xCAT 2 How to Install Additional Software 09/29/2009

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1.0 Introduction

xCAT 2 Cookbook illustrates how you can install the operating systems on the nodes. There are times you want to install addition software. This document explains how you can add additional software into the cluster for both stateful and stateless cases. It will also introduce a new command called 'updatenode' to allow you to configure or reconfigure the nodes. Please note all the discussion below except chapter 5 is for Linux only. There are a lot of differences in AIX. Please refer to "xCAT2 AIX Cookbook" for related topics in AIX.

2.0 Install additional software for stateless nodes

1. copy the extra rpms you are going to add on to

/install/post/otherpkgs/<os>/<arch>/* directory or its subdirectories where <os> and <arch> are defined in the nodetype table.

Use the following command to find out <os> and <arch> for a node.

nodels nodel nodetype.os nodetype.arch

2. add rpm names (without version number) with their subdirectories into

/install/custom/netboot/<ostype>/profile.otherpkgs.pkglist where <profile> is defined in the nodetype table. <ostype> is the operating system name without the version number. The following os types are recognized by xCAT.

centos fedora rh sles windows

Note: The default package lists are usually stored under

/opt/xcat/share/xcat/netboot/<ostype>/ directory.

For example, file /install/custom/netboot/sles/compute.otherpkgs.pkglist will look like this if you want to add RSCT packages (src, rsct.core and rsct.core.utils):

```
src
rsct.core
rsct.core.utils
```

If you have copied the rpms into a subdirectory, say rsct, then the file should be look like this:

```
rsct/src
rsct/rsct.core
rsct/rsct.core.utils
```

3.run /opt/xcat/share/xcat/netboot/<ostype>/genimage, the extra rpms are automatically installed into the image. Then run packimage.

4. if you have additional configuration scripts for the software that would like to run after the node is boot up, copy the script to /install/postscripts directory and add the confirmation script to the postscripts table.

```
cp myconfigsctipt /install/postscripts/
chtab node=compute postscripts.postscripts=myconfigsctipt
```

After setting up, deploy the node as usual. The addition software will be installed and configured during the node deployment.

3.0 Install additional software for stateful nodes

1. copy the extra rpms you are going to add on to

/install/post/otherpkgs/<os>/<arch>/* directory or its subdirectories where <os> and <arch> are defined in the nodetype table.

Use the following command to find out <os> and <arch> for a node. nodels nodel nodetype.os nodetype.arch

2. [only for Linux]

you should create repodata for the /install/post/otherpkgs/<os>/<arch>/ directory. The repodata is necessary for "yum" and "zypper" to know about the repository.

The command "createrepo" is used to create repodata, before executing the command, please make sure the "createrepo" rpm package is installed. Remember that on SLES11, the "createrepo" rpm package is in the SLE-11-SDK-DVD Media 1 ISO, not in the install ISO.

After "createrepo" is installed, run the following command to create repodata for the directory /install/post/otherpkgs/<os>/<arch>/.
createrepo /install/post/otherpkgs/<os>/<arch>/

3. add rpm names (without version number) with their subdirectories into

/install/custom/install/<ostype>/profile.otherpkgs.pkglist where <profile> is defined in the nodetype table. <ostype> is the operating system name without the version number. The following os types are recognized by xCAT.

centos fedora rh sles windows

Note: The default package lists are usually stored under

/opt/xcat/share/xcat/install/<ostype>/ directory.

For example, file /install/custom/netboot/sles/compute.otherpkgs.pkglist will look like this if you want to add RSCT packages (src, rsct.core and rsct.core.utils):

src
rsct.core
rsct.core.utils

If you have copied the rpms into a subdirectory, say rsct, then the file should be look like this:

rsct/src
rsct/rsct.core
rsct/rsct.core.utils

3.add the word 'otherpkgs' to the postscripts table. For example: chtab node=compute postscripts.postcripts=otherpkgs

4. if you have additional configuration scripts for the software that would like to run after the node is boot up, copy the script to /install/postscripts directory and add the confirmation script to the postscripts table.

```
cp myconfigsctipt /install/postscripts/
chtab node=compute postscripts.postscripts=otherpkqs,myconfigsctipt
```

After setting up, deploy the node as usual. The addition software will be installed and configured during the node deployment.

4.0 Install additional software for stateful nodes after the Nodes are Up and Running

- 1. follow step 1-4 in chapter 3.
- 2. run updatenode command

updatenode noderange otherpkgs

If you have configuration script, run

updatenode <noderange> otherpkgs,myconfigscript

5.0 Rerun Postscripts or Run Addition Scripts with updatenode Command

You can use updatenode command to perform the following functions after the nodes are up and running:

- install additional software for stateful nodes (described in chapter 4)
- run postscripts defined in the postscripts table for both stateful and stateless nodes.
- run any script for both stateful and stateless nodes.

The later 2 functions works on AIX as well.

The following are some examples of how to use it:

To re-run all the postscripts for the nodes:

```
updatenode <noderange>
```

To re-run the syslog postscripts for the nodes:

```
updatenode <noderange> syslog
```

To run a list of scripts, make sure the scripts are copied to /install/postscripts directory, then

```
updatenode <noderange> script1, script2
```

Note: script1, script2 may or may not be defined in the postscripts table. However if you want script1 and script2 get invoked next time the nodes are deployed, add them into the postscripts table.

6.0 Appendix: Removing packges

In chapter 2.0 and 3.0, You can specify in the otherpkgs.pkglist file to have certain rpms removed before installing the new software. This is done by adding '-' before the rpm names you want to remove. For example:

```
rsct/src
rsct/rsct.core
rsct/rsct.core.utils
-perl-doc
```

This means perl-doc rpm will be removed before src, rsct.core and rsct.core.utils are installed.