IBM License Metric Tool
Version 9.0 (includes version 9.0.1, 9.0.1.1 and 9.0.1.2)

Installation Guide

IBM
IBM License Metric Tool
Version 9.0 (includes version 9.0.1, 9.0.1.1 and 9.0.1.2)

Installation Guide
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This edition applies to IBM License Metric Tool version 9.0.1.2 (product number 5724-T40) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Installing License Metric Tool

Read this section to learn how to install License Metric Tool.

**Installation roadmap**

Review the installation roadmap to choose the scenario and installer that best suits your needs.

**Option A**

**Install all components on one server (All-in-One)**

**Stage 1**
Plan and prepare for installation

**Stage 2**
Install all three components

**Stage 3**
Configure the product

**Stage 4**
Apply important IBM updates

**Stage 5**
Set up scans

**Note:** Database connections are configured automatically.

**Note:** This is a highly customizable type of installation.

Environment size: Up to 5,000 endpoints

**Streamlined installer**

- LMT, DB2 and IEM on Linux
- Scans are set up automatically.

**Option B**

**Install DB2 and License Metric Tool**

**Stage 1**
Plan and prepare for installation

**Stage 2**
Install two components on one server

**Stage 3**
Configure the product

**Stage 4**
Apply important IBM updates

**Stage 5**
Set up scans

**Environment size:** 5,000 - 50,000 endpoints

- Existing IEM on Linux (DB2) or Windows (MSSQL)
- LMT and DB2 on Linux

**Option C**

**Install all three components separately**

**Stage 1**
Plan and prepare for installation

**Stage 2**
Install the components separately

**Stage 3**
Configure the product

**Stage 4**
Apply important IBM updates

**Stage 5**
Set up scans

**Environment size:** Over 50,000 endpoints

- IEM on Linux (DB2) or Windows (MSSQL)
- LMT on Linux

**OR**

- IEM on Linux (DB2) or Windows (MSSQL)
- LMT and DB2 on Linux
Understanding the installation

Option A: Installing with the streamlined installer

This is the most simple path to install a complete License Metric Tool infrastructure. The installer deploys all required components on one server, therefore you can install IBM® Endpoint Manager, DB2, and License Metric Tool by running only one installation wizard.

Option B: Installing the server with DB2

If you already have the IBM Endpoint Manager server installed in your environment, you can choose this option to install only License Metric Tool and a DB2 database. Although License Metric Tool and DB2 are installed on one server, your IBM Endpoint Manager platform can reside on a separate one. When the installation is complete, you will specify connection details for IBM Endpoint Manager and its database, so that all components can be connected.

Option C: Installing all three components separately

This option does not use the combined installer, which means that each component must be downloaded and installed separately. Although it is the most time-consuming option, it also gives you the most influence on your environment and is recommended for large environments. You can choose how to distribute the components, but in a typical environment, IBM Endpoint Manager and its database reside on one server, while License Metric Tool and its DB2 on the other, which ensures good performance.

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

License Metric Tool infrastructure

The typical deployment of IBM License Metric Tool reuses the Endpoint Manager infrastructure: the server, its clients, which are also called agents, the database, and the console.

To use IBM License Metric Tool, Endpoint Manager server and clients are required.

The following diagram shows how the License Metric Tool application interfaces with Endpoint Manager server installation.

Figure 1. License Metric Tool infrastructure
License Metric Tool server
The License Metric Tool 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 License Metric Tool application database using an Extract, Transform, and Load (ETL) import process. License Metric Tool 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 License Metric Tool server by using a function on the License Metric Tool 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 License Metric Tool infrastructure and to provide recommendations for configuring the License Metric Tool 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 License Metric Tool wiki.

**IBM Endpoint Manager requirements**

The three major components of IBM Endpoint Manager that you must install are server, console, and clients. The application also requires a database that stores all the data retrieved from the clients.

Refer to the following requirements for each of the components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>Server requirements</td>
</tr>
<tr>
<td>Console</td>
<td>Console requirements</td>
</tr>
<tr>
<td>Clients</td>
<td>Client requirements</td>
</tr>
<tr>
<td>Database</td>
<td>Database requirements</td>
</tr>
</tbody>
</table>

For a complete list of requirements for IBM Endpoint Manager, see Assumptions and requirements.

**Supported operating systems**

Ensure that computers on which you want to install the IBM License Metric Tool components run on supported operating systems and have all prerequisite software installed.

**Supported operating systems for the servers**

*Table 1. Supported operating systems for the servers*

<table>
<thead>
<tr>
<th>Component</th>
<th>Operating system</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Endpoint Manager server</td>
<td>Red Hat Enterprise Linux</td>
<td>For information about supported versions, see the <a href="#">IBM Endpoint Manager Server System Requirements</a></td>
</tr>
<tr>
<td></td>
<td>Windows</td>
<td></td>
</tr>
<tr>
<td>IBM License Metric Tool server</td>
<td>Red Hat Enterprise Linux</td>
<td>6.3 for x86 (64-bit) or a higher 6.x version</td>
</tr>
<tr>
<td>DB2® database server</td>
<td>Red Hat Enterprise Linux</td>
<td>6.3 for x86 (64-bit) or a higher 6.x version</td>
</tr>
</tbody>
</table>

**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.
<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td></td>
<td>PowerVM®</td>
<td>9.2</td>
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<tr>
<td></td>
<td></td>
<td>• LPAR</td>
<td>9.1</td>
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<td>• DLPAR</td>
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<td>• Single Shared Processor Pool</td>
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<td></td>
<td>• Micro-Partitioning®</td>
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<td>• Multiple Shared Processor Pools</td>
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<td>• Shared Dedicated Processor</td>
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<td>• Mobility (Live Partition Mobility)</td>
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<td></td>
<td>• System WPARs (both regulated and un-regulated, also RSET bound)</td>
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<td></td>
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<td>• WPAR mobility (Live Application Mobility)</td>
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<td></td>
<td></td>
<td>IBM zEnterprise BladeCenter® Extension (zBX)</td>
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<td>Processor Core Deconfiguration</td>
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<td>6.1</td>
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<td>PowerVM</td>
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<td>• DLPAR</td>
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<td>• Single Shared Processor Pool</td>
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<td>• Micro-Partitioning</td>
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<td>• Multiple Shared Processor Pools</td>
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<td>• Shared Dedicated Processor</td>
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<td>• Mobility (Live Partition Mobility)</td>
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<td>IBM zEnterprise BladeCenter Extension (zBX)</td>
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<td>Processor Core Deconfiguration</td>
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<td>PowerVM</td>
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<td>• Multiple Shared Processor Pools</td>
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<td>• Single Shared Processor Pool</td>
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<td>• Micro-Partitioning</td>
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<td></td>
<td>Processor Core Deconfiguration</td>
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</table>
### HP-UX

**Table 3. Supported versions of HP-UX**

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
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</thead>
<tbody>
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<td>11i v3 IA64</td>
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<td><strong>HP Integrity Virtual Machines</strong></td>
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<td>HP Instant Capacity (iCAP) version 9</td>
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<td>All except for version 6</td>
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<tr>
<td>11i v3 PA-RISC</td>
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<td>nPAR</td>
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<td>vPAR</td>
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<td>HP Instant Capacity (iCAP) version 9</td>
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<td>11i v2 IA64</td>
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<td><strong>HP Integrity Virtual Machines</strong></td>
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<td>11i v2 PA-RISC</td>
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<td>HP Instant Capacity (iCAP) version 9</td>
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<td>All except for version 6</td>
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<td>vPAR</td>
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<td>9.0</td>
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</tbody>
</table>

**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 4. Supported versions of Solaris

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 SPARC</td>
<td></td>
<td>Dynamic System Domains</td>
<td>Solaris in Dynamic System 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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solaris Containers (including Zones)</td>
<td>Inside Dynamic System Domains and Dynamic Domains</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oracle VM Server for SPARC (formerly Logical Domains also called LDOMs)</td>
<td>Node OS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 x86-64</td>
<td>Solaris Containers (including Zones)</td>
<td></td>
<td>9.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOS (SMBIOS 2.5 or higher) &amp; Operating System boot core limit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 SPARC</td>
<td>Dynamic System Domains</td>
<td>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.</td>
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<tr>
<td></td>
<td>Dynamic Domains</td>
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<tr>
<td></td>
<td>Solaris Containers (including Zones)</td>
<td>Inside Dynamic System Domains and Dynamic Domains</td>
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<td>10 x86-64</td>
<td>Solaris Containers (including Zones)</td>
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<tr>
<td></td>
<td>BIOS (SMBIOS 2.5 or higher) &amp; Operating System boot core limit</td>
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<tr>
<td>9 SPARC</td>
<td>Dynamic System Domains</td>
<td>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.</td>
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<tr>
<td></td>
<td>Dynamic Domains</td>
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<tr>
<td>8 SPARC</td>
<td>Dynamic System Domains</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Version</td>
<td>Software requirements</td>
<td>Supported virtualization technologies</td>
<td>Comments</td>
<td>Endpoint Manager client version</td>
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<tr>
<td>---------</td>
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</tr>
</tbody>
</table>
| 7 for IBM Power Systems (64-bit) | | PowerVM  
• DLPAR  
• LPAR  
• LPAR mobility (Live Partition Mobility)  
• Single Shared Processor Pool  
• Micro-Partitioning | | 9.2  
9.1.1141.0 |
| 6 for IBM Power Systems (64-bit) | | PowerVM  
• DLPAR  
• LPAR  
• LPAR mobility (Live Partition Mobility)  
• Single Shared Processor Pool  
• Micro-Partitioning | | 9.2  
9.1.1141.0 |
| 6 for IBM System z® (64-bit) | compat-libstdc++-33  
compat-libstdc++-295 | CPU pooling  
Starting from z/VM® 6.3  
PTF for APAR VM65418 must be applied | | 9.1  
9.0  
8.2 |
| 6 for x86 (32 and 64-bit) | compat-libstdc++-33  
compat-libstdc++-295 | VMware ESX  
• 3  
• 3.5  
• 4  
• 4.1 | VMware ESXi  
• 3.5  
• 4  
• 4.1  
• 5  
• 5.1  
• 5.5 | Single Server, Cluster, Mobility (VMware Vmotion) | 9.1  
9.0  
8.2 |
| 5 for IBM Power Systems | | PowerVM  
• DLPAR  
• LPAR  
• LPAR mobility (Live Partition Mobility)  
• Single Shared Processor Pool  
• Micro-Partitioning | | 9.2  
9.1.1141.0 |
| 5 for IBM System z (64-bit) | | CPU pooling  
Starting from z/VM 6.3  
PTF for APAR VM65418 must be applied | | 9.1 |
Table 5. Supported versions of Red Hat Enterprise Linux (continued)

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 for x86 (32 and 64-bit)</td>
<td></td>
<td>VMware ESX</td>
<td>VMware ESXi</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single Server, Cluster, Mobility (VMware Vmotion)</td>
<td>9.0</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kernel-based Virtual Machine (KVM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 for x86 (32 and 64-bit)</td>
<td>compat-libstdc++-33</td>
<td>VMware ESX</td>
<td>VMware ESXi</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>compat-libstdc++-295</td>
<td></td>
<td>Single Server, Cluster, Mobility (VMware Vmotion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ia32el+1.1-20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUSE Linux

Table 6. Supported versions of SUSE Linux

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 for IBM Power Systems</td>
<td></td>
<td>PowerVM</td>
<td></td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11 for x86 (32 and 64-bit)</td>
<td>compat-libstdc++-33</td>
<td>VMware ESX</td>
<td>VMware ESXi</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td>compat-libstdc++-295</td>
<td></td>
<td>Single Server, Cluster, Mobility (VMware Vmotion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1ibstdc+33-2bit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1ibstdc+33-32bit-3.3-11.9.x86_64.rpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOS (SMBIOS 2.5 or higher) &amp; Operating System boot core limit</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>System scaling using Intel QuickPath Interconnect</td>
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<tr>
<td></td>
<td></td>
<td>Microsoft Hyper-V on Windows</td>
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</tr>
<tr>
<td>11 for IBM System z (64-bit)</td>
<td>compat-libstdc++-33</td>
<td>VMware ESX</td>
<td>VMware ESXi</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td>compat-libstdc++-295</td>
<td></td>
<td>Single Server, Cluster, Mobility (VMware Vmotion)</td>
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<tr>
<td></td>
<td></td>
<td>Kernel-based Virtual Machine (KVM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>On RHEV with RHEV-M</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Red Hat Linux Virtualization Manager)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0 and 3.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Starting from z/VM 6.3

PTF for APAR VM65418 must be applied

Hyper-V R2 can be stand alone or role.
Table 6. Supported versions of SUSE Linux (continued)

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 for IBM Power Systems</td>
<td></td>
<td><em>PowerVM</em></td>
<td></td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• DLPAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Single Shared Processor Pool</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Micro-Partitioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>LPAR</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>LPAR mobility (Live Partition Mobility)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Processor Factory Deconfiguration</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 for x86 (32 and 64-bit)</td>
<td>compat-1ibstdc++-33 compat-1ibstdc++-295</td>
<td><em>VMware ESX</em></td>
<td></td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4</td>
<td></td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4.1</td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 5</td>
<td></td>
<td>8.2</td>
</tr>
<tr>
<td>9 for x86 (32 and 64-bit)</td>
<td>compat-1ibstdc++-33 compat-1ibstdc++-295</td>
<td><em>VMware ESXi</em></td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4</td>
<td></td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4.1</td>
<td></td>
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<td></td>
<td></td>
<td>• 5</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• 5.1</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• 5.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Microsoft Windows

Table 7. Supported versions of Microsoft Windows for the server

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualization technologies</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server 2012 for x86 (32 and 64-bit)</td>
<td></td>
<td><em>VMware ESXi</em></td>
<td></td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 5</td>
<td></td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 5.1</td>
<td></td>
<td>9.0</td>
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<tr>
<td></td>
<td></td>
<td>• 5.5</td>
<td></td>
<td>8.2</td>
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<tr>
<td></td>
<td></td>
<td><em>Microsoft Hyper-V</em></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• R2</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Server 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>BIOS (SMBIOS 2.5 or higher) &amp; Operating System boot core limit</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 7. Supported versions of Microsoft Windows for the server (continued)

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

### Table 8. Supported versions of Microsoft Windows for the desktop

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualizations</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 for x86 (32 and 64-bit)</td>
<td>VMware ESXi</td>
<td></td>
<td>Single Server, Cluster, Mobility (VMware Vmotion)</td>
<td>9.2, 9.1, 9.0, 8.2</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8. Supported versions of Microsoft Windows for the desktop (continued)

<table>
<thead>
<tr>
<th>Version</th>
<th>Software requirements</th>
<th>Supported virtualizations</th>
<th>Comments</th>
<th>Endpoint Manager client version</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Enterprise and Professional for x86 (32 and 64-bit)</td>
<td>VMware ESX  • 4  • 4.1</td>
<td>VMware ESXi  • 4  • 4.1  • 5  • 5.1  • 5.5</td>
<td></td>
<td>9.2 9.1 9.0 8.2</td>
</tr>
<tr>
<td>Vista Enterprise for x86 (32 and 64-bit)</td>
<td>Service Pack 2 for Microsoft Hyper-V Server 2012</td>
<td>VMware ESX  • 3.0  • 3.5  • 4  • 4.1</td>
<td></td>
<td>9.1 9.0 8.2</td>
</tr>
<tr>
<td>XP Professional for x86 (32 and 64-bit)</td>
<td>Service Pack 2</td>
<td>Microsoft Hyper-V  • R1  • R2  • Server 2012</td>
<td></td>
<td>9.1 9.0 8.2</td>
</tr>
</tbody>
</table>

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

**Server requirements**

Table 9. Requirements for the License Metric Tool server

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endpoint Manager</td>
<td>For information about Endpoint Manager server requirements, see:</td>
</tr>
<tr>
<td>9.2</td>
<td>Endpoint Manager 9.2 product documentation</td>
</tr>
<tr>
<td>9.1</td>
<td>Endpoint Manager 9.1 product documentation</td>
</tr>
<tr>
<td>9.0</td>
<td>Endpoint Manager 9.0 product documentation</td>
</tr>
<tr>
<td>Important:</td>
<td>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.</td>
</tr>
<tr>
<td>DB2 database server</td>
<td>DB2 requirements</td>
</tr>
<tr>
<td>DB2 10.1 Fix Pack 2 or higher</td>
<td>DB2 10.1 product documentation</td>
</tr>
<tr>
<td>DB2 10.5 (Workgroup Server Edition, Enterprise Server Edition, or Advanced Enterprise Server Edition)</td>
<td>Download DB2 software</td>
</tr>
</tbody>
</table>
Table 9. Requirements for the License Metric Tool server (continued)

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
</table>
| X server X11R7.x | The X server is required if you want to install or uninstall the License Metric Tool 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 License Metric Tool server is installed.  
Restriction: XMing X Server for Windows is not supported. |

Other software requirements

<table>
<thead>
<tr>
<th>Required software</th>
<th>Required versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browser</td>
<td></td>
</tr>
</tbody>
</table>
- Internet Explorer 9.0 or higher  
**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.  
- Firefox 17 Extended Support Release (ESR) or higher ESR editions  
**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.  
- Chrome 35 or higher  
**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>
<thead>
<tr>
<th>Component</th>
<th>Required packages</th>
</tr>
</thead>
</table>
| All-in-One installation | All packages required for IBM Endpoint Manager  
libaio.x86_64  
umactl.x86_64  
pam.i686 and all dependencies  
pam.x86_64 |
| IBM Endpoint Manager | cyrus-sasl-1lib.x86_64  
krb5-libs.x86_64  
libaio.x86_64  
libstdc++.i686  
libstdc++.x86_64 and all dependencies  
libXext.x86_64 (Web Reports only)  
libXrender.x86_64 (Web Reports only)  
zlib.x86_64 (Web Reports only) |
| License Metric Tool | 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 License Metric Tool 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. License Metric Tool 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 License Metric Tool 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 12. Processor and RAM requirements for License Metric Tool*

<table>
<thead>
<tr>
<th>Environment size</th>
<th>Component</th>
<th>CPU</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5000</td>
<td>IBM Endpoint Manager, License Metric Tool, and DB2 (All-in-One)</td>
<td>At least 2.5 GHz - 4 cores</td>
<td>8 GB</td>
</tr>
<tr>
<td>5000 - 50,000</td>
<td>IBM Endpoint Manager</td>
<td>2-3 GHz - 4 cores</td>
<td>16 GB</td>
</tr>
<tr>
<td></td>
<td>License Metric Tool and DB2</td>
<td>At least 2 GHz - 4 cores</td>
<td>24 GB</td>
</tr>
<tr>
<td></td>
<td>A distributed environment is advisable. If you separate DB2 from License Metric Tool, the DB2 server should have at least 16 GB RAM.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 50,000</td>
<td>IBM Endpoint Manager</td>
<td>2-3 GHz - 4-16 cores</td>
<td>16-32 GB</td>
</tr>
<tr>
<td></td>
<td>License Metric Tool</td>
<td>At least 2 GHz - 8 cores</td>
<td>16 GB</td>
</tr>
<tr>
<td></td>
<td>DB2</td>
<td>At least 2 GHz - 16 cores</td>
<td>64 GB</td>
</tr>
</tbody>
</table>

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

**Disk space**

*Table 13. License Metric Tool disk space requirements*

<table>
<thead>
<tr>
<th>Directory</th>
<th>Disk space and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Metric Tool server</td>
<td>At least 2 GB of free disk space</td>
</tr>
</tbody>
</table>
Table 13. License Metric Tool disk space requirements (continued)

<table>
<thead>
<tr>
<th>Directory</th>
<th>Disk space and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Metric Tool server installation directory:</td>
<td>650 MB</td>
</tr>
<tr>
<td>/lmt_install_dir_path</td>
<td>The default is:</td>
</tr>
<tr>
<td></td>
<td>/opt/ibm/LMT.</td>
</tr>
<tr>
<td>/tmp</td>
<td>300 MB</td>
</tr>
<tr>
<td>/var</td>
<td>2 MB</td>
</tr>
<tr>
<td>/etc</td>
<td>1 MB</td>
</tr>
<tr>
<td>$HOME</td>
<td>1 MB</td>
</tr>
<tr>
<td>The home directory of the user running the installation.</td>
<td></td>
</tr>
<tr>
<td>Database installation directory:</td>
<td>1 GB</td>
</tr>
<tr>
<td>/db2_install_dir</td>
<td>The default is:</td>
</tr>
<tr>
<td></td>
<td>/opt/IBM/db2.</td>
</tr>
<tr>
<td>/var</td>
<td>1 MB</td>
</tr>
<tr>
<td>/home/db2fenc1</td>
<td>1 MB</td>
</tr>
<tr>
<td>Database server instance:</td>
<td>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*:</td>
</tr>
<tr>
<td>/home/db2inst1</td>
<td>• &lt;The number of computers&gt; x 1 MB + 6 GB of initial disk space</td>
</tr>
<tr>
<td></td>
<td>For example:</td>
</tr>
<tr>
<td></td>
<td>10 000 computers</td>
</tr>
<tr>
<td></td>
<td>10 000 x 1 MB + 6 GB = 16 GB</td>
</tr>
<tr>
<td></td>
<td>100 000 computers</td>
</tr>
<tr>
<td></td>
<td>100 000 x 1 MB + 6 GB = 106 GB</td>
</tr>
<tr>
<td></td>
<td>250 000 computers</td>
</tr>
<tr>
<td></td>
<td>250 000 x 1 MB + 6 GB = 256 GB</td>
</tr>
</tbody>
</table>
### Table 13. License Metric Tool disk space requirements (continued)

<table>
<thead>
<tr>
<th>Directory</th>
<th>Disk space and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database server transaction logs:</td>
<td>During the data import (ETL process), License Metric Tool 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:</td>
</tr>
</tbody>
</table>
| /home/db2inst1/db2inst1/                      | • Data that is used for recovery if the ETL fails  
• Data that is used to create new ETL results                                                                                                                                                                            |
|                                               | 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. |
|                                               | 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.                                                   |
|                                               | For a typical environment, the size of transaction logs is calculated according to the following formula*:                                                                                                               |
|                                               | • \(<\text{The number of computers}\> \times 1 \text{ MB} + <\text{the number of computers for which new scan results are imported}> \times 1 \text{ MB} + 1 \text{ GB}\)                                                                          |
|                                               | For example:                                                                                                                                                                                                             |
|                                               | **10 000 computers and 10 000 scan results** \  
10 000 \times 1 \text{ MB} + 10 000 \times 1 \text{ MB} + 1 \text{ GB} = 21 \text{ GB}                                                                                                                                |
|                                               | **100 000 computers and 15 000 scan results** \  
100 000 \times 1 \text{ MB} + 15 000 \times 1 \text{ MB} + 1 \text{ GB} = 116 \text{ GB}                                                                                                                                   |
|                                               | **250 000 computers and 35 000 scan results** \  
250 000 \times 1 \text{ MB} + 35 000 \times 1 \text{ MB} + 1 \text{ GB} = 286 \text{ GB}                                                                                                                                  |
| IBM Endpoint Manager server installation:     | 340 MB                                                                                                                                                                                                                   |
| /IEM_install_dir                               | The IBM Endpoint Manager installation folder provided during installation.                                                                                                                                                 |
| /WebReports_dir                                | 150 MB                                                                                                                                                                                                                   |
|                                                | The WebReports folder provided during installation.                                                                                                                                                                        |
| /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 License Metric Tool 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 14. CPU and RAM usage for IBM Endpoint Manager clients

<table>
<thead>
<tr>
<th>Component</th>
<th>CPU</th>
<th>RAM</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Endpoint Manager client</td>
<td>&lt; 2 %</td>
<td>&lt; 20 MB</td>
<td>For more information, see <a href="http://www-01.ibm.com/support/docview.wss?uid=swg21505815">http://www-01.ibm.com/support/docview.wss?uid=swg21505815</a></td>
</tr>
<tr>
<td>Software scan</td>
<td>up to 100 %</td>
<td>&lt; 80 MB</td>
<td>The software scan runs on demand, and can be monitored by checking the following processes: wscansw, wscanfs.</td>
</tr>
<tr>
<td>Capacity scan</td>
<td>&lt; 1 %</td>
<td>&lt; 20 MB</td>
<td>The capacity scan runs every 30 minutes, and can be monitored by checking the following process: wscanhw.</td>
</tr>
</tbody>
</table>

Disk space
Ensure that your endpoints have enough disk space before you start installing the IBM Endpoint Manager clients.
Table 15. Disk space requirements for clients installed on UNIX

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Directory</th>
<th>Space required</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX</td>
<td>/opt/BESClient</td>
<td>60 MB</td>
<td>Client installation directory.</td>
</tr>
<tr>
<td></td>
<td>/var/opt/BESClient</td>
<td>100 MB</td>
<td>Client data directory. This directory contains all scan results.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Installing the VM Manager Tool might add additional 200 MB.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The tool is required only on selected endpoints.</td>
</tr>
<tr>
<td></td>
<td>/opt/tivoli/cit</td>
<td>50 MB</td>
<td>Software and capacity scanners installation directory.</td>
</tr>
<tr>
<td></td>
<td>/opt/tivoli/cit/cache_data</td>
<td>100 MB on average</td>
<td>Software and capacity scanners cache files.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>/etc/cit</td>
<td>under 1 MB</td>
<td>Software and capacity scanners configuration files.</td>
</tr>
<tr>
<td></td>
<td>/var.ibm/tivoli/common/CIT</td>
<td>10 MB</td>
<td>Software and capacity scanners log files.</td>
</tr>
</tbody>
</table>

Table 16. Disk space requirements for clients installed on Windows

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Directory</th>
<th>Space required</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>C:\Program Files (x86)\BigFix Enterprise\BES Client</td>
<td>150 MB</td>
<td>Client installation and data directory. This directory contains all scan results.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Installing the VM Manager Tool might add additional 300 MB.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The tool is required only on selected endpoints.</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files\tivoli\cit</td>
<td>20 MB</td>
<td>Software and capacity scanners installation directory.</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files\tivoli\cit\cache_data</td>
<td>50 MB on average</td>
<td>Software and capacity scanners cache files.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>%WINDIR%</td>
<td>under 1 MB</td>
<td>Software and capacity scanners configuration files.</td>
</tr>
<tr>
<td></td>
<td>C:\Program Files\tivoli\ibm\tivoli\common\CIT\logs</td>
<td>10 MB</td>
<td>Software and capacity scanners log files.</td>
</tr>
</tbody>
</table>
Port requirements
When planning the infrastructure, ensure that port numbers used by License Metric Tool, DB2, and IBM Endpoint Manager are free to enable communication between those components.

The following is the list of default ports used by the License Metric Tool infrastructure. You can change them during the installation of each component:

<table>
<thead>
<tr>
<th>Type</th>
<th>Port number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Metric Tool</td>
<td>9081</td>
<td>The web browser connects to the server (HTTPS) to display the user interface.</td>
</tr>
<tr>
<td>DB2</td>
<td>50000</td>
<td>The server connects to DB2.</td>
</tr>
<tr>
<td>IBM Endpoint Manager</td>
<td>52311</td>
<td>Endpoint Manager clients and console connect to the server.</td>
</tr>
</tbody>
</table>

For more information about port numbers and interactions between components of the License Metric Tool 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>
<thead>
<tr>
<th>Component</th>
<th>User</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>server</td>
<td>Can be installed as root or as non-root user.</td>
<td>If installed as a non-root user, the server is not registered as a system service.</td>
</tr>
<tr>
<td>DB2 database server</td>
<td>Can be installed as root or as non-root user.</td>
<td>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.</td>
</tr>
<tr>
<td>IBM Endpoint Manager server</td>
<td>Must be installed as root user.</td>
<td></td>
</tr>
</tbody>
</table>
Coexistence considerations

Review the following scenarios to learn important information about the coexistence of License Metric Tool 9.0.1.2 with other applications in the same Endpoint Manager infrastructure.

Unsupported scenarios

The coexistence of License Metric Tool 9.0.1.2 with the following applications is not supported:

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

Coexistence with Software Use Analysis 1.3

Table 19. Coexistence scenarios for License Metric Tool 9.0.1.2 and Software Use Analysis 1.3

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

Coexistence with Software Use Analysis 2.x

Table 20. Coexistence scenarios for License Metric Tool 9.0.1.2 and 2.x

<table>
<thead>
<tr>
<th>Number</th>
<th>Scenario</th>
<th>Support status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>License Metric Tool 9.0.1.2 and Software Use Analysis 2.x can use the same instance of IBM Endpoint Manager.</td>
<td>Supported</td>
</tr>
<tr>
<td>2.</td>
<td>License Metric Tool 9.0.1.2 and Software Use Analysis 2.x are installed on separate servers.</td>
<td>Supported</td>
</tr>
<tr>
<td>3.</td>
<td>The IBM Endpoint Manager clients are being used by only one application at a time, either by License Metric Tool 9.0.1.2 or 2.x.</td>
<td>Supported</td>
</tr>
</tbody>
</table>
Coexistence with Tivoli Asset Discovery for Distributed 7.x

Table 21. Coexistence scenarios for License Metric Tool 9.0.1.2 and Tivoli Asset Discovery for Distributed 7.x

<table>
<thead>
<tr>
<th>Number</th>
<th>Scenario</th>
<th>Support status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The IBM Endpoint Manager clients used by License Metric Tool 9.0.1.2, and agents used by Tivoli Asset Discovery for Distributed 7.x are installed on the same endpoints.</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Comments: The discovery results might differ between the applications due to different software catalog content and discovery capabilities.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>License Metric Tool 9.0.1.2 and Tivoli Asset Discovery for Distributed 7.x are installed on the same server.</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Comments: Although this scenario is supported, it is not recommended because it results in performance issues.</td>
<td></td>
</tr>
</tbody>
</table>

Coexistence with License Metric Tool 7.x

<table>
<thead>
<tr>
<th>Number</th>
<th>Scenario</th>
<th>Support status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The IBM Endpoint Manager clients used by License Metric Tool 9.0.1.2, and agents used by License Metric Tool 7.x are installed on the same endpoints.</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Comments: The discovery results might differ between the applications due to different software catalog content and discovery capabilities.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>License Metric Tool 9.0.1.2 and License Metric Tool 7.x are installed on the same server.</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>Comments: Although this scenario is supported, it is not recommended because it results in performance issues.</td>
<td></td>
</tr>
</tbody>
</table>

Installing the infrastructure components

To properly set up the License Metric Tool environment, you must install three components: IBM Endpoint Manager, License Metric Tool, and DB2. For small and medium environments, use the combined installer to deploy the components on one server, further distributing the IBM Endpoint Manager platform, if needed. If you manage a large number of endpoints, then the components must be installed separately and distributed over two or three servers.

About this task

Installing all components on one server

The License Metric Tool streamlined installer introduces two options that facilitate the setup of your environment. Instead of installing each component separately, you can use just one installation wizard that automatically deploys them.

Downloading the installer

The License Metric Tool installer can be downloaded from the Passport Advantage portal.

About this task

The installer combines the installations of all three components: IBM Endpoint Manager, License Metric Tool, and DB2. It is intended to complete the following installation options:

- **Option A: Installing All-in-One**
  Installs all three components on one server.
- **Option B: Installing the server with DB2**
Installs only License Metric Tool and DB2.

If you manage over 50,000 endpoints, this installer might not suit your environment. For large environments, the components must be installed separately.

Procedure

See the download document for more information about installation scenarios and download instructions.

Installing All-in-One

The All-in-One installation deploys the whole License Metric Tool infrastructure, combining the installations of DB2, IBM Endpoint Manager, and License Metric Tool. All components are installed on one server that runs Red Hat Enterprise Linux.

Creating license files:

To complete the All-in-One installation, you must authorize it with a set of license files. You can create those files by running a license generator either on a Windows or on a 64-bit Linux computer.

Before you begin

- If the server on which you are performing the All-in-One installation can access the Internet, this task is optional because the license files will be created during the installation.
- A computer with Internet access is required to create license files. It can run either a 64-bit Linux or a Windows operating system.

Procedure

- **Linux**
  
  To create license files on Linux, complete the following steps:
  
  1. From a directory with extracted installation files, go to license_files, and copy the IEM_license_generator_Linux directory to a 64-bit Linux computer with Internet access.
  2. Open the directory and run generate_license.sh.
  3. Enter your details, such as first name, last name, and email address.
  4. Enter the host name of the server on which you want to perform the installation and then enter the port number for IBM Endpoint Manager.
  5. Choose the key size and then enter a password that will be used to authorize the administrative user of IBM Endpoint Manager.

    **Important:** During the installation, you will create an IEMAdmin administrative user. The above password and the IEMAdmin user password must be the same.

  6. Specify an output directory to save your license files.
  7. After the license files are created, copy this directory back to the target server and start the installation.

- **Windows**
  
  To create license files on Windows, complete the following steps:
  
  1. From a directory with extracted installation files, go to license_files, and copy the IEM_license_generator_Windows.zip file to a Windows computer with Internet access.
  2. Extract the ZIP file and then open the create_license_file.html file.
  3. In the form, provide your details and then click Submit. The license authorization file will be saved to your computer.
  4. Run generate_license.bat.
  5. Specify the location of your license authorization file. Click Next.
  6. Enter the host name of the server on which you want to perform the installation. Click Next.
7. Enter a password that will be used to authorize the administrative user of IBM Endpoint Manager and choose the key size level. Click **Create**.

    **Important:** During the installation, you will create an IEMAdmin administrative user. The above password and the IEMAdmin user password **must be the same**.

8. Specify an output directory to save your license files. Click **OK**.
9. Select the option to submit your request over the Internet and click **Request**.
10. Click **Create** to create a masthead file. Review the default configuration parameters and click **OK**.
11. The license files are created in a chosen directory. Copy this directory back to the target server and start the installation.

**What to do next**

Start the All-in-One installation in **interactive** or in **silent** mode.

**Installing All-in-One in interactive mode:**

Interactive installation requires a graphical user interface and you specify all parameters in the installation wizard as the installation proceeds. Components that will be installed are IBM Endpoint Manager, DB2, and License Metric Tool, all on a single server.

**Before you begin**

- Make sure that your server meets all **hardware and software requirements**.
- Ensure that a graphical user interface is available and the X server is properly configured on the server where you want to install License Metric Tool. The **DISPLAY** variable must be set properly, too. Otherwise, use **silent mode**.
- The use of **sudo** is not supported.

**Procedure**

1. Extract the installation package:
   ```bash
   tar xvf installation_package
   ```

2. Optional: If your server cannot access the Internet, you must **create license files that are required to authorize the installation**. Otherwise, the license files will be created during the installation.

3. Start the installation by running the following script from the directory with extracted installation files:
   ```bash
   ./setup-server-linux-x86_64.sh
   ```

4. When prompted by the installation wizard, choose the **Complete** option to install all components on one server.
5. Create the administrative user of License Metric Tool. This user is required to log in to the application.

6. Provide the installation path for DB2 and password for the following DB2 users: db2inst1 and db2fenc1.
7. Provide the installation path for IBM Endpoint Manager and password for the IEMAdmin administrative user. Also, verify the installation path and specify the port number for Web Reports.

8. Depending on whether your server can access the Internet or not, either provide your details to create a new license or specify the directory with your license files:
   - The server can access the Internet
     a. Provide your details to create a new license.
b. Specify the host name of the server on which you are performing the installation and the port number that will be used by IBM Endpoint Manager. Choose the key size to encrypt your license and specify a directory to save the license files.

- The server cannot access the Internet
  a. Specify the directory with license files that you created before the installation. If you need to create new license files, see creating license files.
9. Provide the installation path for License Metric Tool.

10. Specify the port number that will be used by your browser to display the License Metric Tool web user interface.
11. Verify the installation details on the Preinstallation Summary panel. Click **Install** to start the installation.

12. When the installation is complete, click **Done** to open the License Metric Tool web user interface in your browser.

**Note:** If you do not have a browser installed, you can access the web user interface from a different computer at the following URL: https://hostname:port. Where **hostname** is the host name of the computer where the License Metric Tool server is installed and **port** is the port that you specified during the installation.
Results

The installation of License Metric Tool is complete. One of the advantages of this type of installation is the default configuration of scans that collect data from your endpoints. It means that you can omit the following configuration topics because your environment is already set up to collect the data and view it in License Metric Tool:

- Setting up scans

If you want to change the default schedule of scans that was set up during the installation, you can do it through the License Metric Tool user interface.

What to do next

1. Log in to License Metric Tool and click **Import Now** to start the initial import. Even after running the initial import, the collected data is not immediately viewed in License Metric Tool. Your newly set up environment still needs time to finish the scans initiated by the installer and to upload the results to the server. If the reports in License Metric Tool do not contain any data, wait about an hour until the scans are completed, and then start the second import.

2. Optional: Install the IBM Endpoint Manager console to get access to relevant fixlets, tasks, and analyses that can be used with License Metric Tool. This task is optional because all mandatory scans and analyses were already activated by the installer.

3. **Configure the application** by setting up users, roles, computer groups, and so on.

Installing All-in-One in silent mode:

Silent installation runs in background but you must first edit the response file and specify the required installation parameters, such as the installation paths, user names, and passwords. Components that will be installed are IBM Endpoint Manager, DB2, and License Metric Tool, all on a single server.

Before you begin

- Make sure that your server meets all **hardware and software requirements**
- The use of `sudo` is not supported.

Procedure

1. Extract the installation package:
   ```bash
tar xvf installation_package
   ```

2. Optional: If your server cannot access the Internet, create license files that are required to authorize the installation. Otherwise, the license files will be created during the installation.

3. Read the license agreement in the `/licenses/your_language.txt` file.

4. Edit the `install_response.txt` file, read the description of each parameter, and specify those that are required for the installation. You must uncomment and specify the values of the following parameters:

   ```ini
   RSP_LICENSE_ACCEPTED
   RSP_ADMIN_USER_NAME
   RSP_ADMIN_PASSWORD
   RSP_INSTALL_DB2
   RSP_DB2_INST_PASSWORD
   RSP_DB2_ROOT
   RSP_INSTALL_IEM
   RSP_IEM_BES_WWW_FOLDER
   RSP_IEM_WR_WWW_FOLDER
   RSP_IEM_TEM_USER_PASSWORD
   RSP_IEM_WR_WWW_PORT
   RSP_APP_DS_TEMS_PORT
   ```
RSP_IEM_LICENSE_FILES_DIR (this parameter is optional for online installation)
RSP_TLM_ROOT
RSP_TLM_HTTPS_PORT

The following parameters are required to create license files and are mandatory only for online installation:

RSP_IEM_FIRST_NAME
RSP_IEM_LAST_NAME
RSP_IEM_EMAIL
RSP_IEM_KEY_SIZE
RSP_IEM_LICENSE_HOSTNAME

5. Run the following command to start the silent installation:

```
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.
```

6. When the installation is complete, go to the following URL to open the License Metric Tool web user interface:

```
```

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

Even after running the initial import, the collected data is not immediately viewed in License Metric Tool. Your newly set up environment still needs time to finish the scans initiated by the installer and to upload the results to the server. If the reports in License Metric Tool do not contain any data, wait about an hour until the scans are completed, and then start the second import.

### Results

One of the advantages of this type of installation is the default configuration of scans that collect data from your endpoints. It means that you can omit the following configuration topics because your environment is already set up to collect the data and view it in License Metric Tool:

- Setting up scans

If you want to change the default schedule of scans that was set up during the installation, you can do it through the License Metric Tool user interface.

### What to do next

**Install the IBM Endpoint Manager console**

### Installing the console:

Install the IBM Endpoint Manager console if you want to perform an advanced configuration of License Metric Tool. The default configuration that was performed during the All-in-One installation is enough to work with the application.

### Procedure

1. On the server on which you completed the All-in-One installation, go to `/var/opt/BESInstallers/`.
2. Copy the `Console` directory to a Windows computer.
3. Open the directory and run `setup.exe`.
4. After you install the console, you can log in with the IEMAdmin user that you created during the installation.
Results

You installed the console and you can now access the License Metric Tool fixlet site. In the navigation tree, click Sites > External Sites > IBM License Reporting (ILMT) v9.

What to do next

Install an IBM Endpoint Manager client on each of your endpoints.

Installing the server with DB2

If you already have the IBM Endpoint Manager platform installed in your environment, choose this option to install only the License Metric Tool server and a DB2 database.

Installing the server with DB2 in interactive mode:

Interactive installation requires a graphical user interface and you specify all parameters in the installation wizard as the installation proceeds. Components that will be installed are License Metric Tool and DB2. IBM Endpoint Manager must already be installed in your environment, however it can reside on a separate server.

Before you begin

- Make sure that your server meets all hardware and software requirements.
- Ensure that a graphical user interface is available and the X server is properly configured on the server where you want to install License Metric Tool. The DISPLAY variable must be set properly, too. Otherwise, use silent mode.
- The use of sudo is not supported.
- Ensure that an IBM Endpoint Manager client is installed on your server. For more information, see Installing the IBM Endpoint Manager clients.

Procedure

1. Extract the installation package:
   ```bash
tar xvf installation_package
   ```
2. Start the installation by running the following script from the directory with extracted installation files:
   ```bash
./setup-server-linux-x86_64.sh
   ```
3. When prompted by the installation wizard, choose the Reuse existing IBM Endpoint Manager option to install only License Metric Tool and its database. After the installation, you must connect them to your IBM Endpoint Manager server.
4. Create the administrative user of License Metric Tool. This user is required to log in to the application.

5. Provide the installation path for DB2 and password for the following DB2 users: db2inst1 and db2fenc1.
6. Provide the installation path for License Metric Tool.

7. Specify the port number that will be used by your browser to display the License Metric Tool web user interface.
8. When the installation is complete, click **Done** to open the License Metric Tool web user interface in your browser.

   **Note:** If you do not have a browser installed, you can access the web user interface from a different computer at the following URL: https://hostname:port.

9. Configure the connection to an existing IBM Endpoint Manager server and its database and then click **Create**. Optionally, you can connect to the Web Reports database to enable Web Reports users to access the application.

   ![License Metric Tool settings](image)

   - **Name***
   - **Data Source***

   **Database for the IBM Endpoint Manager Server***
   - **Database Type***: DB2
   - **Host***: 9.143.128.12
   - **Port***: 50000
   - **Database Name***: IBPEND
   - **Authentication (Console Operator)***
     - **User Name***: db2inst1
     - **Password***: ********

   **IBM Endpoint Manager Server***
   - **Host***: 9.143.128.12
   - **Server API Port***: 52311
   - **Authentication (Console Operator)***
     - **User Name***: IBMAdmin
     - **Password***: ********

10. Click **Import Now** to run the initial import.
What to do next

Enable the License Metric Tool fixlet site to get access to fixlets, tasks, and analyses that are required for configuring the application.

Installing the server with DB2 in silent mode:

Silent installation runs in background but you must first edit the response file and specify the required installation parameters, such as the installation paths, user names, and passwords. Components that will be installed are License Metric Tool and DB2. IBM Endpoint Manager must already be installed in your environment, however it can reside on a separate server.

Before you begin

- Make sure that your server meets all hardware and software requirements.
- The use of sudo is not supported.
- Ensure that an IBM Endpoint Manager client is installed on your server. For more information, see Installing the IBM Endpoint Manager clients.

Procedure

1. Extract the installation package:
   ```
   tar xvf installation_package
   ```
2. Read the license agreement in the `/licenses/your_language.txt` file.
3. Edit the `install_response.txt` file, read the description of each parameter, and specify those that are required for the installation. You must uncomment and specify the values of the following parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSP_LICENSE_ACCEPTED</td>
</tr>
<tr>
<td>RSP_ADMIN_USER_NAME</td>
</tr>
<tr>
<td>RSP_ADMIN_PASSWORD</td>
</tr>
<tr>
<td>RSP_INSTALL_DB2</td>
</tr>
<tr>
<td>RSP_DB2_INST_PASSWORD</td>
</tr>
<tr>
<td>RSP_INSTALL_IEM=true</td>
</tr>
<tr>
<td>RSP_DB2_ROOT</td>
</tr>
<tr>
<td>RSP_TLM_ROOT</td>
</tr>
<tr>
<td>RSP_TLM_HTTPS_PORT</td>
</tr>
</tbody>
</table>

   **Important**: IBM Endpoint Manager is not installed in this type of installation, therefore the `RSP_INSTALL_IEM` parameter must be set to `false`.
4. Run the following command to start the silent installation:
   ```
   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
   ```
5. When the installation is complete, go to the following URL to open the License Metric Tool web user interface: `https://hostname:port`.
6. Configure the connection to an existing IBM Endpoint Manager server and its database and then click **Create**. Optionally, you can connect to the Web Reports database to enable Web Reports users to access the application.
7. Click **Import Now** to run the initial import.

**What to do next**

Enable the License Metric Tool fixlet site to get access to fixlets, tasks, and analyses that are required to configure the application.

**Subscribing to fixlet sites:**

Subscribe your computers to the License Metric Tool 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 License Metric Tool. You can use them to download the License Metric Tool 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 IBM License Metric Tool and accept the license agreement.

5. From the list of available sites, enable the **IBM License Reporting (ILMT) 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 License Reporting (ILMT) 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 License Metric Tool. 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 License Reporting (ILMT) 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 License Reporting (ILMT) v9 fixlet site. After you do that, the IBM License Reporting.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 License Reporting.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 License Reporting.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 License Reporting (ILMT) 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.

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 22. IBM Endpoint Manager agent installers for License Metric Tool

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

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.
Installing the components separately

This option distributes all components among two or more servers. Components that must be installed are IBM Endpoint Manager and License Metric Tool, each of them requiring a database. In a typical environment, IBM Endpoint Manager and its database reside on one server, while License Metric Tool and its DB2 on the other.

Installation checklist

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

Table 23. The checklist for installing and configuring License Metric Tool

<table>
<thead>
<tr>
<th>Stage</th>
<th>Installation step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Plan the installation - ensure that the computer on which you plan to install License Metric Tool:</td>
</tr>
<tr>
<td></td>
<td>- Fulfills the minimum hardware requirements</td>
</tr>
<tr>
<td></td>
<td>- Has sufficient disk space</td>
</tr>
<tr>
<td></td>
<td>- Has the required software installed:</td>
</tr>
<tr>
<td></td>
<td>- X server</td>
</tr>
<tr>
<td></td>
<td>- web browser: Firefox 17 Extended Support Release or Internet Explorer 8.0 or higher</td>
</tr>
<tr>
<td></td>
<td>- Korn shell (ksh)</td>
</tr>
<tr>
<td>2.</td>
<td>Install the IBM Endpoint Manager server</td>
</tr>
<tr>
<td></td>
<td>- Download IBM Endpoint Manager</td>
</tr>
<tr>
<td></td>
<td>- Create the license authorization file</td>
</tr>
<tr>
<td></td>
<td>- Install a database for IBM Endpoint Manager.</td>
</tr>
<tr>
<td></td>
<td>- (Windows only) Request a certificate and create the masthead</td>
</tr>
<tr>
<td></td>
<td>- Install the IBM Endpoint Manager server, either on Windows or Linux</td>
</tr>
<tr>
<td></td>
<td>- Install the IBM Endpoint Manager console on a Windows computer. If you installed the server on Linux, see how to deploy the console</td>
</tr>
<tr>
<td></td>
<td>- Subscribe to the fixlet site</td>
</tr>
<tr>
<td></td>
<td>- Install a client on each endpoint that you want to administer under IBM Endpoint Manager.</td>
</tr>
<tr>
<td>3.</td>
<td>Install the License Metric Tool server</td>
</tr>
<tr>
<td></td>
<td>- Deploy the License Metric Tool installer</td>
</tr>
<tr>
<td></td>
<td>- Create a Linux user to be used by the DB2 database: run the commands useradd and then passwd.</td>
</tr>
<tr>
<td></td>
<td>- Install the License Metric Tool server, either in interactive or silent mode.</td>
</tr>
<tr>
<td></td>
<td>- Create the database and configure a connection between License Metric Tool and Endpoint Manager</td>
</tr>
<tr>
<td>4.</td>
<td>Configure the application - to ensure the efficiency of License Metric Tool:</td>
</tr>
<tr>
<td></td>
<td>- Perform basic configuration</td>
</tr>
<tr>
<td></td>
<td>- Important: Set up a proxy exception list for environments with proxy servers</td>
</tr>
<tr>
<td></td>
<td>- Set up roles</td>
</tr>
<tr>
<td></td>
<td>- Set up users</td>
</tr>
<tr>
<td></td>
<td>- Optional: Configure mail notifications</td>
</tr>
<tr>
<td></td>
<td>- Configure the application to display inventory</td>
</tr>
<tr>
<td></td>
<td>- Set up computer properties</td>
</tr>
<tr>
<td></td>
<td>- Set up computer groups</td>
</tr>
<tr>
<td></td>
<td>- Schedule the imports of scan data</td>
</tr>
<tr>
<td></td>
<td>- Configure data retention period</td>
</tr>
<tr>
<td></td>
<td>- Add VM managers</td>
</tr>
<tr>
<td>5.</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>- Upload a PVU table</td>
</tr>
<tr>
<td></td>
<td>- Upload the latest software catalog</td>
</tr>
<tr>
<td></td>
<td>- Import part numbers</td>
</tr>
</tbody>
</table>
Table 23. The checklist for installing and configuring License Metric Tool (continued)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Installation step</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td><strong>Set up scans</strong> - to ensure that data is gathered and uploaded to IBM License Metric Tool, perform the following tasks:</td>
</tr>
<tr>
<td></td>
<td>- Enable software discovery</td>
</tr>
</tbody>
</table>

**Installing IBM Endpoint Manager**

License Metric Tool 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.

1. **Download IBM Endpoint Manager**
   IBM Endpoint Manager is a prerequisite for License Metric Tool. Access the Passport Advantage Portal, download the packages for IBM Endpoint Manager, and install the platform either on Windows or on Linux.

2. **Create the license authorization file**
   The license file contains deployment and licensing information and is required to authorize and start the installation of IBM Endpoint Manager.

3. **Install a database for IBM Endpoint Manager.**
   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.

4. **Request a certificate and install the server:**
   - **Linux**
     For Linux installations, you request a certificate and create the masthead during the installation of IBM Endpoint Manager primary server.
   - **Windows**
     For Windows installations, you must first request a certificate and create the masthead. Then, you can install the IBM Endpoint Manager primary server.

5. **Install the IBM Endpoint Manager console.**
   The console can be installed only on a Windows computer. However, there are separate procedures for deploying the installer on Windows and Linux. The console is an important component of IBM Endpoint Manager that allows you to run fixlets on specific computers, including a fixlet with the License Metric Tool installer.

6. **Install IBM Endpoint Manager clients**
   Install an IBM Endpoint Manager client on each computer that you want to administer. To install License Metric Tool, you need at least two clients, one on the IBM Endpoint Manager server and one on the computer prepared for the License Metric Tool installation.

7. **Install License Metric Tool**
   Download the License Metric Tool 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 License Metric Tool 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 License Metric Tool. 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:
     - Part number CIZ1GML
     - Description IBM Endpoint Manager Platform v9.1 for Linux and Windows without DB2 database
     - File name IEM_Pltfrm_Install_V91.zip
     - Note: You must have your own SQL server installed.
   - To install IBM Endpoint Manager and DB2 on a single computer running on Linux, download the following package:
     - Part number CIZ1HML
     - Description IBM Endpoint Manager Platform v9.1 for Linux with DB2 v10.5 database
     - File name IEM_Pltfrm_Install_V91_Lnx_DB2.tgz
   - To install IBM Endpoint Manager and DB2 on separate computers running on Linux, download the following packages:
     - Part number CIZ1GML
     - Description IBM Endpoint Manager Platform v9.1 for Linux and Windows without DB2 database
     - File name IEM_Pltfrm_Install_V91.zip
     - Part number CIKF2ML
     - Description DB2 Limited Use v10.5 for Linux (64-bit)
     - File name DB2_V10.5_limited_CD_linux_x86-64.tgz
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:

The license authorization file contains deployment and licensing information and is used during the installation of IBM Endpoint Manager to create your license files and certificates.

About this task
One of the initial steps when installing IBM Endpoint Manager is requesting a license certificate that allows you to install the platform. However, before you can request this certificate, you must create and
download the license authorization file. After starting the installation, you are prompted for a localization of this file.

Procedure
1. Create a license authorization file
2. Specify the required information, such as your name and email address.
3. Click Submit and save the file to your computer.

What to do next
You are ready to install IBM Endpoint Manager. Follow the installation diagram 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**.
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.

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.
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 License Metric Tool.

**What to do next**

When the installation of IBM Endpoint Manager is complete, you can proceed with installing License Metric Tool and its DB2 database. There are two installation paths that you can follow. You can either install License Metric Tool through the IBM Endpoint Manager dashboard in which case you have to install DB2 separately (you can install it on the same or on a different server) or you can download the combined installer to install License Metric Tool and DB2 on one server.

**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.
   
5. Enter 1 to install all Endpoint Manager components:
   
6. Enter 1 to create a single or Master database.
   
7. Enter 1 to use a local instance of DB2.
   
8. Enter the installation location for IBM Endpoint Manager.
   
9. Enter the location where the Web Reports server stores its files.
   
10. Enter the port number for Web Reports.
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.
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.

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 License Metric Tool.

What to do next

When the installation of IBM Endpoint Manager is complete, you can proceed with installing License Metric Tool and its DB2 database. There are two installation paths that you can follow. You can either install License Metric Tool through the IBM Endpoint Manager dashboard in which case you have to install DB2 separately (you can install it on the same or on a different server) or you can download the combined installer to install License Metric Tool and DB2 on one server.

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 24. IBM Endpoint Manager agent installers for License Metric Tool

<table>
<thead>
<tr>
<th>Installation package</th>
<th>Operating system</th>
<th>Platform</th>
<th>Installer files available in the agents directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Endpoint Manager Platform Installer V9.2.0 for Multiplatform Multilingual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Part number: CN1QXML</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• File name: IEM_Platform_INSTALL_V92.zip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIX</td>
<td>Power PC</td>
<td></td>
<td>BESAgent-9.2.0.363.ppc64_aix61.pkg</td>
</tr>
<tr>
<td>HP-UX</td>
<td>PA-RISC</td>
<td></td>
<td>BESAgent-9.2.0.363.pa_risc_hpux1111.depot</td>
</tr>
<tr>
<td>Red Hat Linux</td>
<td>x86</td>
<td></td>
<td>BESAgent-9.2.0.363-rhe5.i686.rpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-rhe5.x86_64.rpm</td>
</tr>
<tr>
<td>POWER</td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-rhe5.ppc64.rpm</td>
</tr>
<tr>
<td>Linux on System z</td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-rhe5.s390x.rpm</td>
</tr>
<tr>
<td>SUSE Linux</td>
<td>x86</td>
<td></td>
<td>BESAgent-9.2.0.363-sle11.i686.rpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-sle11.x86_64.rpm</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>BESAgent-9.2.0.363-sle10.i686.rpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-sle9.x86_64.rpm</td>
</tr>
<tr>
<td>POWER</td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-sle10.ppc64.rpm</td>
</tr>
<tr>
<td>Linux on System z</td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363-sle10.s390x.rpm</td>
</tr>
<tr>
<td>Oracle Solaris</td>
<td>SPARC</td>
<td></td>
<td>BESAgent-9.2.0.363.sparc_sol11.pkg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363.sparc_sol10.pkg</td>
</tr>
<tr>
<td></td>
<td>x86</td>
<td></td>
<td>BESAgent-9.2.0.363.x86_sol11.pkg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BESAgent-9.2.0.363.x86_soll10.pkg</td>
</tr>
<tr>
<td>Microsoft Windows</td>
<td>x86</td>
<td></td>
<td>BigFix-BES-Client-9.2.0.363.exe</td>
</tr>
</tbody>
</table>

Alternatively, you can download the client installation packages from the [BigFix support web page](https://www.bigfix.com/support).

**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.
Installing License Metric Tool

License Metric Tool 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 License Metric Tool.

1. **Subscribe to the fixlet site**
   Log in to the IBM Endpoint Manager console and enable the fixlet site for License Metric Tool. 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.

2. **Download License Metric Tool**
   Log in to the IBM Endpoint Manager console, open the dashboard, and download the License Metric Tool installer to the chosen endpoint.

3. **Install DB2 for License Metric Tool**
   License Metric Tool requires a DB2 database in version 10.1 fix pack 2 or higher, or 10.5. The latter one is bundled with the product.

4. **Install the License Metric Tool server in interactive or in silent mode**
   After you download the installer to the chosen endpoint and fulfill all the prerequisites, you can install the server on Red Hat Enterprise Linux.

5. **Configure the database connections**
   When the installation is complete, configure the connections between License Metric Tool and IBM Endpoint Manager and its database. During this task, you also create a database for License Metric Tool and specify the administrative users.

6. **Configure the application**
   When License Metric Tool is installed and the connections specified, you can move to configuring the application.

Prerequisite tasks:

Install a DB2 database and subscribe to the License Metric Tool fixlet site so that you can download the application installer to a chosen endpoint.

**Subscribing to fixlet sites:**

Subscribe your computers to the License Metric Tool 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 License Metric Tool. You can use them to download the License Metric Tool 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 IBM License Metric Tool and accept the license agreement.
5. From the list of available sites, enable the IBM License Reporting (ILMT) 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 License Reporting (ILMT) 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 License Metric Tool. 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 License Reporting (ILMT) 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 License Reporting (ILMT) v9 fixlet site. After you do that, the IBM License Reporting.efxm file is created on the server.
4. Go to the following location on your IBM Endpoint Manager server.
   `Installation_dir\BES Server\wwwrootbes\bfmirror\downloads\sha1`
5. From the most recent fixlet site, copy the IBM License Reporting.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 License Reporting.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 License Reporting (ILMT) 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 License Metric Tool:_

License Metric Tool 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 License Reporting (ILMT) > Dashboards > License Metric Tool.**
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 License Metric Tool installer. Before you proceed with
installation, ensure that DB2 is installed on the target computer.

**Installing DB2:**

License Metric Tool 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 License Metric Tool. DB2 packages listed on the License Metric Tool

**DB2 10.1 Fix Pack 2 or higher**


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 for [DB2 10.1](http://www-01.ibm.com/support/docview.wss?uid=swg21595433) or [DB2 10.5](http://www-01.ibm.com/support/docview.wss?uid=swg24033997).

**Procedure**

1. Extract the installation files:
   
   `tar xvf installation_package`
2. Go to the directory with extracted installation files and run the following command:
   ```bash
   ./db2setup
   ```
3. In the navigation bar of the DB2 Setup Launchpad, click Install a Product.
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 License Metric Tool. 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:
      ```bash
      su db2inst1
      ```
   d. Add the license file to your installation:
      ```bash
      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 License Metric Tool. 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 License Metric Tool, 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:
  ```bash
  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 `~/LMT9.0.1.2` directory.

**What to do next**

To access the License Metric Tool user interface, open a browser and go to `https://hostname:port`. Where `hostname` is the host name of the computer where the License Metric Tool 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 License Metric Tool 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 License Metric Tool, 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 License Metric Tool user interface, open a browser and go to https://hostname:port. Where hostname is the host name of the computer where the License Metric Tool 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 License Metric Tool and the Endpoint Manager server. For more information, see "Configuring License Metric Tool connections" on page 63.

**Server installation response file:**

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

Table 25. Common response file parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter key name</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License agreement acceptance</td>
<td>RSP_LICENSE_ACCEPTED</td>
<td>false</td>
<td>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.</td>
</tr>
<tr>
<td>Installation location</td>
<td>RSP_TLM_ROOT</td>
<td>Linux /opt/ibm/LMT</td>
<td>Specify an empty directory where the server is to be installed. If the directory does not exist, it is created.</td>
</tr>
<tr>
<td>Port that is used by the server</td>
<td>RSP_TLM_HTTPS_PORT</td>
<td>9081</td>
<td>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.</td>
</tr>
<tr>
<td>Disabling communication warnings</td>
<td>RSP_DISABLE_COMMUNICATION_WARNINGS</td>
<td>false</td>
<td>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.</td>
</tr>
</tbody>
</table>
Configuring License Metric Tool connections:

License Metric Tool 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 License Metric Tool.

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 License Metric Tool 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 License Metric Tool, 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 License Metric Tool 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 License Metric Tool.
   e. To create database objects, such as views and tables, click Create.

4. Create an account for the administrator of License Metric Tool. 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.

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**).

   **Database for the IBM Endpoint Manager Server**
   - **Database Type**: DB2
   - **Host**: 9.128.110.31
   - **Port**: 50000
   - **Database Name**: EFTN
   - **Authentication**
     - **User Name**: db2inst1
     - **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.

   **IBM Endpoint Manager Server**
   - **Host**: 9.128.110.31
   - **Server API Port**: 52311
   - **Authentication (Console Operator)**
     - **User Name**: IEMAdmin
     - **Password**: ********

   **Optional**
   - Configure the connection to the Web Reports database.
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 License Metric Tool 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.

   [Image]

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.

   [Image]

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 License Metric Tool server.

**Table 26. Server installation and uninstallation return codes**

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The server was successfully installed.</td>
</tr>
<tr>
<td>5</td>
<td>An unexpected error occurred.</td>
</tr>
<tr>
<td>6</td>
<td>An unexpected exception occurred.</td>
</tr>
<tr>
<td>7</td>
<td>An internal error occurred. The installer failed to save the file with information that was collected or generated during the preinstallation stage.</td>
</tr>
<tr>
<td>8</td>
<td>The installation was canceled.</td>
</tr>
<tr>
<td>9</td>
<td>A post-installation step was terminated before it was finished. Problems with resuming the installation might occur.</td>
</tr>
<tr>
<td>11</td>
<td>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 <code>RSP_DISABLE_COMMUNICATION_WARNINGS</code> parameter to true.</td>
</tr>
<tr>
<td>13</td>
<td>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 <code>RSP_LICENSE_ACCEPTED</code> parameter to true.</td>
</tr>
<tr>
<td>14</td>
<td>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: <code>installation_directory/LMT_9.0_timestamp_logs.tar.gz</code>.</td>
</tr>
<tr>
<td>18</td>
<td>Validation of the installation path failed. Either the specified path is incorrect or the installation directory is in read-only mode.</td>
</tr>
<tr>
<td>20</td>
<td>An unknown response file parameter was specified. Remove the parameter from the installation response file.</td>
</tr>
<tr>
<td>21</td>
<td>The response file was not found. It is either empty or contains Windows line endings instead of UNIX ones.</td>
</tr>
<tr>
<td>23</td>
<td>The command-line interface or another application from the License Metric Tool installation path is still running. Either end the process manually or set the <code>RSP_AUTO_CLOSE_PROCESSES</code> parameter to true.</td>
</tr>
<tr>
<td>26</td>
<td>An internal error occurred. Creation of the log directory failed.</td>
</tr>
<tr>
<td>27</td>
<td>It was impossible to recognize the environment, for example, installed products.</td>
</tr>
<tr>
<td>28</td>
<td>The upgrading scenario is not supported.</td>
</tr>
<tr>
<td>29</td>
<td>A part of License Metric Tool that is already installed, is corrupted.</td>
</tr>
<tr>
<td>30</td>
<td>The uninstallation wizard could not find product information in registries. License Metric Tool was already uninstalled.</td>
</tr>
</tbody>
</table>
Table 26. Server installation and uninstallation return codes (continued)

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause and solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>The host name was not obtained. To verify the host name, in the command-line interface, enter the following command: <code>nslookup host_name</code></td>
</tr>
<tr>
<td>32</td>
<td>An exception was detected while reading the setup.ini file.</td>
</tr>
<tr>
<td>33</td>
<td>An attempt of creating a log directory in the installation path failed because a file called LMT9.0.1.2 already exists. To proceed with the installation, delete the file.</td>
</tr>
<tr>
<td>34</td>
<td>The log directory is in read-only mode.</td>
</tr>
<tr>
<td>35</td>
<td>The system TEMP environment variable does not point to a valid directory.</td>
</tr>
<tr>
<td>36</td>
<td>Installation in console mode is not supported. Use interactive or silent mode.</td>
</tr>
<tr>
<td>37</td>
<td>The required resources could not be extracted from the installation image.</td>
</tr>
<tr>
<td>38</td>
<td>The required resources could not be found inside the installation image.</td>
</tr>
<tr>
<td>41</td>
<td>The post-installation failed.</td>
</tr>
<tr>
<td>42</td>
<td>Another instance of the installer is already running.</td>
</tr>
<tr>
<td>46</td>
<td>The post-installation was interrupted.</td>
</tr>
<tr>
<td>50</td>
<td>Resuming a failed installation in silent mode is not supported.</td>
</tr>
<tr>
<td>55</td>
<td>All elements of the infrastructure are already installed.</td>
</tr>
<tr>
<td>59</td>
<td>An internal error occurred. Contact IBM support.</td>
</tr>
<tr>
<td>214</td>
<td>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.</td>
</tr>
</tbody>
</table>

Uninstalling
You can uninstall the License Metric Tool 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 License Reporting (ILMT) > Fixlets and Tasks**.
3. In the upper right pane, select **Uninstall Scanner**, and then in the lower pane, click **Take Action**.
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 License Metric Tool.

Procedure
1. On the left navigation bar of the Endpoint Manager console, click Sites > External Sites > IBM License Reporting (ILMT) > 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 License Metric Tool 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 License Metric Tool. The DISPLAY variable must be set properly, too. Otherwise, use silent mode.
Procedure
1. Log in to the computer where the License Metric Tool server is installed.
2. Go to the `opt/IBM/LMT/Uninstall` directory and run the `uninstall.sh` script.
3. Follow the instructions on the uninstallation wizard. When the uninstallation finishes, click Done. The License Metric Tool 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 License Metric Tool silently by using a response file.

Procedure
1. Log in to the computer where the License Metric Tool 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 License Metric Tool 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

Removing all components
The License Metric Tool installer that can be downloaded as a separate package from the Passport Advantage portal contains a script that removes all installed components from your server. The script is not available in the installation package that is deployed through the IBM Endpoint Manager dashboard.

Procedure
1. Open the extracted License Metric Tool installation package and go to Tools.
2. Run the `cleanlmtenv.sh` script.

Results
The script removed all components from your server, including the IBM Endpoint Manager server and its client, License Metric Tool, DB2, and all the related users and directories. The server is ready for a fresh
installation.
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