Tivoli Endpoint Manager for Software Distribution

User's Guide

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Note: Before using this information and the product it supports, read the information in Notices.

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Contents

Part One

Introduction

Tivoli® Endpoint Manager for Software Distribution Version delivers cost-effective, operational control and visibility to your software delivery and installation process. Part of the Tivoli Endpoint Manager Lifecycle Management Suite, Software Distribution allows you to improve the management of your Windows desktop software distribution processes from a single, unified point of control and storage-optimized library. The Tivoli Endpoint Manager platform, powered by BigFix architecture, helps IT staff control bandwidth to have packages delivered without affecting network performance - regardless of network size or speed.

Some of the most significant cost- and time-saving features of Software Distribution include:

- Dynamic and policy-based bandwidth throttling to push large files over distributed networks without impacting line-of-business bandwidth
- Support for roaming endpoints with pre-caching relay infrastructure
- Features to optimize dynamic and evolving networks
- Intelligent software distribution based on endpoint characteristics
- Wizards and user self-provisioning capability
- Continuous software application license usage and metering, including support for existing software repositories
- Low-cost scalability with minimal infrastructure requirements
- "Follow-the-user" targeting using Active Directory groups
- Support for Microsoft App-V package format
- Support for Tivoli Configuration Manager SPB Package Format
- Automatic creation of uninstallation tasks for supported package formats

System requirements

The Software Distribution dashboard requires the same system specifications as the Tivoli Endpoint Manager Console:

- Console version 8.0.627.0
- Intel Pentium III–class processor with at least 2 GB RAM (larger deployments require additional resources)
- Windows 2003, Vista, XP, 7, or 2008 R2 with Internet Explorer 7.0 or later
- Distributions supported to any Windows client supported by the Tivoli Endpoint Manager platform
- Agent version must be 8.0.627.0 or later
- Active Directory requires an agent version of 8.1.551.0 or later
- App-V agents require Windows XP SP2 or later

Best practices

Policy-based Distributions

Use client settings to drive the installation of packages using a policy. Client settings are cross-platform data tags that can be used in a number of ways by the Tivoli Endpoint Manager platform. For example, a client setting called *role* might be set to "Facilities Management", and a Tivoli Endpoint Manager action might be present to install an Autodesk client on Windows systems with that condition. This practice allows predictable, centrally-managed, role-based software provisioning, as well as rapid return to the state you want following an OS re-image or migration.

Authorization

Test the installation of software under the systems management account. On Windows systems, Tivoli Endpoint Manager defaults to installing software as the LocalSystem account. On Mac OS X, Linux and UNIX, software is installed as *root*. Always test software installations under these accounts to ensure that they work. For additional guidance, see the related articles for Windows or Mac on the BigFix support website Knowledge Base. If a software package does not install under LocalSystem, try using Run As Current User to use the current user's rights. To automate this action, create tasks with the Software Distribution dashboard.

Prerequisites

Tivoli Endpoint Manager provides a powerful *baseline* concept that solves the dependency chain problem of prerequisite software. For example, a piece of in-house software might require a particular version of .Net. As a result, this might require an upgrade of Windows Installer which, in turn, might also require a patch if Service Pack 3 is not installed. To define the prerequisite chain, bundle these four related tasks into a single baseline. Those systems missing any component of the baseline can then install it, while those meeting some or all of the prerequisites can omit that step and move on to the next step. All targeted systems are then brought to the same end state with a single action. For additional guidance on creating baselines, see the Tivoli Endpoint Manager Console Operator's Guide.

Site Organization

To improve performance and usability, use custom sites to organize your generated tasks. Custom sites allow you to categorize content within your deployment, which helps tune your Tivoli Endpoint Manager installation for optimum resource usage. For additional guidance on creating custom sites, see the Tivoli Endpoint Manager Console Operator's Guide.

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Managing packages

What is a package?

Packages are bundles of content and are the most important part of the Software Distribution product. They contain a list of the files needed to install a specific software product, as well as the tasks that install the product on your endpoints. A package establishes management relationships between files and tasks.

Dashboard overview

The Software Distribution Dashboard gives you access to the most common tasks associated with managing the software in your deployment, such as creating new packages, creating default tasks associated with those packages, adding files to existing packages, and creating and managing associated tasks.

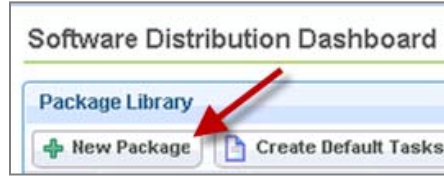The dashboard can be accessed from the top of the Software Distribution navigation tree.
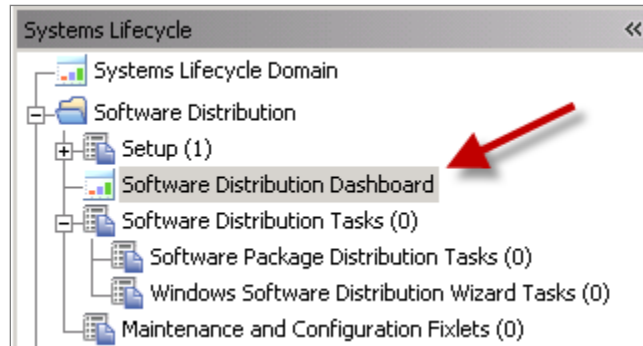
After clicking in the navigation tree, the dashboard displays on the right side of your console.
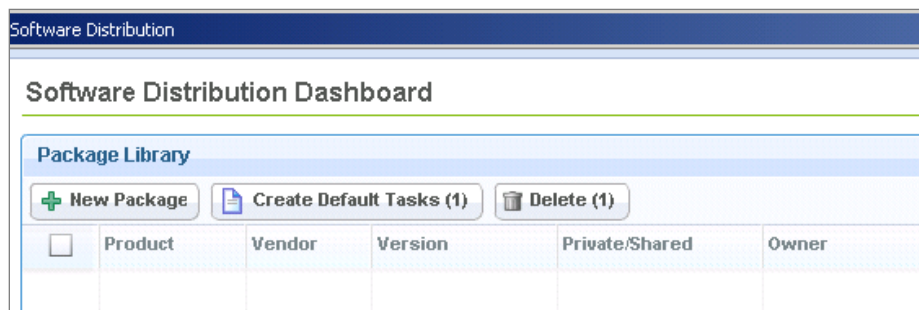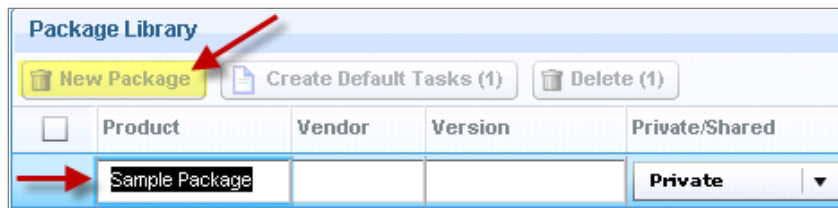
Create a new package

From the dashboard, click *New Package*.

Manually fill in the Product, Vendor, and Version fields, and select from the drop-down menu to designate your package as either Private or Shared.


Shared packages are visible to all console operators; private packages are visible *only* to the user who created them.

> Note: If you designate a package as Shared, this package is visible and can be edited by all console operators. If you want to keep packages private but share tasks with designated operators, copy the tasks into a custom site. For more information about working with custom sites, see the *Tivoli Endpoint Manager Console Operator's Guide*.

After you have filled in all applicable fields, click *Confirm* on the right side of the window.
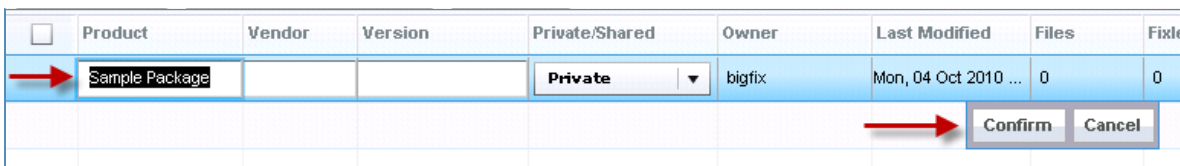
When you have created a new package, you can see the package displayed in the Package Library.
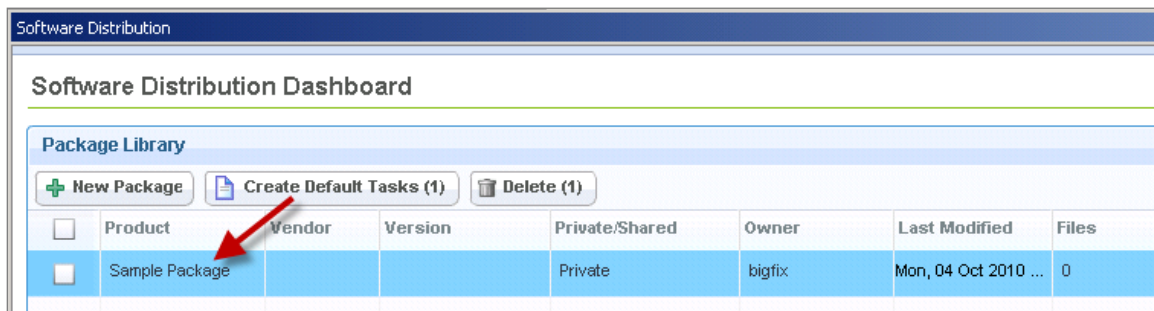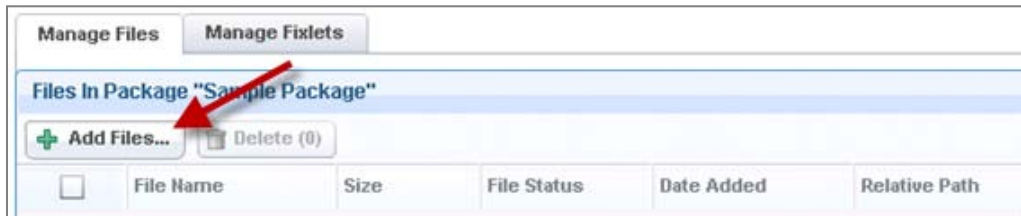
Now you have created an empty package. By clicking *Confirm* in the previous step, you opened a new window, where you can manage the files and tasks that you want to associate with this new package. The next step is to add files.

Edit an existing package

Click *Add Files* located under the *Manage Files* tab.

This opens the *Add Files to Package* window, which allows you to add files and folders.
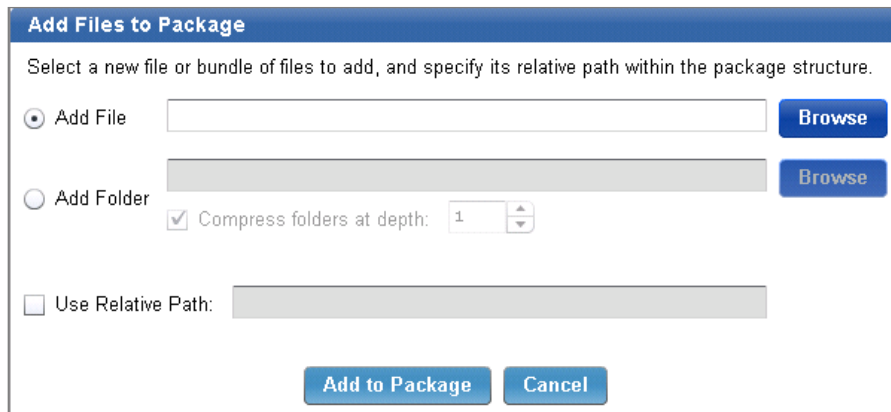
With the *Add File* feature, you can manually type the name of a file or click *Browse* to locate a file stored in your system.

Click *Add Folder* to add an entire folder of content to your package. Type the name of the folder, or browse to locate a folder in your system. The *Compression Depth* feature, located within the *Add Folder* field, allows you to compress files together beyond a specified folder depth. Use a depth of "0" to bundle all files together into one compression file.

> *Note:* *To maintain optimum performance, use the Compression feature when pushing more than 50 files to an endpoint. Distributing many small files uses more network bandwidth, while distributing fewer large files uses more endpoint processor. Use the Compress Folders option to tune this performance control for your environment. For more information, click here for the related Knowledge Base article.*

Click *Use Relative Path* to customize where something is added in the hierarchy of files.
Manually type your location (for example, mySubFolder/childofSubfolder). Use this feature when
you have added files or folders that are shown in the wrong location.

Click *Add to Package* at the bottom of the window. This action processes all the information for
your package, analyzes the relevant files, and uploads them to the server.

While files are being uploaded to the server, check the *File Status* field in the dashboard.
An exclamation mark indicates that files have not yet been uploaded to the Tivoli
Endpoint Manager server.

> *Note:*   *You might need to click Refresh to view changes in file status.*
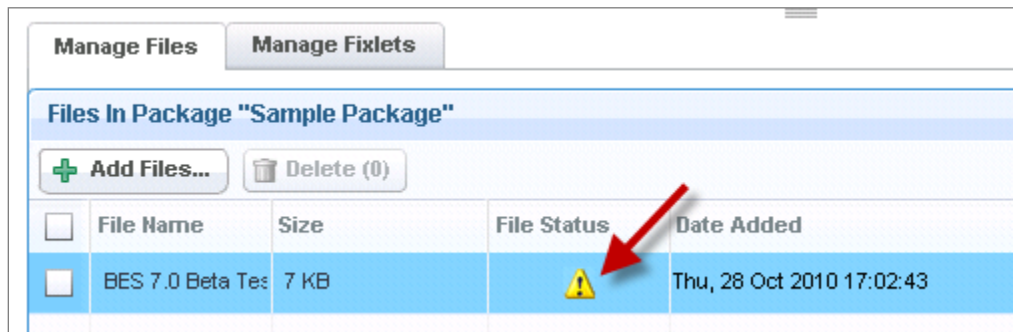
Next, select the *Manage Tasks* tab and click *New Task*.
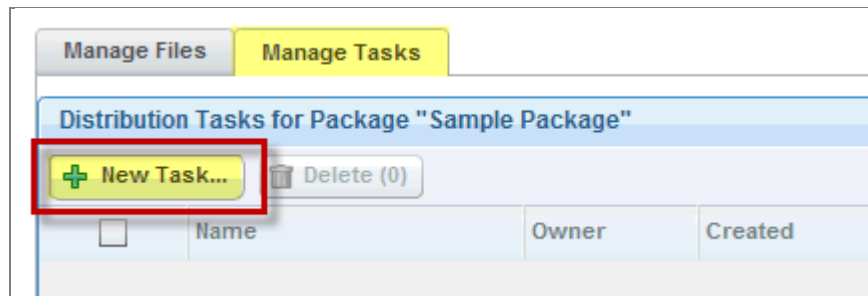

> *Note:*   *Add Tasks only after you have added files.*

Click *New Task* to open the Create Distribution Task window, which displays all available files
associated with your package that can be included in a distribution task. Select each file that you
want to deploy to your endpoints by clicking *Add*.
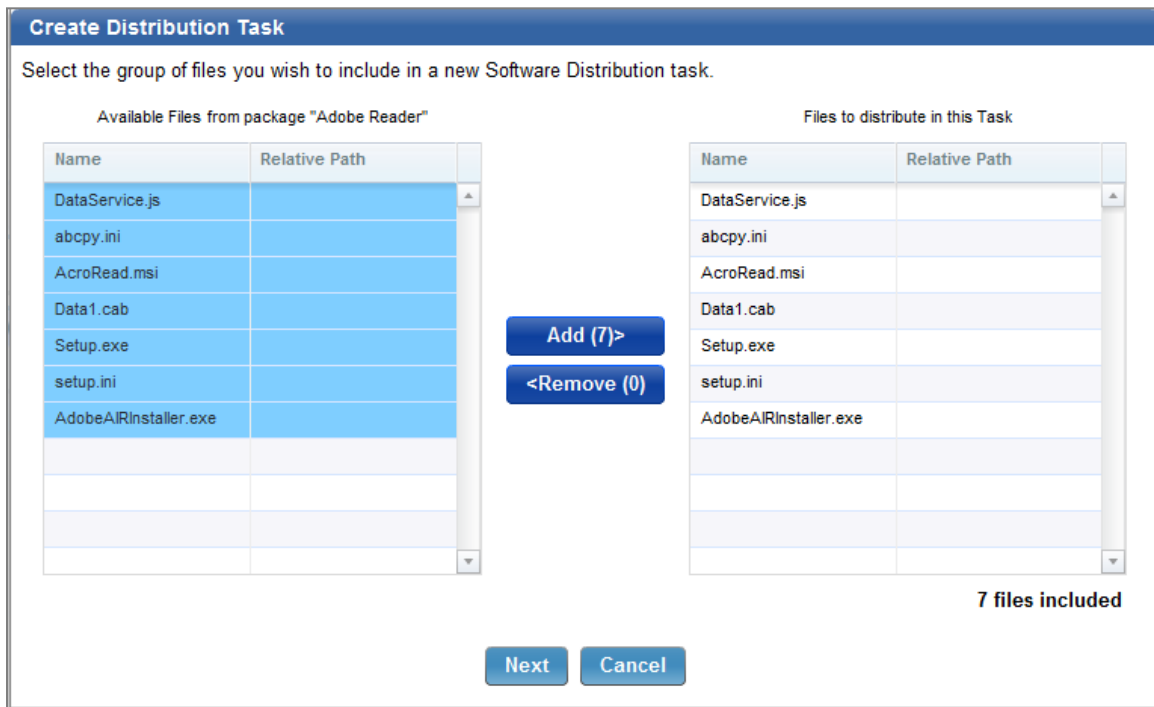
You cannot create a task where all files are in a relative path. Software Distribution tasks require that installation commands are located in the root of the package. If you attempt to add files to a package with no files in its root folder, the task displays the following warning:
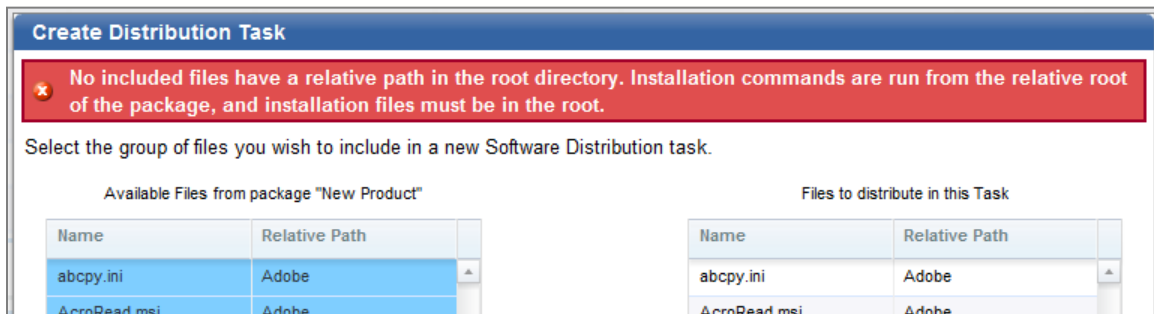
Click *Next.* In this window, you define an installation command to be used when sending the software package to your endpoints and customize a command line message specific to your task.

You can also apply an **MST** file to the installation command. If your installation command is an MSI, then check *Apply MST file to install command*. This displays a list of all the MSTs that can be applied to the MSI.

You can also choose to automatically create an uninstallation task for certain package types, such as MSI or App-V.

You can run the command as a System User or Current User. The default is to run the task as a System User, but certain packages must be installed for a specific user.

Click *Next*. The Active Directory Targeting page opens (only available in Tivoli Endpoint Manager 8.1), where you can target endpoints using Organization Units or Security Groups.

You can target either users or computers of an Active Directory Security Group or Organization Unit. Auto-completion when typing the name of a Security Group or Organization Unit is enabled if the "Active Directory Security Groups and Organization Units" analysis is activated.
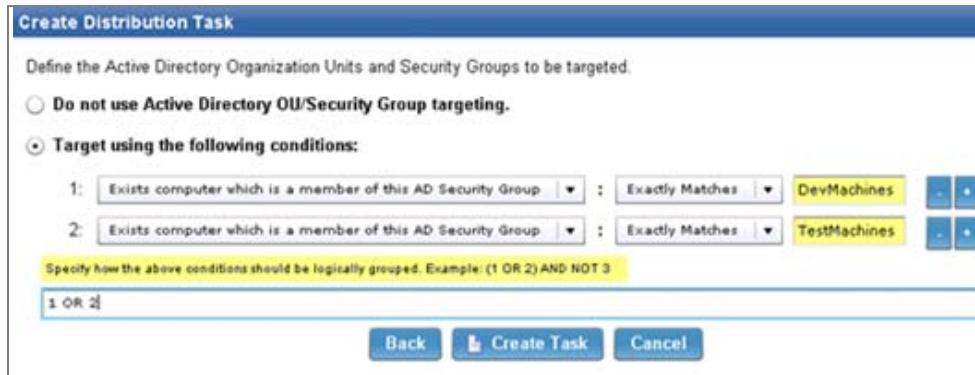
You can also link multiple Active Directory conditions together. Use the Logical Grouping field to group your conditions using AND, OR, or NOT operators.

Click *Create Task.* This opens a new window based on the parameters you just set. From the Create Task window, you can validate the auto-generated relevance and action before saving and testing.

> *Note:*   *Be sure to test a task before deploying it in a production environment.*

Migrate software repositories

The *Software Distribution Upload Manager* is a stand-alone tool that helps you upload any pre-existing packages that exist in your deployment before installing Software Distribution. Specifically, the tool uploads your packages to the Tivoli Endpoint Manager server, and the dashboard allows you to create related default Software Distribution tasks.

Before Tivoli Endpoint Manager can deploy software packages, it needs a tool that can analyze, archive, and upload those packages. The *uploadmanager.exe* tool, which needs access to the server and database, can be found on your Tivoli Endpoint Manager server in the *BES Server\BESReportsServer\wwwroot\SiteData\bes_bfenterprise\Sites\Software Distribution* folder and must be copied to a working directory before you can use it.

The tool can be used to script a library import in two ways:

- A script can be written to produce a list of directory names that are passed into the Upload Manager as an *inputdirslist*. This is a good approach for libraries that are well structured. For example, if the software repository reliably follows the pattern of /VENDOR/PRODUCT/VERSION folders, a simple listing of those folders is sufficient.

- Alternatively, a script can be written that iterates the file system and calls the tool repeatedly on a *per product directory* basis. This is a good approach for libraries that are not well structured, in which the external script must test a given directory for applicability.

Packages that are uploaded in this manner have their files uploaded and their metadata filled in with estimated values derived from file analysis. To generate tasks using these estimated values, select the uploaded packages and click *Create Default Tasks*. Uninstallation tasks are also created if the package format supports this.

> *Note:* All tasks generated in this manner are marked as Validation Required.

For access to the Upload Manager tool, click **here**. If you are using a version of Upload Manager earlier than 1.0.0.37, you must download it again to access all new features.

For detailed usage instructions, click **here**.

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Microsoft Application Virtualization

Software Distribution supports the distribution and management of Microsoft Application Virtualization (App-V) packages without the need for a separate Microsoft System Center App-V Management Server for streaming and metering. The Microsoft App-V Sequencer creates a virtualized application that can be distributed by using Software Distribution.

To use your App-V site, go to the License Overview dashboard under the BigFix Management domain in your console and enable the *Client Manager for Application Virtualization* site. Subscribe to this site any desktops that require an App-V client.

Deploy App-V Clients

The App-V Client Wizard creates tasks for installing and configuring App-V clients. With this wizard, you can specify and upload client installers for use. You can also set up and apply configuration templates as policies.

The following App-V clients and packages are supported:

- 4.5 SP1
- 4.5 SP2
- 4.6 Gold (32 and 64-bit)
- 4.6 SP1 (32 and 64-bit)
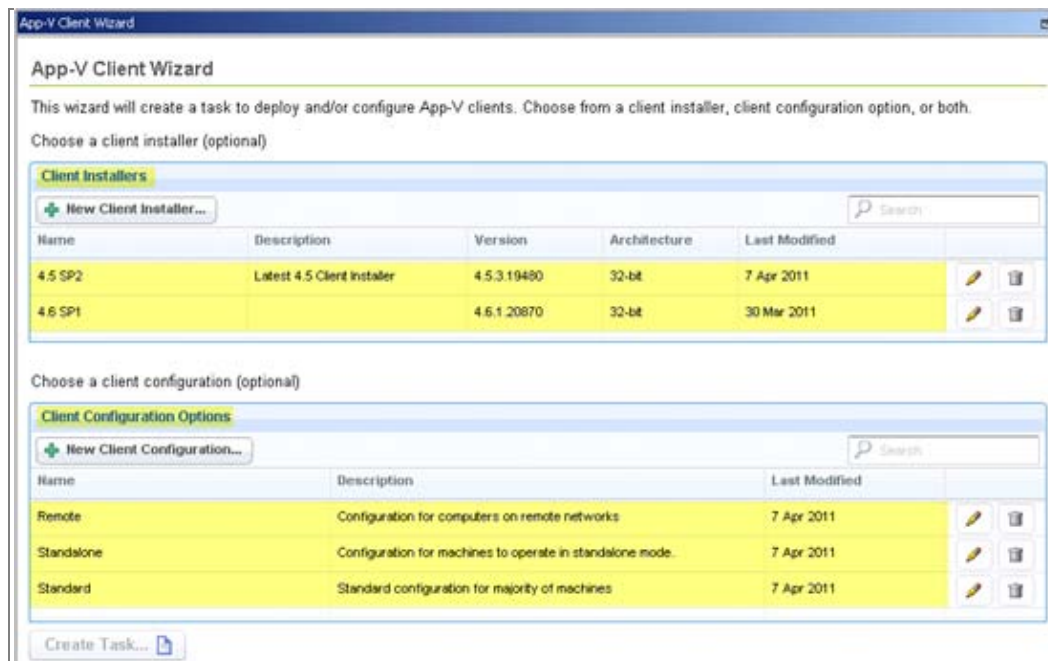
To create another deployment option, choose the *New Client Installer* option and specify the location of the App-V Client installer and information about the installer being uploaded.

You can edit previous installer entries by double-clicking the row or the edit button on the right side of the row. Click the trash icon to delete the entry.

To create a configuration, choose *New Client Configuration* and choose all options to be set on the client. You can specify many settings for configuration, optional servers, and permissions for non-administrative users.

You can view previous *configuration* entries by double-clicking the row or the edit button.

Add App-V Client Configuration Option dialog box with fields for Name and Description, checkboxes for Allow Independent File Streaming, Require Authorization If Cached, Allow Disconnected Operation (with Limit disconnected operation to (days): 90 and Work Offline), Configure Client to use App-V Server (Protocol RTSP, Path), and Permissions section with AddApp, ChangeCacheSize, ChangeFSDrive, ChangeLogSettings, ChangeRefreshSettings, ClearApp, DeleteApp, ImportApp, LoadApp, LockApp, ManageServers, ManageTypes, PublishShortcut, RefreshServer, RepairApp, ToggleOfflineMode, UnloadApp, UpdateOSDFile, ViewAllApplications, OK and Cancel buttons.

Note: The App-V client must have the "AllowIndependentFileStreaming" setting enabled to run in stand-alone mode. You can configure this in the App-V Client Deployment Dashboard.

To create a task, select from the available client installers and configuration options, as follows:

- If you create a task using a client installer, the new task only installs the client and leaves the configuration as the default.

- If you create a task using a configuration, the new task changes the configuration on an existing deployed App-V client.

- If you create a task using both the client installer and configuration, a task deploys and configures App-V.

When you select at least one item, you can create a task.
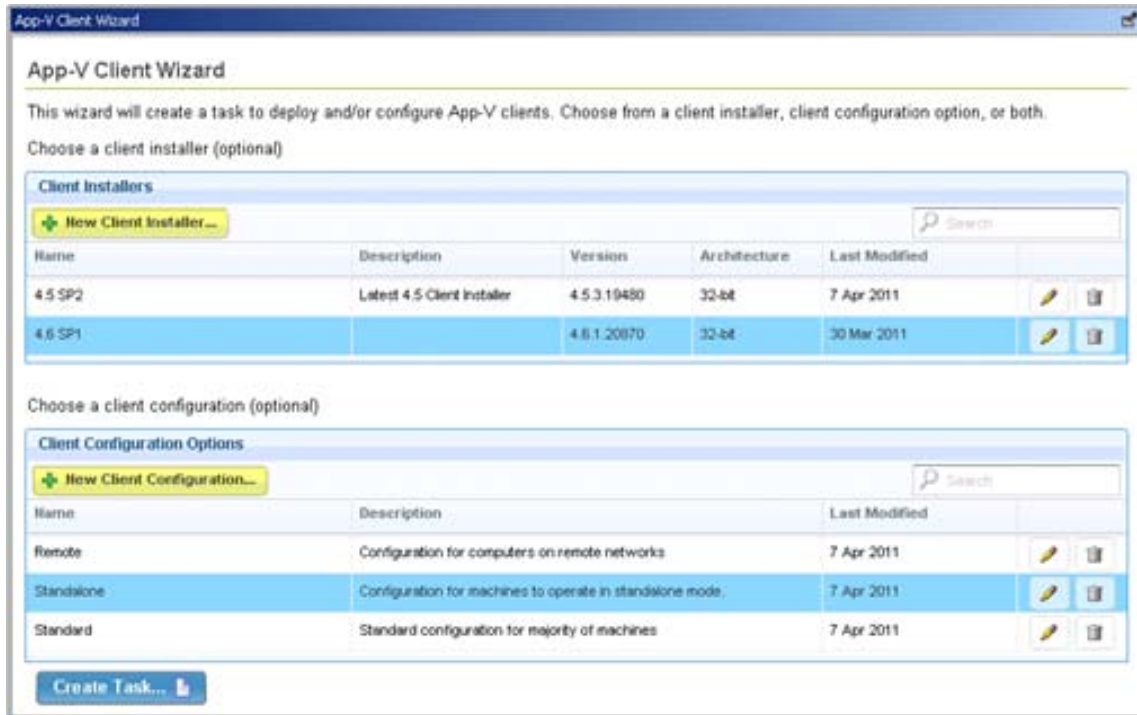
Created tasks can be found in the Systems Lifecycle domain under the App-V Client Tasks subnode of the Software Distribution navigation tree.

You can also create tasks to uninstall the App-V client, or to restart the App-V client service due to a pending configuration change.
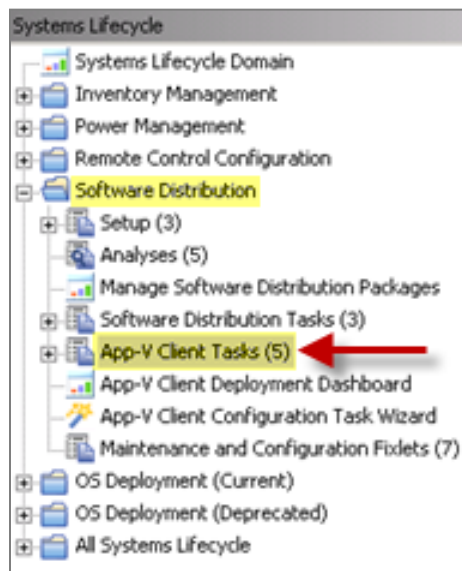
View App-V Client Status

The App-V Client Deployment Dashboard displays a summary of App-V client deployments, including installed versions and configuration settings.
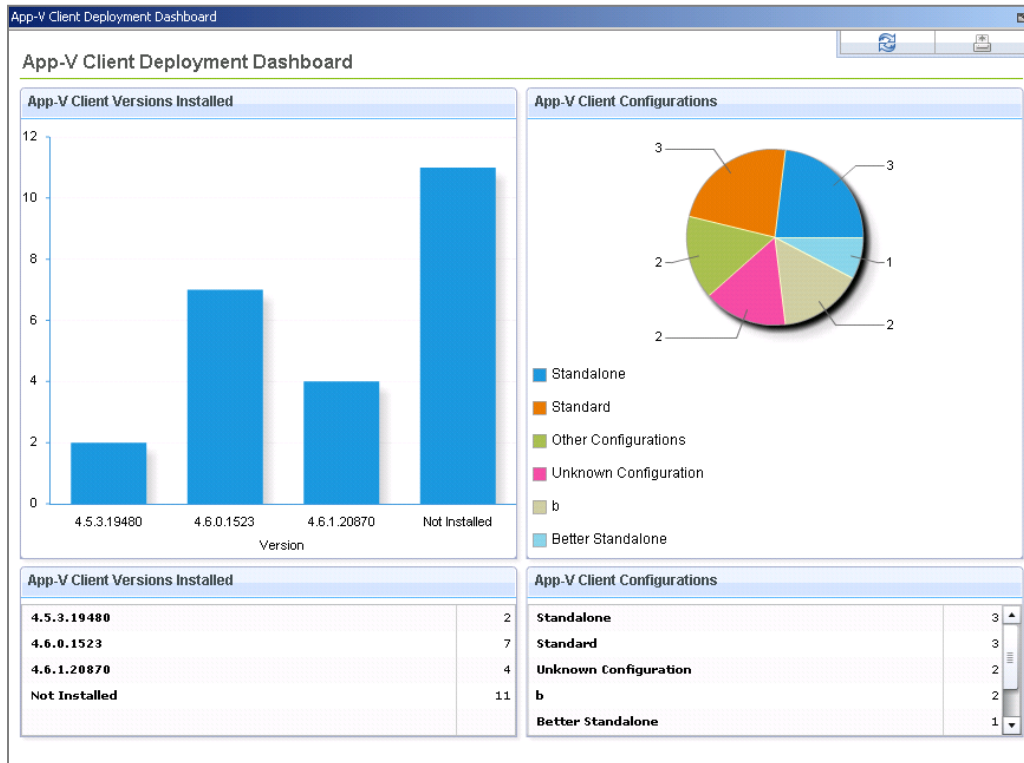
The configuration pie chart displays the top 5 configurations, grouping everything else in *Other Configurations.*

Click a bar, pie slice or entry in the tables to see a listing of those computers.

Deploy App-V Packages

A complete App-V package includes the following files:

- An .sft file, which contains the data of the sequenced application
- An .osd file for each application in the App-V package
- A manifest.xml file, which contains information about the entire App-V package
- Icon files used to display the application on the endpoint

If these files are packaged together, the Software Distribution dashboard generates a default installation command to deploy the App-V package to the endpoint in stand-alone mode (without streaming servers) to endpoints with the App-V client installed.

The App-V Sequencer might also generate an MSI file. This file can be used to deploy and install the package with the Software Distribution Dashboard if the following conditions are met:

- The MSI is accompanied by all other files in the App-V package, as described above.
- The App-V client is already installed on the endpoint.
- The App-V client has the "AllowIndependentFileStreaming" setting enabled.
- If App-V runs in a stand-alone configuration (no streaming server), the App-V client has the "RequireAuthorizationIfCached" setting set to 0. Otherwise, the application installs, but fails when the App-V client fails to contact the streaming server.

These conditions are tested by the task relevance. However, you must build a package in stand-alone mode before it can be deployed.

View App-V Application Usage

The App-V Application Usage Report is a Web Report that displays information about how applications are used in your deployment. The report can be found under the Systems Lifecycle category and then "App-V Application Usage Report".

Within this report, you choose the last launch filtering criteria.

After doing this, data is retrieved from the Web Reports server. You can search through the data using the Search box and copy data to the clipboard for importing into another program using the "Copy to Clipboard" function.

> *Note:* *Web Reports performance can be degraded when the amount of data becomes large. To further filter data beyond "Last Launch" criteria, first use the standard Web Reports filter dialog.*

Part Four

Support

Frequently asked questions

How does SPB software support get activated?

Click **here** for the Software Distribution Knowledge Base article on this topic, and click **here** for the Tivoli Configuration Manager to Tivoli Endpoint Manager Migration Guide.

What is the definition of a Package?

Packages are bundles of content. They contain a list of the files needed to install a specific software product, as well as the tasks that install that product on the actual endpoints. The package establishes management relationships between files and tasks. For more information about tasks and actions, see the Tivoli Endpoint Manager Console Operator's Guide.

What is the role of MSTs in Software Distribution?

A Microsoft Transform (MST) file is a sub-file of a Microsoft Installer (MSI) file. Transform files are used to set or override installation options such as the product language, license key, or component selections. In the context of Software Distribution, you can use a wizard to auto-generate a task for every MST included in a package.

> *Note:*   *You can have different tasks apply to different MSTs, but you can only apply one MST for each Software Distribution task.*

Does Software Distribution include a package builder or sequencer?

No, this product does not include a package building tool.

I created a task from the *Make Task Wizard.* Why is it not *relevant?*

For general Fixlet and task authoring support, see the Fixlet Authoring support page on the BigFix support website. For more specific guidance, see the related Knowledge Base article.

I created a task in Current User mode and deployed it to my endpoints. Why didn't it get installed at the endpoints?

There must be a logged-in user with Administrator privileges to install the software.

I'm having trouble deploying my App-V packages. What should I do?

See the Microsoft website for more specific information about App-V deployment.

Why do I need installation files in the root directory to create a task?

See the related Knowledge Base article on the BigFix support website.

Can I find the list of packages that have been installed on an endpoint?

Because Tivoli Endpoint Manager does not repackage the software in a new format, it relies on vendor-specified tags, such as the package GUID. These attributes are already gathered in Tivoli Endpoint Manager inventory for many common packaging systems. Alternatively, analyses can be used to identify attributes that indicate that a piece of software is in place. The Tivoli Endpoint Manager Software Usage Analysis scanner is useful for doing this.

Are there any recommendations when creating packages?

See the related Knowledge Base article on the BigFix support website.

What are the currently supported file types?

Software Distribution can deploy any type of file. However, it is currently only supported for Windows platforms. Auto-generation of package installation commands only works for .exe, .msi, spb, .bat files, and Microsoft App-V packages.

Why is my computer still relevant to a task after it has completed?

The auto-generated task relevance might not provide perfect applicability relevance for certain file types. Check that the relevance is accurate and modify it if necessary. Actions from tasks are considered successful if each step runs without error. A successful completion of the task does not necessarily mean that the task becomes non-relevant.

What should I do if my software package has setup.exe and .msi file in it?

This depends on the type of software that you are installing. Check with the specific software vendor for their recommendations.

How does automatic task creation handle a software package that contains multiple installers?

The automatic task creation feature prioritizes installation commands using a scoring system based on the following criteria:

- File name starts with setup or install
- Is an MSI or SPB file
- Is an EXE or BAT file
- Contains a complete App-V package

MSI-only packages with a single transform file will have that file applied on the command line, but packages with multiple transforms do not have an automatic choice applied.

What is a "relative path"?

The *relative path* concept can be used when adding files to a package. For example, an MSI transform file can be added to an existing package and placed into a subfolder by using this feature. Open actions based on this package must be re-created before they can take advantage of the new file. For additional guidance on this, see the related Knowledge Base article on the BigFix support website.

How do I bundle multiple installations into a single package?

Create individual tasks and use baselines to organize them. For additional guidance, see the Best Practices section of this publication.

How can I upgrade App-V clients?

App-V clients can be upgraded using an App-V client deploy task created with the App-V client wizard using a newer version of the installer. A configuration cannot be added to this task to set or change a configuration at the same time as a client upgrade, so only deploy tasks are applicable for upgrade.

How can I increase the amount of visible data in an App-V web report?

Use the latest version of your browser and Flash to optimize performance when using large web reports.

Technical support

The IBM BigFix technical support site offers a number of specialized support options to help you learn, understand, and optimize your use of this product:

- BigFix Support Site
- Documentation
- Knowledge Base
- Forums and Communities

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Part Five

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