

Platform LSF
Version 9 Release 1.3

Installing on Windows



Platform LSF
Version 9 Release 1.3

Installing on Windows



Note

Before using this information and the product it supports, read the information in "Notices" on page 19.

First edition

This edition applies to version 9, release 1 of IBM Platform LSF (product number 5725G82) and to all subsequent releases and modifications until otherwise indicated in new editions.

Significant changes or additions to the text and illustrations are indicated by a vertical line (|) to the left of the change.

If you find an error in any Platform Computing documentation, or you have a suggestion for improving it, please let us know.

In the IBM Knowledge Center, add your comments and feedback to any topic.

You can also send your suggestions, comments and questions to the following email address:

pccdoc@ca.ibm.com

Be sure include the publication title and order number, and, if applicable, the specific location of the information about which you have comments (for example, a page number or a browser URL). When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© Copyright IBM Corporation 1992, 2014.

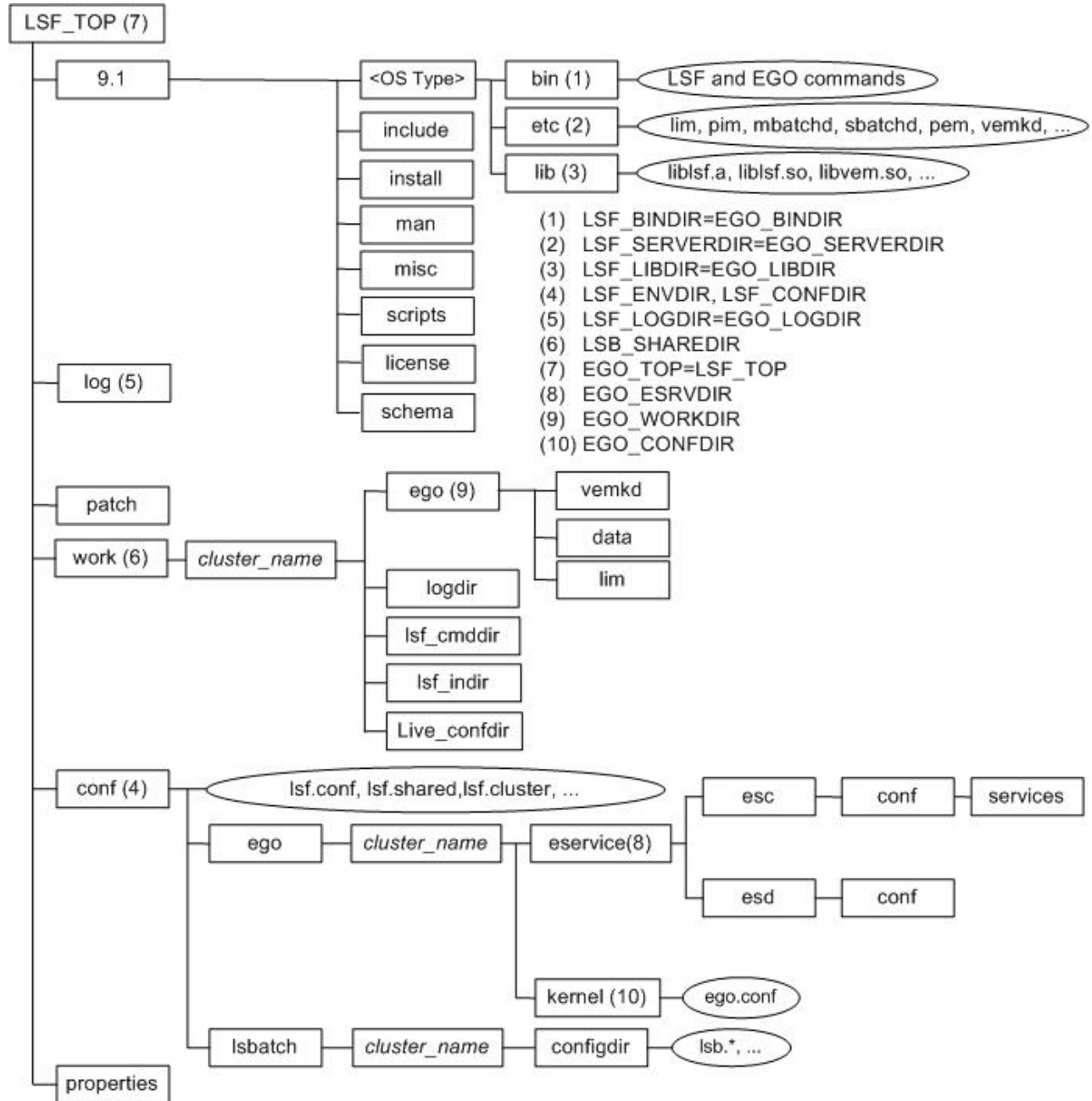
US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Chapter 1. Example installation directory structures	1
Chapter 2. EGO in the LSF cluster	3
Chapter 3. Plan and prepare your systems for installation	5
Chapter 4. IBM Platform entitlement files	7
Chapter 5. Install a new Platform LSF cluster	9
Chapter 6. Installation parameter quick reference	11
LSF installation parameters	11

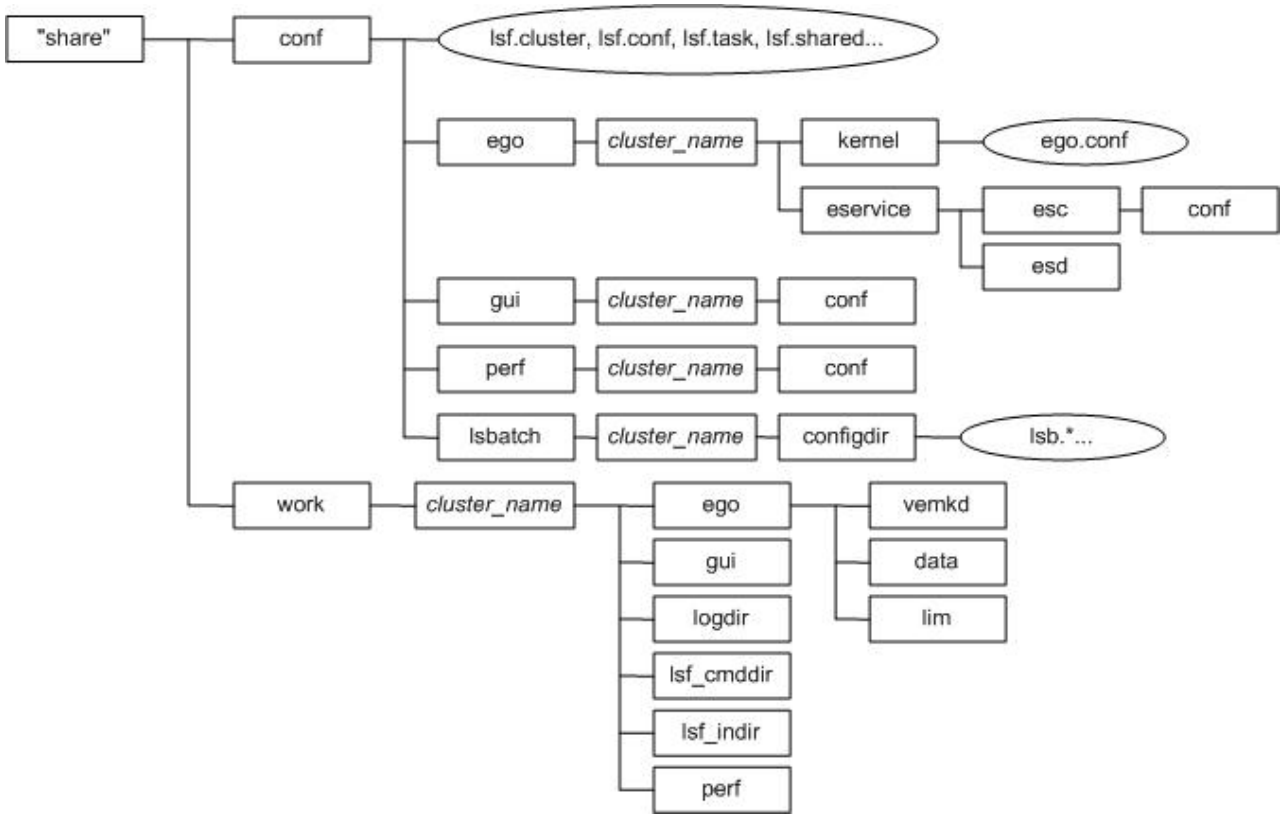
Notices	19
Trademarks	21
Privacy policy considerations	21

Chapter 1. Example installation directory structures



Shared directory

The shared directory is configured if you run **egoconfig** on a host after installation:



Chapter 2. EGO in the LSF cluster

When EGO is enabled in the cluster, EGO may control services for components. This is recommended. It allows failover among multiple management hosts, and allows EGO cluster commands to start, stop, and restart the services.

See the LSF administrator documentation for more details on the benefits of enabling EGO and using EGO to control the services.

Installation choices

When you install the cluster and enable EGO, you can configure EGO control of **sbatchd** and **res** separately.

Chapter 3. Plan and prepare your systems for installation

MSI version 2.0 or later is required.

1. Choose LSF hosts (master host, master candidates, server hosts, and client-only hosts).
2. Choose an installation directory that is available on every host.
3. For failover purposes, create and share the shared directory (for example, \\HostF\EG0share).
 - a. Make sure the shared directory is accessible with the same path name from all hosts in the cluster.
 - b. Make sure the installation user has Full Control permission for the shared directory.
4. Review the installation parameter reference, and make sure the connection ports and LSF **sbatchd**, **res**, and **mbatchd** ports are available on all hosts.
5. Choose a primary LSF administrator (owns the LSF and EGO configuration files and log files; for example, DOMAIN\lsfadmin).

Create the primary LSF administrator account with the following privileges on each host:

- Act as part of the operating system
- Debug programs
- Replace a process level token
- Log on as a service
- Adjust memory quotas for a process

Note:

The account must belong to the Local Administrators group on each host.

6. Obtain the necessary files for installing LSF.

You need the LSF distribution file to install LSF.

See the LSF Release Notes for detailed steps for downloading the distribution files.
7. For Windows Server 2012, configure the Remote Desktop Services deployment scenario to support terminal services:
 - a. Log on to the host as a domain user.
 - b. Start the **Add Roles and Features Wizard (Control panel >Turn Windows features on or off)**.
 - c. In **Install Type** choose **Remote Desktop Services installation**.
 - d. In **Deployment Type** choose **Quick start**.
 - e. In **Server Selection** choose the host that will install LSF.
 - f. In **Deployment Scenario** choose **Session-based desktop deployment**.
 - g. In **Confirmation** choose **deploy**.

Chapter 4. IBM Platform entitlement files

LSF uses entitlement files to determine which feature set to be enable or disable based on the edition of the product. The entitlement files are:

- LSF Standard Edition - platform_lsf_std_entitlement.dat
- LSF Advanced Edition - platform_lsf_adv_entitlement.dat

You must download the entitlement file for the edition of the product you are running, and set the **ENTITLEMENTFILE** parameter (which is for silent installation) in the shared directory to the full path to the entitlement file you downloaded.

If you are installing LSF Standard, you can later upgrade to LSF Advanced Edition to take advantage of additional functionality. Simply reinstall the cluster with the LSF Advanced entitlement file (platform_lsf_adv_entitlement.dat).

You can also manually upgrade from LSF Standard Edition to Advanced Edition. Get the LSF Advanced entitlement configuration file platform_lsf_adv_entitlement.dat and restart your cluster. The new entitlement configuration enables the additional functionality of LSF Advanced Edition, but you may need to change some of the default LSF Standard configuration parameters to use the LSF Advanced features.

Chapter 5. Install a new Platform LSF cluster

1. Install the master host. Log on as the primary LSF administrator (DOMAIN\lsfadmin) to the master host (or use an installation account that belongs to the Local Administrators group) and run the installer (lsf9.1.3_win32.msi or lsf9.1.3_win-x64.msi) to create a new cluster.
After completing the master host installation, the LSF installer creates a batch file (install.bat) that you can use to silently install hosts in this cluster. The batch file sets the installation parameters and runs the installer.
You must customize this batch file for specific hosts (master candidates, LSF server hosts, and LSF client hosts) in the cluster before installation.
2. Install additional hosts.
 - a. Install master candidates.
 - b. Install LSF server hosts.
 - c. Install LSF client hosts.
3. If you disabled automatic startup of LSF after installation, log on to the master host as lsfadmin and run **lsfstartup** to start the cluster.
4. Test your cluster by running some basic LSF commands (for example, **lsid**, **lshosts**, **bhosts**).

Chapter 6. Installation parameter quick reference

Use this reference to learn about the install parameters or dialog windows.

LSF installation parameters

The installation parameters for LSF are configured automatically by the interactive installer. The related interactive install dialog window name is shown for each parameter.

If you do not use the interactive installer, specify command-line installation options as needed. The syntax is shown for each parameter.

For silent install with **msiexec**, the syntax is:

```
msiexec /i package_file [parameter_value ...] /quiet
```

For example, to install a server host and specify the installation directory:

```
msiexec /i \\hostB\download\lsf9.1.3_win32.msi SERVERHOSTS=hostM  
HOSTTYPE=Server INSTALLDIR=C:\LSF /quiet
```

For silent uninstall, the **msiexec** syntax is:

```
msiexec /x package_file /quiet
```

Initial configuration template

The installer uses a configuration template to specify initial LSF configuration parameters when the installation is complete. For Windows, the installer specifies the following initial configuration file parameter values based on the default configuration template:

- `lsf.conf` (LSF Standard Edition):

```
DAEMON_SHUTDOWN_DELAY=180  
EGO_ENABLE_AUTO_DAEMON_SHUTDOWN=Y  
LSB_DISABLE_LIMLOCK_EXCL=Y  
LSB_INDEX_BY_JOB="JOBNAME"  
LSB_MOD_ALL_JOBS=Y  
LSF_DISABLE_LSRUN=Y  
LSF_PIM_SLEEPTIME_UPDATE=Y  
LSF_PROCESS_TRACKING=Y  
LSF_STRICT_RESREQ=Y  
LSF_UNIT_FOR_LIMITS=MB
```

- `lsf.conf` (LSF Advanced Edition):

```
LSB_DISABLE_LIMLOCK_EXCL=Y  
LSB_INDEX_BY_JOB="JOBNAME"  
LSF_DISABLE_LSRUN=Y  
LSF_PIM_SLEEPTIME_UPDATE=Y
```

- `lsb.params` (LSF Standard Edition):

```
ABS_RUNLIMIT=Y  
DEFAULT_QUEUE=normal interactive  
JOB_ACCEPT_INTERVAL=0  
JOB_DEP_LAST_SUB=1  
JOB_SCHEDULING_INTERVAL=1  
MAX_CONCURRENT_QUERY=100
```

```
MAX_JOB_NUM=10000
MBD_SLEEP_TIME=10
NEWJOB_REFRESH=Y
PARALLEL_SCHED_BY_SLOT=Y
SBD_SLEEP_TIME=7
```

- `lsb.params` (LSF Advanced Edition):
`SBD_SLEEP_TIME=7`

In addition, for LSF Standard Edition and Advanced Edition, the installer enables fairshare scheduling for all queues except `admin` and `license` as follows in `lsb.queues`:

```
Begin Queue
...
FAIRSHARE=USER_SHARES[[default, 1]]
...
End Queue
```

Parameter reference

The installer may require the following parameters.

SHAREDIR (Shared Directory window)

Description

Full path to the shared directory. The shared directory contains shared configuration files and is used for master host failover. This is recommended for production clusters.

Note:

You only specify a shared directory when both your master and all master candidate hosts are Windows hosts. You cannot have mixed Windows and UNIX master and master candidate hosts.

Syntax

```
SHAREDIR="\fileserver\path"
```

For example: `SHAREDIR="\\HostF\EGOshare"`

Default

No shared directory

ENTITLEMENTFILE

Description

Full path to the LSF entitlement file. LSF uses the entitlement to determine which feature set to be enable or disable based on the edition of the product. You must download the entitlement file for the edition of the product you are running, and set `ENTITLEMENTFILE` to the full path to the entitlement file you downloaded.

The entitlement files are:

- LSF Standard Edition - `platform_lsf_std_entitlement.dat`
- LSF Advanced Edition - `platform_adv_entitlement.dat`

Syntax

ENTITLEMENTFILE=*path*

Default

None

HOSTTYPE (Installation Options window)

Description

The type of host you wish to install: LSF master host (new cluster), master candidate, server, or client host.

Syntax

HOSTTYPE= Master | Candidate | Server | Client

For example: HOSTTYPE=Server

Default

LSF master host (new cluster)

*master host always gets full package

SERVICETYPE (SBD and RES Control window)

Description

Set the value to EGO if you want EGO Service Controller to start LSF **res** and **sbatchd**, and restart if they fail.

Syntax

SERVICETYPE=EGO | LSF

For example: SERVICETYPE=EGO

Default

LSF: **res** and **sbatchd** are managed as Windows services

CLUSTERNAME (Cluster Name window)

Description

Name of the LSF cluster. Do not use the same name as any LSF host, user or user group.

Syntax

CLUSTERNAME=*cluster_name*

For example: CLUSTERNAME=Research

Default

Cluster1

INSTALLDIR (Installation Directory window)

Description

Full path to the top-level LSF installation directory.

Syntax

INSTALLDIR=*path*

Default

C:\LSF_9.1

CLUSTERID (Cluster ID window)

Description

This parameter is not required for normal installation of a new cluster. Specify the unique Cluster ID of your cluster.

Cluster ID is used to identify different clusters when one host belongs to multiple clusters. It is appended to Windows service names.

Syntax

CLUSTERID=*cluster_id*

For example: CLUSTERID=research

Default

Not defined

CLUSTERADMIN (Cluster Administrator window)

Description

Cluster administrator (lsfadmin).

Syntax

CLUSTERADMIN="*domain\user_name*"

or

CLUSTERADMIN=".\iuser_name"

For example: CLUSTERADMIN="DOMAIN\lsfadmin"

Default

Windows installation account is the default cluster administrator

ADMINPASSWD (Cluster Administrator window)

Description

Actual password of the cluster administrator account (lsfadmin).

Syntax

```
ADMINPASSWD="password"
```

For example: ADMINPASSWD="mypasswd"

* master host only

Default

None - required parameter

Configuration Options window

Description

Default (quick install) or custom configuration. Select default configuration to use default values for all remaining installation options. This dialog window has no corresponding installation parameter.

Default

Default configuration (quick install)

SERVICEUSERNAME (Windows Service Account window)

Description

Name of the system services execution user OS account. This account is used to run LSF system services.

Syntax

```
SERVICEUSERNAME="domain\user_name"
```

or

```
SERVICEUSERNAME=".\user_name"
```

For example: SERVICEUSERNAME="DOMAIN\lsfadmin"

Default

The Local System account

SERVICEPASSWORD (Windows Service Account window)

Description

Actual password of the system services execution user OS account.

Syntax

SERVICEPASSWORD="*password*"

For example: SERVICEPASSWORD="mypaswd"

* local server host only

Default

None - the default systems service execution user OS account is the Local System account, which does not require a password

BASEPORT (LSF Ports window)

Description

Base connection port. LSF uses 4 consecutive ports starting from the base port; for example, 7869-7872.

Syntax

BASEPORT=*port_number*

For example: BASEPORT=7869

Default

7869

* indicates ports 7869-7872

RESPORT (LSF Ports window)

Description

LSF **res** service port.

Syntax

RESPORT=*port_number*

For example: RESPOR=6878

Default

6878

SBDPORT (LSF Ports window)

Description

LSF **sbatchd** service port.

Syntax

SBDPORT=*port_number*

For example: SBDPORT=6882

Default

6882

MBDPORT (LSF Ports window)**Description**

LSF mbatchd port.

Syntax

`MBDPORT=port_number`

For example: `MBDPORT=6881`

Default

6881

DYNAMICHOST (Dynamic Hosts window)**Description**

Set the value to Yes to enable dynamic hosts in LSF. After installation, configure security for dynamic hosts.

Syntax

`DYNAMICHOST=Yes | No`

For example: `DYNAMICHOST=Yes`

Default

No: hosts cannot join the cluster dynamically

STARTUP (Startup window)**Description**

Set the value to No to disable automatic startup of LSF after installation.

Syntax

`STARTUP=Yes | No`

For example: `STARTUP=Yes`

For master candidates and shared server hosts, specify No.

Default

Yes: start LSF automatically

ENABLEEGO (Enable EGO window)**Description**

Set the value to Yes if you want to enable advanced EGO features.

Syntax

ENABLEEGO=Yes | No

For example: ENABLEEGO=Yes

Default

No: Disable advanced EGO features

SERVERHOSTS (Server Hosts window)**Description**

Define LSF server hosts that this host can contact.

Syntax

SERVERHOSTS=*host_name* ...

For example: SERVERHOSTS=HostM HostW

Default

None—Optional on master host, required on slave for interactive installation

Notices

This information was developed for products and services offered in the U.S.A.

IBM® may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web

sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Intellectual Property Law
Mail Station P300
2455 South Road,
Poughkeepsie, NY 12601-5400
USA

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrates programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application

programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. _enter the year or years_.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com)[®] are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at <http://www.ibm.com/legal/copytrade.shtml>.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.



Java[™] and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

LSF[®], Platform, and Platform Computing are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

Privacy policy considerations

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software

Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, See IBM's Privacy Policy at <http://www.ibm.com/privacy> and IBM's Online Privacy Statement at <http://www.ibm.com/privacy/details> the section entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at <http://www.ibm.com/software/info/product-privacy>.



Printed in USA

SC27-5316-03

