Installing Platform LSF on UNIX and Linux

Platform LSF™
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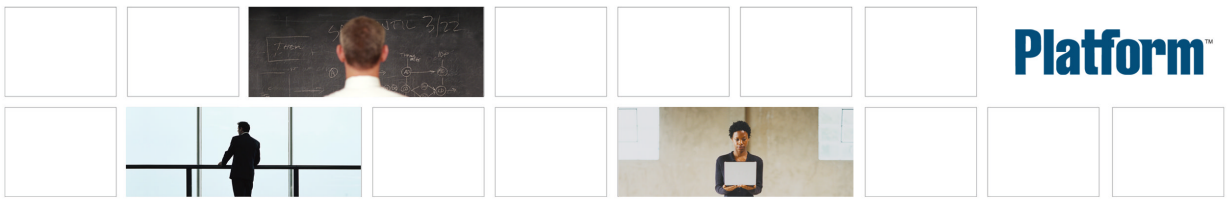

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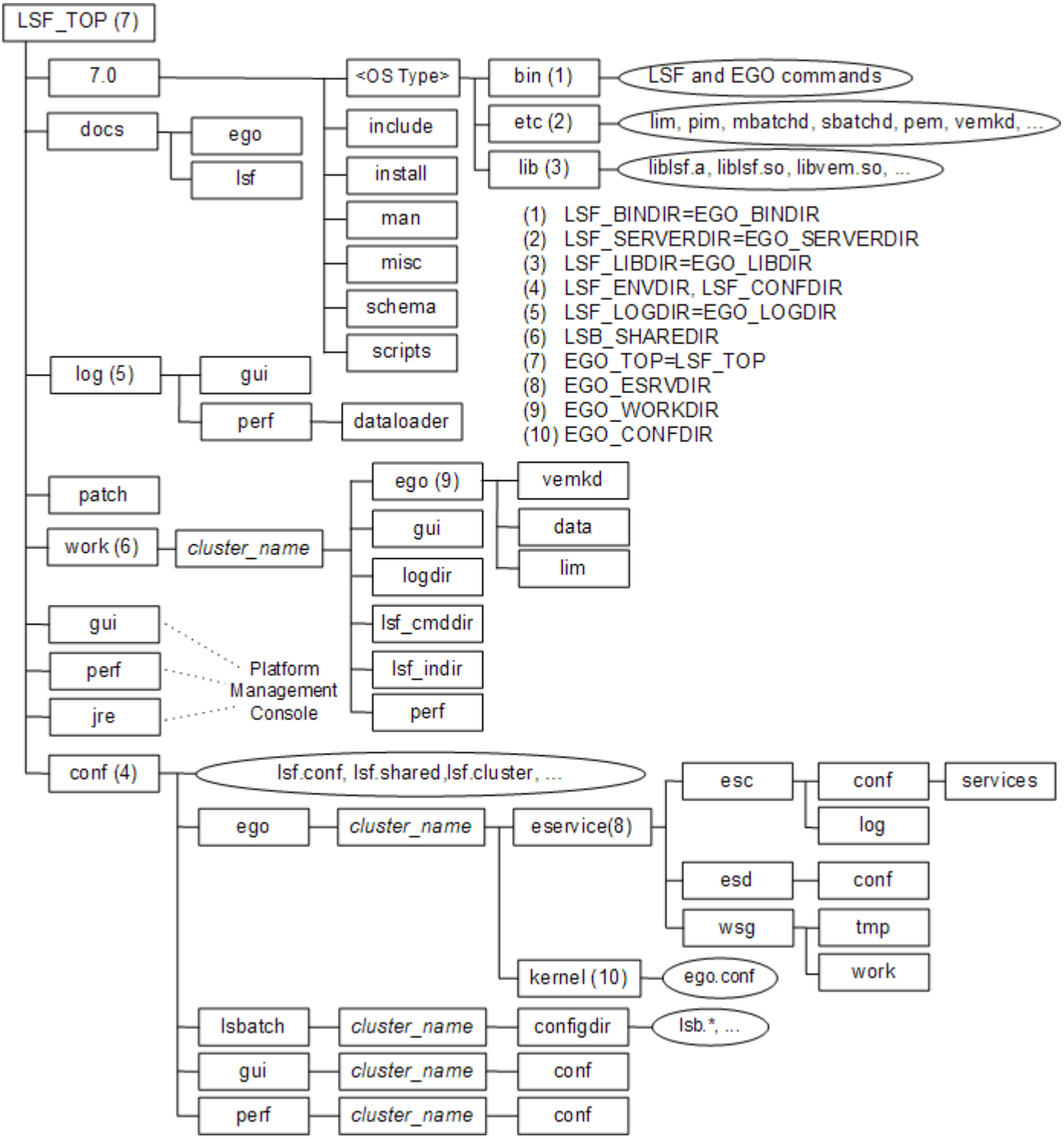
Example installation directory structure



Plan your installation

- Choose a primary LSF administrator (owns the LSF and EGO configuration files and log files; e.g., LSF_ADMINS="lsfadmin")
- Choose a shared LSF installation directory (e.g., LSF_TOP="/usr/share/lsf")
- Choose LSF hosts (master host, master candidates, server hosts, and client-only hosts; e.g., LSF_ADD_SERVERS="hostm hostb hostc hostd" LSF_MASTER_LIST="hostm hostd" LSF_ADD_CLIENTS="hoste hostf")

  Important:

  Do not use the name of any host, user, or user group as the name of your cluster.
- Choose LSF server hosts that are candidates to become the master host for the cluster, if you are installing a new host to be dynamically added to the cluster (for example, LSF_MASTER_LIST="hosta hostb"
- Choose a cluster name (39 characters or less with no white spaces; for example, LSF_CLUSTER_NAME="cluster1")
- If you choose to install the Platform Management Console (PMC) and Platform LSF Reports (PERF), make sure at least one master candidate in LSF_MASTER_LIST runs Linux. If you choose to use the Derby database for demo purposes, choose the database host; e.g., DERBY_DB_HOST="hostd". If EGO does not manage PMC or PERF, you must also choose PMC and PERF hosts, otherwise it is optional. For example, PERF_HOST="hostr", PMC_HOST="hostp".
- If you are planning to use AFS with MPICH-GM and have made any custom changes to your existing AFS or MPICH-GM esub, create a backup of these.

EGO in the LSF cluster

When EGO is enabled in the cluster, EGO may control services for components such as the Platform Management Console (PMC) or LSF Reports (PERF). 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 the following separately:

- EGO control of `sbatchd` and `res`
- EGO control of PMC (`webgui`)
- EGO control of PERF services (`plc`, `jobdt`, `purger`, and `derbydb`)

For example, you could choose EGO control for PERF services, but not `sbatchd` and `res`, and not PMC.

Prepare your systems for installation

- Ensure the installation file system on the file server host has enough disk space for all host types (approximately 300 MB per host type).
- Ensure top-level LSF installation directory (LSF_TOP=EGO_TOP) is accessible with the same path name from all hosts in the LSF cluster (e.g., `/usr/share/lsf`).
- Ensure the installation file system containing LSF_TOP (EGO_TOP) is writable by the user account that is running lsfinstall.
- Create user accounts for LSF administrators (e.g., `lsfadmin`).
- If you need help to download LSF distribution tar files, read the Release Notes for Platform LSF.
- Get the LSF installation script tar file `lsf7Update5_lsfinstall.tar.Z` and extract it (e.g., `# zcat lsf7Update5_lsfinstall.tar.Z | tar xvf -`)
- Get the LSF distribution tar files for all host types you need, and put them in the same directory as `lsf7Update5_lsfinstall.tar.Z` (e.g., for Linux 2.6 kernel glibc version 2.3: `lsf7Update5_linux2.6-glibc2.3-x86.tar.Z`). Do not extract the distribution tar files.
- If you choose to install the PMC with Platform LSF Reports, get the distribution file, and put it in the same directory as `lsf7Update5_lsfinstall.tar.Z`. Do not extract the tar file.
- If you choose to install the Session Scheduler for Platform LSF, get the distribution file from `my.platform.com`, and put it in the same directory as `lsf7Update5_lsfinstall.tar.Z`. Do not extract the tar file.
- Get an LSF license key and create an LSF license file (`license.dat`) in the same directory as the distribution files and `lsf7Update5_lsfinstall.tar.Z`

  You must have a valid license file to install. If `lsfinstall` cannot find a license file, it exits.

Install a new Platform LSF cluster (lsfinstall)

1. Log on as root to the LSF installation file server.

   If you are not root, see *If you install LSF as a non-root user* on page 11.
2. Change to `lsf7update5_lsfinstall/`.
3. Edit `./install.config` or `./slave.config` to specify the installation variables you want.

   Uncomment the options you want in the template file, and replace the example values with your own settings.

   Tip:

   The sample values in the install.config and slave.config template files are examples only. They are *not* default installation values.
4. Run `./lsfinstall -f install.config`.

After installing Platform LSF

1. Optional. Run `hostsetup` to set up LSF hosts.
   a) Log on to each LSF server host as `root`. Start with the LSF master host. If you are not `root`, you can continue with host setup, but by default, only `root` can start the LSF daemons.
   b) Run `hostsetup` on each LSF server host. For example, to use the LSF cluster installed in `/usr/share/lsf` and configure LSF daemons to start automatically:

   ```
   # cd /usr/share/lsf/7.0/install
   ```

   ```
   # ./hostsetup --top="/usr/share/lsf" --boot="y"
   ```

   For complete `hostsetup` usage, enter `hostsetup -h`.
2. Log on to the LSF master host as `root`, and set your LSF environment:
   - For `csh` or `tcsh`:
     ```
     % source LSF_TOP/conf/cshrc.lsf
     ```
   - For `sh`, `ksh`, or `bash`:
     ```
     $ . LSF_TOP/conf/profile.lsf
     ```
3. Optional. Enable Platform LSF for users.

   Ensure all users Include `LSF_CONFDIR/cshrc.lsf` or `LSF_CONFDIR/profile.lsf` in their `.cshrc` or `.profile`.
4. Run `lsfstartup` to start the cluster.

   If your cluster administrator `lsfadmin` is a local account, and you allow EGO to control PMC, start the cluster as `root`.
5. If you do not want to allow EGO to control PMC, log onto the PMC host and do the following.
   a) Start PMC. Run:

   ```
   pmcadmin start
   ```

   If your cluster administrator `lsfadmin` is a local account, start PMC as `root`.
   b) Optional. Enable `setrc` for PMC. Run:

   ```
   pmcsetrc.sh
   ```
6. If you do not want to allow EGO to control PERF daemons, do the following.
   a) Start PERF daemons. Log onto the PERF host and run:

   ```
   perfadmin start all
   ```
   b) Optional. Enable `setrc` for PERF daemons. Log onto the PERF host and run:

   ```
   perfsetrc.sh
   ```
   c) If you use Derby database and the database host is not the PERF host, start the PERF database daemon. Log onto the Derby DB host and run:

   ```
   perfadmin start all
   ```
   d) Optional. If you use Derby database and the database host is not the PERF host, enable `setrc` for PERF database daemons. Log onto the Derby DB host and run:

   ```
   perfsetrc.sh
   ```
7. Test your cluster by running some basic LSF commands (e.g., `lsid`, `lshosts`, `bhosts`). After testing your cluster, be sure all LSF users include `LSF_CONFDIR/cshrc.lsf` or `LSF_CONFDIR/profile.lsf` in their .cshrc or .profile.
8. Test the Platform Management Console (PMC). Browse to the web server URL and log in to the PMC using the LSF administrator name and password.

The web server URL is:

```
http://host_name:8080/platform
```

The host name is the PMC host you specified.

If PMC is controlled by EGO and you did not specify the PMC host, log on as LSF administrator and run:

```
egosh client view GUIURL_1
```

The additional information shows the full URL including the host name and port.

If you install LSF as a non-root user

If you install without root permissions, you must choose either a multi-user cluster or a single-user cluster:

- Single-user : Your user account must be primary LSF administrator. This account will be able to start LSF daemons, but it is the only user account that can submit jobs to the cluster. To display load information this user account must also be able to read the system kernel information, such as `/dev/kmem`.
- Multi-user: By default, only root can start the LSF daemons. Any user can submit jobs to your cluster. To make the cluster available to other users, you must manually change the ownership and setuid bit for lsadmin and badmin to root, and the file permission mode to `-rwsr-xr-x` (4755) so that the user ID bit for the owner is `setuid`.

  Use the following commands to set the correct owner, user ID bit, and file permission mode for a multi-user cluster:

```
# chown root lsadmin badmin eauth swtbl_api ntbl_api
# chmod 4755 lsadmin badmin eauth swtbl_api ntbl_api
```

Running IBM POE jobs in Platform LSF

- Single-user: To run IBM POE jobs, you must manually change the ownership and setuid bit for `swtbl_api` and `ntbl_api` to root, and the file permission mode to -rwsr-xr-x (4755) so that the user ID bit for the owner is setuid.

  Use the following commands to set the correct owner, user ID bit, and file permission mode:

```
# chown root swtbl_api ntbl_api
# chmod 4755 swtbl_api ntbl_api
```

Add hosts

Set up hosts to join the cluster.

Note:

You must run hostsetup on SGI hosts (IRIX, TRIX, and Altix), HP-UX hosts, and Linux QsNet hosts. Running hostsetup is optional on all other systems.

1. `# hostsetup --top="/usr/share/lsf" --boot="y"`

   This sets up a host to use the cluster installed in `/usr/share/lsf`. It also configures the LSF daemons to start automatically (--boot="y").

For Platform LSF on the following systems, running `hostsetup` does the following things:

- For SGI IRIX, TRIX, and Altix cpuset hosts, `hostsetup` adds the cpuset Boolean resource to the HOSTS section of `lsf.cluster.`*`cluster_name`* for each cpuset host.
- For HP-UX pset hosts, `hostsetup` adds the pset Boolean resource to the HOSTS section of `lsf.cluster.`*`cluster_name`* for each pset host.
- For Linux QsNet hosts, `hostsetup`:
  - Configures `lsf.cluster.`*`cluster_name`* to assign the Boolean resource rms defined in `lsf.shared` to all LSF hosts that run on an RMS partition.
  - Creates a table named lsfrids in the RMS database. This table is used internally by LSF.

Running host setup remotely (rhostsetup)

Before using `rhostsetup`, you must configure the following parameters at the top of the script:

- LSF_RSHCMD: Remote shell command (e.g, `rsh` or `ssh`) accessing the remote host.
- LSF_HOSTS: Lists hosts to run `hostsetup` on.
- LSF_TOPDIR: Sets the `hostsetup --top` option. Specify the full path to the top-level installation directory. `rhostsetup` tries to detect this from `lsf.conf` if it is not defined here.
- LSF_BOOT: Sets the `hostsetup --boot` option. Default is no (`n`).
- LSF_QUIET: Sets the `hostsetup --quiet` option. Default is no (`n`).

Use the `rhostsetup` script to launch `hostsetup` on remote hosts.

`rhostsetup` uses either `ssh` or `rsh`. It is included in the installation script tar file `lsf7Update5_lsfinstall.tar.Z` and is located in the `lsf7Update5_lsfinstall` directory created when you uncompress and extract installation script tar file.

After installation, `rhostsetup` is located in `LSF_TOP/7.0/install/`.

1. Run the `rhostsetup` script.

   For example:

```
LSF_RSHCMD="ssh -n"
LSF_HOSTS="hostA hostB hostC"
LSF_TOPDIR=/usr/local/ls
LSF_BOOT=y
LSF_QUIET=n
```

Optional LSF HPC configuration

After installing LSF HPC, you can define the following in `lsf.conf`:

- LSF_LOGDIR=*directory*

  In large clusters, you should set LSF_LOGDIR to a local file system (for example, `/var/log/lsf`).
- LSB_RLA_WORKDIR=*directory* parameter, where *directory* is the location of the status files for RLA. Allows RLA to recover its original state when it restarts. When RLA first starts, it creates the directory defined by LSB_RLA_WORKDIR if it does not exist, then creates subdirectories for each host.

  You should avoid using `/tmp` or any other directory that is automatically cleaned up by the system. Unless your installation has restrictions on the LSB_SHAREDIR directory, you should use the default:

  ```
  LSB_SHAREDIR/cluster_name/rla_workdir
  ```

  On IRIX or TRIX, you should not use a CXFS file system for LSB_RLA_WORKDIR.
- On Linux hosts running HP MPI, set the full path to the HP vendor MPI library `libmpirm.so`.

  For example, if HP MPI is installed in `/opt/hpmpi`:

  ```
  LSF_VPLUGIN="/opt/hpmpi/lib/linux_ia32/libmpirm.so"
  ```
- LSB_RLA_UPDATE=*time_seconds*

  Specifies how often the LSF scheduler refreshes information from RLA.

  Default: 600 seconds
- LSB_RLA_HOST_LIST="*host_name* ..."

  On Linux/QsNet hosts, the LSF scheduler can contact the RLA running on any host for RMS allocation requests. LSB_RLA_HOST_LIST defines a list of hosts to restrict which RLAs the LSF scheduler contacts.

  If LSB_RLA_HOST_LIST is configured, you must list at least one host per RMS partition for the RMS partition to be considered for job scheduling.

  Listed hosts must be defined in `lsf.cluster.`*cluster_name*.
- LSB_RLA_UPDATE=*seconds*

  On Linux/QsNet hosts, specifies how often RLA should refresh its RMS information map.

  Default: 600 seconds
- LSB_RMSACCT_DELAY=*time_seconds*

  If set on Linux/QsNet hosts, RES waits the specified number of seconds before exiting to allow LSF and RMS job statistics to synchronize.

  If LSB_RMSACCT_DELAY=0, RES waits forever until the database is up to date.
- LSB_RMS_MAXNUMNODES=*integer*

  Maximum number of nodes in a Linux/QsNet system. Specifies a maximum value for the nodes argument to the topology scheduler options specified in:

  - `-extsched` option of `bsub`
  - DEFAULT_EXTSCHED and MANDATORY_EXTSCHED in `lsb.queues`

  Default: 1024
- LSB_RMS_MAXNUMRAILS=*integer*

  Maximum number of rails in a Linux/QsNet system. Specifies a maximum value for the rails argument to the topology scheduler options specified in:

- `-extsched` option of `bsub`
- DEFAULT_EXTSCHED and MANDATORY_EXTSCHED in `lsb.queues`

Default: 32

- LSB_RMS_MAXPTILE=*integer*

  Maximum number of CPUs per node in a Linux/QsNet system. Specifies a maximum value for the RMS[ptile] argument to the topology scheduler options specified in:

  - `-extsched` option of `bsub`
  - DEFAULT_EXTSCHED and MANDATORY_EXTSCHED in `lsb.queues`

  Default: 32

install.config

About install.config

The `install.config` file contains options for LSF installation and configuration. Use `lsfinstall -f install.config` to install LSF using the options specified in `install.config`.

Template location

A template `install.config` is included in the installation script tar file `lsf7Update5_lsfinstall.tar.Z` and is located in the `lsf7Update5_lsfinstall` directory created when you uncompress and extract installation script tar file. Edit the file and uncomment the options you want in the template file. Replace the example values with your own settings to specify the options for your new installation.

Important:

The sample values in the install.config template file are examples only. They are not default installation values.

After installation, the `install.config` containing the options you specified is located in `LSF_TOP/7.0/install/`.

Format

Each entry in `install.config` has the form:

```
NAME="STRING1 STRING2 ..."
```

The equal sign = must follow each `NAME` even if no value follows and there should be no spaces around the equal sign.

A value that contains multiple strings separated by spaces must be enclosed in quotation marks.

Blank lines and lines starting with a pound sign (#) are ignored.

Parameters

- DERBY_DB_HOST
- EGO_DAEMON_CONTROL
- EGO_PERF_CONTROL
- EGO_PMC_CONTROL
- ENABLE_DYNAMIC_HOSTS
- ENABLE_EGO
- ENABLE_HPC_CONFIG
- EP_BACKUP
- LSF_ADD_SERVERS
- LSF_ADD_CLIENTS
- LSF_ADMINS
- LSF_CLUSTER_NAME
- LSF_DYNAMIC_HOST_WAIT_TIME
- LSF_LICENSE
- LSF_MASTER_LIST

- LSF_QUIET_INST
- LSF_TARDIR
- LSF_TOP
- PATCH_BACKUP_DIR
- PATCH_HISTORY_DIR
- PERF_HOST
- PMC_HOST

DERBY_DB_HOST

Syntax

DERBY_DB_HOST="*host_name***"**

Description

Reporting database host. This parameter is used when you install the Platform Management Console package for the first time, and is ignored for all other cases.

Specify the name of a reliable host where the Derby database for Reporting data collection will be installed. You must specify a host from LSF_MASTER_LIST. Leave this parameter undefined if you will use another database for Reporting.

Example

```
DERBY_DB_HOST="hostd"
```

Default

Database is undefined.

EGO_DAEMON_CONTROL

Syntax

EGO_DAEMON_CONTROL="Y" | **"N"**

Description

Enables EGO to control LSF `res` and `sbatchd`. Set the value to "Y" if you want EGO Service Controller to start `res` and `sbatchd`, and restart if they fail. To avoid conflicts, leave this parameter undefined if you use a script to start up LSF daemons.

Note:

If you specify EGO_ENABLE="N", this parameter is ignored.

Example

```
EGO_DAEMON_CONTROL="N"
```

Default

N (`res` and `sbatchd` are started manually)

EGO_PERF_CONTROL

Syntax

EGO_PERF_CONTROL="Y" | **"N"**

Description

Enables EGO Service Controller to control PERF daemons. Set the value to "N" if you want to control PERF daemons manually. If you do this, you must define PERF_HOST in this file.

Note:

If you specify EGO_ENABLE="N", this parameter is ignored.

Note:

This parameter only takes effect when you install the Platform Management Console package for the first time.

Example

```
EGO_PERF_CONTROL="N"
```

Default

Y (PERF daemons are controlled by EGO unless EGO is disabled)

EGO_PMC_CONTROL

Syntax

EGO_PMC_CONTROL="Y" | **"N"**

Description

Enables EGO Service Controller to control the Platform Management Console. Set the value to "N" if you want to control the Platform Management Console manually.

Note:

If you specify EGO_ENABLE="N", this parameter is ignored.

Note:

This parameter only takes effect when you install the Platform Management Console package for the first time.

Example

```
EGO_PMC_CONTROL="N"
```

Default

Y (Platform Management Console is controlled by EGO unless EGO is disabled)

ENABLE_DYNAMIC_HOSTS

Syntax

ENABLE_DYNAMIC_HOSTS="Y" | **"N"**

Description

Enables dynamically adding and removing hosts. Set the value to "Y" if you want to allow dynamically added hosts.

If you enable dynamic hosts, any host can connect to cluster. To enable security, configure LSF_HOST_ADDR_RANGE in `lsf.cluster.`*`cluster_name`* after installation and restrict the hosts that can connect to your cluster.

Example

```
ENABLE_DYNAMIC_HOSTS="N"
```

Default

N (dynamic hosts not allowed)

ENABLE_EGO

Syntax

ENABLE_EGO="Y" | **"N"**

Description

Enables Platform EGO functionality in the LSF cluster.

ENABLE_EGO="Y" causes `lsfinstall` uncomment LSF_EGO_ENVDIR and sets LSF_ENABLE_EGO="Y" in `lsf.conf`.

ENABLE_EGO="N" causes `lsfinstall` to comment out LSF_EGO_ENVDIR and sets LSF_ENABLE_EGO="N" in `lsf.conf`.

Set the value to "N" if you do not want to take advantage of the following LSF features that depend on EGO:

- LSF daemon control by EGO Service Controller
- EGO-enabled SLA scheduling
- Platform Management Console (PMC)
- LSF reporting

Default

Y (EGO is enabled in the LSF cluster)

ENABLE_HPC_CONFIG

Syntax

ENABLE_HPC_CONFIG="Y" | **"N"**

Description

Set the value to "Y" to add LSF HPC configuration parameters to the cluster.

Default

Y (Platform LSF HPC is enabled.)

EP_BACKUP

Syntax

EP_BACKUP="Y" | **"N"**

Description

Enables backup and rollback for enhancement packs. Set the value to "N" to disable backups when installing enhancement packs (you will not be able to roll back to the previous patch level after installing an EP, but you will still be able to roll back any fixes installed on the new EP).

You may disable backups to speed up install time, to save disk space, or because you have your own methods to back up the cluster.

Default

Y (backup and rollback are fully enabled)

LSF_ADD_SERVERS

Syntax

LSF_ADD_SERVERS="*host_name* [*host_name*...]**"**

Description

List of additional LSF server hosts.

The hosts in LSF_MASTER_LIST are always LSF servers. You can specify additional server hosts. Specify a list of host names two ways:

- Host names separated by spaces
- Name of a file containing a list of host names, one host per line.

Valid Values

Any valid LSF host name.

Example 1

List of host names:

```
LSF_ADD_SERVERS="hosta hostb hostc hostd"
```

Example 2

Host list file:

```
LSF_ADD_SERVERS=:lsf_server_hosts
```

The file `lsf_server_hosts` contains a list of hosts:

```
hosta
hostb
hostc
hostd
```

Default

Only hosts in LSF_MASTER_LIST are LSF servers.

LSF_ADD_CLIENTS

Syntax

LSF_ADD_CLIENTS="*host_name* [*host_name*...]**"**

Description

List of LSF client-only hosts.

Tip:

After installation, you must manually edit `lsf.cluster.`*cluster_name* to include the host model and type of each client listed in LSF_ADD_CLIENTS.

Valid Values

Any valid LSF host name.

Example 1

List of host names:

```
LSF_ADD_CLIENTS="hoste hostf"
```

Example 2

Host list file:

```
LSF_ADD_CLIENTS=:lsf_client_hosts
```

The file `lsf_client_hosts` contains a list of hosts:

```
hoste
hostf
```

Default

No client hosts installed.

LSF_ADMINS

Syntax

LSF_ADMINS="*user_name* [*user_name* ...]**"**

Description

Required. List of LSF administrators.

The first user account name in the list is the primary LSF administrator. It cannot be the root user account.

Typically this account is named lsfadmin. It owns the LSF configuration files and log files for job events. It also has permission to reconfigure LSF and to control batch jobs submitted by other users. It typically does not have authority to start LSF daemons. Usually, only root has permission to start LSF daemons.

All the LSF administrator accounts must exist on all hosts in the cluster before you install LSF. Secondary LSF administrators are optional.

Caution:

You should *not* configure the root account as the primary LSF administrator.

Valid Values

Existing user accounts

Example

```
LSF_ADMINS="lsfadmin user1 user2"
```

Default

None—required variable

LSF_CLUSTER_NAME

Syntax

LSF_CLUSTER_NAME="*cluster_name***"**

Description

Required. The name of the LSF cluster.

Example

```
LSF_CLUSTER_NAME="cluster1"
```

Valid Values

Any alphanumeric string containing no more than 39 characters. The name cannot contain white spaces.

Important:

Do not use the name of any host, user, or user group as the name of your cluster.

Default

None—required variable

LSF_DYNAMIC_HOST_WAIT_TIME

Syntax

LSF_DYNAMIC_HOST_WAIT_TIME=*seconds*

Description

Time in seconds slave LIM waits after startup before calling master LIM to add the slave host dynamically.

This parameter only takes effect if you set ENABLE_DYNAMIC_HOSTS="Y" in this file. If the slave LIM receives the master announcement while it is waiting, it does not call the master LIM to add itself.

Recommended value

Up to 60 seconds for every 1000 hosts in the cluster, for a maximum of 15 minutes. Selecting a smaller value will result in a quicker response time for new hosts at the expense of an increased load on the master LIM.

Example

```
LSF_DYNAMIC_HOST_WAIT_TIME=60
```

Hosts will wait 60 seconds from startup to receive an acknowledgement from the master LIM. If it does not receive the acknowledgement within the 60 seconds, it will send a request for the master LIM to add it to the cluster.

Default

Slave LIM waits forever

LSF_LICENSE

Syntax

LSF_LICENSE="/*path***/***license_file***"**

Description

Full path to the name of the LSF license file, `license.dat`.

You must have a valid license file to install LSF.

Caution:

If you do not specify LSF_LICENSE, or `lsfinstall` cannot find a valid license file in the default location, `lsfinstall` exits.

Example

```
LSF_LICENSE="/usr/share/lsf_distrib/license.dat"
```

Default

The parent directory of the current working directory. For example, if `lsfinstall` is running under `usr/share/lsf_distrib/lsf_lsfinstall` the LSF_LICENSE default value is `usr/share/lsf_distrib/license.dat`.

LSF_MASTER_LIST

Syntax

LSF_MASTER_LIST="*host_name* [*host_name* ...]**"**

Description

Required for a first-time installation. List of LSF server hosts to be master or master candidates in the cluster.

You must specify at least one valid server host to start the cluster. The first host listed is the LSF master host.

During upgrade, specify the existing value.

Valid Values

LSF server host names

Example

```
LSF_MASTER_LIST="hosta hostb hostc hostd"
```

Default

None — required variable

LSF_QUIET_INST

Syntax

LSF_QUIET_INST="Y" | **"N"**

Description

Enables quiet installation.

Set the value to Y if you want to hide the LSF installation messages.

Example

```
LSF_QUIET_INST="Y"
```

Default

N (installer displays messages during installation)

LSF_TARDIR

Syntax

LSF_TARDIR="/*path***"**

Description

Full path to the directory containing the LSF distribution tar files.

Example

```
LSF_TARDIR="/usr/share/lsf_distrib"
```

Default

The parent directory of the current working directory. For example, if `lsfinstall` is running under `usr/share/lsf_distrib/lsf_lsfinstall` the LSF_TARDIR default value is `usr/share/lsf_distrib`.

LSF_TOP

Syntax

LSF_TOP="/*path***"**

Description

Required. Full path to the top-level LSF installation directory.

Valid Value

The path to LSF_TOP must be shared and accessible to all hosts in the cluster. It cannot be the root directory (/). The file system containing LSF_TOP must have enough disk space for all host types (approximately 300 MB per host type).

Example

```
LSF_TOP="/usr/share/lsf"
```

Default

None — required variable

PATCH_BACKUP_DIR

Syntax

PATCH_BACKUP_DIR="/*path***"**

Description

Full path to the patch backup directory. This parameter is used when you install a new cluster for the first time, and is ignored for all other cases.

The file system containing the patch backup directory must have sufficient disk space to back up your files (approximately 400 MB per binary type if you want to be able to install and roll back one enhancement pack and a few additional fixes). It cannot be the root directory (/).

If the directory already exists, it must be writable by the cluster administrator (`lsfadmin`).

If you need to change the directory after installation, edit PATCH_BACKUP_DIR in `LSF_TOP/patch.conf` and move the saved backup files to the new directory manually.

Example

```
PATCH_BACKUP_DIR="/usr/share/lsf/patch/backup"
```

Default

`LSF_TOP/patch/backup`

PATCH_HISTORY_DIR

Syntax

PATCH_HISTORY_DIR="/*path*"

Description

Full path to the patch history directory. This parameter is used when you install a new cluster for the first time, and is ignored for all other cases.

It cannot be the root directory (/). If the directory already exists, it must be writable by `lsfadmin`.

The location is saved as PATCH_HISTORY_DIR in `LSF_TOP/patch.conf`. Do not change the directory after installation.

Example

```
PATCH_BACKUP_DIR="/usr/share/lsf/patch"
```

Default

`LSF_TOP/patch`

PERF_HOST

Syntax

PERF_HOST="*host_name*"

Description

Dedicated host for PERF daemons. Required if EGO_PERF_CONTROL="N". To allow failover, we recommend that you leave this parameter undefined when EGO control is enabled for the PERF daemons.

Specify the name of one host that will run PERF daemons: `plc`, `jobdt`, and `purger`. If EGO controls PERF daemons, you must specify a host from LSF_MASTER_LIST.

Note:

This parameter only takes effect when you install the Platform Management Console package for the first time.

Example

```
PERF_HOST="hostp"
```

Default

Undefined.

PMC_HOST

Syntax

PMC_HOST="*host_name*"

Description

Dedicated host for Platform Management Console. Required if EGO_PMC_CONTROL="N". To allow failover, we recommend that you leave this parameter undefined when EGO control is enabled for the Platform Management Console.

Specify the name of one host that will always run the Platform Management Console. If EGO controls PMC, you must specify a host from LSF_MASTER_LIST.

Note:

This parameter only takes effect when you install the Platform Management Console package for the first time.

Example

```
PMC_HOST="hostg"
```

Default

Undefined.

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