# Overview

**Overall Flow of License Activation:**

1. Create a Product ID for the software with ‘SOLO server’ account.
2. Use the Instant APIs in the software to get the mode information from the license file.
3. Create the exe for the software which is to be licensed.
4. Use Instant PLUS to create a wrapper above the exe with licensing enabled. When the trial period expires, the software is automatically locked.
5. Allow the user to buy the software through URL. License ID and Password is provided to the user upon successful purchase.
6. Once the software is activated with right license ID and Password, enable the right module of the software. Save the mode of the software in license file
7. Next time when the software is launched, fetch the mode information from the license file.
8. If there is an upgrade in the software mode, update the license file.
9. Whenever the license has to be deactivated, the user can deactivate it and use the same License ID and Password for activating the software in some other PC.

**Protection PLUS:**

* This software is used to create and add advanced licensing to the project.
* Protection PLUS is used for customized licensing; while ‘**Instant PLUS**’ is an easy wizard which creates a wrapper over the existing exe. It is easy to use and most of the requirement with licensing can be met with this.

**SOLO Server:**

While Protection Plus adds licensing to software, Solo server is used to allow customers to activate the licenses 24\*7 and also to maintain the information about the licenses issued.

# SOLO Server Setup Process

**Creating a SOLO Server Account:**

Creating an account with SOLO Server is necessary to create and define products for which licensing is required.

A trail account for 60 days can be created with solo server. All basic functionalities will be available to use with some of the advanced features disabled.

* A trail account can be created with valid email id
* Upon creating a account, a Login id and password will be sent to the same id. This can be used to access the solo server account.

**Creating Products in SOLO Server:**

The Help manual for the account can obtained from this link: <https://secure.softwarekey.com/solo/authors/manual/>

The link provided below gives full info regarding creating a solo server account and setting up a product. <http://www.softwarekey.com/help/plus5/Content/SOLOServer_ProductConfiguration.htm>

To add a Product:

1. From the Author Home page, select Authors / Products / Add. Or, alternatively, click Add at the top of the page accessible via Authors / Products / List.
2. Fill in the appropriate fields. Some of the Important fields are Product Name, Short description, Enabled.
3. Click the Submit button.

To add a Product Option:

1. Scroll to the bottom of your View Product page and click Add directly under the Current Options tab.
2. Fill in the appropriate fields. Refer to the manual to get the Definitions of the field.
3. Click the Submit button.

# Instant PLUS

Please refer the document “..\Documents\Tutorial - License a LabVIEW Executable Using Instant PLUS .pdf’ for step by step procedure to license a basic exe file.

**Instant PLUS DLL and Instant PLUS API:**

In order to activate different modes/modules in our applications, we need to make use of Instant PLUS DLLs and APIs. The functions of the APIs are exported through the DLLs.

Refer to 'Instant PLUS DLL – Overview' in the Instant PLUS Help Manual <http://www.softwarekey.com/help/ip2man/>

As mentioned in the manual, in order to make use of the DLLs in our application, select **'Create a secure file for use with Instant PLUS DLL'** in the 'Output type' of Instant PLUS Wizard and Click Next. Select **'Allow me to use the Instant PLUS API'** and choose a file path to save the .xml file which will be used in the application.

In order to use the APIs, first use 'CallIp' function from the DLL in the application. Refer the manual for defining the appropriate parameters. Choose stdcall (WINAPI) for all the functions.

For using the APIs, look into the IP2Lib.h file in C:\Program Files (x86)\SoftwareKey\Instant PLUS\samples\IP2Lib DLL\Include\IP2Lib.h for the definition of APIs. Eg: n2 refers to WR\_LFGetNum. The inputs for each parameter can be obtained from the manual.

**Note:**

Since the Instant PLUS creates License alias files in the registry (if you have chosen that option), allow the application to **‘Run as Administrator’**.

# Creating Modular Applications

Instead of going for multiple licensing files to handle multiple modes of the software, there is option to handle the software as ‘modules’. Instant PLUS provides a method to activate module based application.

Refer the link to get see the Modular Application Tutorial: <http://www.softwarekey.com/help/ip2man/Content/Modular_Application_Tutorial.htm>

The idea is to choose the following for each option in the SOLO Server account:

* Product Option Type: Activation Code with Fixed value
* Trigger Code #: 3
* TC Fixed Value: fix different TC Fixed Value for each options. These options will refer to different modules in our application.

While activating the license, the TC fixed value will be written to the bit field 22 of the license file. This value can be read using the Instant PLUS API **WR\_LFGetNum.** Based on this value, corresponding modules can be enabled programmatically.

# Activating & Deactivating a License

When using Instant PLUS, the Activation dialog will appear whenever the software is opened in trial mode. Once activated, this dialog will disappear.

The number of activations per License can be configured while defining the Product option in the **Activations per U/M** field (If you want to give 3 activations per license enter ‘3’ in this field).

There are three ways of activating a License (Supported by SoftwareKey) of which first two is used in our application for Online Licensing.

1. Activate Online

This method allows one to enter the License ID and Password. Once they press the continue button the application will communicate to the license server. If the license is validated the application will activate.

1. Activate from Another Computer

If a user has installed the software on a PC without an Internet connection they may activate the software by using second computer that has an Internet connection.

1. Activate Manually

In this method, the activation takes place through exchange of codes. Manual activations require the user contact you directly to obtain their activation codes. The user will give you two codes from the activation dialog, and you will use these codes to create the activation code with Instant PLUS which is used by the user to activate the software.

Of these three options, enable whichever option is required in the 'Product Options' page of Instant PLUS wizard.

**Activate from another Computer:**

When 'Users may activate my application from another Computer with Internet access' is checked in the 'Product Options' page of Instant PLUS wizard, this option will be available for activation in the application.

Following steps are followed to activate the license for this method:

1. Clicking 'Activate from Another Computer' will prompt the user to enter License ID and Password.
2. Once Continue is pressed, 'ActivationFile.htm' file will be saved in the removable media.
3. The user can take it to a PC with an Internet connection and just double-click the file. Once they double-click the file their browser will open to the offline activation page. They will be instructed to download a .reg file and save it.
4. The user will take this .reg file back to the original PC that does not have an Internet connection and double-click it. The user will be prompted to make sure they want to enter this information in their registry.

Once the information is in the registry, the user may start the application, which will detect the new information and automatically activate

**Note:**

For this method to work properly, the **Trigger Code Seed, RegKey2 Seed**, and **OffAct Key** of all the options should be same.

**Deactivating a License:**

The License that has been activated in one computer can be deactivated and used in some other computer for activation. This will replace the Computer hardware ID in the license file to that of new one.

This can be done using **WR\_DeactivateInstallation** API. This function will call into the wrapper from the application in order to deactivate an Installation that was previously activated. A successful deactivation will return activation to the license in SOLO so it can be used to activate on another machine.

**Note:**

Deactivation of licences is **NOT** possible after Upgrading the License.

# Generating a License Manually

For customers who request us to provide the License ID and Password without undergoing all the purchase processes, one may manually add a customer and generate License ID and Password. This can be done to existing customer also.

This can be done through following steps:

1. For existing customers, search the required customer by selecting Customers/Search. Enter any details in the 'Customer Details Search' pane and Click search.

For adding a new customer, select Customers/Add Single. Enter the customer information and click Submit.

1. Click 'Add License' in the Licenses Tab.
2. Select the product option for which you want to generate license and click 'Prepaid License' (this is disabled in **test account**).
3. Provide this License ID and Password to the customer.

# Upgrade Licenses

To create upgrade licenses which will be available for the customer to upgrade the existing licences, you can add 'rules' to the upgrade licenses. Please refer the link to know in detail about Product Option Rules: <https://secure.softwarekey.com/solo/authors/manual/#StartTopic=Content/Product_Option_Rule.htm>

Once the item is added into the cart, and the customer is logged in, the cart processor will then validate that the rules have not been violated by checking against the customer's license history and/or current cart contents. If any rules are violated, the customer will be shown an error message describing the problem. As long as any rules are violated on a cart, the order cannot be completed.

**Note 1:**

For purchasing the Upgrade licenses, the customer must log in using the email ID which was used for purchase before or using the **Customer ID** or a License ID or **Invoice Number** from a prior purchase. You can add number of rules for an option. Unless the 'Multiple Requirements' option in the Product Option Rule page is set, all the rules will compared using logical OR and the purchase of the upgrade licenses will be enable accordingly.

You can also cross check the correct upgrade license purchase programmatically also. This can be done using the Trigger Code #: 4, which will OR the value in bit field 22 of the license file with its TC fixed value and update the field. Using this value, the modules can be enabled.

**Note 2:**

When the license is Upgraded, Deactivation and using it for re-activation is **NOT** possible.

**Sending Automatic Upgrade Notifications:**

You can use the Instant PLUS upgrade notification dialog, which can simply present them a message or provide a URL like to your website so they can get information on how to purchase the upgrade.

For this,

1. Configure a Product Update in SOLO Server for the Product. Product update tab is located at the bottom of the Product Definition page.
2. Enable the option 'Query SOLO Server to periodically check for new versions of my application' and then the 'Updates Option' will appear later in the Wizard.
3. Check if the version number of the application that should receive the upgrade notification fall within the Minimum Eligible Version and Maximum Eligible Version set in SOLO Server for that update.

The notification should appear when you run the application. To test this, make sure to set it to check for every run in Instant PLUS.

# Extending Trail Period

It is possible to extend the trial period for some users who request for it. <https://support.softwarekey.com/index.php?/Knowledgebase/Article/View/111/0/extending-trials-with-instant-plus>

The above link provides sufficient methods for extending the trial period. Method 2 involves generating a license in SOLO Server, which is when the fee applies. This would be the $1 or $1.50 manual license fee. When the customer enters the License ID and Password for that license, it would set their trial to however many days was configured in the Product Option. If you didn't want to generate a new license for each trial extension, you could simply add activations by increasing the ‘Activations Left’ to the same trial extension license as needed and give out the same License ID and Password to multiple customers. The license fee applies when a license is created, not when a customer activates their software with it.

# Retrieving the License during a PC Crash

Dealing with this case is one purpose of the Installation ID. When a user activates online, they are issued an Installation ID (**Issue Installation ID** should be checked while defining a Product Option in SOLO server). You can display it to the user using the Instant PLUS API function **WR\_LFGetString()**. To view an example, go to Instant PLUS menu Help->About Instant PLUS.

This Installation ID uniquely identifies that specific activation, and it can be remotely deactivated through SOLO Sever. The activation/Installation ID for the crashed computer can be deactivated, and that allows it to be used on a new machine.

If you click the "View Installation History" on a SOLO Server License Details page, it will list all the successful activations and their Installation IDs (when applicable).

If the customer has many activations on the same license, then you need to deactivate the right activation within that license. If the customer doesn't know their installation id, each activation listing has a "Last Check-in" date, which lists when they last successfully validated with SOLO Server. If that doesn't help, they could read the Installation IDs of the non-crashed formatted computers to narrow it down. If necessary, you can also allow the customer to deactivate all their installations remotely and then reactive as needed on the machines that didn't need to be deactivated.

This also covers the case of the customer lying about the crash, as once the "crashed" computer tries to validate with SOLO Server, it will see that it's Installation ID has been deactivated, and it will not allow the application to run.

For this to work, you must:

1. Issue an Installation ID
2. Have your application set to periodically validate with SOLO Server

Without this, you could simply add a new "Activation Left" to their current License ID by clicking the increment arrow, and that would allow them to activate a new machine. This is a good solution if you believe the customer is being honest.