Siemens PLM Software Licensing User Guide

Proprietary & Restricted Rights Notices

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Siemens PLM Software Licensing User Guide

Siemens PLM Software Licensing User Guide Disclaimer

We are providing the **Acresso License Administration Guide** as it was distributed by Acresso Corporation. Information that is in the *Siemens PLM Software Licensing User Guide* supersedes any information in the Acresso Guide. For example, NX uses UGS_LICENSE_SERVER to find the license file, not LM_LICENSE_FILE as is indicated in the Acresso manual.

Fully supported options are discussed in this guide. These options have been tested by Siemens PLM Software and will be supported. Options that are discussed in the **Acresso License Administration Guide** and are NOT discussed in this guide are not supported. However, since Siemens PLM Software has done nothing to disable these options they may work. Siemens PLM Software has not conducted any testing within our software with these options and will not assist you with their usage.

Caution:

You should be completely familiar with the information provided in the *Siemens PLM Software Licensing User Guide* prior to reading the information in the **Acresso License Administration Guide**.

Overview

FLEXnet Licensing is a software licensing package that allows a software application to be licensed on a concurrent usage basis, as well as on a per-computer basis. FLEXnet licensing for this software application is known as Siemens PLM Software Licensing.

Siemens PLM Software Licensing license server has its own installation. For details on installing and starting Siemens PLM Software Licensing, please refer to the installation guide.

Siemens PLM Software Licensing features include the following:

1. Operation in a heterogeneous network of supported computer systems.
2. Transparent reconnection of an application when its license server process becomes unavailable, including conditions of license server node failure.
3. Ease of configuration with a single license file per network.
4. Configuration controls for system administrators.
5. Administration tools for system administrators.
6. Independent features from one or multiple vendors with independent vendor security codes, including the following:
   - Floating licenses
   - Node-locked licenses
   - Counted licenses
   - Optional license expiration dates
   - Vendor-definable fields for each application feature
7. License management on redundant and multiple server configurations for improved license availability.

Fundamentals of Siemens PLM Software Licensing

Siemens PLM Software Licensing manages licenses in a network and implements the concept of the license server. The license server processes a license request and responds to the client. If a license is available, it is granted and the application is allowed to continue. If not, the application is notified of an error and is prevented from continuing.

What Defines Siemens PLM Software Licensing?

Siemens PLM Software Licensing can be organized into five major components:

1. License Manager Daemon
2. Vendor Daemon
3. License File
4. Application Program
5. UGS_LICENSE_SERVER Environment Variable

License Manager Daemon (lmgrd)

The license manager daemon (*lmgrd*) handles the initial contact with the application program, and then passes the connection on to the vendor daemon. The license manager daemon also starts and restarts the vendor daemon.

Vendor Daemon (ugslmd)

The vendor daemon (*ugslmd*) keeps track of how many licenses are checked out and who has them. If *ugslmd* terminates for any reason, all users lose their licenses. Users normally regain their licenses automatically when *lmgrd* restarts *ugslmd*.

License File (ugs.lic)

The license file is a text file that stores the licensing data. The license file (ugs.lic) must be accessible to each machine designated as a license server. The license file contains all of the site-specific information required by Siemens PLM Software Licensing. This includes:

1. Server Names and Host Identifiers
2. Vendor Daemon Name
3. PACKAGE Information (Optional)
4. INCREMENT / FEATURE Information

Note:
We recommend that the license file be placed on the license server node only.

Application Program

A software package that uses Siemens PLM Software Licensing for its license monitoring is usually run from the client. The obvious example is NX but could include other applications. The application program must connect to the *ugslmd* daemon to be issued licenses.

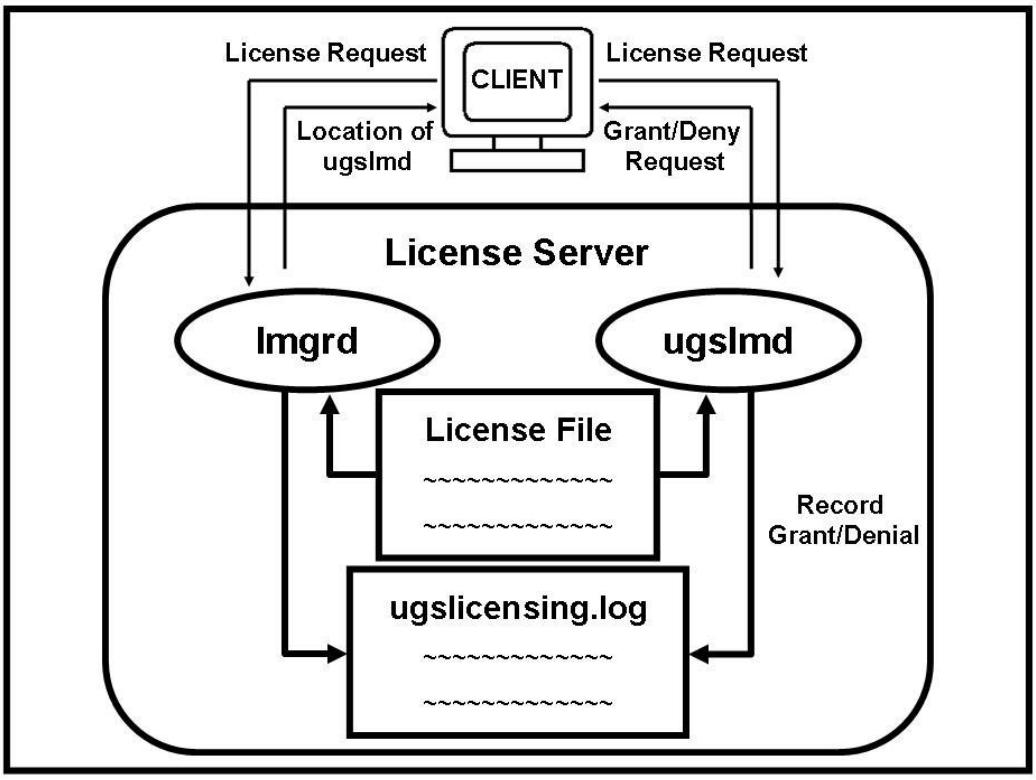
UGS_LICENSE_SERVER Environment Variable

The UGS_LICENSE_SERVER environment variable must be set to run any Siemens PLM Software Licensing application. It identifies the license server port and hostname and is set initially by the install program when the application is installed.

The License Request Process

The following steps and figure describe how applications interact with the *ugslmd* daemon:

- The application program finds the license server after interpreting the information set in the UGS_LICENSE_SERVER environment variable.
- The application program establishes a connection with *lmgrd* to find the port on which the vendor daemon resides.
- The *lmgrd* daemon determines which port corresponds to *ugslmd* and sends the information back to the client.
- The client proceeds by establishing a connection with *ugslmd* and sends its request for a license.
- The *ugslmd* daemon checks in its memory to determine if any licenses are available and sends either a grant or a denial back to the client.
- The *ugslmd* daemon records the grant or denial of the license request in the debug log file *ugslicensing.log*.
- The license module in the client application grants or denies the use of the feature, as appropriate.



License File Format

The license file is an ASCII text file consisting of lines of text that have identifiable names at the beginning of each line (e.g. SERVER, VENDOR, etc.). License files begin with a SERVER line (or three lines for redundant servers), followed by the VENDOR line and then one or more INCREMENT / FEATURE lines. In some cases, your license file may contain PACKAGE lines. To continue a line a back slash (\) is used.

Sample License File

The following is a sample of a license file, or your ugs.lic file. In this particular example, note the single server configuration, vendor daemon (*ugslmd),* four features, and one suite package. This license file allows the license server *serverA* with the hostid of COMPOSITE=*08002b42b116* to serve *56* floating licenses of the four features, and of the one bundle to any user on the network.

```
# Server line
SERVER serverA COMPOSITE=08002b42b116 28000
# Vendor daemon line
VENDOR ugslmd
# Bundle
PACKAGE NX11110 ugslmd 26.0 \
        COMPONENTS="NX11110_3d_to_2d_flattener NX11110_assemblies \
        NX11110_c_p_p_runtime NX11110_dotnet_runtime NX11110_drafting \
        NX11110_dxf_to_ug NX11110_dxfdwg NX11110_features_modeling \
        NX11110_gateway NX11110_grip_execute NX11110_iges \
        NX11110_nx_freeform_1 NX11110_nx_sheet_metal \
        NX11110_pcf_package_file NX11110_pv_ugdatagenerator \
        NX11110_sla_3d_systems NX11110_solid_modeling \
        NX11110_step_ap203 NX11110_step_ap214 NX11110_ufunc_execute \
        NX11110_ug_collaborate NX11110_ug_kf_checker \
        NX11110_ug_kf_execute NX11110_ug_smart_models \
        NX11110_ug_to_dxf NX11110_ug_web_express \
        NX11110_ugopen_menuscript" OPTIONS=SUITE ck=81 \
        SIGN="1BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 \
        8628 2893 D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB \
        B837 00F2 7BD5 D33F 8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"

INCREMENT NX11110 ugslmd 26.0 permanent 56 \
        SUPERSEDE DUP_GROUP=UHD user_info="NX M-1 Dsgn (FL)" \
        ISSUED=23-aug-2007 ck=91 SIGN="01ED 1ABE 0ED4 853C 4F41 \
        FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 53E8 F2DF 009D \
        602B D7A9 A6A7 8511 77CE 66E1 16E4 DFEF C891 7E7A 0480 \
        9F7C 67AD 7BC9"

 # Floating Feature(s)
INCREMENT cam_base ugslmd 26.0 permanent 56 \
        SUPERSEDE DUP_GROUP=UHD user_info="cam_base module" \
        ISSUER="Siemens PLM Software" ISSUED=30-Aug-2007 ck=19 \
        SIGN="11ED 1ABE 0ED4 853C 4F41 602B D7A9 A6A7 8511 77CE \
        66E1 16E4 DFEF C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 \
        68CF B4AA 1DD5 53E8 F2DF 009D 9F7C 67AD 7BC9"
INCREMENT gateway ugslmd 26.0 permanent 56 \
        SUPERSEDE DUP_GROUP=UHD user_info="gateway module" \
        ISSUER="Siemens PLM Software" ISSUED=30-Aug-2007 ck=179 \
```

```
        SIGN="21ED 1ABE C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 \
        68CF B4AA 1DD5 0ED4 853C 4F41 602B D7A9 A6A7 8511 77CE \
        66E1 16E4 DFEF 53E8 F2DF 009D 9F7C 67AD 7BC9"
```

SERVER Line

EXAMPLE:

```
SERVER serverA COMPOSITE=08002b42b116 28000
```

The SERVER line specifies the node name and hostid of the license server and the port number of the license manager daemon (*lmgrd)*. Normally, a license file has one SERVER line. Three SERVER lines indicate that you are using a redundant server configuration.

Note:
Do not delete SERVER lines from a license file because the hostids from the SERVER lines are encrypted into the passwords on every INCREMENT / FEATURE line.

VENDOR Line

EXAMPLE:

```
VENDOR ugslmd
```

The VENDOR line specifies the name of the vendor daemon (*ugslmd*).

PACKAGE Lines

EXAMPLE:

```
PACKAGE NX11110 ugslmd 26.0 \
        COMPONENTS="NX11110_3d_to_2d_flattener NX11110_assemblies \
        NX11110_c_p_p_runtime NX11110_dotnet_runtime NX11110_drafting \
        NX11110_dxf_to_ug NX11110_dxfdwg NX11110_features_modeling \
        NX11110_gateway NX11110_grip_execute NX11110_iges \
        NX11110_nx_freeform_1 NX11110_nx_sheet_metal \
        NX11110_pcf_package_file NX11110_pv_ugdatagenerator \
        NX11110_sla_3d_systems NX11110_solid_modeling \
        NX11110_step_ap203 NX11110_step_ap214 NX11110_ufunc_execute \
        NX11110_ug_collaborate NX11110_ug_kf_checker \
        NX11110_ug_kf_execute NX11110_ug_smart_models \
        NX11110_ug_to_dxf NX11110_ug_web_express \
        NX11110_ugopen_menuscript" OPTIONS=SUITE ck=81 \
        SIGN="1BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 \
        8628 2893 D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB \
        B837 00F2 7BD5 D33F 8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"

INCREMENT NX11110 ugslmd 26.0 permanent 56 \
        SUPERSEDE DUP_GROUP=UHD user_info="NX M-1 Dsgn (FL)" \
        ISSUED=23-aug-2007 ck=91 SIGN="01ED 1ABE 0ED4 853C 4F41 \
```

```
FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 53E8 F2DF 009D \
602B D7A9 A6A7 8511 77CE 66E1 16E4 DFEF C891 7E7A 0480 \
9F7C 67AD 7BC9"
```

The purpose of a PACKAGE line is to support two different licensing needs:

1. License a product SUITE. Siemens PLM Software uses the suite package to license NX Bundle.
2. Provide a more efficient way of distributing a license file that has a large number of features that share the same INCREMENT / FEATURE line arguments.

The function of the PACKAGE line is to define a group of features that is specified in the component list. The PACKAGE line in the license file, by itself, does not license anything -- it requires a matching INCREMENT / FEATURE line to license the whole PACKAGE.

INCREMENT / FEATURE Lines

EXAMPLE:

```
INCREMENT gateway ugslmd 26.0 permanent 56 \
        HOSTID=ANY SUPERSEDE DUP_GROUP=UHD user_info="gateway module" \
        ISSUED=30-Aug-2007 ck=179 SIGN="21ED 1ABE 009D 9F7C 67AD \
        C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
        0ED4 853C 4F41 602B D7A9 A6A7 8511 77CE 66E1 16E4 DFEF \
        53E8 F2DF 7BC9"
```

The INCREMENT / FEATURE line describes the license to use the product.

The vendor daemon (*ugslmd)* processes only the first FEATURE line for a given feature.

SYNTAX:

```
INCREMENT name  vendor daemon  version  exp. date  # of licenses \
     HOSTID=hostid SUPERSEDE DUP_GROUP=UHD user_info="<Optional Text>" \
     ISSUED=dd-mmm-yyyy ck=nnn SIGN="nnnn … nnnn"
```

name	The name given to the license module by Siemens PLM Software.
vendor daemon	The name of the Siemens PLM Software vendor daemon, *ugslmd*, that serves this feature.
version	The highest version of this feature that is supported by this license.
exp. date	The expiration date. (If this field is set to "permanent", then the license never expires.)
# of licenses	The number of floating licenses for this feature.
HOSTID=hostid	The string returned by the "lmutil lmhostid" command. Used only

	if the feature is to be bound to a particular host.
SUPERSEDE	All licenses issued before the date specified in ISSUED= are superseded by this line and become ineffective.
DUP_GROUP=UHD	Provides a single user, host, and display combination with multiple sessions while only using one license. Any combination of UHD is allowed, where: U=DUP_USER H=DUP_HOST D=DUP_DISPLAY
user_info="<Optional Text>"	You can change or delete this field. A user_info description for INCREMENT / FEATUREs, will be used by the License Options interface. Do not change this field for the "server_id" feature, as this value is your WebKey access code.
ISSUED=dd-mmm-yyyy	The date that the product version was released.
ck=nnn	A checksum value, useful with the "lmutil lmcksum" command, which verifies that the license has been entered correctly.
SIGN="nnnn … nnnn"	A hexadecimal number that "authenticates" the readable license file text, ensuring that the license text has not been modified.

Note:
Do not delete SERVER lines from a license file because the hostids from the SERVER lines are encrypted into the passwords on every INCREMENT / FEATURE line.

Editable Parameters of the License File

Within the Siemens PLM Software Licensing license file, you have the option to modify three of the data items.

- hostnames on the SERVER line(s)
- port numbers on SERVER line(s)
- user_info on INCREMENT / FEATURE line(s)

Everything else is used to compute the license key and should not be edited.

Note: All data in the license file is case sensitive unless otherwise indicated.

Hostname

This is the hostname for the license server. The hostname is limited to 32 characters. The string returned by the UNIX "hostname" or, on some systems, "uname -n" command. On Windows use the value returned from the Command Prompt "hostname" command. If you don't supply the hostname to Siemens PLM Software when requesting a license file, "YourHostnameX" or "this_host" is used in the license file as a place holder for the actual hostname and should be replaced with the real hostname. The proper hostname value is used on the client side for setting UGS_LICENSE_SERVER to port@hostname.

Port Number

This is the TCP port number used by the client application to communicate with the license server. A port number is required if the license file is a 3-server redundant license file. The initial value is 28000 but can be changed. The proper port number value is used on the client side for setting UGS_LICENSE_SERVER to port@hostname.

User_info

The user_info field in the activating INCREMENT / FEATURE line is used to display a descriptive name for the bundle. You can delete or edit this field to provide a different name. It is not recommended to exceed 20 characters for this field. Do not change this field for the "server_id" license module, as this value is your WebKey access code.

Use of special characters such as quotes within the user_info field may corrupt the license file, so avoid them. License file lines are limited to 4096 characters with a '\' as a continuation character. If a continuation character appears in the middle of the user_info field, additional spaces will be displayed by the License Options dialog. You can correct this by moving a line continuation character before the user_info field and placing it on the next line.

See the Packages section later in this guide for a description of the Siemens PLM Software Bundle implementations of Siemens PLM Software Licensing.

Types of Licenses

The license files created by Siemens PLM Software can specify any of the following license types:

Floating / Concurrent	Anyone on the network can use the licensed module, up to the limit specified in the license file.
Node-locked	The licensed module can be used only on one node.
Mixed	Mixes node-locked and floating licenses in the same license file.

Floating / Concurrent Licenses

A floating license means anyone on the network can use the licensed module, up to the number of licenses specified in the license file. Floating licenses have no hostids designated on the INCREMENT / FEATURE lines.

Node-Locked Licenses

Node locking means the license module can be used only on one node. A node-locked license has a "HOSTID=" set to the hostid it is locked to, on its INCREMENT / FEATURE line.

Mixed Node-Locked and Floating Licenses

Node-locked and floating licenses mixed in the same license file.

EXAMPLE:

```
SERVER serverA COMPOSITE=08002b42b116 28000
VENDOR ugslmd
INCREMENT gateway ugslmd 26.0 permanent 4 \
      SUPERSEDE DUP_GROUP=UHD user_info="gateway module" \
      ISSUED=30-Aug-2007 ck=179 SIGN="21ED 1ABE 009D F2DF \
      C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
      0ED4 853C 4F41 602B D7A9 A6A7 8511 77CE 66E1 16E4 DFEF \
      53E8 9F7C 67AD 7BC9"
INCREMENT drafting ugslmd 26.0 permanent 1 \
      HOSTID=12001234 SUPERSEDE DUP_GROUP=UHD \
      user_info="drafting module" ISSUED=30-Aug-2007 ck=179 \
      SIGN="31ED 1ABE 8511 77CE C891 7E7A 0480 FE0B 8D54 A7E9 \
      29A8 DDE1 68CF B4AA 1DD5 0ED4 853C 4F41 602B D7A9 A6A7 \
      67AD 7BC9 66E1 16E4 DFEF 53E8 F2DF 009D 9F7C"
INCREMENT drafting ugslmd 26.0 permanent 1 \
      HOSTID=1700ab12 SUPERSEDE DUP_GROUP=UHD \
      user_info="drafting module" ISSUED=30-Aug-2007 ck=179 \
```

```
      SIGN="41ED 1ABE 8511 77CE C891 7E7A 0480 FE0B 8D54 A7E9 \
      29A8 DDE1 68CF B4AA 1DD5 0ED4 853C 4F41 602B D7A9 A6A7 \
      67AD 7BC9 66E1 16E4 DFEF 53E8 F2DF 009D 9F7C"
INCREMENT drafting ugslmd 26.0 permanent 2 \
      SUPERSEDE DUP_GROUP=UHD user_info="drafting module" \
      ISSUED=30-Aug-2007 ck=179 SIGN="51ED 1ABE 8511 77CE \
      C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
      0ED4 853C 4F41 602B D7A9 A6A7 67AD 7BC9 66E1 16E4 DFEF \
      53E8 F2DF 009D 9F7C"
```

This allows for one use of drafting on nodes 12001234 and 1700ab12, but two licenses of drafting and four licenses of gateway to be used anywhere else on the network. Nodes 12001234 and 1700ab12 can also utilize the two non-node locked drafting licenses.

Packages

Siemens PLM Software Licensing uses "packages" to group features. The license file contains a PACKAGE line for each of these groupings. The COMPONENT field contains a list of all included features. An INCREMENT / FEATURE line is required to activate a PACKAGE definition.

Siemens PLM Software Licensing recognizes two types of packages, non-suite packages and suite packages. Non-suite packages are designed to simplify and shorten the license file. Suite packages are designed to tie component features together to be checked out as a group. The presence of the OPTIONS field on the PACKAGE line distinguishes the package types.

Non-suite packages do not use OPTIONS=SUITE in the PACKAGE definition line and act according to the standard behavior defined for this type of FLEXnet Licensing package.

EXAMPLE:

```
PACKAGE ACME_GATE ugslmd 26.0 COMPONENTS="gateway \
      solid_modeling features_modeling usr_defined_features \
      free_form_modeling assemblies drafting iges dxf_to_ug \
      ug_to_dxf sla_3d_systems" ck=183 SIGN="61ED 1ABE 8511 77CE \
      C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
      0ED4 853C 4F41 602B D7A9 A6A7 67AD 7BC9 66E1 16E4 DFEF \
      53E8 F2DF 009D 9F7C"

INCREMENT ACME_GATE ugslmd 26.0 permanent 56 \
      SUPERSEDE DUP_GROUP=UHD user_info="ACME Corp Bundle" \
      ISSUED=30-Aug-2007 ck=179 SIGN="71ED 1ABE 8511 77CE \
      C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
      0ED4 853C 4F41 602B D7A9 A6A7 67AD 7BC9 66E1 16E4 DFEF \
      53E8 F2DF 009D 9F7C"
```

Suite packages have the following differences from non-suite packages:

1. OPTIONS=SUITE is in the PACKAGE definition line.
2. Features in the COMPONENTS list are prefixed with the package name and an underscore.
3. When the initial component feature is checked out, the suite package is checked out as well, and a license for each of the other component features is reserved for that session of the application.

Suite packages are key to the NX Bundle implementation of Siemens PLM Software Licensing.

NX Bundles

NX Bundles are suite packages that Siemens PLM Software has predefined to meet the general needs of customers at a lower cost than purchasing individual floating licenses. The following example shows an NX Mach 1 Designer Bundle. The "user_info" field on the INCREMENT line for a bundle is used as the name for the bundle in the License Options interface. You can edit this field to provide a different name for this bundle.

```
EXAMPLE:
     PACKAGE NX11110 ugslmd 26.0 \
             COMPONENTS="NX11110_3d_to_2d_flattener NX11110_assemblies \
             NX11110_c_p_p_runtime NX11110_dotnet_runtime NX11110_drafting \
             NX11110_dxf_to_ug NX11110_dxfdwg NX11110_features_modeling \
             NX11110_gateway NX11110_grip_execute NX11110_iges \
             NX11110_nx_freeform_1 NX11110_nx_sheet_metal \
             NX11110_pcf_package_file NX11110_pv_ugdatagenerator \
             NX11110_sla_3d_systems NX11110_solid_modeling \
             NX11110_step_ap203 NX11110_step_ap214 NX11110_ufunc_execute \
             NX11110_ug_collaborate NX11110_ug_kf_checker \
             NX11110_ug_kf_execute NX11110_ug_smart_models \
             NX11110_ug_to_dxf NX11110_ug_web_express \
             NX11110_ugopen_menuscript" OPTIONS=SUITE ck=81 \
             SIGN="81ED 1ABE 8511 77CE 0ED4 853C 4F41 602B D7A9 A6A7 \
             C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
             67AD 7BC9 66E1 16E4 DFEF 53E8 F2DF 009D 9F7C"

     INCREMENT NX11110 ugslmd 26.0 permanent 56 \
             SUPERSEDE DUP_GROUP=UHD user_info="NX M-1 Dsgn (FL)" \
             ISSUED=23-aug-2007 ck=91 SIGN="91ED 1ABE 8511 77CE \
             C891 7E7A 0480 FE0B 8D54 A7E9 29A8 DDE1 68CF B4AA 1DD5 \
             0ED4 853C 4F41 602B D7A9 A6A7 67AD 7BC9 66E1 16E4 DFEF \
             53E8 F2DF 009D 9F7C"
```

Using the License Options Interface to Select Bundles

To use a bundle, you must preset the client's UGS_LICENSE_BUNDLE environment variable with the package name(s). If UGS_LICENSE_BUNDLE is set, the application will attempt to check out a bundled feature before trying to check out the floating feature. License Options is an interactive user interface to aid in setting of the UGS_LICENSE_BUNDLE environment variable.

UNIX

For UNIX users click on "Options" on the toolbar of the NX Activity Menu or select option 95 on the "no windows" interface of nxmenu.

Windows

For Windows users click on **Start→Programs→NX→NX Licensing Tools→License Options**.

License Options allows you to select up to two bundles at once. The order in which the bundle names are placed into UGS_LICENSE_BUNDLE is the order that the application will attempt to check out any feature. See also Automatic Bundle Consolidation section for more on this.

When multiple bundles are chosen crossover licensing could occur. Crossover licensing is when one feature from each bundle is checked out. This causes two bundles to be checked out by one session of NX making the bundles unavailable to other users. For this reason setting more than one bundle is not recommended unless you can afford to have two bundles checked out by one session of NX.

The Automatic Bundle Consolidation mechanism reduces crossover licensing. See the Automatic Bundle Consolidation section for more information on bundle checkout protocol.

Mac

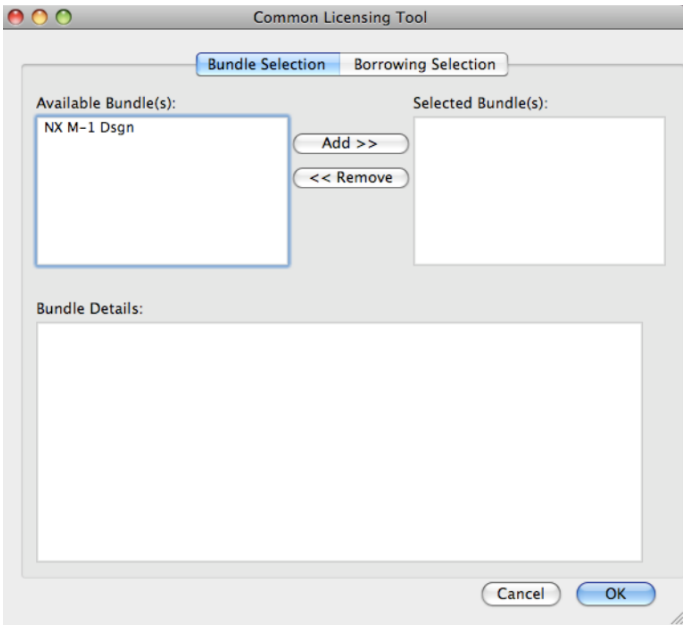
The interface to the Bundle Selection in the CLT for Mac is essentially the same as in the License Options application on Windows.

In order to select a bundle, you highlight the bundle in the Available Bundle list and click the “Add” button, or double click the selected item. The item is moved to the Selected Bundle list.

To remove an item from the Selected Bundle list and return it to the Available Bundle list, you can highlight the bundle you wish to return to the Available Bundle list and click the “Remove” button. Alternatively, you can double click the bundle to remove it from the Selected Bundle list.

No bundles are actually applied until you click the OK button. When the OK button is pressed, the modifications to the selected bundle list are written to a file in the user’s home directory, called “splms_cl.reg” in the user’s home directory.

The CLT for Mac allows for product-specification in the bundle settings. Thus, the name of the key for the bundle value is <PRODUCT>_BUNDLES, where <PRODUCT> is the product in question (such as NX, in which case the key would be NX_BUNDLES).



Automate the setting of UGS_LICENSE_BUNDLE

To automate the selection of NX Bundle(s) you can set the UGS_LICENSE_BUNDLE variable to the desired bundle name(s). If selecting two NX Bundles you should use colon ":" as a delimiter on UNIX and a semi-colon ";" as a delimiter on Windows.

UNIX

Edit the file $UGII_BASE_DIR/ugii/.ugii_env and change the line:

```
#UGS_LICENSE_BUNDLE=
```

For example

```
UGS_LICENSE_BUNDLE=ADVDES
```

To set multiple bundles (maximum of 2):

```
UGS_LICENSE_BUNDLE=ADVDES:NX11101
```

Windows

Edit the file %UGII_BASE_DIR%\ugii\ugii_env.dat and change the line:

```
#UGS_LICENSE_BUNDLE=
```

For example

```
UGS_LICENSE_BUNDLE=ADVDES
```

To set multiple bundles (maximum of 2):

```
UGS_LICENSE_BUNDLE=ADVDES;NX11101
```

Note:
On Windows, the License Options interface will not work if you set UGS_LICENSE_BUNDLE under "System Variables:" as opposed to "User Variables for ... :" in **Control Panel→System→Advanced (tab)→Environment Variables... (Button)**.

Automatic Bundle Consolidation

Automatic Bundle Consolidation is a Siemens PLM Software Licensing mechanism that is initiated when you check out a licensed module from a bundle for the first time. The goal of this mechanism is to consolidate licensed modules to a single bundle to maximize the number of licensed modules that are available for use. The mechanism is always on and can't be turned off.

While this mechanism will reduce crossover licensing, it will not eliminate it because some applications don't release their license until the new application's license has been checked out. In these situations, returning to Gateway before entering a new application will further reduce crossover licensing.

The following scenarios demonstrate how the Automatic Bundle Consolidation mechanism would work in two situations.

Bundle Checkout Protocol – Scenario One

You start the NX Gateway module, but the bundle that you selected is not currently available. At that time, Siemens PLM Software Licensing checks out a non-bundled license module from the license server to your session. When a bundled version of the same module (Gateway) becomes available during the session and you check out another licensed module within that bundle, Siemens PLM Software Licensing checks out the bundled version of Gateway and checks in the non-bundled version, making it available for another user.

Bundle Checkout Protocol – Scenario Two

You start the NX Gateway module and it is available in the first bundle. Siemens PLM Software Licensing checks out a bundled license module from the first bundle to your session. You then check out another NX module, such as Solid Modeling, but it is only available in the second bundle. Again, Siemens PLM Software Licensing checks out a bundled license module from the second bundle to your session. Rather than tie up two bundles, Siemens PLM Software Licensing checks out the Gateway module from the second bundle and returns the initially checked out Gateway module to the first bundle, making it available to another user. Siemens PLM Software Licensing also changes the configuration settings of the current session to reflect a new primary bundle. For example, if you had NX11101[;:]ADVDES set, your session would now run as if you had set it to ADVDES[;:]NX11101. This does not change the value of UGS_LICENSE_BUNDLE.

License Borrowing

With License Borrowing, you can check out a single seat (a set of license modules) from a site license server and use those license modules offline. You can only borrow using a Windows or Mac platform as the client, but the license server can be on any supported platform.

License Borrowing has the following limitations:

- The duration of the borrowing is between 1 day and 120 days.
- The client must be on Windows.

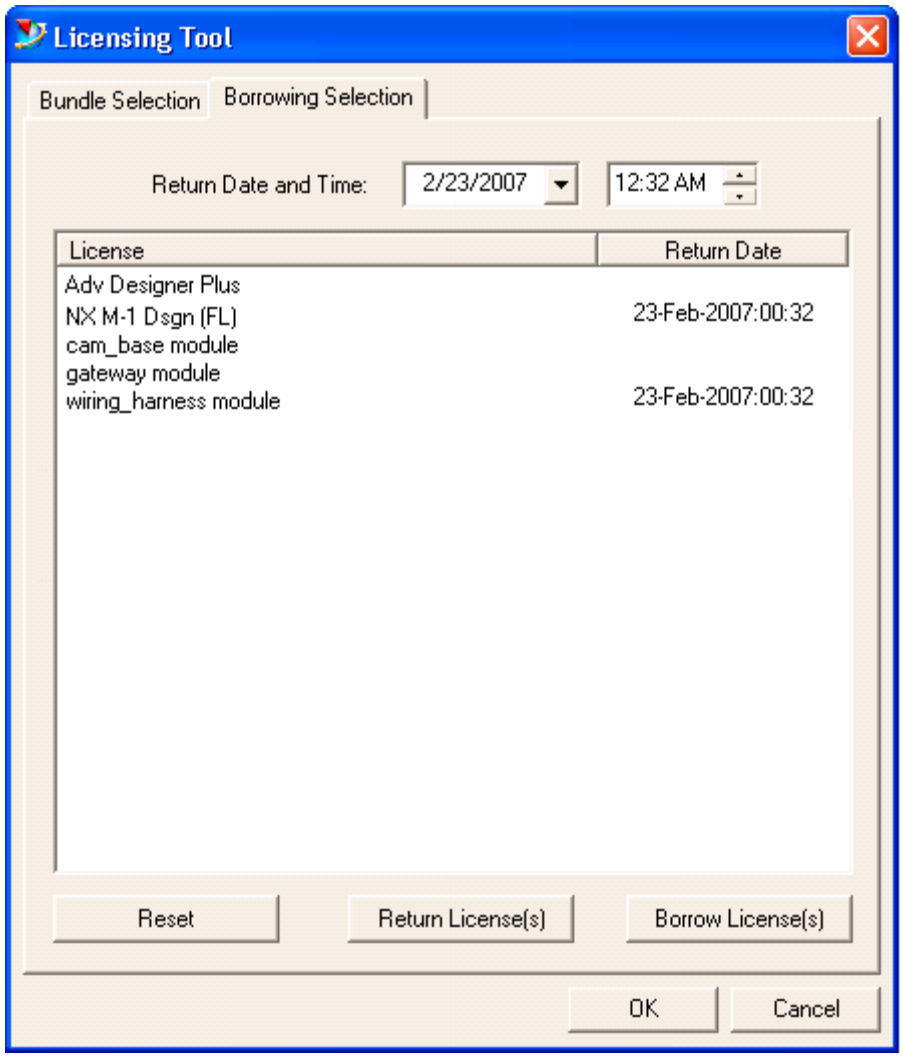
To activate borrowing, you must contact your sales representative and order borrowing. Once ordered you will be sent a new license file containing the BORROW keyword on all features that can be borrowed.

Borrowing Licenses

1. Install your new license file
2. Start up the license options dialog
3. Click the Borrowing Selection tab
4. Enter a return date
5. Double click the licenses you want to borrow

Note:
The "License" value listed in the license options tool is the user_info field value on each license module's INCREMENT / FEATURE lines, in the license file. These values correspond to the short descriptions in the price book for each product. If two different products with similar license modules end up on the same license file each license module that is similar is combined into one INCREMENT / FEATURE line. The user_info field is combined in the following format "Common to Adv Designer Plus and NX M-1 DSgn (FL)". Therefore if you are borrowing "Adv Designer Plus" you should also borrow all the "Common to…" that contain it in order to get its full functionality.

6. Click OK



Running NX with borrowed licenses

1. Disconnect from the network.
2. Run NX.

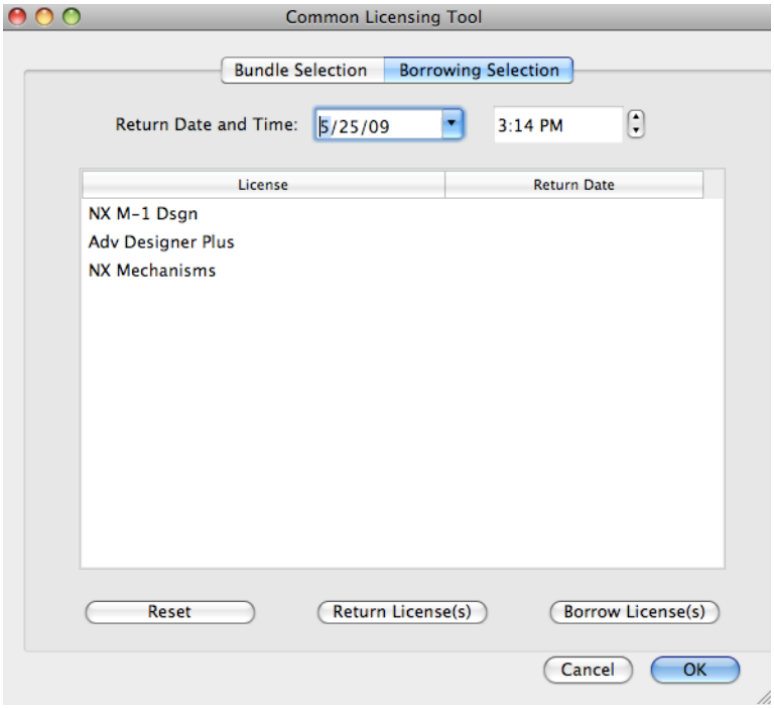
Checking borrowed licenses and expiration dates

1. Run **lmutil** lmborrow **-status**.

Determining who borrowed a license

1. Run **lmutil** lmstat -A > lic_in_use.txt.
2. Run write lic**_in_use.txt** and search for "linger."
3.

Borrowing with the CLT for Mac



Borrowing with the CLT is similar to borrowing with License Options for Windows. To borrow a license feature (or features), you select the feature(s) that you wish to select and then choose the return date and time. Then, you click the "Borrow License(s)" button. Finally, to perform the actual communication with the license server and borrow the selected items, click the OK button.

To return a borrowed license, you select the item you wish to return, select the "Return License(s)" button, and click the OK button.

The Reset button will cause all Return Dates to go back to their original state they were in when you initially launched the tool. Thus, items that were not borrowed will have their return dates cleared, and any items that had the return date changed or cleared will be reset to their original value when the tool was launched.

License Server Configurations

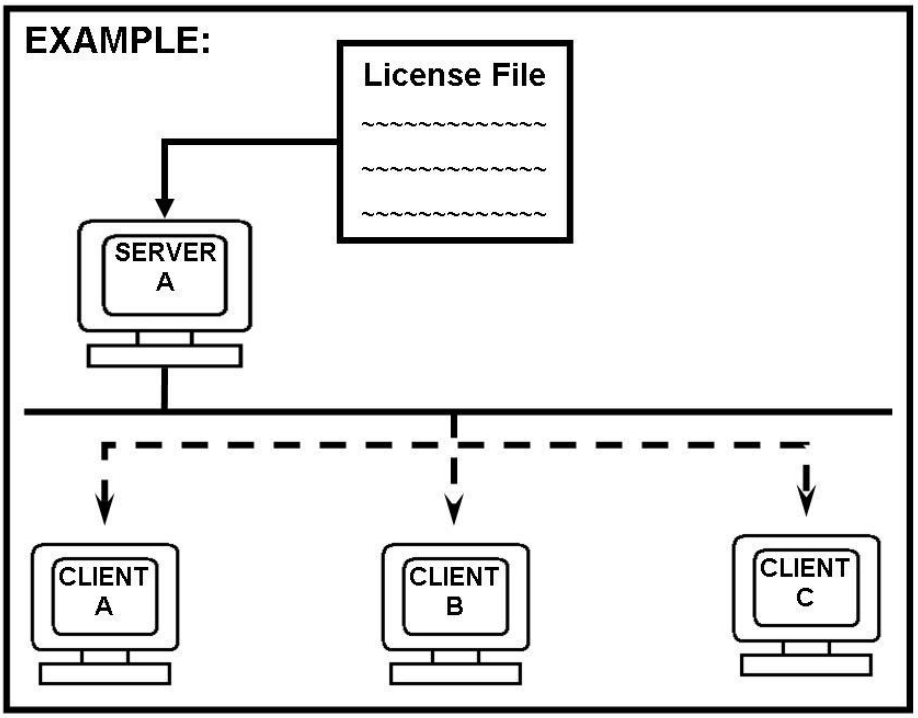
Siemens PLM Software Licensing is designed to support the following server configurations:

- Single Server Configuration
- Redundant Server Configuration
- Multiple Server Configuration

Use the server configuration that best suits the needs of your site.

Single Server Configuration

The single server configuration has one server that your clients communicate with for licenses. Clients A, B, and C check out licenses from Server A. If Server A goes down, licenses are denied.



Benefits of a Single Server Configuration

- Single point of administration.
- Good for customers with small installations who want to focus their resources on a few key servers.
- Best for installations that have single point(s) of failure in the network between the application and license server.

Setup for Single Server Configuration

The following example illustrates how to set the environment settings for the client node pointing to a single license server configuration using the proper port@hostname syntax.

UNIX

If using csh (C-shell), enter the following in /etc/csh.login:

```
setenv UGS_LICENSE_SERVER "28000@serverA"
```

If using sh or ksh (Bourne shell or Korn shell), enter the following in /etc/profile:

```
export UGS_LICENSE_SERVER=28000@serverA
```

Windows

Go to **Control Panel→System→Advanced** (tab)**→Environment Variables...** (button) and enter the following under "System Variables":

```
Variable Name: UGS_LICENSE_SERVER
Variable Value: 28000@serverA
```

Redundant Server Configuration

Siemens PLM Software Licensing supports redundant license servers operating as a single logical license server. Redundant servers help ensure the availability of your licenses in the event of a daemon crash until your local system administrator is available.

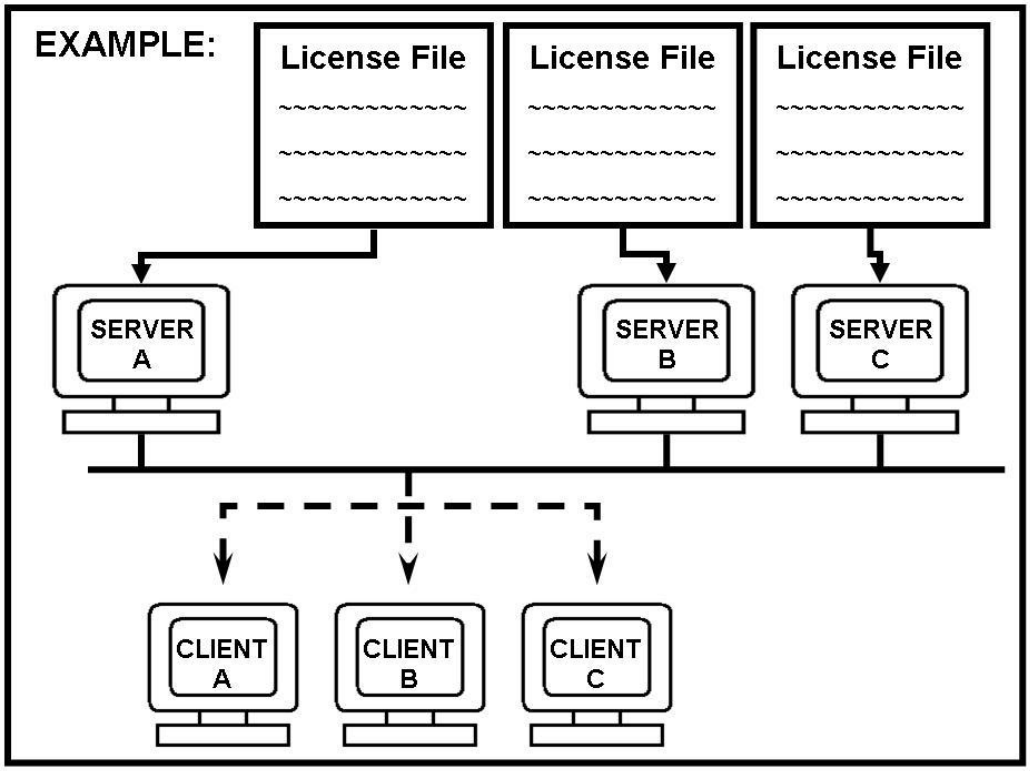
This feature is controlled by the SERVER lines in the license file. To implement Server Redundancy, you must identify and provide the hostids for three servers where copies of the license file will reside. Upon receiving this data, Siemens PLM Software generates your license file with the corresponding three SERVER lines.

You should verify that each license server has Siemens PLM Software Licensing installed on a local file system. Proceed by starting each license server on each machine in the order they are listed in the license file, starting with the server listed on the top line.

The redundant server configuration requires at least two of the three servers to be active for the licenses to be available. No licenses are available until this quorum of two is met. A quorum of servers is defined as a strict majority of servers listed in the license file, so the quorum in the three-server configuration is two. If only one of the servers is available, the quorum is not satisfied and no licenses will be available.

One of the servers starts out as the master server and serves licenses. If the master goes down, another server takes over as master. Once the issue that brought down the master server is resolved, you should reset the

license servers at your convenience. To reset the license servers, stop all three license servers and then restart in the order they are listed in the license file, starting with the server listed on the top line. See the sections on "Stopping the Siemens PLM Software Licensing License Server…" and "Starting the Siemens PLM Software Licensing License Server…", later in this guide, for instructions on resetting the license daemon.



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Benefit of a Redundant Server Configuration

A redundant server configuration increases the probability that all licenses will be available (if all other single points of failure have been removed).

Considerations

The following items should be considered relative to this specific type of server configuration:

- This configuration should be maintained by a system administrator.
- If one server goes down, the odds of a server failure become greater than that of a single server system, since either of the other two servers failing will cause failure by not satisfying the quorum.
- All three redundant servers must maintain communications with each other.
- The environment settings on the client node should conform to the port@hostname syntax.

Setup for a Redundant Server Configuration

The following examples illustrate how to set the environment settings for the client node pointing to a redundant server configuration using the proper port@hostname syntax. The separator used is a comma ",".

UNIX

If using csh (C-shell), enter the following in /etc/csh.login:

```
setenv UGS_LICENSE_SERVER "28000@serverA,28000@serverB,28000@serverC"
```

If using sh or ksh (Bourne shell or Korn shell), enter the following in /etc/profile:

```
export UGS_LICENSE_SERVER=28000@serverA,28000@serverB,28000@serverC
```

Windows

Go to **Control Panel→System→Advanced** (tab)**→Environment Variables...** (button) and enter the following under "System Variables":

```
Variable Name: UGS_LICENSE_SERVER
Variable Value: 28000@serverA,28000@serverB,28000@serverC
```

The order in which the servers are listed in the UGS_LICENSE_SERVER is the order in which they are checked. If the first server is not the master, the client will continue to search through the license servers until either a master server is found or all three servers have been checked. Once the master server is found, it then determines if a license is available for the client.

Effect on the License File

The license file will contain three SERVER lines for each of the license servers.

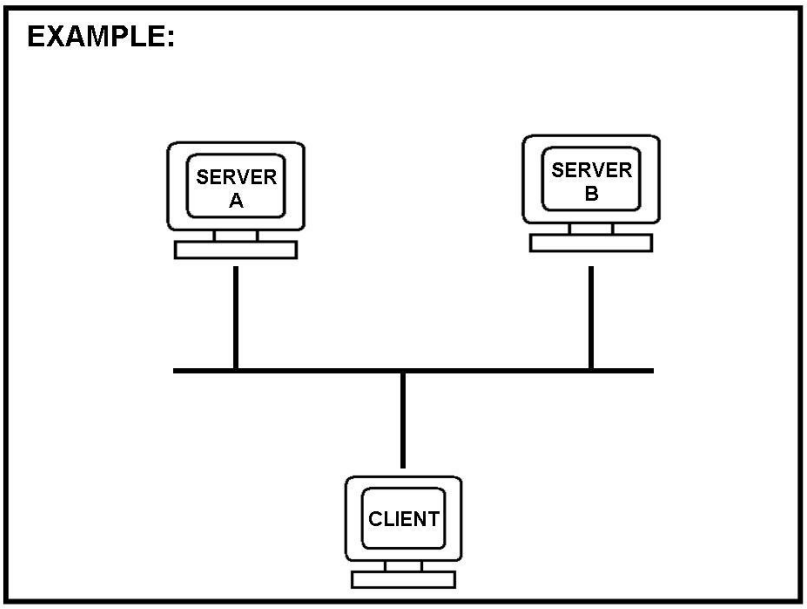
```
# Server line
SERVER serverA COMPOSITE=08002b32b116 28000
SERVER serverB COMPOSITE=080031700455 28000
SERVER serverC COMPOSITE=0802b17007a8 28000

VENDOR ugslmd

INCREMENT cam_base ugslmd 26.0 permanent 56 \
      SUPERSEDE ISSUED=01-dec-2007 DUP_GROUP=UHD ck=119 \
      SIGN="1BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 8628 2893 \
      D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB B837 00F2 7BD5 D33F \
      8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"
INCREMENT drafting ugslmd 26.0 permanent 56 \
      SUPERSEDE ISSUED=01-dec-2007 DUP_GROUP=UHD ck=103 \
      SIGN="2BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 8628 2893 \
      D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB B837 00F2 7BD5 D33F \
      8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"
INCREMENT assemblies ugslmd 26.0 permanent 56 \
      SUPERSEDE ISSUED=01-dec-2007 DUP_GROUP=UHD ck=120 \
      SIGN="3BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 8628 2893 \
      D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB B837 00F2 7BD5 D33F \
      8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"
INCREMENT gateway ugslmd 26.0 permanent \
      SUPERSEDE ISSUED=01-dec-2007 DUP_GROUP=UHD ck=98 \
      SIGN="4BEC 143A A5FB 9942 E51D EB73 C77B E6DF 5085 8628 2893 \
      D824 8DA1 7F70 1D89 17AA 08D7 E953 F4AB B837 00F2 7BD5 D33F \
      8A12 AD62 BEAB 2C1B 4D3F 2C55 A291"
```

Note:
The port number is required in the license file for redundant server configuration.

Multiple Server Configuration

The multiple server configuration is a way of combining server configuration types to create an overflow mechanism. The other server configuration types are single and redundant. The multiple license server configuration is set up by defining the UGS_LICENSE_SERVER environment variable with more than one potential license server for the client application program.

Note:
This configuration is also referred to as a license list because of the manner in which it is set up.



Benefits of a Multiple Server Configuration

- No changes to your license files are necessary.
- Allows cross server licensing checkout.
- Allows license requests to overflow to other license servers in cases of occasional heavy use by one group.

Considerations for Multiple Server Configuration

- The time for license activity can increase.
- Is controlled from the client side.
- When a server configuration is down you lose all the licenses that the server configuration had.

Setup for Multiple Server Configuration

The following examples illustrate how to set the environment settings for a client node using the multiple server configuration. The list of servers includes two single configurations using the port@hostname syntax. The separator on UNIX is the colon ":". On Windows the separator is the semicolon ";".

UNIX

If using csh (C-shell), enter the following in /etc/csh.login:

```
setenv UGS_LICENSE_SERVER "28000@serverA:28000@serverB"
```

If using sh (Bourne shell or Korn shell), enter the following in /etc/profile:

```
export UGS_LICENSE_SERVER=28000@serverA:28000@serverB
```

Windows

Go to **Control Panel→System→Advanced (tab)→Environment Variables... (button)** and enter the following under "System Variables":

```
Variable Name: UGS_LICENSE_SERVER
Variable Value: 28000@serverA;28000@serverB
```

The order in which the servers are listed in the UGS_LICENSE_SERVER is the order in which they are checked. The first server listed should be your primary and closest server.

In this example the client would normally get all of its licenses from ServerA. In the event that ServerA did not have the license or went down, the license request would move to ServerB. You would receive a license not available message only if the license was not available on any of the two license server configurations.

Administration Tools

The following administration tools are available for Siemens PLM Software Licensing:

lmcksum	Prints license checksums. To be used when a license file is manually entered.
lmdiag	Diagnoses license checkout problems.
lmdown	Gracefully shuts down all license daemons (both *lmgrd* and *ugslmd*) on the license server node(s).
lmhostid	Reports the hostid of a system.
lmremove	Removes a single user's license for a specified feature.
lmreread	Causes the license daemon to reread the license file and start any new vendor daemons.
lmstat	Helps you monitor the status of all network licensing activities.
lmver	Reports the Siemens PLM Software Licensing version of a library or binary file.

Location of Tools

The recommended location for these tools is:

UNIX

On the server

```
/usr/ugslicensing/
```

On the client

```
/usr/ugs*/ugflexlm/
```

Windows

On the server

```
c:\Program Files\UGS\UGSLicensing\
```

On the client

```
c:\Program Files\UGS\NX*\UGFLEXLM\
```

Executing Tool Commands

All administration tool commands are packaged as one executable called lmutil. To execute an administration tool command, enter the following:

```
lmutil command
```

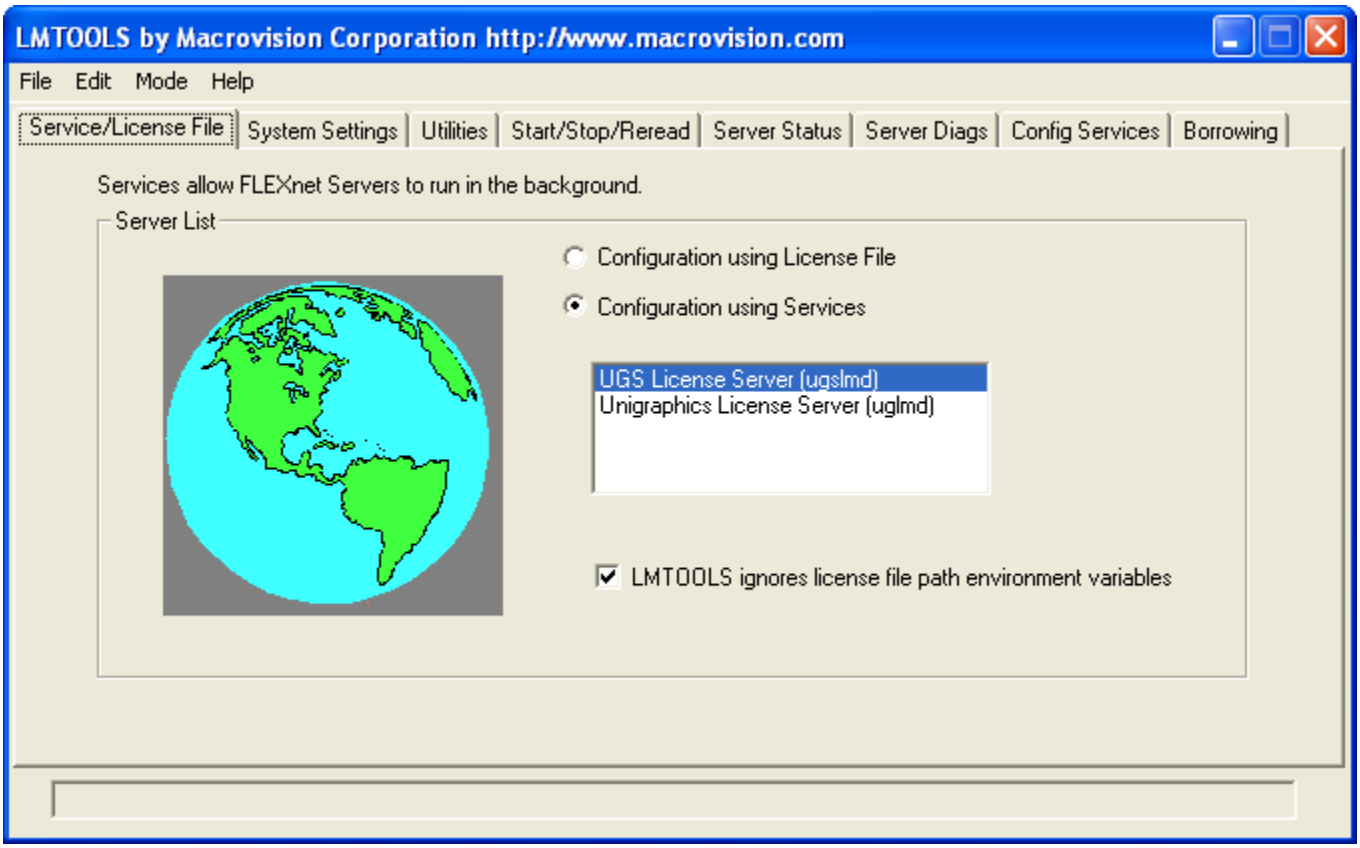
For example, to execute the lmstat command, enter:

```
lmutil lmstat –c 28000@license_server
```

LMTOOLS for Windows Platforms

For the Windows platforms, the LMTOOLS.EXE program is provided under **Start→Program→UGS Licensing→LMTOOLS**.

The LMTOOLS interface combines license administration tools and the utilities in the *lmutil* executable.



To configure your license service, click the *Configuration using Services* radio button to access the *Configure Services* tab.

Refer to the *Acresso License Administration Guide* for additional information on LMTOOLS.

License Administration on UNIX

Siemens PLM Software Licensing supports the following types of hostids:

- Composite hostid (default)

Running Siemens PLM Software Licensing Applications on UNIX

When using any Siemens PLM Software Licensing applications, this environment variable must be set:

UGS_LICENSE_SERVER	It should be set to "port@hostname", where the *port* and *hostname* come from the SERVER line in the license file. We recommend this syntax.

The UGS_LICENSE_SERVER environment variable is normally set during the installation of the application. If at some time, however, you need to set it manually, use the following procedure:

If using csh (C-shell), enter the following in /etc/csh.login:

```
setenv UGS_LICENSE_SERVER "port@hostname"
```

If using sh or ksh (Bourne shell or Korn shell), enter the following in /etc/profile:

```
UGS_LICENSE_SERVER="port@hostname"
export UGS_LICENSE_SERVER
```

These should be set in the global login scripts. For example:

```
/etc/profile
/etc/csh.login                  {HP Only}
/etc/.login               {Sun Only}
```

The install program normally creates this environment variable for you.

Replacing Siemens PLM Software Licensing License File on UNIX

To replace your Siemens PLM Software Licensing license file:

- Backup the old license file.
- Place the new license file in the /usr/ugslicensing/ directory.
- Run /usr/ugslicensing/ugslicensing_reset.

Once the license server is up and on-line you can remove the backup of the old license file at your leisure.

Note:
If the license file is for a new version of the application program you need to install the new license server software, as the daemons may need to be upgraded.

Stopping Siemens PLM Software Licensing License Server on UNIX

To stop the Siemens PLM Software Licensing server run " /usr/ugslicensing/ugslicensing_reset -h ".

Starting Siemens PLM Software Licensing License Server on UNIX

To start the Siemens PLM Software Licensing server run " /usr/ugslicensing/ugslicensing_reset ".

Note:

On SUN UNIX you may run into a problem with the lmgrd and ugslmd daemons not releasing their port when running ugs_reset (-h). This is caused by the system configuration variable "tcp_time_wait_interval" having a default value of 240000 milliseconds which is too high. Acresso recommends a value of 2000 milliseconds.

License Administration on Windows

Siemens PLM Software Licensing supports the following types of hostids:

- Composite hostid (for license files only)
- Ethernet Address (for individual licenses only)
- NX Hardware Key (for individual licenses only)
- FLEXid Hardware Key (for individual licenses only)

Siemens PLM Software Licensing has its own installation for more information; please refer to the installation guide.

NX Hardware Key for hostids

The hardware key issued by Siemens PLM Software can act as your hostid, if requested or needed. By connecting a hardware key to the parallel or USB port of a workstation, it can be accessed by the application to define a unique hostid for a workstation. The hostid on the INCREMENT / FEATURE line in your license file must match the third number printed on the outside of the hardware key itself. The Sentinel device driver must also be installed and started on the client machine. If you need to run it manually on the client side it can be found in the NX base directory under the UGFLEXLM kit:

```
%UGII_BASE_DIR%\UGFLEXLM\Hardware_Key\sentinelsystemdriver.msi
```

If you have two or more hardware keys from an Siemens PLM Software distributor only one can be used on a machine at a time. If you need to use both licenses on the same machine you need request that one of the features be locked to the other hardware key or unlocked. You should also return the unused hardware key.

Note:
NX supports your hardware key purchased from Acresso. Please refer to *Acresso License Administration Guide* for additional information on FLEXID.

Installing the Hardware Key

To install the hardware key, perform the following steps:

1. Plug the hardware key into the parallel or USB port of the Windows workstation. When using the parallel port lightly tighten the screws to ensure the key cannot be accidentally disconnected.
2. The Sentinel device driver should have already been installed automatically by the NX installation program. You can verify the installation of this device driver by checking **Control Panel→Add/Remove Programs** then look for **sentinelsystemdriver**.

How to Run NX Applications on Windows

When using any NX product, this environment variable must be set.

UGS_LICENSE_SERVER	This variable must be set in every NX shell environment. It should be set to "port@hostname", where the *port* and *hostname* come from the SERVER line in the license file. Siemens PLM Software recommends this syntax.

The UGS_LICENSE_SERVER environment variable is normally set during the installation of NX. If at some time, however, you need to set it manually, you can use the **Control Panel→System→Advanced (tab)→Environment Variables... (button)** user interface.

Replacing Siemens PLM Software Licensing License File on Windows

To replace your Siemens PLM Software Licensing license file:

1. Backup the old license file.
2. Place the new license file in C:\Program Files\UGS\UGSLicensing directory.
3. Stop and Start the "UGS License Server (ugslmd)" service using LMTOOLS located in **Start→Programs→UGS Licensing→LMTOOLS**.

Once the license server is up and on-line you can remove the backup of the old license file at your leisure.

Note:
If the license file is for a new version of the application program you should install the new license server software, as the daemons may need to be upgraded.

Stopping Siemens PLM Software Licensing Service on Windows

To stop the Siemens PLM Software Licensing server open LMTOOLS located in **Start→Programs→UGS Licensing→LMTOOLS**. Then click the radio dial "Configuration Using Services" on the "Service/License File" tab. Then click on the "UGS License Server (ugslmd)" such that it is highlighted. Then click the middle tab "Start/Stop/Reread". Now with "UGS License Server (ugslmd)" highlighted click the "Stop Server" button.

Note:
Even though it says "Stopping Server" in the bottom of the window it is actually done stopping the server.

Starting Siemens PLM Software Licensing Service on Windows

To start the Siemens PLM Software Licensing server open LMTOOLS located in **Start→Programs→UGS Licensing→LMTOOLS**. Then click the radio dial "Configuration Using Services" on the "Service/License File" tab. Then click on the "UGS License Server (ugslmd)" such that it is highlighted. Then click the middle tab "Start/Stop/Reread". Now with "UGS License Server (ugslmd)" highlighted click the "Start Server" button.

Note:
Even though it says "Starting Server" in the bottom of the window it is actually done starting the server.

Acresso FLEXnet Licensing Error Codes

The following information is from Appendix E "FLEXnet Licensing Error Codes" of the *Acresso License Administration Guide*.

Error Message Format

FLEXnet Licensing error messages presented by applications have the following components:

- FLEXnet Licensing Error Number-a negative number starting at -1.
- FLEXnet Licensing Error Text-short sentence (< 80 characters) summarizing problem.
- FLEXnet Licensing Error Explanation (optional)-short paragraph (3-5 lines) explaining problem and possible solutions or workarounds.
- FLEXnet Licensing Minor Error Number-a positive number starting at 1. These numbers are unique error identifiers and are used by FLEXnet Licensing vendors for more advanced support assistance. Their meaning is not documented.
- System Error Number (optional)-a UNIX or Windows OS error code last set by the operating system.
- System Error Explanation (optional)-a short sentence (< 80 characters) explaining the system error.
- Other supporting information (optional)

Error messages were improved in v6. FLEXnet Licensing Error Explanation and supporting information are only available in applications using v6.0+.

These error messages may occur in two formats available with FLEXnet Licensing or may appear in a format customized by the application.

Format 1 (short):

```
FLEXlm error text (-lm_errno, minor_num[:sys_errno]) [sys_error_text]
```

The system error information may be missing.

Example:

```
Can't connect to license server system (-15,12:61) Connection refused
```

Format 2 (long-version 6.0+):

```
FLEXlm error text
 FLEXlm error explanation
[Optional Supporting information]
FLEXlm error: -lm_errno, minor_num. [System Error: sys_errno]
["system_error_text"]
```

Example:

```
Cannot connect to license server system
 The server (lmgrd) has not been started yet, or
 the wrong port@host or license file is being used, or the
 port or hostname in the license file has been changed.
Feature: f1
Server name: localhost
License path: @localhost:license.dat:./*.lic
FLEXlm error: -15,12. System Error: 61 "Connection refused"
```

Error Code Descriptions

The following table lists the most common errors produced by FLEXenabled products.

FLEXnet Licensing Error Codes	
Error Code	**Description**
-1	Cannot find license file.
-2	Invalid license file syntax.
-3	No license server system for this feature.
-4	Licensed number of users already reached.
-5	No such feature exists.
-6	No TCP/IP port number in license file and FLEXnet Licensing service does not exist. (pre-v6 only)
-7	No socket connection to license server manager service.
-8	Invalid (inconsistent) license key or signature. The license key/signature and data for the feature do not match. This usually happens when a license file has been altered.
-9	Invalid host. The hostid of this system does not match the hostid specified in the license file.
-10	Feature has expired.
-11	Invalid date format in license file.
-12	Invalid returned data from license server system.
-13	No SERVER lines in license file.
-14	Cannot find SERVER host name in network database. The lookup for the host name on the SERVER line in the license file failed. This often happens when NIS or DNS or the hosts file is incorrect. Workaround: Use IP address (e.g., 123.456.789.123) instead of host name.
-15	Cannot connect to license server system. The server (`lmgrd`) has not been started yet, or the wrong `port@host` or license file is being used, or the TCP/IP port or host name in the license file has been changed.
-16	Cannot read data from license server system.
-17	Cannot write data to license server system.

-18	License server system does not support this feature.
-19	Error in select system call.
-21	License file does not support this version.
-22	Feature checkin failure detected at license server system.
-23	License server system temporarily busy (new server connecting).
-24	Users are queued for this feature.
-25	License server system does not support this version of this feature.
-26	Request for more licenses than this feature supports.
-29	Cannot find Ethernet device.
-30	Cannot read license file.
-31	Feature start date is in the future.
-32	No such attribute.
-33	Bad encryption handshake with vendor daemon.
-34	Clock difference too large between client and license server system.
-35	In the queue for this feature.
-36	Feature database corrupted in vendor daemon.
-37	Duplicate selection mismatch for this feature. Obsolete with v8.0+ vendor daemon.
-38	User/host on EXCLUDE list for feature.
-39	User/host not on INCLUDE list for feature.
-40	Cannot allocate dynamic memory.
-41	Feature was never checked out.
-42	Invalid parameter.
-47	Clock setting check not available in vendor daemon.
-52	Vendor daemon did not respond within timeout interval.
-53	Checkout request rejected by vendor-defined checkout filter.
-54	No FEATURESET line in license file.
-55	Incorrect FEATURESET line in license file.
-56	Cannot compute FEATURESET data from license file.
-57[1]	socket() call failed.
-59	Message checksum failure.
-60	License server system message checksum failure.
-61	Cannot read license file data from license server system.
-62	Network software (TCP/IP) not available.
-63	You are not a license administrator.
-64	lmremove request before the minimum lmremove interval.
-67	No licenses available to borrow.
-68	License BORROW support not enabled.

-69	FLOAT_OK can't run standalone on license server system.
-71	Invalid TZ environment variable.
-73	Local checkout filter rejected request.
-74	Attempt to read beyond end of license file path.
-75[1]	SYS$SETIMR call failed (VMS).
-76	Internal FLEXnet Licensing error-please report to Acresso Corporation.
-77	Bad version number must be floating-point number with no letters.
-82	Invalid PACKAGE line in license file.
-83	FLEXnet Licensing version of client newer than server.
-84	USER_BASED license has no specified users - see license server system log.
-85	License server system doesn't support this request.
-87	Checkout exceeds MAX specified in options file.
-88	System clock has been set back.
-89	This platform not authorized by license.
-90	Future license file format or misspelling in license file. The file was issued for a later version of FLEXnet Licensing than this program understands.
-91	Encryption seeds are non-unique.
-92	Feature removed during lmreread, or wrong SERVER line hostid.
-93	This feature is available in a different license pool. This is a warning condition. The server has pooled one or more INCREMENT lines into a single pool, and the request was made on an INCREMENT line that has been pooled.
-94	Attempt to generate license with incompatible attributes.
-95	Network connect to `THIS_HOST` failed. Change `this_host` on the SERVER line in the license file to the actual host name.
-96	License server machine is down or not responding. See the system administrator about starting the server, or make sure that you're referring to the right host (see `LM_LICENSE_FILE` environment variable).
-97	The desired vendor daemon is down. 1) Check the `lmgrd` log file, or 2) Try lmreread.
-98	This FEATURE line can't be converted to decimal format.
-99	The decimal format license is typed incorrectly.
-100	Cannot remove a linger license.
-101	All licenses are reserved for others. The system administrator has reserved all the licenses for others. Reservations are made in the options file. The server must be restarted for options file changes to take effect.
-102	A FLEXid borrow error occurred.
-103	Terminal Server remote client not allowed.
-104	Cannot borrow that long.
-106	License server system out of network connections. The vendor daemon can't handle any more users. See the debug log for further information.

-110	Cannot read dongle: check dongle or driver. Either the dongle is unattached, or the necessary software driver for this dongle type is not installed.
-112	Missing dongle driver. In order to read the FLEXid hostid, the correct driver must be installed. These drivers are available from your software vendor.
-114	SIGN= keyword required, but missing from license certificate. You need to obtain a SIGN= version of this license from your vendor.
-115	Error in Public Key package.
-116	TRL not supported for this platform.
-117	BORROW failed.
-118	BORROW period expired.
-119	lmdown and lmreread must be run on license server machine.
-120	Cannot lmdown the server when licenses are borrowed.
-121	FLOAT_OK requires exactly one FLEXid hostid.
-122	Unable to delete local borrow info.
-123	Returning a borrowed license early is not supported. Contact the vendor for further details.
-124	Error returning borrowed license.
-125	A PACKAGE component must be specified.
-126	Composite hostid not initialized.
-127	A item needed for the composite hostid is missing or invalid.
-128	Error, borrowed license doesn't match any known server license.
-135	Error enabling the event log.
-136	Event logging is disabled.
-137	Error writing to the event log.
-139	Communications timeout.
-140	Bad message command.
-141	Error writing to socket. Peer has closed socket.
-142	Error, cannot generate version specific license tied to a single hostid, which is composite.
-143	Version-specific signatures are not supported for uncounted licenses.
-144	License template contains redundant signature specifiers.
-145	Bad V71_LK signature.
-146	Bad V71_SIGN signature.
-147	Bad V80_LK signature.
-148	Bad V80_SIGN signature.
-149	Bad V81_LK signature.
-150	Bad V81_SIGN signature.
-151	Bad V81_SIGN2 signature.
-152	Bad V84_LK signature.

-153	Bad V84_SIGN signature.
-154	Bad V84_SIGN2 signature.
-155	License key required but missing from the license certificate. The application requires a license key in the license certificate. You need to obtain a license key version of this certificate from your vendor.
-156	Invalid signature specified with the AUTH= keyword.
-500	Invalid server port number.
-501	Invalid value in license where an integer was expected.
-502	Invalid value supplied for count.
-503	Invalid hostid supplied in license.
-504	Invalid hostid type supplied.
-505	Bad feature line syntax.
-506	Internal FLEXnet Licensing error.
-507	Bad date format in license file.
-508	Bad SERVER line.
-509	Bad license string.
-510	Server's feature doesn't authenticate on client side.
-511	No license checked out.
-512	License already checked out.
-513	Error list returned.
-514	No certicom module available.
-515	Wrong or incomplete certicom module.
-516	SIGN or SIGN2 required in license certificate.
-517	Feature object has no license sources.
-518	An Identical license is already checked out on this license source.
-519	This license has an asynchronously-queued checkout pending.
-521	Library for native hostid couldn't be loaded.
-522	Already connected to another vendor daemon.
-523	No such user, host, or display.
-524	Shutdown of license server system failed.
-525	Shutdown failed - already connected to license server system.
-526	Invalid license source string.
-527	Log file switch error.
[1]Indicates errors due to an operating system failure.	

Advanced Siemens PLM Software Licensing Administration

For more advanced license administration using Siemens PLM Software Licensing, additional products are available for purchase from Acresso Corporation. For more information about Acresso products, contact Acresso Corporation on the Web at *www.Acresso.com*.

Composite Hostid (CID)

The composite hostid is a unique machine identifier that is used as the hostid on the SERVER line of the license file. It is distinguished from the default FLEXnet hostid by the key word "COMPOSITE=". It is the only hostid supported for locking a permanent license file to a server. When the CID is used as the license server hostid, the SERVER line will appear as follows.

EXAMPLE:

```
SERVER serverA COMPOSITE=37B5ED1AC61D 28000
```

To obtain the CID, you will have to run a Siemens PLM Software utility called "ugs_composite.exe". This utility is provided in the license server media kit or can be downloaded via the Customer Support (GTAC) website http://support.ugs.com. The utility must be executed on the target license server or on all three servers in a redundant configuration. The output is a list of 12 digit hexadecimal number that is the CID for that system.

EXAMPLE :

```
$ ugs_composite.exe
The UGS Licensing composite hostid is:
"COMPOSITE=37B5ED1AC61D"
```

If a server has multiple physical addresses, multiple CIDs will be displayed.

EXAMPLE :

```
c:\ugs_composite.exe
The UGS Licensing composite hostid is :
""COMPOSITE=8F4FFDB2C5EE COMPOSITE=B2C5EE8F4FFD""
Press the ENTER key to continue...
```

The concept multiple CIDs was introduced to allow the flexibility to use a CID associated with any physical address. Previously, you were limited to just the CID associated with the device at the top of the network binding. If you see multiple CIDs, select the first one in the list. If the selected CID changes or disappears for any reason, use the next CID in the list.

Once the CID information is obtained for a license server, this information must be entered into your customer record to generate a permanent license file. The CID can be entered using your WebKey account or by calling your customer service representative (CSR). After the CID has been entered into your customer record you will be sent a permanent license file for you to install on your license server.

Licensing Terms

The following software licensing terms are used to describe Siemens PLM Software Licensing.

Bundle Consolidation	The act of taking checked out license modules consisting of bundled and floating features and replacing their licensing check outs with licensing check outs from one single bundle.
CID	**Acronym for C**omposite Host**id**
Client	Any node on the network that requests a license from the license server.
Composite Hostid	A 12 digit hexadecimal unique machine identifier distinguished from a FLEXnet hostid by the key word "COMPOSITE=". It is used to lock a license file to a machine.
Concurrent Licensing	A software license that specifies a maximum number of users who can use the software at the same time. Pricing is usually by seat or user. As software is used, a license is verified and checked out through Siemens PLM Software Licensing. When the user is finished with the software, the license is checked in for use by another user.
Feature	FEATURE represents any functionality that needs to be licensed.
Floating Feature	Feature that is defined on a INCREMENT / FEATURE line or within a non-suite package.
Hostid	Used to uniquely identify a specific machine, if the license or license file is to be bound to a particular host.
Increment	An INCREMENT line can be used in place of a FEATURE line. It can also be used to incrementally add licenses to a previous FEATURE or INCREMENT line in the license file.
License	The right to use a specific version of a software module. The license specifies what version of the software can be used and how many users can use that software. A license can also have a time period associated with it.
License File	A text file that stores the licensing data. This file contains information about the server nodes and vendor daemons, and at least one line of data for each licensed product.
License Key	A 12 character hexadecimal number that authenticates the readable license file text, ensuring that the license text has not been modified.
License Server	The node on a network where license requests are processed.
lmgrd	The main license daemon that sends client application requests to the correct vendor daemon.
Multiple Servers	A way of listing more than one potential license server for the client application program as defined by the UGS_LICENSE_SERVER environment variable on the client side.

Package	An efficient method of distributing a license file containing many features that share the same FEATURE line arguments.
Redundant Servers	A set of three redundant license servers that requires two of the three license servers to be up and running in order to serve licenses.
Server ID	The unique identifier of your license configuration for NX.
Server Node	A computer system that is running the license server software. The server node contains all the site-specific information on feature usage.
Siemens PLM Software Licensing	Short for Siemens PLM Software Common Licensing.
Siemens PLM Software Common Licensing	Long for Siemens PLM Software Licensing and the common licensing toolkit and license daemon that Siemens PLM Software Products will start moving to provide consistent licensing functionality and enable combining license files into a common Siemens PLM Software license file.
ugslicensing.log	The debug log file for Siemens PLM Software Licensing. The ugslicensing.log file contains the output from "lmgrd" and "ugslmd" and is used as a debugging aid.
ugslmd	The vendor daemon that NX uses to dispense licenses for the requested features.
Windows	Windows XP and/or Windows Vista Platform.