

IBM Tivoli Directory Server



System Requirements

Version 6.3

IBM Tivoli Directory Server



System Requirements

Version 6.3

Note

Before using this information and the product it supports, read the general information under "Notices," on page 13.

This edition applies to version 6, release 3, of IBM Tivoli Directory Server and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this book

IBM® Tivoli® Directory Server is the IBM implementation of Lightweight Directory Access Protocol for supported Windows®, AIX®, Linux® (System x®, System z®, System p®, and System i®), Solaris, and Hewlett-Packard UNIX® (HP-UX) (Itanium) operating systems.

IBM Tivoli Directory Server Version 6.3 System Requirements describes the minimum hardware and software requirements for installing and using IBM Tivoli Directory Server 6.3 and its related software. The book also lists the supported versions of corequisite products such as DB2® and GSKit.

Intended audience for this book

This book is for administrators who will install and configure IBM Tivoli Directory Server version 6.3.

Readers need to know how to use the operating system on which IBM Tivoli Directory Server will be installed.

Publications

This section lists publications in the IBM Tivoli Directory Server version 6.3 library and related documents. The section also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli Directory Server version 6.3 library

The following documents are available in the IBM Tivoli Directory Server version 6.3 library:

- *IBM Tivoli Directory Server Version 6.3 What is New for This Release*, GC27-2746-00
Provides information about the new features in the IBM Tivoli Directory Server Version 6.3 release.
- *IBM Tivoli Directory Server Version 6.3 Quick Start Guide*, GI11-9351-00
Provides help for getting started with IBM Tivoli Directory Server 6.3. Includes a short product description and architecture diagram, as well as a pointer to the product Information Center and installation instructions.
- *IBM Tivoli Directory Server Version 6.3 System Requirements*, SC27-2755-00
Contains the minimum hardware and software requirements for installing and using IBM Tivoli Directory Server 6.3 and its related software. Also lists the supported versions of corequisite products such as DB2 and GSKit.
- *IBM Tivoli Directory Server Version 6.3 Installation and Configuration Guide*, SC27-2747-00
Contains complete information for installing, configuring, and uninstalling IBM Tivoli Directory Server. Includes information about upgrading from a previous version of IBM Tivoli Directory Server.
- *IBM Tivoli Directory Server Version 6.3 Administration Guide*, SC27-2749-00
Contains instructions for performing administrator tasks through the Web Administration Tool and the command line.
- *IBM Tivoli Directory Server Version 6.3 Command Reference*, SC27-2753-00

Describes the syntax and usage of the command-line utilities included with IBM Tivoli Directory Server.

- *IBM Tivoli Directory Server Version 6.3 Server Plug-ins Reference*, SC27-2750-00
Contains information about writing server plug-ins.
- *IBM Tivoli Directory Server Version 6.3 Programming Reference*, SC27-2754-00
Contains information about writing Lightweight Directory Access Protocol (LDAP) client applications in C and Java™.
- *IBM Tivoli Directory Server Version 6.3 Performance Tuning and Capacity Planning Guide*, SC27-2748-00
Contains information about tuning the directory server for better performance. Describes disk requirements and other hardware needs for directories of different sizes and with various read and write rates. Describes known working scenarios for each of these levels of directory and the disk and memory used; also suggests rough rules of thumb.
- *IBM Tivoli Directory Server Version 6.3 Problem Determination Guide*, GC27-2752-00
Contains information about possible problems and corrective actions that can be taken before contacting IBM Software Support.
- *IBM Tivoli Directory Server Version 6.3 Messages Guide*, GC27-2751-00
Contains a list of all informational, warning, and error messages associated with IBM Tivoli Directory Server 6.3.
- *IBM Tivoli Directory Server Version 6.3 White Pages*, SC27-2756-00
Describes the Directory White Pages application, which is provided with IBM Tivoli Directory Server 6.3. Contains information about installing, configuring, and using the application for both administrators and users.

Related publications

The following documents also provide useful information:

- *Java Naming and Directory Interface™ 1.2.1 Specification* on the Sun Microsystems Web site at <http://java.sun.com/products/jndi/1.2/javadoc/index.html>.
IBM Tivoli Directory Server Version 6.3 uses the Java Naming and Directory Interface (JNDI) client from Sun Microsystems. See this document for information about the JNDI client.

Accessing terminology online

The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at the following Web address:

<http://www.ibm.com/software/globalization/terminology>

Accessing publications online

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Information Center Web site at <http://publib.boulder.ibm.com/tividd/td/link/tdprodlist.html>.

In the Tivoli Information Center window, click **Tivoli product manuals**. Click the letter that matches the first letter of your product name to access your product library. For example, click **M** to access the IBM Tivoli Monitoring library or click **O** to access the IBM Tivoli OMEGAMON® library.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Documentation Central Web site at <http://www.ibm.com/tivoli/documentation>.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File** → **Print** window that allows Adobe® Reader to print letter-sized pages on your local paper.

Ordering publications

You can order many Tivoli publications online at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative, perform the following steps:

1. Go to <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.
2. Select your country from the list and click **Go**.
3. Click **About this site** in the main panel to see an information page that includes the telephone number of your local representative.

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

Visit the IBM Accessibility Center at <http://www.ibm.com/alphaworks/topics/accessibility/> for more information about IBM's commitment to accessibility.

For additional information, see the *IBM Tivoli Directory Server Version 6.3 Installation and Configuration Guide*.

Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site at <http://www.ibm.com/software/tivoli/education>.

Tivoli user groups

Tivoli user groups are independent, user-run membership organizations that provide Tivoli users with information to assist them in the implementation of Tivoli Software solutions. Through these groups, members can share information and learn from the knowledge and experience of other Tivoli users. Tivoli user groups include the following members and groups:

- 23,000+ members
- 144+ groups

Access the link for the Tivoli Users Group at <https://community.ibm.com/community/user/imwuc/home>.

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online

Access the Tivoli Software Support site at <http://www.ibm.com/software/sysmgmt/products/support/index.html?ibmprd=tivman>. Access the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html>.

IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to <http://www.ibm.com/software/support/isa>.

Troubleshooting Guide

For more information about resolving problems, see the *IBM Tivoli Directory Server Version 6.3 Problem Determination Guide*.

Conventions used in this book

This book uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

Typeface conventions

This book uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:**, and **Operating system considerations:**)
- Keywords and parameters in text

Italic

- Citations (examples: titles of books, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide: ... where *myname* represents....

Monospace

- Examples and code examples

- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Operating system-dependent variables and paths

This book uses the UNIX convention for specifying environment variables and for directory notation.

When using the Windows command line, replace *\$variable* with *% variable%* for environment variables and replace each forward slash (*/*) with a backslash (**) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, *%TEMP%* in Windows environments is equivalent to *\$TMPDIR* in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

System requirements and supported software versions

To install and use IBM Tivoli Directory Server and its related software, your computer must meet the minimum system requirements described in this document.

Requirements that are common to all operating systems

The following sections show hardware and software that is required on all supported operating systems.

Hardware requirements

The following sections show system requirements for the IBM Tivoli Directory Server 6.3 client and server on all supported operating systems.

For the client:

Memory

A minimum of 128 MB RAM is required. For better results, use 256 MB or more.

For the server:

These recommendations are based on a directory with 100,000 inetOrgPerson objects, where each entry is approximately 10 KB. Requirements will vary based on your directory and performance responsiveness requirements.

Memory

The following amounts of RAM are recommended for each directory server instance:

- At least 512 MB for each directory server instance. This includes both proxy servers and full directory servers.
- At least 256 MB for each database instance. (This is not required for a proxy server.)
- At least 512 MB for running the Web Administration Tool and Embedded WebSphere® Application Server on the same computer. For better results, use 1 GB or more.
- At least 256 MB for running IBM Tivoli Directory Integrator Server Runtime for each solution running for a directory server instance. The IBM Tivoli Directory Integrator solutions available in IBM Tivoli Directory Server 6.3 include the following:
 - Simple Network Management Protocol (SNMP)
 - Active Directory synchronization
 - Log management

Additionally, 128 MB is required for running the IBM Tivoli Directory Integrator Administration and Monitoring Console.

Add these memory requirements together if you have a server, the Web Administration Tool, and Embedded WebSphere Application Server on the same computer.

Disk space

For a full directory server, IBM Tivoli Directory Server (including

the client, the server, and the database) requires about 2 GB of disk space. This might increase based on the number of entries and the size of each entry for your installation.

In addition, the following amounts of disk space are required:

On Windows systems

Before installing, be sure that you have at least 255 MB of free space in the directory specified by the TEMP environment variable or the directory you want to use as a temporary directory.

On AIX and Linux systems

If you plan to use the InstallShield GUI to install, be sure that you have at least 100 MB of free space in the /var directory and at least 300 MB in the /tmp directory (or the directory you want to use as a temporary directory).

On Solaris systems

If you plan to use the InstallShield GUI to install, be sure that you have at least 100 MB of free space in the /var directory and at least 400 MB in the /tmp directory (or the directory you want to use as a temporary directory).

For information about disk space required for each installable feature for each operating system, see the *IBM Tivoli Directory Server Version 6.3 Installation and Configuration Guide*.

Software requirements

The following sections show the software prerequisites that are required and optional, as well as the versions of prerequisite software that are provided with Tivoli Directory Server 6.3.

Required prerequisite software

The following prerequisite software is required for Tivoli Directory Server 6.3:

- IBM DB2 Enterprise Server Edition or IBM DB2 Workgroup Edition
For storing directory data, DB2 must be installed for full directory servers. (Proxy servers do not require DB2.) One of the following versions of DB2 must be installed depending on your system architecture and operating system:
 - IBM DB2 Enterprise Server Edition V9.7 FixPack 2
 - IBM DB2 Workgroup Server Edition V9.7 FixPack 2 (only on Linux x86 32-bit platforms).
 - IBM DB2 Enterprise Server Edition V9.5 FixPack 3 or higher (supported on AIX, System i and System p Linux, System z Linux, Solaris SPARC, Solaris X64, Intel® 32-bit Windows, AMD64/EM64T Windows)

Note: It is important that you install any operating system requirements that are necessary for the version of DB2 that you are using. For DB2 requirements, go to the following Web address: <http://www.ibm.com/software/data/db2/udb/sysreqs.html>

- The Korn shell is required on all AIX, Linux, Solaris, and HP-UX (Itanium®) platforms, except on SuSE Linux Enterprise, where PDKSH is required.

See “Provided versions of prerequisite software” on page 3 for information about software versions that are provided with Tivoli Directory Server.

Optional prerequisite software

Based on your requirement, the following software might be required for installation:

For using the Web Administration Tool, which is a graphical user interface (GUI)

- One of the following Web application servers must be installed:
 - Embedded version of WebSphere Application Server 7.0.0.7
 - WebSphere Application Server 7.0
- One of the following browsers is required:
 - Microsoft® Internet Explorer 6.0 Service Pack 1 or Service Pack 2
 - Microsoft Internet Explorer 7.0
 - Microsoft Internet Explorer 8.0
 - Firefox 2.0.x
 - Firefox 3.0.x

For Secure Socket Layer (SSL) encryption

IBM Global Security Kit (GSKit) 8.0.13.1 is required.

For IBM Tivoli Directory Integrator solutions

If you want to use SNMP, perform Active Directory synchronization, or manage logs, Tivoli Directory Integrator version 7.1 is required.

For Kerberos support on AIX systems

Network Authentication Service 1.4.0.8 is required.

See “Provided versions of prerequisite software” for information about software versions that are provided with Tivoli Directory Server.

Provided versions of prerequisite software

The following software is provided in the Tivoli Directory Server 6.3 installation packages:

- IBM DB2
 - IBM DB2 Enterprise Server Edition Version 9.7 FixPack 2 is included in Tivoli Directory Server 6.3 installation packaging for all operating systems except for 32-bit x86-based systems running Linux.
 - IBM DB2 Workgroup Server Edition Version 9.7 FixPack 2 is included in Tivoli Directory Server 6.3 installation packaging for 32-bit x86-based systems running Linux.
- Embedded WebSphere Application Server
 - Embedded version of WebSphere Application Server 7.0.0.7 on all supported platforms
- IBM Global Security Kit 8.0.13.1
- Java 1.6 SR 7

Requirements for specific operating systems

The following sections show system requirements for specific supported operating systems.

Requirements on Intel 32-bit Windows

The following table shows the of Microsoft Windows versions on which IBM Tivoli Directory Server 6.3 is supported for 32-bit architectures (running on Intel IA32 processor based servers).

Intel 32-bit Windows operating system version	32-bit Directory Server components	Supported DB2 versions
Windows XP Professional	Client	N/A
Windows Vista Enterprise with FDCC	Client	N/A
Windows 7 Enterprise with FDCC	Client	N/A
Windows Server 2003 (Standard R2 and R2 SP2, Enterprise R2 and R2 SP2, Datacenter SP1)	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later
Windows Server 2008 (Standard, Enterprise)	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

Requirements on Intel 64-bit Windows

The following table shows the of Microsoft Windows versions on which IBM Tivoli Directory Server 6.3 is supported for 64-bit architectures (running on Intel IA64 processor based servers).

Intel 64-bit Windows operating system version	64-bit Directory Server components
Windows XP Professional	Client
Windows Vista	Client
Windows Server 2003 (Standard R2, Enterprise R2, SP1 Datacenter R2)	Client
Windows Server 2008 (Standard, Enterprise)	Client

Requirements on AMD64/EM64T Windows

The following table shows the Microsoft Windows versions on which IBM Tivoli Directory Server 6.3 is supported for 64-bit architectures (running on AMD64 (Opeteron)/ Intel EM64T processor based servers).

AMD/EM64T 64-bit Windows operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
Windows XP Professional	Client	Client	N/A
Windows Vista	Client	Client	N/A
Windows 7 Enterprise	Client	Client	N/A
Windows Server 2003 (Standard R2 and R2 SP2, Enterprise R2 and R2 SP2, Datacenter SP1 and R2)	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

AMD/EM64T 64-bit Windows operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
Windows Server 2003 x64 Edition (Standard R2 and R2 SP2, Enterprise R2 and R2 SP2)	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later
Windows Server 2008 (Standard, Enterprise)	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

Support for virtualization environment for x86 or x64 architecture

The following table shows the supported virtualization environment on Microsoft Windows versions that run on x86 or x64 architecture (running on AMD64 (Opeteron)/ Intel EM64T processor based servers) and the IBM Tivoli Directory Server version 6.3 components.

Table 1. Tivoli Directory Server components supported on virtualization environment on x86 or x64 architecture

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
VMware ESX 3.0.1 and higher	x86/x64 System listed on ESX	Microsoft Windows level supported by both DB2 and ESX	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP3 ESE or later

Requirements on AIX operating systems

The following table shows the versions of AIX on which IBM Tivoli Directory Server 6.3 is supported.

AIX on System p (64-bit/32-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
AIX 5.3 TL6	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later
AIX 6.1	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

AIX on System p (64-bit/32-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
AIX 7.1	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

Notes:

1. If you have no locale-specific requirements, after you apply all the services that you need for your system, restart your system to enable the changes.
2. For maintenance levels of AIX, go to the following Web address:
<http://www.ibm.com/servers/eserver/support/pseries/aixfixes.html>.
3. For the server or 64-bit client, you must be running a 64-bit kernel.

To verify that you have the 64 bit kernel (/usr/lib/boot/unix_64) installed and running, run the following command:

```
bootinfo -K
```

Note: If the hardware is 32-bit, then you can only have a 32-bit kernel; you cannot have a 64-bit kernel. If the hardware is 64-bit, then you can have either a 32 or 64-bit kernel.

4. For a server or 64-bit client, you must be running on 64-bit hardware.
- To verify that your AIX hardware is 64-bit, run the following command:

```
bootinfo -y
```

If the command returns 32, your hardware is 32-bit.

In addition, if you type the command `lsattr -El proc0`, the output of the command returns the type of processor for your server.

5. For a directory server, be sure that asynchronous I/O is enabled. If asynchronous I/O is not enabled, the database instance associated cannot start successfully.

To enable asynchronous I/O:

- a. Run **smitty chgaio** and set **STATE to be configured at system restart** from **defined** to **available**.
- b. Press Enter.
- c. Do **one** of the following:
 - Restart your system.
 - Run **smitty aio** and move the cursor to **Configure defined Asynchronous I/O**. Then press Enter.

6. The IBM C++ Runtime Environment Components for AIX must of at runtime level of **xlC.rte 8.0.0.6** and **xlC.aix50.rte 8.0.0.6** or later.

7. For Tivoli Directory Server version 6.x, the minimum base level system locale fileset level must be **bos.loc.iso.en_US 5.3.0.0**.

Support for virtualization environment for non-x86 architecture

The following table shows the supported virtualization environment on AIX operating system that run on System p and the supported IBM Tivoli Directory Server version 6.3 components.

Table 2. Tivoli Directory Server components supported on virtualization environment on System p

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
PowerVM™	System p	AIX 5.3 TL05 AIX 6.1	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP3 ESE or later

Support for AIX Workload Partitions on AIX 6.1

Tivoli Directory Server provides the following support for AIX system Workload Partitions (WPARs) on AIX 6.1:

Table 3. Tivoli Directory Server components supported on AIX WPARs

Global Area	Private System WPAR	Shared System WPAR
<ul style="list-style-type: none"> • Client • Full directory server • Proxy server • Web Administration Tool • White Pages • Tivoli Directory Integrator 	<ul style="list-style-type: none"> • Client • Full directory server • Proxy server • Web Administration Tool • White Pages 	Client

Note: DB2 version 9.7 can be installed on global partition. DB2 versions prior to 9.7 are supported for installation on local partitions only, because installation of these versions of DB2 on the global partition is not supported.

Requirements on System x Linux operating systems

The following table shows the versions of System x Linux on which IBM Tivoli Directory Server 6.3 is supported.

System x Linux (32-bit) operating system version	32-bit Directory Server components	Supported DB2 versions
<ul style="list-style-type: none"> • Red Hat Enterprise Linux 5 • SuSE Linux Enterprise Server 10, 11 	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	V9.7 WSE or later
<ul style="list-style-type: none"> • Red Hat Desktop 5.0 • SLED 10 	Client	N/A

The following table shows the versions of System x Linux (running on Intel IA64 processor based servers) on which IBM Tivoli Directory Server 6.3 is supported.

System x Linux (64-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components
<ul style="list-style-type: none"> • Red Hat Enterprise Linux 5 • SuSE Linux Enterprise Server 10, 11 • SLED 10 	Client	N/A

Note: If you install the Red Hat Enterprise Linux 5 operating system with SELINUX enabled (which is the default), instance creation fails. If you have already installed the operating system and SELINUX is enabled, use the `setenforce 0` command to disable it. Then, in the `/etc/selinux/config` file, change `SELINUX=enforcing` to `SELINUX=disabled`.

Requirements on AMD64/EM64T Linux operating systems

The following table shows the AMD64/EM64T Linux versions on which IBM Tivoli Directory Server 6.3 is supported for 64-bit architectures (running on AMD64 Opeteron/ Intel EM64T processor based servers).

AMD64/EM64T Linux (64-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
<ul style="list-style-type: none"> Red Hat Enterprise Linux 5 SuSE Linux Enterprise Server 10, 11 	<ul style="list-style-type: none"> Client Server Proxy server Web Administration Tool White Pages 	Client	V9.7 ESE or later
<ul style="list-style-type: none"> Red Hat Desktop 5.0 SLED 10 	Client	Client	N/A

Note: If you install the Red Hat Enterprise Linux 5 operating system with SELINUX enabled (which is the default), instance creation fails. If you have already installed the operating system and SELINUX is enabled, use the `setenforce 0` command to disable it. Then, in the `/etc/selinux/config` file, change `SELINUX=enforcing` to `SELINUX=disabled`.

Support for virtualization environment for x86 or x64 architecture

The following table shows the supported virtualization environment on Linux distributions that run on x86 or x64 architecture (running on AMD64 (Opeteron)/ Intel EM64T processor based servers) and the IBM Tivoli Directory Server version 6.3 components.

Table 4. Tivoli Directory Server components supported on virtualization environment on x86 or x64 architecture

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
VMware ESX 3.0.1 and higher	x86/x64 System listed on ESX	Linux distributions supported by both DB2 and ESX	<ul style="list-style-type: none"> Client Server Proxy server Web Administration Tool White Pages DB2 <ul style="list-style-type: none"> V9.7 ESE or later V9.5 FP3 ESE or later

To know more, see DB2 and Virtualization - Supported Environment

Support for virtualization environment for x64 architecture

The following table shows the supported virtualization environment on Linux operating systems that run on x64 architecture and the supported IBM Tivoli Directory Server version 6.3 components.

Table 5. Tivoli Directory Server components supported on virtualization environment for x64 architecture

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
Red Hat Enterprise Linux (RHEL) 5.4 and higher KVM	x64 System with INTEL-VT or AMD-V	RHEL 5.4 64-bit	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP4 ESE or later
Red Hat Enterprise Linux (RHEL) 5.2 and higher Xen HVM	x64 System with INTEL-VT or AMD-V	RHEL 5.2 64-bit	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP3 ESE or later
SUSE Linux Enterprise Server (SLES) 10 SP2 and higher Xen HVM	x64 System with: INTEL-VT or AMD-V	SLES 10 SP2 64-bit	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP3 ESE or later

Note: The following restrictions must be considered when using RHEL and SLES Xen environments:

- Only 64-bit DB2 instances are supported.
- Guest virtual machines must be HVM mode and 64-bit Linux. Currently, paravirtual guests are not supported by DB2.
- Guest operating system distribution must be within the same major version as the host operating system distribution.
- Currently, DB2 do not support live migration.

To know more, see DB2 and Virtualization - Supported Environment.

Requirements on System z Linux operating systems

The following tables show the versions of System z Linux on which IBM Tivoli Directory Server 6.3 is supported.

System z Linux (31-bit) operating system version	64-bit Directory Server components	31-bit Directory Server components
<ul style="list-style-type: none"> • Red Hat Enterprise Linux 5 • SuSE Linux Enterprise Server 10, 11 	N/A	Client (operating system utility installation only)

System z Linux (64-bit) operating system version	64-bit Directory Server components	31-bit Directory Server components	Supported DB2 versions
<ul style="list-style-type: none"> Red Hat Enterprise Linux 5 SuSE Linux Enterprise Server 10, 11 	<ul style="list-style-type: none"> Client Server Proxy server Web Administration Tool White Pages 	Client	<ul style="list-style-type: none"> V9.7 ESE or later V9.3 FP3 ESE or later

Note: If you install the Red Hat Enterprise Linux 5 operating system with SELINUX enabled (which is the default), instance creation fails. If you have already installed the operating system and SELINUX is enabled, use the `setenforce 0` command to disable it. Then, in the `/etc/selinux/config` file, change `SELINUX=enforcing` to `SELINUX=disabled`.

Support for virtualization environment for non-x86 architecture

The following table shows the supported virtualization environment on Linux operating system that run on System z and the supported IBM Tivoli Directory Server version 6.3 components.

Table 6. Tivoli Directory Server components supported on virtualization environment on System z

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
z/VM 5.2 z/VM 5.3 z/VM 5.4 z/VM 6.1	System z	RHEL 5 (64-bit only) SLES 10 SP1	<ul style="list-style-type: none"> Client Server Proxy server Web Administration Tool White Pages DB2 <ul style="list-style-type: none"> V9.7 ESE or later V9.5 FP3 ESE or later

Requirements on System i and System p Linux operating systems

The following table shows the versions of System i and System p Linux on which IBM Tivoli Directory Server 6.3 is supported.

System i and System p Linux (64-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
<ul style="list-style-type: none"> Red Hat Enterprise Linux 5 SuSE Linux Enterprise Server 10, 11 	<ul style="list-style-type: none"> Client Server Proxy server Web Administration Tool White Pages 	Client	<ul style="list-style-type: none"> V9.7 ESE or later V9.5 FP3 ESE or later

Note: If you install the Red Hat Enterprise Linux 5 operating system with SELINUX enabled (which is the default), instance creation fails. If you have already installed the operating system and SELINUX is enabled, use the `setenforce 0` command to disable it. Then, in the `/etc/selinux/config` file, change `SELINUX=enforcing` to `SELINUX=disabled`.

Support for virtualization environment for non-x86 architecture

The following table shows the supported virtualization environment on Linux operating system that run on System p and the supported IBM Tivoli Directory Server version 6.3 components.

Table 7. Tivoli Directory Server components supported on virtualization environment on System p

Hypervisor	Architecture	Minimum guest operating system	Tivoli Directory Server components
PowerVM	System p	RHEL 5 SLES 10 SP1	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages • DB2 <ul style="list-style-type: none"> – V9.7 ESE or later – V9.5 FP3 ESE or later

Requirements on Solaris SPARC operating systems

The following table shows the versions of Solaris SPARC on which IBM Tivoli Directory Server 6.3 is supported.

Note: Trusted Solaris is not supported.

Solaris SPARC (64-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
Solaris 9, 10	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

Requirements on Solaris X64 operating systems

The following table shows the versions of Solaris X64 on which IBM Tivoli Directory Server 6.3 is supported.

Note: Trusted Solaris is not supported.

Solaris X64 (64-bit) operating system version (with or without zones configured)	64-bit Directory Server components	32-bit Directory Server components	Supported DB2 versions
Solaris 10	<ul style="list-style-type: none"> • Client • Server • Proxy server • Web Administration Tool • White Pages 	Client	<ul style="list-style-type: none"> • V9.7 ESE or later • V9.5 FP3 ESE or later

Note: Ensure that the code page conversion routines (en_US.UTF-8 1.0) are installed.

Support for Solaris Zones on Solaris 10

Tivoli Directory Server provides the following support for Solaris Zones on Solaris 10:

Table 8. Tivoli Directory Server components supported on Solaris Zones

Global Zone	Whole Root zone	Sparse Root zone
<ul style="list-style-type: none">• Client• Full directory server• Proxy server• Web Administration Tool• Tivoli Directory Integrator	<ul style="list-style-type: none">• Client• Full directory server• Proxy server• Web Administration Tool	<ul style="list-style-type: none">• Client• Proxy server• Web Administration Tool

Note: DB2 version 9.7 can be installed on global zone. DB2 versions prior to 9.7 are supported for installation on local zones only as installation of these versions of DB2 on the global zone is not supported.

Requirements on HP-UX Integrity operating systems

The following table shows the versions of HP-UX Integrity on which IBM Tivoli Directory Server 6.3 is supported.

HP-UX Integrity (64-bit) operating system version	64-bit Directory Server components	32-bit Directory Server components
<ul style="list-style-type: none">• HP-UX 11i v2• HP-UX 11i v3	Client (operating system utility installation only)	Client (operating system utility installation only)

Note: For the server, be sure to set the current kernel configuration parameters. See the *IBM Tivoli Directory Server Version 6.3 Installation and Configuration Guide* for the required parameters.

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Printed in USA

SC27-2755-00

