

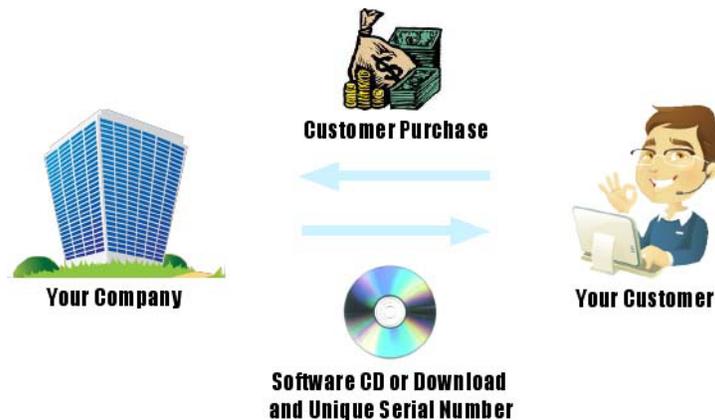
# Software Activation

## Excel Software

www.excelsoftware.com

Software activation is the process of enabling newly installed software to run on a specific computer. Software vendors use an activation process to ensure that only paid customers can run their software and to enforce license restrictions.

Software users are familiar with and have grown to expect a simple, clean activation process when installing a commercial product. This article explains how the activation process works and how vendors can protect their revenue.



The activation process starts when a customer buys the software product. That product will usually be delivered on CD or by electronic download. A unique Serial Number is provided to the customer at the time of purchase that grants the legal and physical ability to use the software on one or more computers.

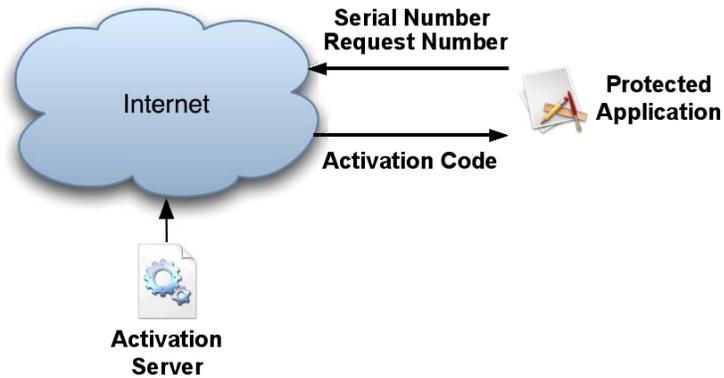
After installing the software, an activation dialog is presented on first launch. The information requested in the dialog will depend on the software vendor. The Serial Number will be a required field in the activation dialog. Some vendors also require other information like name, company and email address.

The screenshot shows a dialog box titled "Enter Serial Number". It has a single text input field for the serial number. At the bottom right, there are two buttons: "Cancel" and "OK".

When the user enters the information and clicks OK, the software is permanently activated on that computer. The software cannot be copied to another computer. It cannot be installed and activated on another computer using the same Serial Number unless the vendors allows more than one computer activation per Serial Number. The license is validated on each launch before the software is allowed to run, but an Internet connection is usually not required.

## Behind the Activation Dialog

To understand the activation process, we now look at what goes on behind the activation dialog. The activation process assigns a unique number, called the Request Number, to each computer that is like a fingerprint.



When a user completes an activation dialog, the data is sent to an activation server on the web. The activation server considers the Serial Number to decide if an Activation Code should be granted. If so, the Request Number is used to generate the unique Activation Code required by the protected application on that computer.

The communication between the protected application and the activation server is normally invisible to the user and occurs within a few seconds. Once activated, the protected application will never need to connect to the Internet again.

In the rare case that a user is not connected to the Internet during initial activation, several manual processes are possible. If no Internet connection is detected, the protected software can present a dialog to allow an Activation Code to be entered. The user can get the Activation Code from the vendor by phone or email or through an automated web page using a different computer that is connected to the Internet.

## Protect Software

To protect an application, a software vendor uses the QuickLicense tool to configure how the license and activation process works. An encrypted Ticket file is generated that embeds the license configuration. The vendor can bind the Ticket file to their application using one of two methods, the programming API or the wrapping tool.

A few lines of code can be added to the application to call the QuickLicense runtime file on launch to handle the initial activation and on-going license protection. For most applications, the added code simply sends a Request Message string to the runtime and receives back a Response Message string, then either continues or quits based on the Return Code parameter in that string.

The QuickLicense runtime software handles the entire activation process and ongoing license validation. A vendor can customize dialogs presented to the user without programming. The vendor software can even suppress and replace runtime dialogs with additional programming in those rare cases where complete customization is needed.

Alternatively, the AddLicense tool can be used to wrap a license defined by the Ticket file around a compiled executable without programming. This approach is very simple to implement since no programming changes are required to the application. This approach only works for products that are traditional applications (.exe files on Windows or .app files on Mac) so it cannot be used to protect a DLL or shared library product. The vendor must use the programming API approach for those special cases.

AppProtect is a simplified alternative to QuickLicense. It does not offer the full range of license types and customization options, but can protect an application in seconds. Simply launch AppProtect, select the application and click the Build Protected Application button to wrap a computer unique password license around the executable.

## **Activation Server**

The activation server is responsible for managing Serial Numbers and granting Activation Codes. WebActivation is a product for self-hosting a vendor customizable activation server. The Safe Activation Service is an easy way to offer professional activation of your software without requiring any web server programming or maintaining a web site.

To setup the process using Safe Activation, a vendor logs into a secure account, configures information about each product and links each product page to a list of Serial Numbers. The vendor can customize the activation page presented to users and set the number of computers that can be activated for each Serial Number. Some vendors offer their software in various price options based on the number of computers that can be activated.

Together the Ticket file, QuickLicense runtime file and Safe Activation Service implement the entire activation and protection process for any Mac or Windows application with little or no programming required.

## **Summary**

Excel Software offers an entire suite of software protection and license management tools to implement and automate almost any kind of licensing strategy. For example, a customer can activate a protected application, then later securely release a license from an old computer and move it to a new computer without vendor involvement. The Safe Activation server can manage and deliver Serial Numbers during an order fulfillment process.

The software vendor can collect, manage, search and control licensing options while logged into a secure vendor account on Safe Activation. Licenses can also be managed from a script on the vendor's web site or from an application running on a desktop computer.