How to Authorize UniVerse 10.2.0 and higher

The UniVerse license authorization process changed at UniVerse 10.2.0. This document details how to properly authorize UniVerse 10.2.0 and higher.

Prior to UniVerse 10.2.0 release, to authorize UniVerse only a static authorization code was needed. Beginning with UniVerse 10.2.0, a combination of a configuration code and an authorization code is needed to properly authorize an installation of UniVerse.

A few key points to note before reading this document:
- A 60-day evaluation period was added to UniVerse 10.2.x. See the *Additional Information* section for more details on the Evaluation Period.
- All users need to be logged out of UniVerse when license authorization is being done.
- When changing the licensing in any manner, UniVerse will become unauthorized and a new authorization code will need to be generated and applied to UniVerse. On Unix, this will also prevent any new UniVerse sessions from starting until UniVerse is stopped and restarted.
- Only one method in each section for Unix/Linux or Windows needs to be completed in order to authorize UniVerse.
- Commands included in this document are surrounded by single quotes, do not include the single quotes when running the commands on your system.
- If the serial number needs to be switched, the current configuration can be changed. There is no longer a need to move the '.uvconfig' and '.uvconfig.bak' files around or follow the steps in the 'Re-authorizing UniVerse' techtips that are for UniVerse 10.1.x and older.

This document is divided in the following manner:

Authorizing Unix/Linux Installations
A.) End of Installation / License Administration Screen
B.) uvregen (command line)

Authorizing Windows Installations
A.) During Installation
B.) UniVerse Control Panel
C.) uvregen (command line)

Updating Licensing via UniAdmin

Error Messages
- '2 2' or '2 22'
- 'Invalid .uvconfig'
- 'Unexpected failure whilst attempting to apply license!'
- 'The following critical tunable(s) have been changed in uvconfig!' or 'UniVerse has not been configured!'
- 'One or more of the following critical tunables have been changed!' or 'RUNDLL - An exception occurred while..'

Additional Information
- UniVerse Licensing Parameters
- Generating the Authorization Code on the U2TechConnect 'Authorize Products' website
- Evaluation Period Details
- How do you tell if UniVerse has not been configured on Unix/Linux installations?
- How do you tell if UniVerse has been successfully authorized?
- What happens to the database if it has not been authorized and the expiration date is exceeded?
- What needs to be done when UniVerse has already been authorized and only the user count is increased?
- Authorizing & Installing UVNET on Unix for UniVerse 10.2.x and higher

- uvregen command line options
- unirpcservices test failed
- Various items not previously noted

Authorizing Unix/Linux Installations

A.) End of Installation / License Administration Screen
The steps to install UniVerse have not changed. Refer to the UniVerse installation manual for those steps.   If you received your installation media via electronic download/FTP from the U2 Business Connect (U2BC) application, refer to the related document below called *'Electronic Delivery/FTP of UniVerse from U2BC'* for details on transferring the install media from windows to unix/linux.

If UniVerse has been installed and licensing was not done at the end of the installation or the license needs to be modified in some manner the licensing screen is accessed via the following manner:

- Log to the UniVerse home directory, ie. 'cd /usr/ibm/uv'
- Execute uv, 'bin/uv'
- In the 'UniVerse System Administration' menu, select 'Package' then 'License administration'. If the install is running in single-user mode then the licensing screen will appear by default.

To license UniVerse in the licensing screen, all other users besides the user changing the licensing must be logged out, otherwise the licensing will fail. The program checks SYSTEM(35) and if the value is > 1 an error is returned.

At the end of the installation or by doing the steps in the above paragraph, a licensing screen will appear that looks like this:
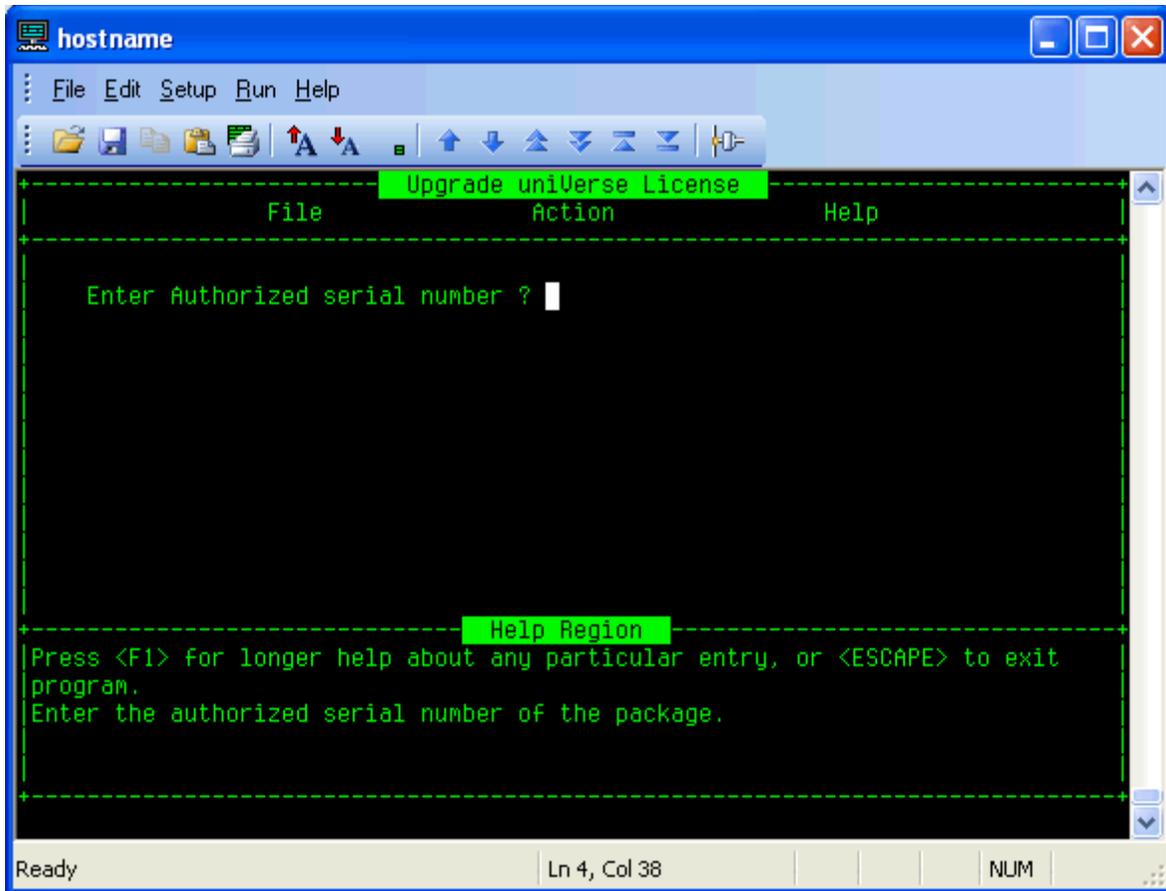
If the version of Universe is between 10.2.0 and 10.2.3 and the screen above does not appear after the installation then this may be due to a unirpcservices problem. See the note in the *Additional Information* section called '*unirpcservices test failed*' for details.

To authorize UniVerse, do the following:
1) At the 'Enter Authorized serial number' prompt supply your 8-digit UniVerse serial number. Do not include any product suffixes like -UV, -UVNET, etc.

```
hostname                                                          [_][□][X]

 File  Edit  Setup  Run  Help

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+----------------------- Upgrade uniVerse License -----------------------+
|              File                  Action                  Help        |
+-----------------------------------------------------------------------+
|                                                                        |
|    Enter Authorized serial number : 12345678                           |
|    Local User Limit              ?                                      |
|    New expiration date           :                                     |
|    Package list                  :                                     |
|    Device Licensing count        :                                     |
|    Configuration Code            :                                     |
|    Local Authorization Code      :                                     |
|                                                                        |
|                                                                        |
|                                                                        |
|                                                                        |
+------------------------------- Help Region ----------------------------+
|Enter new user limit. In the case of a Floating License system, this would|
|be the number of Local licenses.                                        |
|                                                                        |
|                                                                        |
|                                                                        |
+-----------------------------------------------------------------------+

Ready                                    Ln 5, Col 38              NUM
```

2) Supply the database authorized user count.

```
hostname                                                              _ □ ✕

  File  Edit  Setup  Run  Help

  +--------------------------- Upgrade uniVerse License ----------------------+
  |              File                    Action                 Help          |
  +---------------------------------------------------------------------------+
  |                                                                           |
  |    Enter Authorized serial number : 12345678                              |
  |    Local User Limit               : 25                                    |
  |    New expiration date            ?                                       |
  |    Package list                   :                                       |
  |    Device Licensing count         :                                       |
  |    Configuration Code             :                                       |
  |    Local Authorization Code       :                                       |
  |                                                                           |
  |                                                                           |
  |                                                                           |
  +-------------------------------- Help Region ------------------------------+
  |Enter new expiration date                                                  |
  |                                                                           |
  |                                                                           |
  |                                                                           |
  +---------------------------------------------------------------------------+

Ready                              Ln 6, Col 38                    NUM
```
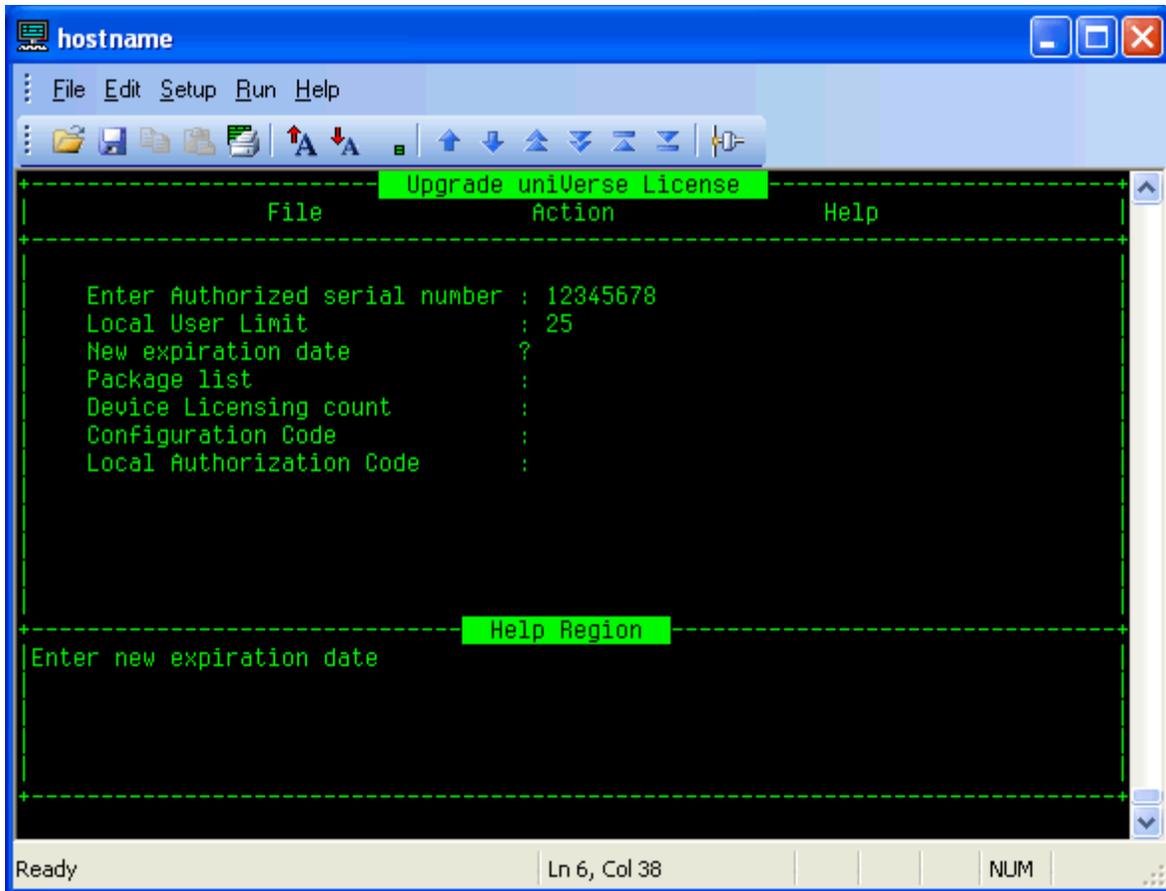
3) Enter the expiration date. If the expiration date is the default of 1/1/2500, you can press enter at this line and it will default the date. If the date is not the default, input the date in the format mm/dd/yyyy.

File Edit Setup Run Help

```
+-----------------------------Upgrade uniVerse License-------------------------+
|              File                 Action                   Help              |
+-----------------------------------------------------------------------------+
|                                                                             |
|                                                                             |
|     Enter Authorized serial number : 12345678                               |
|     Local User Limit               : 25                                     |
|     New expiration date            : 01/01/2500                             |
|     Package list                   ? █                                      |
|     Device Licensing count         :                                        |
|     Configuration Code             :                                        |
|     Local Authorization Code       :                                        |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
+-------------------------------- Help Region --------------------------------+
|Enter packages in the form PACKAGE:USERCNT,PACKAGE:USERCNT...                 |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
+-----------------------------------------------------------------------------+
```

Ready   Ln 7, Col 38   NUM
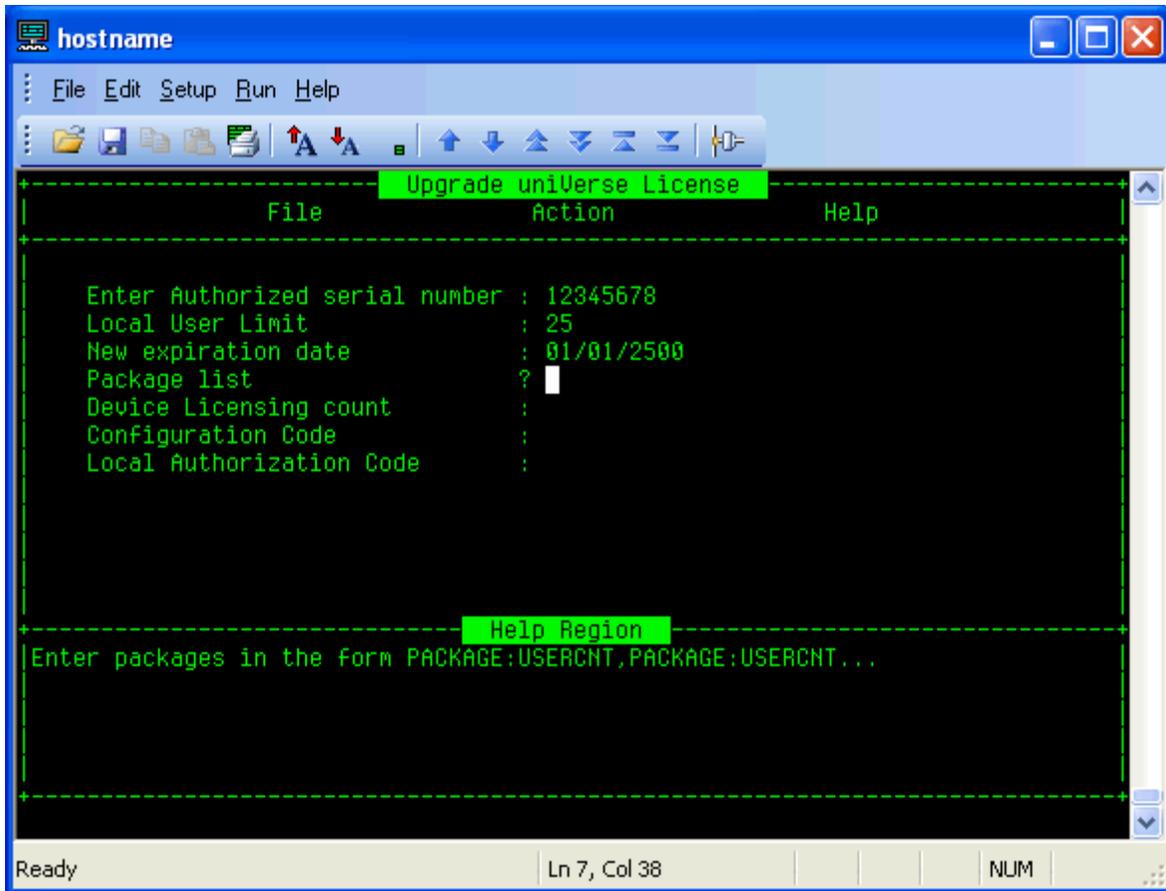
4) Supply the purchased add-on details. The available options at this time are CONNPL (connection pooling) and UVNET. The format will be like: `CONNPL:5,UVNET:9999` If UVNET still needs to be installed after the installation of the database, do not include the '`,UVNET:9999`'. If no add-ons were purchased press Enter/Return. The user count for UVNET is always set to 9999 to indicate unlimited uvnet connections.

```
host name                                                    [_][□][X]

 File  Edit  Setup  Run  Help

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+---------------------------- Upgrade uniVerse License -----------------------------+ ^
|              File                  Action                    Help                 |
+----------------------------------------------------------------------------------+
|                                                                                  |
|    Enter Authorized serial number : 12345678                                     |
|    Local User Limit               : 25                                           |
|    New expiration date            : 01/01/2500                                   |
|    Package list                   : CONNPL:5,UVNET:9999                          |
|    Device Licensing count         ?                                              |
|    Configuration Code             :                                              |
|    Local Authorization Code       :                                              |
|                                                                                  |
|                                                                                  |
|                                                                                  |
|                                                                                  |
+----------------------------------- Help Region -----------------------------------+
|If licensing for Server Edition, enter a value from 0 to 10. If licensing          |
|for Enterprise or Workgroup Edition, enter 10.                                     |
|                                                                                  |
|                                                                                  |
|                                                                                  |
+----------------------------------------------------------------------------------+ v

Ready                              Ln 8, Col 38                          NUM
```

5) Supply the device licensing count. This value can be between zero and 10. Server Edition of UniVerse will typically have this value set to zero unless a Device Licensing add-on license is included with the U2BC serial number. If a device licensing add-on license is in use, the number can be within the zero to 10 range. Workgroup and Enterprise Editions of UniVerse will have this value set to 10.

At UniVerse 10.2.0 only, in this licensing screen, the Device Licensing Count option only allows for the values 0 through 9. It does not allow for the value of 10. If 10 device licenses are required, hit escape and license UniVerse using the uvregen command line syntax. This issue is fixed in UniVerse version 10.2.1.

```
host name                                                    [ _ ][ □ ][ X ]

  File  Edit  Setup  Run  Help

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+-------------------------- Upgrade uniVerse License --------------------------+  ^
|               File                Action                Help                |
+-----------------------------------------------------------------------------+
|                                                                             |
|    Enter Authorized serial number : 12345678                                |
|    Local User Limit               : 25                                      |
|    New expiration date            : 01/01/2500                              |
|    Package list                   : CONNPL:5,UVNET:9999                     |
|    Device Licensing count         : 10                                      |
|    Configuration Code             : C7CYR-ZMWUA-ZFX7Z-P1ZW6-Z9ZMA-X6P5C-UWIoI|
|    Local Authorization Code       ?                                         |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
+----------------------------- Help Region -----------------------------------+
|Enter your designated authorization code. In the case of a Floating License |
|system, this would be the Local authorization code.                         |
|                                                                             |
|                                                                             |
|                                                                             |
|                                                                             |
+-----------------------------------------------------------------------------+  v

Ready                              │ Ln 10, Col 38 │        │        │   NUM
```

Behind the scenes, Universe has executed the 'uvregen' command. This action refreshes the main Universe shared memory segment. If the licensing was aborted here or completed as normal, UniVerse needs to be stopped to ensure that all shared memory segments are removed and then restarted.

6) A configuration code is generated and displayed. This string including the dashes needs to be provided to the 'Authorize Products' website in order to generate the proper authorization code. Using Windows copy/paste functionality is the easiest method for transferring the configuration and authorization codes. If assistance is needed on generating an authorization code refer to the note in the *Additional Information* section called "*Generating the Authorization Code on the U2TechConnect 'Authorize Products' website*".

7) Supply the authorization code generated on the website.

```
+-------------------------------- Upgrade uniVerse License --------------------------------+
|              File                    Action                    Help                      |
+------------------------------------------------------------------------------------------+
|                                                                                          |
|     Enter Authorized serial number : 12345678                                            |
|     Local User Limit                : 25                                                 |
|     New expiration date             : 01/01/2500                                         |
|     Package list                    : CONNPL:5,UVNET:9999                                |
|     Device Licensing count          : 10                                                 |
|     Configuration Code              : C7CYR-ZMWUA-ZFX7Z-P1ZW6-Z9ZMA-X6P5C-UWIoI          |
|     Local Authorization Code        ? LAW90-YG99C-oXPZ                                    |
|                                                                                          |
|                                                                                          |
|                                                                                          |
|                                                                                          |
+------------------------------------ Help Region -----------------------------------------+
|Enter your designated authorization code. In the case of a Floating License               |
|system, this would be the Local authorization code.                                       |
|                                                                                          |
|                                                                                          |
|                                                                                          |
+------------------------------------------------------------------------------------------+
```

8) Press Enter/Return.

If the authorization code was correct and the product authorized correctly or the Escape key was pressed at the authorization prompt (ie. configured but not authorized), the output would look similar to:

```
hostname

File  Edit  Setup  Run  Help

UniVerse licensing is complete. Please shutdown and restart UniVerse.
Use the UniVerse system administration menu to create additional
UniVerse accounts.


****** Warning !!! ******
During the installation process, a default Master Key was installed.
The Master key is central to all data encryption operations. IBM
recommends that you change the default Master Key to a site-specific
Master Key before any data encryption activity takes place. To change
the Master Key, run the uvregen utility. For information about uvregen,
see "Administering UniVerse".

#

Ready                          Ln 14, Col 2                    NUM
```

You may first get a prompt to 'List More', hit Enter/Return to display the updated CONFIG info. Hit Enter/Return again and the output above will be displayed.

The warning concerning the Master Key is for the UniVerse 10.2 new feature Data-At-Rest Encryption. If you do not use the Data-At-Rest Encryption disregard this message.

If the authorization failed, then the output is like:
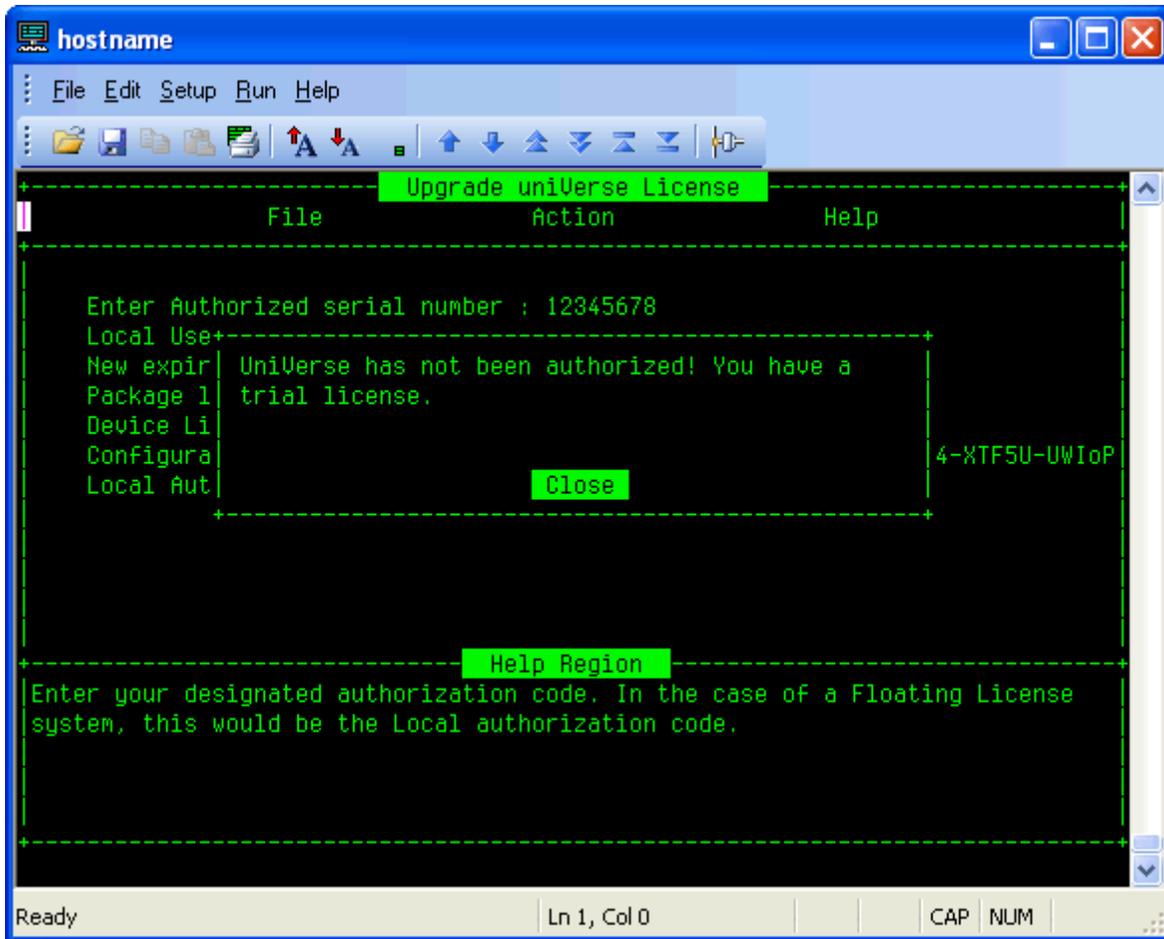
When updating the licensing via the License Administration Screen and the authorization code is incorrect the screen will show the current CONFIG output in the middle section of the screen. An error may be displayed.

9) Stop and start UniVerse. The commands to stop and start UniVerse from the UniVerse home directory are 'bin/uv -admin -stop' and 'bin/uv -admin -start'. If the output of either command is blank and the next line is the shell prompt again, UniVerse did not stop/start correctly. If this occurs, stop/start UniVerse using the uv.rc script from the sample directory or restart the machine.

B.) uvregen (command line)
Alternatively to the Licensing screen, UniVerse can be configured and authorized with the shell level command called 'uvregen'. See the note in the *Additional Information* section called *'uvregen command line options'* for syntax details. No users should be on the system when licensing UniVerse.

1.) From the UniVerse home directory, configure UniVerse with the command 'bin/uvregen -s 12345678 -e 1/1/2500 -u 25 -p CONNPL:5,UVNET:9999 -d 10'.

The '-s' is for the serial number, '-e' is the expiration date (this can be skipped if the expiration date is the default of 1/1/2500), '-u' is the base UniVerse database license count, '-p' is the package list and '-d' is for the number of device licensing connections. If this is a new installation, the '-e' option (expiration date) should be specified since the default date after installation is 1/1/2000. The output of the command will display the configuration code.

```
# bin/uvregen -s 12345678 -e 1/1/2500 -u 25 -p CONNPL:5,UVNET:9999 -d 10
uvregen: reconfiguration complete, disk segment size is 1655320
Configuration Code: CP29R-ZMWWA-oFA7Z-P1ZW6-Z6ZMA-X6S5Z-UWIE9
#
```

2.) Connect to the 'Authorize Products' web page on the U2TechConnect website to generate an authorization code based on the configuration code above.

3.) Authorize UniVerse with the command 'bin/uvregen -A auth_key' (auth_key being the result from the website).

```
# bin/uvregen -A WA0XY-934D2-9I1o
```

If the authorization was successful, then the output is like:

```
uvregen: reconfiguration complete, disk segment size is 1655320
UniVerse has been authorized.
#
```

If the authorization failed, then the output is like:

```
Invalid authorization code
#
```

4.) Stop and Restart UniVerse.

```
# bin/uv -admin -stop
An error has occurred during uniVerse initialization
Please contact the system administrator
Error code:  2  22
uniVerse has been brought down.
# bin/uv -admin -start
uniVerse has been brought up.
uniVerse Log Daemon started
Deadlock Daemon has been started
#
```

Disregard the error 2 22 or 2 2 in the stopping output. This occurs because there is no UniVerse shared memory segment.

If the stop or start has no output to the screen, UniVerse did not stop or start correctly. Instead, use the uv.rc script to stop or start UniVerse or reboot the machine.

If for some reason the configuration code needs to be redisplayed, run the command 'bin/uvregen -C'.

```
# bin/uvregen -C
Configuration Code: CP29R-ZMWWA-oFA7Z-P1ZW6-Z6ZMA-X6S5Z-UWIE9
#
```

Running 'bin/uvregen' with no options takes the configurable parameters in the uvconfig file and rebuilds the .uvconfig binary file. If you would like to see the uvregen syntax, run the command 'bin/uvregen -h'.

Authorizing Windows Installations

A.) During Installation
To authorize UniVerse during the installation do the following:

1.) Run the UniVerse installation setup.exe program. After accepting the license agreement the License Details screen will appear. It looks like this:

All fields on the screen must have a value. Provide the 8-digit numeric serial number, base UniVerse database user limit, UVNET license count, Connection Pooling license count, Device License count and Expiration date. See the note in the *Additional Information* section called *'UniVerse Licensing Parameters'* if you need to know what each of these fields are.
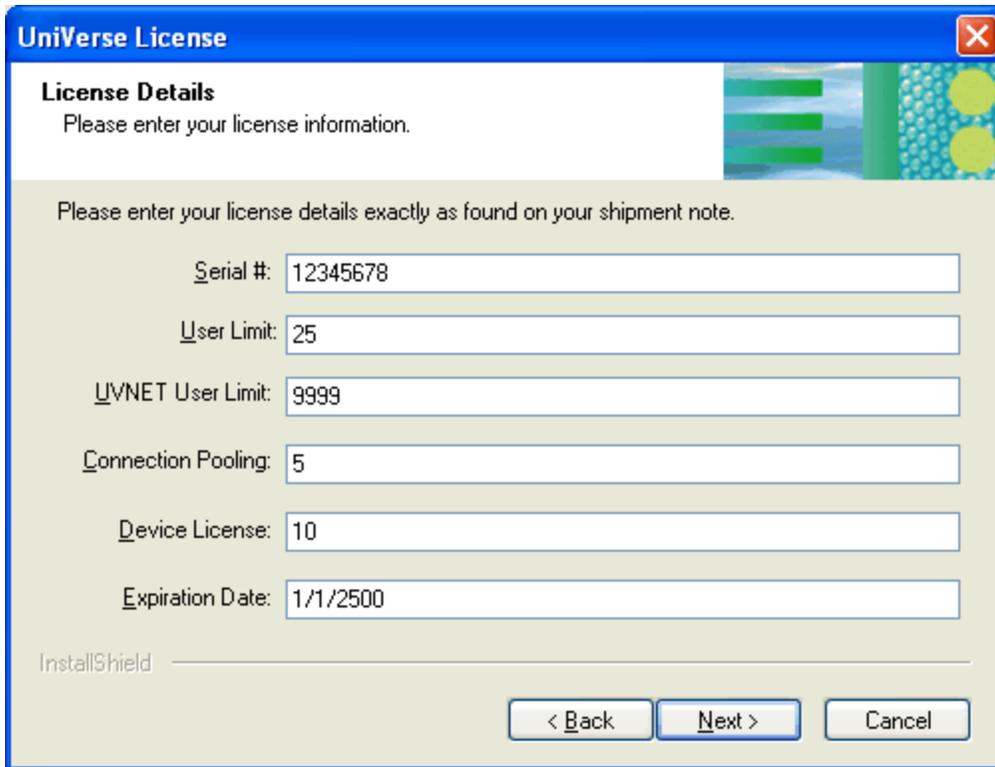
2.) Click the Next button and supply the necessary details over the next several screens. Once the software has been loaded to the machine, the screen to look for would be like this:
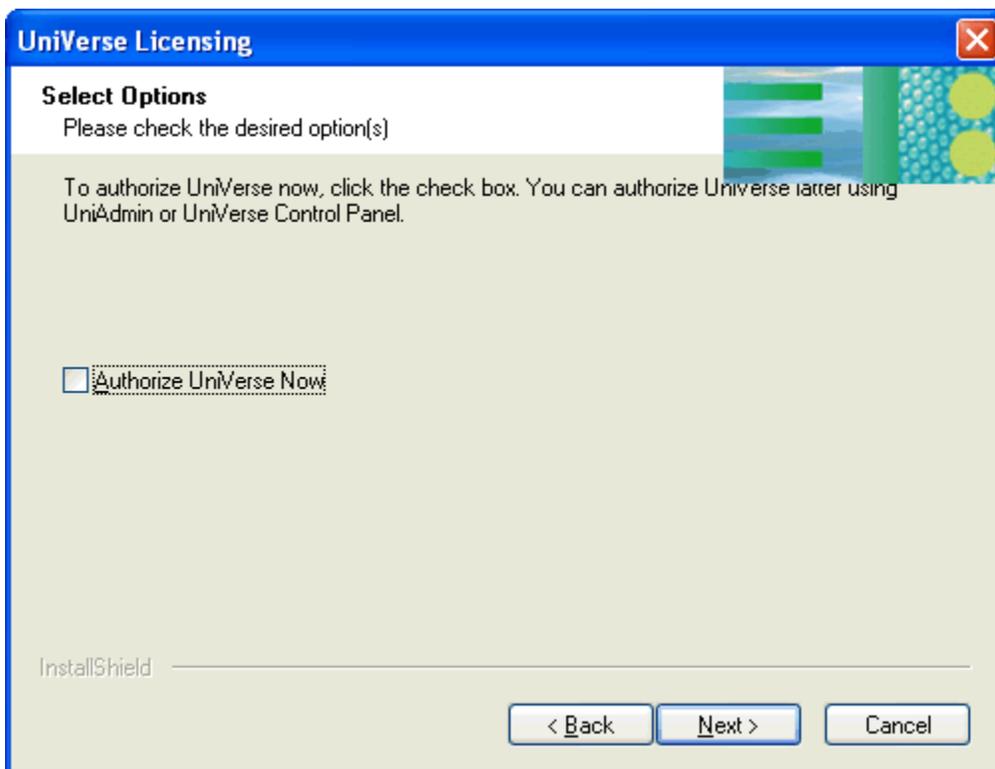
3.) Check the box next to 'Authorize UniVerse Now' and click the Next button. If you do not want to authorize Universe during the install do not check the box. Universe will need to be authorized via another manner if authorization is not done in the installation. UniVerse will default to the 60-day temporary license until licensing has been completed.

4.) The Configuration and Authorization code screen will now be displayed:
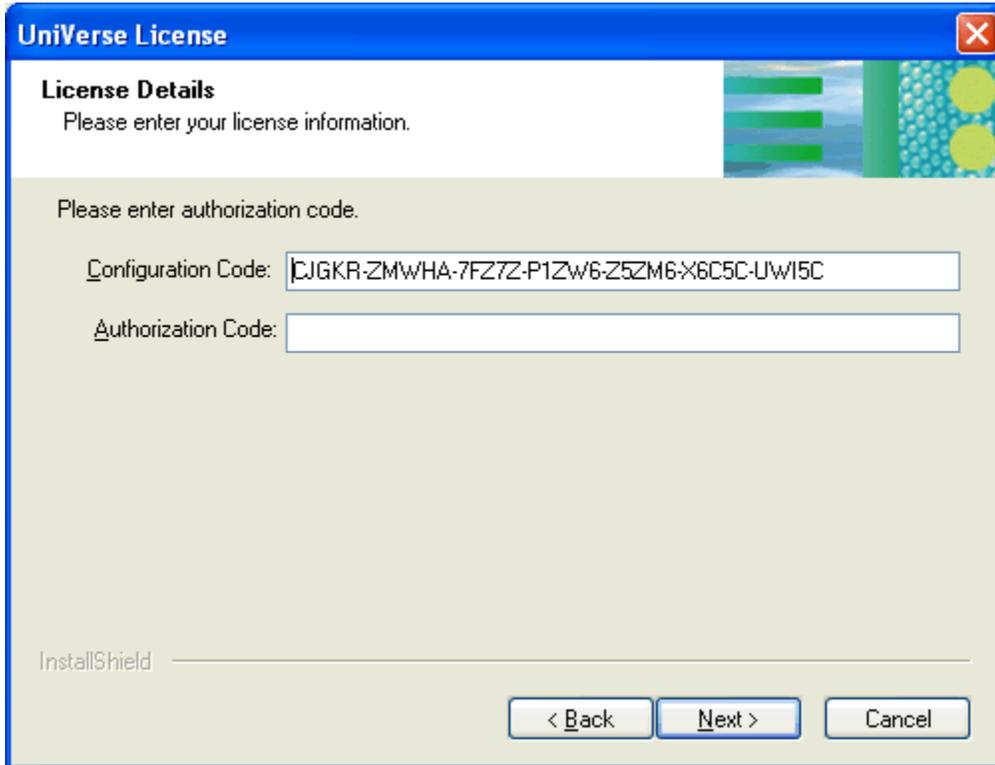
5.) Copy the configuration code and generate an authorization code via the 'Authorize Products' web page on the U2TechConnect website.

6.) Supply the necessary authorization code and click the Next button.
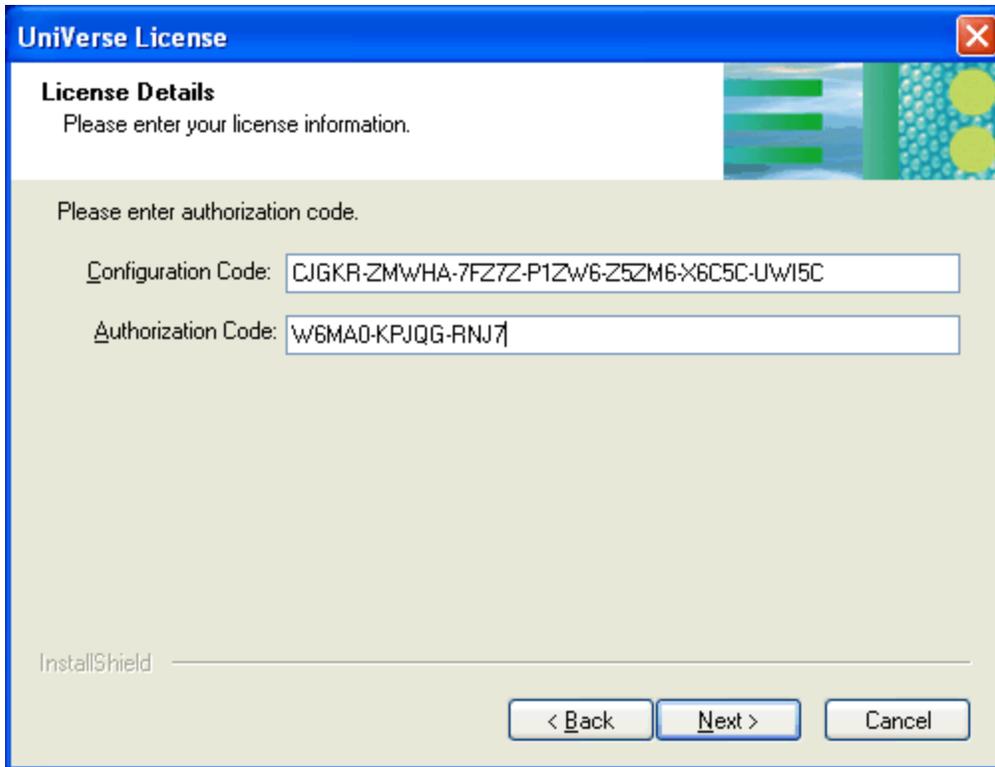
If the authorization was successful, then the Master Key window will occur. The Master Key note is for Data-At-Rest Encryption. If Data-At-Rest Encryption is not used, disregard the message. Click the OK button to finish the installation.

If the authorization failed, then the output is like:

Either correct the authorization key or if you would like to finish licensing the product later, click the Next button, the authorization error will occur again. Repeat this one or two more times, after about 10 to 15 seconds, the Master Key pop-up will occur. Click the OK button to finish the installation.

After the UniVerse installation has been completed you will need to restart the UniVerse services (UniRPC, UniVerse Resource and UniVerse Telnet) either through the UniVerse Control Panel, Services Control Panel or a reboot of the machine before connecting to UniVerse otherwise the 60-day temp message will still occur.

B.) UniVerse Control Panel
To authorize via the UniVerse Control Panel, do the following.

1.) Go to the Start->Control Panel->UniVerse Control Panel application. It will look like:
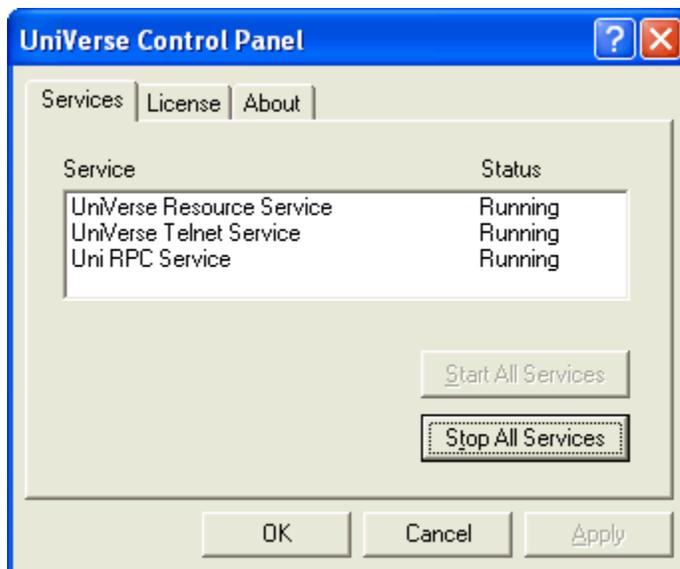
2.) Select the License tab.
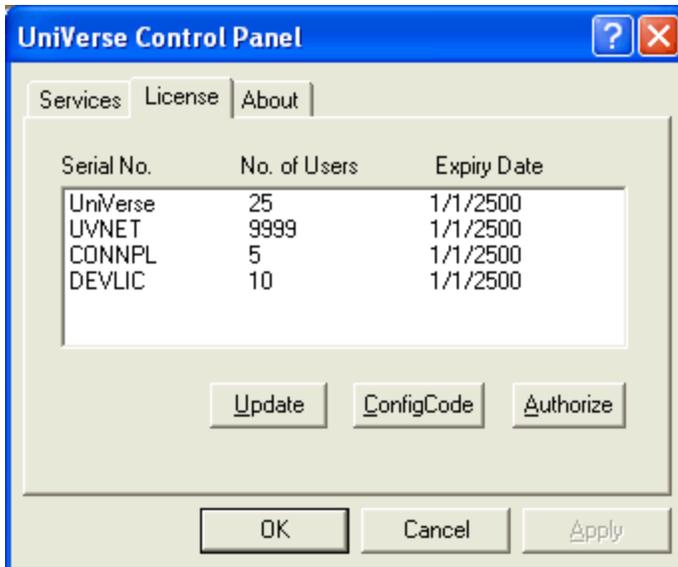
3.) If the licensing parameters including serial number need to be changed click the 'Update' button.
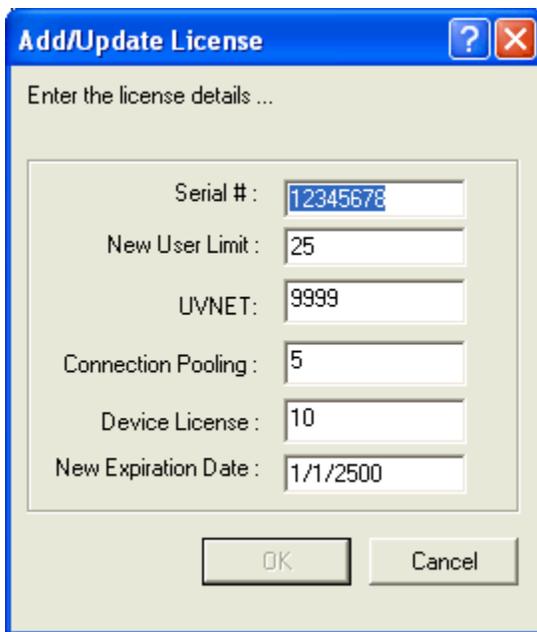
The OK button will be enabled once any change has been made. All fields must have a value in them. If you do not have one of the add-ons, specify a value of 0 (zero). Once the OK button is clicked, a box stating 'The new UniVerse license has been successfully update.' will appear, click OK.

4.) Click the 'ConfigCode' button to get the configuration code.

5.) Copy the configuration code, click OK.

6.) Generate an authorization code via the 'Authorize Products' web page on the U2TechConnect website.

7.) Click the 'Authorize' button. Paste the authorization code into the screen and click OK.
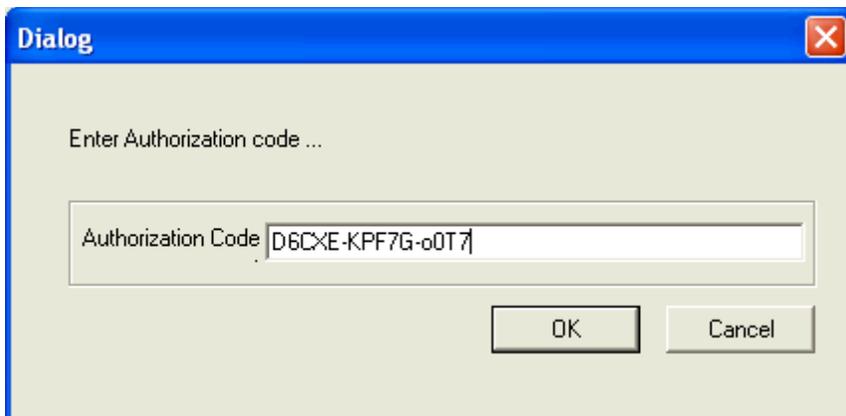
If the authorization was successful, then the output is like:

If the authorization failed, then the output is like:

Click OK, correct the authorization key as needed.

8.) Once authorization is completed, stop and start the UniVerse services in the Services tab of the UniVerse control panel. If the services are not restarted then the 60-day temporary warning message will still occur when logging into a UniVerse shell.

C.) uvregen (command line)

UniVerse can be configured and authorized with the shell level command called 'uvregen'. See the note in the *Additional Information* section called *'uvregen command line options'* for syntax details. No users should be on the system when licensing UniVerse.

1.) From the UniVerse home directory, if this is just after the installation, the full command is not needed, only run 'bin\uvregen -C'; otherwise if you are updating the licensing then the command is like 'bin\uvregen -s 12345678 -e 1/1/2500 -u 25 -p CONNPL:5,UVNET:9999 -d 10'.

The '-s' is for the serial number, '-e' is the expiration date (this can be skipped if the expiration date is the default of 1/1/2500), '-u' is the base Universe database license count, '-p' is the package list and '-d' is for the number of device licensing connections. The output of the command will display the configuration code.

```
C:\IBM\UV>bin\uvregen -C
Configuration Code: CQGKR-ZMWHA-7FZ7Z-P1ZW6-ZKZM6-X6R5C-UWIEM

C:\IBM\UV>
```

-OR-

```
C:\IBM\UV>bin\uvregen -s 12345678 -e 1/1/2500 -u 25 -p CONNPL:5,UVNET:9999 -d
10

uvregen: reconfiguration complete, disk segment size is 1917376
UniVerse becomes un-authorized due to license change!
Configuration Code: CZGKR-ZMWHA-7FZ7Z-P1ZW6-ZSZM6-X6Q5C-UWIEM

C:\IBM\UV>
```

2.) Connect to the 'Authorize Products' web page on the U2TechConnect website to generate an authorization code based on the configuration code above.

3.) Authorize UniVerse with the command 'bin\uvregen -A auth_key' (auth_key being the result from the website).

```
C:\IBM\UV>bin\uvregen -A X6RA0-KHKAG-YFP7
```

If the authorization was successful, then the output is like:

```
uvregen: reconfiguration complete, disk segment size is 1917376
UniVerse has been authorized.

C:\IBM\UV>
```

If the authorization failed, then the output is like:

```
Invalid authorization code

C:\IBM\UV>
```

4.) Stop and Restart UniVerse.

Running 'bin\uvregen' with no options takes the configurable parameters in the uvconfig file and rebuilds the .uvconfig binary file. If you would like to see the uvregen syntax, run the command 'bin\uvregen -h'.

Updating Licensing via UniAdmin

UniAdmin can be used to update UniVerse licensing on all platforms. On Unix/Linux, the licensing must be initially configured with the License Administration screen or uvregen before UniAdmin can be used. On Windows, UniAdmin can be used once the installation is complete because the licensing is initially configured during the installation. The 'Update' button in the 'UniVerse License' screen does not work in the UniAdmin version 1.3.3.7196 that is included on the UniVerse 10.2 Client. It is recommended to use the UniAdmin version 1.3.4.7211 from the UniData 7.1A Client. Please contact U2BC if you wish to get a copy of the UniData 7.1A Client. Remember that the unirpcd daemon needs to be running on the host in order to connect from UniAdmin.

If UniVerse licensing was not configured or the license expired prior to connecting with UniAdmin, the error would be:

Once connected to the server in UniAdmin, select the 'License' option. The UniAdmin UniVerse licensing screen looks like:
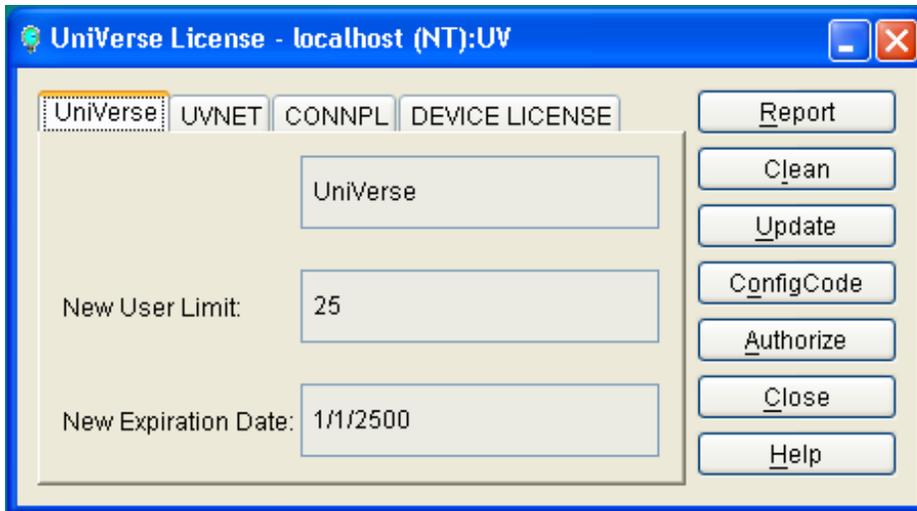
The tabs along the top of the screen show the available add-ons and current configuration. The 'Report' button runs uvlictool to report the current status of the licenses. The 'Clean' button runs uvlictool with the 'clean_lic -a' options. The 'Update' button allows for modification of the current license. The 'ConfigCode' button generates a new configuration code to be supplied to the 'Authorize Products' web page on the U2TechConnect website. The 'Authorize' button allows for input of the generated authorization code.

To update the licensing via UniAdmin:
1.) Select the Update button.
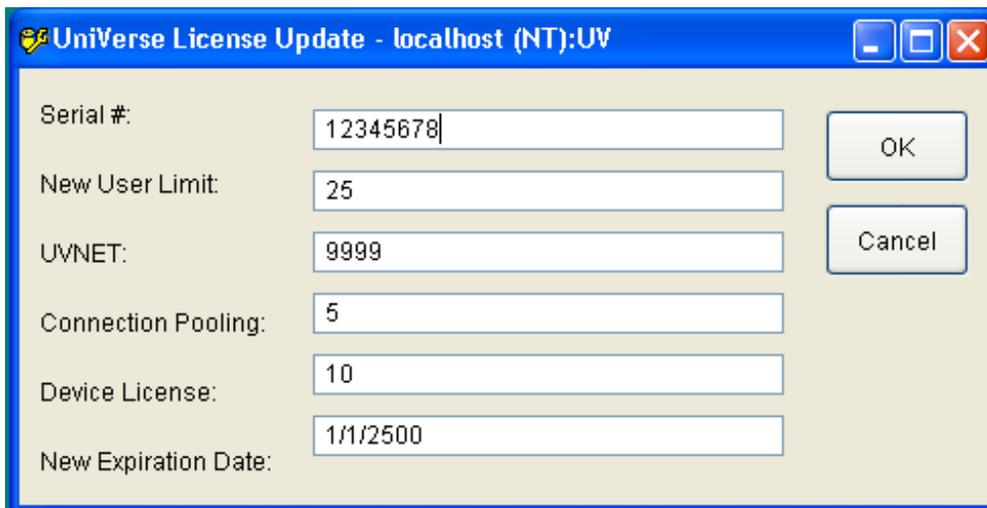
2.) Modify the various fields as desired. The serial number can also be changed within this screen. No need to re-authorize UniVerse by moving the .uvconfig and .uvconfig.bak files anymore. All fields must contain a value. If your license doesn't have one of the add-ons specify a value of 0 (zero). Click OK to save. A box stating 'The new UniVerse license has been successfully update.' will appear, click OK. If you go back into Update the serial number will still be set to the old value, disregard this.

3.) Click the 'ConfigCode' button.

4.) Copy the configuration code and generate the corresponding authorize code from the 'Authorize Products' web page on the U2TechConnect website.

5.) Click OK in UniAdmin, then click the 'Authorize' button.

6.) Click OK.

If the authorization was successful, then the output is like:
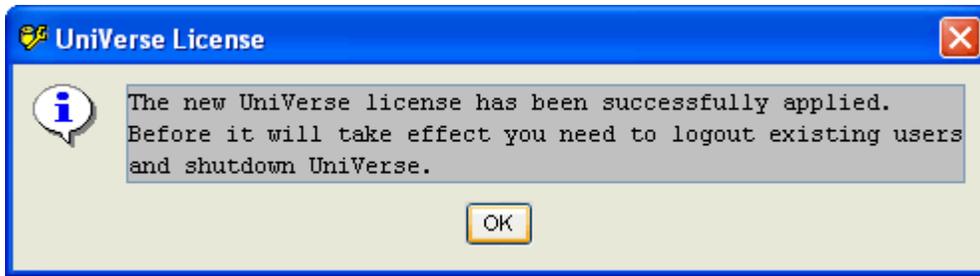
If the authorization failed, then the output is like:
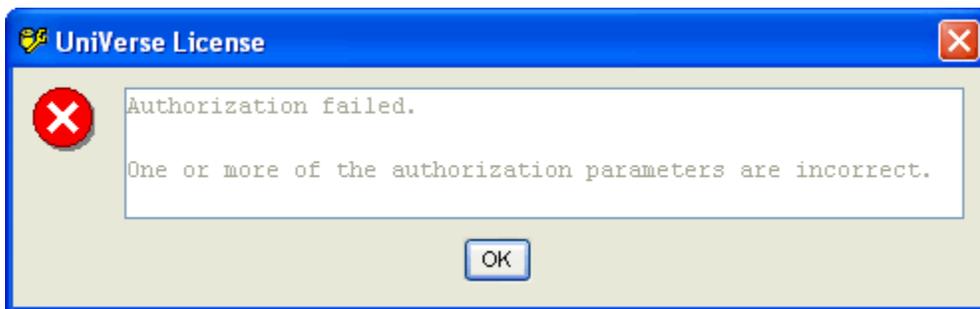
7.) Click the 'Close' button. Disconnect from UniAdmin.
8.) Stop and restart UniVerse via the normal methods.

The next time you connect via UniAdmin, the Update screen will show the correct serial number.

Error Messages
The errors noted in this sections are some but not all of the errors that may occur when licensing UniVerse.

'2 2' or '2 22'
If the messages:

An error has occurred during uniVerse initialization
Please contact the system administrator
Error code: 2 2

-or-

An error has occurred during uniVerse initialization
Please contact the system administrator
Error code: 2 22

occur after licensing UniVerse and starting a new UniVerse shell, UniVerse needs to be stopped and started again. The commands to stop and start UniVerse from the UniVerse home directory is 'bin/uv -admin -stop' and 'bin/uv -admin -start'. If the output of either command is blank and the next line is the shell prompt again, UniVerse did not stop/start correctly. If this occurs, stop/start UniVerse using the uv.rc script from the sample directory or restart the machine.

'Invalid .uvconfig'

This error occurs on UniVerse 10.2 because the authorization routine retrieves some inodes from the system, and uses them in the configuration and authorization keys. The inodes may change if UniVerse is copied to another system or an OS upgrade occurs. The list of inodes used is not available publicly. To resolve this error, UniVerse needs to be unauthorized and then reauthorized. The steps with uvregen would be:

1.) run 'bin/uvregen -u #_users+1' (changing a parameter, in this case user count, forces UV to become unauthorized).
2.) run 'bin/uvregen -u correct_#_of_users' (change parameter to correct value)
3.) Take configuration code in output and generate authorization code from website
4.) run 'bin/uvregen -A auth_key'
5.) stop universe, 'bin/uv -admin -stop' (uv segment may have been created in shared memory)
6.) start universe, 'bin/uv -admin -start'

Alternatively, you can reauthorize UniVerse using one of the other methods, ie. Control panel, UniAdmin, or Sys Admin menu.

'Unexpected failure whilst attempting to apply license!'
This error occurs on windows systems when you are attempting to update the licensing information in the UniVerse Control Panel and not logged in as a local administrator user. To resolve, login as a local administrator, if needed login as actually the 'Administrator' user.

'The following critical tunable(s) have been changed in uvconfig!' or 'UniVerse has not been configured!'
These are the error messages that can occur on unix/linux if one of the uvconfig settings has been changed and the main shared memory segment for UniVerse exists. The shared memory segment keeps a list of the current uvconfig settings. The uvregen command does a check between the active parameters and the new settings. Normally, if UniVerse is shutdown and no memory segment exists uvregen bypasses this message and reconfigures the segment as needed, otherwise these errors will occur.

To resolve:
1.) Stop UniVerse.
2.) Verify there is no UniVerse segment running. 'ipcs -m |grep ace' should come back with no results, remove each segment with ipcrm if needed.
3.) Run the uvregen command with no options if just changing parameters or if licensing the product, run uvregen with the licensing syntax.

The message 'The following critical tunable(s) have been changed in uvconfig! ...' occurs with uvregen at unix.
The message 'UniVerse has not been configured!' occurs when licensing via the UniVerse System menu on Unix.

The full error message is:

```
The following critical tunable(s) have been changed in uvconfig!
If you wish to apply these changes, shut down UniVerse,
run uvregen and then restart UniVerse immediately,
OR restore tunable(s) to their original values.

   UVCONFIG_PARAMETER was changed from ### to ###.
   ...
UniVerse has not been configured!
```

The subset of parameters that generate this message is: FLTABSZ, FSEMNUM, GLTABSZ, GSEMNUM, LOGBLNUM, LOGBLSZ, MAXKEYSIZE, PSEMNUM, RLOWNER, RLTABSZ, SQLNULL, T30FILE, UDRBLKS and UDRMODE. This list of parameters applies to all platforms UniVerse installs on.

'One or more of the following critical tunables have been changed!' or 'RUNDLL - An exception occurred while..'
These are the error messages that can occur on Windows if one of the uvconfig settings has been changed and the main shared memory segment for UniVerse exists. The shared memory segment keeps a list of the current uvconfig settings. The uvregen command does a check between the active parameters and the new settings. Normally, if UniVerse is shutdown and no memory segment exists uvregen bypasses this message and reconfigures the segment as needed, otherwise these errors will occur.

To resolve:
1.) Stop UniVerse via the UniVerse or Services control panel.
2.) Verify there is no UniVerse segment running. Run 'bin\shrdump' from dos. If it returns results, then set the UniVerse Resource and Telnet services to manual and reboot.
3.) Run the uvregen command with no options if just changing parameters. If licensing the product, run uvregen with the licensing syntax or update the license via the UniVerse Control Panel.
4.) Set the services back to Automatic if they were changed in step 2.

The message 'One or more of the following critical tunables have been changed!' occurs with uvregen at dos/command shell.
The message 'RUNDLL - An exception occurred while..' occurs when licensing via the UniVerse Control Panel.

The full error message from uvregen is:

```
C:\IBM\UV>bin\uvregen -s 12345
One or more of the following critical tunables have been changed!

T30FILE FSEMNUM GSEMNUM PSEMNUM FLTABSZ GLTABSZ RLTABSZ RLOWNER
LOGBLSZ LOGBLNUM         UDRBLKS UDRMODE SQLNULL MAXKEYSIZE

Remove all users from UniVerse, stop the UniVerse services, and then
restart to reinitialize the environment.

uvregen: reconfiguration complete, disk segment size is 2008360
Configuration Code: C03N5-ZZ3HZ-AD7FZ-ZZZ26-ZPZZC-Z6YLC-UZTE6
```


The full error message from the UniVerse Control Panel is:

Additional Information

UniVerse Licensing Parameters

To properly authorize UniVerse 10.2.0+ the following information is required:

- Serial / License number

This is the base 8-digit numeric serial number generated within the U2BC application. Do not include the -UV suffix when entering in the license details within UniVerse. The -UV suffix is only used on the authorization website.

- Expiry / Expiration Date

Typically, this will be set to a value of "1/1/2500" (quotes not included). If the serial number is for an evaluation copy of UniVerse then the expiration date will be different. Refer to your U2BC Confirmation Email if needed. By default, UniVerse is set to expire 60 days after installation if the product has not been authorized.

- User Count / New User Limit / Max Logins

This is the database user count limit. The correct number of users to authorize is in the 'Auth Users' column of the U2BC Confirmation Email. See the **red** text in the U2BC Confirmation Email example below.

- Number of Connection Pooling licenses

Connection Pooling is used for UO.NET and UOJ connections only. This would normally be set to a value of zero unless the license has a connection pooling add-on license or is a Enterprise edition of UniVerse. The Enterprise edition comes default with 2 connection pooling licenses. This is considered a package in the licensing tools and will follow the format of: "CONNPL:###" where ### is the number of connection pooling licenses. In U2BC, the Add-on suffix for Connection Pooling is -CONNPL. The Add-on suffix in U2BC called -CPUVUSR is not the same as standard Connection Pooling licensing. The -CPUVUSR add-on adds its' user count to the base database license count, not the connection pooling license count.   If you have both Connection Pooling and UVNET licenses, the packages are specified with the syntax "CONNPL:###,UVNET:9999" (order does not matter between the two packages, UVNET can be before CONNPL).   The correct number of users to authorize is in the 'Auth Users' column of the U2BC Confirmation Email. See the **blue** text in the U2BC Confirmation Email example below.

- Number of Device License licenses

This value can be between zero or 2 through 10. A value of 1 is invalid.   Workgroup and Enterprise Editions of UniVerse will always have this value set to 10. Server Edition of UniVerse will typically have this value set to zero unless a Device Licensing add-on license is included with the UniVerse serial number. In U2BC the add-on license has the suffix -DLUV. If a device licensing add-on license exists, use the user count on that -DLUV license for the device license value in the product installation plus 1. As an example, if you ordered a DLUV add-on in U2BC with a user count of 1, set the device licensing value in the UniVerse product install to 2. The correct number of users to authorize is in the 'Auth Users' column of the U2BC Confirmation Email. See the **green** text in the U2BC Confirmation Email example below.

- Number of UVNET licenses

If the UniVerse base serial number has a UVNET add-on license defined, then the number of UVNET licenses will be 9999 (four 9's). This is treated as unlimited. This is considered a package in the licensing tools and will follow the format of: "UVNET:9999". If a UVNET license does not exist, then this value is set to zero or when specifying the packages it is not included.   If you have both Connection Pooling and UVNET licenses, the packages are specified with the syntax "CONNPL:###,UVNET:9999" (order does not matter between the two packages, UVNET can be before CONNPL). The correct number of users to authorize is in the 'Auth Users' column of the U2BC Confirmation Email. See the **pink** text in the U2BC Confirmation Email example below.

- U2BC Confirmation Email Example

```
=========================================================================
Product Information
  These Products will be not be shipped as you have requested no shipping.
Serial No          Version ... Auth Qty      Qty  Expiry Date
########-UV        10.2.4  ...    5            5   01/01/2500
########-CONNPL    10.2.4  ...    2            2   01/01/2500
########-DLUV      10.2.4  ...    2            1   01/01/2500
########-UVNET     10.2.4  ... 9999         9999   01/01/2500
=========================================================================
```

For display purposes of showing the Auth Qty and Qty columns, other columns have been removed from the example above.

- Configuration Code
This is an alphanumeric code generated automatically within the various licensing tools. This code needs be supplied to the UniVerse Web authorization process with the dashes. Refer to the note in the *Additional Information* section below called titled *"Generating the Authorization Code on the U2TechConnect 'Authorize Products' website"* for details on using the authorization website.

- Authorization Code
This is the code generated by the web authorization process and is supplied back to UniVerse to enable to the product.

The configuration and authorization codes are case sensitive and need to include the dashes. If you see an o then it is a lower-case 'oscar'. If you see a 0 then it is a zero.

Generating the Authorization Code on the U2TechConnect 'Authorize Products' website
To generate an authorization code for UniVerse, do the following:

1. Generate the configuration code based on one of the licensing methods in this document.

2. Go to the web address:

https://u2tc.rocketsoftware.com/authprod.asp

If you are within the U2BusinessConnect or U2TechConnect web application, select the 'Authorize Products' link.

3. If you are not logged into the U2TechConnect site, you will be prompted for your email address, your name and company name. Enter these details as necessary. If you were previously logged into U2TechConnect, then this step is not necessary.

4. Select 'UniVerse 10.2.X and higher' for the product to authorize and hit the Continue button.

5. A new web page will be shown to request additional information. The fields are:
a. *Serial Number* - Supply the 8-digit U2BC Serial Number including the "-UV" product suffix. If the "-UV" is not supplied an error stating 'The serial number was not found' will occur.

b. *Version* - Supply the version of the UniVerse product being installed. This is not the version in the U2BC record. This field requires three numbers separated by two periods, ie. '10.2.4'.

c. *Configuration Code* - Input or Copy/Paste the configuration code generated within the UniVerse authorization programs/tools into this field. The code should include the '-' dashes.

f. ***Reason for authorizing?*** - This is a optional comments field.

g. ***I Agree check box*** - Always check this box before generating an authorize code. If not an error will be generated and the fields entered above will be cleared.

6. Click the Submit button.

7. The next web page will display the authorization code needed to authorize Universe. Copy & paste the code or type the code into the Universe License Authorization programs/tools. Notes may be displayed if various fields don't match or are below the values in the U2BC records. An error may occur if a value in the configuration code is greater than the value in the U2BC records.

Evaluation Period Details
UniVerse 10.2 introduces a built-in 60-day evaluation period after installation and once configuration is complete.

On Unix/Linux, if the licensing has not been configured UniVerse will run in a single-user mode for 30 days before it shuts down. This will allow only the license screen to function. Single-user mode doesn't apply to Windows because upon installation, the administrator must configure UniVerse with a serial number and user count even though authorization is not required.

When UniVerse 10.2.x on Unix/Linux has not been configured, the administrator has 30 days to configure it; users cannot run UniVerse until this is done. If the administrator configures UniVerse 10.2 but does not authorize it, UniVerse will run fully functional for 60 days before it does not allow any new processes to start. Existing connections will continue to work until logged out.

In each telnet session/UniVerse shell a message that states: "Warning: UniVerse has not been authorized! You have ## day(s) to call IBM before UniVerse stops working." will occur until UniVerse has been authorized.

If UniVerse is stopped and a restarted after the evaluation period has expired, it will not start and will display an error message. See the note in the *Additional Information* section called *'What happens to the database if it has not been authorized and the expiration date is exceeded?'* to see the error messages.

Changing license details resets the authorization in UniVerse to unauthorized if it has been authorized previously. UniVerse licensing will be reset to a new 60-day grace period.

Reinstalling UniVerse in the same directory will cause the licensing to be reset to the default settings. Add-ons, Device Licensing and other settings will need to be specified again. The evaluation period would be set to the 60-day limit.

How do you tell if UniVerse has not been configured on Unix/Linux installations?
From the UniVerse home directory, run the command 'bin/uvregen -z'. The output would be like the following:

```
# bin/uvregen -z
UniVerse Ver.: 10.2.5
Serial#......: Not Configured
Expiry Date..: 1/1/2000
Max Logins...: 1
Device Licn..: Disabled
Conn per Dev.: 0
Authorized...: No

UV master key: SYSTEM
```

```
Package Name    User Limit     Expiry Date

-UVNET          0              uv
-GCI            1              1/1/2000
-UCI            1              1/1/2000
-UVCS           1              1/1/2000
-UVADM          1              1/1/2000
-UVODBC         1              1/1/2000
-iPHANTOM       1              1/1/2000
-CONNPL         0              uv
#
```

The line to look out in the output is ' Serial # '. If the licensing has not been configured it will return 'Not Configured' otherwise it will return the serial number.

Also, if you start UniVerse and licensing has not been configured the output would be like:

bin/uv -admin -start
UniVerse has not been configured! Please go to $UVHOME and run 'uvsh' as root.
uniVerse has been brought up.
Sorry, UniVerse has not been configured!
Please go to $UVHOME and run 'uvsh' as root.
uniVerse Log Daemon started
Deadlock Daemon has been started
#

How do you tell if UniVerse has been successfully authorized?
There are three methods for checking successful authorization, these are:
- UniVerse Shell message
After restarting UniVerse, log into a UniVerse account that has no LOGIN paragraph. After the UniVerse header, if there is no reference to the licensing warning message then UniVerse is authorized properly.
- 'uvregen -z'
If the 'Authorized' line is set to 'Yes' then authorization was successful.
- 'CONFIG' at TCL
If the expiration date is set to the date desired then licensing UniVerse was successful.

An example of uvregen with Authorized set to 'No' is:
```
# bin/uvregen -z
UniVerse Ver.: 10.2.5
Serial#......: 12345678
Expiry Date..: 1/1/2500
Max Logins...: 25
Device Licn..: Enabled
Conn per Dev.: 10
Authorized...: No

UV master key: SYSTEM
...
#
```

When starting UniVerse on Unix, there will also no longer be the message 'UniVerse has not been authorized! You have a trial license.'

What happens to the database if it has not been authorized and the expiration date is exceeded?

On Windows, if a UniVerse shell is started from the Start menu it will just flash and disappear. If you start a dos/command shell, then cd to the UniVerse home directory and execute 'bin\uv', the command shell will return to the next prompt. A UniVerse shell is not started. The UniVerse services (Resource and Telnet) will not start at boot time or in the Services control panel. If you try to start the Resource service the message "Could not Start the UniVerse Resource Service service on Local Computer. Error 1053: The service did not respond to the start or control request in a timely fashion."

On Unix, when starting the database, the message looks like:

```
# bin/uv -admin -start
UniVerse trial period ended! You need to authorize it.
uniVerse has been brought up.
Deadlock Daemon has been started
#
```

If UniVerse was started when the expiration date was reached, any current UniVerse shells will work but any new shells will see the following error:

```
# bin/uv
Sorry, UniVerse has expired.
An error has occurred during uniVerse initialization
Please contact the system administrator
Error code:  5   0
```

What needs to be done when UniVerse has already been authorized and only the user count is increased?
If you are using the Sys Admin menu->License Administration screen, you can skip the Add-ons prompt since they are already enabled in the license. If you are using the Windows Control Panel all prompts need to be specified in the 'Add/Update License' screen. If you are using uvregen, the command would be 'bin/uvregen -u #_of_users'. When using any of these methods, UniVerse will become unauthorized and a configuration code is displayed. An authorization code will need to be generated on the website and applied to UniVerse. Stop and Restart UniVerse after the licensing has been updated.

Authorizing & Installing UVNET on Unix for UniVerse 10.2.x and higher
If UVNET was not licensed via the Package option in the Licensing screen or with the -p when using uvregen, install UVNET by logging into the UniVerse System Administration menu (in uv home account), select Package->Install Package. No users should be logged into UniVerse when running this process. Specify the serial number as your 8-digit serial number plus the suffix '-UVNET', ie. 12345678-UVNET. User limit is 9999. Expiration date is 01/01/2500. Do not hit enter/return at the expiration date line. Supply the Configuration code to the website. Use the base UniVerse license serial number on the website, not the serial number ending in -UVNET. Copy the authorization code into the screen. Hit Enter/Return and continue the install. The screen would look like:

```
+--------------------------------------[ Install Package ]----------------------------+
|                    File                    Action                  Help              |
+-------------------------------------------------------------------------------------+
|                                                                                     |
|                                                                                     |
|   Software package to install      : UVNET                                          |
|   Device from which to load package : CDROM                                         |
|                                                                                     |
|   Enter Authorized serial number   : 12345678-UVNET                                 |
|   Local User Limit                 : 9999                                           |
|   New expiration date              : 01/01/2500                                     |
|   Configuration Code               : C2QYF-ZMWCZ-EFX7Z-PJZW6-Z1ZM4-X695U-UW3E6      |
|   Local Authorization Code         ? 24I9Q-YYJYQ-2R8E                               |
|                                                                                     |
|                                                                                     |
|                                                                                     |
|                                                                                     |
+-----------------------------------------[ Help Region ]------------------------------+
|Enter your designated authorization code..  In the case of a Networked               |
|system, this would be the Local authorization number.                                |
|28 blocks                                                                            |
|                                                                                     |
|uvnet.install                                                                        |
+-------------------------------------------------------------------------------------+
```

If UVNET was licensed with the package option the method above will still work. If it doesn't and reports an error stating UVNET is already installed, then manually installing uvnet at the command line is needed. In the UniVerse home directory, run the command 'cpio -ivcBdum < /cdrom/NETWORK' (change /cdrom as needed), then run './uvnet.install'. Restart UniVerse.

uvregen command line options
The uvregen command line options for all platforms are:

```
C:\IBM\UV>bin\uvregen -h
Usage: uvregen [ options ]
 options:
     -s X specifies a serial#
     -e X specifies an expiry date
     -u X specifies # of UniVerse users
     -p X specifies packages (format: PKG1:#,PKG2:#,...)
     -d X specifies # of connections per device
     -k   specifies key reset
     -m X specifies UniVerse master encryption key
     -c   displays configuration data
     -t   displays tunable values
     -C   displays configuration code
     -A X specifies authorization code to authorize UniVerse
     -z   displays license information
     -h   displays this help message
```

```
   where X should be replaced with actual data
```

A new configuration code will be displayed to the screen when ever the options: -d, -e, -p, -s or -u are used.

Use the uvregen command with no options to reconfigure UniVerse based on the settings in the uvconfig text file (contains the parameters like T30FILE, GSEMNUM, etc.).

Details for the uvregen options (all options include a dash '-' on the front):

-A auth_code	Authorizes the product
-C	(Uppercase) Produces the configuration code needed for the web authorization. This can be the only option used on the command line.
-c	(Lowercase) Displays the current UniVerse license configuration. This is the same as CONFIG or 'ANALYZE.SHM -c' from TCL or 'smat -c' or 'analyze.shm -c' from the dos/unix shell.
-d connections_per_user	This is used for device licensing. It specifies the number of connections per user. Its' range is between zero and 10. This option was previously used to set the expiration date.
-e expiration_date	Sets the expiry date of the product. If this option is not supplied, the default date of 1/1/2500 will be used.
-k	Resets the MAXKEYSIZE value to 255. This option is not used for licensing.
-m uv_master_key	Specifies a new master encryption key. This parameter is used for Data-At-Rest Encryption and not used for authorizing the product. If the first character of the key is the '@' symbol, then the rest of the text will be treated as a file name. The master key has a maximum length of 64 characters.
-p package_info	Specifies one or more packages and their user counts to configure. Format: 'CONNPL:2,UVNET:200'. At present only UVNET and CONNPL can be configured with this option. This option previously was used to reset the package to default values.
-s serial number	Specifies the assigned UniVerse serial number (ie. from U2BC). This option no longer permits '-package_name' after the serial number.
-t	Displays the uvconfig tunable parameters in shared memory. This is the same output as 'CONFIG ALL' , 'CONFIG DATA' or 'ANALYZE.SHM -t' from TCL or 'smat -t' or 'analyze.shm -t' from dos/unix shell. The '*' next to the parameter means it was changed from the default. This option is not used for licensing.
-u user_count	Specifies the number of users to configure as database seats. This was previously the '-l' option.
-z	Displays the UniVerse license information that is loaded into the .uvconfig file. This option does not show the active licensing information.

The uvregen options -i, -l, -r and -x are no longer used.

unirpcservices test failed
On new Unix/Linux installations between UniVerse 10.2.0 and 10.2.3, the initial licensing screen may not be displayed because the test for an existing unirpcservices file aborts abnormally. This is resolved in UniVerse 10.2.4. To workaround this issue, manually create the unirpcservices file and re-run the UniVerse installation. For instance, if the Unishared location is /usr/ibm/unishared. The commands to create the unirpcservices file is:
- mkdir /usr/ibm/unishared
- mkdir /usr/ibm/unishared/unirpc
- touch /usr/ibm/unishared/unirpc/unirpcservices

Various items not previously noted

- COMPUSHEET, JET and SIMPLE can no longer be authorized. If JET is still in use contact U2 Tech Support to receive the workaround.
- Add-ons including GCI, UCI, UVADM, UVCS and UVODBC are automatically licensed or "stamped" with the base product. If the base user limit is increased, then these add-on user limits will also be increased.
- NLS no longer shows as an add-on in the output of 'CONFIG' at TCL. To check that NLS is enabled, run 'CONFIG DATA' at TCL. If NLSMODE is set to 1 and the next page of output shows the various NLS parameters then NLS is enabled. Some NLS information will also displayed when starting the UniVerse daemons.
- If the serial number needs to be switched, the current configuration can be changed. There is no longer a need to move the '.uvconfig' and '.uvconfig.bak' files around or follow the steps in the 'Re-authorizing UniVerse' techtips that are for UniVerse 10.1.x and older.
- In the Unix/Linux licensing screen there is a reference to a 'Floating License system'. This was a type of licensing back in early (pre-9.x) releases of UniVerse and is no longer used. Disregard this message.
- When using the character based licensing screen on Unix/Linux installations, it is best to use the number keys above the alpha character on the keyboard rather than the number pad located on the right side of the keyboard. The number pad keys may input invalid characters if they are not mapped properly and can cause issues during licensing.
- Please note that various versions of UniVerse 10.2.x on multiple platforms were used during the writing of this article, so the various configuration and authorization codes shown do not match from section to section.
- If you continue to have problems licensing UniVerse 10.2.x after following this document please contact your local U2 Tech Support office.