

## Introduction

This Guide covers the following topics relating to the installation, configuration, and management of a FRED Network License:

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## Server Setup

FRED Optical Engineering Software uses USB Super-Pro key dongles provided by [Gemalto](#). The server computer only needs to have the Sentinel License Server installed and does not need to have a full FRED installation.

The following steps should be taken to install or update the Sentinel License Server software:

- 1) Get the most recent version of the Sentinel Protection Installer from:
  - a. The Gemalto website: [Sentinel Drivers and Utilities](#)

**Note:** The installation of FRED on a client machine may have the latest version, as well. Check here: <FRED vX.XXX install dir>/Utilities/Sentinel Protection Installer.exe>
- 2) In the **Search Downloads** panel, select the following options:
  - a. User Category = End User
  - b. Product = Sentinel SuperPro
  - c. Operating System = Your Operating System
  - d. Type = Runtime and Device Driver
  - e. Language = Your Language
- 3) Click **Search**.
- 4) In the **Search Results** table, make sure to select the option that includes the FULL installer, not just the driver.
- 5) Click **I Accept** at the bottom of the End User License Agreement.
- 6) Click on the **Download** link in the Knowledge Base article to begin the download.

- 7) Install both the *Sentinel System Drivers* and the *Sentinel Protection Server*. The system drivers control the hardware key and the server manages the network licenses.
- 8) Verify that the Sentinel Protection Server service is running. The services can be accessed from the Administrative Tools section of the Windows Control Panel.
- 9) Verify that one of the following ports is open for network communication.
  - a. UDP 6001 for TCP/IP protocol
  - b. 361 Hex for IPX/SPX protocol

**NOTE:** Firewalls or virus software may interfere or block port settings. Try temporarily disabling these as a debugging method.

## Client Setup

The procedure below should be followed to set up a client computer for use with a network key:

**NOTE:** If you do not have an up to date installation CD or have not received a download link to the current release version, please email FRED Technical Support at [support@photonengr.com](mailto:support@photonengr.com) for more information.

- 1) Install FRED.
- 2) Set an environment variable called NSP\_HOST with one of the following values:

Value	Description
Server name, IP address, or IPx address	This is the fastest and most efficient access mode for locating the server. This value allows a maximum of 63 characters. Designating the server name is the most reliable since the IP address can change in some cases.
RNBO_SPN_BROADCAST	Broadcasts a request over the local subnet to find a server with an available license.
RNBO_SPN_LOCAL	Looks for a hardware key on the local computer (standalone mode using a local server).
RNBO_SPN_DRIVER	Looks for a hardware key on the local computer (standalone mode without a local server).
RNBO_SPN_SERVER_MODES	Tries RNBO_SPN_LOCAL followed by RNBO_SPN_BROADCAST.

## Optional Client Computer Parameters

A set of additional parameters can be applied to the client computer that will govern how the client searches for a network key. With the exception of the NSP\_HOST\_CONFIG option (see below), the parameters must be used IN ADDITION to the NSP\_HOST environment variable. The optional parameters can be specified by either additional environment variables or by startup parameters on the FRED desktop icon.

### Sentinel Client Configuration File

The Sentinel software allows for the designation of a configuration file (sntlconfig.xml) to be used to control the license search method according to the Safe-net Sentinel documentation. This file can be designated for use by specifying the following environment variable:

Variable Name: NSP\_HOST\_CONFIG

Variable Value: Path to configuration file (ex. "C:\MyDocuments\sntlconfig.xml")

Please see the configuration file template at the end of this article to create your own xml file.

### Specifying License Search by Environment Variables

Environment variables can be set in Windows by going to Control Panel > System > Advanced: Environment Variables. At a minimum, the NSP\_HOST variable must be set. Then, additional environment variables or startup parameters can be specified to provide further control over license access. The following steps must be taken to properly setup the client access when not using the Sentinel configuration file:

- 1) Specify NSP\_HOST environment variable and value (access method).
- 2) (Optional) Specify hardware key serial number to be accessed using NSP\_HOSTKEYSERNUM or startup parameter "/HostKeySerNum".
- 3) (Optional) Specify license type to be accessed (Regular or Optimum) using NSP\_HOSTKEYTYPE or startup parameter "/HostKeyType".

### NSP\_HOSTKEYSERNUM

When specific control over license access or license type is required, the NSP\_HOSTKEYSERNUM environment variable can be used in addition to the NSP\_HOST variable to designate a specific FRED hardware key from which to check out a license. The serial number for a FRED key can be found in one of two ways:

- 1) Use the [Sentinel License Monitor](#) to view the serial number of the available keys (last non-zero digits) in HEX.
- 2) Email FRED Technical Support at [support@photonengr.com](mailto:support@photonengr.com).

The serial number for the desired hardware key can be specified by:

Variable Name: NSP\_HOSTKEYSERNUM

Variable Value: Key serial number in **decimal form** (ex. "1B2" in hex =  $2*16^0 + 11*16^1 + 1*16^2 = 434$ )

**NOTE:** Specifying key serial number using NSP\_HOSTKEYNUM takes precedence over key type specification using NSP\_HOSTKEYTYPE.

## NSP\_HOSTKEYTYPE

The FRED software is currently offered in two versions, Regular and Optimum. In the event that multiple network licenses of different versions are hosted on the same server, client computers can be setup to access only licenses of a designated version. The allowed version type can be specified by:

Variable Name: NSP\_HOSTKEYTYPE  
Variable Value: "standard" or "optimum"

**NOTE:** Specifying key type using NSP\_HOSTKEYTYPE is overridden by the key serial number specification using NSP\_HOSTKEYSERNUM.

### Specifying License Search by FRED Startup Parameters

Rather than designating a specific hardware key by serial number using NSP\_HOSTKEYSERNUM or a specific version type using NSP\_HOSTKEYTYPE, these settings can be issued as FRED startup parameters. The value for /HostKeySerNum is the decimal representation of the target key's serial number. The value for /HostKeyType is either "optimum" or "standard". The following examples demonstrate the use of the startup parameters for accessing a key with serial number 256 or type "optimum".

```
fred.exe /HostKeySerNum=256  
fred.exe /HostKeyType=optimum
```

**NOTE:** No spaces are allowed in the entry of the startup parameters.

These startup parameters can be issued at the command line or by editing the FRED startup desktop icon "Target" entry (ex. "C:\Program Files\FRED\Bin\Fred.exe" /HostKeyType=optimum).

## Server Dongle Authorization Update

Updating the license authorization codes for a network key can be performed from any client computer connected to the server within FRED. The procedure below should be followed:

- 1) Start FRED on a client computer connected to the key server.
- 2) Open the license authorization dialog box:
  - a. If the license is expired, this dialog will open automatically on starting FRED.
  - b. Navigate to Menu > Help > License Authorization.
- 3) Enter the license authorization code strings into the dialog box and click Authorize. The listed expiration date and maximum release number should change according to the new authorization codes.
- 4) Click OK to submit the new authorization.

## Sentinel License Monitor

With the Sentinel license server software installed, a license monitor is available through a web browser interface. The license monitor can be viewed by opening a web browser and entering the address:

<http://localhost:6002>.

## License Log

The utility "loadserv.exe" located in the ..\Program Files\Common Files\SafeNet Sentinel\Sentinel Protection Server\ folder can be used to specify log files for usage and errors. The following steps should be taken to setup logging for a network license:

- 1) Run loadserv.exe.
- 2) In the Server and Command line option section, click Configure.
- 3) Select the "..." browse button in the Usage Log File section and designate a \*.log file for collecting license usage information (typically in the same folder as the utility).
- 4) Select the "..." browse button in the Error Log File section and designate a \*.log file for collecting license error information (typically in the same folder as the utility).
- 5) Click OK on the Server Options dialog.
- 6) Click Quit on the Sentinel Protection Service Loader dialog.
- 7) Restart the Sentinel Services from the Control Panel.

## Sentinel Configuration File Template

The following text can be used to create an xml file for use in configuring the client computer search method.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
```

This is the configuration file for the applications run using a Sentinel key. You can set the values prescribed below or contact your software vendor for details.

Notes for using this file:

- 1) It is not necessary to set all the tag values.
- 2) Remove this file if you do not want to apply these settings.

```
-->
```

```
<SentinelConfiguration>
```

```
  <SuperPro>
```

*<!-- To discard the values set in this file, remove the comment signs from the following tag -->*

*<!-- <ConfigDiscard/> -->*

*<!-- Type the following constant between the Protocol tag: NSPRO\_TCP\_PROTOCOL -->*

*<Protocol>*

*</Protocol>*

*<!-- Type the workstation name/IP address (of the system where the key is attached or installed)  
or an access mode (as specified by your software vendor) between the AccessMode tag -->*

*<AccessMode>*

*</AccessMode>*

*<!-- Type a value ranging between 60 and 2,592,000 seconds, or type 0xFFFFFFFF (or -1) for an infinite  
heartbeat interval -->*

*<HeartBeat>*

*</HeartBeat>*

*<!-- Type a value for the server port, the default port is 6001 -->*

*<ServerPort>*

*</ServerPort>*

*<!-- Type SP\_USBONLY between the SearchMode tag if you want to access SuperPro hardware key of USB form  
factor and SuperPro software key. SuperPro hardware key of parallel form factor shall not be accessed if this  
option is set.*

**NOTE:** SP\_USBONLY option is for RNBO\_STANDALONE and RNBO\_SPN\_DRIVER access modes only. It will be ignored for other access modes.

*-->*

*<SearchMode>*

*</SearchMode>*

*</SuperPro>*

*</SentinelConfiguration>*