

Distinct License Manager

**Dynamic Link Library
for the management of
stand-alone, floating and trial licenses**

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1 Overview

1.1 Introduction

This library allows you to extend the Distinct licensing scheme to your own application providing you with on-the-fly trial versions for your customers, the potential to license your applications on a floating license basis and a little more protection when distributing stand alone licenses of your product.

In brief, here's how it works. The Distinct License Manager is built into the Distinct Resource Manager, so there is no extra software to be loaded. When the application starts up, it should call **D32LMCGetLicense** to get a license and it should call **D32LMCReleaseLicense** just before closing the application to release the license. The same executable without any modification will work with all three types of licenses - trial, stand-alone and floating.

When the application calls **D32LMCGetLicense**, the **License Manger** checks the registry to see if a valid stand-alone serial number is available or not. If it finds a valid stand-alone serial number then it returns that serial number to the application. If there is no number it will check the local subnet for a Distinct Floating License Manager (DFLM), if it finds this, it will request a number and if the DFLM assigns a number, it returns that serial number to the application. When no stand-alone or floating license number is available, the License Manager will bring up a dialog box allowing the user to choose to run the application as a 30-day trial application. On selecting this option, the user will have 30 days from that moment to try out the software. Once the trial period has begun, each time the user starts the application, it brings up a dialog box that displays the number of days for which the trial serial number is still valid. This dialog box also gives the user an option to enter a valid stand-alone serial number or select the floating license option at any time during the 30 day period. Once a valid license is issued, the trial number is ignored. The text in this dialog box is customizable by each developer, allowing you to provide your company contact information and instructions on how to obtain a valid license. The customization is done through registry entries. See the Registry Entries section for information on how to customize the Trial Copy dialog.

Running an Application Using the Distinct Licensing Scheme for the First Time

If the application is being run for the first time, that is, there are no registry entries for the serial number or Distinct Floating License Manager (DFLM), the License Manager prompts the user for a serial number. At this point the user can choose to use a trial copy valid for 30 days, enter a stand-alone serial number or choose to use a floating license. If the user chooses to use a floating license, the License Manager tries to find a DFLM on the local subnet. If it does not find it or it is not on the local subnet, then the user is prompted to enter the IP address of the DFLM. When the DFLM is not on the subnet, the user must enter the IP address or host name of the system hosting it.

The Distinct Licensing scheme provides the following advantages:

- Protection against the use of a single license on multiple systems concurrently.
- Ability to provide trial copies to your potential customers using the exact same code base.
- Conversion of a trial copy to a fully licensed copy is done by just entering a serial number. The customer does not have to uninstall the software or install anything additional.
- Ability to create a *light* version of your product that will disable certain functions including those that make use of the modules licensed from Distinct after 30 days leaving only limited functionality available as an encouragement to the user to upgrade to a full version of your product.

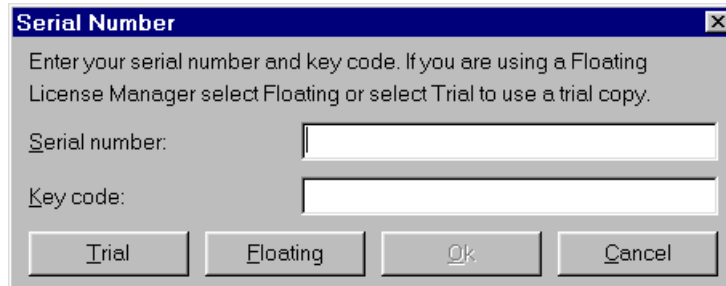
Since this is an extension of the same licensing scheme that protects Distinct's own modules, you get both stand-alone or floating license numbers from Distinct Corporation when you order your licenses. The trial numbers are generated dynamically by the License Manager. Please check the documentation on Distinct Floating License Manager for more information on how to use floating licenses.

1.2 How the License Manager Works

Interaction with the Distinct License Manager takes place through a series of dialogs that are described below.

The Serial Number Dialog

The Serial Number dialog is used to enter a valid serial number, or alternatively to select to use a floating license or a 30-day-trial serial number. It appears when your application first calls a Distinct component, or your application calls the Distinct **D32LMCGetLicense** function, if there are no Distinct registry entries.



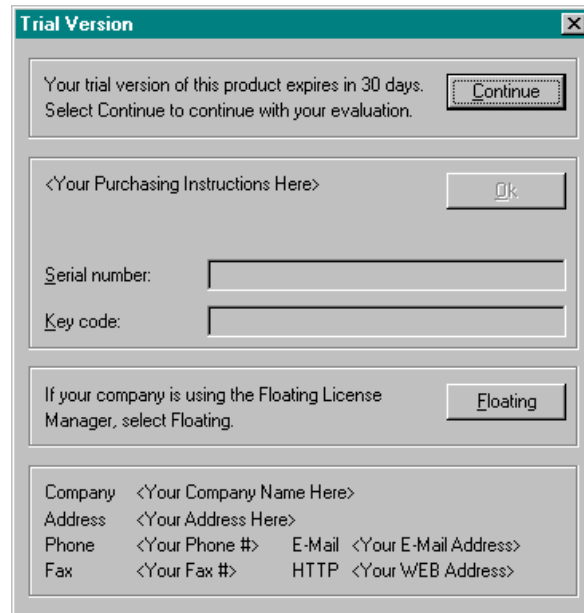
If the user enters a valid stand-alone serial number, this dialog box will disappear and will not appear again. If the user selects to use a Trial version of the software, a trial serial number is generated and the Trial Version dialog is displayed to show the number of days left before the trial period expires. The user may select to use a floating license, in which case the Distinct License Manager will attempt to find the Distinct Floating License Manager (DFLM) on the local subnet. If it is unable to find the DFLM it will prompt the user for the IP address or machine name of the system that is running the DFLM. The Distinct License Manager requests a serial number from the DFLM and if it is granted then the dialog disappears and will not reappear in the future unless it is unable to find the DFLM.

If the application calls the Distinct License Manager **D32LMCGetLicense** function and the Distinct License Manager successfully gets a valid serial number then the function returns the serial number and the license type (stand alone, floating or trial). If it is unable to get a valid serial number the function returns an error code.

This dialog can be suppressed by writing certain registry entries in the application's install program. See section "1.4 Registry Entries" for more information.

The Trial Version Dialog

If the user selects to use a trial version of the software then the Trial Version dialog box is displayed. The Trial Version dialog box displays the number of days left before the trial period expires. The user may also enter a valid stand-alone serial number or select to use the floating license option from this dialog.



The Trial Version dialog box reappears every time a trial application is run and first calls either a Distinct component or the Distinct **D32LMCGetLicense** function. When the user clicks on the Continue button the Trial Version dialog disappears and the **D32LMCGetLicense** function returns the serial number. Once the trial period has expired for a version of a product, the user may only cancel the trial or select a different licensing option. If the user selects Cancel any Distinct components will be disabled, and the **D32LMCGetLicense** function will return an error code.

The dialog can be customized to display your product name, price, company address and relevant ordering information. At any time the user can contact you for a valid serial number that can be entered in this dialog box disabling any limitations on the use of the product.

To enter a valid serial number and key code, or use the DFLM, a user will need to contact your company or Distinct Corporation to get one or more serial numbers. If you are extending the Distinct licensing scheme to protect your application, make sure you also customize the Trial Version dialog to display information about your company, product, and relevant ordering information. Once the customer has been given a serial number they may enter it directly in the Trial Version dialog. The Trial Version dialog will then disappear, it will not reappear again at any time, and all time limitations on the product will be disabled.

If you are deploying your application for use with floating licenses you will need to distribute the Floating License Manager (DFLM) to your customer together with a license file containing licenses purchased from Distinct. Once the DFLM is running, the user will be able to simply click the Floating button on the Trial Version dialog, and dynamically receive a license. The Trial Version dialog will disappear and will not appear again. Each time the **D32LMCGetLicense** function is called or the application uses a Distinct component the Distinct License Manager client will dynamically request a license from the DFLM. Each time the **D32LMCReleaseLicense** function is called the license will be released and become available to other users.

Language Displayed in Dialogs

The language displayed in the dialogs is specified through the use of registry entries. See section "1.3 Registry Entries" for more information.

1.3 Registry Entries

Customization of the trial version dialog box, that handles the use of various licenses, is done through registry entries. By customizing these entries you can provide your customer with all the purchasing information necessary including your company name, phone number, fax number, email and web address. The **Registry Editor (regedt32.exe** under Windows NT and **regedit.exe** under Windows 95) can be used to add or modify these values. The Trial Version custom information is stored under the following registry path.

The following optional registry entries are stored under the key:

\HKEY_LOCAL_MACHINE\Software\Distinct\SerialNumber\Purchase\Extension

These entries are used to modify the text in the trial notice dialog box:

Purchase1	REG_SZ	<i>Purchasing Instructions</i>
Purchase2	REG_SZ	<i>Purchasing Instructions</i>
Purchase3	REG_SZ	<i>Purchasng Instructions</i>
CompanyName	REG_SZ	<i>Company Name</i>
Address	REG_SZ	<i>Address</i>
Phone	REG_SZ	<i>Phone Number</i>
Mail	REG_SZ	<i>E-Mail Address</i>
Fax	REG_SZ	<i>Fax Number</i>
Web	REG_SZ	<i>WEB Address</i>
ProductName	REG_SZ	<i>Product Name</i>

The serial number and key code are stored in the registry key:

\HKEY_LOCAL_MACHINE\Software\Distinct\SerialNumber

ExtensionNumber	REG_SZ	<i>Serial number for the stand-alone license.</i>
ExtensionKey	REG_SZ	<i>Key code for the stand-alone license.</i>

The IP address for the floating license server, if used, is stored in the registry key:

\HKEY_LOCAL_MACHINE\Software\Distinct\SerialNumber

LicenseServer	REG_SZ	<i>IP address of the Distinct Floating License Manager.</i>
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The language in which to display the dialogs in is set in the optional registry key:

\HKEY_LOCAL_MACHINE\Software\Distinct\Language

Id	REG_SZ	<i>The Id of the language that the dialogs are to be displayed in.</i>
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English, French, German, Spanish and Italian languages are supported. If there is no language entry in the registry, or if the entry is invalid then the language will default to English. To set the language to a language other than English create the key above and set the Id string to one of the following values

String Value	Language
"DEU"	German
"FRA"	French
"ITA"	Italian
"ESP"	Spanish

For a language other than English the corresponding ghost32 language file must also be copied to the target system during installation to produce the correct language dialog. The ghost32.deu, ghost32.fra, ghost32.ita or ghost32.esp file must be copied for German, French, Italian or Spanish respectively. Note that this is in addition to the ghost32.exe and dstnct32.dll files.

1.4 Function Summary

D32LMCGetLicense

This function is used to force the application to request a license. The function checks if a valid license is available and returns the serial number and the license type - trial, stand-alone or floating. If no license is available, it prompts the user to enter one.

D32LMCReleaseLicense

This function is used to release the license obtained using **D32LMCGetLicense**.

2 Reference

2.1 D32LMCGetLicense

Description This function is called to force the application to get a valid license. The function checks if a valid license is available and returns the serial number and the license type - trial, stand-alone or floating. If no license is available, it prompts the user to enter one.

```
#include <WINDOWS.H>
#include <TCHAR.H>
#include <D32LMC.H>
```

ULONG WINAPI D32LMCGetLicense (*LicenseStruct*)

D32LMCLICENSE **LicenseStruct* Data structure used to get the license info.

Remarks **D32LMCGetLicense** checks the registry to see if a valid trial or a stand-alone serial number is available. If it finds a valid stand-alone serial number, then it returns that serial number to the application. In case of a trial serial number, it brings up a dialog box that displays the number of days for which the trial serial number is still valid. This dialog box also gives the user an option to enter a valid stand-alone serial number or select the floating license option. It also contains information about the company and how to purchase a licensed copy. The text of this dialog box can be customized through a series of registry entries. For details about the registry entries required to modify this dialog box and the location of the serial numbers, please see the **Registry Entries** section.

If there is no valid serial number in the registry, the License Manager checks if it has been configured to use a floating license. In that case it tries to contact the **Distinct Floating License Manager (DFLM)** to get a floating serial number. If the DFLM has available numbers, it will assign one to the application otherwise it will inform the application that no licenses are currently available, and will record the request that was rejected in its statistics so that the system administrator can actually analyze whether there are enough licenses or not.

If the application is being run for the first time, that is, there are no registry entries for the serial number or DFLM, then the License Manager displays a dialog box that prompts the user for a serial number. At this point the user can choose to use a trial copy valid for 30 days, enter a stand-alone serial number or choose to use a floating license. If the user chooses to use a floating license, the License Manager looks for a Distinct Floating License Manager on the subnet. If it does not find it or it is not on the same subnet, then the user is prompted to enter the IP address or machine name for the system that is running the Distinct Floating License Manager.

```
typedef struct
{
    ULONG version;
    ULONG LicenseType;
    TCHAR SerialNumber [D32LMC_V1_MAX_LEN]
} D32LMCLICENSE;
```

When calling **D32LMCGetLicense**, you should set the version field of **D32LMCLICENSE** to **D32LMC_V1_VERSION**. All other fields are filled by **D32LMCGetLicense**. On return the **SerialNumber** field contains the actual license as a NULL terminated string. **LicenseType** field contains the type of license that is being used. It can be one of the following three values:

D32LMC_V1_DEMO	Trial license
D32LMC_V1_STAND_ALONE	Stand-alone license
D32LMC_V1_FLOATING	Floating license

If this function succeeds, the application must call **D32LMCReleaseLicense** to release the license before closing. Failure to call this function can result in improper termination of the **License Manager** and if a floating license is being used, it may not be released. If you are using this function more than once in your application remember that for each successful call to **D32LMCGetLicense** there must be a call to **D32LMCReleaseLicense** to release the license once it is no longer required.

Return Value The function returns D32LMC_V1_SUCCESS if a valid license is available or D32LMC_V1-ERROR in case of an error.

Warning

These functions are an extension to the Distinct Licensing scheme. This means that if the resulting machine already has valid serial numbers from another Distinct program, the dialog box will never be displayed and your application is automatically enabled.

2.2 D32LMCReleaseLicense

Description This function is used to release the license obtained using **D32LMCGetLicense**.

```
#include <WINDOWS.H>
```

```
#include
```

```
<TCHAR.H>
```

```
#include <D32LMC.H>
```

```
ULONG WINAPI D32LMCReleaseLicense (LicenseStruct)
```

```
D32LMCLICENSE *LicenseStruct      Data structure used to contain the license info.
```

Remarks This function is used to release the license obtained using **D32LMCGetLicense**. Failure to call this function can result in improper termination of the License Manager and if a floating license is being used, it may not be released. There should be a call to **D32LMCReleaseLicense** for each successful call to **D32LMCGetLicense**. *LicenseStruct* should contain the information returned by **D32LMCGetLicense**.

Return Value The function returns D32LMC_V1_SUCCESS or D32LMC_V1_ERROR in case of an error.

