



Security Dongle and Time Limited Licenses

How to set up time limited licensing using the WireFlow Security Dongles

Challenge

A common scenario when licensing products to customers, is that you want the license to have a time limit. After it has expired, you may want to take a certain action, like for example:

- Let the software go into a restricted, unlicensed mode.
- Activate a pop-up window urging the user to prolong the license.
- Stop the software from working at all
- Or something else ...

Solution

The dongles themselves do not have any native support for time-limited licensing. However, by utilizing the 32-bit data fields in the dongle, and writing some code in your application, you have the flexibility to implement different kinds of customized licensing schemes.

The example below describes how a simple time-limited license scheme can be implemented.

Example

An example of how to implement a basic, time limited scheme:

1. Before you send the dongle to your customer, write an expiry date to "Data field 1" and the current date to "Data field 2". You can use the "Security Suite Programming Application", but since the date must be formatted to a byte-array you may want to create a program that automates the formatting and setting of the dates. There is such a program supplied in the example code described later in this document.
2. In your protected software, use the supplied LabVIEW-API to check if the value of "Data field 1" is larger than the date reported by the PC. If it is, the license has not yet expired.
3. The customer may try to by-pass the time check by setting back the date of the PC. To detect if he has, you can periodically write the current PC-date to "Data field 2" and check that it is not decreasing. If it does, you can take appropriate actions.

We have created some example code that implements a simple application that you can have a look at for inspiration. The example code (called "AB0005-108 AN17 WF Security Dongle to Handle Time Limited Licenses - Example.zip") can be downloaded from the product pages for the security dongles and the security suite programming application or the general download page: wireflow.se/downloads.

The zip-file contains a LabVIEW project with some code and is described below.

WireFlow AB

Theres Svenssons gata 10
SE-417 55 Göteborg
Sweden

www.wireflow.se

Application note no. 17
AB0005-106, rev A



Example code description

Unpack the zip-file and open the LabVIEW-project called "AppNote_SecDong_TimeLimitedLicenseExample.lvproj". It will look like this:

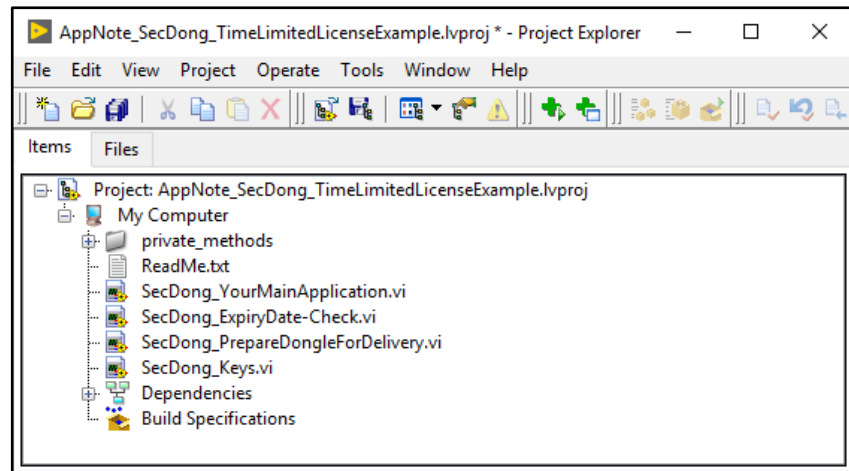


Figure 1: LabVIEW-project

The contents are:

1. **ReadMe.txt** – A short description of the example, basically the same information that this section contains.
2. **SecDong_YourMainApplication.vi** – A simple GUI that mimics the behavior of a program we want to protect. It periodically checks the value of "Data field 1", which has been assigned the value of the expiry date of the program. If it is larger than the current date, then the license has expired, and an annoying message will appear. On the front panel of the program you can experiment with the expiry date set in the dongle to see how the annoying message will appear and vanish. The application checks if the PC-time has been tampered with, but it does not take any action if it has.
3. **SecDong_ExpiryDate-Check.vi** – This is a sub-vi that implements the license scheme checks in this example. Look here for inspiration when you implement your own, customized scheme.
4. **SecDong_PrepareDongleForDelivery.vi**
A program that performs the dongle-preparations described in this application note. I.e. it formats and writes the "expiry date" and the "Current date" to "Data field 1" and "Data field 2" respectively.
5. **SecDong_Keys.vi** – Just stores the keys required when reading/writing the data fields in the dongle.

**IMPORTANT NOTE #1: Prerequisites**

Before you run the example you must make sure that:

- Dongle-driver has been installed
- LabVIEW-API has been installed

IMPORTANT NOTE #2: Key-values

Since the program uses hardcoded values of keys 1, 2 & 3. Make sure that you have the same values in your dongle.

- To check the values in the program, look in the vi called "SecDong_Keys.vi".
- To check the values in the dongle, use the "Security Suite Programming Application".
- If the key-values are not identical, you must make them. You can do that either by changing change the values in the LabVIEW code or by using the "Security Application" to change the values in the dongle.

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