



## IBM PowerVM Lx86 Release Notes for release 1.3.1.0







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**Note**

Before using this information and the product it supports, read the information in “Notices” on page 5.

**Fourth Edition (April 2009)**

This edition applies to the version 1.3.1.0 of IBM PowerVM Lx86 and to all subsequent releases and modifications until otherwise indicated in new editions.

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# IBM PowerVM Lx86 Release Notes for release 1.3.1.0

These release notes are for IBM® PowerVM™ Lx86 for x86 Linux® Applications (PowerVM Lx86) release 1.3.1.0. They are a supplement to the IBM PowerVM Lx86 Administration Guide.

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## Changes in the 1.3.1.0 release

The 1.3.1.0 release adds the following improvements to PowerVM Lx86:

- Support for SLES 11 and RHEL 5.3.
- SE Linux support for RHEL 5.3.
- Ability to restrict the virtual memory usage of Lx86.
- Administration Guide updates for SLES 11 and RHEL 5.3.
- Additional bug fixes.

The 1.3.1.0 release removes the following features from PowerVM Lx86:

- Support for SLES 9 SP3 and SP4. Customers wanting to use SLES 9 will need to use PowerVM Lx86 version 1.3 or earlier.

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## Administration Guide documentation updates

This section details updates to the Administration Guide for PowerVM Lx86 1.3.1.

### Update 1: SE Linux and installation to non-default locations

This is an addition to Chapter 17, SE Linux support with PowerVM Lx86, on page 73 of the Administration Guide.

#### SE Linux and installation to non-default locations:

If the x86 World or the PowerVM Lx86 binaries are installed into somewhere other than the default locations, and SE Linux is to be used for translated x86 processes, the directories containing PowerVM Lx86 and the x86 World must be accessible by all restricted SE Linux domains. For example, if the x86 World is installed into /mnt/i386, please set the file context of these directories as follows:

```
chcon -t root_t /mnt
```

```
chcon -t root_t /mnt/i386
```

If these directories are not accessible by restricted SE Linux domains, some translated daemon processes may fail to start when SE Linux is set to enforcing mode.

### Update 2: Running the automated installer

This is an addition to the "Examples of usage" section on page 89 of Chapter 20, Running the automated installer, of the Administration Guide:

Uninstall PowerVM Lx86 and the x86 World:

```
% installer.pl --uninstall Lx86 --uninstall x86world
```

This is an addition to the "Examples of usage" section on page 89 of Chapter 20, Running the automated installer, of the Administration Guide:

When installing a particular x86 World distro using the `--distro` option, the following values can be used for the distribution:

RHEL4U3AS\_MIN, RHEL4U3AS\_FULL,  
 RHEL4U4AS\_MIN, RHEL4U4AS\_FULL,  
 RHEL4U5AS\_MIN, RHEL4U5AS\_FULL,  
 RHEL4U6AS\_MIN, RHEL4U6AS\_FULL,  
 RHEL4U7AS\_MIN, RHEL4U7AS\_FULL,  
 RHEL5U3AS\_MIN, RHEL5U3AS\_FULL,  
 SLES10\_MIN, SLES10\_FULL,  
 SLES10SP1\_MIN, SLES10SP1\_FULL,  
 SLES10SP2\_MIN, SLES10SP2\_FULL,  
 SLES11\_MIN, SLES11\_FULL

This is an addition to the table in the "Non-interactive configuration file options" section on page 90 of Chapter 19, Running the automated installer, of the Administration Guide:

Non-interactive mode configuration switch name	Parameters and use
INSTALLER_SW_HOMEDIR	<p><b>Type</b> String</p> <p><b>Parameters</b> An absolute path</p> <p><b>Use</b> Optional. This switch specifies the home directory path to escape from the x86 World to the home directories on the Power system. This option can only be specified when installing a new x86 World. You cannot specify this option when installing an x86 World from an archive, as the home directory escape is contained within the archive.</p> <p>There is no command line option for this switch. When installing from the command line, to create the escape to the /home directories on the Power system, run the <code>linkx86</code> command after running the automated installer:</p> <pre>linkx86 /home</pre>



## Update 3: Disk space requirements for RHEL 5 Update 3

This is a correction for Chapter 4, Disk space requirements for x86 World on page 14 of the Administration Guide.

The disk space for RHEL 5 Update 3 should read '935 MB disk space for software for a minimal installation', rather than 900MB.

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## Upgrading and reinstallation options for previous installations of PowerVM Lx86

The 1.3.1.0 release supports upgrading from all previously released versions of PowerVM Lx86, including all 1.1.x and 1.2.x versions. Note that if you choose to upgrade the PowerVM Lx86 binary from a previous installation, you will be prompted to update the location of the PowerVM Lx86 binaries and associated log files to locations that use the new `powervm-lx86` directory and file naming conventions. You can use the existing directory locations, but the product binaries and log file will use the new naming convention.

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## PowerVM Lx86 CD and package structure

The PowerVM Lx86 CD structure is:

- `powervm-lx86-<release_version>-<build_number>.tgz`
- `powervm-lx86-release-notes-<release_version>.txt`
- `powervm-lx86-release-notes-<release_version>.pdf`

The PowerVM Lx86 directory structure within the tar file is:

- `powervm-lx86-installer-<release_version>-<build_number>/installer.pl`
- `powervm-lx86-installer-<release_version>-<build_number>/lib/`
- `powervm-lx86-installer-<release_version>-<build_number>/resources/`
- `powervm-lx86-installer-<release_version>-<build_number>/doc/`

To install PowerVM Lx86, copy `powervm-lx86-<release_version>-<build_number>.tgz` to the local machine, extract it and then, as root, run the `powervm-lx86-installer-<release_version>-<build_number>/installer.pl` script.

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## Documentation location

The PowerVM Lx86 Administration Guide and the PowerVM Lx86 Release Notes can be found in the following location in the tgz file:

`powervm-lx86-installer-<release_version>-<build_number>/doc`

which is a symlink to `powervm-lx86-installer-<release_version>-<build_number>/resources/doc/RO`

After installation, the PowerVM Lx86 Administration Guide and Release Notes can be found here:

`<PowerVM Lx86 install location>/doc`

which is a symlink to `<PowerVM Lx86 install location>/installer/resources/doc/RO`

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## Reporting a failure

If a Linux x86 application fails while being translated, an error is displayed. In addition, an error log is created in the `/var/opt/powervm-lx86/log` directory. You can change the location of the default log directory during installation. Log files are created for each running process that encounters an error.

Report the error to IBM Support. Include a description of the failure and what events preceded the failure.

**Note:** The reported error may be caused by an issue with the Linux x86 application being executed and may not be a problem with PowerVM Lx86.

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## Performance notes

### Performance overview

There are various architectural differences between x86 and Power which can impact performance of translated applications. For example, translating dynamically generated code like Java™ byte codes is an ongoing translation process, which can be expected to impact the performance of x86 Java applications which are using an x86 Java virtual machine. Floating point intensive applications may have some performance penalties. And finally, translating multi-threaded applications can incur an additional performance overhead as the translator works to manage shared memory accesses.

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## Functionality notes

### Java support in this release

This release of PowerVM Lx86 supports the x86 versions of IBM Java 2 SE 1.6 (SR2 and later releases only), 1.5, 1.4, and 1.3.

Support is also provided for Sun Java 2 Platform Standard Edition (J2SE) 6.0 (version 1.6), Java 2 SE 5.0 (version 1.5), 1.4 and 1.3 and BEA JRockit 6 and 5.

To run Java applications, you must install either of the following libraries: J2SE Runtime Environment (JRE) 1.3 or higher, or J2SE Development Kit (JDK) 1.3 or higher.

### Known issues

There are some known issues with PowerVM Lx86. This section details those issues and any workarounds that are available.

#### **nscd service fails when SE Linux is enabled in the x86 World and set to enforcing**

On RHEL 4.x systems, when SE Linux is enabled on the Power system and set to enforcing mode (rather than permissive mode or turned off) and SE Linux is enabled in the PowerVM Lx86 configuration file, the x86 nscd service will fail to start. This is under investigation.

#### **SE Linux file attributes in x86 World archives**

If an x86 World archive is created on a system with SE Linux disabled, when extracting the x86 World archive onto a system with SE Linux enabled, the SE

Linux file attributes will be incorrect. To fix this issue relabel the filesystem using the **restorecon** command in a translated x86 shell.

### **WebLogic Server and Memory Limit**

Using the default PowerVM Lx86 memory limit when running WebLogic Server may seriously impact performance. It is recommended that the PowerVM Lx86 memory limit is disabled when running this application by setting `MEMORY_MONITOR_TRIGGER_RATIO` to 0 in the configuration file.

### **New mandatory fields in installer**

When installing Lx86, it is now mandatory to provide a name, company name, and email address. In previous releases only the company name was required.

As a result of this change, the following string in the installer is now not correctly translated into other languages:

"The Activation email will also include some details about this system. Once you have entered this information it will be presented to you to review. You will have the option to send the information to IBM via email or abort the installation."

### **gdb failures**

On RHEL 5 Update 3, some features of thread debugging may not work correctly in all cases. For example, the `info threads` command may not report all active threads.

To work around this issue, in the `gdb` session type `sharedlibrary`.

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