Upgrading your Platform Symphony Cluster

This process upgrades an existing cluster.

Can you upgrade your cluster with this method? ☑

Yes:

Any cluster running Symphony 4.1, using a supported production database (if Derby database is used, upgrade is supported but old data will not be available). The 4.1 cluster must have been installed using an account with administrator privileges.

No:

- Symphony version 3.x cluster *
- Symphony version 4.0 cluster **
- Solaris Sparc hosts ***
- multiple versions of Symphony in the same cluster
- Symphony and LSF in the same cluster

* To upgrade a Symphony 3.x cluster, see *"Upgrading your Platform Symphony 3.x Cluster"*.
** To upgrade a Symphony 4.0 cluster, upgrade to version 4.1 first, then upgrade to 5.0.
*** To upgrade a Solaris Sparc compute host, refer to the upgrade method described on page 5.

For any other case, contact Platform

To install the upgrade, use the same installation packages that install a new cluster.

Start Process

Obtain the software from Platform Computing.

http://my.platform.com

Install the cluster upgrade

Prepare for a short period of cluster downtime.

Once you choose to activate the cluster upgrade, you cannot reverse the process. Deactivation of the upgrade is a temporary step designed for troubleshooting purposes. All the changes you applied to cluster and application configurations after activation will be lost if you deactivate the upgrade.

On each host, log on as root and run:

egosetrc.sh

Activate the cluster upgrade

Do any testing you want.

Okay?

Yes → Linux/Solaris cluster with automatic startup enabled?

No → Rerun **symactivate** again to deactive the upgrade

Fix problems

Yes → egosetrc.sh

No → Switch the application to the upgrade version

Okay?

Yes → **End process**

No → Edit the application profile again to switch back to the original version.

Fix problems

⚑ Be careful not to remove old binaries!

Linux:
Never attempt to upgrade with rpm -U or uninstall with rpm -e. Either one automatically uninstalls the previous version binaries. Never uninstall previous versions of the software.

Windows:
Never use standard Windows tools such as *Add/Remove Programs* to uninstall the previous version after the upgrade.

Why?
If you uninstall the original installation, you remove cluster configuration files that are also used by the upgraded cluster. Your cluster cannot work if you accidentally uninstall the original software.

To safely "clean up" obsolete versions of Symphony, contact Platform.
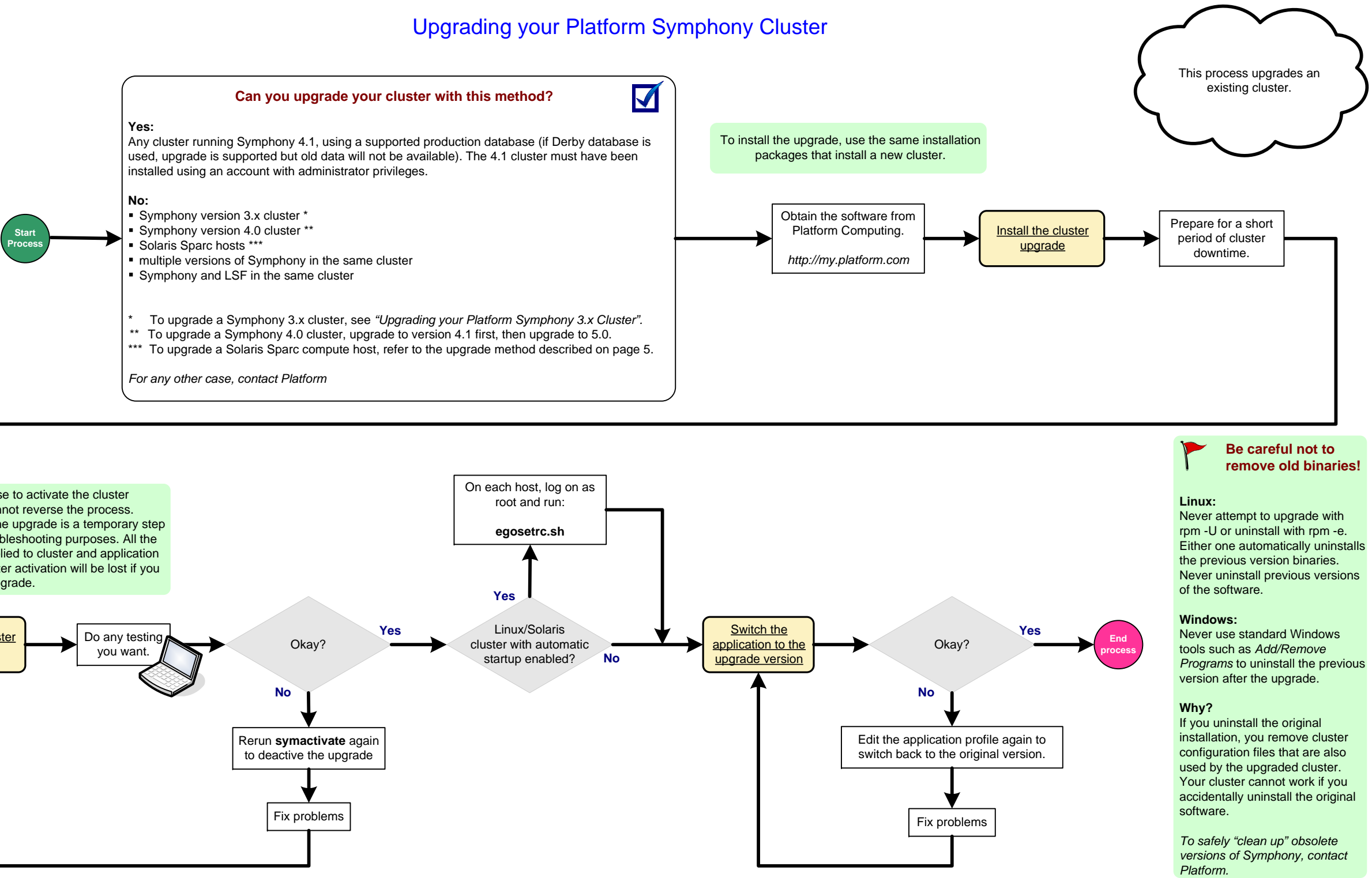
Installing the Upgrade

Upgrading your cluster to Symphony 5.0 preserves Symphony 4.x functionality:

- upgrading preserves the cluster configuration
- upgrading preserves the historical data for reporting
- after upgrade, your existing 4.x applications can run immediately
- you decide when to upgrade your existing applications to use version 5.0 functionality; keep the Symphony 4.x functionality in the cluster for as long as you wish to continue using your 4.x applications
- Symphony clients version 3.1, 3.2, and 4.x can all interact with the upgraded cluster, no need to upgrade clients (if you add Symphony 5.0 clients, remember they cannot interact with 4.x applications)
- new applications are created as version 5.0

A Symphony 5.0 cluster created through the normal new cluster installation cannot run applications under a Symphony 4.x environment.

This process installs the upgrade on the hosts.

Start Process

Install on every host in the cluster.

Log on with the same installation account as you used to install the previous version.

Installation phase does not interfere with the running cluster:

- installation puts the upgrade version 5.0 binaries on each host
- no changes to runtime environment for existing applications...
- no impact on cluster operation. Symphony continues to run and applications use the existing 4.x binaries, even after the installation of upgrade version binaries
- set your own schedule for performing the installation on each host
- after all hosts have the new software installed, choose your own time to activate the upgrade at the cluster level

If you activate the upgrade at the cluster level without installing the upgrade on a particular host, the cluster works but that host does not support Symphony 5.0 functionality and may no longer support Symphony 4.x functionality. You can install and activate the upgrade on that host at a later time.

RPM versions earlier than 4.2.*x* require the RPM_INSTALL_PREFIX environment variable (instead of the --prefix option)

Except for installation directory, all environment variables required for installation of a new cluster are ignored when installing the upgrade.

Operating system?

Linux

Windows

Solaris

Run the installer, use the same installation directory and database directory as the original cluster.
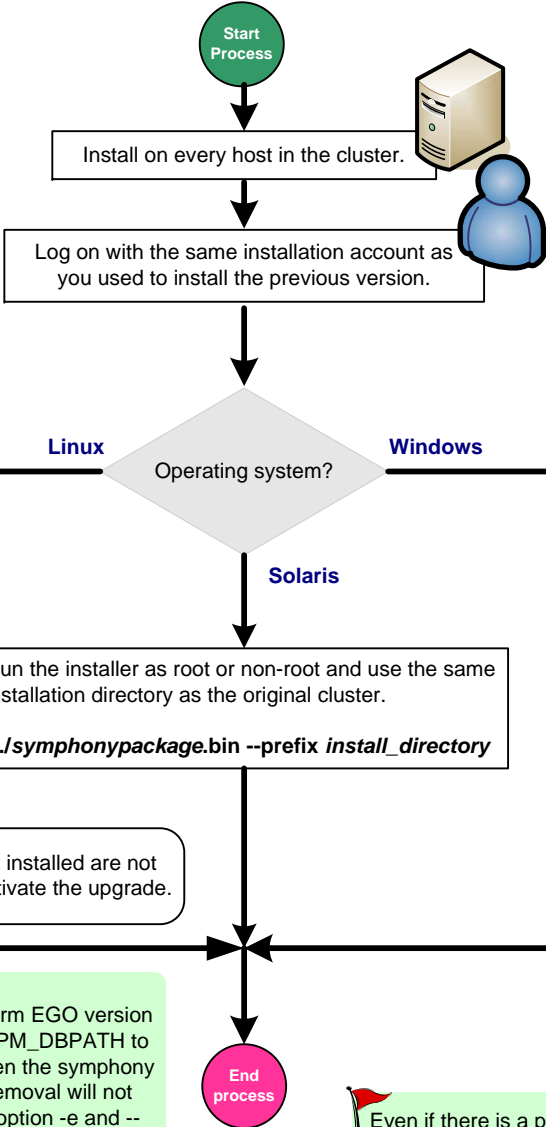
- installing as root :
      .*/symphonypackage***.bin --prefix** *install_directory*

- installing as non-root:
  .*/symphonypackage***.bin --dbpath** *db_directory* **--prefix** *install_directory*

Run the installer as root or non-root and use the same installation directory as the original cluster.

.*/symphonypackage***.bin --prefix** *install_directory*

Run the installer, choose Upgrade.

SymphonySetup*nnn***_win32.exe**
or
SymphonySetup*nnn***_win-x64.exe**

If you need to use .msi packages instead, refer to the alternate instructions in the grid install guide. Specify the same installation directory as the existing cluster.

The binaries you just installed are not put to use until you activate the upgrade.

End process

Never use *rpm -U* to upgrade EGO or SOAM components. If you must use .rpm packages to install, use *rpm -i (*as a new installation), use *--force*, and install the EGO package first. The installer will install the upgrade properly.

rpm -ivh --force --prefix *install_directory ego_package*.rpm
rpm -ivh --force --prefix *install_directory soam_package*.rpm

Installing the upgrade will remove Platform EGO version 1.2.3u1 from the RPM database. Set RPM_DBPATH to the path which "--dbpath" pointed to when the symphony 4.1 cluster was installed; otherwise, removal will not succeed and you will need to run rpm option -e and --justdb to remove it manually.

Even if there is a problem on the host, DO NOT use standard OS tools to uninstall Symphony 5.0.

Activating the Upgrade

This process activates the upgrade in an existing cluster.

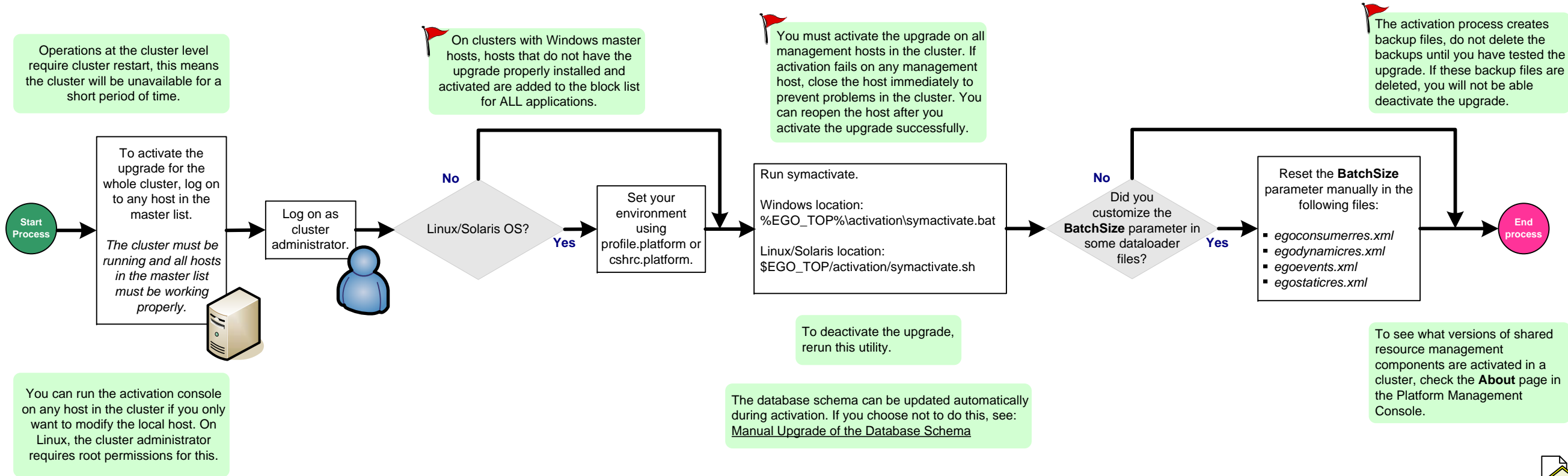**Activation phase enables Symphony 5.0 functionality quickly and safely:**

- the Activation Console automates the process, it is available on every host after installation
- activating the upgrade at the cluster level affects all hosts in the cluster at once
- activation sets configuration and environment to the upgrade version, and shared resource management components all switch to using the upgraded version of the binaries (EGO, PMC, PERF, SD)
- SOAM components on each host switch to using the upgraded version of the binaries
- the process automatically verifies the success of the activation
- the process automatically backs up application profiles and configuration files for all hosts and EGO services
- binaries from the previous version are preserved

Activation is low-risk: if the cluster has any problem after activation, the cluster can be deactivated in the same way -- no need to uninstall or reinstall.

Deactivation option is available for troubleshooting:

- the Activation Console that automates the process is available on every host after installation
- deactivation is as easy as activation; with simple configuration and environment changes, you can temporarily restore the cluster to the previous working state
- EGO service configuration is restored from backup (use binaries from previous version). This includes consumers, resource plans, applications, users and passwords.
- specific host configuration is restored from backup (use binaries from previous version)
- applications using the upgrade version are disabled

Deactivation does not restore old workload, remove data from the database, or remove packages deployed to the repository. There is no need to modify data schema, the upgraded data schema is backwards compatible.
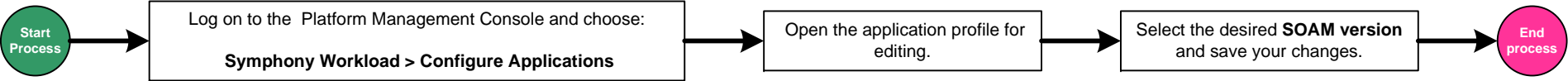
Operations at the cluster level require cluster restart, this means the cluster will be unavailable for a short period of time.

On clusters with Windows master hosts, hosts that do not have the upgrade properly installed and activated are added to the block list for ALL applications.

You must activate the upgrade on all management hosts in the cluster. If activation fails on any management host, close the host immediately to prevent problems in the cluster. You can reopen the host after you activate the upgrade successfully.

The activation process creates backup files, do not delete the backups until you have tested the upgrade. If these backup files are deleted, you will not be able deactivate the upgrade.

Start Process

To activate the upgrade for the whole cluster, log on to any host in the master list.

The cluster must be running and all hosts in the master list must be working properly.

Log on as cluster administrator.

Linux/Solaris OS?

No

Yes

Set your environment using profile.platform or cshrc.platform.

Run symactivate.

Windows location: %EGO_TOP%\activation\symactivate.bat

Linux/Solaris location: $EGO_TOP/activation/symactivate.sh

Did you customize the **BatchSize** parameter in some dataloader files?

No

Yes

Reset the **BatchSize** parameter manually in the following files:

- *egoconsumerres.xml*
- *egodynamicres.xml*
- *egoevents.xml*
- *egostaticres.xml*

End process

You can run the activation console on any host in the cluster if you only want to modify the local host. On Linux, the cluster administrator requires root permissions for this.

To deactivate the upgrade, rerun this utility.

The database schema can be updated automatically during activation. If you choose not to do this, see: Manual Upgrade of the Database Schema

To see what versions of shared resource management components are activated in a cluster, check the **About** page in the Platform Management Console.

Switching the Application

This process switches the application to the upgrade version.

Application switching is easy:

- the Platform Management Console automates the process
- any existing application can take advantage of the upgrade version functionality just by switching to the upgrade version
- set your own schedule to switch each application individually, at your convenience

If you discover any problem after switching the application, just switch it back to the previous version.

Start Process → Log on to the Platform Management Console and choose:

Symphony Workload > Configure Applications

→ Open the application profile for editing. → Select the desired **SOAM version** and save your changes. → **End process**

Upgrade Solaris Sparc hosts

Before you start

1. Untar the Solaris Sparc compute host package into a local directory, for example, /opt/sym50.
2. Copy the following files and directories from the existing Sparc compute directory:
   - SYM_TOP/profile.platform
   - SYM_TOP/cshrc.platform
   - SYM_TOP/kernel/conf/*
   - SYM_TOP/soam/conf/*
   - SYM_TOP/soam/*old_version*/* where *old_version* = 4.0 or 4.1
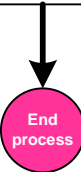
Start cluster upgrade

1. Shut down all Sparc compute hosts.
2. Perform direct upgrade and activation on all Linux and Windows hosts. Verify cluster is running properly.
3. Rename the old version directory. For example, if the old directory is opt/symphony, rename it to /opt/symphony.old.
4. Rename the new install directory. For example, rename /opt/sym50 to /opt/symphony.
5. Change EGO_VERSION from 1.2.3u1 to 1.2.3u2 in cshrc.ego or profile.ego.
6. Change SOAM_VERSION from 4.1 to 5.0 in cshrc.soam or profile.soam.
7. Source the new environment. For example, for csh, enter source cshrc.platform.
8. To set the new sudoers entry in the sudoers file, run:
      $EGO_SERVERDIR/egosetsudoers.sh -p
9. To set the Symphony startup command, run:
      $EGO_SERVERDIR/egosetrc.sh
10. Start the new version of Symphony locally.

End process

Rollback

1. Shut down all Sparc compute hosts running with the new Symphony version.
2. Perform de-activation of the cluster.
3. Rename the new version directory. For example, if the new directory is opt/symphony, rename it to /opt/sym50.
4. Restore the name of the old install directory. For example, rename /opt/symphony.old to /opt/symphony.
5. Source the old environment. For example, for csh, enter source cshrc.platform.
6. Start the old version of Symphony locally.

End process

Manual Upgrade of the Database Schema

The cluster cannot write new data to the database until you update the database schema.

The database schema may be upgraded automatically during the activation phase. If this was successful, do not perform the steps in this section.

Optional method to upgrade the database schema manually

Start Process

Database?

Oracle   SQL

Prerequisites (Oracle)

- The database is properly configured and running.
- If your original cluster is Symphony 3.1, you have applied the required Symphony 3.1 patch (Solution 88352) from Platform.
- You have a user name, password, and URL to access the database server. You can create triggers, sequences, tables, and stored procedures.
- You installed the latest JDBC driver (ojdbc14.jar or newer) for the database. This driver is available from the following URL:
  http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/index.html
- You are able to run sqlplus.

The script is installed with Symphony 5.0. Run the script in this directory to update the database schema:
$*install_directory*\perf\soam\5.0\DBschema\Oracle\Patch

The syntax is:

sqlplus *user_name*/*password*@*connect_string* @*update_script*

where:
- *user_name* is the user name on the database server
- *password* is the password for this user name on the database server
- *connect_string* is the named SQLNet connection for this database
- *update_script* is the name of the update script

Additionally, after installation, you must copy the jdbc driver to:
EGO_TOP/gui/1.2.3u2/lib
EGO_TOP/perf/1.2.3u2/lib

Prerequisites (SQL)

- You have a user name, password, and URL to access the database server. You can create triggers, sequences, tables, and stored procedures.
- You installed the latest JDBC driver for the database. This driver is available from the following URL:
  http://msdn2.microsoft.com/en-us/data/aa937724.aspx

The script is installed with Symphony 5.0. Run the script in this directory to update the database schema:
$*install_directory*\perf\soam\5.0\DBschema\SqlServer\Patch

The syntax is:

osql -U *user_name* **-P** *password* **-d** *db_name* **-i** @*update_script*

where:
- *user_name* is the user name on the database server
- *password* is the password for this user name on the database server
- *db_name* is the reporting database name
- *update_script* is the name of the update script

Additionally, after installation, you must copy the jdbc driver to:
EGO_TOP/gui/1.2.3u2/lib
EGO_TOP/perf/1.2.3u2/lib

End process