

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 where <os> and  
<arch> are defined in the nodetype table.
```

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

```
nodels node1 nodetype.os nodetype.arch
```

2. add rpm names (without version number) 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 to add RSCT packages (src, rsct.core and rsct.core.utils) into the list:

```
echo src > /install/custom/netboot/sles/compute.otherpkgs.pkglist
echo rsct.core >>
/install/custom/netboot/sles/compute.otherpkgs.pkglist
echo rsct.core.utils >>
/install/custom/netboot/sles/compute.otherpkgs.pkglist
```

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

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 myconfigscript /install/postscripts/
chtab node=compute postscripts.postscripts=myconfigscript
```

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 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) 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.

3. add the word 'otherpkgs' to the `postscripts` table. For example:
`chtab node=compute postscripts.postscripts=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 myconfigscript /install/postscripts/
chtab node=compute postscripts.postscripts=otherpkgs,myconfigscript
```

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.