Decision Support System
Software Asset Management (SAM)

Installation and Configuration Guide

Version 1.2.2

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Part One

Introduction

The BigFix Decision Support System Software Asset Management (DSS SAM) tool is an application used to identify under-utilized software, track software usage patterns and trends, and detect over-used software licenses to maintain compliance with license agreements.

This *Installation and Configuration Guide* is intended to be a setup guide for IT managers and system administrators to install and configure the BigFix Decision Support System Software Asset Management (DSS SAM) application. Specifically, it includes step-by-step instructions for deploying inventory tasks using the BigFix Console, installing and configuring the DSS SAM web application, and populating the DSS SAM Asset Repository. This Guide also details system requirements for each application component, and provides licensing and installation instructions to enable you to deploy DSS SAM in your environment.

End users of the DSS SAM application should refer to the DSS SAM *User's Guide* or *End User QuickStart* documents for standard operating procedures.

> **Note:** If you are installing DSS SAM version 1.2.2 and you already have a previous version installed on your server, check the Upgrading section in the Appendix of this document for specific guidelines.

Terminology

The following is a list of terms common to the DSS SAM application. Please check the BigFix Knowledge Base articles for any terms not listed here.

Agent or Client - BES Clients, also called Agents, are installed on every computer you wish to manage under BigFix. They access a collection of messages that facilitate the management of the computer. The BES Client may then implement corrective actions received from the BES Console through the BES Server.

Ambiguous Software – Software is considered ambiguous when its executable file resembles another file in the system.

Console - The BES Console ties several components together to provide Administrators with a system-wide view of all computers on a network, along with their configurations. It allows an authorized User to distribute fixes to a given computer without impacting any other networked computers.

Dashboard - The BES Console contains dashboards, which provide the User a quick and convenient view of the most common information and actions.

Datasource - A datasource is a BigFix Server that manages your BigFix deployment. It holds all the data required managing your computers, including the results of the DSS SAM tasks and analyses inventory results. You will need to extract key inventory data from the datasource and place it in the DSS SAM database for inventory reporting.

Definitive Package – A definitive package is a string of data that identifies the presence of software. A definitive package, which does not need an executable listed in the catalog, is the primary method for identifying the presence of software on a computer.

Domain – A collection of network devices belong to a domain, which is an administrative space managed according to common characteristics of the members.

End Point - An endpoint, which may be a server, desktop, workstation, mobile device, or laptop, is a device on your network that may or may not have the BES Client/Agent installed on it.

Package – A package is an artifact that serves as a tie breaker to help distinguish the difference between two executables that look alike. The two types of packages are “regular packages” and “definitive packages.

Server - Servers coordinate the flow of information to and from individual computers and stores the results in the databases.

Site - A site is a collection of instructions that BigFix refers to as ‘content’, which may be deployed to Clients to detect configuration and implementation corrective actions. This includes fixlets, tasks, dashboards (html code installed on a BigFix Server), wizards, applications, executables, and analyses.

System Requirements and Prerequisites

- The DSS SAM application must be installed on a Microsoft Windows 2003 Server (32-bit or 64-bit) or a Microsoft Windows 2008 server (32-bit or 64-bit). This will be your target application server.
- BigFix Server version 7 must be available in your environment. The BigFix DSS SAM application may be installed on the same server, or on a separate server.
- SQL Server 2005 or 2008 (32-bit or 64-bit) with TCP/IP must be available in your environment. This server may be on the same computer as the DSS SAM application or on a separate server. You may use the same database server used for the BigFix Server, or a separate database server, depending on the size of your deployment and available hardware resources. This version of DSS SAM supports all editions of SQL Server 2005 and 2008.
- SQL Server Browser is needed if you are using a named instance rather than the default instance of SQL Server. It is also needed by the Configurator to enumerate named instances in the server’s combo box on the SQL credentials panel.

SQL Server Required Components

Component	Required by DSS SAM
SQL Server 2005 or 2008	Yes
SQL Server Active Directory	No
SQL Server Agent	No

SQL Server Browser	Yes
SQL Server Full Text Search	No
SQL Server VSS Writer	No

- Users and Administrators of the DSS SAM application must use Internet Explorer version 7 or FireFox version 3 (or later versions) and Adobe Flash version 10 (or later) to access the application. Your browser needs to have cookies enabled in order to run the application properly.
- To generate PDF format reports (in addition to CSV), you must have the Java JDK version 1.4 or higher (Java Development Toolkit) on your DSS SAM Server. (Note: This is different than Java Runtime Environment.) Access Java JDK from Sun's website: http://www.sun.com/download/index.jsp or http://java.sun.com/javase/downloads/index.jsp to download the latest JDK. If JDK is not installed, all DSS exports will use the CSV output rather than PDF. For specific installation instructions, go to the BigFix Knowledge Base.

User Accounts and Access Recommendations

During installation and configuration, you will be asked for usernames and passwords. Each stage of the installation (which installs different components) may require a user with different permissions. Use the table below to determine which username to use according to your stage of the installation process:

Step 1 – Subscribe to the Content Site
Step 2 – Install the DSS SAM application
Step 3 – Configure the services that run the software
Step 4 – Configure the connection from the DSS SAM application to the databases

	Step	Account Requirements	Type
1.	Subscribe to DSS SAM Content Site	BES Operator login with permissions to subscribe to content sites	BES Operator
2.	Install DSS SAM	Administrator for the O/S where you're installing DSS SAM ***Note:** A non-administrator may be able to run the Configurator, but this may result in an error.	Domain or local
3.	Configure the services that run DSS SAM and connect to the databases	Service account with db_datareader permissions on BES DB and read permission to the BigFix server upload manager directory	Domain
4.	Create the DSS SAM databases	Specify using the service account with Administrator permissions on the database server, or User with SQL Authentication with Administrator permissions on database server	Domain SQL

For additional guidance on user accounts and access, check the Knowledge Base on the BigFix support site.

Deployment Sizing Requirements

The DSS SAM application is designed to run in a variety of deployment configurations, depending on the size and architecture of your system and how you intend to use the application. Sizing requirements and hardware specifications will vary according to your configuration.

Consider the following factors to ensure the correct component processing speed, RAM, and disk space to accommodate your BigFix Client capacity:

- The number of users accessing the DSS SAM application will determine how much processing power and RAM your server must have.
- The number of BigFix Clients will determine the amount of disk space required for files and for the database server.

> **Note:** If you are using SQL Server Express Edition, see the Microsoft website for size limitations.

For a two-computer server configuration, 1MB per BigFix Client should be allocated on the BigFix Server split between files and the database, and 1-2MB per BigFix Client on the DSS SAM application system, also split between files and database.

For example, 10,000 BigFix Clients would require 10GB of free space on the BigFix Server, and 10-20GB free space on the DSS SAM application machine. This scenario would require the BigFix Server database to be on the same machine as the DSS SAM application. For sizing requirements on other deployment configurations, see the Appendix.

Hardware Specifications

The values listed below are recommended hardware specifications that will provide optimum performance for similar sized deployments of the DSS SAM application. If your deployment will include over 20 DSS SAM application users, consider augmenting your hardware specifications to the next higher scale, or contact BigFix Technical Support for assistance with hardware selection.

For best performance, consider the following recommendations:

Deployment Size	CPU	Memory	Hard Disks
< 250	2-3 GHz	1 GB	Standard HD
1,000	2-3 GHz - 2 Cores	2 GB	1 RAID Array (RAID 10, 5)
10,000	2-3 GHz - 2-4 Cores	4 GB	1-2 RAID Arrays (RAID 10)
50,000	2-3 GHz - 4 Cores	8 GB	2 RAID Arrays (RAID 10)
100,000	2-3 GHz - 4-8 Cores	12 GB	3 RAID Arrays (RAID 10)
> 200,000	2-3+ GHz - 8-16 Cores	16+ GB	3-4 RAID Arrays (RAID 10)

RAID arrays must support use of the disk cache for both reading and writing. The disk cache should be set to 50/50 read write.

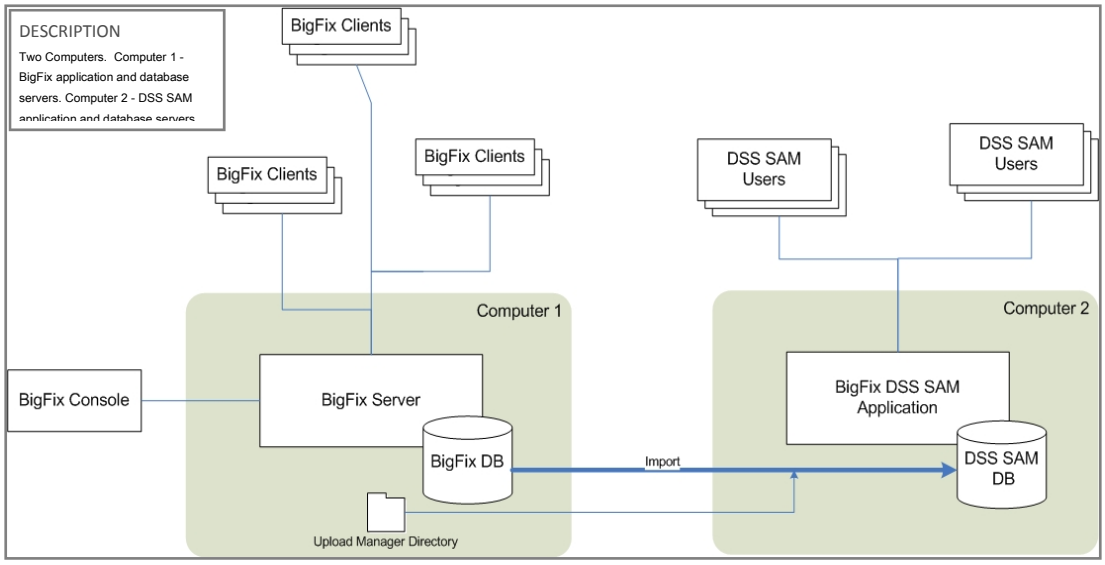
Permissions

Ideally you will have one domain user account with the following permissions:

- Permission to install the application on your DSS SAM server
- Permission to connect to your database server and create databases
- Permission to connect to your BES database and read data
- Permission to read data from the BES server upload manager directory

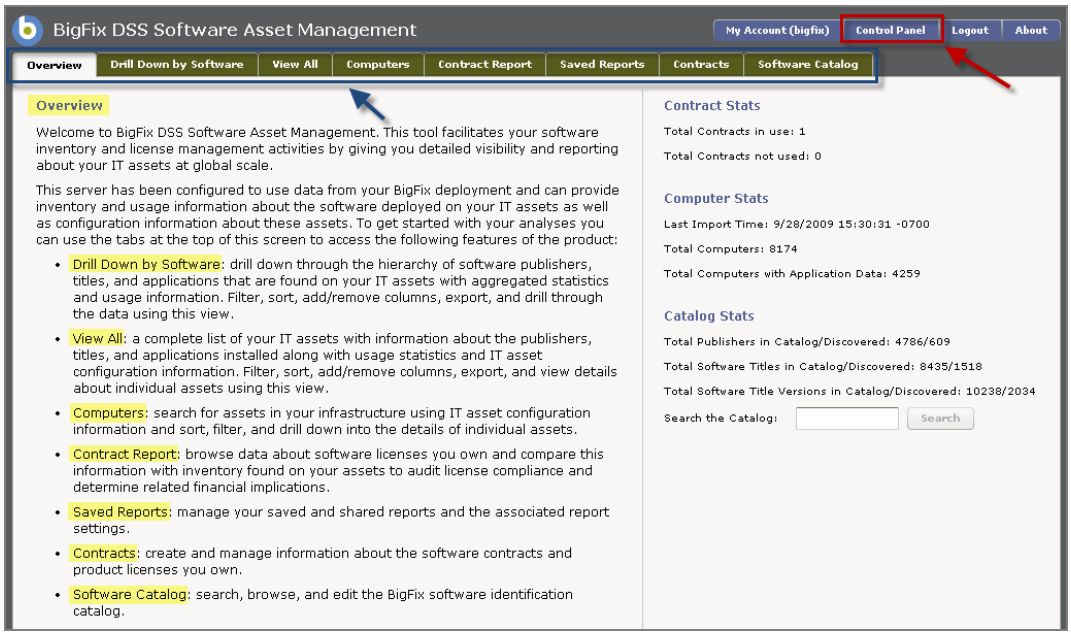
Overview

The diagram below, displaying a typical 2-computer deployment configuration, represents how the DSS SAM application interfaces with your present BigFix Server installation.

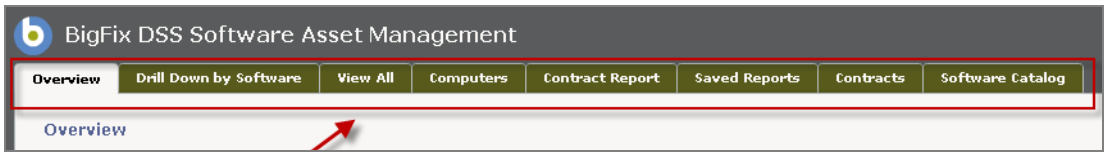


Inventory data is extracted from the BigFix Server database and imported into the DSS SAM application database using an *Extract, Transform, and Load* (ETL) import process. Each DSS SAM user accesses the DSS SAM Application Server from their computer using a web browser.

Review the image below to see the basic format of the DSS SAM GUI.



The GUI navigation is organized by eight tabs across the top of the screen: *Overview, Drill Down by Software, View All, Computers, Contract Report, Saved Reports, Contracts,* and *Software Catalog*.



See the table below for a brief description of each tab.

Tab	Description
Overview	A summary screen displaying the software inventory and license management activities in your deployment
Drill Down by Software	Drill down through the hierarchy of software publishers, titles, versions, and applications found on your IT assets, with aggregated statistics and usage information through the use of user-specified filters.
View all	View a complete list of your IT assets along with usage statistics and IT asset configuration information through the use of user-specified filters.
Computers	Search for assets in your infrastructure using IT asset configuration information about individual asset details.
Contract Report	Browse data about the software licenses you own and compare this information with inventory found on your assets to audit license compliance.
Saved Reports	Manage your saved and shared reports and the associated report settings.
Contracts	Create and manage information about the software contracts and product licenses you own.
Software Catalog	Search, browse, and edit the DSS SAM Software Catalog.

Part Two

Installation

Prior to beginning the Installation process for the DSS SAM Content, you need to know how to use the BigFix Console and be logged in. Below is a basic overview of how DSS SAM content appears in the BigFix Console. For more detailed information about the Console, please review the BigFix Console Operator's Guide.

The navigation tree in the BigFix Console, which is available for all BigFix products, will serve as your central command for all DSS SAM installation functionality. The Console navigation tree gives you easy access to all reports, wizards, Fixlet messages, analyses and tasks related to your DSS SAM deployment. Daily use and operation of the DSS SAM application will be through the UI site, which will be detailed later in this document.

Console Components

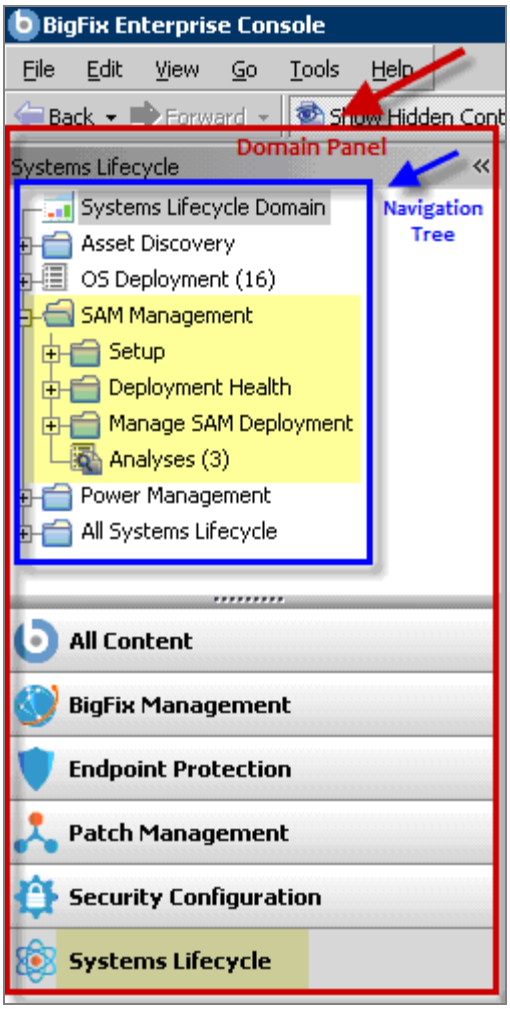
The BigFix Console organizes content into four parts:

- *Domain Panel – Includes navigation tree and list of all domains*
- *Navigation Tree – Includes list of nodes and sub-nodes containing site content*
- *List Panel – Contains listing of tasks and Fixlets*
- *Work Area – Work window where Fixlet and dialogs display*

In the context of the BigFix Console, products or *sites* are grouped by categories or *domains*. For example, SAM Management is one of the sites contained within the *Systems Lifecycle* domain, along with Asset Discovery, Power Management, among others.

The domain panel is the area on the left side of the Console that includes a navigation tree and a list of all domains. The navigation tree includes a list of nodes and sub-nodes containing site content.

In the image below, you will see a navigation "tree" at the top with expandable and collapsible nodes, and a list of domains at the bottom. By clicking the *Systems Lifecycle* domain from the domain panel, a list of sites associated with that particular domain will display in the navigation tree at the top.

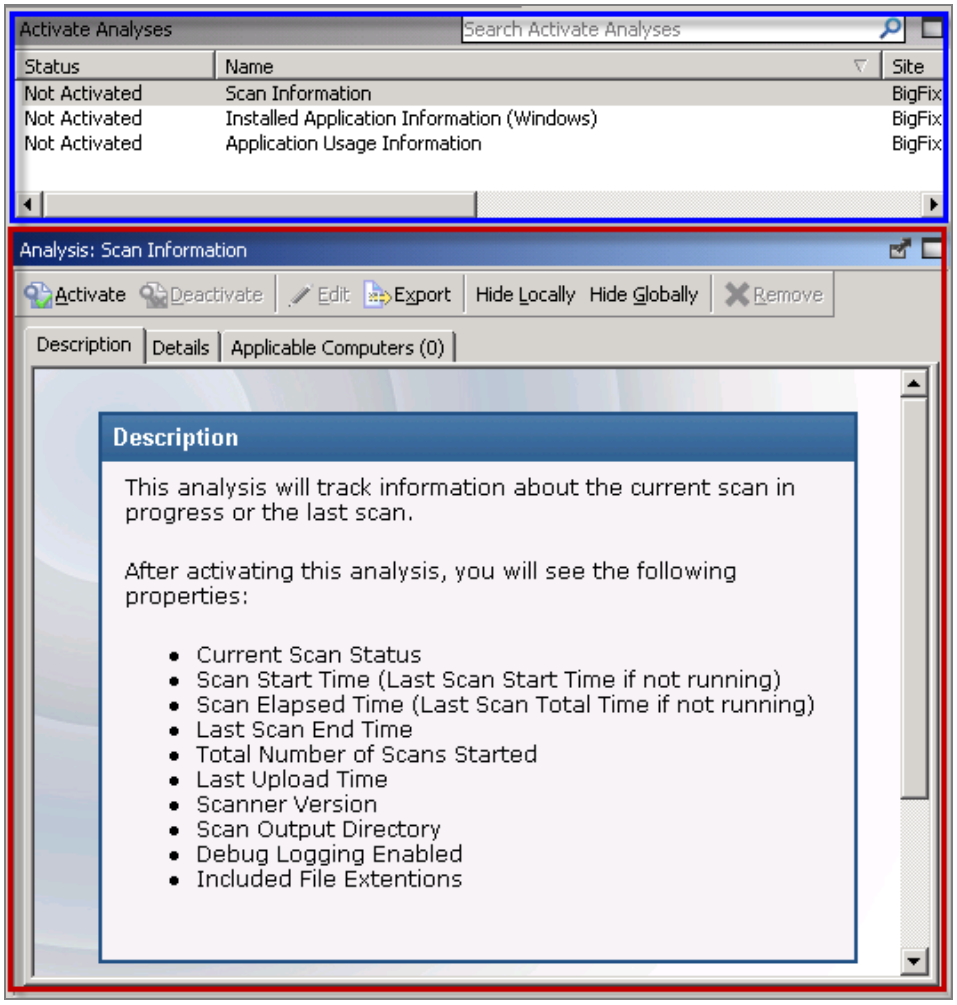


The red-outlined area represents the entire Domain Panel (including the navigation tree and list of domains), and the blue box contains just the Navigation Tree for the *Systems Lifecycle* domain.

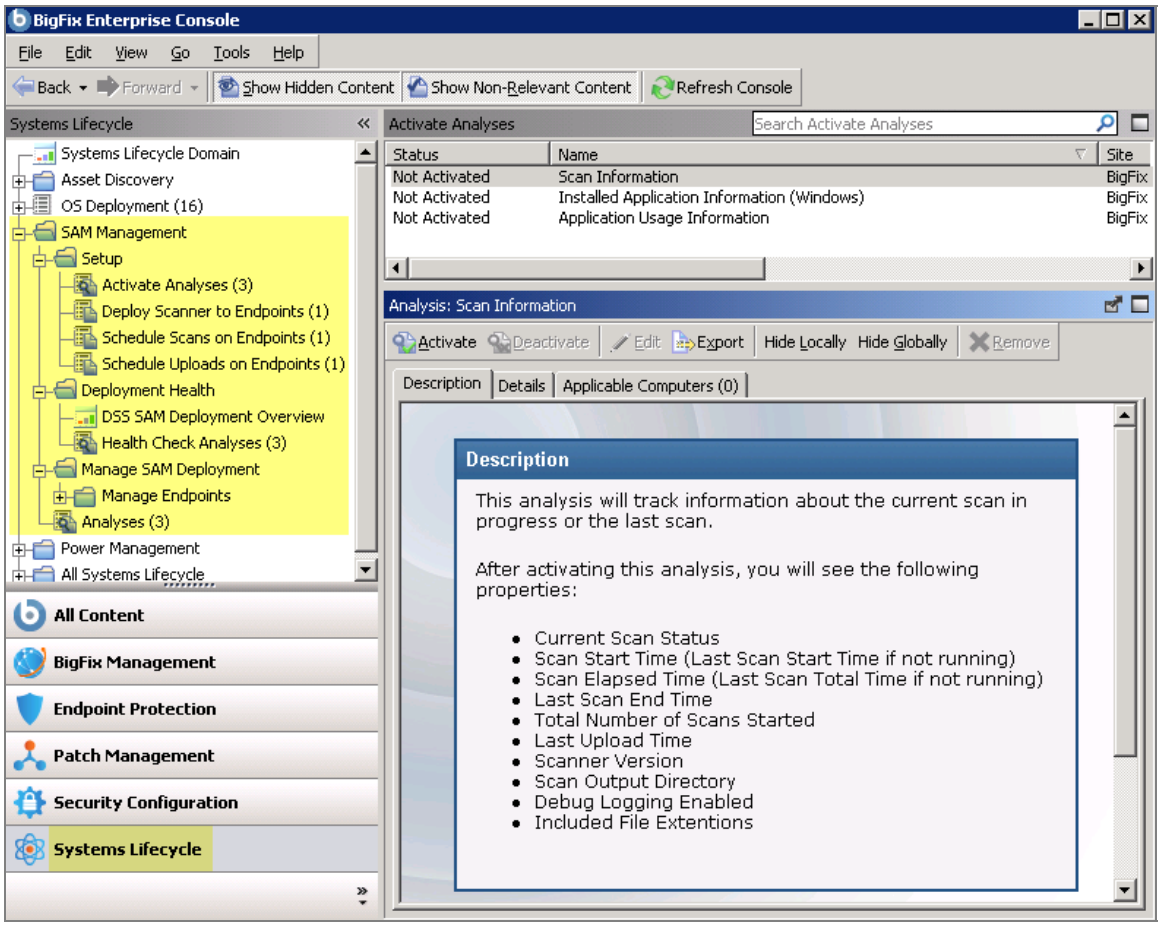
SAM Management tasks are sorted through upper and lower task windows, which are located on the right side of the Console.

The upper panel, called the *List Panel* (blue), contains columns that sort data according to type, such as Status, Name, Site, Applicable Computer Count, etc.

The lower panel or *Work Area* (red) presents the Fixlet, task screen or Wizard from which you will be directed to take specific actions to customize the content in your deployment.

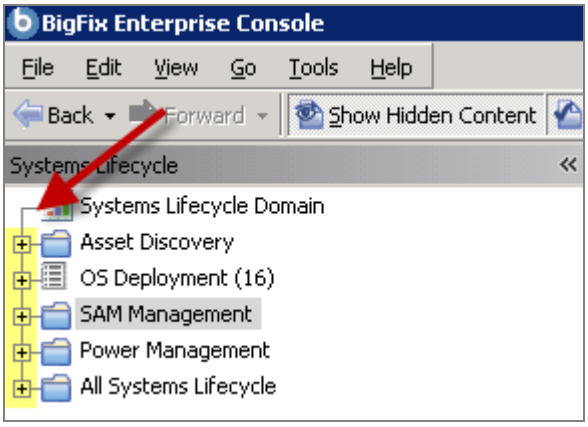


Here's how it all looks together:

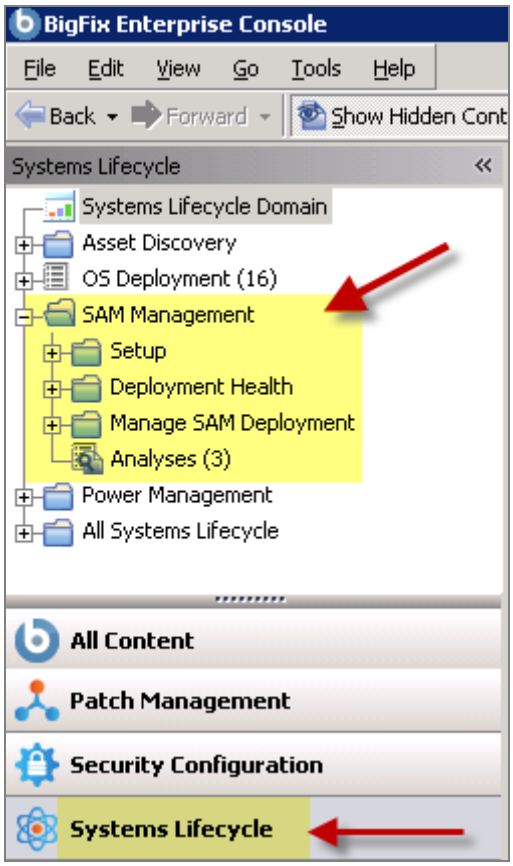


Working with Content

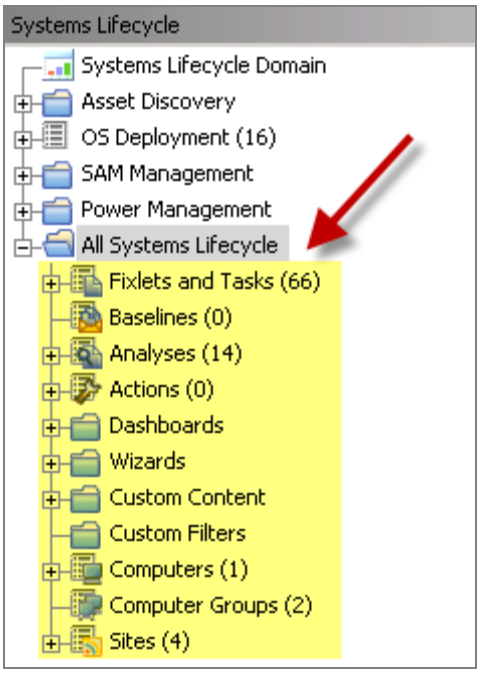
The navigation tree organizes SAM Management content into expandable and collapsible folders that enable you to easily navigate and manage relevant components in your deployment. Click the plus sign (+) to expand the navigation tree nodes and the minus sign (-) to collapse them.



When you click on the *Systems Lifecycle* domain at the bottom of your screen, you will see content related to the SAM Management "site" organized into expandable nodes.



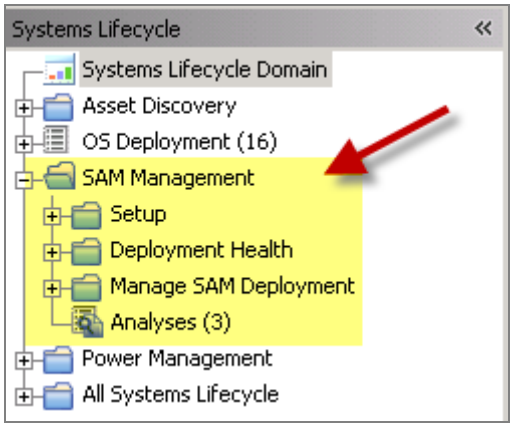
The *All Systems Lifecycle* node includes content (analyses, dashboards, wizards, etc.) related to the entire Systems Lifecycle domain as a whole, including all of its related "sites".



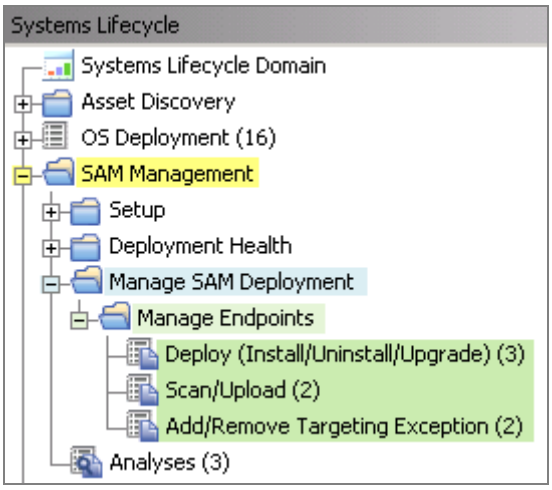
> **Note:** Depending on your operating system, your system may display the "+" and "-" buttons in the navigation tree as triangles. Specifically, the "+" and "-" icons will display on Windows XP/2003/2008/2008R2 machines, and triangles will display on Windows Vista/7. This feature was designed so that the Console matches the standards and conventions of your specific operating system. Regardless of the particular icon, the functionality of these buttons works the same way to either expand or collapse content.

You will use this same expand/collapse method to move through the entire navigation tree.

SAM Management content is organized into 3 primary nodes: *Setup, Deployment Health,* and *Manage SAM Deployment,* as well as Analyses.



Some of these nodes expand into sub-nodes that contain additional content:



The next sections provide detail to the following content:

- Installing DSS SAM Content via the BigFix Console
- Installing your DSS SAM Application Server

Deploying the DSS SAM Content Site

The DSS SAM Site Masthead contains information about BigFix content that performs SAM tasks and analyses. You must be subscribed to the site to collect the inventory data from the BigFix Clients. DSS SAM will utilize this inventory data for reporting and analysis.

Adding or Subscribing to DSS SAM Site

The process for site subscription depends on the version of the BigFix Console that you have. Click **here** to get specific site subscription directions from the BigFix Knowledge Base.

> **Note:** It is important to deploy the DSS SAM Content from the BigFix site rather than from a Custom Site, even if your custom site contains the same content. The DSS SAM application will only use the software inventory data aggregated by your BigFix server using the tasks and analyses defined in the BigFix site.

Deploying Site Content to Your Computers

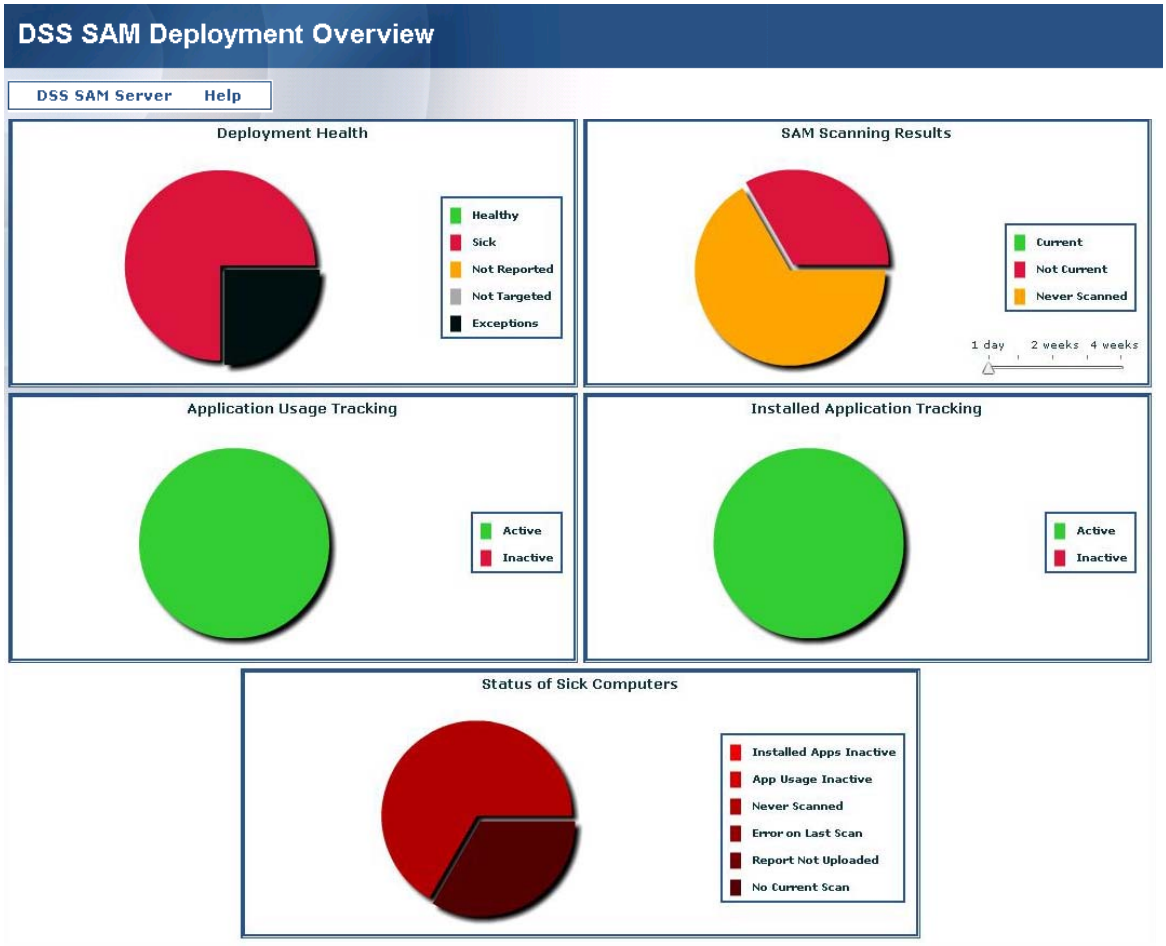
To properly collect software inventory data from your computers, you must have three components active for each computer: SAM scans, Application Usage Tracking, and Installed Application Tracking.

Deploying this site content to the computers in your network involves the following processes and sub-processes:

1. **Activating the Analyses**
2. **Deploying and Scheduling the SAM Scanner**

    a. *Install DSS SAM Scanner*
    b. *Schedule an Upload Policy Action*
    c. *Schedule a SAM Scanner Action*

This site contains Tasks and Analyses, which are managed using the Deployment Overview dashboard in the BES Console. The dashboard is organized into five pie charts, each displaying data based on the health of the inventory tasks on your computers: *Deployment Health, SAM Scanning Results, Application Usage Tracking, Installed Application Tracking,* and *Status of Sick Computers*. Each pie chart is described below.



Deployment Health

This chart shows the operational health of your DSS SAM Deployment. Click on the chart slices to open each computer group or right click on the chart to view the Health Breakdown to help diagnose any issues.

"**Healthy**" Computers:

- Run the SAM Scanner in the current time period, defined by the slider bar under the SAM Scanning Results chart
- Uploaded the data from that scan to the DSS SAM Server
- Are reporting both the Application Usage Tracking analysis and the Installed Applications analysis

"**Sick**" Computers:

Sick computers may have only one or two tracking components enabled, the data is not current, or there may be some other issue. See the *Status of Sick Computers* section below for more information on sick computers in your deployment. Computers designated as "Not Reported" have not yet reported any tracking analyses. "Not Targeted" computers exist within your BigFix deployment, but have not yet had DSS tracking enabled. Exceptions are the computers that you have explicitly excluded from DSS SAM inventory actions using Deployment Control Options under the Deploy menu.

SAM Scanning Results

This chart shows how many computers have run the SAM Scanner in the current time period (for example, in the last seven days), and have uploaded the results of that scan to the DSS SAM Server. Use the slider bar to adjust the time period up to 28 days to see how current your deployment is. Computers that are “Not Current” may have been offline for a period longer than the time period defined by the slider bar under SAM Scanning Results, or they may be locked.

Application Usage Tracking

This chart shows the number of computers reporting to the analysis "Application Usage Info".

Installed Application Tracking

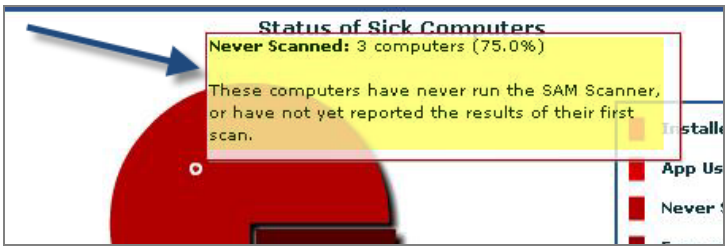
This chart shows the number of computers reporting to the analysis "Installed Applications".

Status of Sick Computers

This chart provides specific information about why computers in your deployment are reporting as “sick”. DSS SAM categorizes “sick” status through the following criteria:

- Installed Apps Inactive
- App Usage Inactive
- Never Scanned
- Error on Last Scan
- Report Not Uploaded
- No Current Scan

Mouse-over each pie slice to see a detailed description of each.

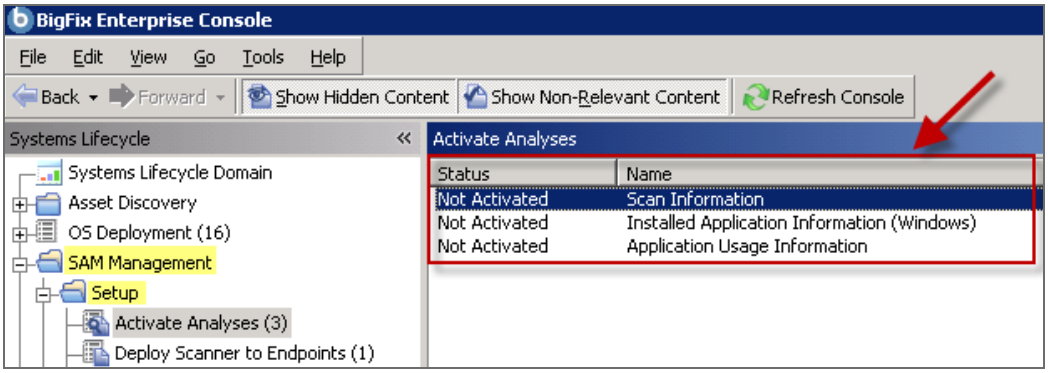


Two drop-down menus are located above the charts on the dashboard. See the table below for a brief description of each menu.

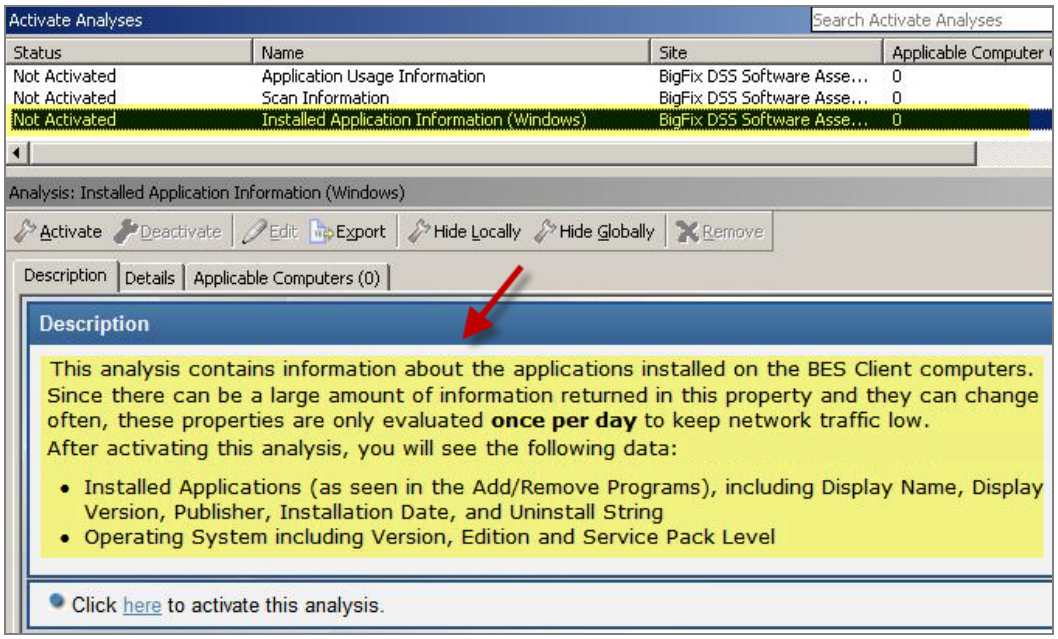
DSS SAM Server	Links you to your DSS SAM web application.
Help	Provides a link to this Installation and Configuration Guide

1. Activate the Analyses

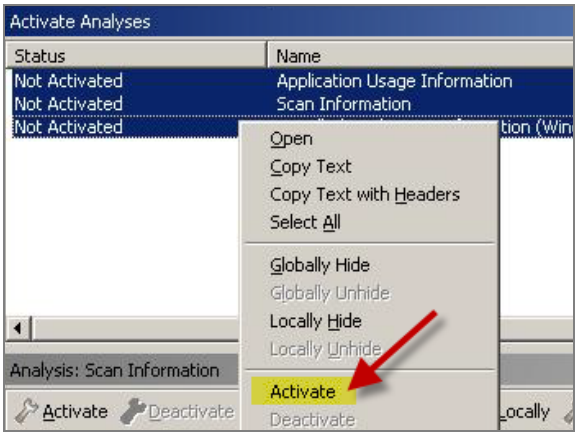
Open the *SAM Management* site in the BigFix Console. Click *Activate Analyses* under the *Setup* node in the navigation tree.



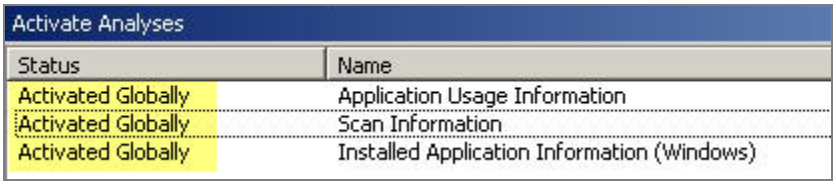
To learn how each analysis will affect your deployment, click on the analysis and view a description in the work area that will display below:



You may select each analysis individually or select the entire list of analyses all at once. Right-click to display a list of options, and select *Activate.* Enter your Private Key Password and click *OK*.



Once activated, the status of each analysis will change in the List Panel.

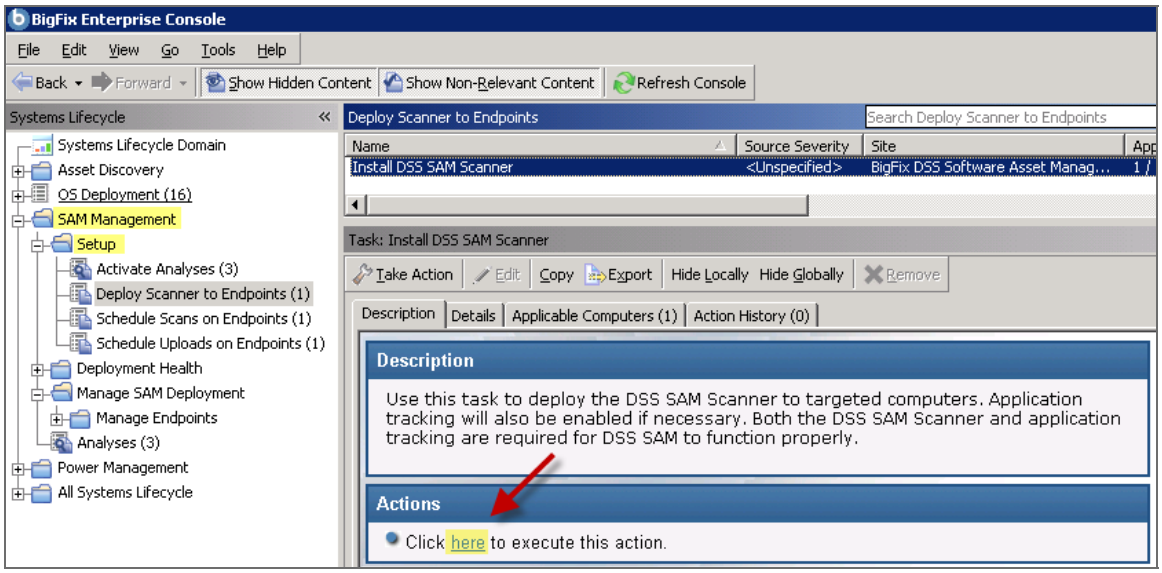


Now you are set up to view and analyze the computers you have targeted.

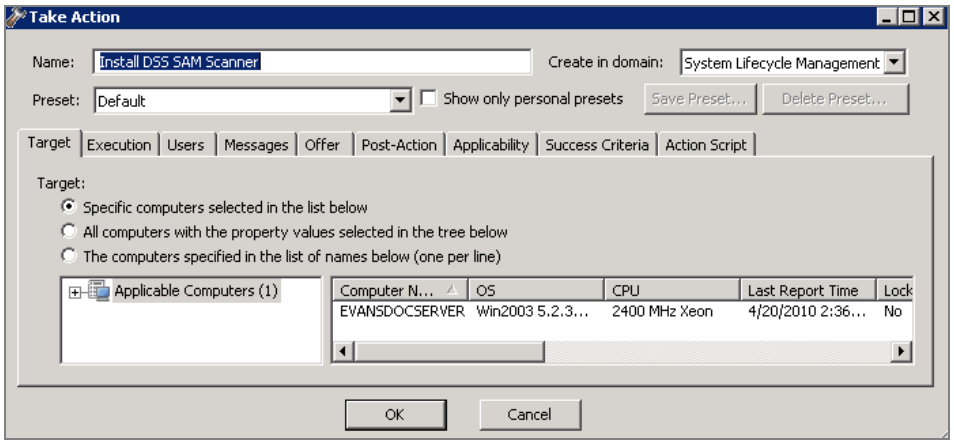
2. Deploying and Scheduling SAM Scanner

a. Install DSS SAM Scanner

To install the SAM Scanner, click *Deploy Scanner to Endpoints* under the *Setup* node in the navigation tree. This Task will deploy the SAM Scanner to your targeted endpoints. Click the link in the Actions box to initiate this action.



This will display the Take Action dialog, where you can set specific parameters for this Action. Use the tabs across the top of the page to customize how this action will affect your deployment. Then click *OK* at the bottom of the window. Enter your Private Key Password.



For detailed information about how to use the Take Action dialog, see the BigFix Console Operator's Guide.

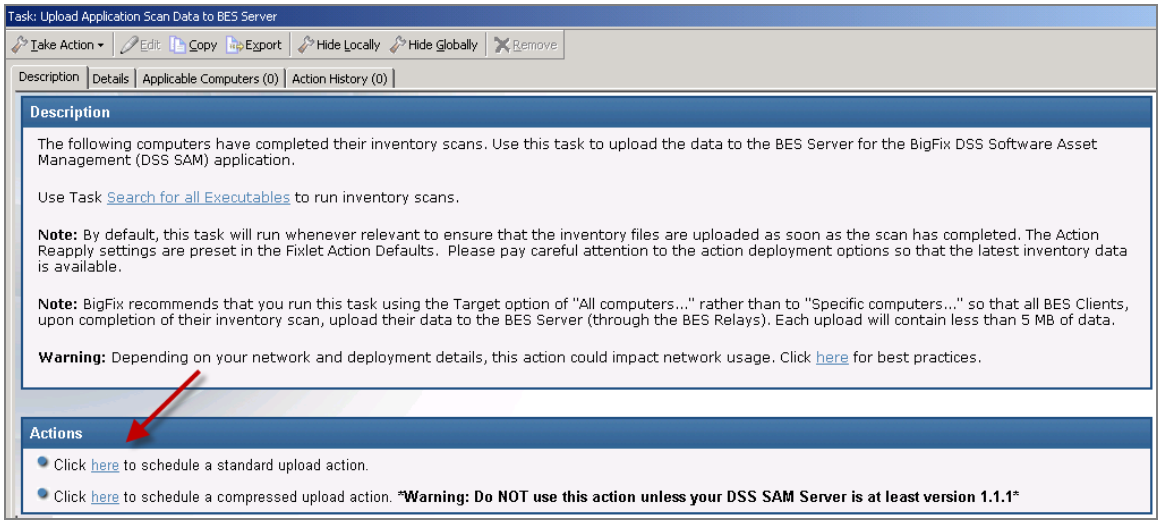
Note: You may choose to target a selection of computers rather than all computers. However, note that targeting less than all of your computers will result in an incomplete inventory of your software.

b. Schedule Upload Policy Action

A BigFix policy action will apply to any current and future computers that meet the applicability criteria defined in the policy. In this case, you will be creating a policy action that uploads the software inventory index to your BigFix server, whenever it is created or updated by the SAM Scanner on each computer. In the next step below, you will define the indexing schedules.

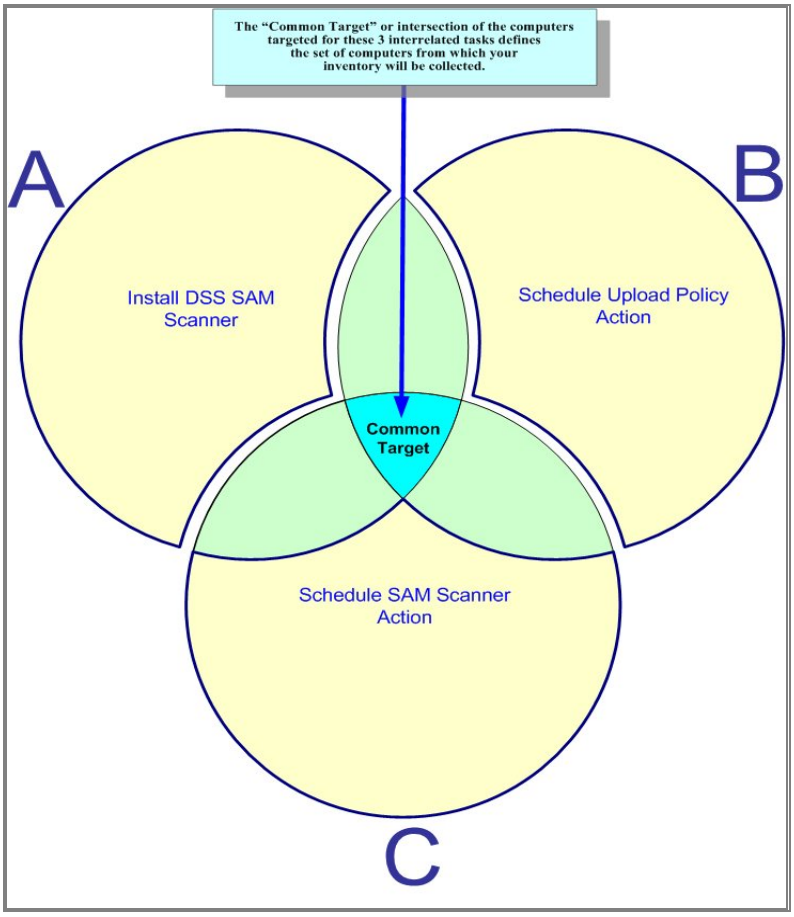
The Upload Manager buffer directory size limitations include a max value of 2^31 -1. Most customers with over 10,000 computers will need to move DSS SAM inventory data to a centralized location where there are no directory size limits.

From the navigation tree, click *Schedule Uploads on Endpoints.* Click in the Actions box to deploy the action. The Actions box has two options: you may schedule a standard upload action, or a compressed upload action. Only use the *compressed* action if you are running DSS SAM version 1.1.1 or later.



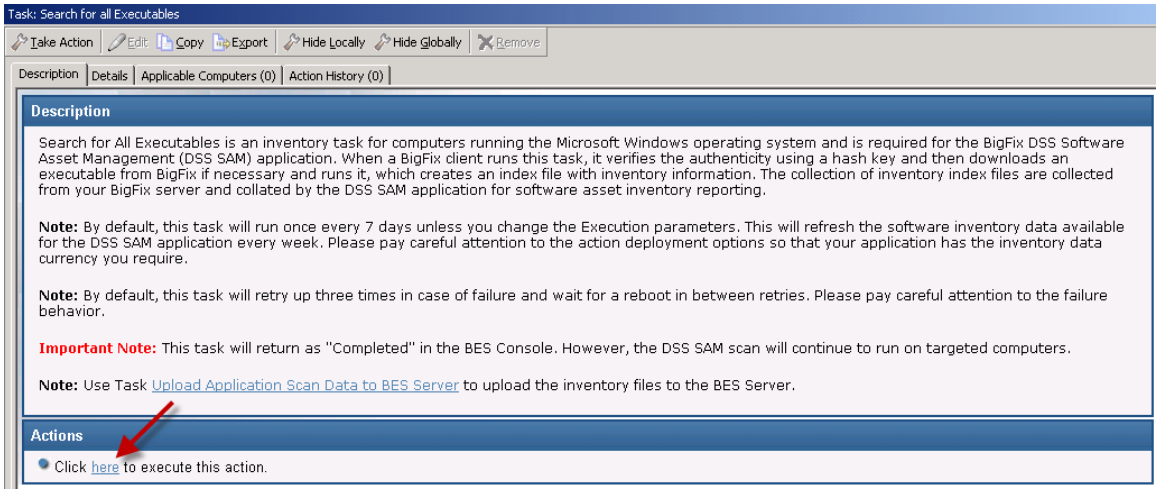
After clicking in the Actions box, the Take Action dialog will open. Make your selections, and then click *OK.*

> **Note:** You may choose to target a *selection* of computers rather than *all* computers. However, note that targeting less than all of your computers will result in an incomplete inventory of your software. See the diagram below for a visual depiction of this arrangement.

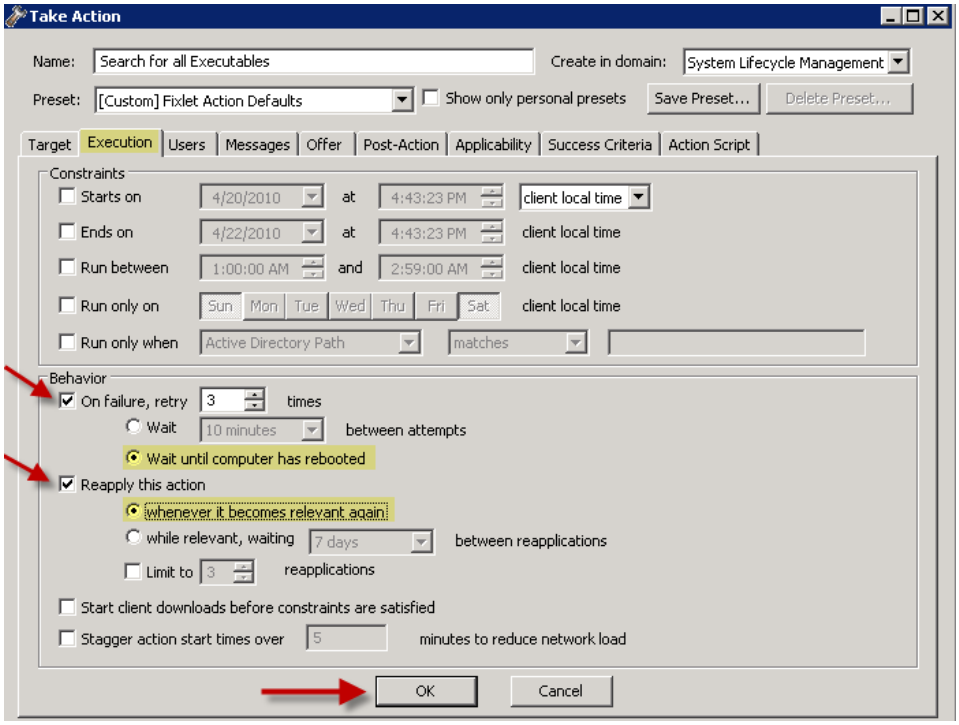


c. Schedule a SAM Scanner Action

The SAM scanner creates or updates the software inventory index on each computer according to the schedule you'll set in this step. From the navigation tree, click *Schedule Scans on Endpoints.* Click in the Actions box to execute the Action – this will open the Take Action dialog.



On the *Execution* tab, it is recommended to select the following parameters when specifying the type of scan:



In the *Behavior* section of the *Execution* tab, click the *Reapply this action* and *whenever it becomes relevant again* boxes, as shown above. These are the only boxes that should be checked on this tab. Then click *OK.*

For additional information about setting parameters through the Take Action dialog, see the BigFix Console Operator's Guide on the BigFix support website.

Installing the DSS SAM Application Server

BigFix will provide the DSS SAM application installer. Save the installer on the computer you have designated to be your DSS SAM Application Server.

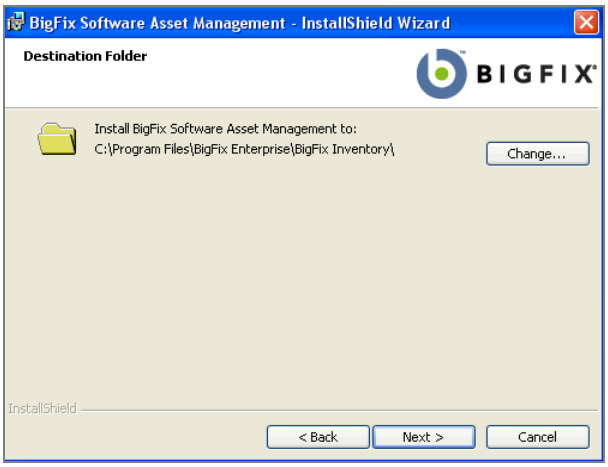
If you are upgrading from a previous version of DSS SAM, see the Upgrading section in the Appendix of this document.

Installing the Application

Click the installer icon on your DSS SAM Application Server machine.

This will launch the InstallShield Wizard. When the Welcome screen appears, click *Next*.

Follow the prompts through the License Agreement and Destination Folder screens.



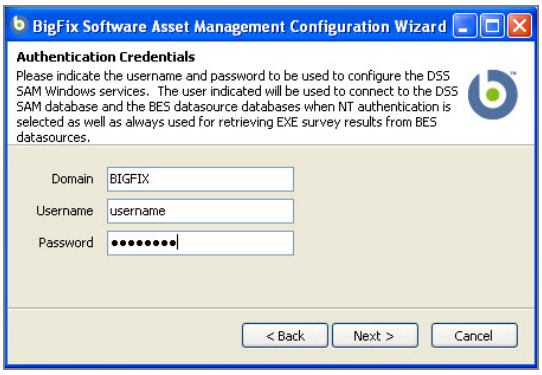
Select a location for your BigFix DSS SAM application, then click *Next*. The application will automatically begin installing and should take 1-2 minutes. When the Completed screen appears, click *Finish*.

This completes the installation of the DSS SAM application. After clicking *Finish*, you will see a splash screen that may display for up to three minutes as the Configuration Wizard loads.

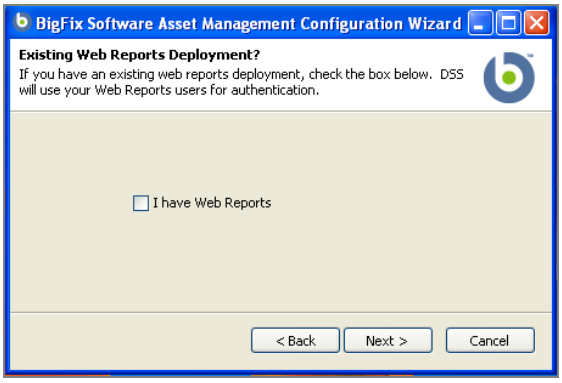
Configuring the Application

The next task is to configure the DSS SAM application using the DSS SAM Configuration Wizard. When the Welcome screen appears, click *Next*.

Enter the Domain, Username, and Password for the User under which the core DSS SAM application services will be run, then click *Next*. This user must have “bulkadmin” permissions and “datareader” permissions on your DSS SAM database server *and* on your BigFix database server. However, you may override this setting later when using the DSS SAM application by providing direct SQL authentication credentials for connecting to the database server. If you do not know your domain, username or password, check with your IT group.

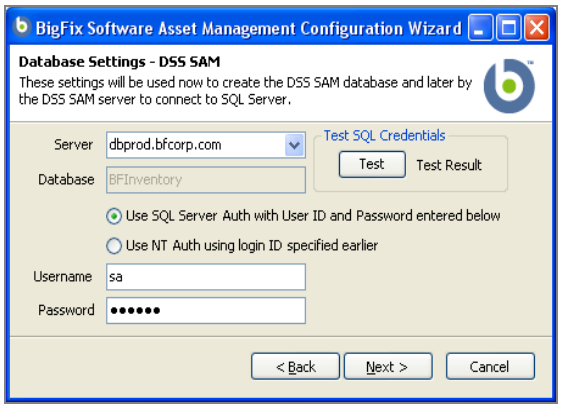


If you want your current Web Reports users to also be SAM users, click the *I have WebReports* box. Then click *Next.*



If you clicked the *WebReports* box, you will see a dialog box to set up your Data Settings for Web Reports.

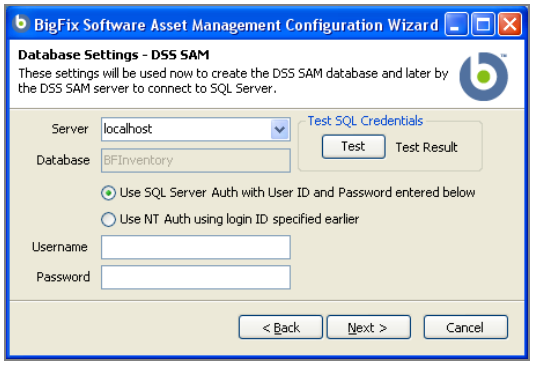
Then you will see a dialog box for setting up Data Settings for DSS SAM.

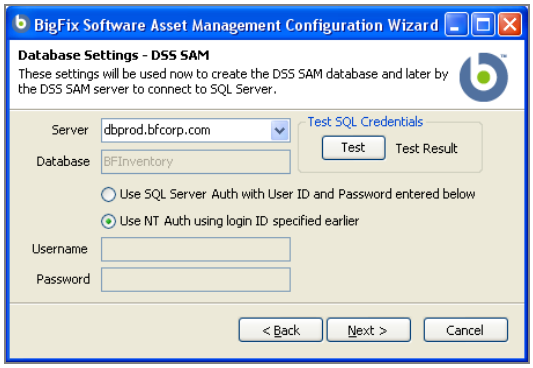


1. Select from the server drop-down menu or manually enter the database server name. This is where the database tables for the inventory will be created. This may also be the same database server where your BigFix Server database resides. If your server is on a nonstandard port, you may enter this by putting a comma and the port number after the server name (localhost,1433).

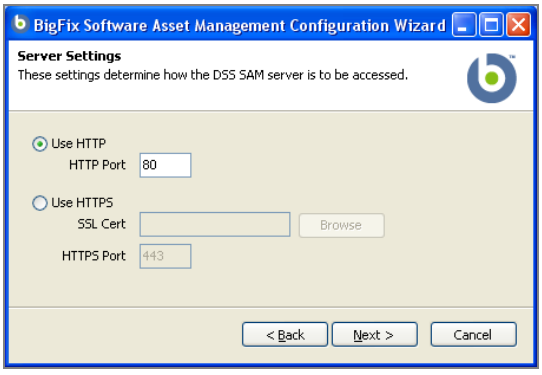
2. Select your connection method to either “SQL Server Authentication” or “NT Authorization”. SQL Server Authentication will require your SQL Server ID and Password. For NT Authorization, you will use the User information that was specified on the Authorization

Credentials screen. Be certain that this User has at least “dbcreator” permissions to create new databases and tables on the database server.





3. Click *Next*. The Server Port Configuration is set with a default of 80 for HTTP or 443 for HTTPS.

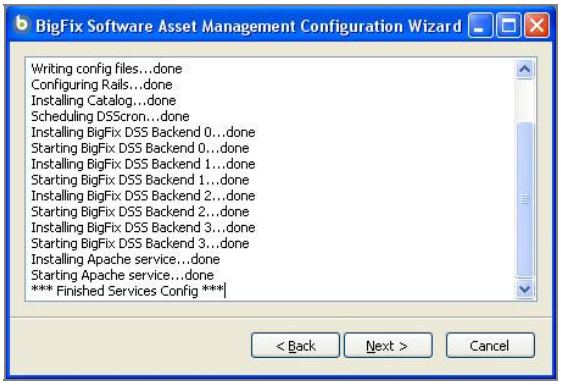


This is the port on which the DSS SAM application Users will access the DSS SAM application. If another service is using the specified port on your DSS SAM application machine, you have the option to enter another port number. BigFix Web Reports typically uses Port 80, so if you install SAM on the same computer as Web Reports, you must use a different port number.

To find your server port number, check with your IT department. If you change the port to a non-default, make note of the port number for later use.

Enabling the SSL option will require you to browse for your SSL Certificate. This Wizard only supports an SSL ".pem" file. Please note that this .pem file is *not* validated. The Administrator running the Configurator should verify that there is a valid certificate.

4. Click *Next*. The database for the DSS SAM application will be created on your SQL Server 2005 machine and services will be installed and enabled, as shown below**.**



The table below provides a brief description of the services installed by the Configuration Wizard.

Service	Definition
BigFix DSS Cron	"Cron" is driven by a *crontab*, a configuration file that specifies shell commands to run periodically on a given schedule. BigFix DSS Cron is a Windows scheduled task used to perform imports of BF data on a regular schedule.
Apache	Apache is the HTTP web server for the DSS SAM application. This service will appear as 'BigFixDSSApache' in the MS 'Administrative Tools/Services' console.
Mongrel	Mongrel is a fast HTTP library and server for Ruby on Rails intended for hosting Ruby web applications of any kind, using plain HTTP rather than FastCGI or SCGI. This service will appear as Several 'BigFix DSS Backend' processes in the MS 'Administrative Tools/Services' console. When it is running, you will also see Ruby.exe in your process tree.

5. At the *Completing the DSS SAM Configuration Wizard* screen, click *Finish*.

At this point, you have completed the installation of the BigFix DSS SAM application and configured the DSS SAM application database. The tables have now been created on your database server**.**

Part Three

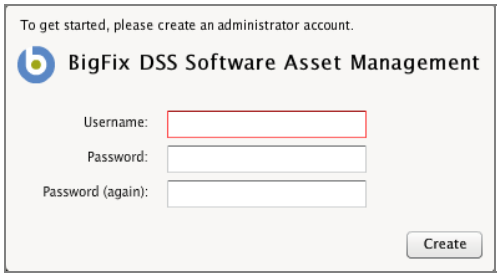
Configuration

Creating a Datasource

Now that you have installed the DSS SAM application web server and created the database, you are ready to configure the DSS SAM application for use. Open your internet browser to http://localhost. If you selected the SSL option, use https://localhost.

> **Note:** If the port was changed during the installation process from the default of 80 (or 443 if you are using HTTPS), you must specify the new port number when accessing the application. If you choose port 81 for example, enter http://localhost:81/.

1. Create an Administrator account for the DSS SAM application. Fill in the Username and Password fields.



> **Note:** Your system must have Adobe Flash 9 or higher installed in order to proceed. If not installed, the browser will prompt you to install Flash at that time.

2. Click *Create*. On the first run, the Administrator should create a User and Datasource. A datasource is a BigFix Server that manages your BigFix deployment. It holds all of the data required for you to manage your computers, including the results of the DSS SAM tasks and analyses inventory results. You will need to extract key inventory data from the datasource and place it in the DSS SAM database for inventory reporting.

3. Select the Configure Datasource link from the DSS SAM Overview screen.

> **Note:** You may also access *Platform Datasource* in the Control panel if you are logged in as a User in the Administrator group. Select the Control Panel button on the upper right hand side of the main DSS SAM application screen. Then select *Platform Datasources* located under the Data Import menu.

4. Click the *Plus Sign* in the lower part of the screen, and the Create Datasource screen will appear.

> **Note:** A Datasource is where the results of the DSS SAM Content Site Tasks and Analyses are stored. The steps you completed in Section 2 (*Deploying the DSS SAM Content Site*) were required to complete this section. When the DSS SAM Content Site is deployed to the BigFix Clients on your network, your inventory data will be available to the DSS SAM application.

5. You should now see the Create Datasource dialog box displayed. The Datasource Name field will be the name that you want to display in the DSS SAM application.

6. The Datasource Host field is the name of the database server for the BigFix Server from which you deployed the DSS SAM Tasks and Analyses. It contains the inventory results of that deployment. If your BigFix server's database is on a non-standard port, enter it with a comma separator. Example: 192.168.1.1, 1434.

7. The Datasource Database field is the name of the BigFix database for the BigFix Server from which you deployed the DSS SAM Tasks and Analyses. Unless you changed it when you installed your BigFix Server, the database will be named *BFEnterprise*.

8. The Datasource Authentication Type buttons provide a choice between *Windows Authentication* and *SQL Server Authentication*.

- ***Windows Authentication*** – If you use your domain credentials to connect to SQL Server, you will check Windows Authentication and the system will use the same account that you configured to run the DSS SAM server.

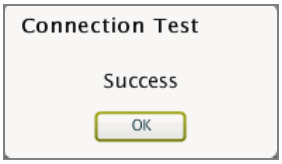
- ***SQL Server Authentication*** – If you do NOT use your domain credentials to connect to SQL Server, you will check SQL Server Authentication and enter your SQL Server username and password.

9. The EXE Scan Directory field is the location of the files uploaded by the BigFix Upload Manager, as specified by the Search for All Executables task defined in the DSS SAM Content Site. This UNC directory path must be accessible to the DSS SAM Application Server. The User under which the DSS SAM application runs, which was specified during the installation process (see *User Accounts and Access Recommendations* section), must have Read Permission to this directory.

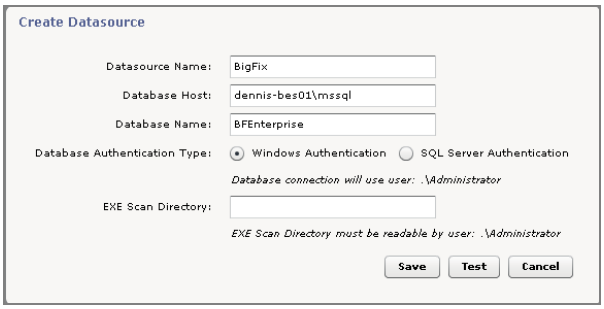
   The default path on your BigFix Server is as follows:

   ```
   \\<machine_name>\c$\Program Files\BigFix Enterprise\BES Server\UploadManagerData\BufferDir\sha1
   ```

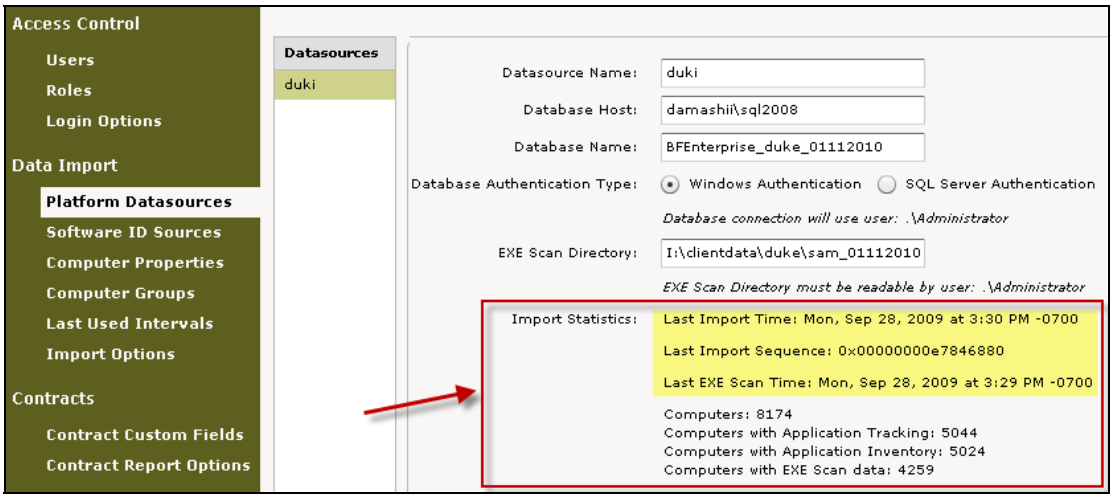
10. Click *Test* and you will see a Connection Test screen. Click *OK.*



11. Review the data on your Create Datasource screen. Then click *Save.* (This process may take several minutes while DSS server reads information from your BigFix server.)



The following screen will confirm the import status of your newly-defined datasource:



If you have multiple BigFix servers, you may add more than one datasource by repeating the steps above. If you are using BigFix DSA for server replication, you only need to add one of your BigFix root servers as the datasource. There is a specific DSA configuration for DSS SAM inventory. Please consult the BigFix Knowledge Base for more information.

You have now configured the DSS SAM application with information about where the inventory data resides that will be extracted and populated into the DSS SAM application database. Populating the database is the next step.

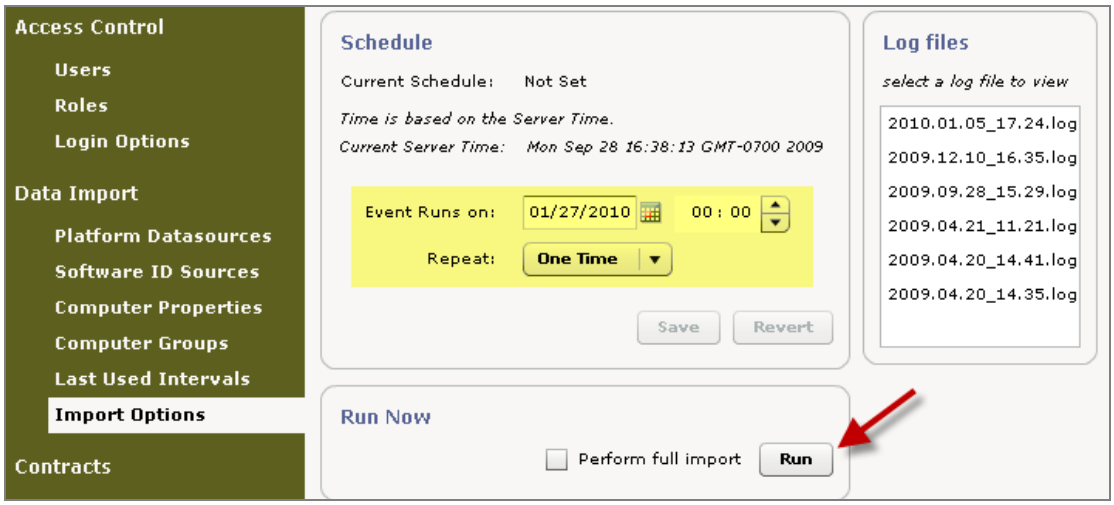
Import Options

The inventory results are stored on your BigFix Server in the location you specified under the Platform Datasources section. You will need to extract that data and load it into the DSS SAM application database for use by the DSS SAM application.

In this section, you will also specify a schedule for extracting the data from your BigFix Server and importing it into the DSS SAM application database**.**

Scheduling

1. Select *Import Options* under the Data Import menu in the Control Panel. Import Options generates a Schedule screen, as shown below.

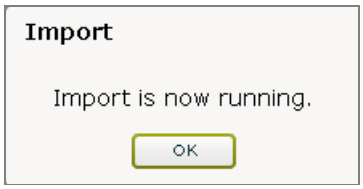


2. The Schedule box allows you to schedule your database refresh times, or perform one immediately.

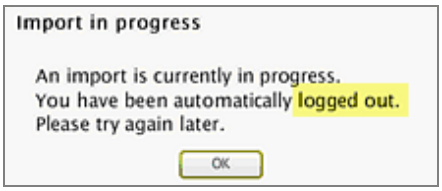
3. The *Run Now* box allows you to schedule a full import to execute at a certain time or click *Run*.

4. You have now finished installing the DSS SAM application software. Once the import is complete, you have populated your DSS SAM application database with inventory data from your BigFix Server.

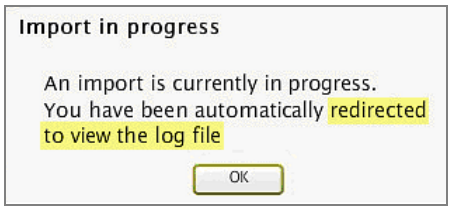
> **Note:** The scope and currency (freshness) of your inventory data is determined by two criteria: 1) the Execution settings you used for the DSS SAM inventory tasks you created using the BigFix Console in the *Deploying the DSS SAM Content Site* section, and by 2) your settings on the Import Options schedule screen. The data in DSS SAM is only as current as your most recent import.



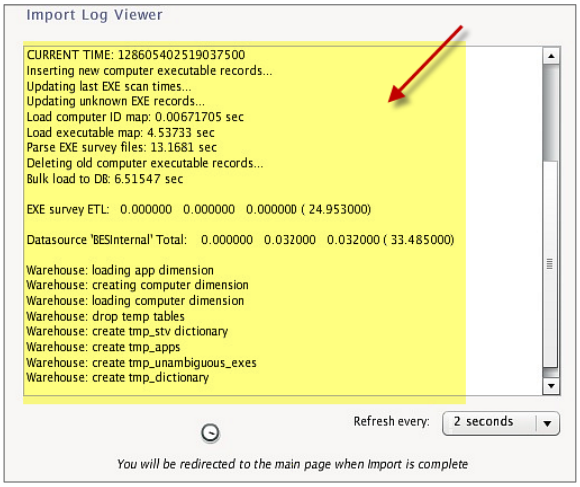
Users will be logged out if they attempt to use the application while an import is running:



However, DSS SAM Administrators will be redirected to a temporary import status screen if they attempt to use the application while an import is running:



Clicking *OK* will display the following Import Log Viewer. As the import progresses, the log file contents are displayed within the Viewer:

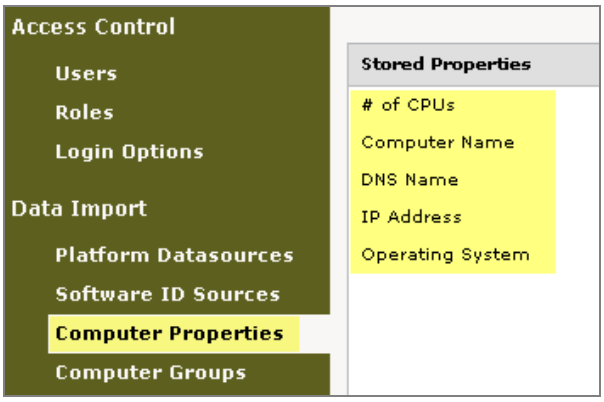


Customizing the Data Import

Computer Properties

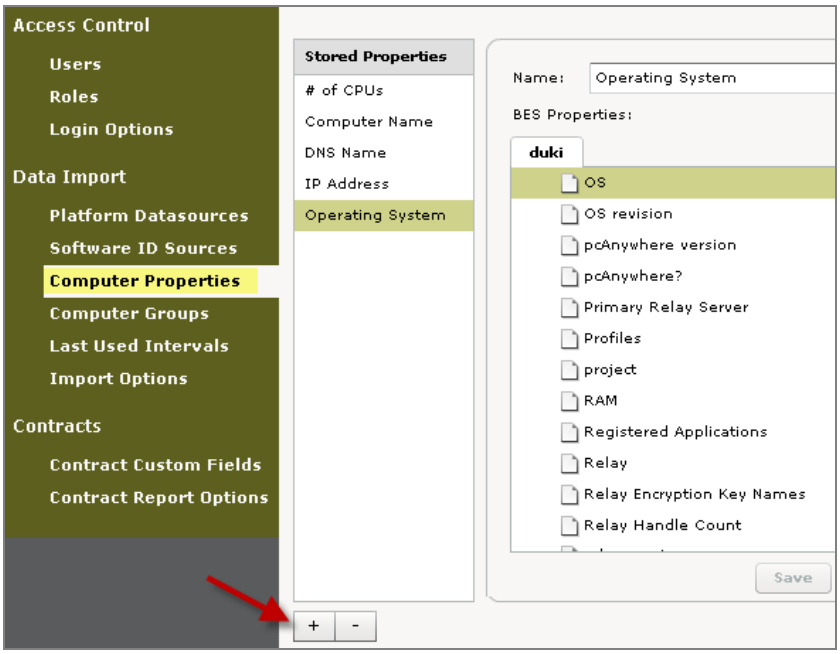
Computer Properties are properties already available on your BigFix Server that need to be available in the application for reporting. By default, DSS SAM includes four primary computer properties from your BigFix Server configured as the DSS SAM Datasource: *Computer Name, DNS Name, IP Address,* and *Operating System*. You may select additional properties to be extracted from the BigFix Server database and copied into the DSS SAM application database each time a data import occurs.

Note: Any computer property that you want to use as a "unit of contract" analysis must be configured in Computer Properties before it can be used as a contract unit. If you want to create contracts based on a particular unit of licensing (such as number of CPUs or number of processor value units), you must configure the computer property that will be used to provide data on that unit of licensing. For more information about Contracts, see the DSS SAM *User's Guide* available on the BigFix support website.



1. Select *Computer Properties* from the Data Import menu in the Control Panel. You will see the list of Stored Properties that have already been extracted, copied, and stored in your DSS SAM application database.

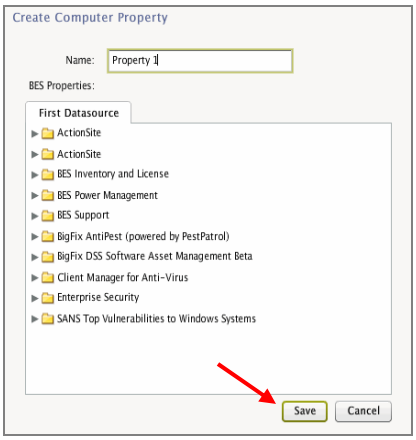
2. Select one of the stored properties in the list. Each Stored Property corresponds to a list of related properties on your BigFix Server.



3. To add a new property from the BigFix Server to be stored in the DSS SAM application database, click the *Plus Sign* located in the lower part of the screen.

4. Select the property that you would like to extract, copy and save from the BigFix Server into the DSS SAM application. Properties that are grayed out are not active on the BigFix server. You may select these properties, but the data will not be updated unless the property is activated on the BigFix server. If it has never been activated, the property is empty.

5. Edit the name of the new property in the Name field, if you desire. This is the name that will identify this property in the DSS SAM application.



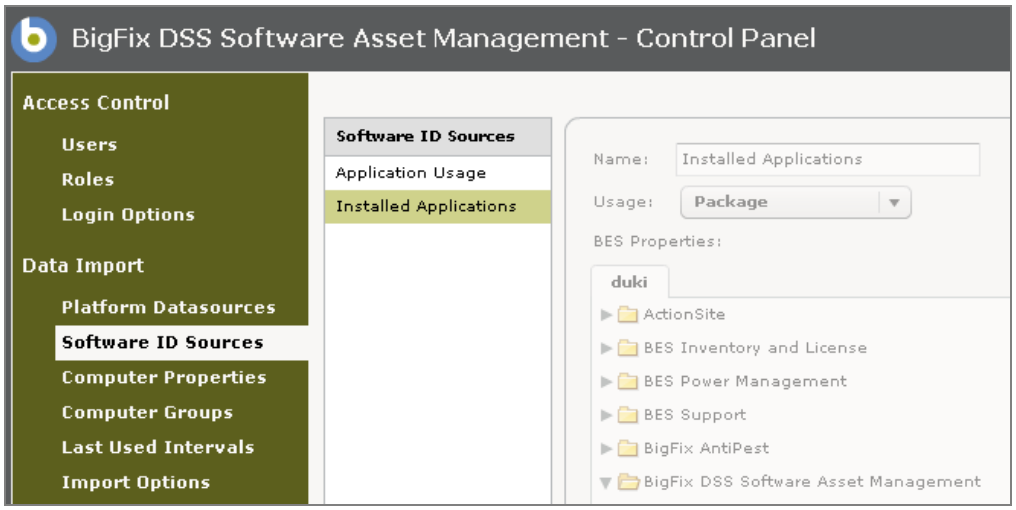
6. Click *Save*.

Repeat the above steps for each BigFix property you would like to include in the DSS SAM application. These properties will be available in the various reporting screens for viewing, sorting, and filtering at a later time**.**

> **Note:** Each time you add, change, or remove a Computer Property, you must wait for the next data import before the changes appear in the DSS SAM application. You may also manually start the import process by selecting *Run Now* in the Import Options section. Only run ETLs after *all* new properties have been added.

Software ID Sources

Software ID Sources, which include both *Package Properties* and *App Usage properties,* are properties used for the detection of software installation and usage. Package properties are used for aids of detection. App Usage properties track the usage of applications.



A DSS SAM Software Catalog “package” is an artifact that we collect from computers, which is an identification string pushed from the computer to the BigFix server by an analysis property. There are two types of packages used in DSS SAM – *regular packages* and *definitive packages*. A regular package is an artifact that serves as a tie breaker to help distinguish the difference between two executables that look alike. A definitive package, which does not need an executable listed in the catalog, is the primary method for identifying the presence of software on a computer.

DSS SAM uses a two-factor approach to software recognition. The system will recognize software from either:

- The presence of an executable file
- The presence of “package data” from the computer

The presence of the executable file is the primary factor and may be used exclusively to detect the presence of the software. However, if the executable file is “ambiguous” and resembles another file in the system, then the second factor must be used. In some cases, the package data may be used as the primary factor and may be used exclusively to detect the presence of software. This is called a “definitive package”.

The DSS SAM Software Catalog ships with pre-populated executables and packages that correspond to package data from the tasks and analyses you deploy using your BES server. You may add your own executables and packages and these may correspond to properties from tasks and analyses that you create on your BES server.

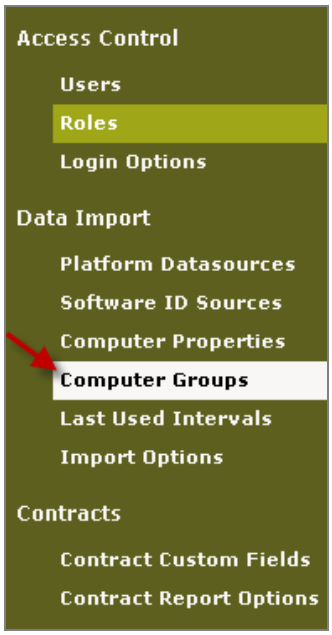
When you add a "Package Property", the BigFix property it is linked to becomes used as an additional source of package data.

Computer Groups

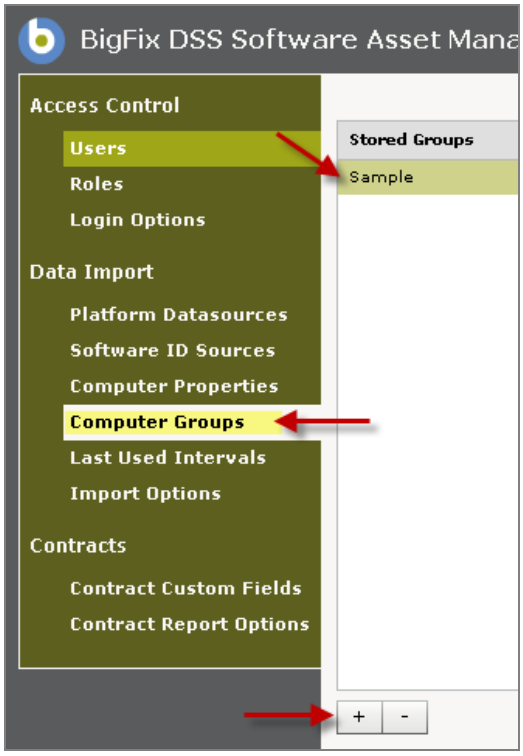
The Computer Groups feature allows you to define a group of computers for management and reporting. Computer Groups are defined by inclusion and exclusion “rules”, and may be filtered by type, location, or purpose. For instance, a Computer Group may contain highly secure machines, production servers, or be differentiated by geography, operating system, or organizational unit. Computer Groups that are designed as a Datasource may be used in the DSS SAM application. You may also create your own groups in DSS SAM.

You must have Edit Groups permission or be an Administrator to edit groups.

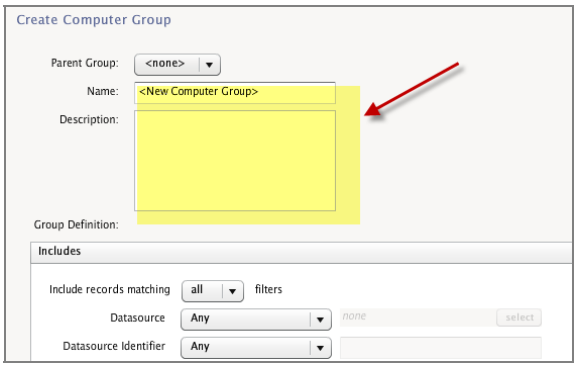
1. Select *Computer Groups* under the Data Import menu in the Control Panel.



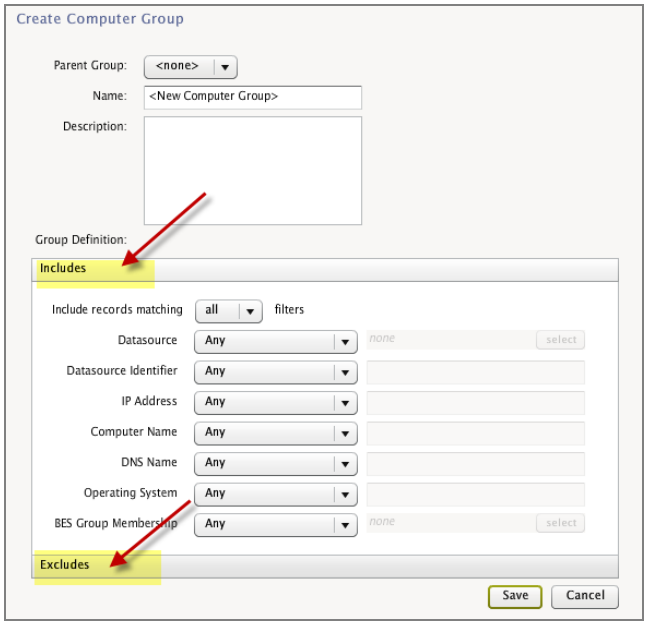
2. You may select an existing Stored Computer Group to view its attributes, or create a new one by clicking the *Plus Sign* in the lower part of the screen.



3. Enter the name of the new computer group, and an applicable description.



DSS SAM allows you to create a number of inclusion and exclusion *filters* to define the parameters of your Computer Group. The dialog box automatically displays the Inclusion filters fields first.



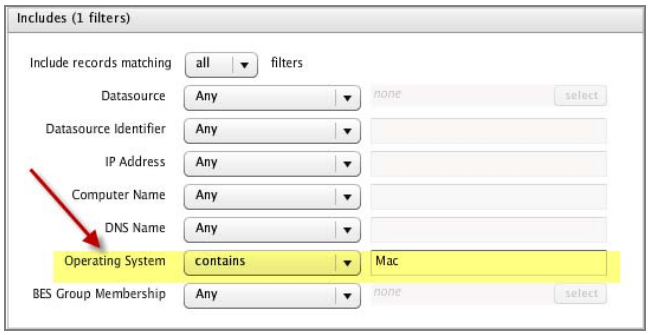
The inclusion and exclusion boxes allow you to create filters for the following list of properties, as well as for any additional computer properties you have added to DSS SAM:

- Include Records Matching
- Datasource
- Datasource Identifier
- IP Address
- Computer Name
- DNS Name
- Operating System
- BES Group Membership

4. Select the filters that apply to your group and fill in a corresponding value for each selection.

Example:	To create a Computer Group that includes exclusively Mac Operating System computers, select *Contains* from the

Operating System pull down menu, type “Mac” in the corresponding box and click *Save.*



5. Once you have selected an entry for each desired Inclusion filter, click the *Excludes* menu on the bottom left of the screen. Select the applicable Exclusion Filters for your group, then click *Save.* You will see your new Computer Group in the Stored Groups list.

Groups can be organized into a hierarchy. You may do this by selecting the parent when creating a new group, or dragging one group onto another.

Once you have created the initial parameters of your Computer Group, you may then create group membership filters, create and sort reports, and assign contracts.

For example, if you’re adding a new contract for Adobe Photoshop licenses, you may *allocate* these licenses to a Computer Group that represents the marketing department. This will enable you to determine if you own enough licenses for that group.

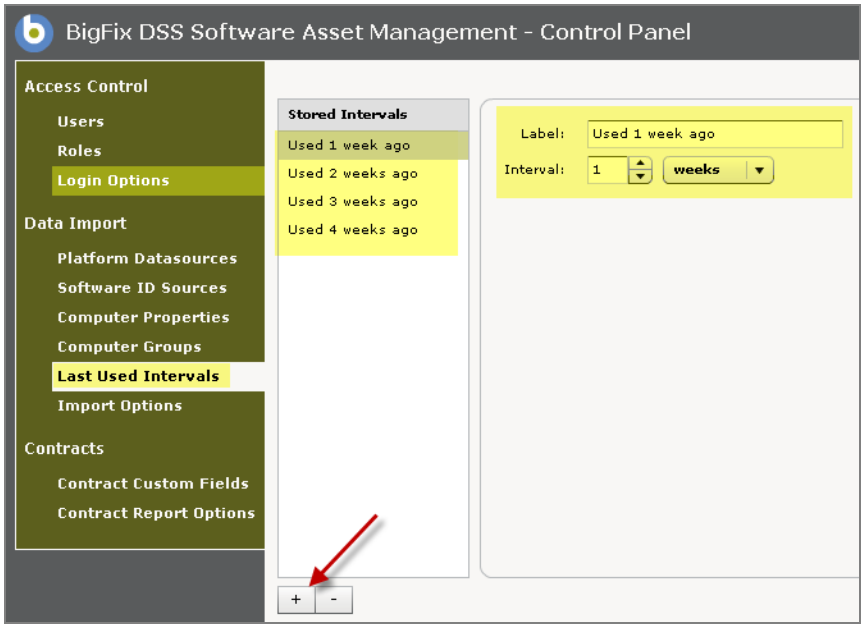
Last Used Intervals

The Last Used Intervals feature defines time periods within which you measure software usage in your inventory. If the Last Used Intervals are 1 Week, 1 Month, and 6 Months, you will be able to see how many computers used the installed software applications during each time periods. The resulting information may help identify unused licenses or eliminate unused software.

- Usage interval data is only available when the application Tracking task is deployed on your BigFix Server.
- For any given Last Used Interval length, the Application Tracking task must be activated for at least that length of time in order for the data to be accurate.
- Last Used Interval calculations in your reports use the most recent Import timestamp as the basis for the interval. For example, an interval of 6 Months means “Frequency of use during the 6 months prior to the most recent import time.”
- The Last Used Interval Used information portion of the DSS SAM Content Site consists of Application Tracking task and Application Usage Information analysis.

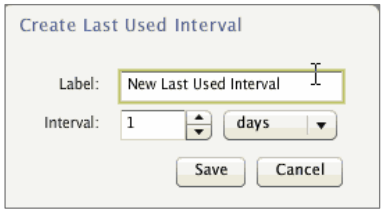
Review steps 1-4 below to view existing Last Used Intervals or create a new interval:

1. Select *Last Used Intervals* from the Data Import menu in the Control Panel. The default DSS SAM stores four intervals: *Last 1 Week, Last 2 Week, Last 3 Week*, and *Last 4 Week*. Click on any interval and view the accompanying fields on the right side of the screen.



2. To create a new Last Used Interval, select the Plus Sign in the lower part of the screen.

3. In the Create Last Used Interval dialog box, enter a new Label and select values for your new interval.



4. Click *Save*.

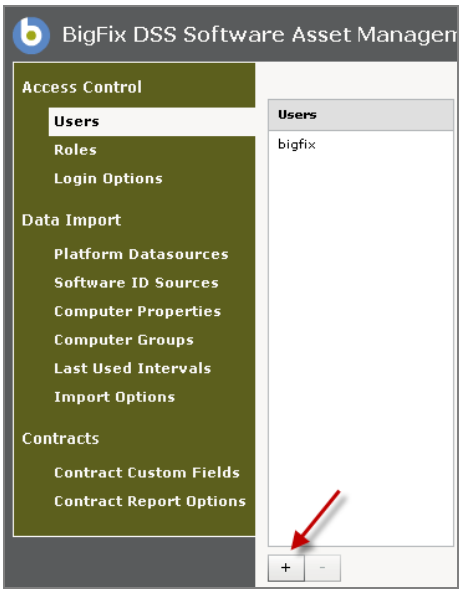
> **Note:** Each time you add, change, or remove a Stored Interval, you must wait for the next data import before the changes will appear in DSS SAM. You may also manually start the import process by clicking *Run Now* in the Import Options section.

Access Control

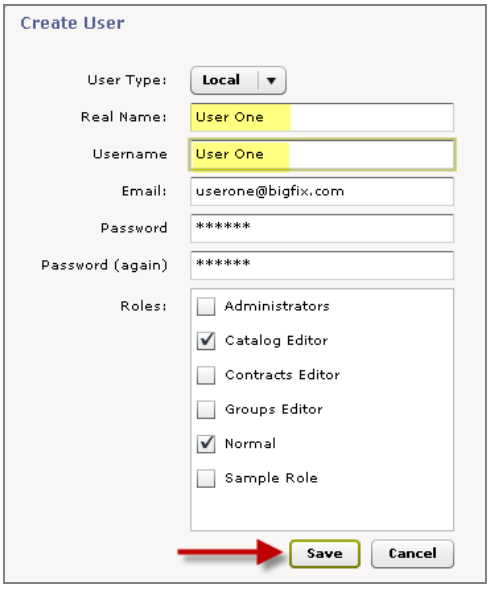
Adding Users

Users are defined as *Administrators, Normal Users, Contract Users, Software Catalog Editors*, and *Computer Groups Editors*. The roles or entitlements assigned to each User define how they are able to utilize the information collected by the DSS SAM application. As an Administrator, you will determine the functionality that your Users may access within the DSS SAM application.

1. From the Control Panel, click *Users* under the Access Control menu. Click the *Plus Sign* in the lower part of the screen to create a new user

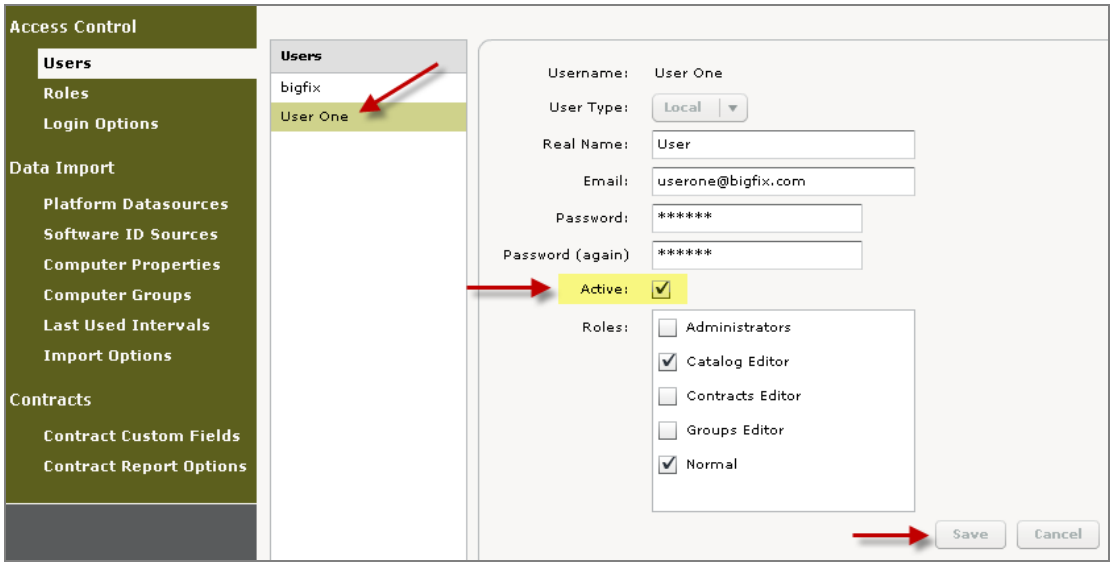


2. When the Create User window opens, fill in the Create User fields, then check the boxes corresponding to the roles you will be assigning to that User. (The Password field length is configured on the Login Options tab in the Control Panel).



Note: If during installation you indicated that you had Web Reports, this dialog box will appear differently: you will have the choice to use WebReports users as well as creating new users.

3. Click *Save* and you will see your new User displayed under the Users menu.

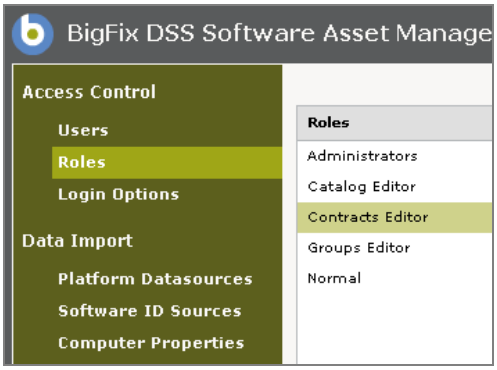


4. Click the *Active* box, then click *Save.*

> **Note:** To remove users, select them and click the minus sign. If this user has created any Saved Reports and these reports are shared, the Saved Reports will be removed from all users' view.

Adding Roles

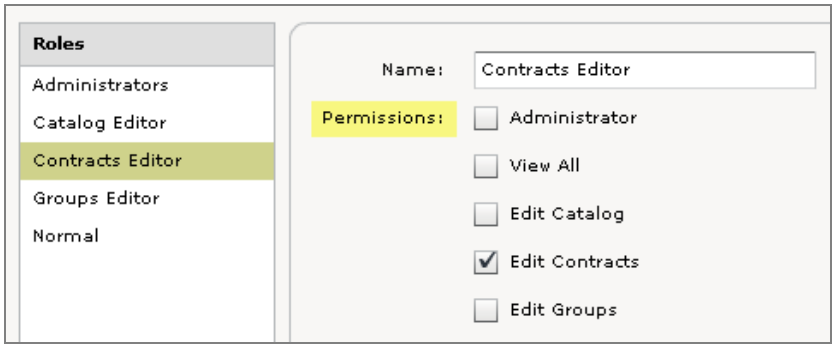
DSS SAM application Roles are a collection of designations that each correlate to a list of privileges. The Administrator assigns roles to each User according to the privileges they will need to operate the application. Roles may be created and edited using the Roles section in the DSS SAM Control Panel.



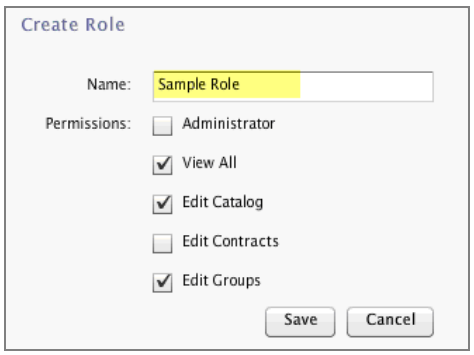
The table below provides a brief description of User Roles and Permissions:

Roles	Description	Permissions
Administrators	May access all functionality in the DSS SAM application, including functions on the Control Panel. May create, edit, and delete Users; may create datasources and run imports.	Administrator
Catalog Editor	May only browse and edit the software identification catalog - cannot view actual inventory data, although summary statistics will appear in catalog user interface.	Edit Catalog
Contracts Editor	May create and edit contracts and browse software catalog. Cannot view actual inventory data, although summary statistics will appear in read-only catalog UI.	Edit Contracts
Normal	May browse through each tab in application and use view options, such as filters and columns. Cannot access Control Panel or make changes to Catalog or Contracts.	View All
Groups Editor	May create and edit Computer Groups. (If this role is not visible in your application, you may create it from the steps identified below.)	Edit Groups

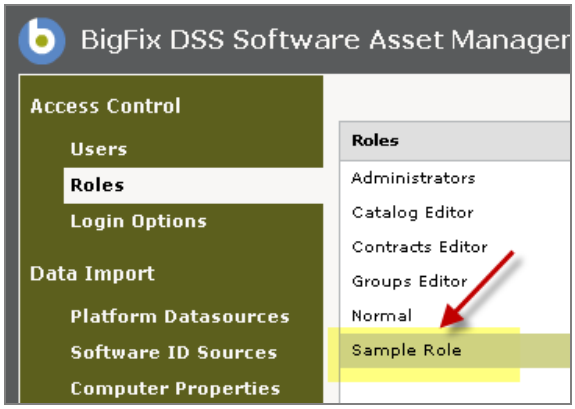
From the *Roles* menu under Access Control in the Control Panel, click on each Role to view its attached permissions.



You may add a new user role to the default list by clicking the *Plus Sign* in the lower part of the screen. On the Create Role screen, select a name for your new role, then assign specific permissions by checking the boxes. Then click *Save.*

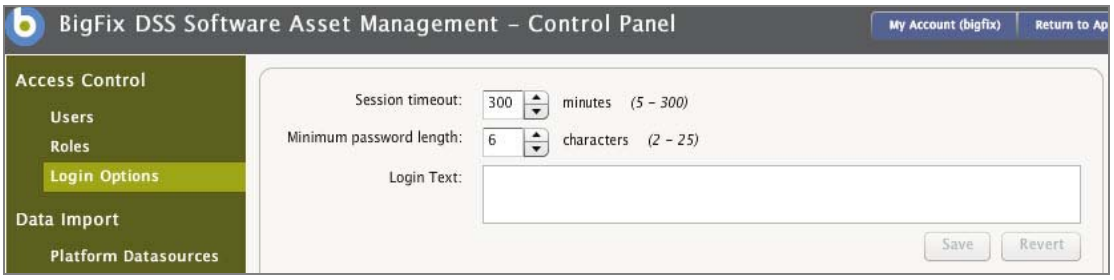


Now view your new role in the Roles menu.



Login Options

The Login Options section of the Control Panel manages session timeouts and password length rules. If there is no activity in the browser for a pre-determined period of time, the session will terminate. In this window, you can change settings for session timeout, minimum password length, and enter login text. You may click *Save* after making changes, or click *Revert* to step back to the previous setting.



Part Four

Appendices

Uninstalling

To uninstall the DSS SAM application, use the Microsoft Windows *Add and Remove Programs* Control Panel. This will stop and remove the DSS SAM application services and remove the product components from your server machine.

However, the installation directory will still be in place and several configuration and log files will remain in the event of a future re-install. The BFInventory database on your database server and the EXE scan files on your BigFix Server will also remain intact. You must manually remove these data components to completely remove all DSS SAM components from your environment.

Additional information about uninstalling DSS SAM can be found in the BigFix Knowledge Base.

Upgrading

The DSS SAM version 1.2.2 installer contains a full installation of the web application and database component of the product. An installation of a previous version of DSS SAM is not a pre-requisite. However, if a previous version of DSS SAM is already installed in your environment, you may upgrade to version 1.2.2 *without* uninstalling the previous version. Confirm the presence of a previous version by looking for Build 19756, 21680, 23556, or version 1.1.0.230, 1.1.1.310, 1.1.2.4 or 1.2.1.457 in the lower right corner of your DSS SAM web application.

To upgrade, download DSS SAM 1.2.2 and run the installer on the computer where the previous version is running, ensuring that the DSS SAM database server is running and accessible. The installer will automatically detect the previous version in your environment and replace it with version 1.2.2 in the same environment. Upon successful installation, log in to the DSS SAM web application and confirm the build number in the lower right corner – it should read “Version 1.2.2.495 for DSS SAM 1.2.2. This validates that the correct build is installed and you’re connected to the database.

If you’ve already upgraded your Software Catalog, upgrading DSS SAM will not downgrade your Catalog.

Note: New installs of DSS SAM 1.2.2 use Simple SQL server logging on the BFInventory database. If you have installed a previous version of DSS SAM, the BFInventory database will use “Full logging”. As a result, your BFInventory.ldf file might become very large. When upgrading a previous install to version 1.2.2, the logging mode of the BFInventory database will not be changed. We strongly recommend that you change the logging mode of the BFInventory database to “Simple Logging”. For more information, see the documentation of Microsoft SQL Server or ask your database administrator. After changing to simple logging, you may choose to shrink your BFInventory log file in order to reclaim disk space.

General Information about Upgrading

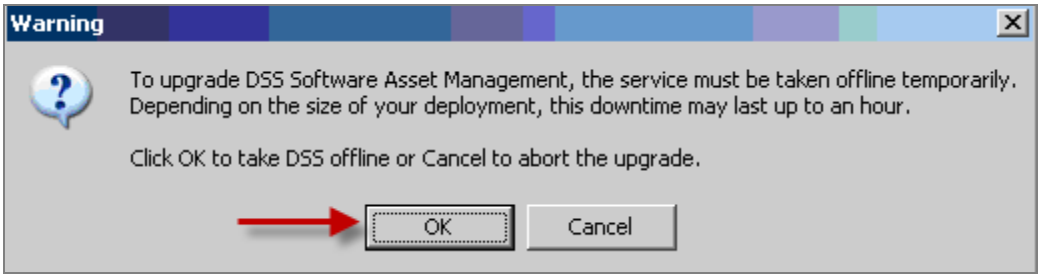
The upgrade process will perform a full migration of all DSS data to the newest format. While this process has been tested under a variety of configurations, you should back up your existing DSS database *before* performing an upgrade.

In order to perform an upgrade, you will need to enter the password for the Windows account configured to host the DSS server. You will be required to enter this password at both the beginning and end of the upgrade process.

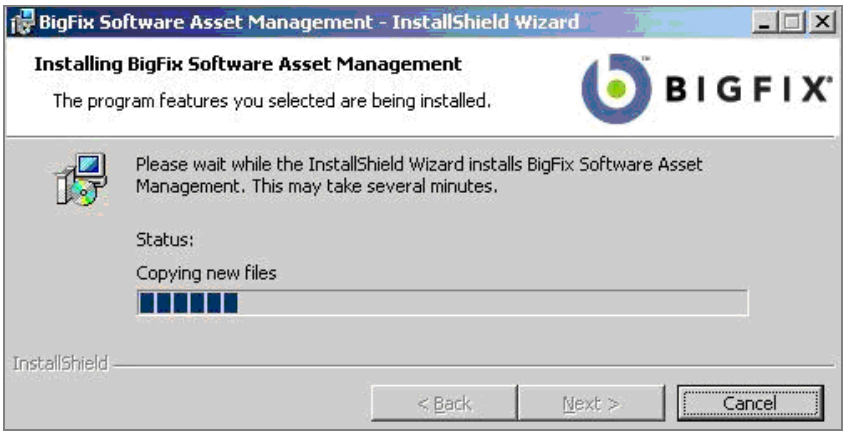
The upgrade process requires administrative privileges on the database server that will host your DSS SAM database. Before the Pre-Upgrade process is run, the installer will present you with some standard dialogs:

- InstallWelcome (click “Next” or “Cancel”)
- LicenseAgreement (must accept to proceed)
- ReadyToInstall (last dialog shown before installation process)

1. The upgrade tool will display a message explaining that the upgrade process will take the DSS server offline temporarily and ask if you want to continue. Click *OK* to proceed.



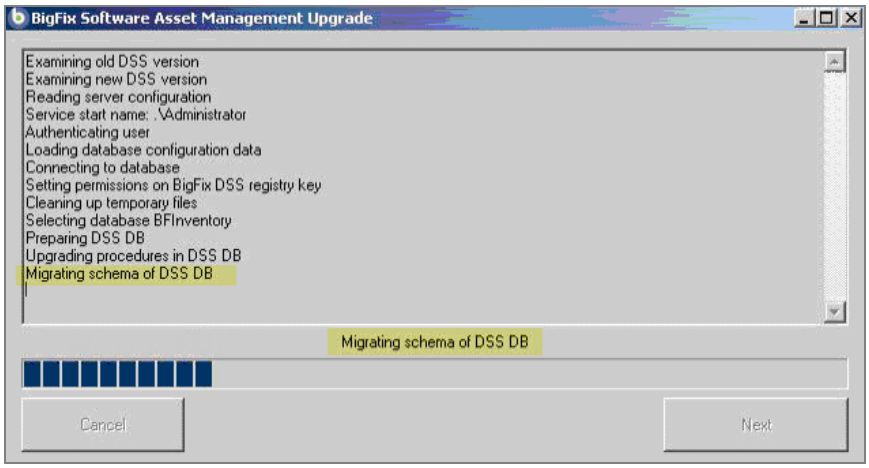
2. The upgrade tool will ask for the password of the account used to host the DSS service. Enter the password to continue. You will be required to enter this password again at the end of the upgrade. If you do not have the password, you can cancel the upgrade here.
3. In the unlikely event that a data import is in progress when you attempt to upgrade, you will be given a choice between canceling the upgrade or waiting for the data import to complete.
4. The upgrade tool will shut down DSS services and suspend regularly scheduled data processing. Click OK to continue.
5. The upgrade tool will close and the installer will run. This will replace your DSS server files with the new version.



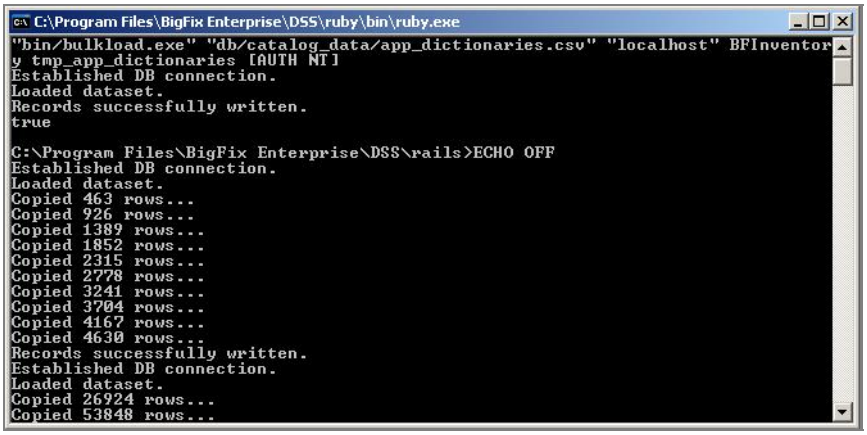
6. The upgrade tool will launch to perform data migration and reconfigure DSS services.
7. The upgrade tool will ask for your password again. You must enter the same password entered earlier.

Note: At this point, the upgrade can no longer be canceled.

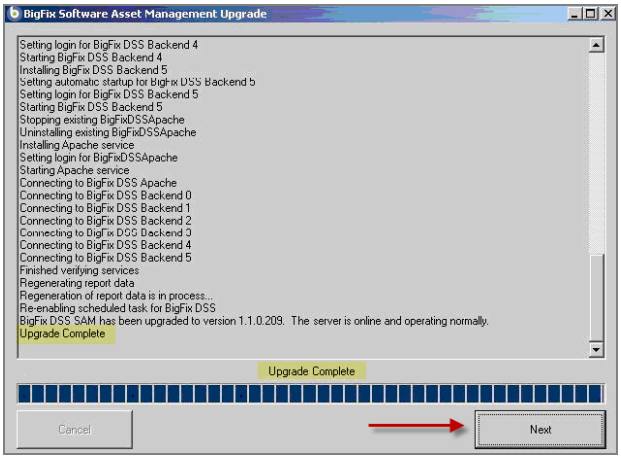
8. The upgrade tool will migrate your DSS database and reconfigure your DSS services. This may take several minutes.



9. The upgrade tool will restart your DSS services and verify that they are working correctly.



10. The upgrade process is complete. The DSS server will start performing a data import immediately. The DSS server is online, but you will be redirected to the data import lockout screen until the process completes. As the upgrade process does not initiate an import, you should reset the sequence and run a full import.



Ensuring Accuracy in Your Software Inventory

The DSS SAM Software Catalog uses a software detection methodology based on executables. Because some executables are sold separately as well as commercially bundled with other products, these executables may not map definitively to a single software title version (STV). For example, Microsoft Word is available as both a standalone product and bundled in a variety of Microsoft Office editions (Home, Business, etc.). To enable the correct software correlation, DSS SAM also pulls information from the Windows registry, which is placed there by the installer. We call these installation artifacts “packages”.

Definition of a "Package"

A Package is a secondary artifact that we collect from computers, which is an identification string pulled from the Windows registry. The role of software Packages within the DSS SAM Software Catalog is to serve as a tie breaker to help distinguish the difference between two executables that look alike.

For "ambiguous" software title versions (such as the example of Microsoft Word), it is important to have associated packages that reflect the exact software packages you have installed. To address this, custom-create or add packages from your systems.

The preferred method for identifying ambiguous entries is through the Ambiguous Entries link in the Software Catalog. However, additional diagnostic information about ambiguous elements can be found in the following log files, which should be opened using a spreadsheet tool.

C:\Program Files\BigFix Enterprise\DSS\rails\tmp\unknown_packages.csv and
C:\Program Files\BigFix Enterprise\DSS\rails\tmp\popular_ambiguous_exes

The process for adding packages from your systems is as follows:

Install and configure DSS SAM on your system and run the first ETL, then navigate to the catalog management tab in the DSS SAM Software Catalog. For each title version listed in the Ambiguous Software Table, do the following:

1. Navigate to the particular software title version in the UI.
2. On the left side of the screen under Packages, click *Add.*
3. Click on *Unmapped Packages* in the middle of the dialog box.
4. Search the list for all packages that belong to this STV.
5. Select all applicable items, then click *Done.*
6. Edit the packages to make them generic. An asterisk (*) may be placed at the end of the name to cause the package to match *any* string starting with the package name up to the asterisk.

For example:

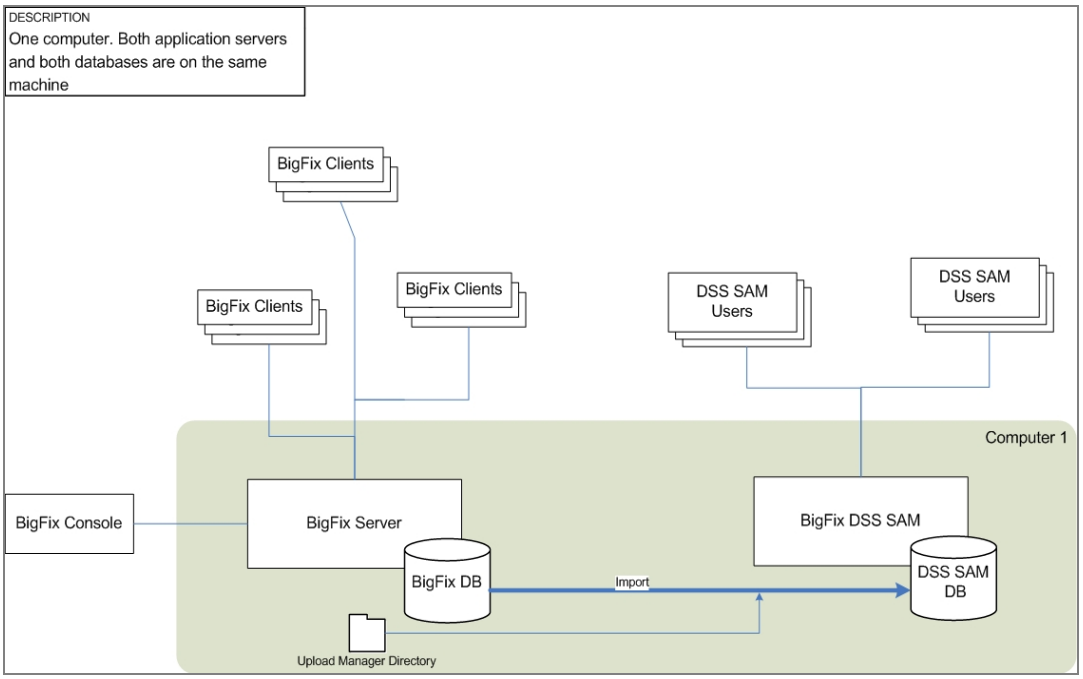
Before: Microsoft Project Professional 2002 - 10.0.1342.23587
After: Microsoft Project Professional 2002 - 10.*

After you have configured everything, you must resolve any ambiguities in your software catalog for software titles you care about. Refer to the Software Catalog *Editor's Guide* for more information on how to handle ambiguous software in your catalog.

Alternate Deployment Configurations

DSS SAM is designed to run in a variety of deployment configurations. See alternative deployment designs below.

One-Computer Deployment Configuration

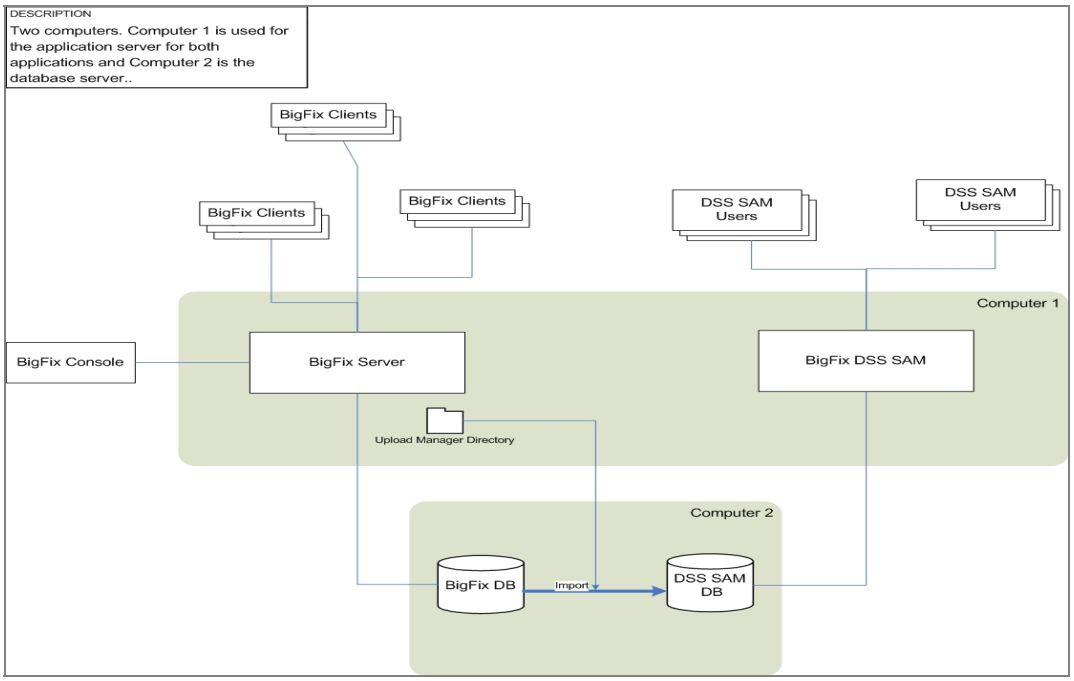


For one-computer deployment, refer to the BigFix sizing requirements table below:

Deployment Size	CPU	Memory	Hard Disks
< 250	2-3 GHz	1 GB	Standard HD
1,000	2-3 GHz - 2 Cores	2 GB	1 RAID Array (RAID 10, 5)
10,000	2-3 GHz - 2-4 Cores	4 GB	1-2 RAID Arrays (RAID 10)

For a deployment of over 10,000 end points, contact BigFix Technical Support for assistance.

Two-Computer Deployment Configuration



For a two-computer deployment, reference your current BES sizing specifications, PLUS the disk space recommendations in the table below. For a deployment of over 100,000 end points, contact BigFix Technical Support for assistance.

Deployment Size	Processor and CPU	RAM	Hard Disks
10-20,000	2 GHz x 1 Core	4 GB	40 GB
21-50,000	2 GHz - 2 Cores	8 GB	100 GB
50-100,000	2 GHz - 4 Cores	16 GB	200 GB

Additional Documentation

Other DSS SAM documents included with this release include:

- **User's Guide –** A detailed guide focused on how to use the primary components of DSS SAM, including Tips and FAQs.
- **End User QuickStart** – A short guide to help you quickly get started using DSS SAM 1.2.2.
- **Software Catalog Editor's Guide** – Detailed information about how to use and customize your Catalog, and how to make it match the software in your deployment.
- **Implementation Guide** – A general pre- or post-purchase guide on Software Asset Management concepts, Best Practices, strategies, and ROI metrics.
- **Release Notes** – A listing of the current Known Issues including descriptions and workarounds, along with Resolved Issues, Software Catalog updates, System Requirements and Support information.

Global Support

BigFix offers a suite of support options to help optimize your user-experience and success with this product. Here's how it works:

- First, check the BigFix website Documentation page
- Next, search the BigFix Knowledge Base for applicable articles on your topic
- Then check the User Forum for discussion threads and community-based support

If you still can't find the answer you need, contact BigFix's support team for technical assistance:

- Phone/US: 866 752-6208 (United States)
- Phone/International: 661 367-2202 (International)
- Email: enterprisesupport@bigfix.com

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