

**Tivoli.** *Software Usage Analysis*  
*Version 1.3*

## *User's Guide*





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

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# Introduction

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## Background

A well-implemented Software Usage Analysis (SUA) initiative creates significant cost savings across your enterprise – both on software as well as on process and infrastructure. It puts you in a stronger negotiating position with software vendors and, most importantly, provides you with powerful peace of mind when it comes to the complexities of license compliance. With a healthy SUA implementation within your environment, you always know what software you have, where it is, and how it's being used.

Offered as an add-on to the [Systems Lifecycle Management](#) suite, Tivoli Endpoint Manager Software Usage Analysis (SUA) is a powerful solution for discovering software installed on the desktops, laptops, and servers in your environment. Its powerful technology matches your software usage with the software publisher's license information for immediate, accurate and automated license "true-ups". By identifying precise information on software licensing and usage, you can quickly identify and remediate any noncompliant use of software, enterprise-wide.

The SUA application can help your enterprise support contract negotiations, vendor audits and IT budget planning; accurately identify software and validate software license compliance; discover and eliminate unauthorized or risky applications; reduce overspending and reallocate software based on usage trends; and feed your asset repository with accurate and fresh data.

## System requirements

- The SUA 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 is your target application server.
- Tivoli Endpoint Manager Server version 7 must be available in your environment. The Tivoli Endpoint Manager SUA application can 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 can be on the same computer as the SUA application or on a separate server. You can use the same database server used for the Tivoli Endpoint Manager Server, or a separate database server, depending on the size of your deployment and available hardware resources. This version of SUA 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 SUA
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 SUA 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 must have cookies enabled to run the application correctly.
- 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 SUA Server. (Note: This is different from Java Runtime Environment.) If your SUA server OS is running a 64-bit architecture, download and install the 32-bit JDK 1.6 or later and ensure the installer creates the correct environment path variable for Java. Access Java JDK from Oracle's website: <http://www.oracle.com/technetwork/java/javase/downloads/index.html> to download the latest JDK.
  - The Ruby Java Bridge (RJB) version 1.1.6 on your SUA Server. Use Task #29, "Install Ruby Java Bridge" provided in the Fixlet Site to install this component onto your Tivoli Endpoint Manager for Software Usage Analysis Server. Your Server must have a Tivoli Endpoint Manager Agent installed to become relevant for this task. This task stops all related backend services, installs RJB, and then restarts the backend services. If JDK and the RJB are not installed, all DSS exports use the CSV output rather than PDF.
  - If you are upgrading from a previous version of the product, the RJB is already on your server and does not need to be added.
  - After the components are installed, your users must clear their browser cache before the PDF export option is available. For specific installation instructions, go to the BigFix [Knowledge Base](#).

## User accounts

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

**Stage 1** – Subscribe to the Content Site

**Stage 2** – Install the SUA application

**Stage 3** – Configure the services that run the software

**Stage 4** – Configure the connection from the SUA application to the databases

Stage	Account Requirements	Type
1. Subscribe to DSS SAM Content Site	Tivoli Endpoint Manager Operator login with permissions to subscribe to content sites	Tivoli Endpoint Manager Operator
2. Install SUA	Administrator for the O/S where you're installing SUA <b>*Note:</b> A non-administrator might be able to run the Configurator, but this might result in an error.	Domain or local
3. Configure the services that run SUA and connect to the databases	Service account with db_datareader permissions on Tivoli Endpoint Manager database and read permission to the Tivoli Endpoint Manager server upload manager directory	Domain
4. Create the SUA 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, see the [Knowledge Base](#) on the BigFix support website.

## Deployment sizing requirements

The SUA application runs 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 vary according to your configuration.

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

- The number of users accessing the SUA application determines how much processing power and RAM your server must have.
- The number of Tivoli Endpoint Manager Clients determines 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 Tivoli Endpoint Manager Client must be allocated on the Tivoli Endpoint Manager Server split between files and the database, and 1-2MB per Tivoli Endpoint Manager Client on the SUA application system, also split between files and database.

For example, 10,000 Tivoli Endpoint Manager Clients requires 10GB of free space on the Tivoli Endpoint Manager Server, and 10-20GB free space on the SUA application computer. This scenario would require the Tivoli Endpoint Manager Server database to be on the same computer as the SUA application. For sizing requirements on other deployment configurations, see the Appendix.

## Hardware specifications

The values listed below are recommended hardware specifications to provide optimum performance for similar sized deployments of the SUA application. If your deployment includes more than 20 SUA 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. Set the disk cache to 50/50 read write.

## Considerations

To initiate a correct deployment of SUA within your enterprise, you should first be familiar with the Tivoli Endpoint Manager Platform and have read the [BigFix Console Operator's Guide](#). Thereafter, you should read the SUA *Installation and Configuration Guide*.

After you have correctly installed and configured SUA in your environment, use this *User's Guide* to learn about the basic functions of each component of the application. Then use the SUA *Catalog Editor's Guide* to learn how to set up your Catalog to match your deployment, as well as describe the processes for manipulating your Catalog contents. For a deeper understanding of Software Asset Management software, review the SUA *Implementation Guide*.

## New features

### Content Updates to Software Catalog

This version of SUA includes thousands of new content entries to the Software Catalog. This additional content will give you a more comprehensive list of software inventory to match your existing deployment.

### Flexible Contract Types

SUA Version 1.3 includes the ability to select the Tivoli Endpoint Manager Analysis property to be used for the unit for analysis for a contract. For example, you can now specify the number of CPUs that can be deployed and select the applicable Tivoli Endpoint Manager analysis property for "CPU count" as the contract multiplier.





### **Flexible Application Usage Properties**

SUA Version 1.3 includes the ability to add Tivoli Endpoint Manager analysis properties that carry application usage information. This release continues to include the default application usage for Windows, but you can now add additional sources for application usage statistics. For example, SUA now supports usage data for Windows, Mac, UNIX, and Linux.



## Part Two

# How it works

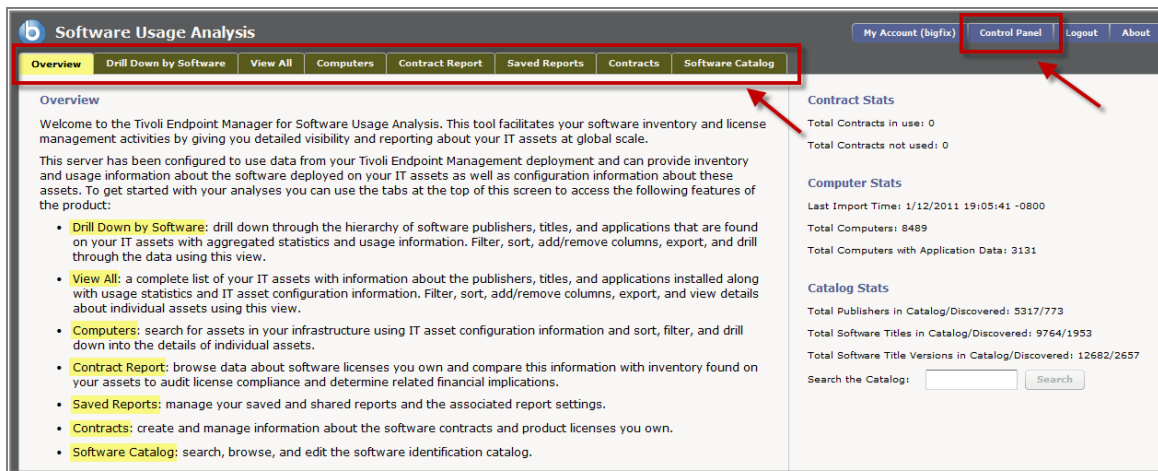
SUA operates from a standard web browser. Log onto the URL for SUA as specified by your system administrator, then enter your username and password. This displays the main SUA application GUI.

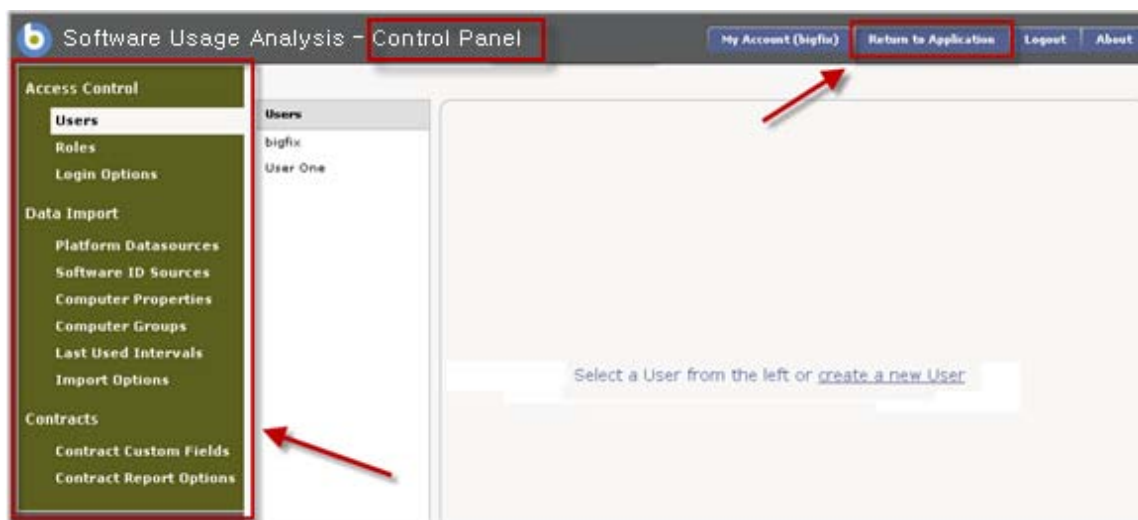
## Review the GUI

You can now see the SUA main window. Read the content on the *Overview* tab. Click the other tabs across the top of the main screen to get familiar with their content: *Drill Down by Software*, *View All*, *Computers*, *Contract Report*, *Saved Reports*, *Contracts*, and *Software Catalog*.

**Note:** *The tabs you see are limited by your user roles as assigned by the application Administrator. For example, the Control Panel is not visible for all roles.*

Click the *Control Panel* button at the top right of the main menu. Read the contents of the menu on the left side of your window, then click the *Return to Application* button to return to the overview window.





## Set up users

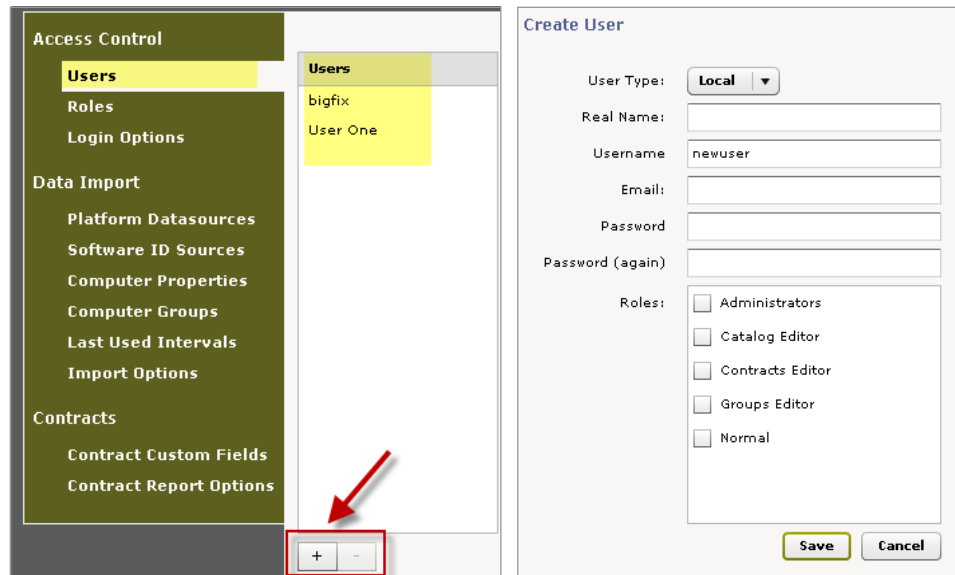
SUA users are divided into four essential roles:

- **Administrators** Can access all SUA functions, including creating users, modifying permissions, deleting users, creating data sources and running imports.
- **Catalog Editors** Can browse and edit the software catalog.
- **Contracts Editors** Can create and edit contracts and browse the Software Catalog.
- **Normal Users** Can browse through the tabs in SUA and adjust view options, but cannot make any changes.

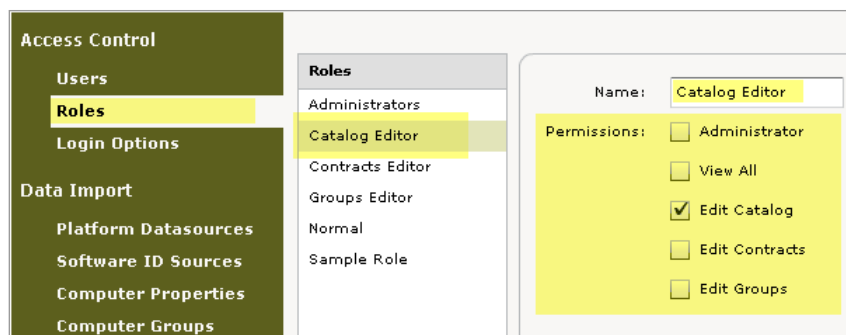
Each user role, regardless of location, plays a critical role in how SUA is used. For detailed information about setting up user roles, see the *SUA Installation and Configuration Guide*.

SUA makes it possible to have portions of a geographically distributed team work from their respective remote locations to edit the Catalog and contracts data pertaining to their localized requirements. This approach helps streamline IT processes to avoid bottlenecks in the workflow.

To set up users, click the *Control Panel* and select *Users* under the *Access Control* menu. View your current list of users, or click the *Plus Sign* at the bottom of your window to add new users. Click *Save* after adding or editing each user.



To view, edit, or add user roles, click on *Roles* under Access Control and view the roles already pre-populated in your system. For each role, review the list of accompanying permissions and check the applicable boxes to assign permissions to each role.



## Set up Computer Groups

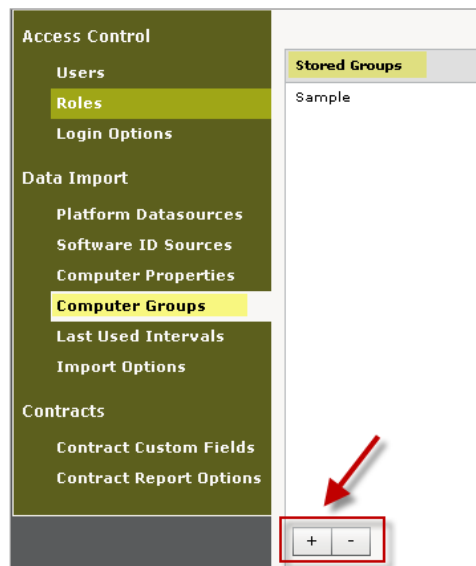
Computer Groups can be useful for sorting and filtering inventory reports. They can also be used with contracts to associate the contract to specific computers.

When you assign a contract to a computer group, you are indicating which computers are entitled to the licenses described by that contract. In the Contract Analysis window, licensed and unlicensed computers are taken from the entitled Computer Group. Unentitled Computers are those computers outside of the Computer Group that also have the software title version that is associated with the contract.

The [Contract Analysis](#) window displays the following information:

- **Licensed computers** -- Computers in the Computer Group with the software installed that are entitled to the software,
- **Unlicensed computers** -- Computers in the Computer Group with the software installed that are entitled to the software, but there are not enough licenses for the number of computers with the software installed
- **Unentitled computers** -- Computers with the software installed that are not entitled to the software because they are not in the Computer Group associated with the contract.

Click on Control Panel and select *Computer Groups* under the Data Import menu to view any computer groups you have previously created. To create a new group, click the *Plus Sign* at the bottom of the window.



In the *Create Computer Group* box, enter the name of the group and use the Group Definition menus to create filters for your group parameters. If there are additional computer attributes that you want to use for group parameters, you can add more attributes by entering additional Computer Properties (described in the next section). Click *Save*.

After you have created your new group, view it in the Stored Groups list. You can drag one group into another group to make it a child or subgroup of that group.

You must run an Import to refresh the required attributes before the new groups become available in the SUA components.

### Create Computer Group

Parent Group: <none>

Name: Marketing Department

Description: Members of BigFix Marketing Department

#### Group Definition:

##### Includes (1 filters)

Include records matching all filters

Datasource Any none select

Datasource Identifier Any

IP Address Any

Computer Name Any

DNS Name Any

Operating System contains Windows

BES Group Membership Any none select

##### Excludes (1 filters)

Exclude records matching all filters

Datasource Any none select

Datasource Identifier Any

IP Address Any

Computer Name Any

DNS Name Any

Operating System contains Mac

BES Group Membership Any none select

Save Cancel

Save Cancel

## Set up Computer Properties

Use the Computer Properties feature to configure the information that SUA displays about the computers in your network. Click the Control Panel, then select *Computer Properties* under the Data Import menu. View the list of stored properties and the corresponding Tivoli Endpoint Manager properties displayed on the right side of your window.

Access Control

Users

Roles

Login Options

Data Import

Platform Datasources

Software ID Sources

Computer Properties

Computer Groups

Last Used Intervals

Import Options

Contracts

Contract Custom Fields

Contract Report Options

#### Stored Properties

- # of CPUs
- Computer Name
- DNS Name
- IP Address
- Operating System

Name: Operating System

BES Properties:

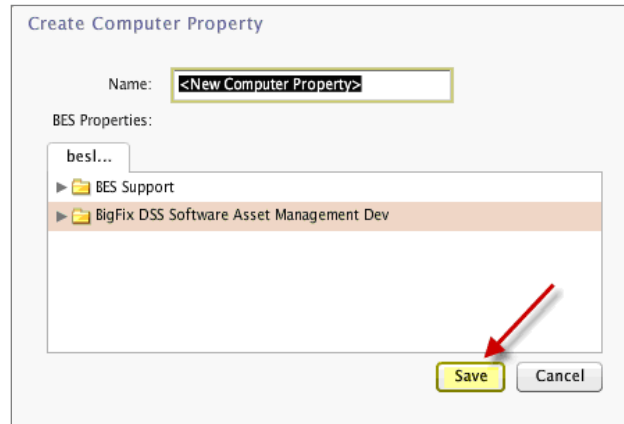
- OS
- OS revision
- pcAnywhere version
- pcAnywhere?
- Primary Relay Server
- Profiles
- project
- RAM
- Registered Applications
- Relay
- Relay Encryption Key Names
- Relay Handle Count

+

-

To add more properties to the list, click the “+” sign on the bottom of your window. The computer properties available on the Tivoli Endpoint Manager platform servers that you have defined as Platform Datasources are displayed.

Expand the available folders by clicking the arrow on the left. Select a property and edit the name that display in the SUA views, if necessary. Then click Save.



**Note:** Any computer property that you want to designate 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 to be used to provide data on that unit of licensing. For more information, see the Contracts section of this document.

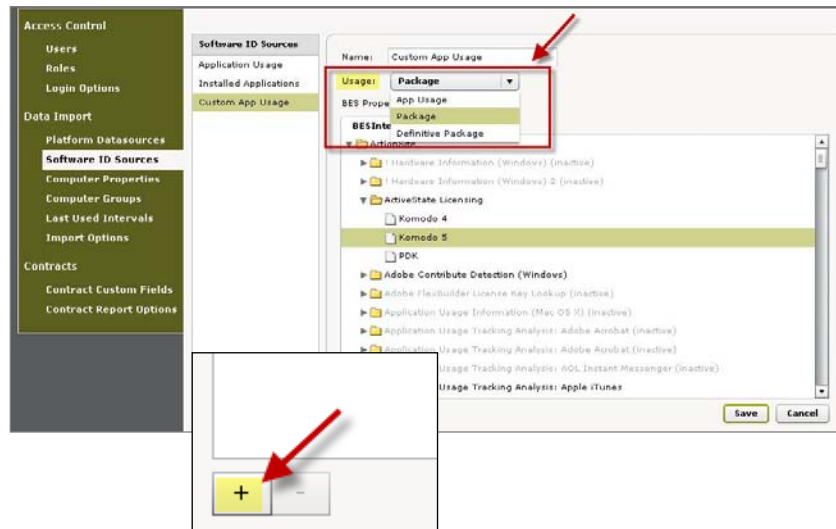
## Set up Software ID Sources

Software ID Sources, which can include package properties or application usage properties, are Tivoli Endpoint Manager analysis properties that are used for software recognition and usage information. These properties are correlated to your Software Catalog. A Package is an artifact collected from computers, such as uninstall strings from the Windows registry. Package data can come from any Tivoli Endpoint Manager analysis.

There are three ways to use Software ID Sources in SUA: as application usage data, as Package Data that assists the identification of executables, and as Definitive Packages that stand alone as the software identification source.

To create a new ID source, click *Software ID Sources* from the Control Panel and click the “+” sign at the bottom of the page. Choose the Usage “type” from the pull-down menu and then choose the corresponding analysis property.



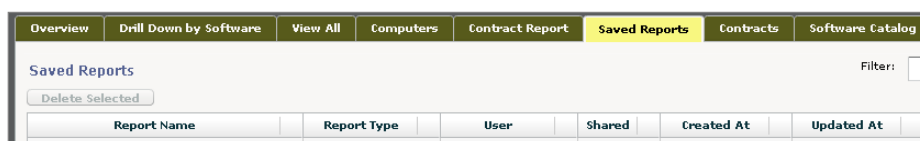


- **App Usage**  
For non-Windows application usage information, create a Software ID Source and select the “App Usage” option in the Usage pull-down menu (see above).
- **Package**  
The role of *regular* (as opposed to *definitive*) packages within the SUA Software Catalog is to serve as a tie breaker to help distinguish between two executables that look alike. For “ambiguous” software title versions (such as Microsoft Word sold as a standalone product and also bundled with Microsoft Office), it is important to have associated packages that reflect the exact software packages you have installed.
- **Definitive Package**  
The role of definitive packages is to serve as the primary source of information about software installed on your computers. Software title versions, using definitive properties, do not need executables for software recognition. To read more about Definitive Properties, see the SUA Software Catalog *Editor's Guide*.

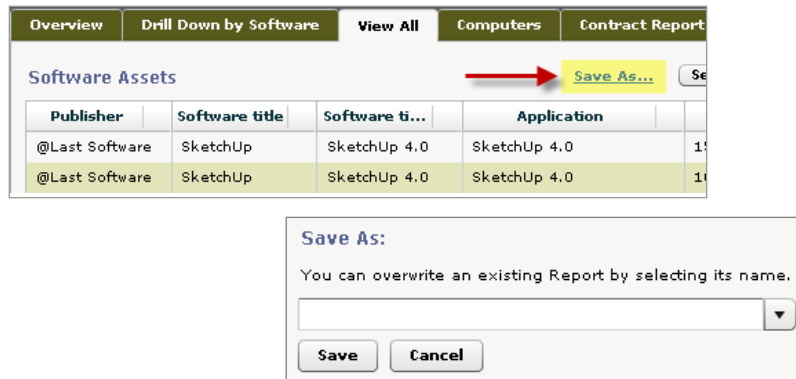
## Reports

### Saved Report settings

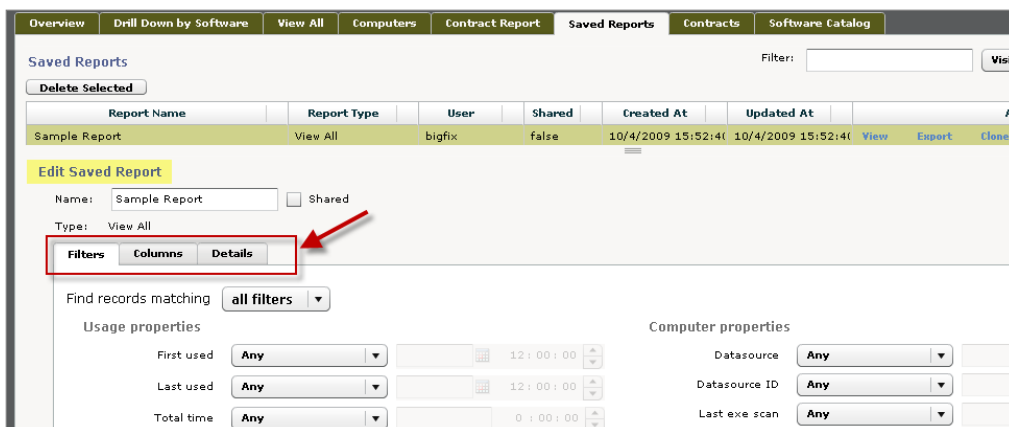
The Saved Reports feature allows you to quickly view the exact data you need, while saving the parameters of how your information is displayed. Click the Saved Reports tab at the top of your window to see a list of your saved reports.



If you do not yet have any saved reports, you can create one by using through the **Save As** button that displays on most tabs in SUA. Click **Save As** to select an existing report name to change or type in a new name.

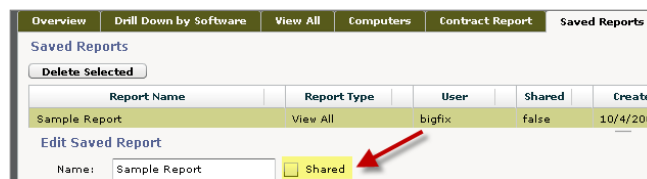


Click an existing Saved Report to display an *Edit Saved Report* window, where you can customize how your report is displayed by setting specific parameters. The Edit Saved Report content is organized into three tabs – **Filters**, **Columns**, and **Details**.



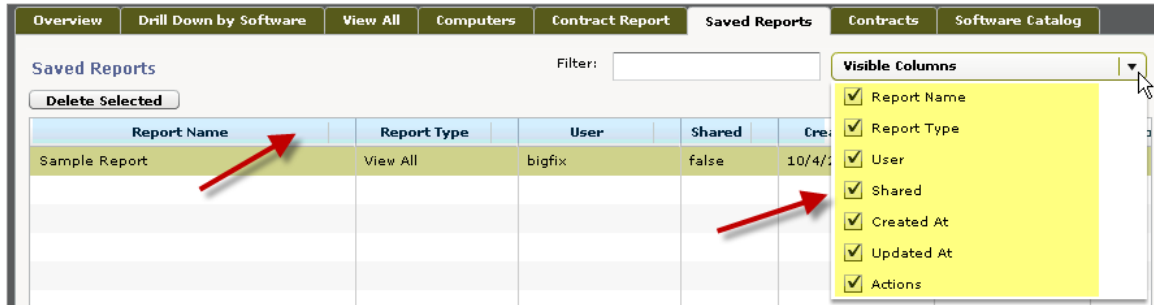
Some instances for using a Saved Report setting can include:

- Specifying useful report filters and parameters to reuse in the future
- Sharing saved reports with other SUA users (click the *Shared* checkbox on the report options on the Saved Reports tab)

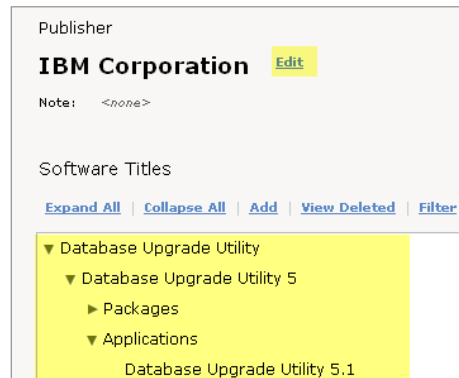


- Email Saved Reports settings

You can select which columns to display in your Saved Reports by using the pull-down menu at the top right of the window:

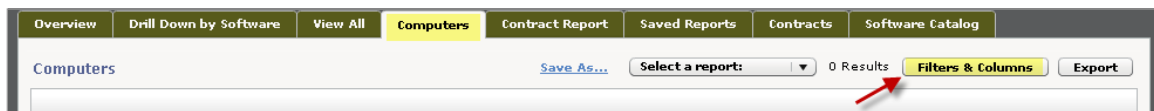


The Software Catalog organizes its content in an information “tree”, the highest level of which is the software publisher. The Catalog then sorts all information for a particular publisher under Software Title, Software Title Version, Package or Application, and Executable.

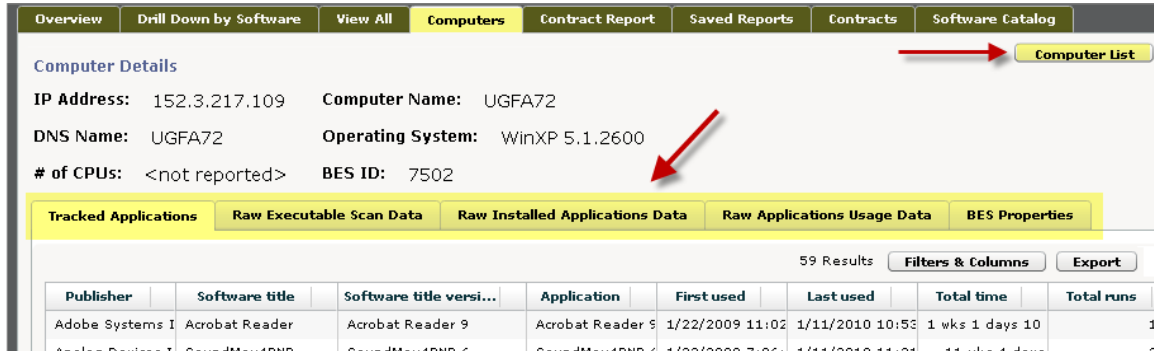


## Tracking computers

Use the *Computers* tab in the SUA main menu to search for assets in your infrastructure, and use the *Filters & Columns* feature to customize how your data will displays.



Click a computer displayed in the list to view Computer Details, such as IP Address, Computer Name, DNS Name, Operating System, # of CPUs, and Tivoli Endpoint Manager ID. In addition, you see five tabs that display tracked applications, raw data, and Tivoli Endpoint Manager properties. Click *Computer List* in the top right of the window to return to the original list view.



**Computer Details**

IP Address: 152.3.217.109    Computer Name: UGFA72  
 DNS Name: UGFA72    Operating System: WinXP 5.1.2600  
 # of CPUs: <not reported>    BES ID: 7502

**Tracked Applications**    Raw Executable Scan Data    Raw Installed Applications Data    Raw Applications Usage Data    BES Properties

59 Results    Filters & Columns    Export

Publisher	Software title	Software title versi...	Application	First used	Last used	Total time	Total runs
Adobe Systems I	Acrobat Reader	Acrobat Reader 9	Acrobat Reader 9	1/22/2009 11:02	1/11/2010 10:55	1 wks 1 days 10	15
Adobe Systems I	Acrobat Reader	Acrobat Reader 9	Acrobat Reader 9	1/22/2009 11:02	1/11/2010 10:55	1 wks 1 days 10	15

## Tracking software

Click the *View All* tab in the SUA main menu to view a complete list of your IT assets, together with usage statistics and asset configuration information. Click *Filters & Columns* to customize the information you need about your assets and how you want it to display.

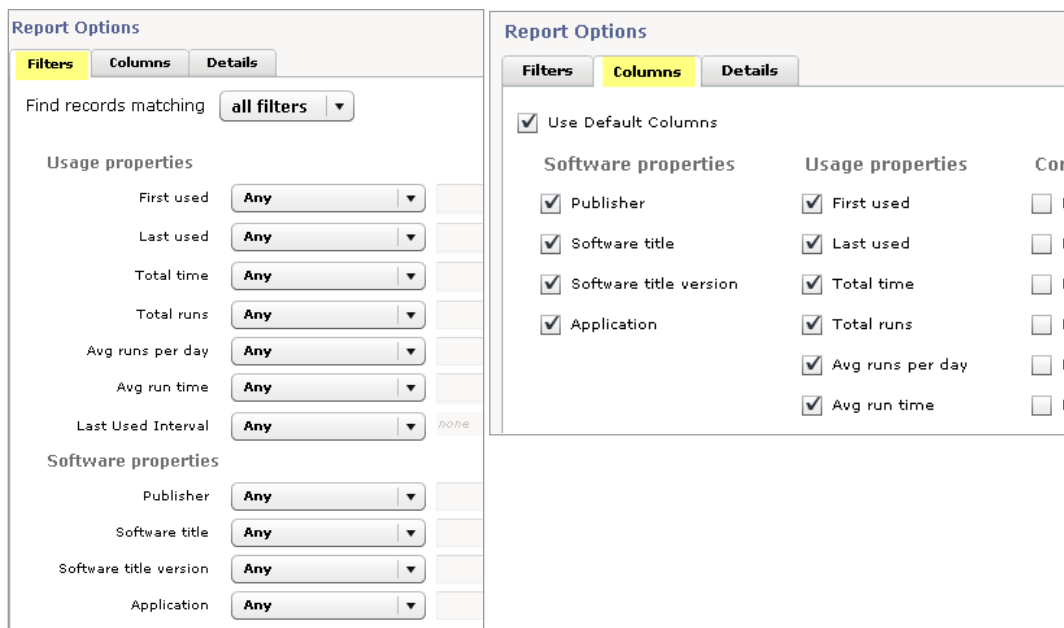


**Software Assets**

Save As...    Select a report:    0 Results    Filters & Columns    Export

Publisher	Software title	Software title version	Application	Computer Name	Operating System	First used	Last used	Avg runs per day	Avg run time
BigFix Inc.	BigFix Enterprise	BigFix Enterprise Client 7	BigFix Enterprise Client 7	HAMERKOP	WinXP 5.1.2600	1/3/2007 4:00	10/24/2008	<1	1 hrs 42 mins 14 secs
BigFix Inc.	BigFix Enterprise	BigFix Enterprise Console 7	BigFix Enterprise Console 7	HAMERKOP	WinXP 5.1.2600	9/22/2008 2:00	10/21/2008	<1	50 mins 56 secs

*Filter & Columns* displays a *Report Options* window, which you use to set parameters for how your asset data displays. You can see Filters, Columns, and Details tabs.



**Report Options**

**Filters**    Columns    Details

Find records matching: all filters

**Usage properties**

First used: Any  
 Last used: Any  
 Total time: Any  
 Total runs: Any  
 Avg runs per day: Any  
 Avg run time: Any  
 Last Used Interval: Any

**Software properties**

Publisher: Any  
 Software title: Any  
 Software title version: Any  
 Application: Any

**Report Options**

**Filters**    **Columns**    Details

☒ Use Default Columns

**Software properties**

☒ Publisher  
☒ Software title  
☒ Software title version  
☒ Application

**Usage properties**

☒ First used  
☒ Last used  
☒ Total time  
☒ Total runs  
☒ Avg runs per day  
☒ Avg run time

## Contracts

How you design your Contracts management workflow is directly related to the overall success of your SUA implementation. SUA Contracts tools can help you to:

- Track costs associated with contracts and help eliminate ambiguous terms or language
- Create your Contracts reporting to conform to service level agreements (SLAs)
- Stay within your internal corporate compliance policies
- Monitor and correct questionable licensing issues
- Calculate costs for replacements and updates or downsizing a contract's license quantity
- Avoid unnecessary costs for non-compliance

Tivoli Endpoint Manager SUA gives you a full array of flexible tools to configure how your Contracts data is collected, arranged, displayed and reported. It allows customization options for adding and modifying fields, as well as other selection tools to meet your reporting needs.

### Compile List of Contracts by Computer Groups

Endpoints generally fall into categories that can be grouped by function or even geography. These might be by department, by business unit, or by any functional distinction. This helps to contextualize the types of software being used across your enterprise and is useful for meaningful analysis. For example, knowing that a computer in the Shipping Department has graphics editing software installed with very little usage indicates that the application is not cost effective and should be removed. The first step is to enter a complete list of your current software contracts into SUA.

### Configure SUA Reporting Options

Contracts Editors configure and customize the Contracts information you need to see in your reports. Contracts Editors can create custom fields and assign priorities to how the information is ordered, either by license or contract, cost, date. This configuration and customization is done in the SUA Control Panel under the *Contracts* heading.

### Types of Licensing

SUA allows you to add filtering criteria to your Contracts data, such as the types of licenses that are being entered and tracked:

- Trial software – Applications available for pre-purchase for a limited time period
- Product software – Applications or packages purchased from the publisher or an authorized reseller
- Solution software packages – Software packages with multiple licenses from different publishers
- Versions – The same software title including various versions for which you are licensed
- Bundled software or “Suites” – Related software titles (each available separately) that are grouped together (Microsoft Office, Adobe Creative Suite.)
- OEM – Software repackaged by a another vendor with a different name or contained in a different package or bundle

## Test Accuracy - Generate Reports

To ensure the usefulness and accuracy of your Contracts data, generate reports and analyze not only the data but its presentation based on the priorities and criteria assigned. It is often more cost effective to make adjustments during a test cycle than after it has gone live across your enterprise.

## Analyze Reports and Update Contracts

After the initial Contracts reporting criteria have been entered by the Contracts Editor, distribute reports to stakeholders for feedback on accuracy and relevance. When a final configuration finds consensus, that configuration must be written into corporate policy to ensure consistent, accurate reporting.

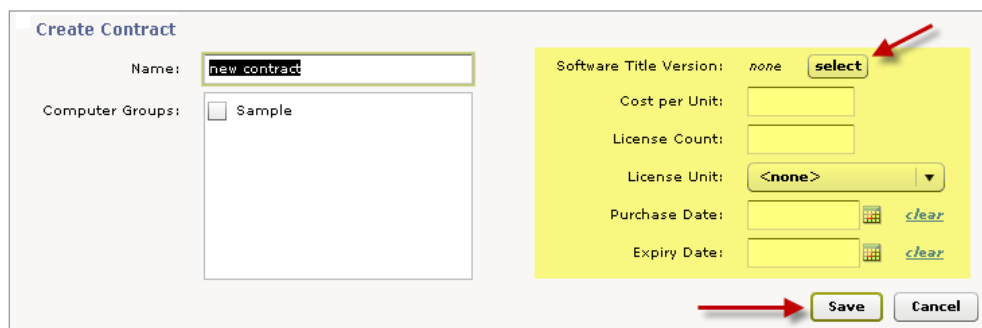
## Start Creating Contracts

To create contracts, click the *Contracts* tab in the SUA main menu to manage information about the software contracts and products licenses in your enterprise. Click *Add* to create a new contract for your software licenses.

**Note:** Alternatively, you can right-click a title version in the *Drill Down by Software* tab and add a contract for that title version.

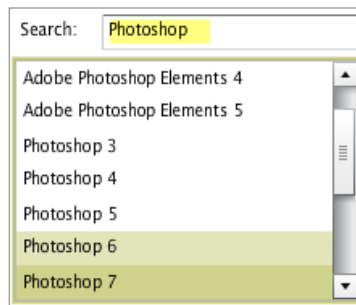


In the *Create Contract* dialog box, enter the name of your new contract, and then populate the fields on the right.



**Note:** If you are attempting to set up a contract that uses a unit of licensing other than the number of installed computers, then that unit of licensing must be configured as a computer property in SUA. Go to the Control Panel and set up your new licensing unit (“x”) as a property before you create a contract that uses “x” as that licensing unit.

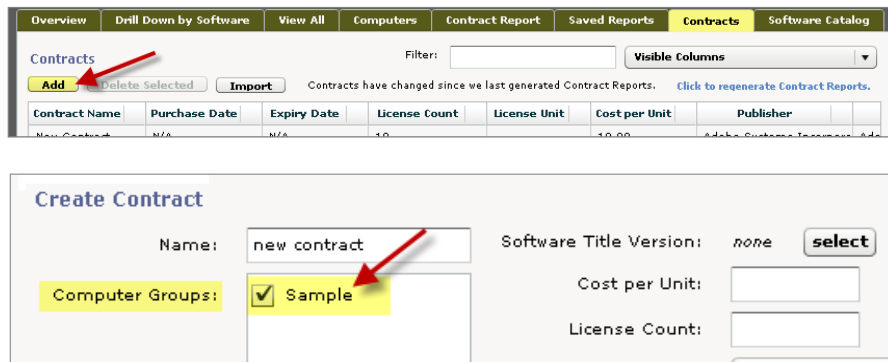
Find the software title for which you want to create a contract. Click the *Select* button located next to Software Title Version (as shown above), and type the name of the software in the Search box shown below. A list of possible software title versions auto-populates below the search field. Scroll through the list to locate the exact software title that you want, and then enter information in the remaining fields in the Create Contract dialog box. Click *Save*.



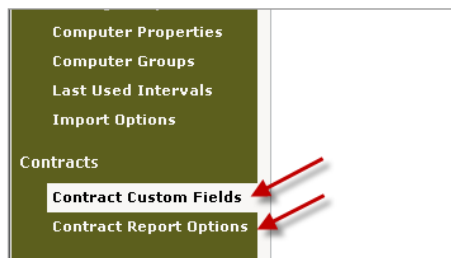
Now view your newly-created contract.

Overview	Drill Down by Software	View All	Computers	Contract Report	Saved Reports	Contracts
<b>Contracts</b>						
Add Delete Selected Import						
Contract Name	Purchase Date	Expiry Date	License Count	License Unit	Cost per Unit	
Sample Contract	N/A	N/A	11		10.00	

You can allocate licenses to computers or computer groups by selecting the “group” in the Create Contract window. Do this by clicking the *Contracts* tab, click the *Add* button at the top left, and then populate the Create Contract form.



To define the order in which licenses are allocated to computers in a group, use the *Contract Report Options* tab in the Control Panel. To create custom Contract data fields, use the *Contract Custom Fields* tab in the Control Panel.



## Import contract reports

In SUA Version 1.3, you can import contract reports from an external .CSV file. To do this, initiate the import by clicking the *Import* button on the Contracts tab primary window.



This displays a *Contract Import Wizard* window, where you select a .CSV file that contains your contract data.



Specify a particular .CSV file to upload from any UNC path accessible from the client computer. SUA displays the first few rows of data from the uploaded file together with mapping options. “Mapping options” in this context indicate how columns in the .CSV file correlate to the fields in a SUA contract. Available fields are:

- Contract Name
- Purchase Date
- Expiry Date
- License Count
- Cost
- License Unit Name
- License Unit ID
- Software Title Version ID (the Software Catalog ID)
- Software Title Version Name
- Computer Group
- Custom Fields

If any mapping conflicts exist for Software Title Versions or Computer Groups, you are given options for resolving those conflicts during the import workflow.



**Note:** If you are importing contracts with license units and some of these contracts are licensed per computer, use the value <none> to indicate contracts that are licensed per computer.

If any type-data mismatches or data length violations occur, you are given options for resolving those conflicts.

If there are any blank required fields in the CSV, they are left blank in the imported contracts. You must manually populate these later.

After the import, the system reports how many rows were imported and how many rows were ignored. For ignored rows, you can download a separate CSV file containing only the ignored rows. This CSV file contains all of the original data of the uploaded CSV file with the addition of an “\_\_ImportErrorMessage\_\_” column detailing why a particular row was ignored.

**Note:** For contract imports, only one value for a check box can be imported.

## View contract reports

The primary function of your SAM deployment is to generate the reports that you use to meet regulatory and compliance obligations and monitor and manage your software expenditures. Ultimately, it is the reporting that saves your enterprise money and elevate your compliance standing.

Now that you have created a licensing contract in the previous step, click the *Contract Report* tab to browse data on your software licenses. Compare this data with your asset inventory to audit license compliance agreements.



Publisher	Software title	Software title version	Active Contracts	Total Licenses	Licenses Used	License Delta	Cost Delta
21-6 Product:	PE Builder	PE Builder 3.1	1	20	0	20	200.00

A description of each field is shown below:

<b>Publisher</b>	The publisher of the software.
<b>Software Title</b>	The software title.
<b>Software Title Version</b>	The software title including its version. (Note: SUA tracks software licensing based on software title version.)
<b>Active Contracts</b>	The number of contracts that apply to this software title version and have not expired.
<b>Total Licenses</b>	The total license count of all contracts for this software title version.
<b>Licenses Used</b>	The total number of licenses used by “entitled computers” that have this

	software title version.
<b>License Delta</b>	The difference between total licenses and licenses used.
<b>Cost Delta</b>	The difference between the value of the contract and the value of software used by entitled computers.
<b>Entitled Computers</b>	The number of computers that have this software title version and are entitled to it.
<b>Licensed Computers</b>	The number of entitled computers that have licenses.
<b>Unlicensed Computers</b>	The number of entitled computers that do not have a license. This is either because you ran out of licenses, or the contract has a license unit other than per-computer, and the computer is failing to report the number of licenses it requires.
<b>Misreporting Computers</b>	If the contract has a license unit other than per-computer, this is the number of computers failing to report the number of licenses they require.

## Contract analysis

The Contract Analysis window, which you can access from the *Contract Report* tab, displays when you select an existing contract and then click the *Analyze* button at the bottom right of the window. You can also access the Contract Analysis window by right-clicking an existing contract and selecting *Analyze* from the drop-down list.



Publisher	Software title	Software title version	Active Contracts	Total Licenses	Licenses Used	License Delta	Cost Delta	Entitled
21-6 Production	PE Builder	PE Builder 3.1	1	20	0	20	200.00	

The Contract Analysis content is organized into *Analysis Selection*, *Analysis Totals*, and four bottom tabs that provide additional detail: *Contracts*, *Licensed Computers*, *Unlicensed Computers*, and *Unentitled Computers*.

The *Analysis Totals* section provides a summary of the following:

- Active Contracts
- Total Licenses
- Licenses Used
- License Delta
- Cost Delta
- Entitled Computers
- Licensed Computers
- Unlicensed Computers
- Misreporting Computers

Overview

Drill Down by Software

View All

Computers

Contract Report

Saved Reports

Co

Contract Analysis

Analysis Selection

Software Title Versions:

PE Builder 3.1

Unit of Licensing:

# of CPUs

Analysis Totals

Active Contracts: 1

Total Licenses: 20

Licenses Used: 0

License Delta: 20

Cost Delta: 200.00

Entitled Computers: 6

Licensed Computers: 0

Unlicensed Computers: 6

Misreporting Computers: 6

Contracts

Licensed Computers

Unlicensed Computers

Unentitled Computers

Contract Name	License Unit	Cost per Unit	Software titl...	Group bindings	Total Licer
PE Builder 3.1	# of CPUs	10.00	PE Builder 3.1		

A contract analysis can show you the totals over multiple contracts or multiple software titles. If you select multiple software titles displayed under the Contract Report tab and click *Analyze*, the Contract Analysis window displays a total of all designated rows.

## Drill Down by Software

Click the *Drill Down by Software* tab on the SUA main page and view the title menus, as highlighted below.

Overview

Drill Down by Software

View All

Computers

Contract Report

Saved Reports

Contracts

Software Catalog

Software Asset Hierarchy

Save As...

Select a report:

609 Results

Filters & Columns

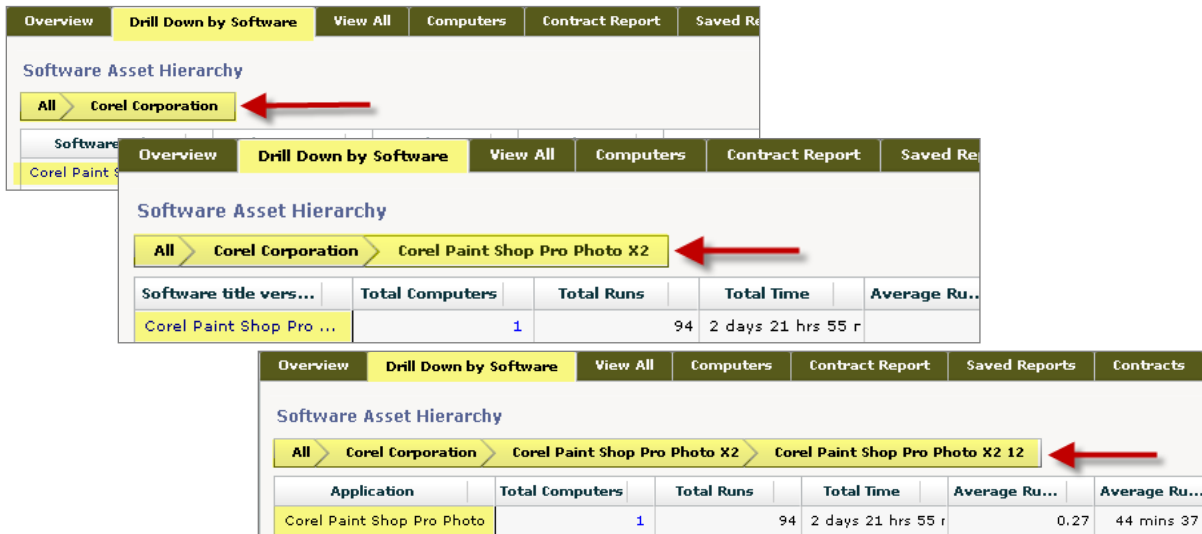
Export

Publisher	Total Computers	Total Runs	Total Time	Average Run...	Average Run ...	Used 1 week ...	Used 2 weeks...	Used 3 weeks...	Used 4 weeks ago
21-6 Product...	6	0	0 secs	N/A	N/A	0	0	0	0
2BrightSparks...	21	2152	12 wks 6 days	0.52	3 hrs 54 mins 47 se	13	13	14	14
2Wire Inc.	1	0	0 secs	N/A	N/A	0	0	0	0

You can use a drill-down method to gather detailed information about your software assets. Start by clicking one of the publishers displayed in the list.

Overview	Drill Down by Software	View All	Computers	Contract Report	Saved R
<b>Software Asset Hierarchy</b>					
Publisher	Total Computers	Total Runs	Total Time	Average Ru...	
Copernic Technolo...	2	7	5 hrs 12 mins 53 s	0	
Core FTP	1069	538	34 wks 3 days	0	
Corel Corporation	417	23373	7 yrs 10 wks	0	

Then drill down by first clicking the software title, and then software title version and application.



Software Asset Hierarchy

All > Corel Corporation

Software Asset Hierarchy

All > Corel Corporation > Corel Paint Shop Pro Photo X2

Software title vers...	Total Computers	Total Runs	Total Time	Average Ru...
Corel Paint Shop Pro ...	1	94	2 days 21 hrs 55 r	

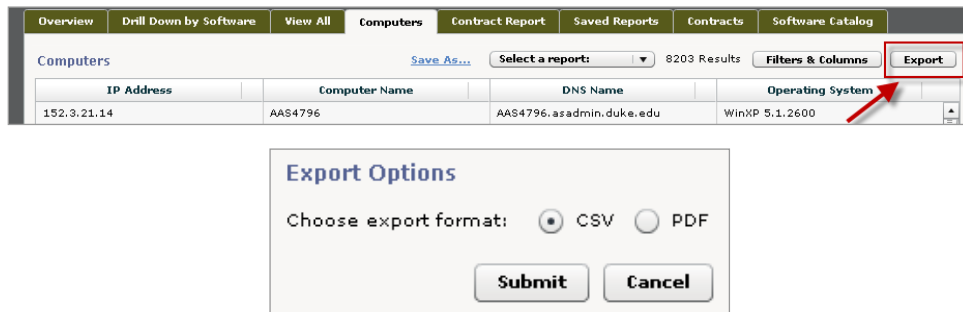
Software Asset Hierarchy

All > Corel Corporation > Corel Paint Shop Pro Photo X2 > Corel Paint Shop Pro Photo X2 12

Application	Total Computers	Total Runs	Total Time	Average Ru...	Average Ru...
Corel Paint Shop Pro Photo	1	94	2 days 21 hrs 55 r	0.27	44 mins 37

## Export

The *Export* button is located at the top right of the *Drill Down by Software*, *View all*, *Computers*, and *Contract Reports* tabs on the main SUA GUI. You can export the information on your window to either CSV or PDF format.



Computers

Save As... Select a report: 8203 Results Filters & Columns Export

IP Address	Computer Name	DNS Name	Operating System
152.3.21.14	AAS4796	AAS4796.asadmin.duke.edu	WinXP 5.1.2600

Export Options

Choose export format: ☒ CSV ☐ PDF

Submit Cancel

## Resources

The following are optional features and capabilities of SUA:

### Advanced features

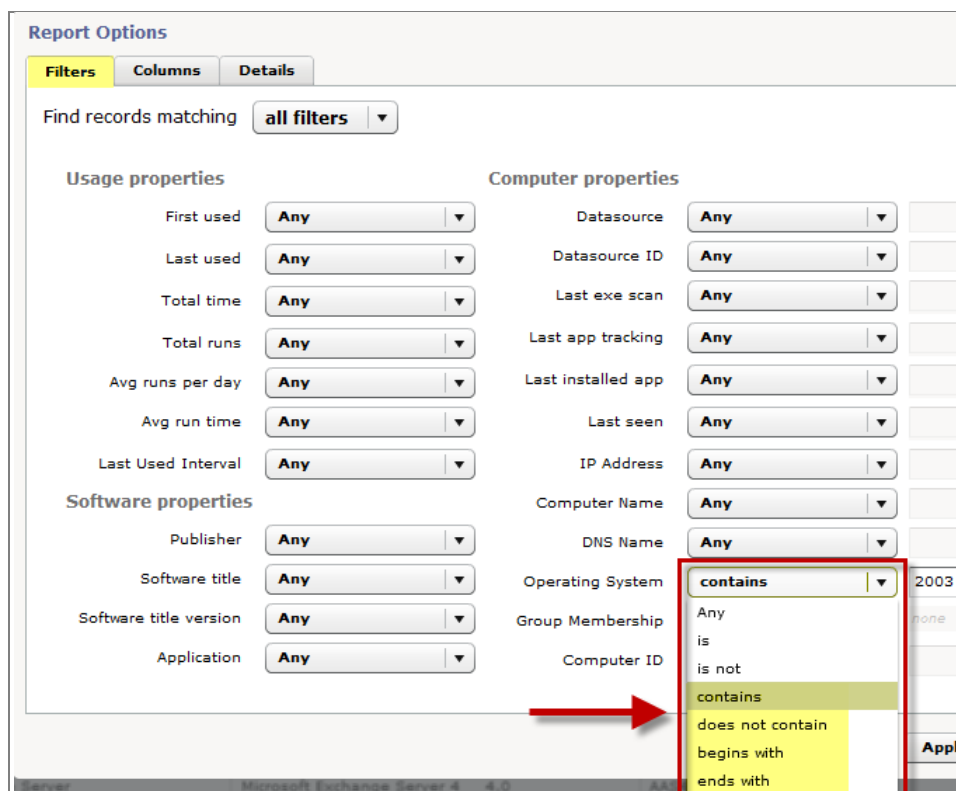
#### ▪ Advanced filtering

In the *Filters & Columns* settings for each report type, you specify the settings for your view. Typically you identify a property (for example, IP address), the operator (for example, contains), and then you enter the value (for example, 192).

You can filter wildcard values using the following filter operators:

- Contains
- Does not contain
- Begins with
- Ends with

When using a filter other than “does not contain”, you can search for multiple values using “OR”. For example *Operating System contains 2003 OR Mac*.



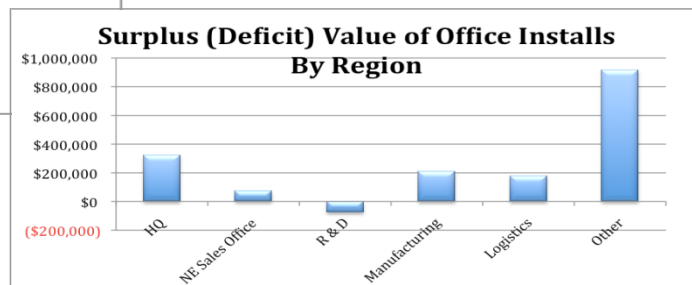
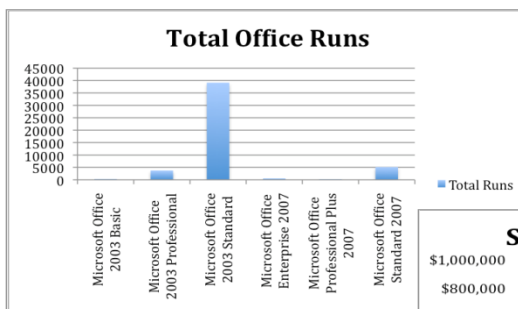
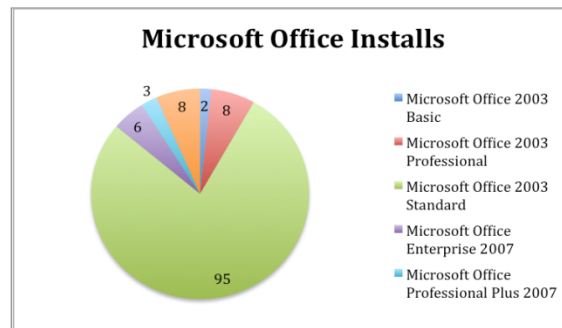
The screenshot shows the 'Report Options' dialog box with the 'Filters' tab selected. The 'Find records matching' dropdown is set to 'all filters'. The 'Usage properties' section includes fields for 'First used', 'Last used', 'Total time', 'Total runs', 'Avg runs per day', 'Avg run time', and 'Last Used Interval', all with 'Any' as the default value. The 'Software properties' section includes fields for 'Publisher', 'Software title', 'Software title version', and 'Application', also with 'Any' as the default value. The 'Computer properties' section includes fields for 'Datasource', 'Datasource ID', 'Last exe scan', 'Last app tracking', 'Last installed app', 'Last seen', 'IP Address', 'Computer Name', 'DNS Name', 'Operating System', 'Group Membership', and 'Computer ID'. The 'Operating System' field is selected, and its dropdown menu is open, showing the following options: 'Any', 'is', 'is not', 'contains' (highlighted), 'does not contain', 'begins with', and 'ends with'. A red arrow points to the 'contains' option.

## ▪ Exporting a report and generating charts in Excel

SUA Version 1.3 does not contain any native charting functions. To generate charts, generate the data that you want by using SUA columns and filters, export the data to a .CSV, and use a spreadsheet tool like Microsoft Excel to generate your charts.

For example, export this view to a .CSV to generate some interesting charts:

Software Asset Hierarchy			
All > Microsoft Corporation > Microsoft Office			
Software title version	Total Computers	Total Runs	
Microsoft Office 2003 Basic	2	336	
Microsoft Office 2003 Professional	8	3734	
Microsoft Office 2003 Standard	95	39128	
Microsoft Office Enterprise 2007	6	546	
Microsoft Office Professional Plus 2007	3	245	
Microsoft Office Standard 2007	8	5130	



- How do I add customized information about my IT assets, like asset tags, or rack locations for computers in SUA?

The Tivoli Endpoint Manager platform is an extremely flexible tool for exploring information about your IT assets. The Tivoli Endpoint Manager agent installed on your computers can be instructed to do many things, including look at attributes of the computer and report back what it sees. Using Tivoli Endpoint Manager, you can generate data like “soft asset tags”, geographic locations, or rack locations for computers listed in SUA. For this type of data, you would first create files or registry entries that are located reside on each computer with the information you want to retrieve (you can use Tivoli Endpoint Manager tasks to create the files or registry entries). Then you create Tivoli Endpoint Manager analysis properties to report this data to your Tivoli Endpoint Manager and SUA server. For example:

1. Create a task that generates a custom file for each computer. This file might contain things like provisioned date, vendor, procurement data, rack location, geographic location, asset tag.
2. Create a Tivoli Endpoint Manager analysis that reports the various entries in the file that you automatically created on every computer.
3. Add the new Tivoli Endpoint Manager analysis properties to SUA as stored Computer Properties.

This process allows you to customize and control the asset data SUA reports about your computers that might not be available by default from Tivoli Endpoint Manager.

#### ▪ How does Tivoli Endpoint Manager compute report calculations?

The table below provides a description of each calculation used in SUA reports:

<b>Total Computers</b>	The count of computers on which the item was found. The algorithm rolls up counts from lower levels in the Catalog hierarchy, un-duplicating where necessary. For example, if Adobe Photoshop was found on 300 computers and Adobe Freehand was also found on 10 of those same computers, it shows a count of 300 for Adobe (not 310). When drilling through the hierarchy (that is, clicking on Adobe) a count of 300 shows for Photoshop and of 10 for Freehand.
<b>Total Runs</b>	The total number of times that the products represented at that level in the hierarchy has been launched, in aggregate across all computers upon which the product was found since the Application Usage Information analysis has been active on the Tivoli Endpoint Manager server. The algorithm aggregates counts from lower levels in the Catalog hierarchy. For example, if Adobe Photoshop was run 10 times on each of 50 computers and Adobe Freehand was run 5 times on each of 10 computers, the total runs for Adobe is 550. When drilling through the hierarchy (that is, clicking on Adobe) total runs for Photoshop are 500 and total runs for Freehand are 50.
<b>Total Time</b>	The total time that the product represented at that level in the hierarchy has appeared in the process tree of the computers, in aggregate across all computers upon which the product has been found since the Application Usage Information analysis has been active on the Tivoli Endpoint Manager server. As in the statistics above, the algorithm aggregates counts from lower levels in the Catalog hierarchy.
<b>Average Runs Per Day</b>	Total Runs divided by number of days that the statistic has been collected. As in the statistics above, the algorithm aggregates the averages from lower levels in the Catalog hierarchy.

<b>Average Run Time</b>	Total Time divided by the Total Runs. As in the statistics above, the algorithm aggregates the averages from lower levels in the Catalog hierarchy.
<b>Used &lt;n time &gt; Ago</b>	Number of computers that launched the product represented at that level in the hierarchy during the described usage interval, while the Application Usage Information analysis has been active on the Tivoli Endpoint Manager server for that usage interval. As in the statistics above, the algorithm rolls up the counts from lower levels in the Catalog hierarchy.
<b>First Used</b>	The date and time (in client's local time setting) when the product was shown in the process tree of the computer.
<b>Last Used</b>	The date and time (in client's local time setting) when the product was most recently shown in the process tree of the computer.

## Frequently asked questions

### When importing content for a Contract from a .CSV file, will the application automatically create new columns to match my .CSV file?

No. If there are any additional columns specified in the CSV that are not present in the contract model, they are ignored. The import process does not create them.

### What kinds of User Accounts should I set up for my deployment?

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

- Permission to install the application on your SUA server
- Permission to connect to your database server and create databases
- Permission to connect to your Tivoli Endpoint Manager database and read data
- Permission to read data from the Tivoli Endpoint Manager server upload manager directory

Read more about User Accounts in the SUA *Installation and Configuration Guide*.

### How do I create a Saved Report?

Using the *Save As* button located on the *Drill Down by Software*, *View all*, *Computers*, and *Contract Report* tabs in SUA.





## Additional documentation

This User's Guide is one of the user resource documents created with the release of SUA Version 1.3. Additional user documents include:

- **Installation and Configuration Guide** – A detailed guide that walks you through the installation and configuration process in SUA.
- **End User QuickStart** – A brief overview to help you quickly get started using SUA Version 1.3.
- **Software Catalog Editor's Guide** – Detailed information about how to use and customize your Software 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 Content Updates, System Requirements and Support information.

## Technical support

Tivoli Endpoint Manager 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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