action Site (TESTING)
joe	00-82	3	0	Master Action Site (TESTING)
joe	00-85	3	0	Master Action Site (TESTING)
joe	00-97	1	0	Master Action Site (TESTING)

<< first < prev Showing items 1 - 6 of 6 next > last >>

Both editing and moving columns are available when exploring data or viewing a columnar report, allowing you to customize the output to your particular needs. To keep your changes, be sure to save your report when you are finished.

Computers

Click the Computers tab to see the default Computer report.

Explore Data Report List Administration

Computers Content Actions Operators Unmanaged Assets Custom

Export to CSV :: Printable Version :: Save Report

Filter Save Filter - Load Filter - Clear

Results match all conditions.

Computer Search Properties

Apply Filter

Charts Add Chart

Computers Edit Columns ▾ Sort ▾

Computer Name	IP Address	OS	CPU	Last F
2K8R2	192.168.2.110	Win2008R2 6.1.7600	1900 MHz Intel(R) Xeon(R) CPU E5502 @ 1.87GHz	Wedne
EMSPDTC01	192.168.107.197	Win2003 5.2.3790	2400 MHz Xeon	Wedne
fc40x86.ipv6bigfx.com	<none>	Linux Fedora Core 4 (2.6.11-1.1369_FC4)	2400 MHz Core 2	Wedne
ipv6aix51	192.168.2.101	AIX 5.1	370 MHz PowerPC_604e	Wedne
ipv6aix52.bigfx.com	192.168.2.102	AIX 5.2	370 MHz PowerPC_604e	Wedne
ipv6aix53.bigfx.com	192.168.2.103	AIX 5.3	370 MHz PowerPC_604e	Wedne
localhost.localdomain	10.3.10.123	Linux Red Hat Enterprise Server 5.4 (2.6.18-164.el5)	2400 MHz Core 2	Wedne
qaax52-1	192.168.107.115	AIX 5.2	400 MHz PowerPC_POWER3	Wedne
qaax61-1	192.168.107.251	AIX 6.1	1500 MHz PowerPC_POWER5	Wedne
qaax61-3	192.168.2.104	AIX 6.1	1700 MHz PowerPC_POWER5	Wedne
QABES	192.168.104.37	Win2003 5.2.3790	2700 MHz Xeon	Wedne
QABES-EXTRELAY	10.10.10.90	Win2003 5.2.3790	2400 MHz Xeon	Wedne

There are three sections on this page.

- **Filter:** View just the subgroup of the database you want to view by specifying a filter. Pull down the menu to filter by computer, content, site, or a previously saved filter. The choice you make determines the secondary fields of the filter. For example, you might want to view just those computers that have the specified properties.

Click the link labeled **add clause** to add extra qualifiers to a filter. Click the **X** to delete any of these clauses. Click the plus sign to the right of the filter to add a new filter. These filters are ANDed together if you choose **all conditions**; they are ORed together if you choose **any conditions**. Click the minus sign (-) to delete a filter from the set. Click the **Apply Filter** button to see how your custom filter affects the subsequent computer reports and charts.

When defined, click the **Save Filter** link at the upper right if you want to save your work as a custom named filter. Later you can use this filter in other circumstances by clicking the **Load Filter** link.

- **Charts:** The typical computer chart is a pie or a bar chart. As described in the “Charts” on page 29 section, you can select any computer property to graph.
- **Computers:** This section contains the data of the report. As described in the “Columnar Report” on page 34 section, you can edit and rearrange the columns to suit your needs.

Content

Click the Content tab to view the default contents view.

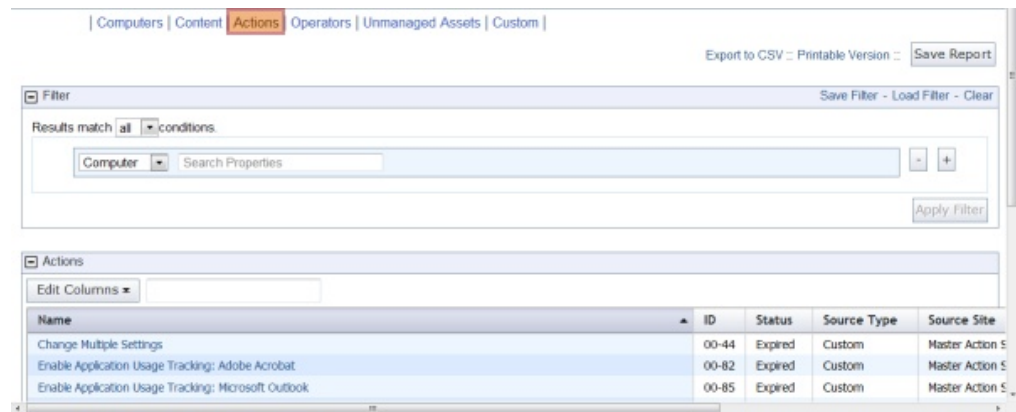
Progress	Name	Type	Sitename
No Applicable Computers	.xauthority file permissions - ADX 6.1	Fixlet	SCM Checklist for DISA STIG on ADX 6.1 Dev
No Applicable Computers	.xauthority file permissions - Redhat 5	Fixlet	SCM Checklist for DISA STIG on RHEL 5 Dev
No Applicable Computers	/etc/cron.allow Permissions - ADX 6.1	Fixlet	SCM Checklist for DISA STIG on ADX 6.1 Dev

IBM BigFix content consists of Fixlet messages, tasks, analyses and baselines. If you want, you can create a filter to separate these categories, for example, **Content Type is Fixlet**.

As with all typical views and reports, you can click a column header to sort the data (click again to change the direction of the sort). You can also edit the columns to display, set filters, and create charts.

Actions

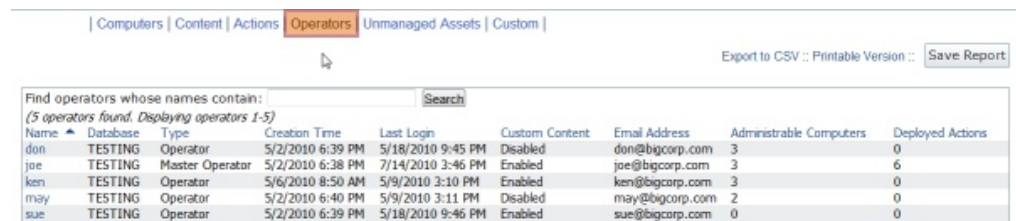
Click the Actions tab to view the default Actions view.



Actions are the consequence of clicking an Action link in a Fixlet or task. Actions propagate throughout your IBM BigFix network, during which time they are marked as open. They can also be stopped and they can expire. A typical view includes the status, so you can watch the progress of your actions over time.

Operators

Click the Operators tab to view the default Operators view.



The Operator list is simple and straightforward. It contains a list of all the operators of your IBM BigFix deployment, displaying the type and management rights of each. This list cannot be edited, although you can filter it by the name of the operator.

Unmanaged Assets

Click the Unmanaged Assets tab to view the unmanaged assets in your network.

| Computers | Content | Actions | Operators | **Unmanaged Assets** | Custom |

Export to CSV :: Printable Version :: [Save Report](#)

Select the properties you wish to include:

- Keywords
- Last Scan Time (Server Time)
- Hostname
- MAC Address
- First Scan Time (Server Time)
- OS Accuracy
- Device Type

[Next](#)

For the unmanaged assets in your network, you can click, shift-click or ctrl-click the properties that you want to display. Click Next to see the report.

| Computers | Content | Actions | Operators | **Unmanaged Assets** | Custom |

Export to CSV :: Printable Version :: [Save Report](#)

(2 assets found. Displaying assets 1-2)

Asset ID	Database Name	Source Name	Running Client	Device Type	IP Address	MAC Address	OS
281	qabes	NMAP	no	general purpose	192.168.105.78	00:08:06:75:B2:5F	Linux 2.6.17 - 2.6.20
282	qabes	NMAP	no	general purpose	192.168.105.79	00:18:8B:77:EE:6F	Microsoft Windows Server 2003 SP1 or SP2

The Unmanaged Assets report cannot be customized, except for your choices in the original property list.

Custom

Click the Custom tab to create a new report from scratch.

| Computers | Content | Actions | Operators | Unmanaged Assets | **Custom** |

[Save Report](#)

Filter [Save Filter](#) - [Load Filter](#) - [Clear](#)

Results match **all** conditions.

Computer Search Properties

[Apply Filter](#)

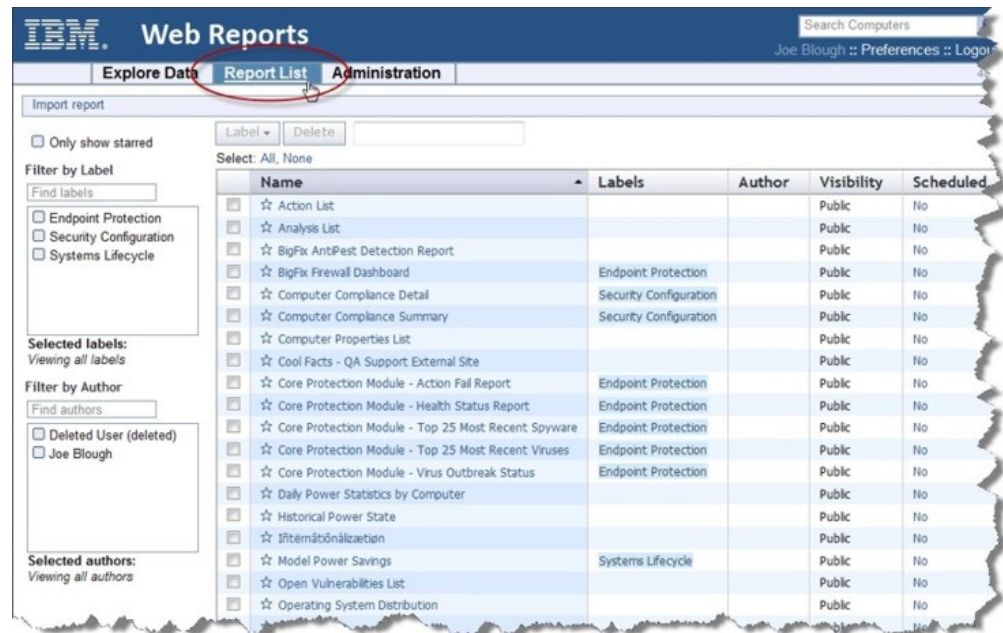
Hide Source

For more information about custom reports, see the Resource section “Creating a Custom Report” on page 71. A complete description of how to write your own

custom reports is beyond the scope of this guide, but you can find more information in the *Session Inspector Guide* and the Web Reports and Custom Reports.

Chapter 5. Reporting

The **Report List** section of the program is accessed by clicking the appropriate tab from the top tab bar.



There are several parts to this page that allow you to customize your view of the available reports.

Report List Main Page

Import Report

The top link on the Report List page allows you to **import** a report. It opens a new panel allowing you to browse for the report and specify the format and visibility.

Import Report

[Click here](#) to check for new custom reports on the Tivoli Endpoint Manager Support web site.

Filename:

Format: ☒ XML (*.beswrpt / *.webreport)
☐ HTML (*.oyo / *.besrpt)

Visibility: ☐ Public
☒ Private

- You can enter a **filename** in the text box, or use the file browser to find the report.

- The input can be an **XML** or **HTML** file.
- The imported file can be treated as a **Private** file that only you can view, or a **Public** report that is available to everyone.
- Click the **Import** button to load in the selected report.

Only Show Starred

Click this box to limit the report list to the starred reports. You set which reports get a star by clicking the empty star next to their names in the list. The star is then filled with yellow. You can select any scheme you choose for starring a report. Most users star their favorite or most-used reports. Uncheck the box to display the entire list of reports.

Filter by Label

You can label any report by clicking the box in front of its link and then using the **Label** pull-down menu to assign an existing label. To filter by a label, click the box in front of the appropriate label in the **Filter by Label** section. You can select multiple labels. Labels are ORed so that reports containing any of the labels selected are displayed.

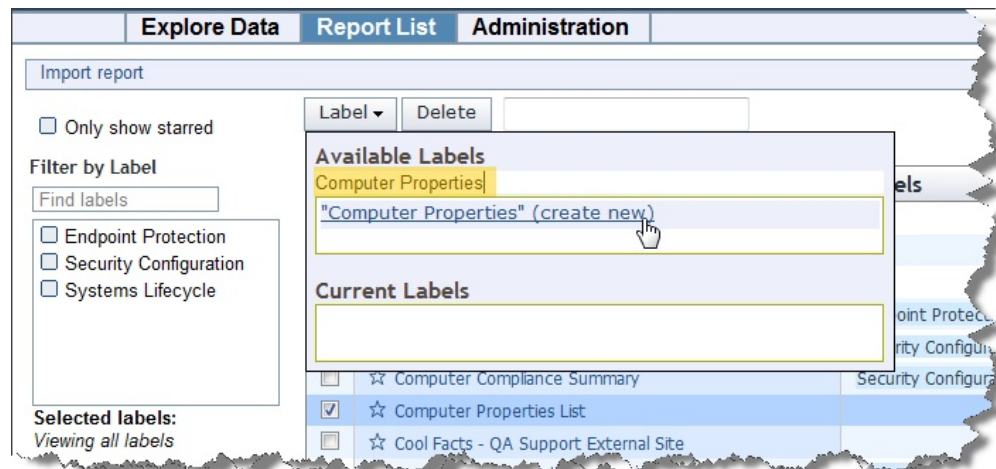
Filter by Author

In the same way as you filter by label, you can filter the report list by author. Click the box in front of the authors that you want and all the reports that were created by the chosen authors are listed.

Add, Create, and Delete Labels

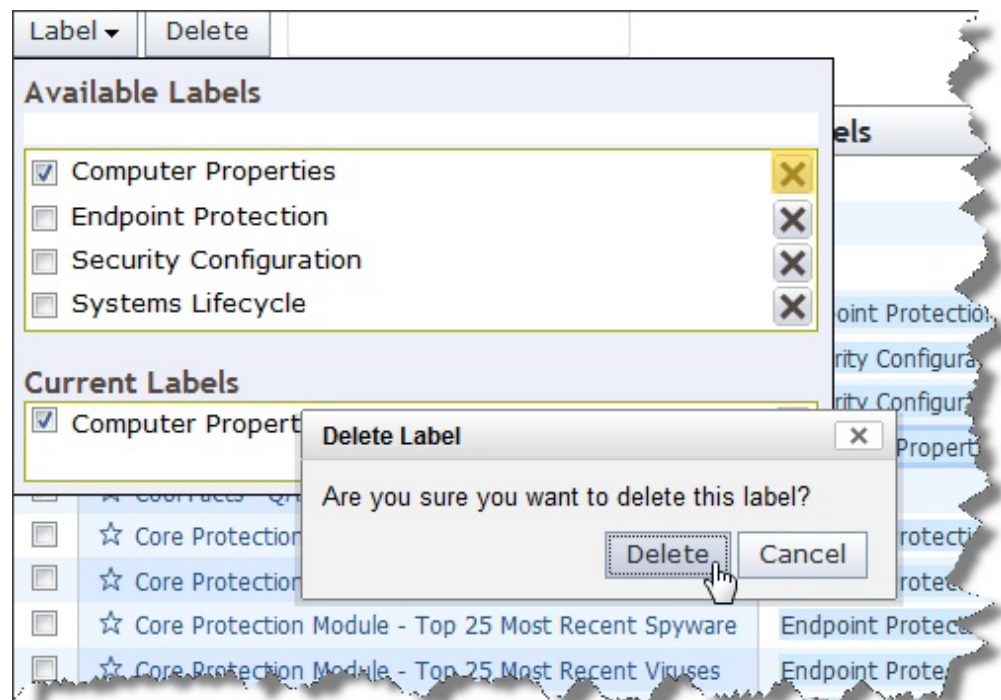
When you click the box next to any report list, the Label button becomes available. From this pull-down menu, you can select a label to attach to the chosen reports. You can add multiple labels to a report to allow it to be selected in multiple groups.

To create a new label, type in a name that does not already exist. The name is reprinted in the box below as a link.



Click the link to create the new label, which is then applied to the reports.

To delete a label, use the X button to the right of the label.



Delete

When you click the box next to any report list, the Delete button becomes available. Click it to delete the specified report from your list.

Main List

There are several columns that describe reports in this list:

- **Select:** This column consists of check boxes allowing you to apply a function to several reports at a time. For example, if you want to delete a report, click the appropriate check boxes, then click the **Delete** button. This is also how you can attach a label to a report or group of reports.
- **Stars:** This column consists of unfilled stars directly to the left of the report name. Click them to fill them with yellow and highlight them as starred reports. These reports can then be filtered by clicking the **Only show starred** check box at the top left of the page.
- **Name:** This column contains the name or title of the stored report.
- **Labels:** This column contains the labels that have been assigned to the particular report. A report can have multiple labels, and the check boxes on the left allow you to filter the report list by labels. Domain labels might also be attached to external reports delivered by a site. Because there are multiple labels in this column, it cannot be sorted.
- **Author:** This column lists the name of the Web Reports user who created this report.

- **Visibility:** This column shows whether the report is public or private. If you are the author of a report, this column also lets you change the status of the report from the pull-down menu.
- **Scheduled:** This column indicates which reports are on a schedule.
- **Last Modified:** This column contains the dates when the report was last modified by its author.

The next sections describe specific reports that are commonly used.

Overview Report

The **Overview** report contains graphs and tables that visually represent the general state of your network, as well as the effectiveness of your IBM BigFix deployment. Next to the title of each report, there is a bracketed question mark [?], which you can click for additional information.

Note: Reports are disabled if a user is logged in without sufficient privileges to view them, or if the report is filtered. Users are not considered to have sufficient privileges unless they have full rights to all the computers on the server.

The following sections describe each of the graphs, charts, and tables presented in the Overview.

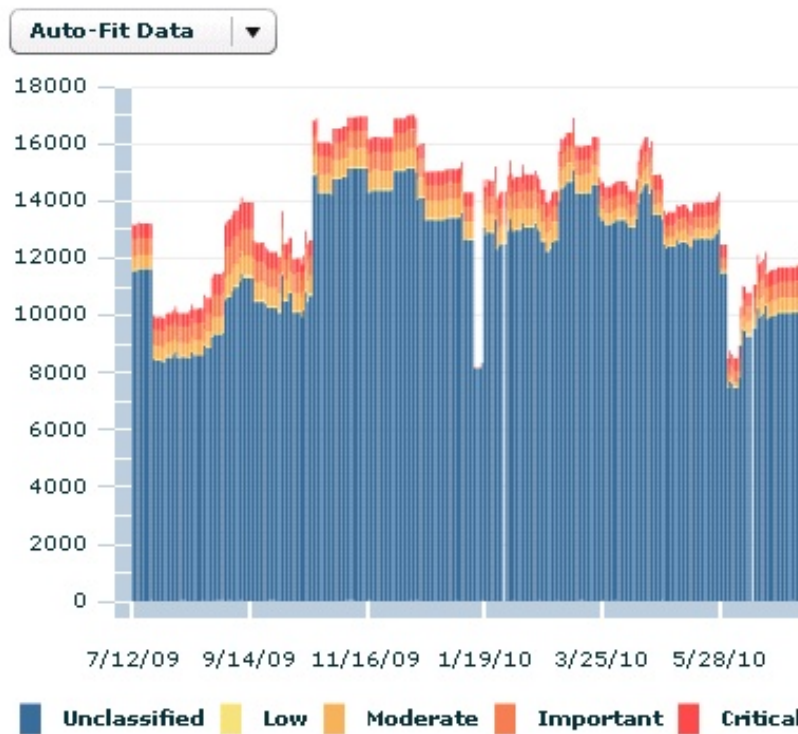
Total Issues

The **Total Issues** graph adds the number of relevant issues for each computer and then groups them by their severity rating. An *issue* is a Fixlet message that is relevant on any computer in your network. For example, if you have a computer with five relevant Fixlet messages and a second computer with three relevant Fixlet messages, the total number of issues is eight, even if some of those messages are the same.

This graph can be set to different time granularities by selecting from the pull-down menu above the graph. The **Auto-Fit Data** option automatically groups the data in the graph for up to the last 12 months of your IBM BigFix installation. **Last 7 Days** groups the data by day and shows the last seven days. **Last 30 Days** groups the data by day and shows the last 30 days. **Last 26 Weeks** groups the data by week and shows the last six months. **Last 52 Weeks** also groups the data by week and shows the last year.

Total Issues [?]

[Export to CSV]



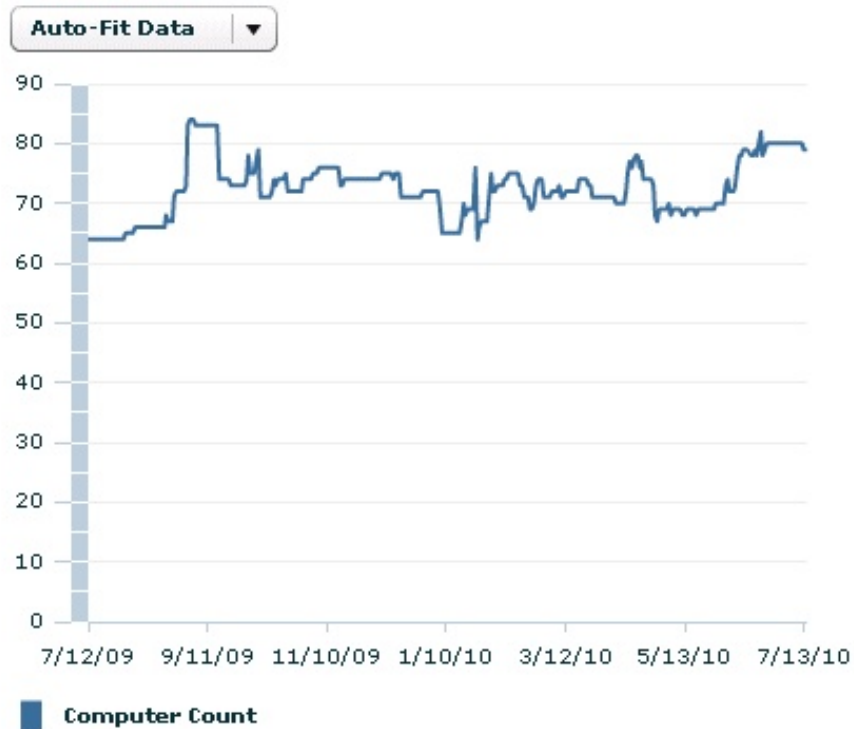
Different colored bars represent different issue severity. The height of each bar represents the number of issues for a particular bar. For example, if a bar for important issues starts at 300 and ends at 500, the total number of important issues is 200. Move your cursor over any point in the graph to see a pop-up containing more detail.

Total Number of Computers

The **Total Number of Computers** graph displays the number of computers that have been under BigFix management in a given period of time. This graph offers a way to monitor additional deployments of the BigFix Client over time.

Total Number of Computers [?]

[Export to CSV]



In the same way as the Total Issues graph, this graph is disabled if a user logs in without sufficient privileges. Select the time scale you want from the pop-up menu above the chart. Move your cursor over specific data points for more information.

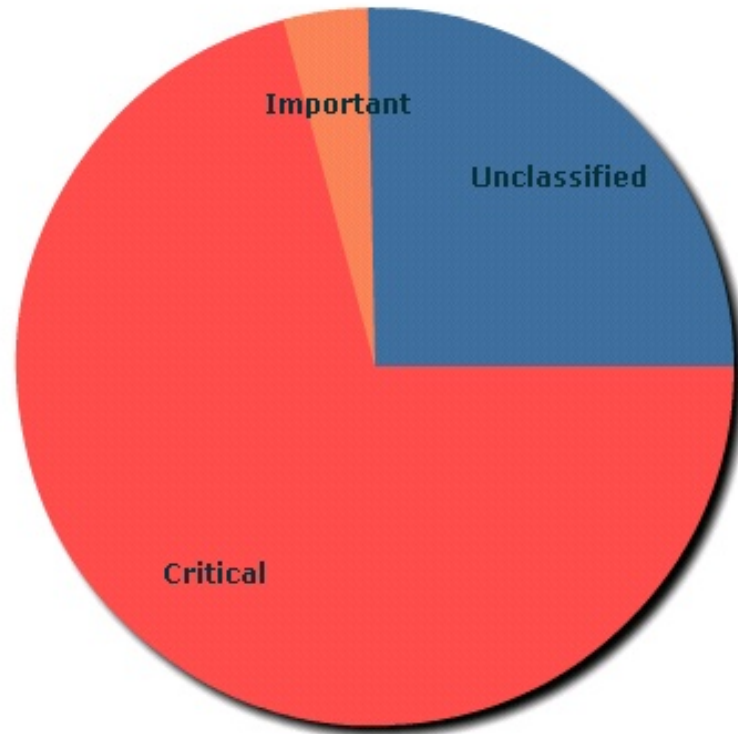
Computer Vulnerability Status

The **Computer Vulnerability Status** pie chart groups computers according to their most severe vulnerability.

Computer Vulnerability Status [?]

79 Computers Total

[Export to CSV]



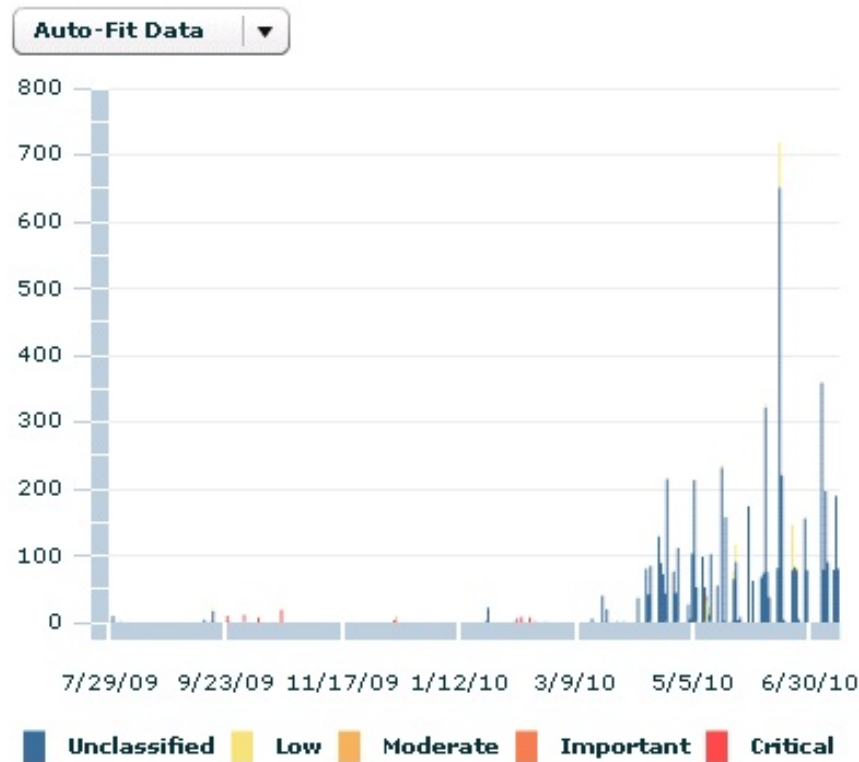
If a computer has a **Critical** vulnerability, it is considered to have critical status, regardless of other vulnerabilities it might have. If a computer has no critical vulnerabilities, but has an **Important** vulnerability, it is considered to have important status, providing you with a general sense of how your network is doing. Initially, the vulnerability pie is mostly red (critical), and as you continue to use IBM BigFix, it becomes green (no vulnerabilities). Move your cursor over each pie slice to see the actual number of computers with each vulnerability status, and the percentage of network computers they represent.

Issues Remediated

The **Issues Remediated** graph shows a count of the number of computers that have returned **Fixed** in response to an action. The time segment for an action is attached to its start time, not its completion time (which might occur in a subsequent time segment). This graph gives you a picture of remediation rollouts across your enterprise as IBM BigFix finds and fixes vulnerabilities.

Issues Remediated [?]

[Export to CSV]



This is a historical graph. Select a time scale from the pop-up menu above the chart. This graph displays colored bars representing the severity of remediated issues, and lets you highlight data with your cursor.

Overall Statistics

The Overall statistics table displays important facts about your network:

Overall Statistics			
Total Number Of Computers:	79	Relevant Fixlets Per Computer (average):	162.77
Total Number Of Fixlets:	29756	Total Number Of Fixlet Sites:	48
Total Number Of Tasks:	3792	Total Number Of Analyses:	237
Total Number Of Actions:	990	Mean Time To Remediate:	No information.

- **Total Number of Computers:** The current number of BigFix Clients.
- **Relevant Fixlets per Computer:** The average number of relevant Fixlet messages per computer, or the total number of relevant issues divided by the total number of computers.
- **Total Number of Fixlets:** The current number of Fixlet messages that exist on the BigFix system. Note that if Web Reports is looking across multiple databases in the network, the number of Fixlet messages corresponds to the union of all the Fixlet messages in all the databases.
- **Total Number of Fixlet Sites:** The total number of sites to which the BigFix system is currently subscribed.

- **Total Number of Tasks:** The current total of relevant tasks on your BigFix network.
- **Total Number of Analyses:** The current total of analyses that exist on the BigFix system.
- **Total Number of Actions:** The current total of actions issued so far by the BigFix system.
- **Mean Time to Remediate:** The average time it took for every relevant issue to become non-relevant on all computers. Note that issues can become non-relevant by methods other than actions. For example, users can manually update their computers, making those relevant issues no longer relevant.

Top 10 Critical/Important Issues Detected

The **Top 10 Critical/Important Issues Detected** report displays Fixlet messages that are currently affecting the largest number of computers in the network.

Top 10 Critical / Important Issues Detected

Name	Source Severity	Affected Computers	Patch Completion
1. Version of Dbmslpn.dll May Cause Handle Leak on BES Client/Server Components	Important	10	0.00%
2. Updated BES Client Now Available! (Version 7.0.1.356) - WinNT/2000/2003/XP	Important	8	52.94%
3. MS07-012: Vulnerability in Microsoft MFC Could Allow Remote Code Execution - Windows XP/2003 (x64) (v2, re-released 6/12/2007)	Important	6	0.00%
4. MS06-078: Vulnerability in Windows Media Format Could Allow Remote Code Execution - Windows Media Player 6.4 (re-released 7/10/2007)	Critical	5	0.00%
5. MS07-031: Vulnerability in the Windows Schannel Security Package Could Allow Remote Code Execution - Windows XP SP2	Critical	5	0.00%
6. MS07-035: Vulnerability in Win 32 API Could Allow Remote Code Execution - Windows XP SP2	Critical	5	0.00%
7. MS07-034: Cumulative Security Update for Outlook Express and Windows Mail - Windows XP SP2	Important	5	0.00%
8. MS06-068: Vulnerability in Microsoft Agent Could Allow Remote Code Execution - Windows XP SP2	Critical	4	0.00%
9. MS07-008: Vulnerability in HTML Help ActiveX Control Could Allow Remote Code Execution - Windows XP SP2	Critical	4	0.00%
10. MS07-009: Vulnerability in Microsoft Data Access Components Could Allow Remote Code Execution - Windows XP SP2	Critical	4	0.00%

[Show Progress of Top 10 Critical / Important Issues](#)

There are four columns in this list:

- The **Name** column lists the name of the Fixlet message.
- The **Source Severity** column lists the severity of each common Fixlet.
- The **Affected Computers** column displays the number of computers that currently have the Fixlet relevant. The Fixlet list is sorted by the Affected Computers count.
- The **Patch Completion** column is the percentage of fixed computers out of the total number of computers that have ever been affected by the listed Fixlet.

Beneath the list of the top 10 most common issues, the **Show Progress of Top 10 Critical/Important Issues** link opens a progress report that you can view in Explore Data.

Computer Properties List

This report provides you with a list of certain properties of your IBM BigFix Client computers. Like many of the listed reports, this is derived from Explore Data, with specific filters and charts. These exist for your convenience, but you can also re-create them yourself with just a few mouse-clicks.

Computer Properties List*

Export to CSV :: Printable Version :: [Save Report As...](#)

Filter [Save Filter](#) [Load Filter](#) [Clear](#)

Results match **all** conditions.

Computer [-](#) [+](#)

[Apply Filter](#)

Charts [Add Chart](#)

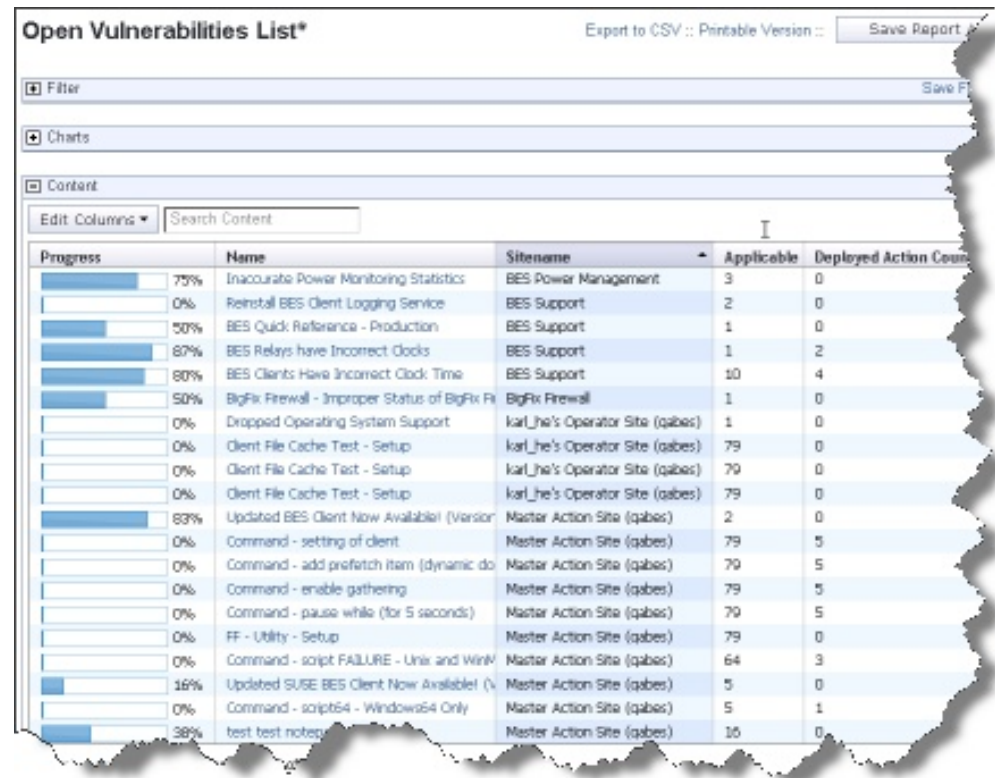
Computers [Edit Columns](#)

Computer Name	BIOS	CPU	OS	Free Space	RAM	Total Size of Sys	Web Browser
PocketPC-WM_tylor_	The operator	310 MHz ARM version 4	Windows Mobile 6.0 5.2.1616	156 MB	57 MB	197 MB	ieexplor.exe 6.0
QAADK51-1	<n/a>	380 MHz PowerPC_604e	ADK 5.1	54 MB	512 MB	80 MB	The operator "ver
QAADK52-1	<n/a>	400 MHz PowerPC_POWER3	ADK 5.2	21 MB	1024 MB	64 MB	The operator "ver
QAADK51-1	<n/a>	1500 MHz PowerPC_POWER5	ADK 6.1	32 MB	1792 MB	64 MB	The operator "ver
QA6ES	<unknown>	2700 MHz Xeon	Win2003 5.2.3790	330262 MB	16384 MB	1429235 MB	ieexplor.exe 7.0.6000
QA6ES-EXTRELAY	09/22/09	2400 MHz Xeon	Win2003 5.2.3790	3906 MB	256 MB	8181 MB	IEEXPLORE.EXE 6.0.3
qaacntos48x64-1	<n/a>	2400 MHz Core 2	Linux CentOS 4.8 (2.6.9-89.EL)	3404 MB	256 MB	7433 MB	The operator "ver
qaacntos48x86-1	<n/a>	2400 MHz Core 2	Linux CentOS 4.8 (2.6.9-89.EL)	3713 MB	256 MB	7433 MB	The operator "ver
qaacntos54x64-1	<n/a>	2400 MHz Core 2	Linux CentOS 5.4 (2.6.18-164)	5437 MB	512 MB	8803 MB	The operator "ver
qaacntos54x86-1	<n/a>	2400 MHz Core 2	Linux CentOS 5.4 (2.6.18-164)	4178 MB	256 MB	7315 MB	The operator "ver
QAESK30							The operator "ver

Select **Computer Properties List** from the Report List. You can select a filter to reduce the size of the list. The headers refer to important computer properties, such as the BIOS date, the CPU type, free hard disk drive space, the operating system, memory, and user name. These properties are standard for out-of-the-box IBM BigFix clients. However, from the console, you can create new computer properties using relevance expressions, and they are also available here.

Open Vulnerabilities List

This report displays Fixlet messages that are currently relevant. You can also filter this report to view only Fixlet messages that have at least one applicable computer.



Select **Open Vulnerabilities List** from Report Lists. The first column provides a quick visual representation of the progress of each vulnerability. In addition, the report shows the name, site applicable computer count, and deployed action count to complete the report. This report is useful to help you track those issues that can expose your network to potential problems.

Other Reports

As well as the reports you create yourself, there are several other pre-installed reports included with Web Reports:

- Action List
- Analysis List
- Operating System Distribution
- Operator List
- OS Vulnerability Summary. (This report, along with a few other built-in reports and some customer-created reports, is loaded in the 7.2 Computer Properties Report format. Reports in this format can be viewed, but new ones in this format cannot be created.)
- Progress of 10 Fixlet messages From Recent Actions. (This report is special because it generates an ad-hoc filter to list only the 10 Fixlet messages with the most recent actions in the deployment.)

- Progress of 10 Fixlet messages Recently Relevant. (Similar to the above, this report generates an ad-hoc filter.)
- Vulnerabilities by Console Operators. (This report is in the 7.2 format.)
- Vulnerabilities by OS. (This report is in the 7.2 format.)
- Vulnerability Trends Over Time. (This is a special historical report, and cannot be filtered.)
- Average Vulnerability Trends Over Time. (This is a special historical report, and cannot be filtered.)

These reports are easy to examine by clicking them from the Report List. Many reports can be further customized by using filters, adding charts, and editing the columns.

Showing non-relevant results

By default the Web Reports mark as <not reported> a property that is not relevant or that is no longer relevant. The console, instead, always shows the property with its latest retrieved results. If you want that the Web Reports show the same type of information as the console, configure them as follows:

1. In the HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node registry section under HKLM\Software\WOW6432Node\BigFix\Enterprise Server\BESReports, create the ShowNotRelevantResults registry key.
2. Set the ShowNotRelevantResults value to 1.
3. Restart the Web Reports service after modifying the registry.

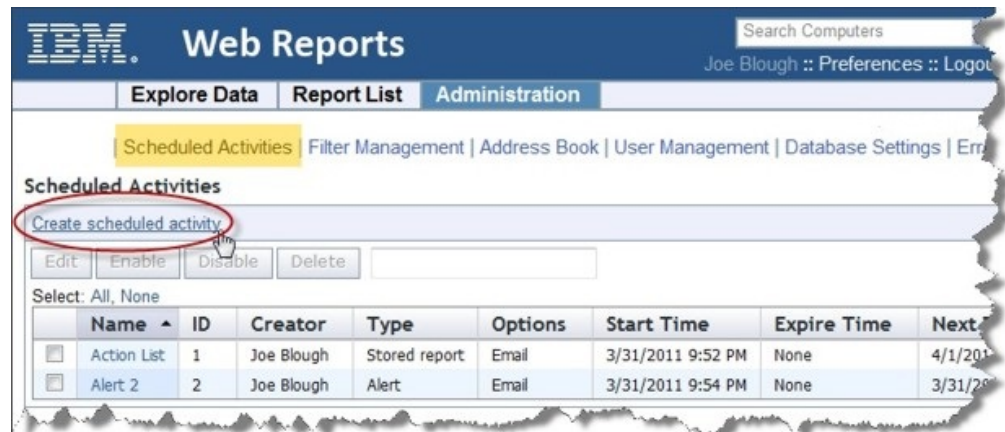
Chapter 6. Administering the Program

The **Administration** section of the program lets you manage activities, filters, addresses, users, and databases. This part of the Guide describes these functions. Click the **Administration** tab, at the top of the window.



Scheduled Activities

The Schedule section allows you to run reports at a given time or when certain conditions are met. The report results can then be emailed to you or archived for later viewing. This allows you, for example, to receive automatic updates of critical Fixlet messages via email, or to regularly back up audit reports.



When you open this page, a list of your currently scheduled reports is opened. Click **Create Scheduled Activity** to add to the list.

Below the create link are some buttons. These are grayed out until you select one or more activities in the list below. The buttons include:

- **Edit:** Allows you to edit the properties of the scheduled activity.
- **Enable:** Allows the selected activity to perform on schedule. Used to reactivate an activity that you previously disabled.
- **Disable:** Prevents the activity from running until enabled again. This allows you to preserve the functions of an activity without actually running it.
- **Delete:** Deletes the selected (checked) activities.

You can select the items in the list by individually clicking them. You can also use the links at the top of the list to Select **All** or **None**.

The list has several columns, including:

- **Name:** The name of the activity, derived from the underlying report.
- **ID:** An incremental number assigned to each activity when it is created.
- **Creator:** The name of the activity author.
- **Type:** The type, either report or alert.
- **Options:** Describes the action, either email, archive, or custom.
- **Start Time:** The starting time of the activity, which is typically when you created it.
- **Expire Time:** The ending time of the activity, if you set one. Otherwise, it is open-ended and this column displays **None**.
- **Next Time:** The time when the activity runs next, unless the activity has been disabled.
- **Period:** The time period between scheduled activities. This can be any time from one minute to two years.

Creating Scheduled Activities

A scheduled activity creates a report or an alert on a specified schedule. The interface has four sections, specifying the **time range**, the **activity report**, the **activity trigger** for the schedule, and the **activity actions** to be taken.

To schedule an activity, follow these steps:

1. Click **Administration > Scheduled Activities**, and then click the **Create scheduled Activity** link.
2. From the requested Creation page, select a time range for the scheduled activity.

Start time: Jul ▼ 20 ▼ 2010 ▼ at 18 ▼ : 33 ▼
Expire time: -- ▼ -- ▼ --- ▼ at -- ▼ : -- ▼

This setting defines the window during which the schedule remains in effect. It consists of a **Start time** and an **Expire time**. The default start time is now. If you do not select an expiration time, the activity stays open-ended.

3. In the Activity Report box:

Activity Report:

Type:
Report ▼ Action List ▼
Format: ☐ HTML ☐ PDF ☒ CSV

- a. Select a report type: **Report** or **Alert**. A report produces a detailed graphic/tabular output and an alert typically sends a report as an email.
- b. Select a stored report from the pull-down menu. The menu includes all public and private reports to which you have access.
- c. Select either HTML or CSV format for your report. The PDF format is also available if PDF generation was enabled in Web Reports.

4. In the Activity Triggers box:

Activity Triggers:

☒ Generate report every: 1 Days ☐ Generate report on every refresh (currently every 15 seconds)
☐ Generate report once

☐ Match Relevance conditions

[Test]

☒ Generate report when relevance is true
☐ Generate report when relevance becomes true
☐ Generate report when answer changes

☒ Send email/store archive only when report has changed
☐ Include trigger information

- a. **Generate:** Select how often to generate the report: during a specified interval, after every data refresh, or once.
- b. **Match Relevance conditions:** Enter any relevance conditions necessary for the report to run.
- c. Select whether to email or archive the report only when it has changed.
- d. Check the box labeled **Include trigger information** to embed the trigger criteria in the report itself.
5. In the Activity Actions box:

Activity Actions:

☒ Email [Edit]

To:
Joe Smith <joe@bigcorp.com>

From: May <may@bigcorp.com>
Subject: [IBM Endpoint Manager] Report Notification

Text:

☒ Include report output
☐ Include link to current report
☐ Include link to archive report

☐ Archive

☐ Limit the number of archives stored

☒ Only keep archives for Days
☐ Limit archives to MB
☐ Only keep entries

☐ Customized Executable [?]

Executable:

Arguments:

- a. Select to whom you want to **email** the report. Write a subject line and some accompanying text. Check the boxes to include the **output** of the report, a **link** to the report, or a link to the archive.
- b. Select whether or not to **Archive** the report. You can limit the number of archives, and you can limit each archive by time, disk space, or number of entries.
- c. You can specify a customized executable that is triggered when the activity runs. Customized executables must be located in the correct directory. On Windows Web Reports server the default path is: C:\Program Files\BigFix Enterprise\BES Server\BESReportsData\CustomExe. On Linux Web Reports server the default path is /var/opt/BESReportsServer/BESReportsData/BESExe.

The executable runs as the Web Reports service's user through the shell. It runs in the background, without a user interface. Select an executable from the pull-down menu. There are some reserved words that can pass variable information to the executable:

<activityname>

Passes the scheduled Activity name.

<reportfile>

Passes the generated report file.

<activitycreator>

Passes the name of the Activity creator.

6. Click **Submit**.

You have now scheduled an activity. It is shown in the Schedule Activity list, named after the report you chose to schedule.

Filter Management

Filters are used to customize reports, allowing you to highlight any particular subset of the database. You can save your custom filters, allowing you to reuse them in other reports. You can then view, delete, and change the Private or Public status of your custom filters from this interface.

Click the **Filter Management** option from the **Administration** tab. You can see a list of the existing filters, allowing you to modify any of them. All administrators, not just the creator of the filter, can edit, delete, or change the visibility of any filter in this list.

	Name	Creator	Last Modified	Visibility
<input type="checkbox"/>	Athlon CPUs	Joe Blough	Friday, April 01, 2011 12:50:00 PM	Private
<input type="checkbox"/>	Intel CPUs	Joe Blough	Friday, April 01, 2011 12:42:07 PM	Private
<input type="checkbox"/>	Win OS	Joe Blough	Friday, April 01, 2011 12:42:23 PM	Private

Click the check boxes in front of a filter to use the **Delete**, **Make Public**, or **Make Private** buttons. You can also specify a search string to narrow down the list of filters.

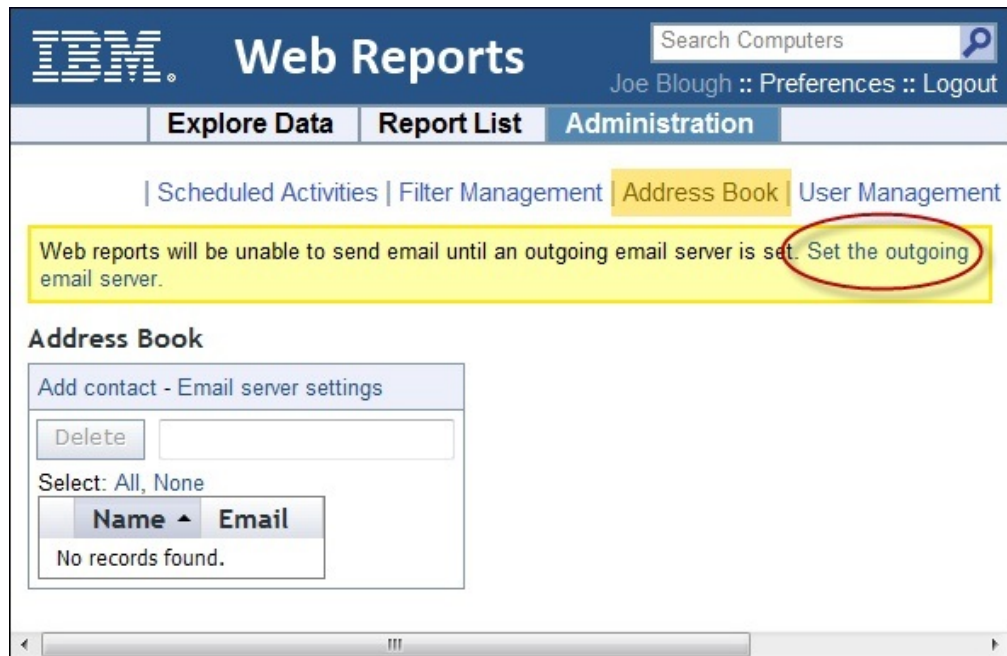
Note: If you delete a filter that is a part of an existing report, you might change the interpretation of that report and generate a larger than expected listing.

Address Book

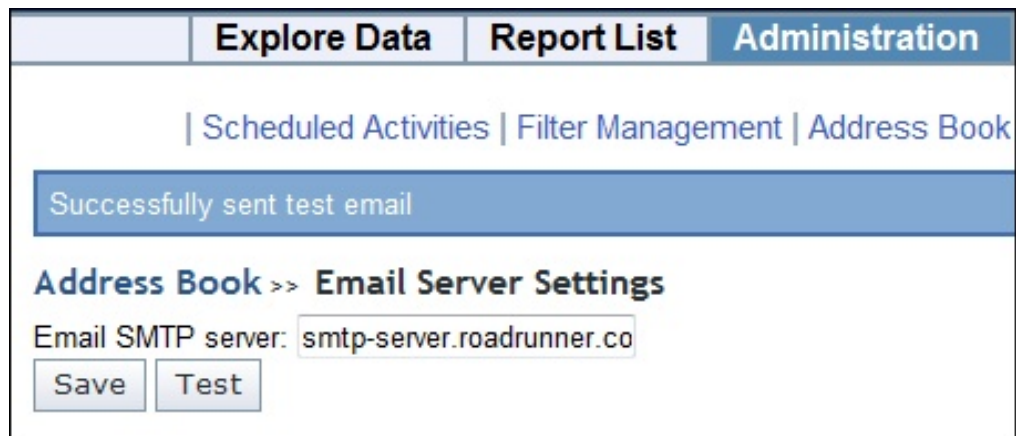
The Address Book section allows you to configure the email server settings, and to edit your list of email addresses.

Click the **Address Book** option from the **Administration** tab to manage your address book.

If you have not yet configured your email settings, a warning box opens, allowing you to identify the outgoing email server.



At any time, you can return to the settings window by clicking the **Email server settings** link above the address book. Only a Web Reports administrator can edit email settings. There are two buttons on this page:



- **Save:** Saves the email settings.
- **Test:** Lets you verify the email server settings by sending a test message.

After you save the server address, you are returned to the Address Book. To add a new contact to the book:

1. Click **Add Contact**. From the pop-up dialog, enter the name and email address.
2. Click the **Add** button to store the contact information.
3. This page also allows you to delete addresses: check the box next to the name and click the **Delete** button.

You have now set up your Address Book, which you can use to send scheduled activities to anyone on your list.

User Management

The **User Management** page allows you to add, delete, and edit the properties of your web users. Each user can have more than one role. When you log in, your roles are ORed together and your status is determined by the union of your permissions. If the sum of your roles does not grant you Administrator status, then you cannot see the User Management section. If you have Administrative privileges, click the **User Management** option from the **Administration** tab.

	Login ^	Name	Assigned roles
<input type="checkbox"/>	Bill	Bill Wiggleton	Normal
<input type="checkbox"/>	Joe	Joe Blough	Administrator
<input type="checkbox"/>	Sue	Susan Swearington	Read-only

The User Management page lists users in a table, which contains a **Login**, **Name**, and **Assigned roles**.

There are other links on this page:

- **Create User:** Opens the Create User page, which prompts you to provide a name, login, password, and define any user roles. For more information, see “Create Users” on page 62.
- **Manage Roles:** Allows you to define and manage the roles that you want to assign to your users. For more information, see “Manage Roles” on page 62.
- **Global User Options:** Click the link for **Global User Options**. This allows you to set some management parameters that are shared by all users. For more information, see “Global User Options” on page 64.

As you create new users, they are added to the list. In front of each entry is a box that you can check. When you do, the **Assign Roles** and **Delete** buttons become available. You can then assign a group of users a new role or delete them

You can also click the links in the Login column to **edit** a user. For more information, see “Edit User” on page 66.

Create Users

This page is available from **Administrator > User Management > Create User**. It prompts you to provide a **name**, **login**, **password**, and define the user **roles**.

Explore Data | Report List | Administration

| Scheduled Activities | Filter Management | Address Book

User Management >> Create User

Full name:

User login name:

Password:

Confirm password:

Role: [Create new role](#)

The built-in **Roles** include:

Administrator: Grants top-level privileges, with the ability to create additional users, schedule activities, and set database configurations.

Normal user: Grants ordinary privileges allowing the user to view the data, but not to create other users or set database configurations.

Read-only: Restricts a user from editing public filters and reports.

Enter the information required and click **Create User**.

Manage Roles

This page is available from **Administration > User Management > Manage Roles**. On this page you define and manage the roles that you want to assign to your users.

Explore DataReport ListAdministration

[| Scheduled Activities](#)
[| Filter Management](#)
[| Address Book](#)

User Management >> Roles

Create role

Delete

Select: All, None

	Name ▲	Type	# Users	# Groups
<input type="checkbox"/>	Administrator	Built-in	1	0
<input type="checkbox"/>	Normal	Built-in	2	0
<input type="checkbox"/>	Read-only	Built-in	1	0

Delete roles by clicking the box to the left of the role and then clicking **Delete**.

There are three built-in roles:

Administrator

Grants top-level privileges, which allow the user to create additional users and set database configurations.

Normal user

Grants ordinary privileges, which allow the user to view the data, but not to create other users, set database configurations, or schedule activities.

Read-only

Restricts a user from creating or modifying public filters, reports, and labels or anything belonging to or visible to any other user. A user with the Read-only role can create, save, and edit only private custom reports.

Click the **Create Role** link, to define your own custom role, allowing different permissions and scopes.

Create Roles

This page is available from **Administration > User Management > Manage Roles > Create role**. It allows you to create a new role with just the specific permissions you want to grant. This role then becomes visible in the list of roles, available for you to assign it to the appropriate users.

User Management >> Manage Roles >> Create Role

Name:

☒ Allow editing of public filters, reports, and labels.

☒ Allow creating and saving of custom content.

☒ Restrict view with a filter ☐ Restrict view by console user

☐ Filter

Results match conditions.

A role requires a name, and then there are some check boxes to define permissions:

Allow editing of public filters, reports, and labels. Check this box if you want this defined role to include editing permissions on these objects.

Allow creating and saving of custom content. Check this box if you want this role to allow content creation.

Restrict view with a filter. Click this button to use a filter that constrains what this role can view. When you click this button, a filter panel opens allowing you to create a filter that is applied to computers or content to only allow subsets of the data to be viewed by this role.

Restrict view by console user. Click the button to select a user from a list. This allows you to create a role just for a specific user. When you click this button, a list of console users opens from which you can choose a name.

The example above creates a Windows Administrator who is limited to accessing Windows computers. Click **Create Role** when you have finished your definition.

Global User Options

This page is available from **Administrator > User Management > Global User Options**. It allows you to set some management parameters that are shared by all users.

Explore Data	Report List	Administration
 Scheduled Activities Filter Management Address Book User Management		
User Management >> Global User Options		
Allow non-admin users to:		
<input checked="" type="checkbox"/> Create and view scheduled activities		
<input checked="" type="checkbox"/> View custom reports created by other non-admin users (Admin reports are viewable by everyone)		
<input checked="" type="checkbox"/> View all filters		
<input type="checkbox"/> View background error messages		
Allow users restricted by Console operators to:		
<input checked="" type="checkbox"/> View all operators		
<input checked="" type="checkbox"/> View all local analyses		
Password Complexity Rule:		
<input type="text" value="{6,255}"/>		
(default: {6, 255})		
Password Complexity Description:		
<input type="text" value="Password must be between 6 and 255 characters."/>		
(default: Password must be between 6 and 255 characters.)		
<input type="button" value="Save"/>		

From this interface, you can refine user rights for **non-administrative** users and **console operators**. Check the appropriate boxes to add and delete the specific permissions you want. The options include:

Allow non-admin users to:

- **Create and view scheduled activities.** This is set to on by default. If it is turned off, the non-administrator user cannot view the schedule of activities.
- **View custom reports created by other non-admin users.** This is set to on by default. Custom reports created by the administrator are always viewable.
- **View all filters.** This is set to on by default. If turned off, non-administrative users can only view filters they have created themselves.
- **View background error messages.** This is set to off by default. Turn it on if you want non-administrative users to view error messages.

Allow user restricted by Console operators to:

- **View all operators.** This is set to on by default. If turned off, restricted Web Reports users cannot view other operators.
- **View all local analyses.** This is set to on by default. If turned off, restricted Web Reports users cannot view analyses that were created by another non-master operator.

Password Complexity Rule:

- You can also define the **Password complexity**, which specifies the minimum and maximum length of acceptable passwords. The default is to allow passwords between 6 and 256 characters. The password complexity rule is defined using a regular expression.
- Below the rule is the text that is printed when a password is out of these bounds.

Click **Save** to record your global options.

Edit User

When editing user accounts, different options are presented depending on whether you are editing your own settings or those of someone else. If you are not logged in as an administrator, you cannot edit other users' accounts. To change the parameters of a user, select the **Users** tab, and then click the **Login** link for the user you want.

View User: Joe Blough
Logon name: Joe
Full name: Joe Blough
Assigned roles: Administrator

[Change name](#)
[Change password](#)
[Change preferences](#)

Regardless of administrative privileges, if you are editing your own settings, you can:

- **Change name.** Click this link to enter a new user logon name.
- **Change password.** Click this button to open the **Change Password** page. Enter your old password, then enter your new password and confirm it.
- **Change preferences.** You can only access your own personal defaults, not those of other users. This opens the same dialog as when you click the **Preferences** link at the very top of the page.

If you are logged in as an administrator, and editing a user other than yourself, you can change everything except the preferences.

Datasource Settings

You can manage the datasources from which Web Reports aggregates information. The Datasource section is used for IBM BigFix datasource management. This includes adding, deleting, and editing datasource connections and settings.

Click **Administration > Datasource Settings**.



These are the links you can select on this page:

- **Disable** (Enable): Allows you to remove a datasource from aggregation, without deleting the datasource. In this way it can be re-enabled at a later time.
- **Edit**: Allows you to edit the settings for a selected Datasource (to the left of the row). For more information, see *Edit Datasource*.
- **Delete**: Lets you delete the selected datasource from the Web Reports aggregation. To ignore the datasource but keep the datasource connection information available, you can disable the datasource by clicking **Disable**.
- **Add New Datasource**: Allows you to add a new datasource into the aggregation group. For more information, see *Add New Datasource*.
- **Datasource Options**: Allows you to set options for datasources. One option exists on this page: **Disable relevance evaluation**.

☐ **Disable relevance evaluation.**
 Disabling relevance will disable Custom Reports and any Scheduled Activities that run based on relevance.

It is cleared by default. If checked, all relevance evaluation in custom reports and in any scheduled activities is disabled. Click **Submit** to set the option.

- **Cache Settings**: Displays information about the datasource cache in memory. It displays the last time the cache was written to a file on disk for each datasource. It also allows you to change how often the cache is refreshed. Finally, it gives the option of writing the cache to disk, and if so, how often to write it to disk.

Refresh cache every seconds.

- **Refresh Cache**: Starts a full refresh of the datasource cache. To delete the datasource cache you can also restart the IBM BigFix BES Web Reports Server service.

- **View Errors:** Allows you to view all recent errors that have occurred in the Web Reports system. These errors usually occur in the background and can affect the integrity of the data. They are usually related to connection problems or other problems with the datasource. Only an administrator can clear these errors.
- **Local Database Settings:** Shows the local database DSN and the local IBM BigFix Reporting Server.

Add New Datasource

This page allows you to add a new datasource for aggregation by Web Reports.

To reach this page, select **Administration > Datasource Settings > Add New Datasource**.



 This screenshot shows the 'Add New Datasource' form in the IBM Web Reports Administration interface. The top navigation bar is the same as the previous screenshot. Below the navigation bar, there is a link for 'Tivoli Endpoint Manager Support' which provides additional information on how to configure datasources for aggregation. The form contains the following fields:

- Datasource Name:** A text box containing the value 'Tokyo'.
- URL:** A text box containing the value 'tokyo.mycompany.org:52311'.
- Master Operator Credentials:** A section containing two sub-fields:
 - Username:** A text box containing the value 'john_doe'.
 - Password:** A text box containing a series of dots, indicating a masked password.

 At the bottom of the form are 'Submit' and 'Cancel' buttons.

Datasource Name: Enter a descriptive name for this new datasource.

URL: Enter the URL of the root server to which to connect. The URL must also include the appropriate port number.

Master Operator Credentials: Enter the Master Operator credentials. These credentials are used only once, and are not saved.

Edit Datasource

This page allows you to edit the settings for a selected datasource (to the left of the row).

To reach this page, select **Administration > Datasource Settings > Edit**.



URL: Enter the URL of the root server to which to connect. The URL must also include the appropriate port number.

Note: You cannot change the name of your datasource.

Master Operator Credentials: Enter the Master Operator credentials if the URL is changed.

Errors

This page is available by selecting **Administration > Errors**. It shows any current errors based on the last action taken.

Appendix A. Tasks for advanced users

This section presents tasks unlikely to be needed by the typical user, but which can be of use to advanced users with specific customization needs.

Understanding the Web Report File

Web Reports has a general report format using an XML wrapper. It can show reports from content sites and new reports can be added, edited, or removed.

The report file must either have the extension .beswrpt or .webreport, and is written in XML. It has the form:

```
<BESWebReport>
<Name>Report Title</Name>
<Type>[TemplateReport] | [CustomReport] | [ExternalReport]</Type>
<URLParameters>param1=value1&param2=value2</URLParameters>
<Data>Custom data or external URL</Data>
<SourcePage>Source Page in Web Reports</SourcePage>
</BESWebReport>
```

The .beswrpt file can also contain multiple reports in one xml file:

```
<BESWebReports>
  <BESWebReport>

  </BESWebReport>
<BESWebReport>

</BESWebReport>
</BESWebReports>
```

Most of the tags are self-explanatory. The Name tag provides the title of the report. URLParameters and Data depend on the Type tag. The Type tag can be one of three strings

- TemplateReport
- CustomReport
- ExternalReport

These strings are case-sensitive.

Creating a Custom Report

This page lets you create a custom report. A report like this is actually code that *generates* a printable report. It typically consists of HTML with embedded Relevance and JavaScript commands. You can choose to make this report public or private.

To create a custom report:

1. Select **Explore Data > Custom**.

2. There is a **Filter** box. Set it to apply to just the subset of data you want your custom report to be based on.
3. Fill in the text box by specifying the full report request. For example you can specify to list the names of your IBM BigFix computers as follows:

```
<div>Computer Names</div>
  <?Relevance names of bes computers?>
```

Note: In the corresponding XML file this information is displayed in the character data (CDATA) block of the Data tag

4. When you like what you see, click the **Save Report** button to add your custom report to the list.

When in the list you can change its visibility, label it, and schedule it, as with any other report. The following section describes in more detail how to create a custom Web Report using XML.

Web Reports XML

A custom report is made of HTML, Relevance, and JavaScript, embedded in an XML file.

In the Data tag specify the full report request using the character data (CDATA) block. The XML parser does interpret the CDATA block as markup, so you do not have to escape your included HTML or JavaScript. You can also include an optional parameter tag such as URLParameters tag for extra information to use.

For more information about the specific set of parameters available, see the BigFix support site.

The following is an example of custom web report:

```
<BESWebReport>
  <Name>Example Custom Report</Name>
  <Type>CustomReport</Type>
  <URLParameters>computerID=computerRecord</URLParameters>
  <Data>
    <![CDATA[
      <div>Computer Names</div>
```

```

    <?Relevance names of bes computers?>
  ]]>
</Data> <SourcePage>ExploreComputers</SourcePage>
</BESWebReport>

```

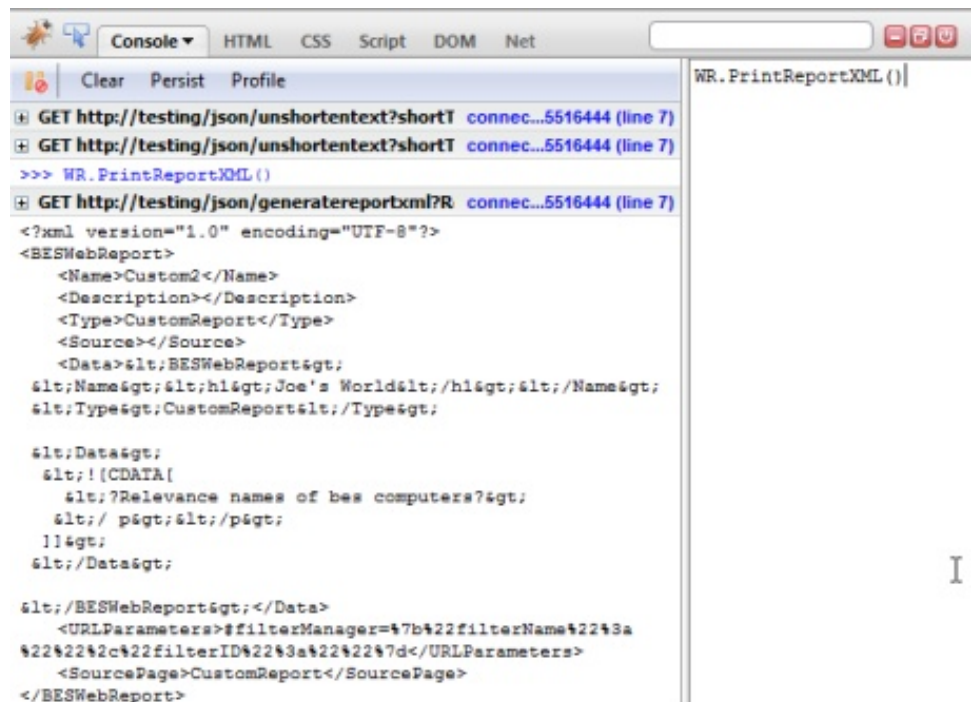
This report lists the names of your IBM BigFix computers.

Creating a Portable Report for Propagation

As you explore data, you can save a report at any time. In general, if you want to share the report with other users, you can set its visibility to **Public** in the **Report List**.

However, there is an advanced technique that can be used if you are a site creator. You might notice that an abbreviated description of your report is shown as a part of the URL, as seen in the address bar of the browser. That, however, is a compressed version designed to stay within the 2048 character limit in Internet Explorer, and is not portable. To make a portable report, follow these steps:

1. Click the **Explore Data** tab at the top of the Web Reports window.
2. Configure the columns you want to display as well as any filters you want to apply.
3. Click the **Save Report** button.
4. Open a JavaScript debugger, such as Firebug for Firefox.
5. In the console area of the debugger, enter the command **WR.PrintReportXML()**.



This example uses Firebug. `WR.PrintReportXML` is an embedded JavaScript that prints a *portable* XML version of the current report.

It might look like this code sample:

```

<?xml version="1.0" encoding="UTF-8"?>
<BESWebReport>
  <Name>Example Report</Name>
  <Type>TemplateReport</Type>

```

```

<Data></Data>
<URLParameters>#wr_computerTable=%22sort%3DR-Computer%2520
Name%26dir%3Ddesc%26startIndex%3D0%26
results%3D50%26c%3DR-Computer%2520Name%26c%3DR-IP%2520
Address%26c%3DR-OS%26c%3DR-CPU%26c%3DR-Last%2520
Report%2520Time%22</URLParameters>
<SourcePage>ExploreComputers</SourcePage>
</BESWebReport>

```

6. Copy this XML to a text editor and save it with the extension beswrpt.

You have now created a portable report that you can easily propagate in any content site or import into the Report List page. Note that the report is contained in the URLParameters tag. This listing shows line feeds for readability, but the actual XML has an uninterrupted line of text.

Exporting activity reports to CSV files

To create a hardcopy of a report generated by BigFix, export the report to a CSV file and print it.

To create the CSV report file schedule it as an activity in the Create scheduled Activity window opened from the **Administration > Scheduled Activities** menu. For additional information see “Creating Scheduled Activities” on page 56.

You can also use the CSV file to create charts and statistics based on the information in the report.

A Web Report exported to a CSV file has an Excel-compatible CSV format. Any string containing characters that might be interpreted as a formula by Microsoft Excel such as "+myfield", are transformed in literal strings as shown in the following example:

```
"="+myfield""
```

The following characters are handled in this way: + (plus), - (minus), / (slash), * (asterisk) and = (equal).

Exporting activity reports to PDF documents

Web Reports can generate PDF documents for printing or mailing. PDF reports can be sent by setting the PDF format option when creating or editing a scheduled activity, or by exporting the report as a PDF document.

On Windows Systems

Run the following steps, either automatically or manually, to add this capability to your Web Reports installation on Windows platforms:

Automatic Installation

1. On the IBM BigFix console click **Fixlets and Tasks**.
2. Search for the following task IDs:
 - Task ID: 602: BES Web Reports: Enable PDF Reports - Part 1 of 2
 - Task ID: 603: BES Web Reports: Enable PDF Reports - Part 2 of 2
3. Run the actions in these tasks to automatically install the PDF generator.

Manual Installation

Run these steps on the server hosting the BESWebReportsServer service:

1. Install Internet Explorer 7 or greater, if it is not already installed.
2. Install Flash Player for Internet Explorer (install the 32-bit version, also on an x64 system).
3. Add your Web Reports host to Internet Explorer's trusted sites list for the system account.
4. Run the following steps in the registry:
 - a. Add a key with the fully qualified domain name of your Web Reports host to
HKEY_USERS\[User account running Web Reports service]\Software\Microsoft\Windows\CurrentVersion\Internet Settings\ZoneMap\Domains
For example, if you access Web Reports at <http://bes.example.com> and run Web Reports under the SYSTEM account, you add the key
HKEY_USERS\S-1-5-18\Software\Microsoft\Windows\CurrentVersion\Internet Settings\ZoneMap\Domains\bes.example.com
 - b. Add a **REG_DWORD** value (under the key you just added) named **http** and set it to 2.
 - c. Add a **REG_DWORD** value (under the key you just added) named **https** and set it to 2.
5. Add a PostScript file printer named **BES Web Reports Printer** that prints to the port C:\Program Files\BigFix Enterprise\BES Server\BESReportsData\ArchiveData__pdf\out.ps.
6. Install the 32-bit (x86) version of GhostScript (version 8.60) from the website: <http://pages.cs.wisc.edu/~ghost/doc/GPL/gpl860.htm>.
7. Right-click the icon **My Computer** on the desktop.
8. Select **Properties > Advanced > Environment Variables**.
9. Append the following strings to the end of your **PATH** variable in the System variables pane:
C:\Program Files (x86)\gs\gs8.60\bin;
C:\Program Files (x86)\gs\gs8.60\lib;
10. Create the following registry string values (REG_SZ) in HKLM\Software\WOW6432Node\BigFix\Enterprise Server\BESReports
 - PDFEnable: 1
 - PDFPrinterName: BES Web Reports Printer
 - PDFPostScriptPath: C:\Program Files (x86)\BigFix Enterprise\BES Server\BESReportsData\ArchiveData__pdf\out.ps
11. Restart Windows to ensure that the PATH variable is updated.

Registry Settings

All the following settings are under the key registry HKLM\Software\WOW6432Node\BigFix\Enterprise Server\BESReports, :

Setup

- PDFEnable (set to 1 to enable PDF generation)
- PDFPostScriptPath
- PDFPrinterName

Logging

- PDFLogPath

Default Header and Footer

- PDFDefaultHeader
- PDFDefaultFooter

Using an unprivileged user to render the report and generate the PDF

- PDFUseUnprivileged (set to 1 to use the account specified by the values below)
 - UnprivilegedUsername
 - UnprivilegedDomain
 - UnprivilegedPassword

Timeout Settings

- PDFReportTimeout (in minutes, default 60)
- PDFPrintTimeout (in minutes, default 60)

Internet Explorer post-rendering pause

- PDFPause (in seconds, default 10, gives Flash components time to initialize before printing)

Logging PDF generation on Windows systems

The keys to enable logging are stored in the HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node section under HKLM\Software\WOW6432Node\BigFix\Enterprise Server\BESReports.

Run the following steps to enable logging PDF generation:

1. Set the PDFLogPath registry key to C:\webreportspdf.log.
2. Ensure that the server machine was restarted after running the installation.
3. Verify that the following registry keys have are correct values:
 - PDFEnable must be set to 1.
 - PDFPostScriptPath must be equal to the port of the printer added during the installation.
 - PDFPrinterName must be equal to the name of the printer added during the installation.

Troubleshooting PDF generation on Windows systems

If charts are not displayed in the generated PDF, ensure that Internet Explorer, running under the SYSTEM account on the Web Reports server box, has the correct security settings to render Web Reports pages. Do the following to accomplish this task:

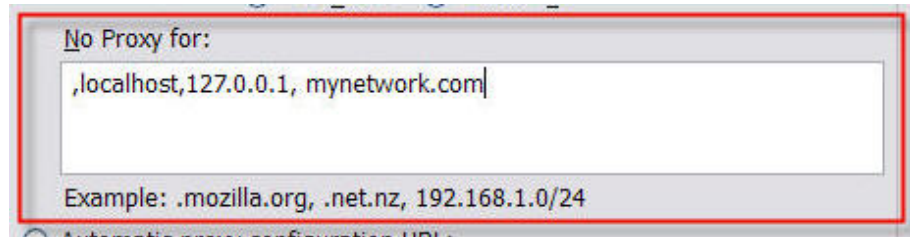
1. Open Internet Explorer using the **at** or the **schtasks** commands.
2. Navigate to the Web Reports Overview page.
3. Verify that the charts display. If they do not display, change the security settings to allow ActiveX plugins and JavaScript.

On Linux Systems

If you installed Web Reports on a Linux system, you do not have to install extra components to export reports as PDF documents, but you must run some configuration steps if they apply to your environment.

If BigFix server uses a proxy connection to communicate over the Internet and you run Web Reports using Firefox on the Linux system where you installed the Web Reports.

Ensure that the Firefox browser is not configured for the system's fully qualified hostname. For example, if your network domain is mynetwork.com, configure the Firefox connection settings as highlighted in the following picture:



If the **DISPLAY** variable is set to a value different from **DISPLAY=:0**:

Manually change the export statement in the /etc/init.d/beswereports file as follows:

1. Stop the Web Reports service by running:
`/etc/init.d/beswereports stop`
2. Edit the file /etc/init.d/beswereports.
3. Set the **DISPLAY** variable to correctly point to your X server.
4. Save the file.
5. Restart the Web Reports service by running:
`/etc/init.d/beswereports start`

If the runlevel set on your Linux system is different from 5.

Modify the runlevel and set it to 5, or use xvfb.

Run these steps if you decide to use xvfb:

1. Set up the optional channel as follows:
`rhnc-channel --add --channel=rhel-x86_64-server-optional-6`
2. Install the package:
`yum install xorg-x11-server-Xvfb.x86_64`
3. Modify the script that manages the PDF exports as follows:
 - a. Edit the script /var/opt/BESWebReportsServer/BESreportsData/BESExe/wkhtmlpdf.sh
 - b. Add the following statement:
`xvfb-run -a -s "-screen 0 1024x768x16"`
 - c. Save the script file.

before the statement:

```
/var/opt/BESWebReportsServer/BESreportsData/BESExe/wkhtmltopdf
--enable-plugins --use-xserver --javascript-delay 5000
--no-stop-slow-scripts $optionalparms $arg1 $arg2
```

If you experience a slow flash rendering when the PDF is generated.

If the generation of the PDF takes longer than 5 seconds to display the Web Reports exports to the PDF only the data that were available before the 5 seconds elapsed. To bypass this limitation, increase the delay as follows:

1. Edit the script /var/opt/BESWebReportsServer/BESreportsData/BESExe/wkhtmlpdf.sh

2. Increase the value that is assigned to `--javascript-delay` in the statement:

```
/var/opt/BESWebReportsServer/BESReportsData/BESExe/wkhtmltopdf
--enable-plugins --use-xserver --javascript-delay 5000
--no-stop-slow-scripts $optionalparms $arg1 $arg2
```

The value is expressed in milliseconds and 5000 ms is the default value.

3. Save the script file.

If you want to generate PDF containing graphs that require Adobe Flash Player to be correctly displayed.

Ensure that Adobe Flash Player is available on the system where the Web Reports component is installed. If Adobe Flash Player is not installed, on PDF creation, a message requesting to install Adobe Flash Player is displayed and the PDF is generated without graphs. After installing Adobe Flash Player, restart the Web Report server process to make Adobe Flash Player available for use.

Logging PDF generation on Linux systems

To gather and review the output from the call to `wkhtmltopdf`, redirect the stdout and stderr from `wkhtmltopdf` to a file. Before doing the redirection, ensure that you enabled logging for Web Reports as it is explained in “Logging Web Reports” on page 85.

Run these steps to do the redirection:

1. Make a backup copy of the script `/var/opt/BESWebReportsServer/BESReportsData/BESExe/wkhtmltopdf.sh`
2. Update the script by changing the following line:

```
/var/opt/BESWebReportsServer/BESReportsData/BESExe/wkhtmltopdf
--enable-plugins --use-xserver --javascript-delay 5000
--no-stop-slow-scripts $optionalparms $arg1 $arg2
```

as follows:

```
/var/opt/BESWebReportsServer/BESReportsData/BESExe/wkhtmltopdf
--enable-plugins --use-xserver --javascript-delay 5000
--no-stop-slow-scripts $optionalparms $arg1 $arg2
1>/tmp/pdfout.txt 2>&1
```

By doing so you redirect the stdout and stderr from `wkhtmltopdf` to the `/tmp/pdfout.txt` file.

Exporting the report output to a PDF file

If you configured Web Reports to export reports as PDF, when you run a report from the **Reports List** panel, the entry **Export to PDF** is displayed in the top right corner of the report output window. Click it to save the output of the report in a PDF file on the system where the Web Reports is installed.

PDF Header and Footer

From the Create Scheduled Activity dialog, after you select **PDF** as activity report format, you can open the following dialog to print a PDF file:

Note: The Linux Web Reports server does not support non-ASCII characters in the header and footer.

In **PDF Header** and **PDF Footer** you can specify information about the title, URL, date, and more by entering the following codes:

&w	Window title
&u	Page address (URL)
&d	Date in short format specified by Regional Settings in Control Panel
&D	Date in long format specified by Regional Settings in Control Panel
&t	Time in the format specified by Regional Settings in Control Panel
&T	Time in 24-hour format
&p	Current page number
&P	Total number of pages
&&	A single ampersand (&)
&b	Separates preceding and succeeding text into different sections. Example: left &b center &b right
text	Custom text (can be used in combination with printing codes)

Important: The Linux Web Reports server does not support the header and footer print codes because they are Internet Explorer-specific.

Configuring HTTPS for Web Reports

To configure Web Reports for working with HTTPS you can use a certificate file containing the private key or two separate files one for the certificate and another for the private key.

You can configure Web Reports on Windows or Linux systems, by performing the following steps:

1. Install or upgrade OpenSSL on your system to the latest available version.
2. Ensure that an OpenSSL command-line tool is available.
3. Create a Certificate Signing Request with your company and Web Reports server information.
4. **EITHER:** Generate a Self-Signed Certificate **OR** Request a Certificate from a Certificate Authority.
5. Update the Web Reports HTTPS Registry Settings to point either to the combined certificate and private key file, or to the separate files, which are the certificate and the private key files.

You can also configure Web Reports to work with HTTPS manually without using the console. For additional information see “Configuring HTTPS manually on Windows systems” on page 84 and “Configuring HTTPS manually on Linux systems” on page 85.

Creating a Certificate Signing Request (csr)

1. To register a certificate, you need a valid configuration file such as the following one:

```
[ req ]
default_bits = 1024
default_keyfile = keyfile.pem
distinguished_name = req_distinguished_name
attributes = req_attributes
prompt = no
output_password = bigfix

[ req_distinguished_name ]
C = US
ST = California
L = Emeryville
O = BigFix
OU = Development
CN = Common
emailAddress = admin@bigfix.com

[ req_attributes ]
challengePassword = bigfix
```

2. Replace Common with the fully qualified domain name of the Web Reports server.
3. Create the certificate request cert.csr with the following command.

```
openssl req -new -config "c:\mynewconfig.conf" > cert.csr
```

This also generates the private key called keyfile.pem.

4. Remove the password from the private key file keyfile.pem and generate a new private key (nopwdkey.pem) using the following command:

```
openssl rsa -in keyfile.pem -out nopwdkey.pem
```

Generating a Self-Signed Certificate

To generate a self-signed certificate (cert.pem) from a certificate request file (cert.csr), perform the following steps:

1. Create a Certificate Signing Request (cert.csr).
2. Create a certificate file (cert.pem) from your private key (nopwdkey.pem) and certificate request file (cert.csr) using the following command (valid for 365 days):

```
openssl x509 -in cert.csr -out cert.pem -req -signkey nopwdkey.pem -days 365
```

Important: If you want to specify both the certificate and the private key files in the Web Reports HTTPS configuration, skip the following steps and see “Web Reports HTTPS Settings” on page 82.

3. Open up your private key file `nopwdkey.pem` in WordPad.
4. Copy the contents and paste them below the certificate in `cert.pem`, as in the following example:

```
-----BEGIN CERTIFICATE-----
MIICYjCCAcugAwIBAgIJANiRLK2nbg9oMA0GCSqGSIb3DQEBBQUAMEoxCzAJBgNV
BAYTA1VTMRMwEQYDVQIDApDyWxpZm9ybm1hMRMwEQYDVQIDApFbWVyeXZpbGx1
MREwDwYDVQQDDAhIRU1NREFMTDAeFw0xMjA5MTUwMjA5MzdaFw0xMjA5MTUwMjA5
MzdaMEoxCzAJBgNVBAYTA1VTMRMwEQYDVQIDApDyWxpZm9ybm1hMRMwEQYDVQID
ApFbWVyeXZpbGx1MREwDwYDVQQDDAhIRU1NREFMTDCBnzANBgkqhkiG9w0BAQEF
AAOBjQAwgYkCgYEA5h5aCcN5Up5rNYn7a88dKAeHe7CbKDtPF6jdrn52yShJc97f
mceJeIsnKvMBVRoIBevxFnNIKxMzzR52c0NKK2gU0ax2k6TWD8yVOHFFepBgCcyF
JD9y9g5u444+7S5vsXRpmAx7z3HYHHh9Jji7zLoN46Mu+7KpnZnJgFX0QcCAwEA
AaNQME4wHQYDVRO0BBYEFHJXtkgiF6mZzQBcrp7U7yptf/WzMB8GA1UdIwQYMBaA
FHJXtkgiF6mZzQBcrp7U7yptf/WzMAwGA1UdEwQFMAMBAf8wDQYJKoZIhvcNAQEF
BQADgYEARKkc8GmyFtuXsWmjvkuUjVrkGJYiQ7Ls05Qg670NcMr/beJDXs0R3w31D
cDqCglNqswNySrcAGDPctDJwE2cZbcvpVdN1Ud1UdXnbzHAjg/buh6Uy50YYc0y
NtbcklPpgxvBp6cGua7K01bMeb379vXLNr1EcQG9KmlkHYqqJpU=
-----END CERTIFICATE-----
-----BEGIN PRIVATE KEY-----
MIICeAIBADANBgkqhkiG9w0BAQEFAAASCAMiWggJcAgEAAoGBA0YewgnDeVKeazWJ
+2vPHSgHoXuwmYg7Txeo3a5+dskoSXPe35nHiXiLJ5FZgVUaCAXr8RZzSCsTM80e
dnNDSitoFNGsdP0k1g/M1ThxxXqYHAsHQ/cvY0bu00Pu0ub7F0aZgMe89x2Bx4
fSY4r+8y6De0jLvuyqZ2ZyYBV9EHAgMBAAECgYEAh2Jh/I6JaUcUsgn85l+SusNK
iTfNA0lryfKqgYeBoRtXo5kDGjkfstDDtargAU5wW/OFAn10fzEr78i1TXjQP/2h
1ntvOobYeEsRFB1VdoC361GHKoSWMMbrymx75XIRmdW3cIHOS1pHfr2RA9WZfA2R
tn8gtITQNKed0uFyBskCQQD6IeYaxWegfoJwpcAm1TlYfyKXDSL9/DGsG+uhAIhu
pUWPwsH/uHR8/61wQ9coH1NEy2bVRT0qha1s9CvHA00FAkEA64RD4t5oQcA+Q/2o
TtfYD3MB0NQJVL2KwJaw9hr4+osMQWJSSXTQuymMcd3tLJaS3eg0DVIsg0p00GYx
bVKKGwJANF9IqK5QhkA225M461swSKFGAuRZ0Ugut1SaP3m3EdIRAIrMx9g907bk
/66Urcfy7WKRQ3Jd3jtjFn8Bc4fxaQJBALCvOrjPTThPXeA4piNHbvZWcrwS31Qs
MYao41NwcdHYw72abLwq2/4Y7vbJQPU3iLLdUXnTbRCbfHCAZvp68pUCQQDX7iVR
Wjd9qVlgtR/6wxAQjSHSm1CyTfHA0ncVNzjEjZzA3FiCNq+gHfKbc6Kr4FxfNwcm
aoyVGYx11LT+VHJA
-----END PRIVATE KEY-----
```

5. Refer to `cert.pem` on your Web Reports server in the certificate path registry setting as described in “Web Reports HTTPS Settings” on page 82.

Requesting a Certificate from a Certificate Authority

To encrypt HTTPS Web Reports with a certificate that browsers implicitly trust, request a signed certificate from a trusted Certificate Authority (or CA) such as Verisign as follows:

1. Create a Certificate Signing Request (csr)
2. Forward the `.csr` file to a Certificate Authority (CA). They will issue you a signed (browser-trusted) certificate for your server. Request the certificate be issued in PKCS12 format.

Important: If you want to specify both the certificate and the private key files in the Web Reports HTTPS configuration, skip the following steps and see “Web Reports HTTPS Settings” on page 82.

3. After you have received the PKCS12 formatted file, DO NOT import it to any Microsoft default certificate handling facilities.
4. Via openssl, perform the following on each PKCS12 formatted file to export to a password stripped PEM file format:
`openssl pkcs12 -in PKCS12.p12 -out PEM_CERT_FILE_NAME.pem -nodes -clcerts`

This exports the PKCS12 file to a PEM formatted file with both the public key and private certificate without any passwords.

5. Open the PEM certificate file with WordPad.
6. Leave only the public key and private certificate, keeping the BEGIN and END block stanza headers. This is an example:

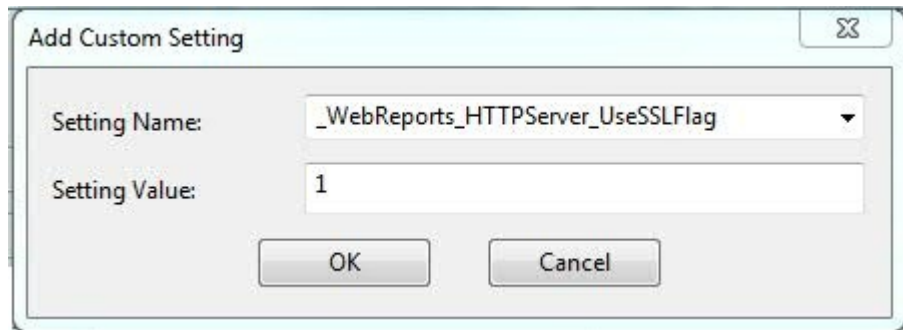
```
-----BEGIN CERTIFICATE-----
MIICYjCCAcugAwIBAgIJANiRLK2nbg9oMA0GCSqGSIb3DQEBBQUAMEoxCzAJBgNV
BAYTA1VTMRMwEQYDVQIDApDyWxpZm9ybm1hMRMwEQYDVQIDApFbWVyeXZpbGx1
MREwDwYDVQQDDAhIRU1NREFMTDAeFw0xMjAzMTUwMjA5MzdaFw0xMzAzMTUwMjA5
MzdaMEoxCzAJBgNVBAYTA1VTMRMwEQYDVQIDApDyWxpZm9ybm1hMRMwEQYDVQID
ApFbWVyeXZpbGx1MREwDwYDVQQDDAhIRU1NREFMTDCBnzANBgkqhkiG9w0BAQEF
AAOBjQAwgYkCgYEA5h5aCcN5Up5rNYn7a88dKAehe7CbKDtPF6jdrn52yShJc97f
mceJeIsnKvMBVROIBevxFnNIKxMzzR52c0NKK2gU0ax2k6TWD8yVOHFFepBgCcyF
JD9y9g5u444+7S5vsXRpmAx7z3HYHHh9Jji7zLoN46Mu+7KpnZnJgFX0QcCAwEA
AaNQME4wHQYDVRO0BBYEFHJXtkgifi6mZzQBcrp7U7yptf/WzMB8GA1UdIwQYMBaA
FHJXtkgifi6mZzQBcrp7U7yptf/WzMAwGA1UdEwQFMAMBAf8wDQYJKoZIhvcNAQEF
BQADgYEARKkc8GmyFtuXsWmjvkuUjVrkGJYiQ7Ls05Qg670NcMr/beJDXs0R3w31D
cDqCglnQuswNySrcAGDPctDJwE2cZbcvpVdN1Ud1UdXnbzHAjg/buh6Uy50YYc0y
NtbcklPpgxvBp6cGua7K01bMeb379vXLNr1EcQG9KmlkHYqqJpU=
-----END CERTIFICATE-----
-----BEGIN PRIVATE KEY-----
MIICeAIBADANBgkqhkiG9w0BAQEFAASCAmIwggJcAgEAAoGBA0YewgnDeVKeazWJ
+2vPHSgHoXuwyg7Txeo3a5+dskoSXPe35nHiXiLJ5FZgVUaCAXr8RZzSCsTM80e
dnNDSitoFNGsdP0k1g/M1ThxxXqQYHAsSQ/cvY0bu00Pu0ub7F0aZgMe89x2Bx4
fSY4r+8y6De0jLvuyqZ2ZyYBV9EHAgMBAECgYEAh2Jh/I6JaUcUsgn85l+SusNK
iTfNA0lryfKqgYeboRtXo5kDGjkfstDDtargAU5wW/OFAn10fzEr78i1TXjQP/2h
1ntvOobYeEsRFB1VdoC361GHKoSWMMbrymx75XIRmdW3cIHOS1pHfr2RA9WZfA2R
tn8gtITQNKed0uFyBskCQQD6IEYaxWegfoJwpcAm1TlYfyKXDSL9/DGsG+uhAIhU
pUWPwsH/uHR8/61wQ9coH1NEy2bVRT0qha1s9CvHA00FAkEA64RD4t5oQcA+Q/2o
TtfYD3MB0NQJVL2KwJaw9hr4+osMQWJSSXTQuymMcd3tLJaS3eg0DVIsG0p00GYx
bVKKGwJANF9IqK5QhkA225M461swSKFGAuRZ0Ugut1SaP3m3EdIRAIrMx9g907bk
/66Urcfy7WKRQ3Jd3jtjFn8Bc4fxaQJBALCvOrjPTThPXea4piNHbvZWcrwS31Qs
MYao41NwcdHYw72abLwq2/4Y7vbJQPU3iLLdUXnTbRCbfHCAZvp68pUCQDX7iVR
Wjd9qVlgtR/6wxAQjSHSm1CyTfHA0ncVNzjEjZzA3FiCNq+gHfKbC6Kr4FxfNwCm
aoyVGyXl1LT+VHJA
-----END PRIVATE KEY-----
```

7. Save the modified PEM file containing only the public certificate and private key.
8. Store this file on your server and refer to it when setting up your Web Reports.

Web Reports HTTPS Settings

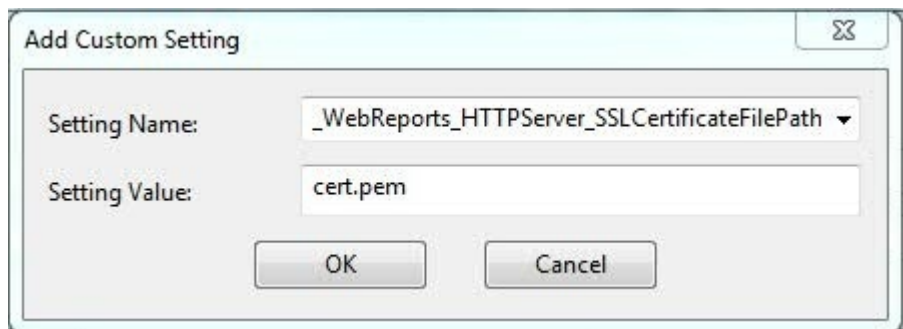
To enable HTTPS, configure the following client settings, such as the paths of the certificate and private key files or the path of the combined certificate and private key file, the HTTPS port number, a listening for HTTP connections and for redirecting the client to HTTPS on the SSL port as follows:

1. From the Endpoint Manager console select the **Computers** tab.
2. Select the computer to configure and **Edit Computer Settings** from the **Edit** menu.
3. Look for **_WebReports_HTTPServer_UseSSLFlag** setting. If it exists, do not create a second one, but edit its value to 1 to enable HTTPS. If it does not exist, add it:



Important: If you combined the private key file with the certificate file, skip the following step and set only the **_WebReports_HTTPServer_SSLSslCertificateFilePath**.

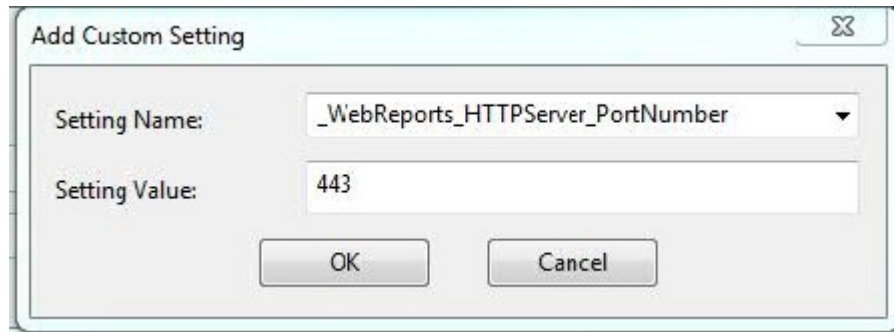
4. Look for **_WebReports_HTTPServer_SSLSslPrivateKeyFilePath** setting. If it exists, do not create a second one, but edit its value to the full path name of the private key (.pvk file which contains the private key for the server. The private key must not have a password. If it does not exist, add it.
5. Look for **_WebReports_HTTPServer_SSLSslCertificateFilePath** setting. If it exists, do not create a second one, but edit its value to the full path name of the .pem file which might contain both the certificate and private key for the server, or only the certificate. If it does not exist, add it:



Ensure that the .pem file is in standard OpenSSL PKCS7 .pem file format.

The certificate is supplied by the server to connecting clients (browsers) and they present a dialog to the user containing information from the certificate. If the certificate meets all of the trust requirements of the connecting browser, then the browser connects without any interventions by the user. If the certificate does not meet the trust requirements of the browser, then the user will be prompted with a dialog asking them if it is OK to proceed with the connection, and giving them access to information about the certificate. A trusted certificate is signed by a trusted authority (such as Verisign), contains the correct host name, and is not expired.

6. Look for **_WebReports_HTTPServer_PortNumber**. If it exists, do not create a second one, but edit its value to the port number you would like to use (typically 443). If it does not exist, add it:



7. When SSL is enabled define the forwarding port by setting the following:
 _WebReports_HTTPRedirect_Enabled to 1 and
 _WebReports_HTTPRedirect_PortNumber to the port listening for HTTP
 connection and redirecting the client to HTTPS.
8. To enable TLS12 for web browser requests, look for
 _WebReports_HTTPServer_RequireTLS12. If it exists, do not create a second
 one, but edit its value to 1 .

Note: The Web Reports component always uses TLS 1.2 when communicating with the Endpoint Manager server, (regardless of local settings or settings of the masthead).

9. Restart the **BESWebReports** service:
 - On Windows, open **Services**, select **BESWebReports** and on the **Action** menu, click **Restart**.
 - On Linux run from the prompt: `service beswebreports restart` or `/etc/init.d/beswebreports restart`.

Note: These settings are stored in the registry under the key **HKLM/Software/WoW6432Node/BigFix/EnterpriseClient/Settings/Client**.

Configuring HTTPS manually on Windows systems

When you have an SSL certificate (a .pem file), place it on the computer running Web Reports (usually the server) and follow these steps:

1. Run **regedit** and locate **HKEY_LOCAL_MACHINE\Software\BigFix\EnterpriseClient\Settings\Client** for x32 systems and **HKEY_LOCAL_MACHINE\Software\Wow6432Node\BigFix\EnterpriseClient\Settings\Client** for x64 systems.
 You need to add or modify subkeys for the HTTPS flag, for the location of the SSL certificate, for the HTTPS port number, and for the redirection to HTTPS.
2. Create a subkey of **Client** called **_WebReports_HTTPServer_UseSSLFlag** (it might already exist).
3. Create a string value (reg_sz) for the key **_WebReports_HTTPServer_UseSSLFlag** called **value** and set it to 1 to enable HTTPS.
4. Create a subkey of **Client** called **_WebReports_HTTPServer_SSLSertificateFilePath** (it might already exist).
5. Create a string value (reg_sz) for the key **_WebReports_HTTPServer_SSLSertificateFilePath** called **value** and set it to the full path name of the SSL certificate (cert.pem).
6. Create a subkey of **Client** called **_WebReports_HTTPServer_PortNumber** (it might already exist).

7. Create a string value (reg_sz) for the key `_WebReports_HTTPServer_PortNumber` called **value** and set it to the port number you want to use (typically 443).
8. Create a subkey of **Client** called `_WebReports_HTTPRedirect_Enabled` (it might already exist).
9. Create a string value (reg_sz) for the key `_WebReports_HTTPRedirect_Enabled` called **value** and set it to 1 to enable the browser redirection to HTTPS.
10. Create a subkey of **Client** called `_WebReports_HTTPRedirect_PortNumber` (it might already exist).
11. Create a string value (reg_sz) for the key `_WebReports_HTTPRedirect_PortNumber` called **value** and set it to the number of the port listening for HTTP connection and redirecting the client to HTTPS.
12. Restart the **BESWebReports** service.

Configuring HTTPS manually on Linux systems

When you have an SSL certificate (a .pem file), place it on the computer running Web Reports and customize the keywords in the `besclient.config` file if a client is installed together with Web Reports or in the `beswebreports.config` file if only Web Reports is installed.

To define the port number you want to use:

```
[Software\BigFix\EnterpriseClient\Settings\Client
\WebReports_HTTPServer_PortNumber]
value = 443
```

To define the full path name of the SSL certificate (cert.pem):

```
[Software\BigFix\EnterpriseClient\Settings\Client
\WebReports_HTTPServer_SSLSertificateFilePath]
value = /tmp/CERT/cert.pem
```

To enable HTTPS:

```
[Software\BigFix\EnterpriseClient\Settings\Client
\WebReports_HTTPServer_UseSSLFlag]
value = 1
```

To enable client redirection from an HTTP connection to an HTTPS connection:

```
[Software\BigFix\EnterpriseClient\Settings\Client
\WebReports_HTTPRedirect_Enabled]
value = 1
```

To define the number of the port listening for the HTTP connection and redirecting the Client to HTTPS:

```
[Software\BigFix\EnterpriseClient\Settings\Client
\WebReports_HTTPRedirect_PortNumber]
value = portnumber
```

Logging Web Reports

You can keep track of your Web Reports usage by setting up a log file.

On Windows

To log Web Reports messages perform the following steps:

1. Run `regedit` and find the `HKEY_LOCAL_MACHINE\Software\BigFix\Enterprise Server\BESReports` key (on a 64-bit machine, you might

need to go down into the Wow6432Node: HKEY_LOCAL_MACHINE\Software\Wow6432Node\BigFix\Enterprise Server\BESReports).

You see some variables and path names used by Web Reports.

2. Create a new DWORD value named LogOn and set it to 1 to turn on logging.
3. Create a new string value named LogPath and set it to the full path name of your log file, for example, C:\fullpath\file.txt.
4. Create a new DWORD value named LogFileSizeLimit and set it to the log file size in byte. The minimum value is 1024000 (1MB). If you set this value a maximum of 10 rotated log files is maintained in addition to the active log file. (for example, file.txt, file.txt_0, file.txt_1, ..., file.txt_9).
5. Create a new string named EnabledLogs to specify one of the following levels of log: debug|critical|memory|store_usage|all, where all is the default.

On Linux

To log Web Reports messages perform the following steps:

1. Open the following configuration file: /var/opt/BESWebReportsServer/beswebreports.config
2. Add the full log file name in the [Software\BigFix\Enterprise Server\BESReports] section as follows:

```
LogPath = /var/log/WebReports.log
```

3. Enable the logging, define the log level and the log file size by setting the following keywords:

```
LogOn = 1
EnabledLogs = all
LogFileSizeLimit = file_size_in_bytes
```

where:

LogOn

Set to 1 to enable logging. Set to 0 to disable the log.

EnabledLogs

Enables or disables the logging of specific Web Reports messages. The values that you can specify are: debug|critical|memory|store_usage|all, where all is the default.

LogFileSizeLimit

Set to the log file size in byte. The minimum value is 1024000 (1MB). If you set this value a maximum of 10 rotated log files is maintained in addition to the active log file. (for example, file.txt, file.txt_0, file.txt_1, ..., file.txt_9).

The next time you launch Web Reports, a log of the session is saved to the specified file.

Querying Using HTTP GET

You can query and access Web Reports by using HTTP GET. Provide the URL and port for the Web Reports program, and then pass the command you want in your browser address line. If you are already logged in to the program, you can access the main page with a URL:

`http://bigco.com:80/webreports?page=Main`

If you have installed IBM BigFix 9.2.5, the URL to the main page is:

`http://bigco.com:80/webreports?page=Main`

In this example, **bigco.com** is your domain, **80** is the default IBM BigFix port, and **page=Main** describes the part of the program you want to access. If you have not yet logged in, you can pass your **Username** and **Password** on the same line:

`http://bigco.com:80/webreports?Username=myName&Password=myPassword&page=Main`

If you have installed IBM BigFix 9.2.5, the URL is:

`http://bigco.com:8080/webreports?Username=myName&Password=myPassword&page=Main`

Querying Using SOAP

You can also access Web Reports using SOAP. Most client libraries require the location of a Web Services Description Language (WSDL) file, a method name, and parameters to pass into the method. The WSDL file describes the network endpoints required to query the IBM BigFix Database using Web Reports. The WSDL can be accessed from the Web Reports server as in the following example: `http://server/webreports?wsdl`.

Alternatively, you can find a sample file, `relevance.wsdl`, in the IBM BigFix installation directory. This WSDL file defines `relevanceExpr`, which allows you to evaluate a relevance expression. If you installed IBM BigFix to a folder named BigFix Enterprise, you can find the file in this directory:

`BigFix Enterprise\BES Server\BESReportsServer\wwwroot\soap`

The registry location for your installation is `HKLM\SOFTWARE\Wow6432Node\BigFix\Enterprise Server\BESReports\Paths`.

This registry key has a string value named `wsdl` that contains the path name for the WSDL file.

The request includes a tag labeled `relevanceExpr`, which contains the relevance expression number of IBM BigFix computers. This is one of the operations defined in the WSDL file.

Some of the available methods include:

```
GetRelevanceResult( String relevanceExpression, String username, String password )
StoreSharedVariable( dashID, variableName, variableValue, [success/failure
callback], [database id] )
DeleteSharedVariable( dashID, variableName, [success/failure callback],
[database id] )
```

To submit queries from SOA clients specify the following BigFix http path:

`http://web_report_server/soap`

where `web_report_server` is the hostname or IP address of the Web Report server.

PERL

PERL code using the `SOAP::Lite` module that takes three arguments, Web Reports username, password, and relevance expression, and prints the results of the call.

```

use SOAP::Lite;
#arguments: [hostname] [username] [password] [relevance expression]
#hostname only, e.g. 'example.com' rather than 'http://example.com/webreports'
my $host = $ARGV[0];
my $username = SOAP::Data->name('username' => $ARGV[1] );
my $password = SOAP::Data->name('password' => $ARGV[2] );
my $expr = SOAP::Data->name('relevanceExpr' => $ARGV[3] );
my $service = SOAP::Lite -> uri( 'http://' . $host . '/webreports?wsdl' )
-> proxy('http://' . $host );
my $result = $service -> GetRelevanceResult( $expr, $username, $password );
if( $result->fault ) {
    print "faultcode: " . $result->faultcode . "\n";
    print "faultstring: " . $result->faultstring . "\n";
}
else {
    foreach my $answer ( $result->valueof( "//GetRelevanceResultResponse/a" ) ) {
        print $answer . "\n";
    }
}

```

Raw SOAP Request and Response Format

A SOAP request looks like this:

```

<?xml version="1.0" encoding="UTF-8"?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/" >
  <env:Body>
    <GetRelevanceResult xmlns="http://[webreportshostname]:[webreportsport]
      /webreports?wsdl">
      <relevanceExpr>names of bes computers</relevanceExpr>
      <username>user</username>
      <password>password</password>
    </GetRelevanceResult>
  </env:Body>
</env:Envelope>

```

A SOAP response looks like this:

```

<?xml version="1.0" encoding="UTF-8"?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
  <env:Body>
    <GetRelevanceResultResponse xmlns=http://[webreportshostname]:[webreportsport]
      /webreports?wsdl">
      <a>Computer 1</a>
      <a>Computer 2</a>
      <a>Computer 3</a>
    </GetRelevanceResultResponse>
  </env:Body>
</env:Envelope>

```

Sample relevance expressions are available at the IBM BigFix documentation web site. You can also consult your IBM BigFix representative for more information.

Session Inspectors

IBM BigFix Console and Web Reports both depend on an in-memory session cache to provide an efficient view of your database. Due to their distinct environments, these two programs have some significant differences:

IBM BigFix Console	IBM BigFix Web Reports
Does not maintain Fixlet History inspectors.	Maintains Fixlet History inspectors, however, to reduce the memory footprint, version 8.0 runs slower.

Current inspectors are designed to work in the IBM BigFix Console only.	Current inspectors do not work.
Inspectors dealing with globally visible Fixlet messages are consistent across applications.	Locally visible Fixlet messages return nothing.
Works with only one IBM BigFix server.	Works across multiple IBM BigFix servers.
JavaScript Relevance calls are instantaneous.	JavaScript Relevance calls generate an HTTP request, which incurs a round-trip penalty to the server.
Links to Fixlet filters, computer groups, computers, Fixlet messages, tasks, and analyses work.	Links to Fixlet filters and computer groups <i>do not</i> work. However, links to computers, Fixlet messages, tasks, and analyses <i>do</i> work.

For more information about these special Inspectors, see the *IBM BigFix Session Inspector Guide*.

Displaying Web Reports from Content Sites

Web Reports accepts a report format that can display reports from content sites, allowing new reports to be added, edited, or removed by Fixlet actions or tasks. There are three basic report types: **External**, **Template**, and **Custom**. The report file must be a valid XML file with an extension of **.beswrpt** or **.webreport**.

The **Name** tag corresponds to the same-named columns in Report listings.

The contents and the existence of the **URLParameters** and **Data** tags depend on the **Type** tag. The Type tag can be one of three case-sensitive strings: **TemplateReport**, **CustomReport**, or **ExternalReport**.

The .beswrpt file can also contain multiple reports in a single XML file:

```
<BESWebReports>
  <BESWebReport>
    .
    .
    .
  </BESWebReport>
  <BESWebReport>
    .
    .
    .
  </BESWebReport>
</BESWebReports>
```

External Reports

An External Report contains a URL pointing to another page, service, or reporting engine. The report file is a simple wrapper containing the full URL of the destination. When you import an External Report, it is shown in the Web Reports list like any other report. When you click an External Report, it loads the target page into the browser.

In this example, an External Report loads the IBM BigFix home page:

```
<BESWebReport>
  <Name>Example External Report</Name>
```

```

<Description>
  IBM BigFix Home Page
</Description>
<Type>ExternalReport</Type>
<Category>External Report</Category>
<Source>IBM, Inc.</Source>
<Data>
  http://www.ibm.com/software/tivoli/solutions/endpoint/
</Data>
</BESWebReport>

```

Note: An embedded URL is an absolute address and must start with `http://` or `https://`

Template Reports

A Template Report is similar to an External Report, except that the base of the URL is assumed to be the Web Reports server. These reports are essentially the same as the native Web Reports. The information in this section is included for completeness; in general you only need to use Custom or External reports.

The Data tag does not exist for this report. Instead, it passes all its information in the **URLParameters** tag.

For example, you might create this Issue Assessment report:

```

<BESWebReport>
  <Name>Example Issue Assessment Report</Name>
  <Description>
    An example report. Runs the Issue Assessment report with specific Fixlets,
    BES Support/129 and BES Support/173.
  </Description>
  <Type>TemplateReport</Type>
  <Category>Issue Assessment</Category>
  <Source>IBM, Inc.</Source>
  <URLParameters>
    FixletParam=BES Support%2f129&FixletParam=BES
    Support%2f173&page=VARReport
  </URLParameters>
</BESWebReport>

```

In XML as in HTML, you need to escape the URL Parameter.

Appendix B. Support

For more information about this product, see the following resources:

- IBM Knowledge Center
- IBM BigFix Support Center
- IBM BigFix Family support
- IBM BigFix wiki
- Knowledge Base
- IBM BigFix Forum

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