IBM Endpoint Manager for Software Use Analysis
Version 9.1 (includes update 9.0.1, 9.0.1.1 and 9.0.1.2)


# *Installation Guide*


IBM

IBM Endpoint Manager for Software Use Analysis
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**Installation Guide**

This edition applies to IBM Endpoint Manager for Software Use Analysis 9.0.1.2 (product number 5725-F57) and to all subsequent releases and modifications until otherwise indicated in new editions.

# Contents

# Installing Software Use Analysis

Read this section to learn how to install Software Use Analysis.

**Tip:** To learn more about the new product versioning scheme, visit the Software Use Analysis wiki page.

## Installation roadmap

Review the installation roadmap to be able to see the most important tasks that are to be performed during installation and configuration.

| Stage 1<br>Plan and prepare<br>for installation | Stage 2<br>Install the infrastructure<br>components | Stage 3<br>Configure the product | Stage 4<br>Apply important<br>IBM updates | Stage 5<br>Set up scans |
|---|---|---|---|---|

**Note:** Step 2.1 does not apply if you already have the infrastructure.

| Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 |
|---|---|---|---|---|
| **1.1** Plan the topology | **2.1** Installl Endpoint Manager **server** and the **agents** | **3.1** Perform basic application configuration | **4.1** Upload a PVU table | **5.1** Enable software and hardware discovery |
| **1.2** Review the operating system requirements | **2.2** Install the Software Use Analysis server | **3.2** Configure the application to display inventory | **4.2** Upload the latest software catalog | **5.2** Enable software use monitoring (optional) |
| **1.3** Verify other software requirements | **2.3** Install Software Knowledge Base Toolkit (optional) | | **4.3** Upload part numbers | |
| **1.4** Verify hardware requirements | | | | |
| **1.5** Review security requirements | | | | |

# Installation checklist

Use the following checklist to ensure that you complete all the necessary steps.

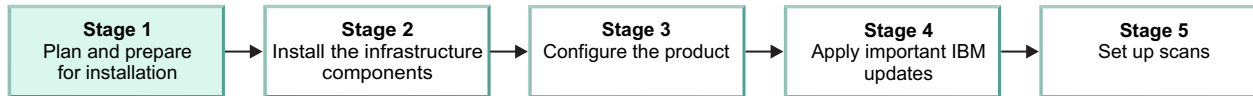*Table 1. The checklist for installing and configuring Software Use Analysis*

| Stage | Installation step |
|---|---|
| 1. | **Plan the installation** - ensure that the computer on which you plan to install Software Use Analysis:<br>__ • Fulfills the minimum hardware requirements<br>__ • Has sufficient disk space<br>__ • Has the required software installed:<br>   – DB2® 10.1 Fix Pack 2 or higher, or DB2 10.5, Workgroup Server Edition, Enterprise Server Edition, or Advanced Enterprise Server Edition<br>   – X server<br>   – web browser: Firefox 17 Extended Support Release or Internet Explorer 8.0 or higher<br>   – Korn shell (ksh) |
| 2 | **Install the IBM® Endpoint Manager server**<br>__ • Download IBM Endpoint Manager.<br>__ • Create the license authorization file.<br>__ • Install a database for IBM Endpoint Manager.<br>__ • (Windows only) Request a certificate and create the masthead.<br>__ • Install the IBM Endpoint Manager server, either on Windows or Linux.<br>__ • Install the IBM Endpoint Manager console on a Windows computer. If you installed the server on Linux, see how to deploy the console.<br>__ • Subscribe to the fixlet site.<br>__ • Install a client on each endpoint that you want to administer under IBM Endpoint Manager. |
| 3 | **Install the Software Use Analysis server**<br>__ • Deploy the Software Use Analysis installer.<br>__ • Create a Linux user to be used by the DB2 database: run the commands `useradd` and then `passwd`.<br>__ • Install the Software Use Analysis server, either in interactive or silent mode.<br>__ • Create the database and configure a connection between Software Use Analysis and Endpoint Manager<br>__ • Optional: Install Software Knowledge Base Toolkit |
| 4 | **Configure the application** - to ensure the efficiency of Software Use Analysis:<br>• Perform basic configuration<br>   __ – Important: Set up a proxy exception list for environments with proxy servers<br>   __ – Set up roles<br>   __ – Set up users<br>   __ – Optional: Configure mail notifications<br>• Configure the application to display inventory<br>   __ – Set up computer properties<br>   __ – Set up computer groups<br>   __ – Schedule the imports of scan data<br>   __ – Configure data retention period<br>   __ – Add VM managers |
| 5 | **Apply important IBM updates** - to support the processor-based pricing model, to keep your software inventory up-to-date, and to increase the accuracy of automated bundling, perform the following tasks:<br>__ • Upload a PVU table<br>__ • Upload the latest software catalog<br>__ • Import part numbers |
| 6 | **Set up scans** - to ensure that data is gathered and uploaded to IBM Endpoint Manager for Software Use Analysis, perform the following tasks:<br>__ • Enable software discovery<br>__ • Enable the software usage monitoring |

# Planning and preparing for the installation

Before you start the installation, review this information on hardware and software requirements and other considerations.

## About this task

**You are here:**

| Stage 1<br>Plan and prepare<br>for installation | → | Stage 2<br>Install the infrastructure<br>components | → | Stage 3<br>Configure the product | → | Stage 4<br>Apply important IBM<br>updates | → | Stage 5<br>Set up scans |
|---|---|---|---|---|---|---|---|---|

## Software Use Analysis infrastructure

The typical deployment of IBM Endpoint Manager for Software Use Analysis reuses the Endpoint Manager infrastructure: the server, its clients, which are also called agents, the database, and the console. The Software Knowledge Base Toolkit application is used for advanced management of the software catalog.

To use IBM Endpoint Manager for Software Use Analysis, Endpoint Manager server and clients are required.

The following diagram shows how the Software Use Analysis application interfaces with Endpoint Manager server installation.

*Figure 1. Software Use Analysis infrastructure*
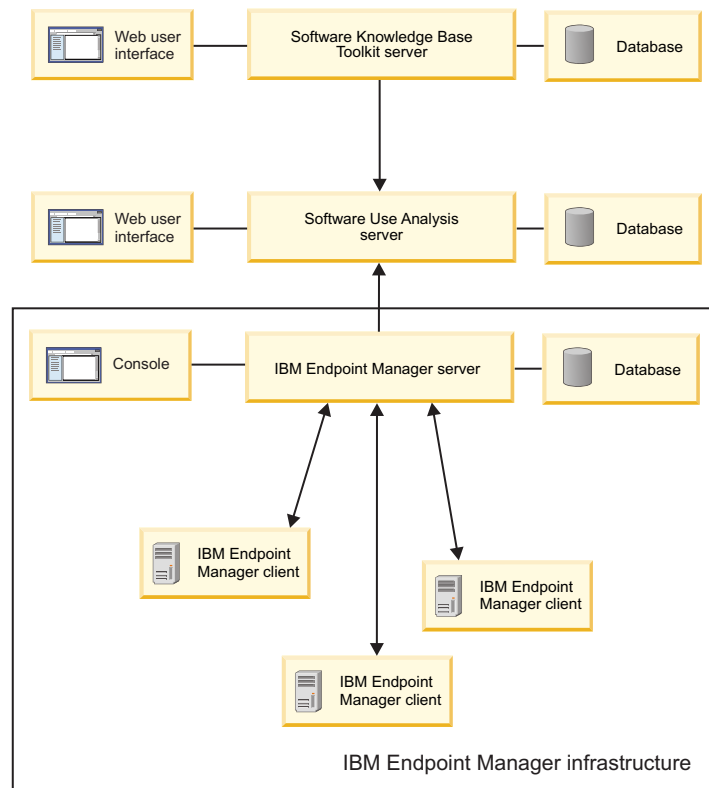


**Software Knowledge Base Toolkit**
> The Software Knowledge Base Toolkit server manages the content of the software catalog. The

Software Knowledge Base Toolkit database contains information about the current knowledge base content such as manufacturers, software products, and signatures. It also contains license relationships between software products, and the history of changes that you made in the knowledge base content. You can use this application for advanced management of the software catalog content that is outside of the scope of simple catalog management that is available in Software Use Analysis.

Software Knowledge Base Toolkit runs on Windows, Linux, Solaris, HP-UX, and AIX® operating systems.

**Software Use Analysis server**
The Software Use Analysis server provides a reporting interface for the inventory and limited application usage data that is collected on the endpoints that are managed by Endpoint Manager. Inventory data is extracted from the Endpoint Manager server database and imported into the Software Use Analysis application database using an Extract, Transform, and Load (ETL) import process. Software Use Analysis users access the application server from their computers by using a web browser.

**Endpoint Manager server**
The Endpoint Manager server offers a collection of services, including application services, a web server, and a database server, forming the heart of the Endpoint Manager system. The server coordinates the flow of information to and from individual computers and stores the results in the Endpoint Manager database.

**Endpoint Manager console**
The Endpoint Manager console ties several components together to provide administrators with a system-wide view of all computers in a network, together with their configurations. An authorized user can quickly distribute fixlets to each computer and a task to be executed, such as scheduling or starting a software scan.

**Endpoint Manager clients**
Endpoint Manager clients, also called agents, are installed on every computer that is to be managed under Endpoint Manager. They collect information about the software that is installed on the computers in your infrastructure and send this data to the Endpoint Manager server. You can then import the data to the Software Use Analysis server by using a function on the Software Use Analysis web user interface.

The client software runs on Windows, Linux, Solaris, HP-UX, and AIX operating systems.

## Scalability guide

Scalability guide is intended to help system administrators plan the Software Use Analysis infrastructure and to provide recommendations for configuring the Software Use Analysis server to achieve optimal performance.

The guide explains how to:
- Divide computers into scan groups.
- Schedule software scans.
- Run data imports.

It also provides information about other actions that can be undertaken to avoid low performance. The guide is available on the Software Use Analysis wiki.

## Supported operating systems

Ensure that computers on which you want to install the Software Use Analysis components run on supported operating systems and have all prerequisite software installed.

## Supported operating systems for the servers

*Table 2. Supported operating systems for the servers*

| Component | Operating system | Version |
| --- | --- | --- |
| **IBM Endpoint Manager server** | Red Hat Enterprise Linux<br>Windows | For information about supported versions, see the IBM Endpoint Manager Server System Requirements. |
| **Software Use Analysis server** | Red Hat Enterprise Linux | 6.3 for x86 (64-bit) or a higher 6.x version |
| **DB2 database server** | Red Hat Enterprise Linux | 6.3 for x86 (64-bit) or a higher 6.x version |

## Supported operating systems for Endpoint Manager clients

Some operating systems are supported only by lower versions of IBM Endpoint Manager clients. It does not mean, however, that your whole IBM Endpoint Manager platform must be downgraded to a lower version to support a specific operating system. The latest versions of IBM Endpoint Manager support all lower clients, which means that you can install IBM Endpoint Manager 9.2 and yet connect to a client in version 8.2, 9.0 or 9.1.

### AIX

*Table 3. Supported versions of AIX*

| Version | Software requirements | Supported virtualization technologies | Comments | Endpoint Manager client version |
| --- | --- | --- | --- | --- |
| **7.1** | | *PowerVM®*<br>• LPAR<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning®<br>• Multiple Shared Processor Pools<br>• Shared Dedicated Processor<br>• Mobility (Live Partition Mobility)<br>• System WPARs (Both regulated and un-regulated, also RSET bound)<br>• WPAR mobility (Live Application Mobility) | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *IBM zEnterprise® BladeCenter® Extension (zBX)* | | |
| | | *Processor Core Deconfiguration* | | |
| **6.1** | | *PowerVM*<br>• LPAR<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning<br>• Multiple Shared Processor Pools<br>• Shared Dedicated Processor<br>• Mobility (Live Partition Mobility)<br>• System WPARs (Both regulated and un-regulated, also RSET bound) | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *IBM zEnterprise BladeCenter Extension (zBX)* | | |
| | | *Processor Core Deconfiguration* | | |

*Table 3. Supported versions of AIX (continued)*

| Version | Software requirements | Supported virtualization technologies | Comments | Endpoint Manager client version |
|---|---|---|---|---|
| **5.3** | | *PowerVM*<br>• LPAR<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning<br>• Multiple Shared Processor Pools<br>• Shared Dedicated Processor<br>• Mobility (Live Partition Mobility) | | 9.0<br>8.2 |
| | | *IBM zEnterprise BladeCenter Extension (zBX)* | | |
| | | *Processor Core Deconfiguration* | | |
| **5.2** | | *PowerVM*<br>• LPAR<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning | | 8.1 |
| | | *Processor Core Deconfiguration* | | |

# HP-UX

*Table 4. Supported versions of HP-UX*

| Version | Software requirements | Supported virtualization technologies | Comments | Endpoint Manager client version |
|---|---|---|---|---|
| **11i v3** IA64 | | *HP Integrity Virtual Machines*<br>• 3.5<br>• 4.0<br>• 4.1<br>• 4.2<br>• 4.3 | | 9.1<br>9.0 |
| | | *nPAR* | | |
| | | *vPAR* | All except for version 6 | |
| | | *HP Instant Capacity* (iCAP) version 9 | | |
| **11i v3** PA-RISC | | *nPAR* | | 9.1<br>9.0<br>8.2 |
| | | *vPAR* | All except for version 6 | |
| **11i v2** IA64 | | *HP Integrity Virtual Machines*<br>• 3.5<br>• 4.0<br>• 4.1<br>• 4.2<br>• 4.3 | | 9.1<br>9.0<br>8.2 |
| | | *nPAR* | | |
| | | *vPAR* | All except for version 6 | |
| | | *HP Instant Capacity* (iCAP) version 9 | | |
| **11i v2** PA-RISC | | *nPAR* | | 9.1<br>9.0<br>8.2 |
| | | *vPAR* | All except for version 6 | |
| **11i v1** PA-RISC | | *nPAR* | | 9.1<br>9.0<br>8.2 |
| | | *vPAR* | All except for version 6 | |

## Oracle Solaris

**Important:** If you are installing agents on a Solaris platform that is partitioned by using the Containers partitioning technology, the Host ID of the local zone must be the same as the Host ID of the global zone.

*Table 5. Supported versions of Solaris*

| Version | Software requirements | Supported virtualization technologies | Comments | Endpoint Manager client version |
|---|---|---|---|---|
| **11** SPARC | | *Dynamic System Domains* | Solaris in Dynamic System Domains and Dynamic Domains are not supported for full capacity. Full capacity PVU values will need to be adjusted upward manually for the number of activated cores on the server. | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Dynamic Domains* | | |
| | | *Solaris Containers* (including Zones) | Inside Dynamic System Domains and Dynamic Domains<br><br>Node OS | |
| | | *Oracle VM Server for SPARC* (formerly *Logical Domains* also called LDOMs)<br>• 2.0<br>• 2.1<br>• 2.2<br>• 3.0 | | |
| **11** x86-64 | | *Solaris Containers* (including Zones) | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | |
| **10** SPARC | | *Dynamic System Domains* | Solaris in Dynamic System Domains and Dynamic Domains are not supported for full capacity. Full capacity PVU values will need to be adjusted upward manually for the number of activated cores on the server. | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Dynamic Domains* | | |
| | | *Solaris Containers* (including Zones) | Inside Dynamic System Domains and Dynamic Domains<br><br>Node OS | |
| | | *Oracle VM Server for SPARC* (formerly *Logical Domains* also called LDOMs)<br>• 2.0<br>• 2.1<br>• 2.2<br>• 3.0 | | |
| **10** x86-64 | | *Solaris Containers* (including Zones) | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | |
| **9** SPARC | | *Dynamic System Domains* | Solaris in Dynamic System Domains and Dynamic Domains are not supported for full capacity. Full capacity PVU values will need to be adjusted upward manually for the number of activated cores on the server. | 9.1<br>9.0<br>8.2 |
| | | *Dynamic Domains* | | |
| **8** SPARC | | *Dynamic System Domains* | | |

# Red Hat Enterprise Linux

*Table 6. Supported versions of Red Hat Enterprise Linux*

| Version | Software requirements | Supported virtualization technologies | | Comments | Endpoint Manager client version |
|---|---|---|---|---|---|
| **7** for IBM Power Systems™ (64-bit) | | *PowerVM* <br> • DLPAR <br> • LPAR <br> • LPAR mobility (Live Partition Mobility) <br> • Single Shared Processor Pool <br> • Micro-Partitioning | | | 9.2 <br> 9.1.1141.0 |
| | | *Processor Factory Deconfiguration* | | | |
| **6** for IBM Power Systems (64-bit) | | *PowerVM* <br> • DLPAR <br> • LPAR <br> • LPAR mobility (Live Partition Mobility) <br> • Single Shared Processor Pool <br> • Micro-Partitioning | | | 9.2 <br> 9.1.1141.0 |
| | | *Processor Factory Deconfiguration* | | | |
| **6** for IBM System z® (64-bit) | `compat-libstdc++-33` <br> `compat-libstdc++-295` | **Update 9.0.1** *CPU pooling* | | Starting from z/VM® 6.3 PTF for APAR VM65418 must be applied | 9.1 <br> 9.0 <br> 8.2 |
| | | *z/VM* | | | |
| | | *LPAR* | | | |
| **6** for x86 (32 and 64-bit) | `compat-libstdc++-33` <br> `compat-libstdc++-295` | *VMware ESX* <br> • 3 <br> • 3.5 <br> • 4 <br> • 4.1 | *VMware ESXi* <br> • 3.5 <br> • 4 <br> • 4.1 <br> • 5 <br> • 5.1 <br> • 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.1 <br> 9.0 <br> 8.2 |
| | | *Kernel-based Virtual Machine* (KVM) | | On RHEV with RHEV-M (Red Hat Linux Virtualization Manager) 3.0 and 3.1 | |
| **5** for IBM Power Systems | | *PowerVM* <br> • DLPAR <br> • LPAR <br> • LPAR mobility (Live Partition Mobility) <br> • Single Shared Processor Pool <br> • Micro-Partitioning | | | 9.2 <br> 9.1.1141.0 |
| | | *Processor Factory Deconfiguration* | | | |
| **5** for IBM System z (64-bit) | | **Update 9.0.1** *CPU pooling* | | Starting from z/VM 6.3 PTF for APAR VM65418 must be applied | 9.1 |
| | | *z/VM* | | | |
| | | *LPAR* | | | |

*Table 6. Supported versions of Red Hat Enterprise Linux  (continued)*

| Version | Software requirements | Supported virtualization technologies | | Comments | Endpoint Manager client version |
|---|---|---|---|---|---|
| **5** for x86 (32 and 64-bit) | | *VMware ESX*<br>• 3<br>• 3.5<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 3.5<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.2<br>9.0<br>8.2 |
| | | *Kernel-based Virtual Machine* (KVM) | | On RHEV with RHEV-M (Red Hat Linux Virtualization Manager) 3.0 and 3.1 | |
| **4** for x86 (32 and 64-bit) | `compat-libstdc++-33`<br>`compat-libstdc++-295`<br>`ia32el-1.1-20` | *VMware ESX*<br>• 3<br>• 3.5<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 3.5<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | | 8.2 |
| | | *Kernel-based Virtual Machine* (KVM) | | On RHEV with RHEV-M (Red Hat Linux Virtualization Manager) 3.0 and 3.1 | |

## SUSE Linux

*Table 7. Supported versions of SUSE Linux*

| Version | Software requirements | Supported virtualization technologies | | Comments | Endpoint Manager client version |
|---|---|---|---|---|---|
| **11** for IBM Power Systems | | *PowerVM*<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning | | | 9.2 |
| | | *LPAR* | | | |
| | | *LPAR mobility (Live Partition Mobility)* | | | |
| | | *Processor Factory Deconfiguration* | | | |
| **11** for x86 (32 and 64-bit) | `compat-libstdc++-33`<br>`compat-libstdc++-295`<br>`libstdc++33-32bit`<br>`libstdc++33-32bit-3.3.3-`<br>`11.9.x86_64.rpm` | *VMware ESX*<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.2<br>9.1<br>9.0<br>8.2 |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | | |
| | | System scaling using Intel QuickPath Interconnect | | | |
| | | *Microsoft Hyper-V on Windows*<br>• R2<br>• Server 2012 | | Hyper-V R2 can be stand alone or role. | |
| **11 for IBM System z** (64-bit) | `compat-libstdc++-33`<br>`compat-libstdc++-295` | **Update 9.0.1** *CPU pooling* | | Starting from z/VM 6.3 PTF for APAR VM65418 must be applied | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *z/VM* | | | |
| | | *LPAR* | | | |

*Table 7. Supported versions of SUSE Linux (continued)*

| Version | Software requirements | Supported virtualization technologies | | Comments | Endpoint Manager client version |
|---------|----------------------|----------------------------------------|--|----------|--------------------------------|
| **10** for IBM Power Systems | | *PowerVM*<br>• DLPAR<br>• Single Shared Processor Pool<br>• Micro-Partitioning<br>*LPAR*<br>*LPAR mobility (Live Partition Mobility)*<br>*Processor Factory Deconfiguration* | | | 9.2 |
| **10 for x86** (32 and 64-bit) | `compat-libstdc++-33`<br>`compat-libstdc++-295` | *VMware ESX*<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.2<br>9.1<br>9.0<br>8.2 |
| **9 for x86** (32 and 64-bit) | `compat-libstdc++-33`<br>`compat-libstdc++-295` | *VMware ESX*<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.0<br>8.2 |

## Microsoft Windows

*Table 8. Supported versions of Microsoft Windows for the* **server**

| Version | Software requirements | Supported virtualization technologies | Comments | Endpoint Manager client version |
|---------|----------------------|----------------------------------------|----------|--------------------------------|
| **Server 2012** for x86 (32 and 64-bit) | | *VMware ESXi*<br>• 5<br>• 5.1<br>• 5.5 | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Microsoft Hyper-V*<br>• R2<br>• Server 2012 | | |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | |

*Table 8. Supported versions of Microsoft Windows for the* **server** *(continued)*

| Version | Software requirements | Supported virtualization technologies | | Comments | Endpoint Manager client version |
|---|---|---|---|---|---|
| **Server 2008 R2 Enterprise Edition** for x86 (64-bit)<br><br>**Server 2008 Enterprise Edition** for x86 (32 and 64-bit)<br><br>**Server 2008 R2 Standard Edition** for x86 (64-bit) | | *VMware ESX*<br>• 3.5<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 3.5<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | | 9.2<br>9.1<br>9.0<br>8.2<br><br>Only version 9.1 agents can be installed on Windows Server 2008 R2 Standard Edition. |
| | | *Microsoft Hyper-V*<br>• R1<br>• R2<br>• Server 2012 | | | |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | | |
| | | System scaling using Intel QuickPath Interconnect | | | |
| | | *Kernel-based Virtual Machine* (KVM) | | On RHEV with RHEV-M (Red Hat Linux Virtualization Manager) 3.0 and 3.1 | |
| **Server 2003 Enterprise Edition** for x86 (32 and 64-bit) | | *VMware ESX*<br>• 3.0<br>• 3.5<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 3.5<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Microsoft Virtual Server 2005* | | | |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | | |
| | | System scaling using Intel QuickPath Interconnect | | | |
| | | *Kernel-based Virtual Machine* (KVM) | | on RHEV with RHEV-M (Red Hat Linux Virtualization Manager) 3.0 and 3.1 | |

*Table 9. Supported versions of Microsoft Windows for the* **desktop**

| Version | Software requirements | Supported virtualizations | Comments | Endpoint Manager client version |
|---|---|---|---|---|
| **8** for x86 (32 and 64-bit) | | *VMware ESXi*<br>• 5<br>• 5.1<br>• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Microsoft Hyper-V*<br>• R2<br>• Server 2012 | Hyper-V R2 can be stand alone or role. | |
| | | *Microsoft Hyper-V*<br>• V 3.0 (as part of Windows 8) | | |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | |

*Table 9. Supported versions of Microsoft Windows for the* **desktop** *(continued)*

| Version | Software requirements | Supported virtualizations | | Comments | Endpoint Manager client version |
|---|---|---|---|---|---|
| **7 Enterprise and Professional** for x86 (32 and 64-bit) | | *VMware ESX*<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | | 9.2<br>9.1<br>9.0<br>8.2 |
| | | *Kernel-based Virtual Machine* (KVM) | | | |
| **Vista Enterprise** for x86 (32 and 64-bit) | Service Pack 2 for Microsoft Hyper-V Server 2012 | *VMware ESX*<br>• 3.0<br>• 3.5<br>• 4<br>• 4.1 | *VMware ESXi*<br>• 3.5<br>• 4<br>• 4.1<br>• 5<br>• 5.1<br>• 5.5 | | 9.1<br>9.0<br>8.2 |
| **XP Professional** for x86 (32 and 64-bit) | Service Pack 2 | *Microsoft Hyper-V*<br>• R1<br>• R2<br>• Server 2012 | | | 9.1<br>9.0<br>8.2 |
| | | BIOS (SMBIOS 2.5 or higher) & Operating System boot core limit | | | |
| | | System scaling using Intel QuickPath Interconnect | | | |

# Software requirements

Ensure that all prerequisite software is installed on the computers in your infrastructure.

## Server requirements

*Table 10. Requirements for the Software Use Analysis server*

| | Version | Description |
|---|---|---|
| Endpoint Manager | 9.2<br>9.1<br>9.0 | For information about Endpoint Manager server requirements, see:<br><br>    Endpoint Manager 9.2 product documentation<br>    Endpoint Manager 9.1 product documentation<br>    Endpoint Manager 9.0 product documentation<br><br>.<br>**Important:** If you use a Microsoft SQL Server database for the IBM Endpoint Manager server, you must enable the SQL Server Authentication Mode and create a database user. |
| DB2 database server | **DB2 10.1 Fix Pack 2 or higher**<br>**DB2 10.5**<br>(Workgroup Server Edition, Enterprise Server Edition, or Advanced Enterprise Server Edition) | **DB2 requirements**<br>    For information, see the<br><br>        DB2 10.1 product documentation.<br>        DB2 10.5 product documentation.<br>**Download DB2 software**<br>    For more information, see the topic Downloading and installing DB2. |

*Table 10. Requirements for the Software Use Analysis server  (continued)*

|  | Version | Description |
|---|---|---|
| X server | X11R7.x | The X server is required if you want to install or uninstall the Software Use Analysis server in interactive mode. It is also required if you want to complete the server configuration by using a browser that is available on the computer where the Software Use Analysis server is installed.<br>**Restriction:** XMing X Server for Windows is not supported. |

## Other software requirements

*Table 11. Other software requirements for Software Use Analysis*

| Required software | Required versions |
|---|---|
| Browser | • Internet Explorer 9.0 or higher<br>**Note:** Internet Explorer must have TLS 1.2 enabled if you want to use TLS 1.2 for secure communication with SSL. You can also use TLS 1.0 for secure communication with SSL. This is the default setting for Internet Explorer.<br>• Firefox 17 Extended Support Release (ESR) or higher ESR editions<br>**Note:** Firefox does not support TLS 1.2. You can use TLS 1.0 for secure communication with SSL. This is the default setting for Firefox.<br>• Chrome 35 or higher<br><br>**Restriction:** The minimal supported screen resolution is 1024x768 pixels. |
| Data compressor | bzip2 version 1.0.5, released 10 December 2007 or higher |
| KornShell | Original ksh package can be obtained from the Red Hat Enterprise Linux installation disc. Open source alternatives, such as pdksh and mksh, are not supported. |
| National language pack for PDF reader | To display PDF reports in a native language, a language pack that displays the native language fonts might be required. |

## Red Hat packages

*Table 12. Red Hat packages that are required for the installation*

| Component | Required packages |
|---|---|
| IBM Endpoint Manager | cyrus-sasl-lib.x86_64<br>krb5-libs.x86_64<br>libaio.x86_64<br>libstdc++.i686<br>libstdc++.x86_64 and all dependencies<br>libXext.x86_64 (Web Reports only)<br>libXrender.x86_64 (Web Reports only)<br>zlib.x86_64 (Web Reports only) |
| Software Use Analysis | ksh |
| DB2 | libstdc++.so.6.0.8 |

## Hardware requirements

During setup, match your optimum deployment size to your hardware specifications. Use the recommendations as a general guidance.

# Hardware requirements for the server

Ensure that the computer on which you are installing the Software Use Analysis meets the minimal CPU, and memory requirements for the server and database elements.

## Virtualized environment

The ETL (extract, transform, and load) import heavily uses the DB2 database resources. Software Use Analysis and DB2 server can be installed on a virtualized environment. However, for large deployments that consist of 50.000 - 100.000 computers, it is recommended that dedicated hardware is used.

In a virtual environment for medium size deployments that consist of 10.000 - 50.000 computers, it is recommended that dedicated resources are considered for processor, memory, and virtual disk allocation. The virtual disk that is allocated for the VM should be dedicated RAID storage, with dedicated IO bandwidth for that VM.

Use DB2 server that is dedicated for Software Use Analysis and is not shared with Endpoint Manager or other applications. Fine-tuning based on the above mentioned recommendations might be required.

## Processor and RAM

The following values were calculated for maximum five concurrent application users.

*Table 13. Processor and RAM requirements for Software Use Analysis*

| Environment size | Component | CPU | Memory |
|---|---|---|---|
| < 5000 | IBM Endpoint Manager, Software Use Analysis, and DB2 | At least 2,5 GHz - 4 cores | 8 GB |
| 5000 - 50 000 | IBM Endpoint Manager | 2-3 GHz - 4 cores | 16 GB |
| | Software Use Analysis and DB2 | At least 2 GHz - 4 cores | 24 GB |
| | A distributed environment is advisable. If you separate DB2 from Software Use Analysis, the DB2 server should have at least 16 GB RAM. | | |
| > 50 000 | IBM Endpoint Manager | 2-3 GHz - 4-16 cores | 16-32 GB |
| | Software Use Analysis | At least 2 GHz - 8 cores | 16 GB |
| | DB2 | At least 2 GHz - 16 cores | 64 GB |

**Note:** The topology for installing the components can be modified if needed, as long as the appropriate resources are ensured.

## Disk space

*Table 14. Software Use Analysis disk space requirements*

| Directory | Disk space and description |
|---|---|
| Software Use Analysis server | At least 2 GB of free disk space |
| Software Use Analysis server installation directory: `/sua_install_dir_path` The default is: `/opt/ibm/SUA`. | 650 MB |
| `/tmp` | 300 MB |
| `/var` | 2 MB |

*Table 14. Software Use Analysis disk space requirements  (continued)*

| Directory | Disk space and description |
|---|---|
| /etc | 1 MB |
| $HOME<br><br>The home directory of the user running the installation. | 1 MB |
| Database installation directory:<br>*/db2_install_dir*<br>The default is:<br>/opt/IBM/db2. | 1 GB |
| /var | 1 MB |
| /home/db2fenc1 | 1 MB |
| Database server instance:<br>/home/db2inst1 | The amount of disk space that is required for the database server depends on the number of computers in your environment and the average size of scan files and analyses. For a typical environment, the database size is calculated according to the following formula*:<br><br>• *<The number of computers>* x 1 MB + 6 GB of initial disk space<br><br>For example:<br><br>**10 000 computers**<br>     10 000 x 1 MB + 6 GB = 16 GB<br><br>**100 000 computers**<br>     100 000 x 1 MB + 6 GB = 106 GB<br><br>**250 000 computers**<br>     250 000 x 1 MB + 6 GB = 256 GB |
| Database server transaction logs:<br>/home/db2inst1/db2inst1/ | During the data import (ETL process), Software Use Analysis requires some additional free disk space for database server transaction logs. The amount of disk space that is required can be significant because transaction logs store two sets of data:<br>• Data that is used for recovery if the ETL fails<br>• Data that is used to create new ETL results<br><br>The amount of disk space that is necessary for the transaction logs depends on the number of computers in your environment as well as the number of computers for which new scan results are available and processed during the data import.<br><br>To lower the amount of disk space that is necessary for transactions logs, distribute the scans over time so they are processed during several data imports instead of one.<br><br>For a typical environment, the size of transaction logs is calculated according to the following formula*:<br><br>• *<The number of computers>* x 1 MB + *<the number of computers for which new scan results are imported>* x 1 MB + 1 GB<br><br>For example:<br><br>**10 000 computers and 10 000 scan results**<br>     10 000 x 1 MB + 10 000 x 1 MB + 1 GB = 21 GB<br><br>**100 000 computers and 15 000 scan results**<br>     100 000 x 1 MB + 15 000 x 1 MB + 1 GB = 116 GB<br><br>**250 000 computers and 35 000 scan results**<br>     250 000 x 1 MB + 35 000 x 1 MB + 1 GB = 286 GB |

*Table 14. Software Use Analysis disk space requirements (continued)*

| Directory | Disk space and description |
|---|---|
| IBM Endpoint Manager server installation:<br><br>*/IEM_install_dir*<br><br>The IBM Endpoint Manager installation folder provided during installation. | 340 MB |
| */WebReports_dir*<br><br>The WebReports folder provided during installation. | 150 MB |
| /var/log | 1 MB |
| /opt/BESClient | 23 MB |
| /opt/BESServer | 50 MB |
| /opt/BESWebReportsServer | 22 MB |
| /var/opt/BESInstallers | 45 MB |
| /var/opt/BESClient | 7 MB |

* The formulas are based on sample data. They depend on the amount of data that is returned in the software scan results, analyses of registry packages, and use monitoring data. It means that in specific environments, the amount of required space might be smaller or bigger than the amount that is specified in the table. The values depend on the number of Endpoint Manager applications installed in your environment. They were calculated for the environment consisting of Software Use Analysis only.

## Hardware requirements for the client

Review important information about hardware requirements for the IBM Endpoint Manager client and the software and capacity scans that are embedded in it.

### Processor and RAM

An IBM Endpoint Manager client alone can consume up to 2% of the processing power of one processor core on an endpoint. However, the client is complemented with software and capacity scans that collect necessary software and hardware information from your endpoints. Although the capacity scan reports very low CPU usage, the software scan can consume substantial CPU resources while a scan is in progress. To decrease the impact of a software scan on production system, it can be scheduled to run on the weekends or in the evenings. You can also run the software scan with the CPU threshold option that limits the consumption of your CPU resources.

*Table 15. CPU and RAM usage for IBM Endpoint Manager clients*

| Component | CPU | RAM | Comments |
|---|---|---|---|
| IBM Endpoint Manager client | < 2 % | < 20 MB | For more information, see http://www-01.ibm.com/support/docview.wss?uid=swg21505815. |
| Software scan | up to 100 %<br><br>You can limit the usage by running the scan with the CPU threshold attribute. | < 80 MB | The software scan runs on demand, and can be monitored by checking the following processes: wscansw, wscanfs. |

*Table 15. CPU and RAM usage for IBM Endpoint Manager clients  (continued)*

| Component | CPU | RAM | Comments |
|---|---|---|---|
| Capacity scan | < 1 % | < 20 MB | The capacity scan runs every 30 minutes, and can be monitored by checking the following process: `wscanhw`. |

## Disk space

Ensure that your endpoints have enough disk space before you start installing the IBM Endpoint Manager clients.

*Table 16. Disk space requirements for clients installed on UNIX*

| Operating system | Directory | Space required | Comments |
|---|---|---|---|
| UNIX | `/opt/BESClient` | 60 MB | Client installation directory. |
| | `/var/opt/BESClient` | 100 MB | Client data directory. This directory contains all scan results. |
| | | Installing the VM Manager Tool might add additional 200 MB. | The tool is required only on selected endpoints. |
| | `/opt/tivoli/cit` | 50 MB | Software and capacity scanners installation directory. |
| | `/opt/tivoli/cit/cache_data` | 100 MB on average | Software and capacity scanners cache files. The required disk space depends on the number of files, directories, and subdirectories to be scanned. Can be estimated by multiplying the number of files to be scanned by 60 bytes. |
| | `/etc/cit` | under 1 MB | Software and capacity scanners configuration files. |
| | `/var/ibm/tivoli/common/CIT` | 10 MB | Software and capacity scanners log files. |

*Table 17. Disk space requirements for clients installed on Windows*

| Operating system | Directory | Space required | Comments |
|---|---|---|---|
| **Windows** | `C:\Program Files (x86)\BigFix Enterprise\BES Client` | 150 MB | Client installation and data directory. This directory contains all scan results. |
| | | Installing the VM Manager Tool might add additional 300 MB. | The tool is required only on selected endpoints. |
| | `C:\Program Files\tivoli\cit` | 20 MB | Software and capacity scanners installation directory. |
| | `C:\Program Files\tivoli\cit\cache_data` | 50 MB on average | Software and capacity scanners cache files.<br><br>The required disk space depends on the number of files, directories, and subdirectories to be scanned. Can be estimated by multiplying the number of files to be scanned by 60 bytes. |
| | `%WINDIR%` | under 1 MB | Software and capacity scanners configuration files. |
| | `C:\Program Files\tivoli\ibm\tivoli\common\CIT\logs` | 10 MB | Software and capacity scanners log files. |

# Port requirements

When planning the infrastructure, ensure that port numbers used by Software Use Analysis, DB2, and IBM Endpoint Manager are free to enable communication between those components.

The following is the list of default ports used by the Software Use Analysis infrastructure. You can change them during the installation of each component:

*Table 18. Default ports used by the Software Use Analysis infrastructure*

| Type | Port number | Description |
|---|---|---|
| Software Use Analysis | 9081 | The web browser connects to the server (HTTPS) to display the user interface. |
| | | The Endpoint Manager server uses this port to connect to the Software Use Analysis server. |
| DB2 | 50000 | The server connects to DB2. |
| SQL Server | 1433 | The server connects to SQL Server. |
| IBM Endpoint Manager | 52311 | Endpoint Manager clients and console connect to the server. |
| | | The Software Use Analysis server uses this port to connect to the Endpoint Manager server. |

For more information about port numbers and interactions between components of the Software Use Analysis infrastructure, see **Flow of data** in the Security section.

## Firewall exceptions

Some of the fixlets require that the Endpoint Manager server connects to the Internet and downloads necessary files and updates. To ensure that they can be downloaded, relevant web addresses must be accessible from the computer where the server is installed. Add those addresses as firewall exceptions and ensure that they are accessible to the proxy server if you are using it.

Ensure that the following web addresses are accessible from the computer where the Endpoint Manager server is installed

- `esync.bigfix.com`
- `gatherer.bigfix.com`
- `software.bigfix.com`
- `support.bigfix.com`
- `sync.bigfix.com`

Additionally, the HTTP port 80 must be open for communication.

## Installation users

All the infrastructure components can be installed as the root user. You can also install some components as a non-root user, although some limitations apply.

*Table 19. Installation users for Software Use Analysis infrastructure components*

| Component | User | Limitations |
|---|---|---|
| server | Can be installed as root or as non-root user. | If installed as a non-root user, the server is not registered as a system service. |
| DB2 database server | Can be installed as root or as non-root user. | There are limitations with installing DB2 as a non-root user, see:Non-root installation overview DB2 10.1 information center and Non-root installation overview DB2 10.5 information center. |
| IBM Endpoint Manager server | Must be installed as root user. | |

## Coexistence considerations

Review the following scenarios to learn important information about the coexistence of Software Use Analysis application update 9.0.1.2 with other applications in the same Endpoint Manager infrastructure.

### Unsupported scenarios

The coexistence of Software Use Analysis application update 9.0.1.2 with the following applications is **not supported**:

- Software Use Analysis 9.x
- Software Use Analysis 2.x
- License Metric Tool 9.x

## Coexistence with Software Use Analysis 1.3

*Table 20. Coexistence scenarios for Software Use Analysis application update 9.0.1.2 and Software Use Analysis 1.3*

| Number | Scenario | Support status |
|--------|----------|----------------|
| 1. | In general, the coexistence of Software Use Analysis application update 9.0.1.2 with Software Use Analysis 1.3 is supported. The following scenarios can be applied:<br><br>• Software Use Analysis application update 9.0.1.2 and Software Use Analysis 1.3 are installed on the same server.<br>**Note:** The applications must use different port numbers.<br><br>• The applications use the same IBM Endpoint Manager clients.<br><br>• The fixlet sites are enabled on the same instance of IBM Endpoint Manager.<br><br>• The same endpoints are subscribed to both fixlet sites.<br><br>• Some endpoints are subscribed to the Software Use Analysis application update 9.0.1.2 site and some to the Software Use Analysis 1.3 site.<br><br>• Software Use Analysis application update 9.0.1.2 and Software Use Analysis 1.3 run data imports from the same IBM Endpoint Manager server. | **Supported** |

## Coexistence with Tivoli Asset Discovery for Distributed 7.x

*Table 21. Coexistence scenarios for Software Use Analysis application update 9.0.1.2 and Tivoli Asset Discovery for Distributed 7.x*

| Number | Scenario | Support status |
|--------|----------|----------------|
| 1. | The IBM Endpoint Manager clients used by Software Use Analysis application update 9.0.1.2, and agents used by Tivoli Asset Discovery for Distributed 7.x are installed on the same endpoints.<br><br>**Comments:** The discovery results might differ between the applications due to different software catalog content and discovery capabilities.<br><br>If you want to integrate with SmartCloud Control Desk, use the Tivoli Asset Discovery for Distributed agents for scanning. The Software Use Analysis clients must not be activated to run the scans to avoid the reconciliation problems in SmartCloud Control Desk. | **Supported** |
| 2. | Software Use Analysis application update 9.0.1.2 and Tivoli Asset Discovery for Distributed 7.x are installed on the same server.<br><br>**Comments:** Although this scenario is supported, it is not recommended because it results in performance issues. | **Supported** |
| 3. | Software Knowledge Base Toolkit is shared between Software Use Analysis 2.2 and Tivoli Asset Discovery for Distributed 7.x.<br><br>**Comments:** The Software Use Analysis software catalog contains more data and cannot be imported to Software Knowledge Base Toolkit that is used by Tivoli Asset Discovery for Distributed. | Not supported |

## Coexistence with License Metric Tool 7.x

| Number | Scenario | Support status |
|--------|----------|----------------|
| 1. | The IBM Endpoint Manager clients used by Software Use Analysis application update 9.0.1.2, and agents used by License Metric Tool 7.x are installed on the same endpoints.<br><br>**Comments:** The discovery results might differ between the applications due to different software catalog content and discovery capabilities. | **Supported** |

| Number | Scenario | Support status |
|---|---|---|
| 2. | Software Use Analysis application update 9.0.1.2 and License Metric Tool 7.x are installed on the same server. | **Supported** |
| | **Comments:** Although this scenario is supported, it is not recommended because it results in performance issues. | |

# Installing the infrastructure components

This section is intended to be a setup guide for system administrators who want to install the Software Use Analysis infrastructure elements.

## About this task

## Installation checklist

Use the following checklist to ensure that you complete all the necessary steps.

*Table 22. The checklist for installing and configuring Software Use Analysis*

| Stage | Installation step |
|---|---|
| 1. | **Plan the installation** - ensure that the computer on which you plan to install Software Use Analysis: <br> __ • Fulfills the minimum hardware requirements <br> __ • Has sufficient disk space <br> __ • Has the required software installed: <br>    – DB2 10.1 Fix Pack 2 or higher, or DB2 10.5, Workgroup Server Edition, Enterprise Server Edition, or Advanced Enterprise Server Edition <br>    – X server <br>    – web browser: Firefox 17 Extended Support Release or Internet Explorer 8.0 or higher <br>    – Korn shell (ksh) |
| 2 | **Install the IBM Endpoint Manager server** <br> __ • Download IBM Endpoint Manager. <br> __ • Create the license authorization file. <br> __ • Install a database for IBM Endpoint Manager. <br> __ • (Windows only) Request a certificate and create the masthead. <br> __ • Install the IBM Endpoint Manager server, either on Windows or Linux. <br> __ • Install the IBM Endpoint Manager console on a Windows computer. If you installed the server on Linux, see how to deploy the console. <br> __ • Subscribe to the fixlet site. <br> __ • Install a client on each endpoint that you want to administer under IBM Endpoint Manager. |
| 3 | **Install the Software Use Analysis server** <br> __ • Deploy the Software Use Analysis installer. <br> __ • Create a Linux user to be used by the DB2 database: run the commands `useradd` and then `passwd`. <br> __ • Install the Software Use Analysis server, either in interactive or silent mode. <br> __ • Create the database and configure a connection between Software Use Analysis and Endpoint Manager <br> __ • Optional: Install Software Knowledge Base Toolkit |

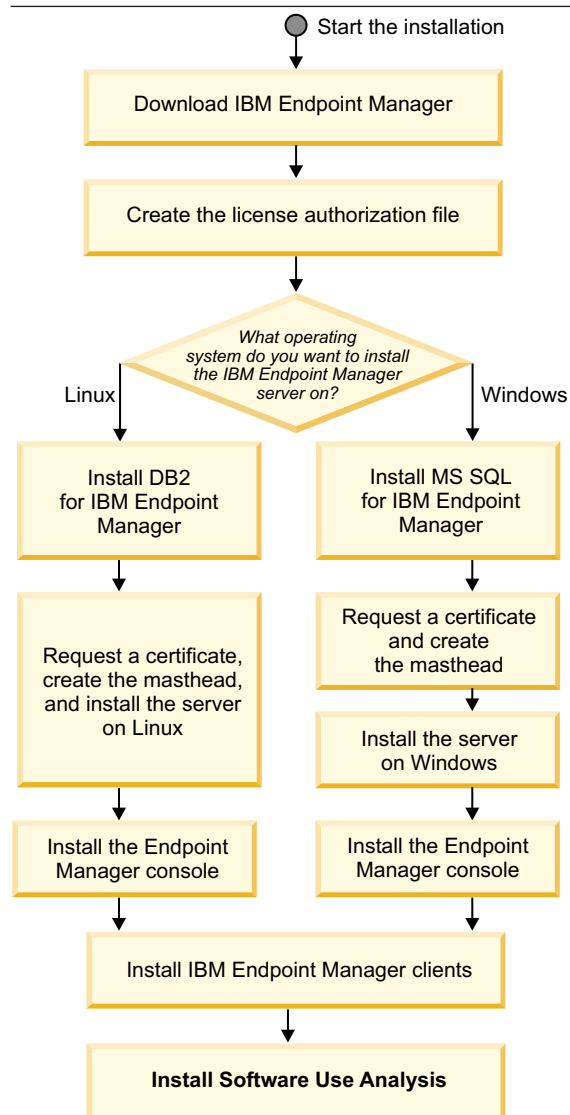*Table 22. The checklist for installing and configuring Software Use Analysis  (continued)*

| Stage | Installation step |
| --- | --- |
| 4 | **Configure the application** - to ensure the efficiency of Software Use Analysis:<br>• Perform basic configuration<br>  __ – Important: Set up a proxy exception list for environments with proxy servers<br>  __ – Set up roles<br>  __ – Set up users<br>  __ – Optional: Configure mail notifications<br>• Configure the application to display inventory<br>  __ – Set up computer properties<br>  __ – Set up computer groups<br>  __ – Schedule the imports of scan data<br>  __ – Configure data retention period<br>  __ – Add VM managers |
| 5 | **Apply important IBM updates** - to support the processor-based pricing model, to keep your software inventory up-to-date, and to increase the accuracy of automated bundling, perform the following tasks:<br>__ • Upload a PVU table<br>__ • Upload the latest software catalog<br>__ • Import part numbers |
| 6 | **Set up scans** - to ensure that data is gathered and uploaded to IBM Endpoint Manager for Software Use Analysis, perform the following tasks:<br>__ • Enable software discovery<br>__ • Enable the software usage monitoring |

# Installing IBM Endpoint Manager

Software Use Analysis runs on top of IBM Endpoint Manager, therefore the installation of this platform is a prerequisite. You can either refer to the diagram that shows the installation flow with links to external resources, or you can check the installation scenarios that describe the most common paths for installing IBM Endpoint Manager.

## Installation diagram

Complete the installation steps to install the IBM Endpoint Manager server, console, and clients.

| | |
|---|---|
| **Start the installation** → Download IBM Endpoint Manager → Create the license authorization file → *What operating system do you want to install the IBM Endpoint Manager server on?* (Linux / Windows)<br><br>**Linux branch:** Install DB2 for IBM Endpoint Manager → Request a certificate, create the masthead, and install the server on Linux → Install the Endpoint Manager console<br><br>**Windows branch:** Install MS SQL for IBM Endpoint Manager → Request a certificate and create the masthead → Install the server on Windows → Install the Endpoint Manager console<br><br>→ Install IBM Endpoint Manager clients → **Install Software Use Analysis** | 1. Download IBM Endpoint Manager.<br><br>IBM Endpoint Manager is a prerequisite for Software Use Analysis. Access the Passport Advantage Portal, download the packages for IBM Endpoint Manager, and install the platform either on Windows or on Linux.<br><br>2. Create the license authorization file.<br><br>The license file contains deployment and licensing information and is required to authorize and start the installation of IBM Endpoint Manager.<br><br>3. Install a database for IBM Endpoint Manager.<br><br>If you are installing IBM Endpoint Manager on Linux, you can use DB2 10.5 that is bundled with the product. Otherwise, you must have your own Microsoft SQL server installed.<br><br>4. Request a certificate and install the server:<br>  • **Linux**<br>    For Linux installations, you request a certificate and create the masthead during the installation of IBM Endpoint Manager primary server.<br>  • **Windows**<br>    For Windows installations, you must first request a certificate and create the masthead. Then, you can install the IBM Endpoint Manager primary server.<br><br>5. Install the IBM Endpoint Manager console.<br><br>The console can be installed only on a Windows computer. However, there are separate procedures for deploying the installer on Windows and Linux.<br><br>The console is an important component of IBM Endpoint Manager that allows you to run fixlets on specific computers, including a fixlet with the Software Use Analysis installer.<br><br>6. Install IBM Endpoint Manager clients.<br><br>Install an IBM Endpoint Manager client on each computer that you want to administer. To install Software Use Analysis, you need at least two clients, one on the IBM Endpoint Manager server and one on the computer prepared for the Software Use Analysis installation.<br><br>7. Install Software Use Analysis.<br><br>Download the Software Use Analysis installer with a fixlet and proceed with the installation. |

## Prerequisite tasks

Download the installation packages for IBM Endpoint Manager that are available on the Passport Advantage portal. Then, create the license authorization file that is required for the installation.

**Downloading IBM Endpoint Manager:**

Before you can download the Software Use Analysis installer, you must download and install IBM Endpoint Manager from the Passport Advantage® portal.

**Procedure**

1. Log in to the Passport Advantage portal.
2. In the area under the **Navigation help** tab, click **Software download & media access**.
3. Optional: On the next page, click **Continue**.
4. In the **Search your entitled software** section, select **Part description** and enter the search term, for example IBM Endpoint Manager. Three expandable sections are displayed: *eAssemblies*, *Images* and *Licensed Products*.
5. Click **Images** to expand the image names.
6. On the search results page, click the package that you want to download:
   - To install IBM Endpoint Manager on Windows, download the following package:

     **Note:** You must have your own SQL server installed.

| Description | File name |
|---|---|
| IBM Endpoint Manager 9.2.0 installation image for multiplatforms | IEM_Pltfrm_Install_V92.zip |

   - To install IBM Endpoint Manager and DB2 on a single computer running on Linux, download the following package:

| Description | File name |
|---|---|
| IBM Endpoint Manager 9.2.0 installation image for Linux and DB2 | IEM_Pltfrm_Install_V92_Lnx_DB2.tar |

   - To install IBM Endpoint Manager and DB2 on separate computers running on Linux, download the following packages:

| Description | File name |
|---|---|
| IBM Endpoint Manager 9.2.0 installation image for multiplatforms | IEM_Pltfrm_Install_V92.zip |
| IBM DB2 Workgroup Server Edition - Restricted Use V10.5 for Linux on AMD64 and Intel EM64T systems (x64) | DB2_10.5.0.3_limited_Lnx_x86-64.tar.gz |

     To obtain part numbers of the installation packages, read the download document for Endpoint Manager 9.2.
7. Review the package information and click **Download**. To repeat the procedure, click the **Download software** tab and perform steps 4 - 6.
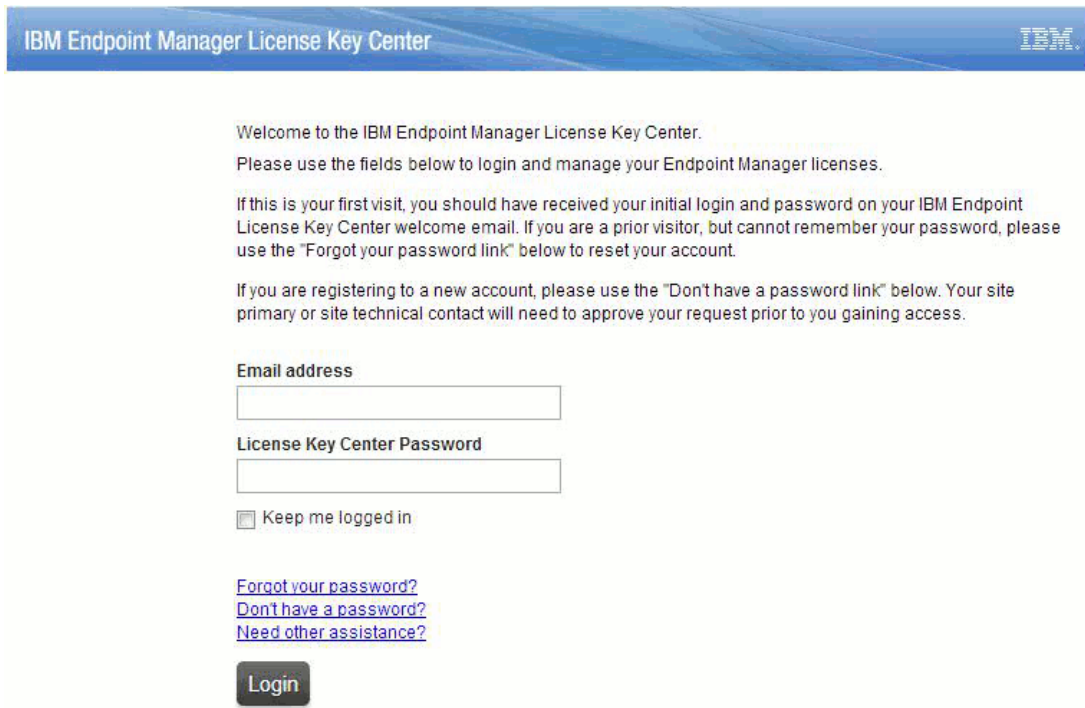
**What to do next**

Create the license file that is required to authorize your installation.

**Creating the license authorization file:**

After you order Software Use Analysis on the Passport Advantage portal, you will receive a welcome email with the instructions about how to access the IBM Endpoint Manager License Key Center. This site is an online license key delivery and management service that allows you to obtain the license keys that you need to use your product. Access the site and create the license authorization file that contains deployment and licensing information and is used during the installation of IBM Endpoint Manager to create your license files and certificates.

**Procedure**

1. Access the License Key Center.
2. Enter your email address and the password that you received in the welcome email.



3. For each product, specify the allocated client quantity. If you leave 0, you cannot install the related product.

| Product | Allocated Quantity | Available Quantity |
|---|---|---|
| **Core Protection Module (Trend) (*) (Client Device)**<br>Order Date: Jul 22, 2011<br>License Expiration: December 30, 2021<br>Maintenance Expiration: Dec 30, 2021 | 0 | 817040 |
| **Core Protection Module (Trend) (*) (Client Device)**<br>Order Date: Aug 24, 2011<br>License Expiration: December 31, 2037<br>Maintenance Expiration: Dec 31, 2037 | 50000 | 6124989 |
| **Lifecycle Management (Client Device)**<br>Order Date: Jul 22, 2011<br>License Expiration: December 30, 2023<br>Maintenance Expiration: Dec 30, 2023 | 0 | 776570 |
| **Lifecycle Management (Client Device)**<br>Order Date: Aug 24, 2011<br>License Expiration: December 31, 2037<br>Maintenance Expiration: Dec 31, 2037 | 50000 | 5520016 |
| **Lifecycle Management (Client Device)**<br>Order Date: Jan 25, 2012<br>License Expiration: Does not expire.<br>Maintenance Expiration: Jan 25, 2099 | 0 | 659385 |
| **Lifecycle Management (Client Device)**<br>Order Date: Aug 31, 2012<br>License Expiration: Does not expire.<br>Maintenance Expiration: Aug 31, 2013 | 0 | 2475 |
| **Mobile Device Management (Client Device)**<br>Order Date: Mar 29, 2012<br>License Expiration: Does not expire.<br>Maintenance Expiration: Mar 29, 2013 | 0 | 8848 |
| **Mobile Device Management Beta (Client Device)**<br>Order Date: Jan 25, 2012<br>License Expiration: Does not expire.<br>Maintenance Expiration: Jan 25, 2099 | 0 | 684057 |
| **OtherSitesAllowed (Client Device)**<br>Order Date: Aug 24, 2011 | 50000 | 5373793 |

**What to do next**

You are ready to install IBM Endpoint Manager. Follow the installation map or use one of the dedicated scenarios.

## Installation scenarios

The scenarios show the most common paths for installing IBM Endpoint Manager on Windows or on Linux.

**Installing on Windows:**

This scenario shows how to install the IBM Endpoint Manager server, console, and client on a single computer that runs Windows.

**Before you begin**
1. Install Microsoft SQL Server.
2. Download IBM Endpoint Manager for Windows. See Downloading IBM Endpoint Manager.
3. Create the license authorization file.

**About this task**

This is an exemplary scenario that aims at showing the most common installation path for Windows. If this scenario does not fit your specific environment or if you need more information about each step or other installation tasks, see the Installation diagram that contains links to original documents in the IBM Endpoint Manager documentation.

**Important:** Windows authentication to the IBM Endpoint Manager database is not available when the IBM Endpoint Manager server is installed on Windows. The only authentication option that can be used is SQL server authentication.
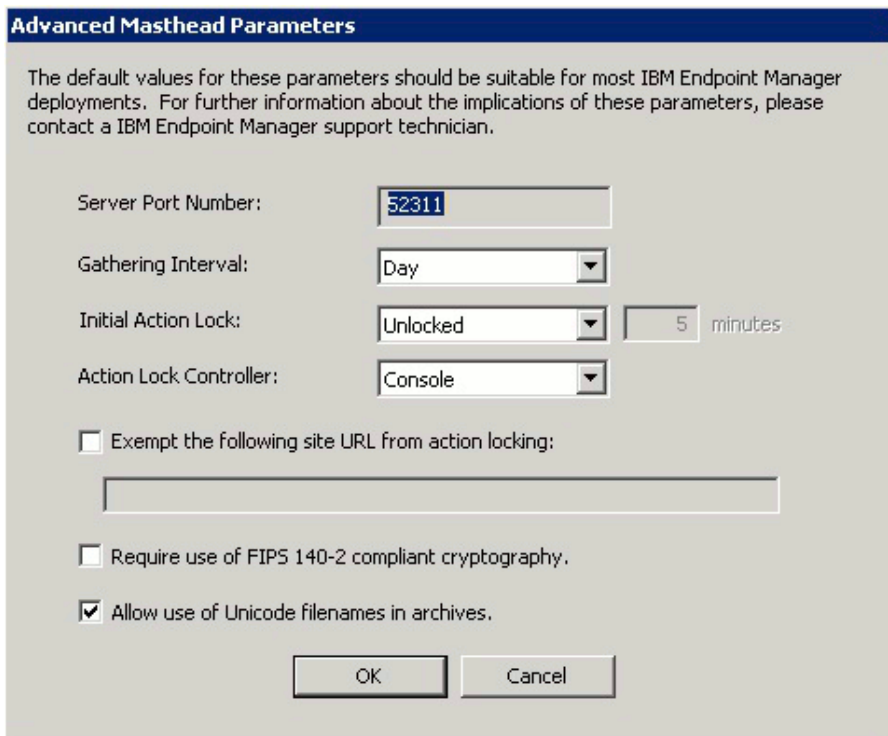
**Procedure**

1. Extract the package with installation files and then run `setup.exe`. When prompted, choose the **Production** installation.
2. After reading and accepting the license agreement, select **I want to install with an IBM Endpoint Manager license authorization file**.
3. Specify the location of your license authorization file and then click **Next**.
4. Enter the DNS name or IP address of the computer on which you want to install IBM Endpoint Manager. Click **Next**.
5. Create a key pair that will be used to authorize all users of IBM Endpoint Manager. Enter your password and choose the key size. Click **Create**.
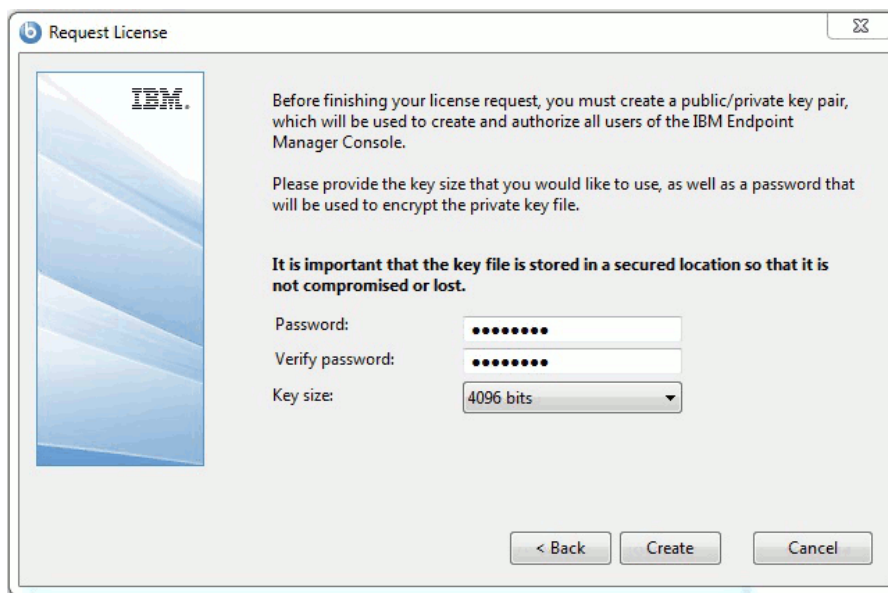


6. Save your private key (`license.pvk`) file in a secure folder. Click **OK**.

   **Note:** If you lose the private key file, a new license certificate needs to be created, which requires a completely new installation.
7. Submit the request to IBM to obtain the license certificate:
   - If your server can access the Internet, select the first option. The request will be submitted automatically.
   - If your server cannot access the Internet, select the second option and submit the request manually:
     a. The `request.BESLicenseRequest` is generated and saved to a chosen folder. Copy this request to a computer with Internet access.
     b. On the computer with Internet access, go to `http://support.bigfix.com/bes/forms/BESLicenseRequestHandler.html` and submit the request file.
     c. The `license.crt` file was saved to your computer. Copy it back to your IBM Endpoint Manager server.
     d. Return to the installation and click **Import** to import the certificate. Then click **Create**.
8. Enter the parameters of the masthead file that contains configuration and license information. Then click **OK**.

**Advanced Masthead Parameters**

The default values for these parameters should be suitable for most IBM Endpoint Manager deployments. For further information about the implications of these parameters, please contact a IBM Endpoint Manager support technician.

Server Port Number: `52311`

Gathering Interval: Day

Initial Action Lock: Unlocked | 5 minutes

Action Lock Controller: Console

☐ Exempt the following site URL from action locking:

☐ Require use of FIPS 140-2 compliant cryptography.

☑ Allow use of Unicode filenames in archives.

OK | Cancel

9. Choose the destination folder for IBM Endpoint Manager component installers. Click **Next**.

10. After the component installers are deployed, click **Finish**. The Installation Guide is launched to lead you through the installation of IBM Endpoint Manager components - Server, Console, and Client.



**IBM Endpoint Manager Installation Guide**  Select a language: English ▼ OK

- Welcome
  - Install Server
  - Install Console
  - Install Clients
  - Browse Install Folders
  - Exit

**Ready to Deploy IBM Endpoint Manager 9.1!**

Now that you have provided the information used to customize IBM Endpoint Manager to your network environment, you are ready to install the IBM Endpoint Manager components (Server, Console, and Clients). The Server should be installed first, followed by the Console and then the Clients.

To begin, click the "Install Server" button in the navigation panel on the left.

Click here for more information about IBM Endpoint Manager.

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Build 9.1.1027.0

11. Install the IBM Endpoint Manager server:

    a. In the Installation Guide, click **Install Server** and then click **Install the Server on this computer**.

    b. Choose the language and click **OK**. On the welcome screen, click **Next**.

    c. A dialog displays a list of server components to be installed. In general, accept the default components and click **Next**.

    d. Choose **Single or Master database** and then click **Next**.

    e. Choose **Use Local Database** and click **Next**.

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f. Specify the installation location and click **Next** to continue.

g. The Server Properties dialog prompts you to enter a location for the server web root folder. You can leave the default value. Click **Next**.

h. The Web Reports Properties dialog prompts you to enter a location for the Web Reports web root folder and the port number to use. You can leave the default values. Click **Next**.

i. Review the installation parameters and click **Next**.

j. Specify the location of your `license.pvk` file and then enter the password that you specified in step 5. Click **OK** to continue.

k. Create an account that will be used to log in to the IBM Endpoint Manager console, by default `IEMAdmin`. Click **OK**.

l. Click **Finish** to complete the installation.

12. Install the IBM Endpoint Manager console:

a. In the Installation Guide, click **Install Console** and then click **Install the Console on this computer**.

b. Choose the language and click **OK**. On the welcome screen, click **Next**.

c. Specify the installation location for the console and click **Next** to continue. Then click **Install** to start the installation.

d. When the installation completes, click **Finish**. You can now choose to launch the console or continue to installing the client.

   **Tip:** You can log in to the console with the user created in step 11k. The default user is `IEMAdmin`.

13. Install the IBM Endpoint Manager client:

a. In the Installation Guide, click **Install Clients** and then click **Install the Client on this computer**.

b. Choose the language and click **OK**. On the welcome screen, click **Next**.

c. Specify the installation location for the client and click **Next** to continue. Then click **Install** to start the installation.

d. When the installation completes, click **Finish**.

14. Install an Endpoint Manager client on the server where you want to install Software Use Analysis.

**What to do next**

Install Software Use Analysis

**Installing on Linux:**

This scenario shows how to install the IBM Endpoint Manager server, client, and a DB2 database on a single computer that runs Linux. A Windows computer is also required to install the Endpoint Manager console.

**Before you begin**

1. Download the combined package with IBM Endpoint Manager and DB2 for Linux. See Downloading IBM Endpoint Manager.

2. Create the license authorization file.

**About this task**

This is an exemplary scenario that aims at showing the most common installation path for Linux. If this scenario does not fit your specific environment or if you need more information about each step or other installation tasks, see the Installation diagram that contains links to original documents in the IBM Endpoint Manager documentation.

**Procedure**

1. Extract the package with installation files:

   tar xvf *installation_package*

2. From the extracted directory, go to ServerInstaller_n.n.nnn.n-rhe6.x86_64 and run the installation script:

   ./install.sh

3. Enter 1 to accept the license agreement.

4. Enter 2 to choose the Production installation.

   ```
   Select Install Type
   [1]  Evaluation: Request a free evaluation license from IBM Corp.
   This license allows you to install a fully functional copy of the
   IBM Endpoint Manager on up to 30 clients, for a period of 30 days.
   [2]  Production: Install using a production license or an authorization
   for a production license
   Choose one of the options above or press Enter to accept the default
   ```

5. Enter 1 to install all Endpoint Manager components:

   ```
   Select the IBM Endpoint Manager Features you want to install:
   [1]  All Components (Server, Client, and WebReports)
   [2]  Server and Client Only
   [3]  WebReports Only
   Choose one of the options above or press <Enter> to accept the default: [1]
   ```

6. Enter 1 to create a single or Master database.

   ```
   Select Database Replication:
   [1]  Single or Master Database
   [2]  Replicated Database
   Choose one of the options above or press <Enter> to accept the default: [1]
   ```

7. Enter 1 to use a local instance of DB2.

   ```
   Select Database:
   [1]  Use Local Database
   [2]  Use Remote Database
   Choose one of the options above or press <Enter> to accept the default: [1]
   ```

8. Enter the installation location for IBM Endpoint Manager.

   ```
   Choose the Web Server's Root Folder:
   Specify the location for the Web Server's Root Folder or
   press <Enter> to accept the default: /var/opt/BESServer
   ```

9. Enter the location where the Web Reports server stores its files.

   ```
   Choose the WebReports Server's Root Folder:
   Specify the location for the WebReports Server's Root Folder or
   press <Enter> to accept the default: /var/opt/BESWebReportsServer
   ```

10. Enter the port number for Web Reports.

    ```
    Choose the WebReports Server's Port:
    Specify the Port Number or press <Enter> to accept the default: 80
    ```

11. The installer checks if DB2 is installed on your server. Enter 1 to automatically install it from the files that are bundled with IBM Endpoint Manager.

    ```
    DB2 Installation Check
    The installer does not detect DB2 as installed on the system. Determine which
    of the options corresponds to your installation:
    [1]  DB2 is not installed, install it
    [2]  DB2 is installed, use the installed instance
    [3]  Exit from the installation
    Choose one of the options above or press <Enter> to accept the default: [1]
    ```

12. Default settings containing DB2 users and installation path are listed. Enter 1 to accept them and proceed with the installation.

    ```
    DB2 Installation
    DB2 will be installed using the following settings:
         DB2 Instance owner: db2inst1
    ```

```
        DB2 Fenced user: db2fenc1
        DB2 Administration Server user: dasusr1
        DB2 communication port: 50000
        DB2 Installation directory: /opt/ibm/db2/V10.5
If you need to use settings different from those proposed above, you can
specify them in the installation response file. Refer to the product
documentation for further details.
[1]  Proceed installing also DB2
[2]  Exit from the installation
Choose one of the options above or press <Enter> to accept the default: [1]
```

13. Specify the password for the DB2 Administrative users.

    ```
    DB2 Administrative User Password:
    Specify the password for the DB2 Administrative users:
    ```

14. Enter the user name and password for the initial administrative user of IBM Endpoint Manager or press Enter to use the default IEMAdmin. This user is required to log in to the Endpoint Manager console.

15. Enter 1 to run the installation using a license authorization file that you created before the installation.

    ```
    Choose the setup type that best suits your needs:
    [1]  I want to install with a BES license authorization file
    [2]  I want to install with a Production license that I already have
    [3]  I want to install with an existing masthead
    ```

16. Specify the location of your license authorization file.

    ```
    License Authorization Location
    Enter the location of the license authorization file that you received
    from IBM or press <Enter> to accept the default:
    ./license/LicenseAuthorization.BESLicenseAuthorization
    ```

17. Specify the DNS name or IP address of the server on which you are performing the installation.

18. Specify the Site Admin Private Key Password.

19. Specify the key size to encrypt the credentials:

    ```
    Key Size Level
    Provide the key size that you want to use:
    [1]  'Min' Level (2048 bits)
    [2]  'Max' Level (4096 bits)
    Choose one of the options above or press <Enter>  to accept the default: [2]
    ```

20. Specify the License folder where the installation generates and saves the license files.

21. Submit the request to IBM to obtain the license certificate:

    - If your server can access the Internet, enter 1. The request will be submitted automatically.

    - If your server cannot access the Internet, enter 2 and submit the request manually:

        a. The request.BESLicenseRequest is generated and saved to a folder with your license files. Copy this request to a computer with Internet access.

        b. On the computer with Internet access, go to http://support.bigfix.com/bes/forms/ BESLicenseRequestHandler.html and submit the request file.

        c. The license.crt file is saved to your computer. Copy it back to your IBM Endpoint Manager server.

        d. Return to the installation and enter 1 to import the certificate and continue with the installation.

22. Accept the default masthead values:

    ```
    Server Port Number: 52311
    Use of FIPS 140-2 compliant cryptography: Disabled
    Gather Interval: 1 Day
    Initial Action Lock: Unlocked
    Action Lock Controller: Console
    Action Lock exemptions: Disabled
    ```

23. When the installation is complete, install the Endpoint Manager console:

a. Go to /var/opt/BESInstallers.
b. Copy the `Console` folder to a Windows computer.
c. On a Windows computer, run `setup.exe` and follow instructions in the wizard.
24. Install an Endpoint Manager client on the server where you want to install Software Use Analysis.

**What to do next**

Install Software Use Analysis

## Installing the IBM Endpoint Manager clients
Install the IBM Endpoint Manager client on every computer in your network that you want to administer.

**Installation methods**

The methods for installing the clients vary depending on the operating system. Even if you install IBM Endpoint Manager on Linux, you might need to install some of the clients on Windows if your network consists of such computers. For more information, see Installing clients on Windows computers and Installing clients on Linux and UNIX computers.

**Installation packages**

The IBM Endpoint Manager installation image available on the Passport Advantage contains the following client installers:

*Table 23. IBM Endpoint Manager agent installers for Software Use Analysis*

| Installation package | Operating system | Platform | Installer files available in the `agents` directory |
|---|---|---|---|
| IBM Endpoint Manager Platform Installer V9.2.0 for Multiplatform Multilingual<br><br>• Part number: CN1QXML<br>• File name: `IEM_Pltfrm_Install_V92.zip` | AIX | Power® PC | `BESAgent-9.2.0.363.ppc64_aix61.pkg` |
| | HP-UX | PA-RISC | `BESAgent-9.2.0.363.pa_risc_hpux1111.depot` |
| | Red Hat Linux | x86 | • `BESAgent-9.2.0.363-rhe5.i686.rpm`<br>• `BESAgent-9.2.0.363-rhe5.x86_64.rpm` |
| | | POWER® | `BESAgent-9.2.0.363-rhe5.ppc64.rpm` |
| | | Linux on System z | `BESAgent-9.2.0.363-rhe5.s390x.rpm` |
| | SUSE Linux | x86 | • `BESAgent-9.2.0.363-sle11.i686.rpm`<br>• `BESAgent-9.2.0.363-sle11.x86_64.rpm`<br>• `BESAgent-9.2.0.363-sle10.i686.rpm`<br>• `BESAgent-9.2.0.363-sle9.x86_64.rpm` |
| | | POWER | `BESAgent-9.2.0.363-sle10.ppc64.rpm` |
| | | Linux on System z | `BESAgent-9.2.0.363-sle10.s390x.rpm` |
| | Oracle Solaris | SPARC | • `BESAgent-9.2.0.363.sparc_sol11.pkg`<br>• `BESAgent-9.2.0.363.sparc_sol10.pkg` |
| | | x86 | • `BESAgent-9.2.0.363.x86_sol11.pkg`<br>• `BESAgent-9.2.0.363.x86_sol10.pkg` |
| | Microsoft Windows | x86 | `BigFix-BES-Client-9.2.0.363.exe` |

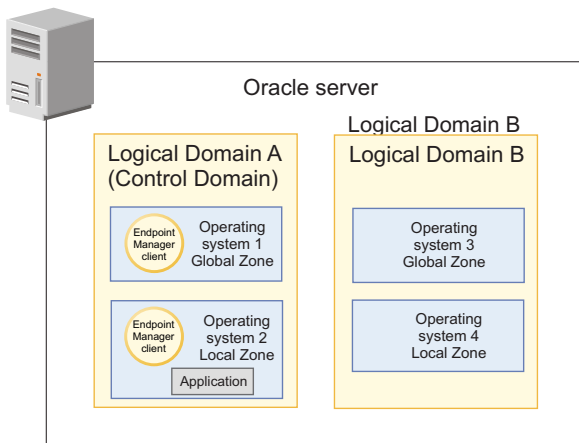Alternatively, you can download the client installation packages from the BigFix® support web page.

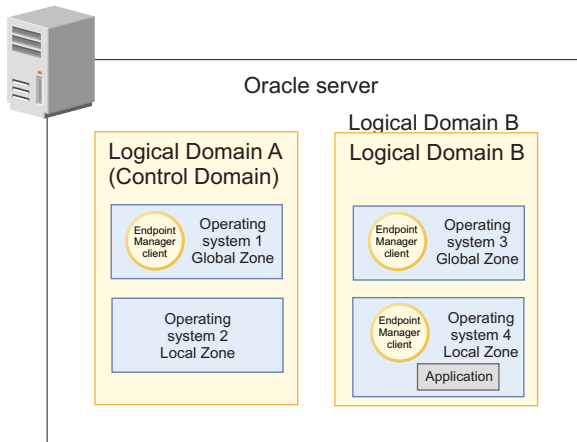**Agent installation on Oracle Solaris Logical Domains:**

When you install agents on Local Domains, you must install the agents on all the required operating systems and domains.

The following diagram shows which operating systems an agent must be installed on for each target operating system. For example, if you need an agent to be installed on operating system 4, it must also be installed on operating systems 1 and 3. If you need an agent to be installed on operating system 2, it must also be installed on operating system 1.
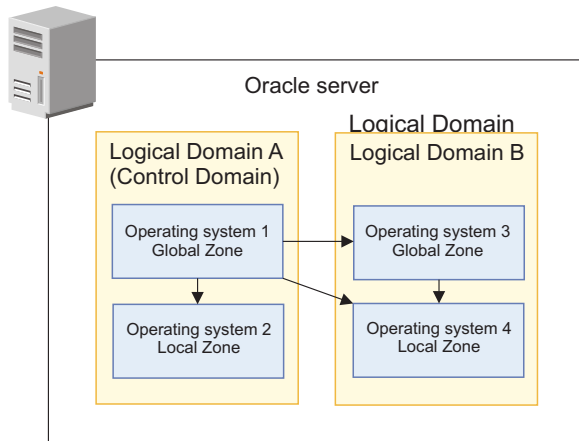


In the following example, if you have an application that you want to detect on operating system 4 (local zone on a Logical Domain that is not the Control Domain) then the agent must be installed on operating system 4. The agent must also be installed on operating system 1 (Control Domain, global zone) and operating system 3 (Logical Domain, global zone of operating system 4). If you have an application that you want to detect only on operating system 2, then you must install the agent on operating systems 2 and 1.

Oracle server

Logical Domain A
(Control Domain)

Endpoint Manager client — Operating system 1 Global Zone

Operating system 2 Local Zone

Logical Domain B

Endpoint Manager client — Operating system 3 Global Zone

Endpoint Manager client — Operating system 4 Local Zone
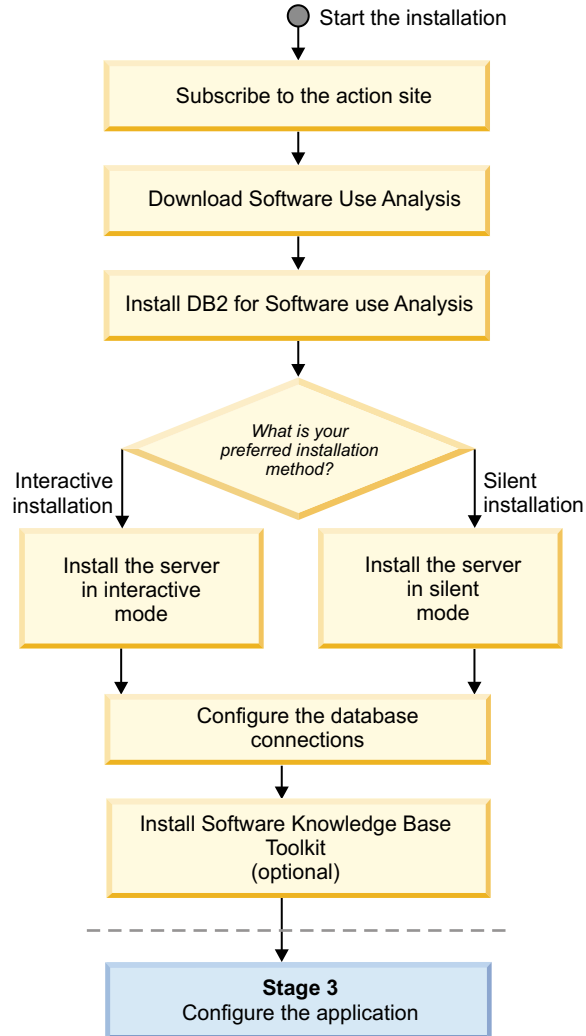
Application

## Installing Software Use Analysis

Software Use Analysis runs on Red Hat Enterprise Linux and requires a DB2 database. The application installer can be downloaded from the fixlet site after you enable it on your IBM Endpoint Manager server.

# Installation diagram

Complete the installation steps to install Software Use Analysis.

| Diagram | Steps |
|---|---|
| Start the installation → Subscribe to the action site → Download Software Use Analysis → Install DB2 for Software use Analysis → *What is your preferred installation method?* → (Interactive installation) Install the server in interactive mode / (Silent installation) Install the server in silent mode → Configure the database connections → Install Software Knowledge Base Toolkit (optional) → **Stage 3** Configure the application | 1. Subscribe to the fixlet site.<br><br>Log in to the IBM Endpoint Manager console and enable the fixlet site for Software Use Analysis. The fixlet site contains fixlets, tasks, and analyses that are required to download the application and then configure it. You can also use it to download the latest software catalog.<br><br>2. Download Software Use Analysis.<br><br>Log in to the IBM Endpoint Manager console, open the dashboard, and download the Software Use Analysis installer to the chosen endpoint.<br><br>3. Install DB2 for Software Use Analysis.<br><br>Software Use Analysis requires a DB2 database in version 10.1 fix pack 2 or higher, or 10.5. The latter one is bundled with the product.<br><br>4. Install the Software Use Analysis server in interactive or in silent mode.<br><br>After you download the installer to the chosen endpoint and fulfill all the prerequisites, you can install the server on Red Hat Enterprise Linux.<br><br>5. Configure the database connections.<br><br>When the installation is complete, configure the connections between Software Use Analysis and IBM Endpoint Manager and its database. During this task, you also create a database for Software Use Analysis and specify the administrative users.<br><br>6. (Optional) Install Software Knowledge Base Toolkit.<br><br>If you use the software catalog that is embedded in Software Use Analysis and the simple catalog management functionality is sufficient for your infrastructure, you do not need to install Software Knowledge Base Toolkit. You can install it later if needed.<br><br>7. Configure the application.<br><br>When Software Use Analysis is installed and the connections specified, you can move to configuring the application. |

## Prerequisite tasks

Install a DB2 database and subscribe to the Software Use Analysis fixlet site so that you can download the application installer to a chosen endpoint.

**Subscribing to fixlet sites:**

Subscribe your computers to the Software Use Analysis fixlet site to get access to fixlets, tasks, and analyses that are required to work with the application.

**Before you begin**

Your IBM Endpoint Manager server must have Internet access if you want to enable the fixlet site and download the content. If your server is in a separated network, see Downloading files in air-gapped environments.

**About this task**

The fixlet site contains fixlets, tasks, and analyses that are used to perform various actions related to Software Use Analysis. You can use them to download the Software Use Analysis installer, configure and initiate software scans, or update the software catalog.

**Procedure**

1. Log in to the IBM Endpoint Manager console.
2. In the bottom-left corner of the console, click **BigFix Management**.
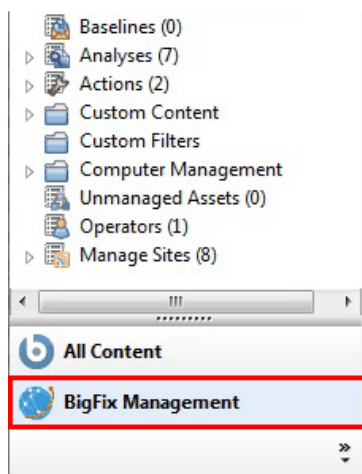


3. In the left navigation bar, click **License Overview**.
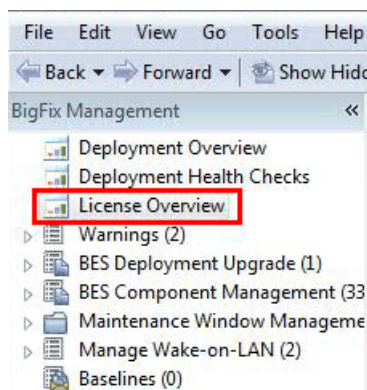


4. In the pane on the right, locate the entry called Software Use Analysis and accept the license agreement.
5. From the list of available sites, enable the **IBM Endpoint Manager for Software Use Analysis v9** site.
6. Subscribe all your computers to the fixlet site:
   a. In the bottom-left corner of the console, click **All Content**.
   b. In the left navigation bar, expand **Sites** > **External Sites** and select the **IBM Endpoint Manager for Software Use Analysis v9** site.
   c. In the pane on the right, click the Computer Subscriptions tab and select **All Computers**.
   d. Click **Save Changes**.

*Downloading files in air-gapped environments:*

If your IBM Endpoint Manager server cannot access the Internet, use the Airgap tool to enable the fixlet site that contains fixlets required to work with Software Use Analysis. When the site is enabled and the

content loaded, you must also use the BES Download Cacher to download and cache on your server all the files that are typically downloaded by fixlets from the Internet.

*Downloading the content on Windows:*

Download the content of the fixlet site if your IBM Endpoint Manager server is installed on Windows.

**Procedure**
1. From the IBM Endpoint Manager server installation directory, run the `BESAirgapTool.exe` file. When prompted, save the files to an `Airgap` folder.
2. Copy the created files to a Windows computer with Internet access.
3. On the computer with Internet access, run `BESAirgapTool.exe`. This action exchanges the request file for a response file.
4. Copy the `AirgapResponse` file back to your IBM Endpoint Manager server and place it in the `Airgap` folder. Run `BESAirgapTool.exe`. The response is loaded into the server.
5. Subscribe to the fixlet site.
6. Again, from the `Airgap` folder on the IBM Endpoint Manager server, run `BESAirgapTool.exe` to create a new request. The request is needed to load the fixlets into the site. Copy the files to the computer with Internet access.
7. Repeat steps 3-4.

**What to do next**

Cache the files and move them to the server.

*Downloading the content on Linux:*

Download the content of the fixlet site if your IBM Endpoint Manager server is installed on Linux.

**Before you begin**
- You need a Windows computer with Internet access.
- Download the Airgap tool to your Windows computer. Go to Utilities and download TEM Airgap Tool.

**Procedure**
1. Open the Linux Terminal and enter the following commands to run the Airgap tool:
   ```
   cd /opt/BESServer/bin
   ./Airgap.sh -run
   ```
2. The Airgap tool creates the `airgap.tar` file. Extract it with the following command:
   ```
   tar xvf airgap.tar
   ```
3. Copy the extracted `AirgapRequest.xml` file to your Windows computer and place it in the folder that contains the downloaded `BESAirgapTool.exe` file.
4. On the Windows computer, run `BESAirgapTool.exe`. This action exchanges the request file for a response file.
5. Copy the `AirgapResponse` file, generated by `BESAirgapTool.exe`, to your IBM Endpoint Manager server and place it in the `/opt/BESServer/bin` directory.
6. Again, run the Airgap Tool on the Linux computer:
   ```
   cd /opt/BESServer/bin
   ./Airgap.sh -run
   ```
7. Subscribe to the fixlet site.
8. Repeat steps 1-6 to load fixlets into the site.

**What to do next**

Cache the files and move them to the server.

*Caching the files:*

Typically, all fixlets, tasks, and analyses download the required files from the Internet. However, in a separated network, all those files must first be cached and moved to the server so that they are always available to fixlets.

**Before you begin**
- You need a Windows computer with Internet access.
- Download the BES Download Cacher to your Windows computer. Go to Utilities and download TEM Download Cacher.

**Procedure**
1. Log in to your IBM Endpoint Manager console.
2. In the navigation bar, expand **Sites** > **External Sites** and select the **IBM Endpoint Manager for Software Use Analysis v9** site.
3. In the pane on the right, click the Computer Subscriptions tab and select **All Computers**. Click **Save Changes**.

   This step is required to subscribe your endpoints to the **IBM Endpoint Manager for Software Use Analysis v9** fixlet site. After you do that, the IBM Endpoint Manager for Software Use Analysis.efxm file is created on the server.
4. Go to the following location on your IBM Endpoint Manager server.

   `Installation_dir\BES Server\wwwrootbes\bfsites`
5. From the most recent fixlet site, copy the IBM Endpoint Manager for Software Use Analysis.efxm to a Windows computer and place it in `C:\IEM`.
6. On Windows, go to `C:\IEM` and create a folder called `downloads`.
7. Run the downloaded BES Download Cacher with the following command:

   `BESDownloadCacher.exe -m "C:\IEM\IBM Endpoint Manager for Software Use Analysis.efxm" -x C:\IEM\downloads`

   The BES Download Cacher downloads 1 GB of required files.
8. Optional: The default cache size is enough if you use only the **IBM Endpoint Manager for Software Use Analysis v9** fixlet site. However, if you plan to run fixlets from other sites, such as **BES Support**, increase the cache size so that the IBM Endpoint Manager server does not try to delete any files:

   a. In the left navigation bar of the IBM Endpoint Manager console, click **Computers** and select your IBM Endpoint Manager server from the list.

   b. Right-click on the server and then click **Edit Computer Settings**.

   c. Increase the value of the `_BESGather_Download_CacheLimitMB` setting. If the setting is not on the list, add it and specify the value in MB.

   **Tip:** The size depends on each fixlet site, however you might need to increase it to at least a couple of gigabytes.
9. Copy the contents of the `downloads` folder into the following directory on your IBM Endpoint Manager server:

   `Installation dir\BES Server\wwwrootbes\bfmirror\downloads\sha1`

**Results**

After the files are cached in the Endpoint Manager server `sha1` folder, they are automatically delivered to the Endpoint Manager relays and clients every time you use a related fixlet. Use both the Airgap tool and

the BES Download Cacher periodically to make sure that the content of your fixlet site is always up-to-date.

**Downloading Software Use Analysis:**

Software Use Analysis installer can be deployed to a specified computer by using the Endpoint Manager dashboard.

**Before you begin**

Install an Endpoint Manager client on the target computer. The required version of the client is 8.2 or higher.

**Procedure**
1. Log in to the Endpoint Manager console.
2. In the navigation bar, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis v9** > **Dashboards** > **Software Use Analysis**.
3. Select a computer to which you want to download the installer, and click **Deploy Installer**.

   **Tip:** The installer is downloaded to the following directory: `user_directory`/IEMInstaller, where *user_directory* is the directory of the user that was used to install BESClient.
4. When the download completes, click **Continue**.
5. Go to the computer to which you downloaded the installer, and decompress it.

**Results**

You downloaded and decompressed the Software Use Analysis installer. Before you proceed with installation, ensure that DB2 is installed on the target computer.

**Installing DB2:**

Software Use Analysis requires a DB2 database in version 10.1 fix pack 2 or higher, or 10.5. The latter one for restricted use is bundled with the application and you can download it from the Passport Advantage portal.

**About this task**

**DB2 10.5**

> This version is bundled with IBM Endpoint Manager. DB2 packages listed on the IBM Endpoint Manager 9.1 download document: www-01.ibm.com/support/docview.wss?rs=1015 &uid=swg21662495.

**DB2 10.1 Fix Pack 2 or higher**

> DB2 packages listed on the IBM Endpoint Manager 9.0 download document: www.ibm.com/support/docview.wss?rs=1015&uid=swg21625041.

> DB2 fix pack 2 packages listed on the DB2 10.1 download document: http://www-01.ibm.com/ support/docview.wss?uid=swg24033997.

This is an exemplary scenario that shows how to install DB2 10.5 that is bundled with the product. For more information about each step or other installation options, see the documentation forDB2 10.1 or DB2 10.5.

**Procedure**

1. Extract the installation files:

   `tar xvf `*`installation_package`*

2. Go to the directory with extracted installation files and run the following command:

   `./db2setup`

3. In the navigation bar of the DB2 Setup Launchpad, click **Install a Product**.

4. Scroll down and click **Install New** under DB2 Workgroup Server Edition.

5. Read and accept the license agreement. Click **Next**.

6. Select the installation type and click **Next**.

7. Select **Install DB2 Server Edition on this computer and save my settings in a response file**. Click **Next**.

8. Specify the installation directory. Click **Next**.

9. Create a user for the DB2 Administration Server. Click **Next**.

10. Select **Create a DB2 instance** and then click **Next**.

11. Select **Single partition instance** and then click **Next**.

12. Create the DB2 instance owner. This user will be needed when specifying connections between IBM Endpoint Manager and Software Use Analysis. Then, click **Next**.

13. Create the fenced user and then click **Next**.

14. Set up your DB2 server to send notifications or select the second check box to omit this step. Click **Next**.

15. Review the settings and click **Finish**. The installation is started.

16. When the installation is complete, add a license file to extend your license:

    a. From the directory with extracted installation files, go to `/db2/license`.

    b. Copy the `db2wse_o.lic` file to the home directory of DB2 instance owner (`/home/db2inst1`).

    c. Open the Terminal and switch the user to DB2 instance owner:

       `su db2inst1`

    d. Add the license file to your installation:

       `db2licm -a db2wse_o.lic`

**Results**

The installation of DB2 is complete. The default location is `/opt/ibm/db2`.

## Installing in interactive mode

Use the installation wizard to specify all parameters as the installation proceeds.

### Before you begin

- Ensure that a graphical user interface is available, and the X server is properly configured on the computer where you want to install Software Use Analysis. The `DISPLAY` variable must be set properly, too. Otherwise, use silent mode.

- Ensure that a browser is installed to complete the configuration. If you want to complete the configuration from a different computer, access the following URL: `https://`*`hostname`*`:`*`port`*.

- If you cannot choose your language in the installation wizard, set the system locale to a chosen language. For more information, see Troubleshooting.

- During the installation of IBM Endpoint Manager, the number of active databases on your DB2 server is limited to 2. If you plan to use the same DB2 server for Endpoint Manager and Software Use Analysis, increase the number of active databases to at least 3. Log in as the DB2 instance owner, run the following command, and then restart your server:

  `db2 update dbm cfg using NUMDB `*`number_of_active_databases`*

- The use of `sudo` is not supported.

**About this task**

**Important:** If you start the installation as a non-root user, the server is not registered as a system service.

**Procedure**

1. Copy the installation package to a temporary directory and use the following command to uncompress it:

   `tar xvf installation_package`

2. Start the command-line interface and change to the directory with extracted installation files.

3. Run the `setup-server-linux-x86_64.sh` script. Follow the instructions on the panels and provide all the necessary installation parameters.

   **Tip:** If you encounter a slow installation, check the following items:
   - Check the performance and speed of the hard disk.
   - Check whether the antivirus is scanning each file separately as it might slow down packaging. If that is the case, turn off the antivirus. If the antivirus cannot be turned off, expect the installation to be slower.

4. When the installation is complete, click **Done** to exit the wizard.

   **Tip:** If you encountered problems during the installation, analyze the log file that is in the `$HOME/SUA9.0.1.2` directory.

**What to do next**

To access the Software Use Analysis user interface, open a browser and go to `https://hostname:port`. Where *hostname* is the host name of the computer where the Software Use Analysis server is installed and *port* is the port that you specified during the installation. To complete the initial configuration, create a database and configure connections between Software Use Analysis and the Endpoint Manager server. For more information, see Configuring connections.

## Installing in silent mode

As an alternative to using the installation wizard, you can specify parameters in a response file and start the installation from the command line.

**Before you begin**

- During the installation of IBM Endpoint Manager, the number of active databases on your DB2 server is limited to 2. If you plan to use the same DB2 server for Endpoint Manager and Software Use Analysis, increase the number of active databases to at least 3. Log in as the DB2 instance owner, run the following command, and then restart your server:

  `db2 update dbm cfg using NUMDB number_of_active_databases`

- The use of `sudo` is not supported.

**About this task**

**Important:** If you start the installation as a non-root user, the server will not be registered as a system service.

**Procedure**

1. Copy the installation package to a temporary directory and use the following command to uncompress it:

   `tar xvf installation_package`

2. Go to the directory with extracted installation files.
3. Read the license agreement in the /license/*your_language*/license.txt file.
4. Edit the install_response.txt response file and adjust it to your installation.

   **Important:** Ensure that the **RSP_LICENSE_ACCEPTED** parameter is uncommented and set to **true**. If you do not accept the license, the installation fails.
5. Start the command-line interface and change to the directory with installation files. To start the installation, run the following command:

   setup-server-linux-x86_64.sh –f *response_file_path* –i silent

   Where *response_file_path* is the absolute path to the response file you are using.

   Example:

   setup-server-linux-x86_64.sh -f /tmp/images/install_response.txt -i silent

   **Tip:** Use the -h option to view help information about usage of the script, for example:
   setup-server-linux-x86_64.sh -h.

   **Tip:** If you encounter a slow installation, check the following items:
   - Check the performance and speed of the hard disk.
   - Check whether the antivirus is scanning each file separately as it might slow down packaging. If that is the case, turn off the antivirus. If the antivirus cannot be turned off, expect the installation to be slower.

## What to do next

To access the Software Use Analysis user interface, open a browser and go to https://*hostname*:*port*. Where *hostname* is the host name of the computer where the Software Use Analysis server is installed and *port* is the port that you specified during the installation. To complete the initial configuration, create a database and configure connections between Software Use Analysis and the Endpoint Manager server. For more information, see "Configuring Software Use Analysis connections" on page 43.

**Server installation response file:**

The response file provides input parameters that are used when you install the server in silent mode.

*Table 24. Common response file parameters.*

| Parameter | Parameter key name | Default |
|---|---|---|
| | **Description** | |
| License agreement acceptance | **RSP_LICENSE_ACCEPTED** | false |
| | Delete the first hash (#) that flags this statement as a comment. The installation fails if you do not explicitly agree with the license agreement by changing this statement from comment status. | |
| Installation location | **RSP_TLM_ROOT** | Linux /opt/ibm/SUA |
| | Specify an empty directory where the server is to be installed. If the directory does not exist, it is created. | |
| Port that is used by the server | **RSP_TLM_HTTPS_PORT** | 9081 |
| | If you do not specify the port number, a default value will be used. **Note:** If the selected port is already used by a different application, the installation fails. | |
| Disabling communication warnings | **RSP_DISABLE_COMMUNICATION_WARNINGS** | false |
| | If any of the ports that you specified in the **RSP_TLM_HTTPS_PORT** is locked by another application, silent installation fails. To specify a port that is temporarily used but will be available later, set the **RSP_DISABLE_COMMUNICATION_WARNINGS** parameter to true. | |

## Configuring Software Use Analysis connections

Software Use Analysis connects with two databases: its own database that, among others, stores information about the software catalog, and the IBM Endpoint Manager database that stores data from the endpoints. Optionally, you configure a connection to the Web Reports database to give the Web Reports users access to Software Use Analysis.

### Before you begin

- Ensure that the DB2 database is already installed and running. The application and the database can be installed on the same or on separate servers.
- Create an operating system user on the server where DB2 is installed. The user is needed by Software Use Analysis to access DB2. You can use an existing user or create a dedicated one.
- If you use a Microsoft SQL Server database for the IBM Endpoint Manager server, enable the SQL Server Authentication Mode and create a database user.
- Create your own certificate if you do not want to use the default one. This step is necessary if you see a screen that prompts you to add the certificate to the trusted sites. For more information, see the topic *Creating a private certificate authority* available in the *Security* section of the product information center.

### About this task

After installing Software Use Analysis, the configuration panel opens in your browser. It is divided into steps so that you can easily move from one page to another, configuring the connections one by one. The first step is configuring the connection to the DB2 database. If your DB2 is on a separate computer, you must also complete some extra steps. Then, you create an account for the Software Use Analysis administrator. When the account is created, a new page opens and you can specify connections to the IBM Endpoint Manager database, IBM Endpoint Manager server, and optionally the Web Reports database. When all of the connections are configured, you can run the initial import.

### Procedure

1. Configure the connection to the DB2 database. Specify the following information:
   a. Provide the host name and port number of the computer on which the DB2 instance exists and specify the name for the application database. You can choose any name that meets the DB2 naming requirements.
   b. Next, provide the operating systems user credentials that will be used for connecting to the database. The user can be an instance owner.

      **Tip:** Create a dedicated user for connecting to DB2.
2. If the application and the database are on the same computer, select the appropriate check box and then provide the name of the DB2 instance owner or any other user with the DB2 SYSADM authority.

3. If the application and the database are on separate computers, clear the check box. You can now see new options to create the database and the database objects. Complete the following steps:

   a. Click **Download Script**. The script is used to create the database.

   b. Move the script to the computer on which the DB2 server is installed.

   c. Run the script on the DB2 computer. The script creates a database that can be accessed by the user that is specified in step 1b.

      **Important:** The user who runs the script must have the SYSADM authority. You can use the DB2 Instance Owner.

   d. When the database is created, return to the computer on which you are configuring Software Use Analysis.

   e. To create database objects, such as views and tables, click **Create**.

4. Create an account for the administrator of Software Use Analysis. Specify the user name and password, and then click **Create**.



5. Configure the connection to the IBM Endpoint Manager database. The database stores information about the endpoints and data that they discover. Specify the host, port, database name, and credentials of the user that can access the IBM Endpoint Manager server database.

   **Note:** Windows authentication to the IBM Endpoint Manager database is not available when the IBM Endpoint Manager server is installed on Windows. The Windows Authentication option is present but

not selectable. The only authentication option that can be used is SQL server authentication.

**Database for the IBM Endpoint Manager Server\***

Database Type*

DB2 ▾

Host*

9.128.110.31

Port*

50000

Database Name*

BFENT

Authentication

User Name

db2inst1

Password*

••••••••

6. Configure the connection to the IBM Endpoint Manager server. Specify the host, server API port, and credentials of the administrative user that you created while installing IBM Endpoint Manager (by default, *IEMAdmin*).

**IBM Endpoint Manager Server\***

Host*

9.128.110.31

Server API Port*

52311

Authentication (Console Operator)

User Name*

IEMAdmin

Password*

••••••••

7. Optional: Configure the connection to the Web Reports database. Specify the database type, host name, database name, and credentials of the Web Reports database user.

Web Reports Database
Database Type*
DB2
Host*
9.128.110.31
Port*
50000
Database Name*
BESREPOR
Authentication
User Name
db2inst1
Password*
••••••••

8. Click **Create** to create the connections. Connections to the databases are created and configured. A new page opens and a message about the data import is displayed.

   **Important:** If your environment consists of more than 50 000 endpoints, see **Tuning performance in big data environments** in the *Tuning* section before you run the import.

9. Click **Import Now** to run the initial import.

   **Note:** The initial import might take a few hours, depending on your hardware capacity.

## Troubleshooting the installation

If you encounter any problems during the installation, you can check details related to the problem, fix it, and then resume the installation. Also, check the list of installation return codes that might help you in investigating the cause of the problem.

**Resuming a stopped or failed Software Use Analysis installation:**

You can rerun the installation during the preinstallation and installation stages. You can also use a built-in function to diagnose the problem during the installation of the server.

**About this task**

There are different ways to rerun the installation and the solution depends on the phase during which the problem occurred. If an error occurs during the preinstallation phase, you can restart the installation and no additional actions are required. If you encounter an error during the installation phase, you have two options. You can either remove the installation directory before you restart the installation, or use a built-in function to diagnose and fix the problem.

Some configuration steps in the installation depend on other steps. If one of them fails, the execution of the dependent step is also held. If an error occurs, the installation wizard continues running steps that do not depend on the failed one. You can see the list of prerequisites for any step in the step properties dialog. To open the dialog, double-click the step, or right-click it and select **Details**.

You can continue the installation and fix the problem at the end of the installation. You can also end it and resolve the problem later, at a convenient time. It is not necessary to specify any special options - it is enough to run the installation wizard again. It detects that the previous configuration attempt failed or was interrupted and starts automatically in resume mode.

If you exited the installation wizard, run it again. It automatically starts the configuration.

**Procedure**

1. If you encounter a problem, double-click the line that contains the step name, or right-click it and select **Details**. The line is indicated by a red icon.
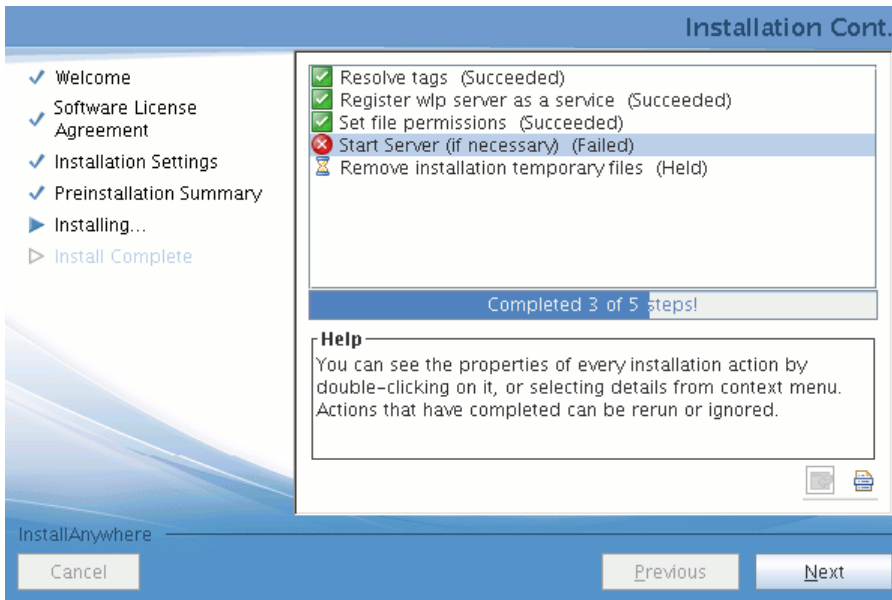


2. Review the most important information that is displayed in the top area of the dialog window. The dialog shows the name and location of a dedicated log file if it is applicable.
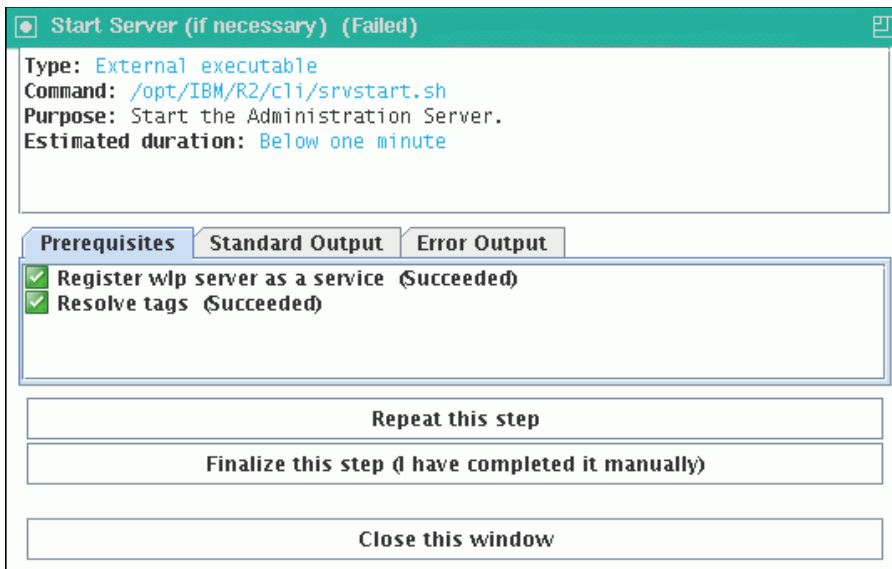


3. Review the information that is shown in either the **Standard Output** tab or, if applicable, **Dedicated log** tab to determine the root cause of the problem.

   **Important:** To reduce the performance load on the computer, the function that captures the dedicated log file runs with the lowest possible priority. Thus, the **Dedicated log** tab does not always present the most recent and detailed information. What is more, the end of the log file might not be shown. If a failure occurs, check either the dedicated log whose location can be found in the step description, or the `msg_server.log` file.

4. Fix the problem.

5. On the installation panel, right-click the line that shows the problem, then click **Set** > **Ready (rerun the step)**. The installer completes the step and the remaining dependent steps.

If you run the failed step outside the installation wizard, mark the step as completed successfully.

**Note:** If you cannot diagnose the problem and rerun the step manually, uninstall the product and try to install it again.

6. Click **Next**. The **Postinstallation Summary** opens with information about installed components.

**Server installation and uninstallation return codes:**

If the server installation or uninstallation fails, check the return code to find the reason of the problem and possible solutions.

The table lists return codes that are logged during the installation or uninstallation of the Software Use Analysis server.

*Table 25. Server installation and uninstallation return codes*

| Return code | Possible cause and solutions |
|:---:|:---|
| 0 | The server was successfully installed. |
| 5 | An unexpected error occurred. |
| 6 | An unexpected exception occurred. |
| 7 | An internal error occurred. The installer failed to save the file with information that was collected or generated during the preinstallation stage. |
| 8 | The installation was canceled. |
| 9 | A post-installation step was terminated before it was finished. Problems with resuming the installation might occur. |
| 11 | Validation of the communication ports failed. Either the same port is specified for more than one parameter or the specified port is in use. If you want to specify a port that is temporarily used but will be available later, set the `RSP_DISABLE_COMMUNICATION_WARNINGS` parameter to `true`. |
| 13 | Validation of the license agreement failed. Either the license agreement was not accepted or the path to the installation response file is not an absolute path. To accept the license agreement, set the `RSP_LICENSE_ACCEPTED` parameter to `true`. |
| 14 | There is not enough space for the installation. To check how much free disk space is required to proceed with the installation, see the following installation log: *installation_directory*/`SUA_9.0.0.2_`*timestamp*`_logs.tar.gz`. |
| 18 | Validation of the installation path failed. Either the specified path is incorrect or the installation directory is in read-only mode. |
| 20 | An unknown response file parameter was specified. Remove the parameter from the installation response file. |
| 21 | The response file was not found. It is either empty or contains Windows line endings instead of UNIX ones. |
| 23 | The command-line interface or another application from the Software Use Analysis installation path is still running. Either end the process manually or set the `RSP_AUTO_CLOSE_PROCESSES` parameter to `true`. |
| 26 | An internal error occurred. Creation of the log directory failed. |
| 27 | It was impossible to recognize the environment, for example, installed products. |
| 28 | The upgrading scenario is not supported. |
| 29 | A part of Software Use Analysis that is already installed, is corrupted. |
| 30 | The uninstallation wizard could not find product information in registries. Software Use Analysis was already uninstalled. |

*Table 25. Server installation and uninstallation return codes  (continued)*

| Return code | Possible cause and solutions |
|---|---|
| 31 | The host name was not obtained. To verify the host name, in the command-line interface, enter the following command:<br><br>`nslookup host_name` |
| 32 | An exception was detected while reading the `setup.ini` file. |
| 33 | An attempt of creating a log directory in the installation path failed because a file called `SUA9.0.1.2` already exists. To proceed with the installation, delete the file. |
| 34 | The log directory is in read-only mode. |
| 35 | The system `TEMP` environment variable does not point to a valid directory. |
| 36 | Installation in console mode is not supported. Use interactive or silent mode. |
| 37 | The required resources could not be extracted from the installation image. |
| 38 | The required resources could not be found inside the installation image. |
| 41 | The post-installation failed. |
| 42 | Another instance of the installer is already running. |
| 46 | The post-installation was interrupted. |
| 50 | Resuming a failed installation in silent mode is not supported. |
| 55 | All elements of the infrastructure are already installed. |
| 59 | An internal error occurred. Contact IBM support. |
| 214 | The uninstallation process could not connect to the X server. Verify that the `DISPLAY` variable is properly set and points to a working X server. |

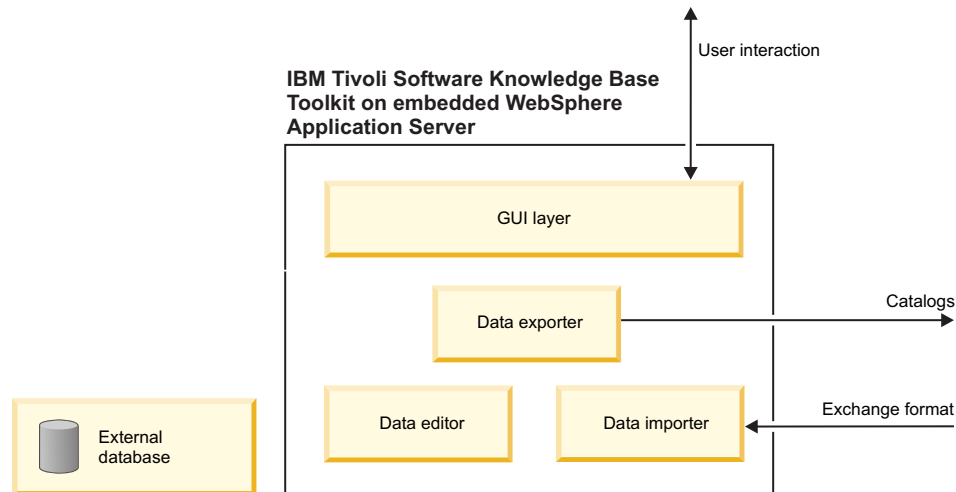# Installing and configuring Software Knowledge Base Toolkit

Software Knowledge Base Toolkit is a repository of knowledge that supports the automated discovery of software items that are installed within your IT infrastructure. It stores information about the software titles that are used in your organization, their manufacturers, and license relationships between the products.

Each software item that is stored in the repository conforms to one of the standardized signature formats that is supported by the discovery infrastructure. The software knowledge base provides a link between the identity of a software item including its name and version, and the signatures with which an installed instance of that software item can be detected. The knowledge base data, gathered through research and automated data analysis, is shared with Software Use Analysis in the form of software catalogs. The import of these catalogs facilitates the asset management processes in your organization and reduces the risk of license noncompliance.

Software Knowledge Base Toolkit is an optional component. If you use the software catalog that is embedded in Software Use Analysis and the simple catalog management functionality is sufficient for your infrastructure, you do not need to install Software Knowledge Base Toolkit. You can install it later if needed.

## Component architecture of Software Knowledge Base Toolkit

You can use the summary of Software Knowledge Base Toolkit architecture to become familiar with the infrastructure of the application and the relationships between its components.

```
                                                          ↑ User interaction
IBM Tivoli Software Knowledge Base
Toolkit on embedded WebSphere
Application Server
   ┌──────────────────────────────────────────┐
   │   ┌──────────────────────────────────┐    │
   │   │            GUI layer             │    │
   │   └──────────────────────────────────┘    │
   │        ┌──────────────────┐                │  → Catalogs
   │        │  Data exporter   │                │
   │        └──────────────────┘                │
┌───────┐   ┌──────────────┐  ┌──────────────┐  │  Exchange format
│Ext db │   │ Data editor  │  │ Data importer│←─┼──
└───────┘   └──────────────┘  └──────────────┘  │
   └──────────────────────────────────────────┘
```

## Knowledge Base Content Management Server

Knowledge Base Content Management Server is a web-based interface that works with a
centralized repository and manages the content of the knowledge base. Access to the server is
role-based. The KB Content Management Server is deployed and runs in an embedded
WebSphere® Application Server, which is accessible through the HTTP server. The KB Content
Management Server can be reached through a web browser such as:

- Internet Explorer 6.0 or higher
- Mozilla Firefox 2.0 or higher

The server runs on Windows, Linux, AIX, and Solaris.

Knowledge Base Content Management Server consists of the following components, all of which
run in embedded WebSphere Application Server V 6.1:

**GUI layer**

The GUI layer presents information to the user, and manages target computers and scans.
The user interface is described in the Abstract User Interface Markup Language (AUIML).
However, because the KB Content Management Server is a web-based application,
AUIML components are rendered to HTML and JavaScript so that they can be displayed
in a web browser.

**Raw data analyzer**

The analyzer navigates, manipulates, merges, and preprocesses raw data that is obtained
through scans performed on computer systems in a distributed software environment.
The analyst uses the component to derive an accurate definition of the software product
from the available data and construct a signature for that product. The analyzer also
supports conflict and uncertainty resolution for newly generated signatures and products.
The source data for the raw data analyzer are raw data, Tivoli® License Compliance
Manager unknown data, and expectation lists.

**Data exporter**

The exporter supports the web user interface interactions through which catalogs are
generated from the current KB content.

**Data importer**

The importer supports the web user interface interactions through which the content of
the knowledge base is imported. The importer processes input documents to update the
knowledge base content, resolves conflicts between new data and the current KB content,
and generates import summaries.

**Data editor**

The editor is responsible for manual data management and content changes. It applies business rules to perform the tasks and validates the information that is committed to the knowledge base.

**External database**

The database stores the content of the application. Logically, raw data and the content of the knowledge base are stored separately, but physically it is the same database. The database contains information about the current KB content: manufacturers, software products and their signatures, license relations between software products, and the history of changes in the KB content. The database also stores imported raw data files. The content of the database can be imported from external sources and exported as catalogs or canonical XML files. The source of KB content can also comprise signatures and products that are generated by the raw data analyzer.

## Installing Software Knowledge Base Toolkit

You can use Software Knowledge Base Toolkit to maintain data about software items and the means to discover them. You can also use it to export the data to different types of catalogs that can be then imported into Software Use Analysis.

### About this task

If the software catalog that is provided with Software Use Analysis is sufficient for your infrastructure, you do not need to install Software Knowledge Base Toolkit. However, if you want to use the application, install it before the first import of the catalog to Software Use Analysis.

When you upload the catalog to Software Knowledge Base Toolkit, it is assigned a unique version number. The number is lower than the original version of the catalog that you uploaded. When you publish the catalog in Software Knowledge Base Toolkit, the catalog version is lower than the version that is uploaded to Software Use Analysis. Upload of a lower version of the catalog is not supported. Thus, if you start using Software Knowledge Base Toolkit after the first import of the catalog to Software Use Analysis, assistance of the IBM support will be needed to reconcile catalog versions.

**Update 9.0.1.2** Starting from application update 9.0.1.2, upload of a lower version of the catalog to Software Use Analysis is supported. You can install and start using Software Knowledge Base Toolkit at any point in time without the necessity of reconciling catalog versions.

Software Knowledge Base Toolkit can be installed on the following platforms:
- Windows Server 2003, 2008, or 2008 R2
- Red Hat Enterprise Linux 6

For more information, see Installation requirements.

### Procedure

1. Log in to the Endpoint Manager console.
2. In the navigation bar, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis v9** > **Dashboards** > **Software Knowledge Base Toolkit**.
3. Select the computer to which you want to download the installer, and click **Deploy Installer**.
4. When the download finishes, click **Continue**.
5. Log in to the computer on which the installer was downloaded, and go to the location where the installer was deployed.

   - **Windows** On 32-bit systems: `\Program Files\BigFix Enterprise\BES Installers\TEMA`. On 64-bit systems: `\Program Files (64)\BigFix Enterprise\BES Installers\TEMA`.

- `Linux` `install_user_directory/IEMInstaller`. The `install_user_directory` is the directory of the user who installed the BES client.

6. Extract the installer package.

   - `Windows` `SwKBT_1_2_2.zip`

   - `Linux` `SwKBT_1_2_2.tar.gz`

7. Start the installation from the extracted directory.

   - `Windows` You can run the installation in interactive mode with a wizard, or in silent mode with a response file.

     – To install in interactive mode, double-click the `setupwin32.exe` file and follow the instructions in the installation wizard.

     – To install in silent mode:

       a. Edit the `SwKBT_Unix_install.rsp` response file and enter the parameters for your installation. See Response file options.

       b. Open the Windows command prompt, and enter the following command:
          ```
          setupwin32.exe -silent -options SwKBT_Win_install.rsp
          ```

   - `Linux` You can run the installation in interactive mode with a wizard, or in silent mode with a response file.

     – To install in interactive mode, run the following command:
       ```
       ./setupLinux.bin
       ```

     – To install in silent mode:

       a. Edit the `SwKBT_Unix_install.rsp` response file and enter the parameters for your installation. See Response file options.

       b. Run the following command:
          ```
          ./setupLinux.bin -silent -options SwKBT_Unix_install.rsp
          ```

**What to do next**

When the installation is complete:

1. Install Software Knowledge Base Toolkit 1.2.2 Interim Fix. 1.
2. Upgrade Java™ for WebSphere Application Server, used with Software Knowledge Base Toolkit .

After these steps are completed, you can access the Software Knowledge Base Toolkit dashboard at the following URL: `https://localhost:12344/ibm/console`.

## Configuring catalog servers

Software Knowledge Base Toolkit can serve as a catalog server. Before the first import, you can optionally define the location of your software catalog server, so that Software Use Analysis can automatically gather catalog updates from that server.

**Before you begin**

- You must have the Manage Catalogs permission to perform this task.
- You must have Software Knowledge Base Toolkit installed in your infrastructure.

**About this task**

Configure the catalog server before the first import of the software catalog. Otherwise, assistance of the IBM support will be needed to reconcile catalog versions.

**Update 9.0.1.2**   Starting from application update 9.0.1.2, you can configure the catalog server at any point of time.

**Procedure**

1. In the top navigation bar, click **Management** > **Catalog Servers**. The default Software Knowledge Base Toolkit host and port number are specified in the table.
2. To change the default settings, click the row in the table with the `localhost:12344` server data, modify the data, and click **Save**.
3. To verify that the connection is configured correctly, click **Check Connection**.

**Results**

You have configured your catalog server. The most recent publication is now automatically pulled in from that catalog server during the import. Note that the software catalog must be published in Software Knowledge Base Toolkit for the automated catalog update to be possible.

# Uninstalling

You can uninstall the Software Use Analysis server, and scanners.

# Uninstalling a scanner

If you no longer want to monitor software that is installed on a particular computer, uninstall the scanner from the designated endpoint.
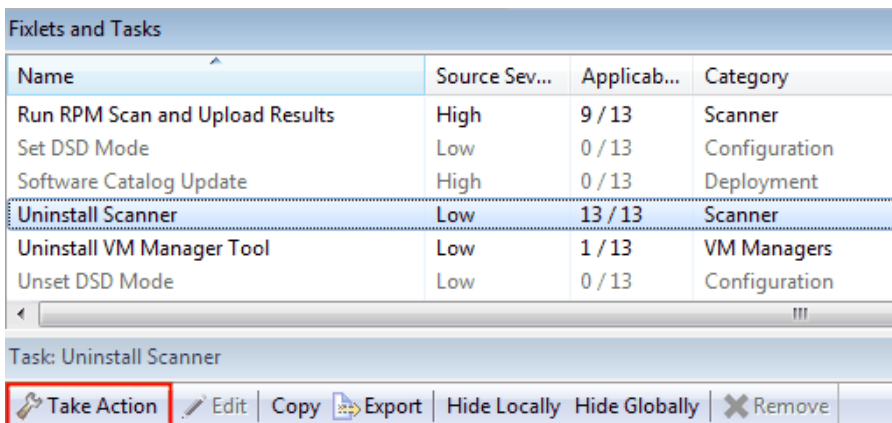
**About this task**

**Important:** If you see any discrepancies between the fixlets in your site and the fixlets described in the documentation, check the version of your fixlet site and update it if necessary.

When you uninstall the scanner, expanded usage license metrics will no longer be collected from the particular endpoints.

**Procedure**

1. Log in to Endpoint Manager console.
2. In the navigation bar, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis v9** > **Fixlets and Tasks**.
3. In the upper right pane, select **Uninstall Scanner**, and then in the lower pane, click **Take Action**.

| Fixlets and Tasks | | | |
|---|---|---|---|
| Name | Source Sev... | Applicab... | Category |
| Run RPM Scan and Upload Results | High | 9 / 13 | Scanner |
| Set DSD Mode | Low | 0 / 13 | Configuration |
| Software Catalog Update | High | 0 / 13 | Deployment |
| Uninstall Scanner | Low | 13 / 13 | Scanner |
| Uninstall VM Manager Tool | Low | 1 / 13 | VM Managers |
| Unset DSD Mode | Low | 0 / 13 | Configuration |

Task: Uninstall Scanner

Take Action | Edit | Copy | Export | Hide Locally  Hide Globally | Remove

4. Click the name of the computer from which you want to uninstall the scanner, and click **OK**.
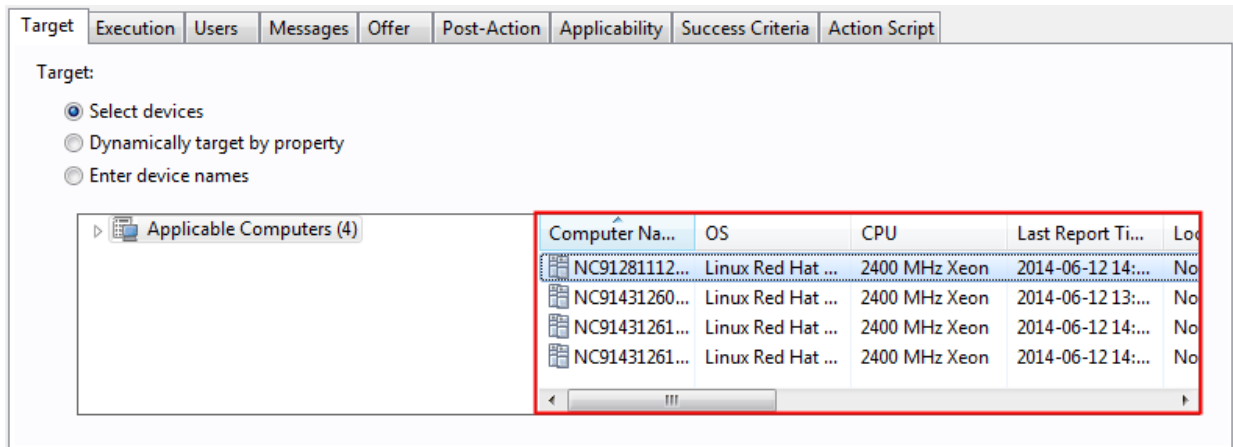
# Deactivating the analyses

You must deactivate all analyses when you uninstall IBM Endpoint Manager for Software Use Analysis.

## Procedure

1. On the left navigation bar of the Endpoint Manager console, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis v9** > **Analyses**.
2. In the upper right pane, select all of the activated analyses, and click **Deactivate**.

## Results

When deactivated, the status of each analysis is changed in the **List Panel**.

# Uninstalling the server in interactive mode

You can use the uninstallation wizard to uninstall the Software Use Analysis server. The wizard does not uninstall the DB2 database. It must be removed separately.

## Before you begin

A graphical user interface must be available, and the X server must be properly configured on the computer from which you want to uninstall Software Use Analysis. The **DISPLAY** variable must be set properly, too. Otherwise, use silent mode.

## Procedure

1. Log in to the computer where the Software Use Analysis server is installed.
2. Go to the `opt/IBM/SUA/Uninstall` directory and run the `uninstall.sh` script.
3. Follow the instructions on the uninstallation wizard. When the uninstallation finishes, click **Done**. The Software Use Analysis server is uninstalled but the database, user logins, and passwords are preserved.
4. Optional: To remove the database, log in as the DB2 instance owner to the computer where the database is installed. From the command-line interface, run the following command.

   ```
   db2 deactivate db database_name
   db2 drop db database_name
   ```

   Where *database_name* is the name of the database that you want to remove.
5. Optional: If you want to remove the IBM Endpoint Manager server, see Removing the primary server.

# Uninstalling the server in silent mode

You can uninstall Software Use Analysis silently by using a response file.

## Procedure

1. Log in to the computer where the Software Use Analysis server is installed.
2. To modify the uninstallation parameters, change to the *installation_path*/Uninstall directory, open the uninstall_response.txt file, and edit the parameters.
3. From the command-line interface, run the following command.

   ```
   uninstall.sh -f installation_path/Uninstall/uninstall_response.txt -i silent
   ```

   Where *installation_path* is the absolute path to the directory where the response file is located. For example:

   ```
   uninstall.sh -f opt/IBM/SUA/Uninstall/uninstall_response.txt -i silent
   ```

   The Software Use Analysis server is uninstalled but the database, user logins, and passwords are preserved.
4. Optional: To remove the database, log in as the DB2 instance owner to the computer where the database is installed. From the command-line interface, run the following command.

   ```
   db2 deactivate db database_name
   db2 drop db database_name
   ```

   Where *database_name* is the name of the database that you want to remove. For example:

   ```
   db2 drop db SUADB
   ```
5. Optional: If you want to remove the IBM Endpoint Manager server, see Removing the primary server.

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