NetLS-Installing Nodelock and Floating Licenses

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About This Document

This document applies to AIX releases 4.1 and greater. It describes how to install NetLS Node Locked licenses and how to install a NetLS server and floating licenses.

A Node Locked license is one that is only good for that node (machine). It does not require the use of the network, NCS, or NetLS server.

Floating licenses are parcelled out by a server and are available to any of the machines that are in the same cell as the server machine.

Installing A Nodelock License

To install a Node Locked license, use any text editor to create or modify the nodelock file and add the license keys.

The nodelock file is:

`/usr/lib/netls/conf/nodelock`

Steps

1. If it does not already exist, create the directory

   `"/usr/lib/netls/conf".`

2. Edit (create if necessary) the file "nodelock".
3. Install the Node Locked license by inserting it into the nodelock file on a single line. The Node Locked license must be typed in (or cut and pasted) exactly as it appears in the printout/mailing/fax/etc. that it was delivered on.
4. Add a comment on the line above the license so that you can identify the license in the future. Comment lines are identified by a "#" character in the first position.

Things to be aware of when installing a Node Locked license:

- If you can cut and paste a license into the nodelock file with X-Windows, you can avoid most problems.
- Licenses are case sensitive.
- Letters are all lowercase.
- Do not confuse the number one ("1") with the lowercase letter L ("l").
- Do not mistake the number zero ("0") for an uppercase letter O ("O").
- There are no spaces after the dots in the vendor ID, despite the appearance shown with some fonts.
- Do not attempt to substitute a single quote for a double quote in the license.
- Licenses cannot be split by a carriage return.
- The nodelock file must have permissions set as 644 so everyone can read it. (Use the command "chmod 644 /usr/lib/netls/conf/nodelock".)
- The clock on your machine should be set to the correct date and time. Otherwise, the license may not be recognized as active.
- Most products will attempt to find a license in the nodelock file first, and then, if no active license is found there, attempt to find a license via a network license server. If this also fails, the error message will generally refer to a network license failure, although the error is in the nodelock file and is unrelated to network license servers.

The Node Locked license that you receive should look similar to the following:

```
-------------------------------------------------------------

Product name . . . . . : IBM C for AIX
Product number . . . . . : 5765423
Target type. . . . . : aix      Target id. . . . . .: 1500910
No. of connections . . . : 1
Password type. . . . . : LICENSE  License type . . . .: NODELOCKED
License annotation . . . : 1
Passwords are valid From : 1996-05-16 To . . . . . .: 2046-05-17
Generated by userid. . . : KEYATL   Genereted by system.:
ALR-MENU
Generation reference No. : 1996-05-17-17.55.03.525018

Vendor name. . . . . : IBM Software Solutions Toronto
Vendor id. . . . . : 5da54a553b4c.02.09.15.31.00.00.00
Vendor Password. . . . . : m6dp65f242v82
Product Password . . . . : wkseneaansmw6u6wjmsjp65t6w
Product Version. . . . . : 3
```

Here follows the nodelock lines grouped by target ID.

Note: If a + is present, it indicates that the values should occur in the same line in the nodelock file.

```
Nodelock lines for target 1500910
-------------------------------------
# Program: IBM C for AIX          Expiration date: 2046-05-17
5da54a553b4c.02.09.15.31.00.00.00 wkseneaansmw6u6wjmsjp65t6w "1" +
"3"
-----------------------------------------------------------------


  Sample nodelock file (showing licenses for several products):

-----------------------------------------------------------------

# Test Product Version 3.3.  Valid 03/12/94 - 03/11/95
9ce6f0617216.02.81.23.85.e3.00.00.00 89pbxmywy8qh9mdu97u8yb586naa"" "3.3"

# Real Product Version 4.1. Annotation: "abc". Valid 04/08/94 - 06/01/94
90b82be84513.02.81.23.86.fb.00.00.00 26z8g3vnvdsn8b4u3n8bquspefmsnamj
                                                          "abc" "4.1"

# Common "demo" Product Version 3.3  Valid 04/08/94 - 05/07/94
5ce6f0617216.02.81.23.85.e3.00.00.00 wkseneaansmw6u6wjmsjp65t6w "" "3.3"

# Program: IBM C for AIX              Expiration date: 2046-05-17
5da54a553b4c.02.09.15.31.00.00.00 wkseneaansmw6u6wjmsjp65t6w "1" "3"
-----------------------------------------------------------------
```

Note: The plus sign, indicating line continuation, has been removed and the two lines provided by the Key Generation Center have been entered as one line in the nodelock file.

Installing A Floating License

The term "floating license" will be used to describe any license that is installed on an NetLS server. Some licenses of this type are concurrent-access, use-once, and compound licenses.

To install a floating license, perform the following steps:

1. Install the NetLS server software and its prerequisites from the install media. The names of the needed file sets depend on the version of operating system:

Description	AIX 3.2	AIX 4.1
Network Computing Services	bosnet.ncs.obj	bos.net.ncs
Network License Server	NetLS.Ark	bos.ifor_ls.server
X11 Base	X11rte.obj	X11.base.rte X11.base.lib
Motif	X11rte.motif1.2.obj	X11.motif.lib

Note that some of the tools (ls_admin and ls_stat) are linked with the X11 libraries and require that they be present even when their graphical interfaces are not used.

2. Use the following steps to configure the server.

   a. Run the shell script "/usr/lib/netls/conf/netls_config".

   b. When prompted by the following questions, give the following answers:

   - Q1. Do you want the "llbd" started automatically when the machine boots?

     A1. "y".

   - Q2. Do you want "netlsd" started automatically when the machine boots?

     A2. "y".

   - Q3. (You *might* be asked this question) There exists an initialized database already for the glbd. Do you wish to use that database when starting the "glbd" daemon?

     A3. "n".

     (You will be shown a listing of all the cells that your machine can identify. If you are setting up your machine in a new alternate cell, none of this information is relevant to you. If you intend to join an alternate cell that has already been established, note the cell number when it is displayed on the screen. Please note that the cell numbers may be assigned differently each time netls_config is run.

   - Q4. You have three or four options (option 4 will not be displayed if no alternate cells were detected).

   1) Continue with installation without choosing a Cell Name.

   2) Use the default for the system Cell Name.

   3) Create a new alternate cell for the system Cell Name.

   4) Choose an existing alternate cell for the system Cell Name.

A4. Choose "1" if you do not know what configuration you want and just want to quit. You will have to re-run netls_config later.

- Choose "2" if you are on a stand-alone machine or all systems in your network should have access to the same set of licenses.
- Choose "3" if you are going to run your server in a new alternate cell.
- Choose "4" if you are going to join your server to a cell that has already been established. You will then be prompted for the number of the alternate cell you want to join. Enter that number now.

c. You are done with the netls_config script. It has created a second shell script called:

`"/usr/lib/netls/conf/netls_first_time".`

d. Run the "netls_first_time" script. This will start the daemons needed for serving license requests. This script only needs to be run once.

After the first time, the daemons can simply be started with the startsrc command. They must be started in the correct order (llbd, then glbd, then netlsd). The exact commands are:

```
startsrc -s llbd
startsrc -s glbd
startsrc -s netlsd -a '-no lcwvptms'
```

e. If at some point you have to reconfigure your server for a different cell or different IP address or netword adapter, stop the llbd, glbd, and netlsd daemons and then re-run the netls_config and netls_first_time scripts.

To stop the daemons manually, use the stopsrc command. The daemons must be stopped in the reverse order that they were started. The exact commands are:

```
stopsrc -s netlsd
stopsrc -s glbd
stopsrc -s llbd
```

3. Now that your license server is up and running, install your floating licenses. You can do this with either the command line or the graphical user interface provided by the ls_admin command, or (on AIX 4.1 or later) using smit. In all cases, the data entered must be EXACTLY the same as it appears on the printout/fax/e-mail on which the license was delivered.

   Exception: when adding a new product to an existing vendor, or a new license to an existing product, use the vendor name and product name as they already exist in the license database, rather than as they are shown in the information provided by the key generation center. Either ls_stat or ls_admin can be used to show existing vendors and products.

   Cutting and pasting in X-Windows is the easiest way to avoid problems.

   The floating license that you receive should look similar to the following:

```
-----------------------------------------------------------------

Product name . . . . . : AIX XL Fortran/6000
Product number . . . . . : 5765176
Target type. . . . . : aix        Target id. . . . . .: 1500910
No. of Concurrent users. : 1
Password type. . . . . : LICENSE    License type . . . .: CONCURRENT
Passwords are valid From : 1996-04-09 To . . . . . .: 2046-04-10
Generated by userid. . . : KEYATL     Genereted by system.: ALR-MENU
Generation reference No. : 1996-04-10-22.05.16.776093

Vendor name. . . . . : IBM Software Solutions Toronto
Vendor id. . . . . : 5da54a553b4c.02.09.15.31.00.00.00
Vendor Password. . . . . : agkrmbnthcsc4
Product Password . . . . : s8yewwjtbfh68jf4wewbvuf3jiaaa
Product Version. . . . . : 3
```

TO INSTALL LICENSES FROM THE COMMAND LINE:

Type at the command line (or cut and paste to the command line) two ls_admin commands (your path must include "/usr/lib/netls/bin"). The first adds the vendor to your license database. The second line adds the specific product licenses for that vendor in your license database. Once the vendor has been added, it does not have to be entered again for other product licenses provided by the same vendor. In this example, the two commands would be (note the backslashes indicating continuation):

```
ls_admin -a -v "IBM Software Solutions Toronto" \
    5da54a553b4c.02.09.15.31.00.00.00 agkrmbnthcsc4
ls_admin -a -p "IBM Software Solutions Toronto" \
    "AIX XL Fortran/6000" s8yewwjtbfh68jf4wewbvuf3jiaaa 3
```

TO INSTALL LICENSES WITH THE GRAPHICAL USER INTERFACE:

a. Run the command "/usr/lib/netls/bin/ls_admin" with no flags.

b. In the "Servers" display box, click on the server where you will install the license.

c. In the "Operations" box, click on "Add Vendor..."

d. In the pop-up window for "ADD VENDOR", click on the "Vendor Name" button. A window for "VENDOR NAME" will pop up. Enter the Vendor Name, and the click on the "OK" button. In the example above, the vendor name would be:

   ```
   IBM Software Solutions Toronto
   ```

e. A window should pop up for "Vendor ID". If it does not, then just click on the button in "ADD VENDOR" for "Vendor ID". Enter the vendor ID, and click on the "OK" button. In the example above, the vendor ID would be:

   ```
   5da54a553b4c.02.09.15.31.00.00.00
   ```

f. A window should pop up for "Vendor Password". Enter the vendor password, and click on the "OK" button. In the example above, the vendor pass- word would be:

```
agkrmbnthcsc4
```

g. Click on "done" in the "ADD VENDOR" window. Your vendor should be added.

h. Now add the product license for the newly added vendor. Click on the "Vendor" button in the "Operate On" box.

i. In the "Vendors" display box, click on the vendor whose product you will be adding.

j. In the "Operations" box, click on the button for "Add Product".

k. In the pop-up window for "ADD PRODUCT", click on the "Product Name" button. A window for "Product Name" will pop up. Enter the product name, and click on the "OK" button. In the example above, the product name would be:

```
AIX XL Fortran/6000
```

l. A window should pop up for "Product Version". Enter the product version, and click on the "OK" button. In the example above, the product version would be: 3

m. A window should pop up for "License Annotation". If a license annotation was supplied with your license, enter it now, and click on the "OK" button. If no annotation was supplied, then leave the field blank, and just click on "OK". In the example above, no annotation was supplied.

n. A window should pop up for "License Password". Enter the license password, and click on the "OK" button. In the example above, the license password would be:

```
s8yewwjtbfh68jf4wewbvuf3jiaaa
```

o. Click on "done" in the "ADD PRODUCT" window. Your license password should be added.

TO ADD A PRODUCT FOR AN ALREADY-ADDED VENDOR:

a. Click on the "Server" button in the "Operate On" box. Then click on the server to which you will add the license in the "Servers" display box.

b. Click on the "Vendor" button in the "Operate On" box. Then click on the vendor for which you will add the product in the "Vendors" display box.

c. Click on the "Add Product" button in the "Operations" box.

d. Add the product information as you normally would.

TO ADD A LICENSE FOR AN ALREADY-ADDED PRODUCT:

a. Click on the "Server" button in the "Operate On" box. Then click on the server to which you will add the license in the "Servers" display box.

b. Click on the "Vendor" button in the "Operate On" box. Then click on the vendor for which you will add the product in the "Vendors" display box.

c. Click on the "Product" button in the "Operate On" box. Then click on the product for which you will add the license in the "Products" display box.

d. Click on the "Add Licenses" button in the "Operations" box.

e. An "ADD LICENSE" window will pop up.

If your license has an annotation, click on the button for "license annotation" and specify the license annotation that was supplied.

Add the license password by clicking on the "License Password" button in the "ADD LICENSE" window, and specify the license password that was supplied.

f. Click on the "Done" button in the "ADD LICENSE" window when you have added the license information.

g. Your license should be added.

TO INSTALL LICENSES USING SMIT:

a. Use the fastpath "smit manage_prod_licenses"

b. Select "Add New Licenses and New Vendor Information" if this is the first product license being for this vendor. Select "Add New Licenses for a Previously Added Vendor" if licenses for products from this same vendor have been previously added.

c. In either case, enter the information provided by the key generation center into the corresponding fields and press enter to add the licenses.

4. If your server machine has the file "/etc/ncs/glb_obj.txt", then all users that need licenses from your server must copy that file to their client machines. The file simply contains the identifier for the alternate cell.

Example /etc/ncs/glb_obj.txt file:

```
90b82be849c7.02.81.23.86.fb.00.00.00
```

5. If a client machine is on a different subnet than your server machine, then the client machine must have the file "/etc/ncs/glb_site.txt". The contents of the file will identify the server machine. For example, if the server machine is "myserver.mynet.mycompany", then the glb_site.txt file will contain the line:

```
ip:myserver.mnet.mycompany
```

The glb_site.txt file can also specify the IP network address of the server machine. For example, if the IP address of the host machine is 111.22.333.444, then the glb_site.txt file will contain the line:

```
ip:#111.22.333.444
```

Example /etc/ncs/glb_site.txt file:

```
ip:myserver.mynet.mycompany
ip:#111.22.333.44
```

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