

OpenFox®

Desktop Administrator Manual

Version 4.00.0000

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Chapter 1 – Introduction and Overview

OpenFox® Desktop is an application framework which provides a secure and reliable connection to the OpenFox® Message Switching system. Through the message switching system, users may communicate with remote data sources to obtain or manage information critical to fulfilling the mission of law enforcement, public safety, and affiliated agencies. Such data sources may include the FBI's National Crime Information Center (NCIC), state Department/Bureau of Motor Vehicles, state warrant/wanted/property files, criminal history databases, sexual offender registries, Department of Corrections, and many more.

The message switching system is typically governed by an agency such as State Police, Highway Patrol, Department of Public Safety, State Radio, etc. This agency is responsible for maintaining and enforcing a set of rules and regulations that govern system access, and this agency is referred to as the “governing agency” throughout the rest of this manual. Many of the rules and regulations set in place by this agency are the direct result of maintaining compliance with the FBI Criminal Justice Information Services (CJIS) Security Policy. As such, please understand that the governing agency may not have complete control over the rules and regulations that govern system access.

Desktop integrates OpenFox® user applications into a unified and secure environment with a consistent look and feel. The OpenFox® user applications that plug into Desktop are known as Modules, and this manual contains information that is appropriate for users of any OpenFox® user application. Some commonly integrated Modules are listed below:

- OpenFox® Messenger
- OpenFox® Mobile Messenger
- OpenFox® Criminal History Administrative Client
- OpenFox® Sexual Offender Administrative Client
- OpenFox® Archive Retrieval
- OpenFox® Configurator (version 7)
- OpenFox® Form Configurator
- OpenFox® Interceptor

1.1 – Who Is This Manual For?

This manual is intended for use by personnel who are involved in installation and support of OpenFox® Desktop end users. This includes the support and administrative staff of the governing agency as well as information technology support staff. This manual assumes a level of familiarity with information technology terms and concepts

that may not be held by every OpenFox® Desktop end user.

1.2 – Minimum System Requirements

Desktop is most commonly installed on Windows computers, and the system requirements for different versions of Windows are listed below. If a computer system does not meet or exceed the following specifications, then the performance of OpenFox® Desktop may not be sufficient for a satisfactory user experience.

Several of the versions of Microsoft® Windows™ listed below are no longer officially supported by Microsoft®. While CPI remains committed to supporting its customers and user base to the best of its ability, it may not be possible to provide complete support for OpenFox® Desktop if it runs on an operating system that is no longer officially supported by Microsoft®. To resolve issues, it may be necessary to upgrade the device to a version of Windows™ that is supported. For more information regarding the Windows™ product lifecycle, please consult the following resource available from Microsoft®:

<http://windows.microsoft.com/en-us/windows/products/lifecycle>

Common Requirements for All Windows Systems

- Microsoft® Internet Explorer 10 (and higher) , Mozilla 1.4 (and higher), Firefox 1.0 (and higher), or Google Chrome 4.0.249 (and higher)
- The Windows™ user profile must have write access to the directory paths as explained in the “Local Directory Structure” section

Windows 10

- Same requirements as for Windows 8 plus the following:
- Microsoft® Windows 10 Home, Microsoft® Windows 10 Pro, Microsoft® Windows 10 Enterprise, or Windows 10 Enterprise 2015 LTSC
 - Microsoft® Windows 10 Mobile, Windows 10 Mobile Enterprise, and Windows 10 IoT Core are not supported
- 4 GB of System RAM – 8 GB is preferred

Windows 8

- Same requirements as for Windows 7 plus the following:
- Microsoft® Windows 8, Windows 8 Pro, or Windows 8 Enterprise
 - Windows 8 RT is **not** supported

Windows 7

- Microsoft® Windows 7 (Basic, Home Premium, Business, or Ultimate)

- 2 GB of System RAM – 4 GB is preferred
- Intel® Pentium® IV Processor or equivalent (1.5 GHz or faster) – 2 GHz is preferred
- 80 GB Hard Drive, with 100 MB Available
- Support for DirectX 9 graphics with:
 - o WDDM Driver
 - o 128 MB of graphics memory (minimum)
 - o 256 MB of graphics memory (preferred)
 - o Pixel Shader 2.0 support in hardware
 - o 32 bits per pixel

Virtualized Desktop Environments

CPI supports OpenFox® Desktop in a virtualized environment provided that the virtual desktop meets the requirements herein and any additional system requirements required by the specific applications running within OpenFox® Desktop.

Some users may find that the performance of applications are not satisfactory in a virtual environment. Application performance may be limited by configurations in the virtualization solution, available hardware resources, network bandwidth, and other factors outside of CPI's knowledge or control.

In general, CPI does not warrant or support application performance in a virtualized desktop environment. Specific examples include:

- Performance of screen painting
- Responsiveness to user input
- Performance or responsiveness of external devices or other peripherals

1.3 – The CPI Folder

OpenFox® Desktop requires full permissions to specific locations on the local hard drive of the device. If this access is not available due to security policies or computer configurations, then Desktop will not be able to launch or run. The user must have full access to CPI folder. This section explains the requirements of the CPI folder.

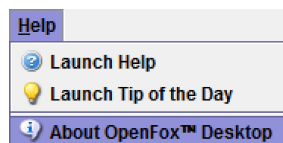
%SystemDrive%\CPI
Default location of the CPI folder

Please note that some governing agencies have chosen to change this folder to a different location. Please check with your governing agency if this is the case.

The CPI folder contains Desktop and Module application data. This includes the Desktop registered license file, the local cache of Desktop resources, and any Module application data. In order to operate correctly, the Windows™ user profile that is running Desktop must have full write access to the CPI folder, including the following permissions:

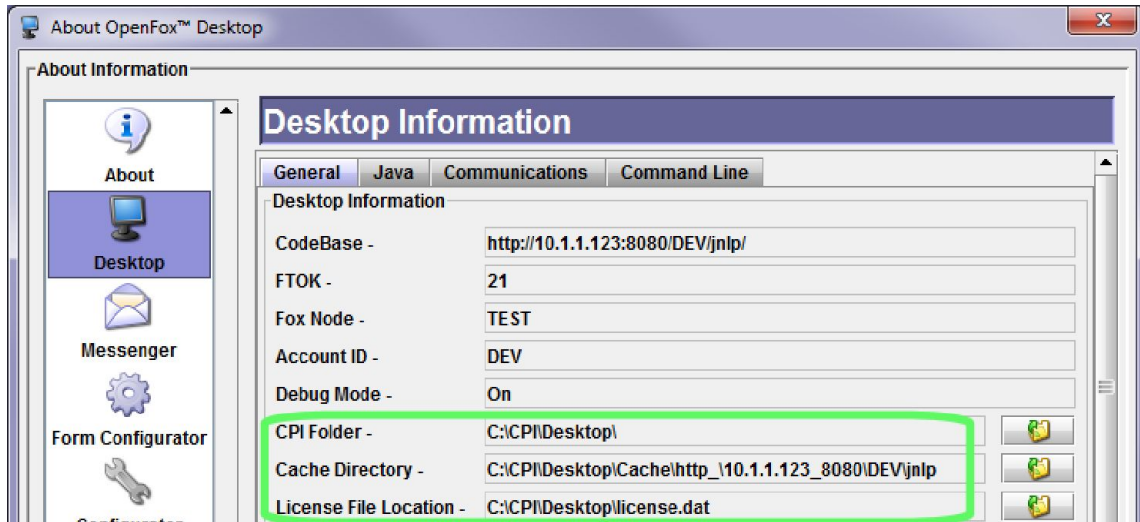
- Create and delete subfolders
- Create, delete, and write to all files under all subfolders

Under the CPI folder is a subfolder named Desktop. This directory contains the registered license file, the Desktop log file, and the cache directory. If a particular Module requires disk access to store application data (i.e. the Messenger mail file), then this application data is stored in a subfolder under the CPI folder. For example, OpenFox® Messenger saves its data under the **CPI\Messenger** folder. For more information on the disk access required by a specific Desktop Module, please consult the User Guide for that Module. You can determine the exact location of the CPI folder from within Desktop by opening the About OpenFox® Desktop item from the Help menu.



Access the about window

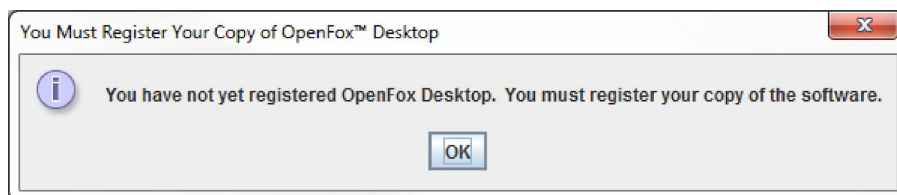
Select the Desktop item on the left hand side of the window and select the General tab. Scroll down to find the Desktop Information group and you will find the exact location of the CPI folder, the cache directory, and the registered license file as shown below.



Desktop General information with the CPI folder, cache directory, and license file locations highlighted

1.3.1 – Registered License File

When OpenFox® Desktop is registered on a device, the registered license file is created on the local disk. This file is stored under the **CPI\Desktop** folder and is named **license.dat**. This file is encrypted and contains information that identifies this particular copy of the Desktop software. If this file is moved or deleted, then the user will be asked to register Desktop the next time the software is launched.



Notification that the registered license file is missing or corrupted

1.3.2 – Desktop Log

The Desktop log maintains a record of routine and exceptional events that occur during operation of the software. This information can be helpful in troubleshooting and diagnosing issues that the end user may encounter. The Desktop log is comprised of two files on the local device disk. They are **index.log** and **desktop.log**, and these files are saved under the **/CPI/Desktop** folder.

`%SystemDrive%\CPI\Desktop\index.log`
`%SystemDrive%\CPI\Desktop\desktop.log`
The files which comprise the Desktop log

1.3.3 – Cache

The cache subfolder holds local copies of application resource files. These resource files are stored locally to reduce bandwidth requirements while the application runs. For example, you will find copies of the NCIC vehicle manufacturer and gun manufacturer code lists in the cache. When these resources are updated on the message switching system, new versions are downloaded and stored in the local cache.

%SystemDrive%\CPI\Desktop\Cache
The local cache directory

1.3.4 – Test and Development Systems

When running OpenFox® Desktop against a non-production system (i.e. the test or development system), the CPI folder is located in a different location. This feature allows you to run a copy of Desktop against the production system and a copy of Desktop against the test system. Because both copies write to a different location for the CPI folder, they will not conflict with each other. When running against such a system, the location of the CPI folder is determined as follows:

**%SystemDrive%\CPI\Desktop\TestAndDev\
http_ \%HOST% _%PORT%\%CONTEXT%\jnlp\CPI**
Location of the CPI folder for non-production systems

The %HOST%, %PORT%, and %CONTEXT% values are determined from the URL address of the OpenFox® Desktop launch page.

1.3.5 – Desktop Launcher Folder

Desktop 4.0 introduces a new Windows native Desktop Launcher application that is installed on the user's machine. This application is an alternative to the Java Web Start method of launching Desktop. Using this native launcher removes the requirement for Java to be installed on the end user's machine. This application is installed in the following directory:

%SystemDrive%\CPI\DesktopLauncher

This directory will contain all files required for the Desktop Launch executable, along with several configuration files and the resource cache for the sites that are available to launch.

1.4 – Hardware Fingerprint

Certain OpenFox® Desktop installs are configured to require a hardware fingerprint. The fingerprint is constructed from forensic identification information gathered from the device which is launching Desktop. This feature enables Desktop to provide advanced identification of the physical device.

When the software is first registered, the fingerprint is stored and associated with the product key used to register the device. Each subsequent time that Desktop is launched, the fingerprint is constructed and compared to the fingerprint on file. If the fingerprints do not match, then Desktop does not launch.

Because the fingerprint is constructed from forensic identification information of the device, changing hardware components in the device may alter its fingerprint. If this situation occurs, the Desktop license will need to be unregistered, and then the software will need to be registered from the device once more. Marking the license as unregistered is typically performed by the administrative or support staff at the governing agency. For more information on license management, please see [4.4 – License Administration].

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Chapter 2 - Installation

This chapter describes the process of installing the OpenFox® Desktop Launcher on a computer. The OpenFox® Desktop Launcher is a native Microsoft Windows application launcher packaged within a Windows executable. Downloading and installing this application will allow you to launch the Openfox® Desktop application without using Java Web Start. If you prefer to install Desktop using Java Web Start, please refer to the Desktop 3.07 Administrator Manual.

Prior to installing the software, please make sure that the device is capable of running Desktop and that it has been correctly configured. Please see the previous chapter for more information on this topic.

2.1 – Installing from the Web Portal

This section describes the process of installing the application with the OpenFox® Desktop Launcher. The Openfox® Desktop Launcher can be downloaded and installed from the web portal, accessed directly from your Internet browser.

There may be special instructions to install or launch OpenFox® Desktop depending on the Internet Browser you use. Please see Appendix A for Microsoft Internet Explorer and Appendix B for Google Chrome. There are no special instructions for Mozilla Firefox or Safari.

The first step to downloading and installing the Desktop Launcher from the web portal is to open the web portal in your Internet browser. You should have been provided with the address of the Desktop web portal. If you do not have the address, please contact your governing agency for this information. When you navigate to the web portal in your Internet browser, you will see a display similar to the following.



The Desktop web portal screen

2.1.1 – Installing Desktop Launcher from Web Portal

To install the OpenFox® Desktop Launcher from the web portal, click the link to install the OpenFox® Desktop Launcher.



The Desktop Launcher installation link

This link will download two files, config.ofdl and DesktopLaunch-4.0 Setup.exe.

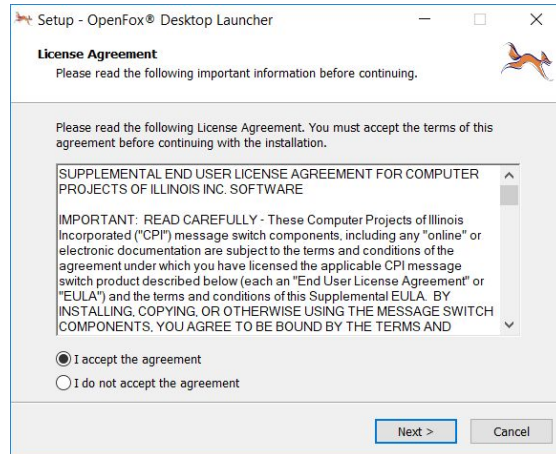


config.ofdl and DesktopLaunch-4.0 Setup.exe downloaded from the link

Please refer to section [2.2 – Launching OpenFox® Desktop] for instructions on launching Desktop. After launching Desktop, please go to section [2.3 – Desktop Registration] to complete the install. You will need to save the config.ofdl file and run the DesktopLaunch-4.0 Setup.exe to install the application.

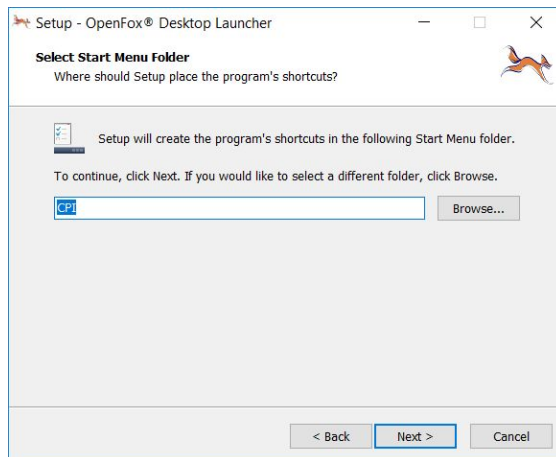
The first step of the installation requires you to accept the license agreement.

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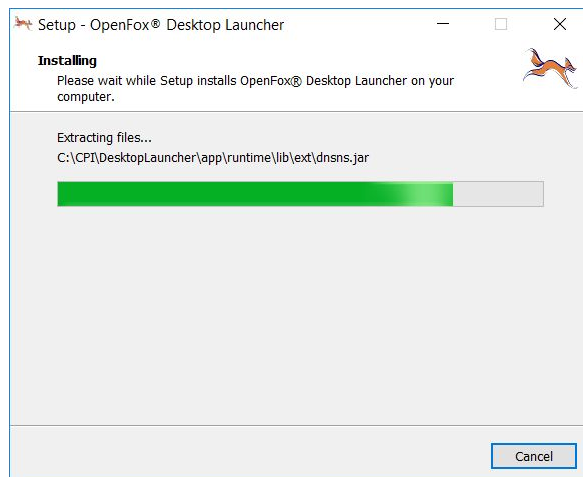
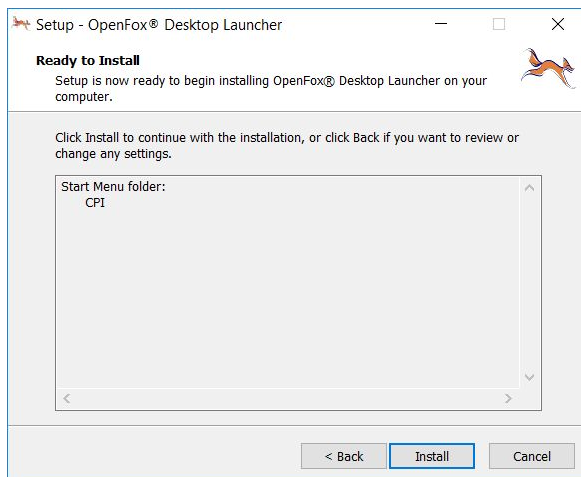


Accept the license agreement

Next, specify the name of the folder for the start menu shortcut, CPI is the default.



Finally, click Install and allow for the process to complete.



Click to begin the installation

Observe the progress of the Installation

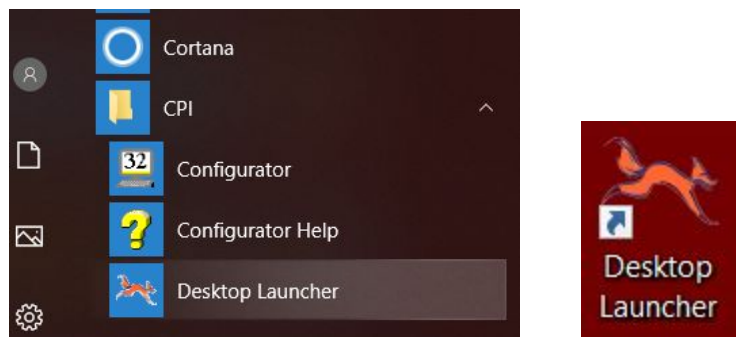
Once the Desktop Launcher application is installed, you can choose to Launch the OpenFox® Desktop Launcher or simply end the process here.



Installation completed successfully

2.2 – Installing OpenFox® Desktop

This section contains information about launching the OpenFox® Desktop application via the OpenFox® Desktop Launcher. The OpenFox® Desktop Launcher can be opened from the Windows Desktop or Start Menu shortcuts.



Start Menu Shortcut (left) and Desktop Shortcut (right)

The OpenFox® Desktop Launcher application is a tool to download the necessary resources and launch the OpenFox® Desktop Software. You are presented with a progress screen as the application is installed. Please wait while the application files are loaded.



Desktop is installing

When the installation is complete, please refer back to the proper section of this chapter for further instructions.

2.3 – Desktop Registration

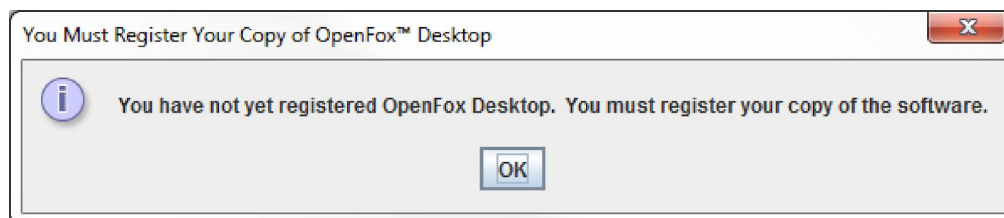
This section contains information on registering your copy of OpenFox® Desktop. It assumes that you have already installed Desktop. If you have not completed any steps, please refer back to one of the earlier sections in this chapter.

To register OpenFox® Desktop, you need the following information:

- Desktop Product Key
- Your OpenFox® Agency ID
- The terminal mnemonic (or station name) of your workstation --or--
- The name of the LIST class station if registering a pool or restricted use license

This information should have been provided to you by your supervisor or by your governing agency. If you do not have this information, please contact your governing agency to obtain this information before proceeding.

Open the Desktop Launcher application to launch the OpenFox® Desktop. You will receive a message that you have not registered. Click the OK button to continue.



You must register

The registration application is downloaded to your computer. Please wait while the file

is downloaded.



The registration application is being downloaded

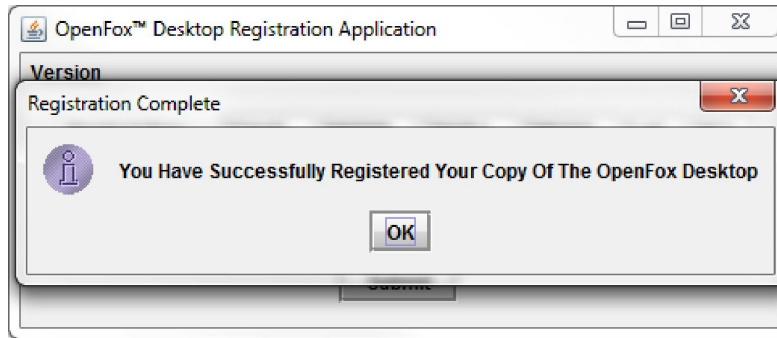
After the download has completed, you are presented with the registration screen. Enter the information that has been provided to you into this screen. This includes:

- Product Key – enter the Desktop product key
- Agency – enter the ID of your OpenFox® Agency
- Default Station – enter the terminal mnemonic of your workstation –or—
- Default Station – enter the name of the LIST station if registering a pool or restricted use license

A screenshot of a Windows application window titled "OpenFox™ Desktop Registration Application". The window has a standard Windows title bar with minimize, maximize, and close buttons. The main content area is titled "Version" and contains three input fields: "Product Key:" (a six-character field with hyphens), "Agency:" (a single-line text box), and "Default Station:" (a single-line text box). Below these fields is a "Submit" button.

The registration application

Click the Submit button after filling in the information. This registers your copy of OpenFox® Desktop and identifies your device as the terminal identified by the mnemonic that you entered. After a short delay, you are presented with the following confirmation screen.



Registration success

If you receive an error notification, please double check that the information you have entered matches the information provided to you by your governing agency. If the information is correct and you continue to receive the error, please contact your governing agency support personnel.

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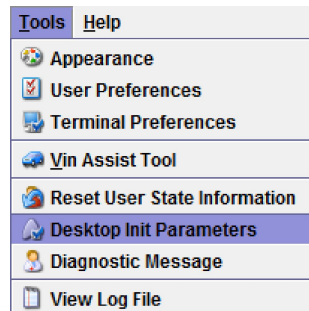
Chapter 3 – Device Administration

This chapter includes information on performing device administration for terminals running OpenFox® Desktop. This chapter is intended for use by information technology administrative or support personnel.

3.1 – Initialization Parameters

OpenFox® Desktop allows you to change several parameters that affect the environment in which Desktop executes. These parameters can be adjusted to resolve or assist in diagnosing technical support issues. Changes to these parameters affect the operation of OpenFox® Desktop on a particular device for all users. If you make changes to these parameters while Desktop is running, they will not take effect until Desktop is closed and re-launched.

You can adjust these parameters from within Desktop by choosing the Desktop Init Parameters item from the Tools pull down menu.

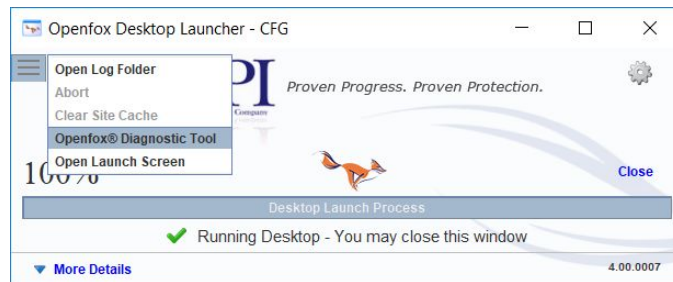


Menu access to initialization parameters

You can also adjust these parameters outside of Desktop by launching the Desktop diagnostic tool from the web portal or the Desktop Launcher. This can be helpful in resolving technical issues which prevent Desktop from launching.



Web portal access to initialization parameters

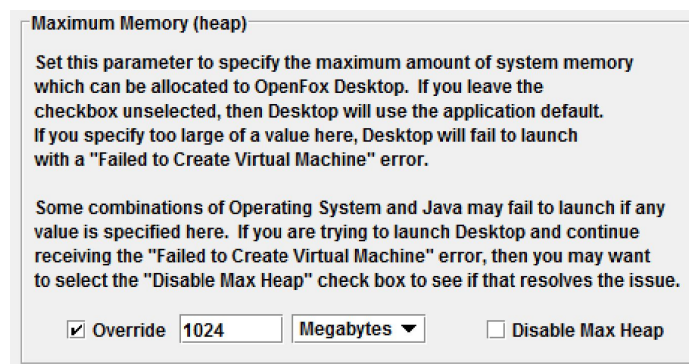


Desktop Launcher access to initialization parameters

3.1.1 – Maximum Memory (heap)

This setting allows you to control how much system RAM is made available to the Desktop application. By default, the Override box is left unselected, which means that Desktop requests the default amount of memory (usually one gigabyte). However, you may change this setting by selecting the Override box and entering a specific amount of memory. Users that run many Module applications will benefit from increasing the amount of memory available to Desktop; however, if you specify too large a value, then Desktop will fail to launch and report the message “Failed to Create Virtual Machine.”

It is possible that some incompatibilities between certain versions of Windows and certain versions of Java have resulted in Desktop failing to launch, even when very moderate amounts of memory are requested. In some scenarios, the only way to prevent this error may be to prevent Java from requesting a specific amount of memory. Checking the Disable Max Heap box causes Java to accept the standard amount of memory granted to it by the operating system, and this may resolve issues with launching Desktop.



The maximum memory parameter screen

3.1.2 – Desktop Parameters

This parameter allows you to pass additional information to Desktop when the application launches. This parameter is most often used to report diagnostic information to the Java Console window. This information can prove helpful when diagnosing technical issues with the software.

You can request this diagnostic information by adding a “-debug” parameter to this field. The “-debug” parameter is followed by a comma separated list of debug modes that can be turned on. Each Module may support debug modes to help diagnose any issues with a particular application. Please refer to the user manual for a specific Module for more information on this topic. The debug modes supported by Desktop are listed below:

- **all** – enables all debug modes for Desktop and all Modules
- **comm** – reports diagnostic information for all communications between Desktop and the message switch
- **instance** – reports status and errors generated on the Desktop instance thread
- **launch** – reports fine grained diagnostic information as Desktop is launched
- **logon** – reports fine grained diagnostic information regarding user log on and log off events
- **rules** – reports diagnostic information regarding the business rules on Messenger forms and other module screens (i.e. CCH, SOR, etc.)
- **ssm** – reports raw communication data in a format similar to the OpenFox® Message Switch station monitor report.
- **swing** – reports thread violation errors in the graphical user interface support
- **jarsigner** – reports the transformation from jarsigner soft references to hard references

Desktop Parameters

The below field allows you to specify additional application parameters that are passed to OpenFox Desktop when the application launches. In general, you should only add parameters to the below field if you have been so instructed by your supervisor. As an example, the below field may be used to report application run-time information to the Java Console window.

-debug all

Example of turning on all debug modes

Desktop Parameters

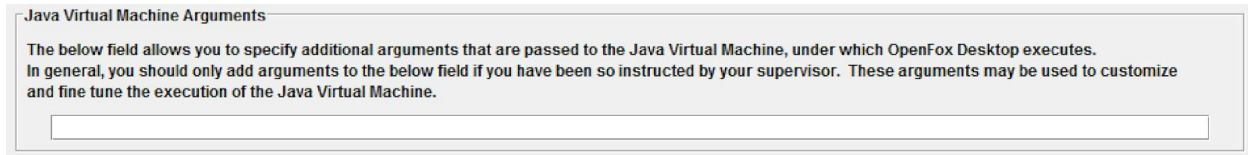
The below field allows you to specify additional application parameters that are passed to OpenFox Desktop when the application launches. In general, you should only add parameters to the below field if you have been so instructed by your supervisor. As an example, the below field may be used to report application run-time information to the Java Console window.

-debug logon,comm

Example of turning on debug modes for logon and communications events

3.1.3 – Java Virtual Machine Arguments

This parameter allows you to pass additional arguments to the Java Virtual Machine, under which Desktop runs. These arguments can prove useful to resolve incompatibilities between specific Java versions and specific hardware configurations or operating system environments.



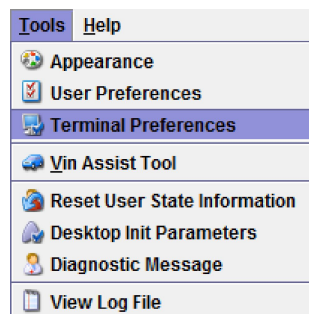
Java Virtual Machine arguments parameter

The most recent and up to date information regarding these arguments can be found on Oracle's Java pages at the following address:

<http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html>

3.2 – Terminal Preferences

OpenFox® Desktop terminal preferences are similar to user preferences, except that they affect the operation of Desktop on a particular device. Terminal preferences stay on the device on which they are set; they do not follow a user around to different terminals. This also means that the terminal preferences affect the experience of all users which log onto Desktop from a particular device. Terminal preferences are accessed through the Terminal Preference item under the Tools pull down menu.

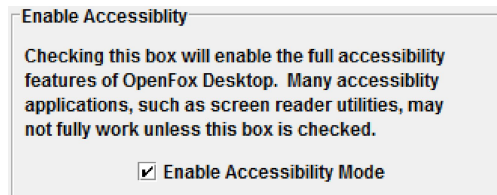


Access to the terminal preferences screen

3.2.1 – Accessibility Preferences

The accessibility preferences are used to enable compatibility with screen reader utilities and other accessibility software packages. Many of these packages will not operate correctly unless the Desktop accessibility mode is enabled. To enable this

mode, please select the Enable Accessibility Mode checkbox.

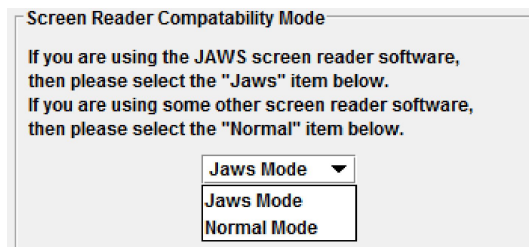


Setting to enable accessibility mode

If you are using a screen reader package with OpenFox® Desktop, then you may also need to choose a compatibility mode. Currently, Desktop has built in customized support for the JAWS® screen reader software published by Freedom Scientific. Please see the following address for more information:

<http://www.freedomscientific.com/products/fs/jaws-product-page.asp>

Desktop also includes built in support for other screen readers as well. If you are using the JAWS® software package, then please select the Jaws mode for compatibility. Otherwise, if you are using a different screen reader package, please select the normal mode item.



Setting to enable compatibility mode for different screen reader packages

3.2.2 – Browser Preferences

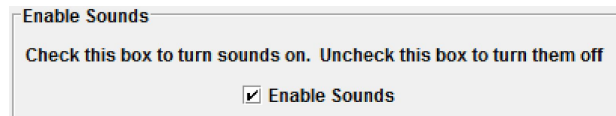
OpenFox® Desktop and Modules use an HTML browser software package for displaying web formatting information. Examples of this include the Desktop help file window and the Messenger message display. The browser terminal preferences settings allow you to customize whether the text in these displays is anti-aliased. Anti-aliasing is a process intended to remove pixelated edges of text, and tends to make the display look more smooth. However, some users feel that the anti-alias text makes it hard to read certain characters, such as the number two (2).

<pre> 1L0102BH,MRI0018629 CP0000021 MKE/WANTED PERSON - CAUTION ARMED AND DANGEROUS LIMITED EXTRADITION SEE MIS FIELD ORI/CP0000004 NAM/MYRECORD,TEST SEX/M RAC/W POB/TX WGT/175 EYE/BRO HAI/BRO SKN/DRK SMT/SC R HND FPC/121011CO141159TTCI13 MNU/AS-123456789 SOC/12345 OLN/11111111 OLS/MD OLY/1999 OFF/HOMICIDE - WILLFUL KILL-POL OFF-GUN DOW/19981201 OCA/123456273 WNO/635F1129 CTI/MD101261J MIS/EXTR EAST OF MISSISSIPPI ONLY KNOWN TO COLLECT, AND OTHER ASSORTED THINGS THAT ARE NOT GOOD </pre>	<pre> 1L0102BH,MRI0018629 CP0000021 MKE/WANTED PERSON - CAUTION ARMED AND DANGEROUS LIMITED EXTRADITION SEE MIS FIELD ORI/CP0000004 NAM/MYRECORD,TEST SEX/M RAC/W POB/TX WGT/175 EYE/BRO HAI/BRO SKN/DRK SMT/SC R HND FPC/121011CO141159TTCI13 MNU/AS-123456789 SOC/12345 OLN/11111111 OLS/MD OLY/1999 OFF/HOMICIDE - WILLFUL KILL-POL OFF-GUN DOW/19981201 OCA/123456273 WNO/635F1129 CTI/MD101261J MIS/EXTR EAST OF MISSISSIPPI ONLY KNOWN TO COLLECT, AND OTHER ASSORTED THINGS THAT ARE NOT GOOD </pre>
---	---

Example of anti-aliasing on the left, and no anti-aliasing on the right

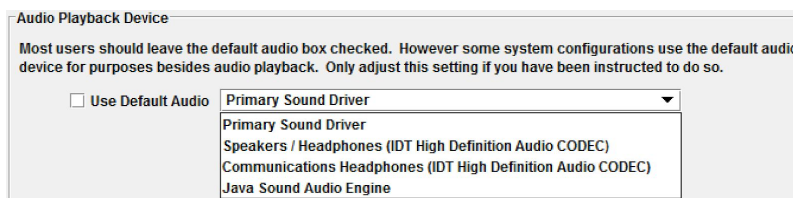
3.2.3 – Sound Preferences

The Desktop sound terminal preferences allow you to change settings which affect the sounds played by Desktop. The first option allows you to simply disable all sounds. If the check box is not selected, then Desktop does not play any sounds.



Option to disable all sounds from Desktop

The second setting allows you to choose which audio device is used to play sounds. This setting is most useful in dispatch environments where users want to have sounds played on a specific set of speakers or headphones. Initially, Desktop plays sounds on the default audio device; however if you want to change this, first deselect the Use Default Audio checkbox. Then you can choose a specific audio device from the drop down list as displayed below. You may need to experiment with different settings until you find the correct audio device.



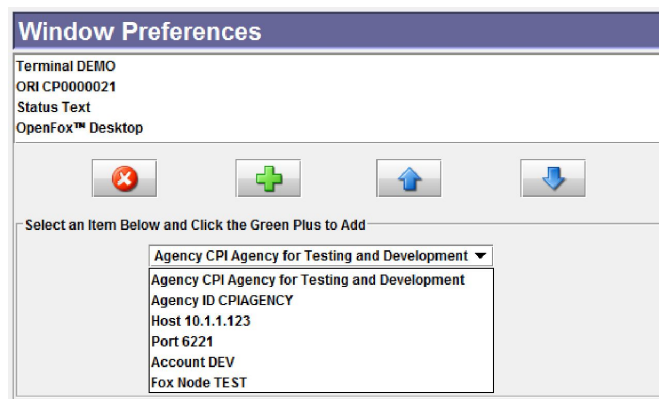
Option to choose a specific audio device for sounds

3.2.4 – Window Preferences

The window terminal preferences allow you to change what information Desktop displays in the window title bar. By default, Desktop displays the station name, the ORI, status text (i.e. what user is logged on), and the text “OpenFox® Desktop.” Below is an example of this information.



Example of default information displayed in the window title bar



The window terminal preferences screen

The window terminal preferences screen allows you to choose which of the following items of information are displayed in the window title bar:

- **Terminal** – the terminal mnemonic or station name of this device
- **ORI** – the default ORI assigned to this device
- **Agency** – the description of the agency to which this device belongs
- **Agency ID** – the unique identifier of the agency to which this device belongs
- **Host** – the IP address at which this device connects to the message switch
- **Port** – the port number which this device uses to connect to the message switch
- **Account** – a three letter code which identifies the governing agency
- **Fox Node** – a code indicating whether the message switch is a production system, a test system, a development system, etc.
- **Status Text** – displays the status of the Desktop software (this information cannot be removed from the window title bar)
- **OpenFox® Desktop** – static text identifying the Desktop application (this information cannot be removed from the window title bar)

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Chapter 4 – Message Switch Administration

This chapter includes information on performing message switch administration over devices running OpenFox® Desktop. This chapter is intended for use by the governing agency administrative and support staff. Many of the functions described in this chapter are not available to end users or to information technology support personnel. If you have any questions or believe that you should have access to these functions, please contact your governing agency.

4.1 – Desktop Licenses

Every copy of OpenFox® Desktop must be registered with a license to gain access to the message switching system. If Desktop attempts to connect without a license, the connection will be closed. If a user tries to launch Desktop without a license, the user is directed to the registration application, which guides the user through the registration process. For more information on registration, please see section [4.3 – License Registration].

An OpenFox® Desktop license record contains the following information:

- **Product Key** – A unique code that identifies a particular Desktop license
- **License Number** – A sequential database index that identifies a particular Desktop license.
- **Purchasing Agency** – The OpenFox® agency that is authorized to make changes to a license
- **Assigned Agency** – The OpenFox® agency that has been assigned to use the license
- **Station** – The terminal mnemonic (i.e. station name) that is assigned to the Desktop terminal which has registered this license
- **Type** – Either normal, pool, or restricted
- **Number of Stations** – If this license is a pool or restricted use license (see below), this field determines the number of concurrent terminals.
- **Modules** – The list of Desktop Modules which may be available to users at this Desktop terminal
- **Hardware Fingerprint** – Displays “TAKEN” if there is a hardware fingerprint associated with this license; otherwise displays “NONE”
- **Expiration Date** – The date on which the license expires and is no longer valid, unless renewed
- **Add Date** – The date on which the license was created
- **Modified Date** – The date on which the license was last modified
- **Status Flags**

- o **REGISTERED vs. NOT REGISTERED** – Indicates whether the license is registered
- o **DEVICE_ID** – If reported, this indicates that the license requires a hardware fingerprint
- o **DISABLED** – If reported, this license has been disabled from use
- o **MOBILE** – If reported, this license is intended for use in a mobile environment

Some of the above data fields are 'locked' by CPI sales staff when licenses are purchased. These fields may never be modified, except by CPI sales personnel. These fields include the following:

- Product Key
- License Number
- Purchasing Agency
- Type
- Number of Stations
- Modules
- Expiration Date
- Add Date
- MOBILE status flag

If you require additional licenses, access to additional software Modules, or need to renew a license that is about to or has expired, please contact your governing agency or the CPI sales department at 1-866-471-6305.

4.1.1 - Normal Licenses

A normal license is intended for use by one device. The device is assigned a particular product key, and the user registers that product key on the target device. When Desktop is launched from that device, it is assigned the terminal mnemonic (i.e. station name) that was used to register the product key.

If a normal license is registered on multiple devices, only one of the devices is able to connect to the message switch at a time. If these devices run Desktop at the same time, they will fight back and forth for the connection to the switch (typically every 30 seconds). If your Desktop session seems to constantly be interrupted, then the license may have been registered on another device.

4.1.2 – Pool Licenses

Pool licenses are intended to be shared among a group of devices, up to 255. Pool licenses do not assign a terminal mnemonic (i.e. station name) to a particular device. Instead, the device has one terminal mnemonic from a group of mnemonics assigned to it when the application is launched. It is very likely that the same device will be

assigned different terminal mnemonics each time that it is launched.

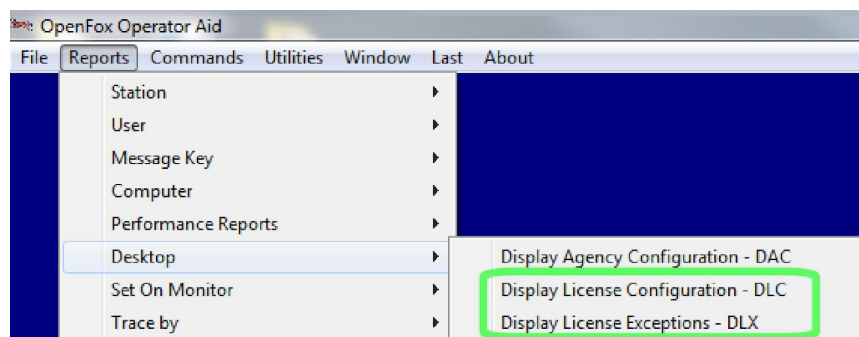
Pool licenses are only valid for a certain number (up to 255) of concurrent sessions. If there are already that many Desktop sessions active, and you attempt to launch a new Desktop session, you will not be able to connect to the system.

4.1.3 – Restricted Use Licenses

Restricted use licenses are similar to pool licenses, but they associate a particular terminal mnemonic with a specific device. When Desktop is launched from the device, it is assigned the terminal mnemonic that was used to register the device. In this fashion, restricted use licenses are similar to normal licenses; however restricted use licenses are only valid for a certain number (up to 255) of concurrent sessions.

4.2 – License Reports

Administrative staff can access reports on Desktop licenses through the D1 application, Messenger, or Operator Aid. This section describes these reports and provides examples of the results. The license reports display a similar format and the differences in the reports are mostly in how to find the license that you are looking for.



Access to License Reports in Operator Aid

In Operator Aid, the reports are displayed in a table format. Each license reported is a different line in the table, and the fields of each license are listed in the table columns. Please see the user manual for Operator Aid for more information.

License Configuration Report run on Tue, Mar 19, 2013 at 10:03:32 AM											
Product Key	Li...	Purchase ...	Assigned ...	Station	Max Stations	Modules	Hardware	Status Flags	Expiration Date	Add Date	Modified Date
35882-59ZTC-GAMQ9-PTF67-4TL-K7J	68	CPIAGENCY	CPIAGENCY	XMLBRIAN		MESSENGER, OFC	NONE	REGISTERED	NEVER	Sep 07 07:59:31 2011	Mar 14 12:26:30 2013
39DWU-W52LT-CBTZZ-EATGV-BUT-PYN	28	CPIAGENCY	CPIAGENCY	XMLTONY		MESSENGER, OFC, CONFIG	NONE	REGISTERED	NEVER	May 09 15:53:33 2007	Mar 17 14:53:21 2010
4903P-C57SL-FUM29-KYELP-ZSP-VDJ	37	CPIAGENCY	CPIAGENCY	XMLRUSS2		MESSENGER, OFC, CONFIG	NONE	REGISTERED	NEVER	May 09 15:53:33 2007	Mar 17 14:53:21 2010
5MVVQ-5ENV8-8MGVE-LLWRZ-C9Q-76W	40	CPIAGENCY	CPIAGENCY	XMLELI		MESSENGER, OFC, CONFIG	NONE	REGISTERED	NEVER	May 09 15:53:33 2007	Mar 17 14:53:21 2010
DNP2D-CWSNQ-HRAWP-VUZE6-MMP-...	66	CPIAGENCY	CPIAGENCY	ROBTST	POOL=3	MESSENGER, OFC, CONFIG	NONE	REGISTERED, POOL	NEVER	Mar 07 08:12:40 2011	Mar 07 08:12:40 2011
EDPNM-SY52L-UZBUC-E32TD-CSK-RM6	45	CPIAGENCY	CPIAGENCY	Unassigned	RESTRICTED=255	MESSENGER	NONE	NOT REGISTERED, R...	NEVER	May 23 17:52:37 2007	Mar 17 14:53:21 2010

Example license report in Operator Aid

When running the reports via command line, each license is displayed in a text format.

If there are multiple licenses reported, they are simply listed one after the other. The first license reported is at the top, and the last license reported is at the bottom of the display.

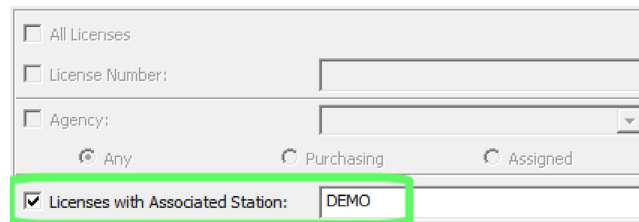
```
PRODUCT_KEY='Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2'  NBR= 5
ADD=2007 05/09 15:53:33 MOD=2010 03/17 14:53:21 EXPIRE= ** NEVER **
PURCHASE_AGENCY=CPIAGENCY ASSIGNED_AGENCY=CPIAGENCY
DEFAULT_STATION=DEMO REGISTERED
MODULES: MESSENGER      OFC      Module#3      Module#4
          Module#5      Module#6      Module#7      CONFIG
          Module#9      Module#10
HARDWARE_FINGERPRINT=NONE
```

Example license report from command line

4.2.1 – License Report by Device

The most commonly requested report is to report the Desktop license that has been registered to a particular terminal. If a user is having problems with their license, or you think something is not setup correctly in the license, then you can access the license report using the terminal mnemonic.

In Operator Aid, select the 'Licenses with Associated Station' item and type the name of the terminal into the box.



The screenshot shows a software interface with several options. At the bottom, the option 'Licenses with Associated Station:' is checked and highlighted with a green box. To its right, the text 'DEMO' is entered into a text field, which is also highlighted with a green box. Above this, there are other options like 'All Licenses', 'License Number:', 'Agency:', and radio buttons for 'Any', 'Purchasing', and 'Assigned'.

License report by the DME0 station in Operator Aid

From the command line, enter “/DLC /ASO NAME” where “NAME” is the name of the terminal.

```
/DLC /ASO DEMO
```

License report by the DEMO station via command line

4.2.2 – License Report by Agency

This report allows you to view all licenses that have a particular agency value in either the purchasing or assigned agency fields. There are three options for this report. You can search for a particular agency in either the purchasing or assigned field. You can search for a particular agency in just the purchasing field, or you can search for a particular agency in just the assigned field.

<input type="checkbox"/> All Licenses	<input type="checkbox"/> All Licenses	<input type="checkbox"/> All Licenses
<input type="checkbox"/> License Number: <input type="text"/>	<input type="checkbox"/> License Number: <input type="text"/>	<input type="checkbox"/> License Number: <input type="text"/>
<input checked="" type="checkbox"/> Agency: <input type="text" value="CPIAGENCY"/>	<input checked="" type="checkbox"/> Agency: <input type="text" value="CPIAGENCY"/>	<input checked="" type="checkbox"/> Agency: <input type="text" value="CPIAGENCY"/>
<input type="radio"/> Any <input type="radio"/> Purchasing <input type="radio"/> Assigned	<input type="radio"/> Any <input checked="" type="radio"/> Purchasing <input type="radio"/> Assigned	<input type="radio"/> Any <input type="radio"/> Purchasing <input checked="" type="radio"/> Assigned
<input type="checkbox"/> Licenses with Associated Station: <input type="text"/>	<input type="checkbox"/> Licenses with Associated Station: <input type="text"/>	<input type="checkbox"/> Licenses with Associated Station: <input type="text"/>

Operator Aid: search for any agency (left), purchasing agency (center), or assigned agency (right)

From the command line, these options are “/AGY”, “/PAG”, and “/AAG”, respectively.

```
/DLC /AGY CPIAGENCY
/DLC /PAG CPIAGENCY
/DLC /AAG CPIAGENCY
```

Command line: search for any agency (top), purchasing agency (center), or assigned agency (bottom)

4.2.3 – Report Unregistered Licenses (System Wide)

Searching for licenses that are not registered is useful when rolling out an install of Desktop to the field. This report allows you to quickly and easily find the next available licenses so you can provide the product key and registration information to the users.

In Operator Aid, you run this report by first running a report of all licenses. When that report is finished, click on the Status Flags column to sort the results by that column. When the arrow in the column points down, the unregistered licenses are displayed at the top of the report.

<input checked="" type="checkbox"/> All Licenses <input type="checkbox"/> License Number: <input type="text"/> <input type="checkbox"/> Agency: <input type="text" value="CPIAGENCY"/> <input type="radio"/> Any <input type="radio"/> Purchasing <input type="radio"/> Assigned <input type="checkbox"/> Licenses with Associated Station: <input type="text"/>	Product Key	License Number	Status Flags
	5SSH3-FAB54-G4YV-JYQ72-M54-ZGE	30	NOT REGISTERED
	7R9YN-8FBJQ-9HY7K-BWAJK-AWX-5MW	71	NOT REGISTERED
	BEL3R-VGFJE-3PTT6-BQQF4-2PL-57W	69	NOT REGISTERED
	E3UJ3-EHKB7-N8WWT-LWH-WX-PDP-CQS	52	NOT REGISTERED
	EYGUD-KWSTN-KQ2JD-5KWUJ-TWZ-REA	46	NOT REGISTERED
	GEKK2-HPPMZ-7QKQJ-DNNGK-N99-EQS	35	NOT REGISTERED
	T3U66-3Q4JF-YW8BP-99RWD-PN3-9QA	25	NOT REGISTERED, DE...
	EDPNM-5Y52L-UZ8UC-E32TD-CSK-RM6	45	NOT REGISTERED, RE...
	BF2QU-F2AN5-3ESHV-NRRM3-WVA-BWE	38	REGISTERED

Operator Aid: First search for all licenses (left), then sort by Status Flags (right)

From the command line, use the “/UN” option to search for unregistered licenses. With this option, you can also specify a maximum number of licenses to be returned with the “/MAX” option.

```
/DLC /UN /MAX 10
```

Command line example of searching for the next 10 unregistered licenses

4.2.4 – Report Unregistered Licenses by Agency

Whereas the previous report searches system wide for unregistered licenses, you can use this report to restrict that search to a specific agency. This report is useful when rolling out installations of Desktop on an agency basis. You can quickly see the next available licenses for that particular agency.

In Operator Aid, you run this report by first searching for licenses by agency; please see the earlier section for instructions on this. Then you click the Status Flags column to sort the results and put the unregistered licenses at the top of the list. Please see the previous section for instructions on this.

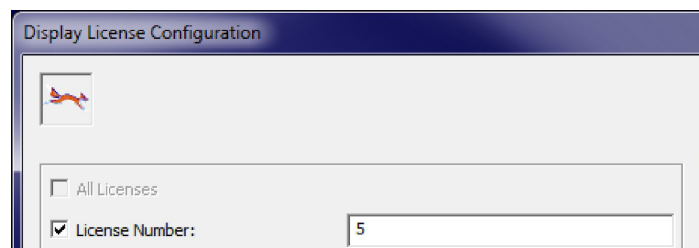
From the command line, you can combine either of the three agency items, “/AGY”, “/PAG”, or “/AAG”, with the “/UN” item to search for unregistered licenses. Also, you can limit the number of licenses returned by the report with the “/MAX” item.

```
/DLC /AGY CPIAGENCY /UN /MAX 10  
/DLC /PAG CPIAGENCY /UN /MAX 10  
/DLC /AAG CPIAGENCY /UN /MAX 10
```

Command line: search for the next 10 unregistered licenses for any agency (top), purchasing agency (center), or assigned agency (bottom)

4.2.5 – Report a Specific License

You can display the report of a specific license by entering the license number (database index value). In Operator Aid, select the License Number item and enter the number in the field.



Operator Aid: report for license number 5

From the command line you can choose to either enter the license product key or, with the “/NU” option, the license number.

```
/DLC /NU 5
```

Command line: report for license number 5

```
/DLC Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2
```

Command line: report for same license by product key

4.2.6 – Report All Licenses

The simplest report is to search for all license records in the system. This report displays the information for every license in the system. In Operator Aid, this option is chosen by selecting the “All Licenses” item.

The screenshot shows a web-based interface for generating reports. At the top, the 'All Licenses' option is selected and highlighted with a green box. Below it, there are several search filters: 'License Number:' with an empty text field, 'Agency:' with a dropdown menu, and three radio buttons for 'Any' (selected), 'Purchasing', and 'Assigned'. At the bottom, there is a checkbox for 'Licenses with Associated Station:' and an empty text field.

Operator Aid: Report all licenses

In the command line, this report is chosen by adding the “/ALL” item to the report.

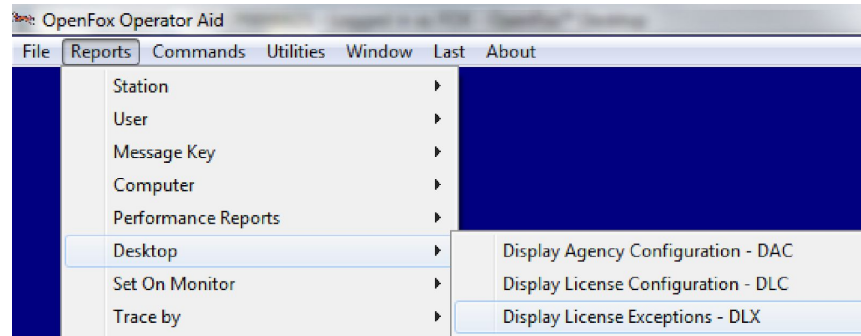
```
/DLC /ALL
```

Command line: Report all licenses

4.2.7 – Report Expired Licenses

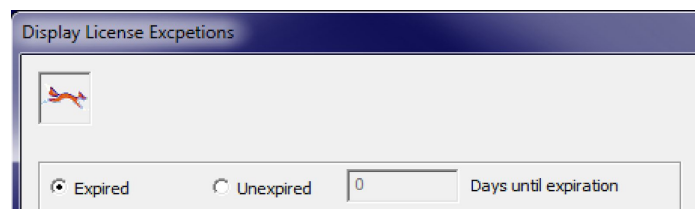
Depending on the license agreement between an agency and CPI, certain Desktop license records may be set to expire on a particular date. If there is an expiration date on a license, then the device associated with that license will not be able to connect to the message switching system on or after the expiration date. If this situation occurs, the agency needs to renew the license to regain system access.

This report allows you to search for licenses which have already expired or which are about to expire. In Operator Aid, you access this report by choosing the Display License Exceptions item from the Desktop Reports menu.



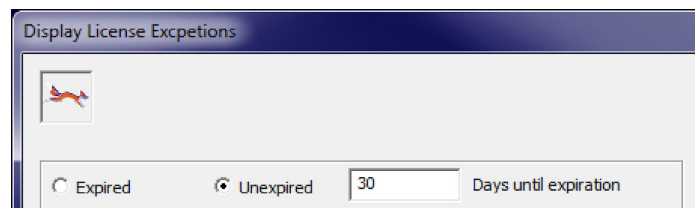
Operator Aid: Access to expired license report

In the Display License Exceptions report window, you can choose to search for licenses which have already expired by selecting the Expired item.



Operator Aid: Search for licenses which have already expired

You can also choose to search for licenses which will expire in the near future. This allows agencies to proactively renew their Desktop license agreement so that their system access remains uninterrupted.



Operator Aid: Search for licenses which will expire in the next 30 days

From the command line, this report is run by typing “/DLX”. To search for licenses which have already expired, type “/DLX X” into the software.

```
/DLX X
```

Command line: Search for licenses which have already expired

You can also search for licenses which will expire in the near future. Type “/DLX E days” into the software, where “days” is the number of days in the future.

```
/DLX E 30
```

Command line: Search for licenses which will expire in the next 30 days

4.3 – License Registration

When a license is registered by a user, certain information is hard coded into the license record. This information may not be changed unless the license is unregistered through the OpenFox® Configurator administrative tool. When the license is registered, the following data fields are locked and cannot be modified without unregistering the license:

- Assigned agency
- Station
- Whether the license requires a hardware fingerprint

Unregistering a license is only intended to be necessary when you wish to transfer the use of a Desktop license to a different terminal mnemonic or agency. For more information on how to deregister a license, please see the section [4.4 – License Administration].

4.3.1 – Registration Example

An example of a unregistered license is displayed below. Note that the default station field is unassigned and the NOT-REGISTERED flag is reported.

```
LICENSE CONFIGURATION REPORT: 11:47 19MAR2013

PRODUCT_KEY='Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2' NBR= 5
ADD=2007 05/09 15:53:33 MOD=2013 03/19 11:47:26 EXPIRE= ** NEVER **
PURCHASE AGENCY=CPIAGENCY ASSIGNED AGENCY=CPIAGENCY
DEFAULT_STATION=unassigned NOT-REGISTERED
MODULES: MESSENGER      OFC      Module#3      Module#4
          Module#5      Module#6      Module#7      CONFIG
          Module#9      Module#10
HARDWARE_FINGERPRINT=NONE
```

Unregistered license example

Following this example, suppose that this license will be registered to the DEMO terminal. The end user has been provided the product key and agency identifier, so the user enters the information into the registration screen and supplies the name DEMO for the default station.

Registration example

After the user has registered the license, the report now shows that the default station has been set to DEMO and the license is REGISTERED.

```

LICENSE CONFIGURATION REPORT: 11:51 19MAR2013

PRODUCT_KEY=' Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2' NBR= 5
ADD=2007 05/09 15:53:33 MOD=2013 03/19 11:47:26 EXPIRE= ** NEVER **
PURCHASE_AGENCY=CPIAGENCY ASSIGNED_AGENCY=CPIAGENCY
DEFAULT_STATION=DEMO REGISTERED
MODULES: MESSENGER OFC Module#3 Module#4
          Module#5 Module#6 Module#7 CONFIG
          Module#9 Module#10
HARDWARE_FINGERPRINT=NONE
    
```

License has been registered

4.3.2 – Registration with Hardware Fingerprint Example

This example walks through the process of registering a license that requires a hardware fingerprint. Once again, we start with the report of a license that is not registered. This report is the same as the first report in the previous example, except that the license reports DEVICE-ID. This means that this license requires a hardware fingerprint. Also, please note that the hardware fingerprint field reports NONE, which indicates there is no fingerprint associated with this license.

```

LICENSE CONFIGURATION REPORT: 12:07 19MAR2013

PRODUCT_KEY=' Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2' NBR= 5
ADD=2007 05/09 15:53:33 MOD=2013 03/19 12:07:37 EXPIRE= ** NEVER **
PURCHASE_AGENCY=CPIAGENCY ASSIGNED_AGENCY=CPIAGENCY
DEFAULT_STATION=unassigned NOT-REGISTERED DEVICE-ID
MODULES: MESSENGER OFC Module#3 Module#4
          Module#5 Module#6 Module#7 CONFIG
          Module#9 Module#10
HARDWARE_FINGERPRINT=NONE
    
```

Report of an unregistered license which requires a hardware fingerprint

After the user has registered the license, running a report on the same license results in the following display. As in the previous example, the default station field has been set to DEMO and the report displays REGISTERED to indicate the license has been

registered; however, also note that the hardware fingerprint field reports TAKEN. This means that the fingerprint has been taken from the device and associated with this license.

```
LICENSE CONFIGURATION REPORT: 12:09 19MAR2013

PRODUCT_KEY='Z7AVG-MPPY9-Z6GBJ-DBUQC-LAF-YE2' NBR= 5
ADD=2007 05/09 15:53:33 MOD=2013 03/19 12:07:37 EXPIRE= ** NEVER **
PURCHASE_AGENCY=CPIAGENCY ASSIGNED_AGENCY=CPIAGENCY
DEFAULT_STATION=DEMO REGISTERED_DEVICE-ID
MODULES: MESSENGER OFC Module#3 Module#4
          Module#5 Module#6 Module#7 CONFIG
          Module#9 Module#10
HARDWARE_FINGERPRINT=TAKEN
```

Report of a registered license with associated hardware fingerprint

4.4 – License Administration

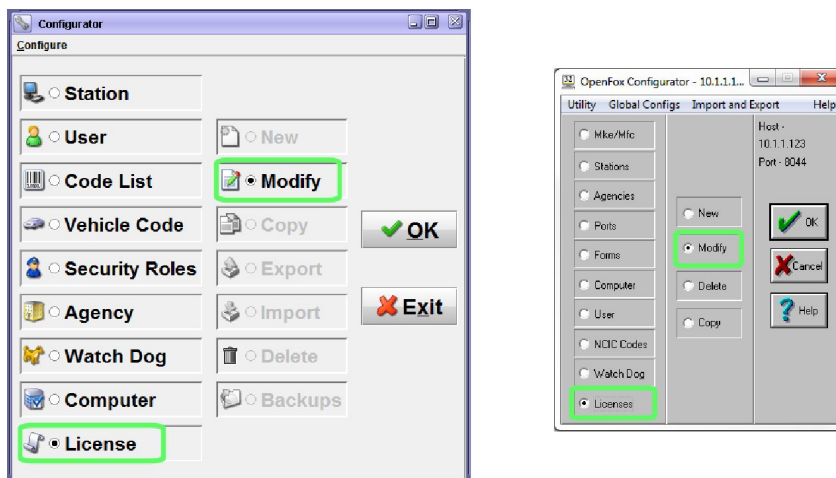
If you have been granted the proper authorization, you can manage certain aspects of Desktop licenses through the OpenFox® Configurator. Please check with your governing agency if you believe that you should have access to this tool. Through the Configurator, administrative and support personnel can perform the following tasks:

- Unregister licenses
- Change whether an unregistered license requires a hardware fingerprint
- Assign a unregistered license to a particular agency

All other modifications to a license record, such as changing a license to a mobile license, changing which application Modules for which a license is valid, etc., can only be performed by CPI sales and support staff. If you would like to change a license or procure additional licenses, please contact CPI.

It is very important to remember that you are only allowed to manage a license record if the agency identified on your user profile matches the purchasing agency of the license. If these agency identifiers do not match, then you are not allowed to access the license in Configurator. You are not even able to see such licenses in the Configurator list window.

To get started with license administration, open the OpenFox® Configurator application, and then select License Modify.



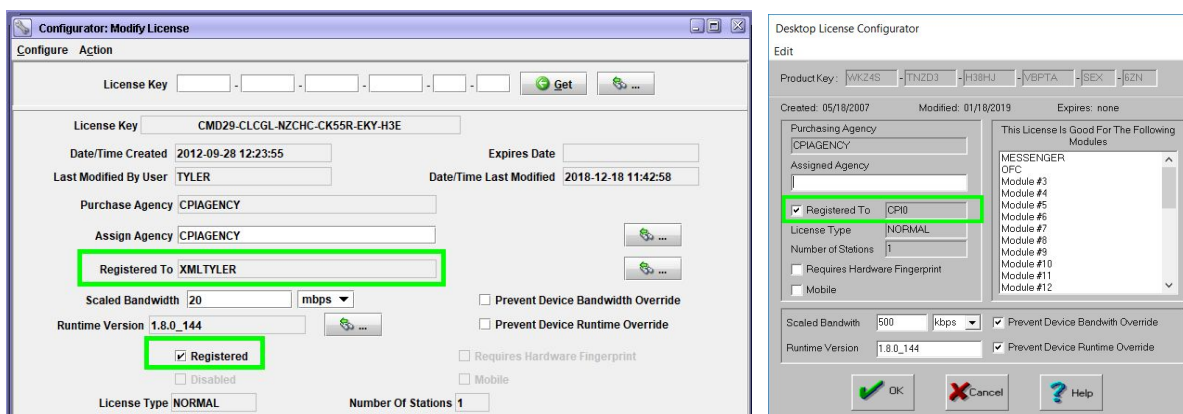
Configurator 7.0 and higher (left), Configurator before 7.0 (right)

4.4.1 – Unregister a License

Unregistering a license allows you to change the fields that are set when the license is registered. This includes the assigned agency, the station, and whether the license requires a hardware fingerprint. This information may not be changes if a license is registered; it must be unregistered first.

Please use caution when unregistering licenses. Unregistering a license will invalidate any device which has been registered with that license. If a user attempts to launch Desktop from such a device, they will be unable to access the system until that device is registered.

To unregister a license, first pull up the license record by entering the license product key into the Configurator. In Configurator 7.0 and later, you can also pull up the license record from a search window. Please see the Configurator user manual for more information on this topic.



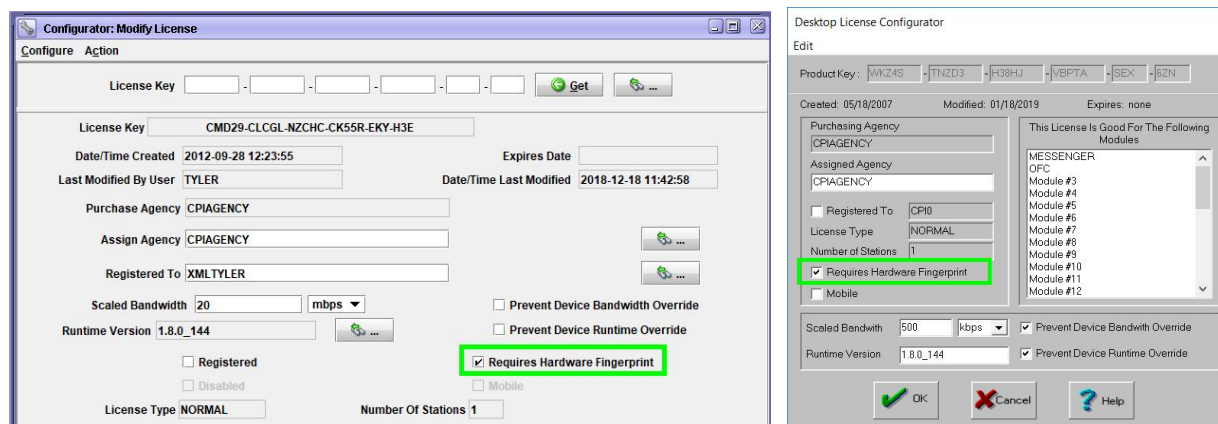
Registered license display in Configurator 7.0 and higher (left), and Configurator before 7.0 (right)

Mark the license as unregistered by removing the check mark from the Registered check box. Then click OK or Apply to save your changes.

4.4.2 – Change Whether a License Requires a Hardware Fingerprint

You can only change whether a license requires a hardware fingerprint if the license is currently unregistered. You will be unable to modify this field if you open a registered license in Configurator. If the license to which you want to make the change is registered, then you will need to unregister the license first. Please see the previous section for instructions on how to do this.

Open the license in Configurator and then modify the Requires Hardware Fingerprint check box. If there is a check mark in the box, then the license requires a hardware fingerprint. If the check box is empty, then this license does not require the fingerprint. After making your changes, click OK or Apply to save your changes.

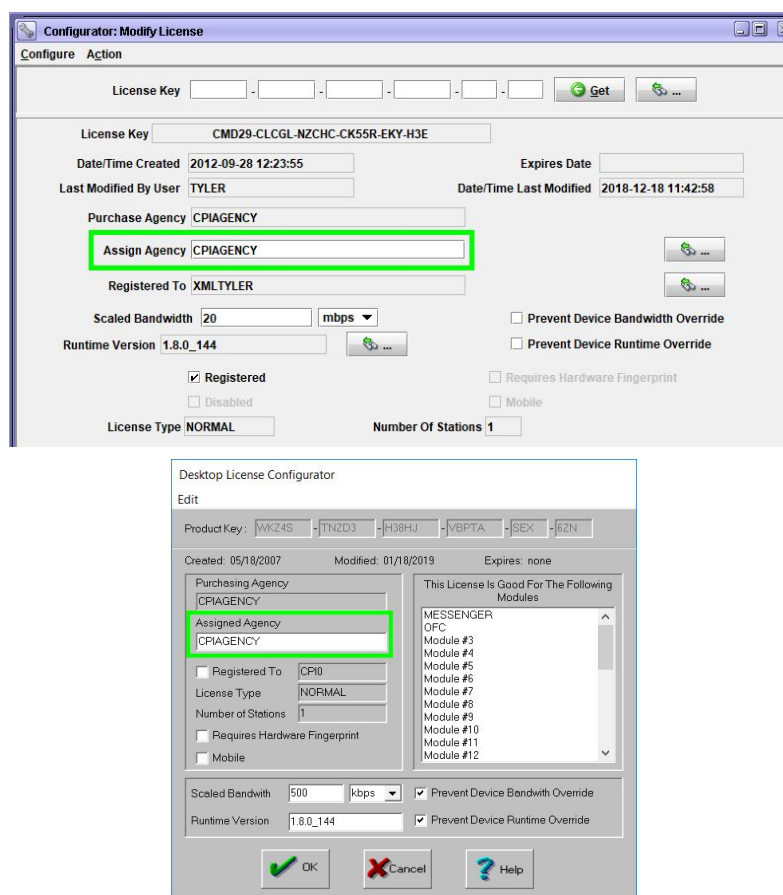


The requires hardware fingerprint setting in Configurator 7.0 and higher (left) and before 7.0 (right)

4.4.3 – Assign a License to a Particular Agency

You can only change to which agency a license is assigned if the license is currently unregistered. You will be unable to modify this field if you open a registered license in Configurator. If the license to which you want to make the change is registered, then you will need to unregister the license first. Please see the earlier section for instructions on how to do this.

Open the license in Configurator and then modify the Assigned Agency field. If this field is blank, then any terminal in the system can register this license, provided that the user has the product key. If you put an agency identifier in this field, then this license will only be able to be registered from a terminal that belongs to that agency. After making your changes, click OK or Apply to save your changes.



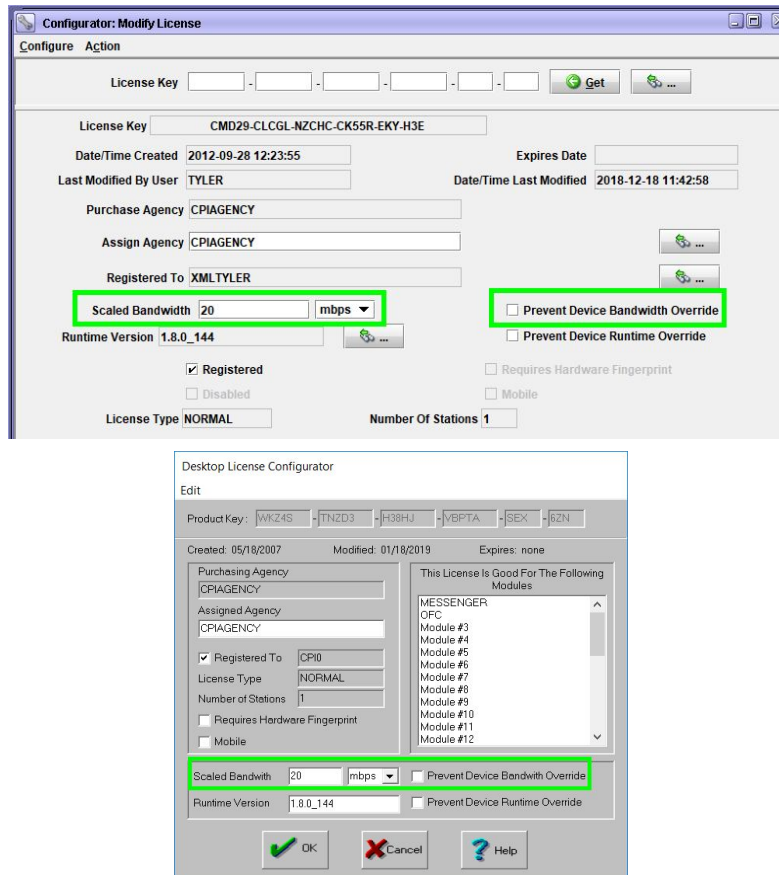
The assigned agency field in Configurator 7.0 and higher (left) and before 7.0 (right)

4.4.4 – Scale a License Download Bandwidth

The Desktop Launcher application can scale the bandwidth during the Desktop download process. This can help alleviate network congestion when the Desktop

resources are being downloaded particularly if multiple terminals are downloading the application at the same time.

Open the license in Configurator and then modify the Scaled Bandwidth field. If this field is blank, then the Desktop Launcher will download the Desktop resources as quickly as the network allows. The Scaled Bandwidth can be set in kbps or mbps. If you check the Prevent Device Bandwidth Override checkbox, the user will not be able to change the Scaled Bandwidth through their Desktop Launcher settings. After making your changes, click OK or Apply to save your changes.



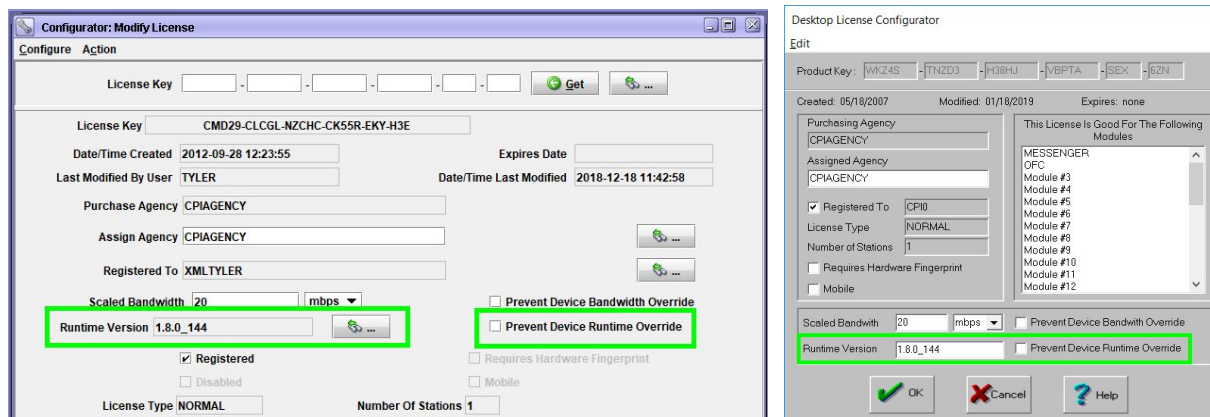
The Scaled Bandwidth fields in Configurator 7.0 and higher (left) and before 7.0 (right)

4.4.5 – Change a License Runtime Version

The Desktop Launcher application runs Desktop with different runtime versions. If there is an incompatibility between a machine and a runtime version, the runtime version can be set to a version that is compatible.

Open the license in Configurator and then modify the Runtime Version field. If this field is blank, then the Desktop Launcher will launch Desktop with the default runtime version. If you check the Prevent Device Runtime Override checkbox, the user will not

be able to change the Runtime Version through their Desktop Launcher settings. After making your changes, click OK or Apply to save your changes.



The Runtime Version fields in Configurator 7.0 and higher (left) and before 7.0 (right)

4.5 – Station Configurations

Every device that runs OpenFox® Desktop must have a station record configured in the OpenFox® Message Switch. The station configuration defines several aspects of the device and these are listed below:

- **Station Class** – Defines the type of device, for OpenFox® Desktop devices, the class must be either 'MSNGR' for desktop devices or 'MMOB' for mobile devices.
- **Station Name** – Also called the terminal mnemonic, this field defines the name of the device as it is known on the switch. Using the station name, another device connected to the switch can directly address messages (such as AM messages) to this device.
- **ORI** – This field defines the 9 character ORI that is assigned to this device.
- **Agency** – Identifies the agency to which this station belongs
- **Authority** – Defines the authority granted to this device. This authority level is combined with the user's authority to create a session authority. Please see section [4.8 – Session Authority] for more information.
- **Acknowledge** – Determines whether this device has ACK message sent back to it when a message is submitted to the switch.
- **Legacy NCIC / NCIC 2000** – Determines if this device uses NCIC 2000 or legacy NCIC message formats. All devices running OpenFox® Desktop use NCIC 2000 formats.
- **Image Capable** – Determines if the switch should send NCIC formatted images to this device. All devices running OpenFox® Desktop support images.

Screen shots of sample OpenFox® Desktop station configurations are provided below.

Because the screens have significantly changed in Configurator version 7.0, samples are provided for systems running Configurator 7.0 and higher and for systems running a version prior to 7.0. For more information regarding the specific fields available in these screens, please refer to the OpenFox® Configurator user guide.

The screenshot shows the 'Configurator: Modify Station' window. It has a 'Configure' tab and an 'Action' button. The 'Station Name' field is empty, with 'Get' and '...' buttons next to it. Below this are two tabs: 'Standard' and 'Info'. The 'Standard' tab is active, showing fields for 'Station Name' (DEMO), 'Station Class' (MSNGR = Messenger Device), 'ORI' (CP0000021), and 'Agency' (CPIAGENCY). There are 'Get' and '...' buttons next to the ORI and Agency fields. Below these are sections for 'Security Roles' (containing 'SYSGEN') and 'Allowed ORI Stations' (containing 'CP0000021', 'CP0000029', and 'IN0010000'). To the right of the 'Standard' tab is the 'Info' tab, which contains 'Station Flags' (with checkboxes for Acknowledge Message, Bar Direct Address, Legacy NCIC, Broadcast Destination, Sign On, Mobile Data Terminal, and Image Capable), 'Date/Time Created' (2005-05-03 10:35:07), 'Last Modified By User' (FOX), 'Date/Time Last Modified' (2013-03-07 17:01:39), 'Password', 'Latitude', 'Longitude', 'Queue Threshold' (0), 'IP Address' (0.0.0.0), and 'Plain Language Description' (XML Test Station).

Configurator 7.0 and higher station configuration screen

Station configuration screen for versions of Configurator prior to 7.0

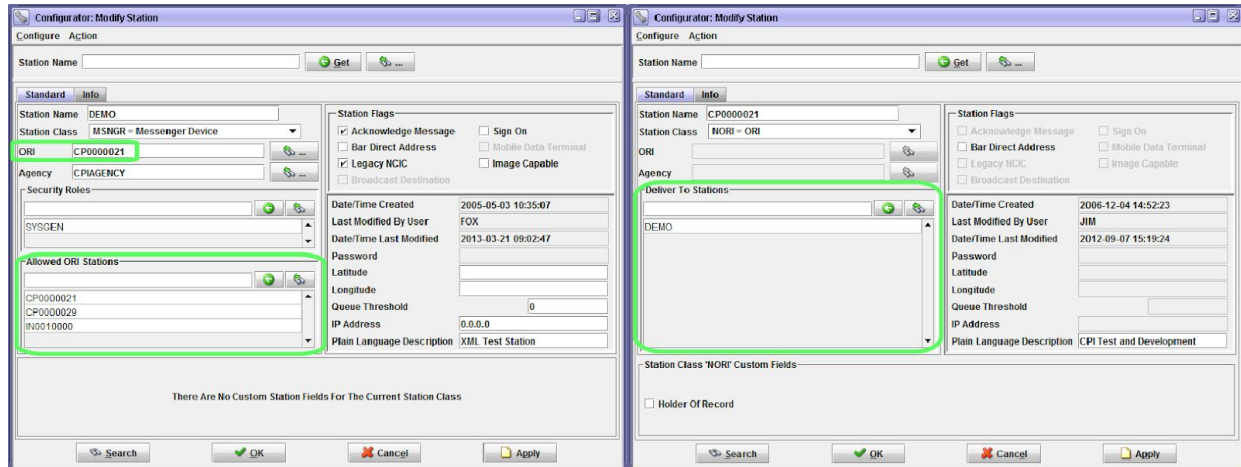
4.6 – ORI Configurations

ORI configurations, in conjunction with station configurations, determine which ORIs may be used by a Desktop terminal. Some Modules (i.e. Messenger) may present the user with a list of ORIs that are available for use. The rules to determine whether an ORI is allowed for use by a particular Desktop device are slightly different for Configurator 7.0 and higher systems and those systems running a version of Configurator prior to version 7.0.

For Configurator 7.0 and higher, an ORI is in the allowed list if any of the following items are true:

- It is defined as the ORI on the station configuration record
- It is listed in the Allowed ORI Stations field on the station record
- The station is listed in the Deliver To Stations field on the ORI record

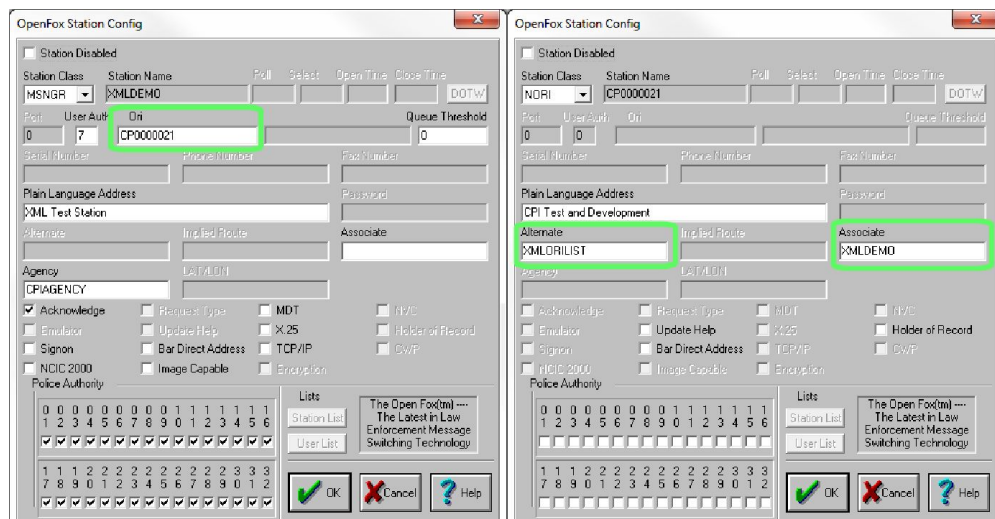
OpenFox® Desktop Administrator Manual



Configurator 7.0 and higher: station configuration (left) and ORI configuration (right)

For Configurator versions prior to 7.0, an ORI is in the allowed list if any of the following items are true:

- It is defined as the ORI on the station record
- The station is the alternate station (or alternate station list) on the ORI record
- The station is the associated station (or associated station list) on the ORI record



Configurator prior to 7.0: station configuration (left) and ORI configuration (right)

4.7 – User Configurations

Each individual person that logs onto OpenFox® Desktop must have a user configuration record in the message switch. The user configuration defines several aspects of the individual's access to the system, and these are listed below:

- **User ID** – Defines the identifier that the user must use to log onto the system
- **Last and First Name** – Identifies the user's full name
- **Certification Date** – The date on which the user's certification expires
- **Training Date** – The date on which the user was last trained
- **Authentication Method/Detail** – Defines the method used by this individual to authenticate against the system
- **Agency** – Defines the agency to which this user belongs. Please note that in Configurator 7.0 and higher systems, a user may have multiple profiles, which allows the user to belong to multiple agencies.
- **Authority** - Authority granted to the user. This authority level is combined with the station authority to create a session authority. Please see section [4.8 – Session Authority] for more information. Please note that in Configurator 7.0 and higher systems, a user may have multiple profiles, which allows the user to have different levels of authority based on from where they access the system.

Screen shots of sample OpenFox® Desktop user configurations are provided below. Because the screens have significantly changed in Configurator version 7.0, samples are provided for systems running Configurator 7.0 and higher and for systems running a version prior to 7.0. For more information regarding the specific fields available in these screens, please refer to the OpenFox® Configurator user guide.

OpenFox® Desktop Administrator Manual

The screenshot shows the 'Configurator: Modify User' window. It has a 'User ID' field with 'FOX' and a 'Get' button. Below are two tabs: 'Standard' and 'Info'. The 'Standard' tab is active, showing fields for 'User ID FOX', 'First Name RYAN', 'Middle Name', 'Last Name SAWATZKY', 'Last Modified By User RYAN', and 'Date/Time Last Modified 2013-03-08 12:17:21'. There are sections for 'Authentication and Security' (Password, Authentication Method, Authentication Detail, Challenge, Answer, Status, Concurrent Sessions), 'Password Expiration' (Non-Expiring Password, Password Expiration Date, Recurring Expiration (days), Expiration Reminder (days)), 'Failed Logins' (Attempts Before Lock Out, Lock Out Duration (min)), and 'User Flags' (User Fingerprinted, Non-Expiring Account, Non-Expiring Certification). The 'Info' tab shows 'Main User Profile Fields' (Station, Agency CPIAGENCY, Idle Timeout (min), Session Timeout (min)), 'Certification Expiration Date' (User Certified, Day 18, Month MAR, Year 2010), 'Training Date' (User Trained, Day NONE, Month NONE, Year NONE), 'Hire Date' (User Hire, Day NONE, Month NONE, Year NONE), 'Open/Close Times' (Forced Logoff Warning (min), Open HHMM, Close HHMM for SUN through HOL), and 'Security Roles' (SYSGEN).

Configurator 7.0 and higher user configuration screen

The screenshot shows the 'User Configurator' window. It has a 'User ID' field with 'FOX' and a 'User Record Disabled' checkbox. Below are fields for 'Last Name OPENFOX', 'First Name CPI', 'Certification Date' (Day 18, Month JAN, Year 2028), 'User Certified' checkbox, 'Training Date' (Day None, Month None, Year None), 'User Trained' checkbox, 'Hired Date' (Day None, Month None, Year None), 'Has Hire Date' checkbox, 'Password', 'User Authority 7', 'Configuration Authority Full Access', 'Authentication Method Password', 'Authentication Detail', 'Challenge', 'Answer', 'Status', 'Station', 'Idle Timeout 0', and 'Session Timeout 0'. There is a section for 'OpenFox(tm) Message Switching Systems' with the text 'The Latest in Law Enforcement Message Switching Technology'. Below this are 'User Options' (User Fingerprinted, Desktop Administrator, Non-Expiring Account, Non-Expiring Password, Non-Expiring Certification, Multi Sign On), 'Call Sign', 'Agency CPIAGENCY', 'Default Group', 'CAD station', 'Police Authority' (a grid of checkboxes), and buttons for 'OK', 'Cancel', and 'Help'.

Configurator prior to 7.0 user configuration screen

4.8 – Session Authority

When a user logs onto the OpenFox® Message Switch from a Desktop device, the switch examines the user configuration record and the station configuration record to determine the authority granted to this user session. The central principle of the session authority is as follows:

A particular authority level is available if and only if the authority is granted by the user configuration and by the station configuration.

If an authority level is not granted by the user configuration, or if an authority level is not granted by the station configuration, then that authority level is not available for this user session. Because the structure of OpenFox® authority levels is vastly different between systems running Configurator version 7.0 and higher and those systems running an earlier version of Configuration, these cases are described separately.

4.8.1 – Session Authority for Configurator 7.0 and Higher

The authority levels of Configuration 7.0 and higher systems are managed through configurable records called security roles. System administrators can create/modify/delete security roles, and administrators control the security roles that are assigned to stations and user profiles. Security roles organize authority levels into four different categories.

- Transaction – A list of MKE transactions that are allowed to be submitted
- Command – A list of OpenFox® commands that may be run
- Other – A list of miscellaneous OpenFox® authorities
- Granted Roles – A list of security roles included in this security role

Please refer to the OpenFox® Systems Guide for further discussion regarding the specific details of security roles. A common misconception regarding session authority is that only the security roles shared between the user and station are valid for the user session. This is not the case. The process of determining the session authority is more involved, and this process is described over the following sections.

Because this topic is technical in nature, we will consider an example as this process is described. Hopefully, this will help to make the steps of this process more clear. In our example we will consider four security roles. These example security roles are designed to be simple rather than accurate examples of how real security roles are configured on production systems.

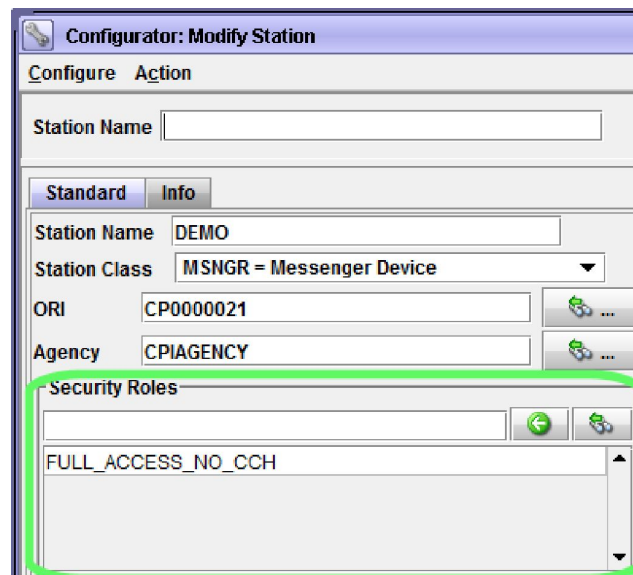
- **BASIC_QUERY** – grants access to the most common queries (i.e. QW, DQ, and RQ)
- **ADVANCED_QUERY** – includes the basic query role and grants access to

advanced queries such as criminal history and NICS queries (i.e. QH, QR, IQ, QNP, QNR)

- **RECORD_MAINTENANCE** – grants access to transactions used to maintain hot file records (i.e. MW, XW, CW)
- **FULL_ACCESS_NO_CCH** – grants access to every transaction defined in the system except for criminal history queries (i.e. QH, QR, IQ)

4.8.1.1 – Station Security Roles

A station configuration contains a list of security roles which are granted to the device. This list is found in the following location on the station configuration screen. Following along our example, this station is in a location that system administrators have decided is not suitable for the return of criminal history information. Thus this station has been assigned the security role `FULL_ACCESS_NO_CCH`.



Security roles granted to a station

4.8.1.1 – User Profile Security Roles

Security roles are not granted directly to a user configuration. Instead, they are granted to a user profile. Most user configuration records contain one and only one user profile; however some users may have multiple profiles. Multiple profiles are intended to address the situation when the same individual has multiple roles, where the user accesses the system from different devices or agencies.

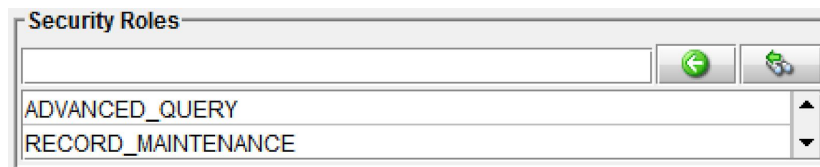
When a user logs onto the message switch, it determines which profile is active. It does so by searching for a profile that matches certain criteria. It first searches for a profile that matches the most important criteria. If no match is found, then it searches for a profile that matches the next most important criteria. If no match is found, then it

proceeds to the next criteria. It continues in this fashion until it either finds a matching profile, or until it has exhausted the list of criteria. If no matching profile is found, then the user is not able to log onto the system.

When the system searches the profiles, it does so in a sequential order. The first profile searched is profile #1, then profile #2, profile #3, and so on for all profiles on the user record. If no matching profile is found, then it considers the next criteria, and once more it starts with profile #1, then profile #2, and so on. The matching criteria are described below in order of decreasing importance. The most important criteria is listed first.

- **Exact Station Match** – The station from which the user is logging on exactly matches the station name defined in this profile
- **List Match** – The station from which the user is logging on is a member of the LIST station defined in this profile
- **Server Match** – The station from which the user is logging on is associated with the SERVER station defined in this profile
- **Agency Match** – The station from which the user is logging on belongs to the agency defined in this profile AND the station field in this profile is blank
- **Default Profile** – This profile has a blank agency field and blank station field
- **Reject Logon** – If no matching profile is found then reject the logon attempt

Once the system has determined which user profile is active, it examines the security roles that are assigned to that profile. Continuing in our example, this user profile has been assigned the `ADVANCED_QUERY` and the `RECORD_MAINTENANCE` security roles.



Security roles granted to a user profile

4.8.1.2 – Security Role Exploration

When a user logs onto the message switch, the switch has a list of security roles from the station configuration and a list of security roles from the user profile. The next step in determining the session authority is to explore the two lists of security roles. This step is necessary because security roles may include other security roles. Even in the case where system administrators have chosen to never allow security roles to contain other security roles, this step is still required because user profiles and stations can be assigned multiple security roles.

The security roles assigned to the station are explored to build a single master list of authorities. Similarly the security roles assigned to the active user profile are explored to build a single master list of authorities. Following our example, the station

configuration only lists a single security role, and that security role does not include any other security roles. Thus, the list of authorities for the station may simply be copied from the FULL_ACCESS_NO_CCH security role. Thus, the station is granted the following authorities:

Full Access No CCH
CW
DQ
MC
MW
QNP
QNR
QW
RQ
XW

Authority list for station

The active user profile is assigned two security roles: ADVANCED_QUERY and RECORD_MAINTENANCE. Thus, these two security roles are explored, and the authorities granted by each role is combined into a single list.

Advanced Query	Record Maintenance	User Profile Authorities
IQ	CW	CW
QH	MW	IQ
QNP	XW	MW
QNR		QH
QR		QNP
Basic Query (role)		QNR
		QR
		XW
		Basic Query (role)

Security roles for user profile are combined into a single list

However, the list of authorities includes the basic query security role. This security role must also be explored and have the list of authorities which it grants added into the list.

User Profile Authorities	Basic Query	User Profile Authorities
CW	DQ	CW
IQ	QW	DQ
MW	RQ	IQ
QH		MW
QNP		QH
QNR		QNP
QR		QNR
XW		QR
Basic Query (role)		QW
		RQ
		XW

The basic query role is explored and added into the master list of user profile authorities

4.8.1.3 – Determining the Session Authority

The final step in this process is to combine the list of authorities granted by the station and the list of authorities granted by the active user profile. The security roles have already been fully explored as described in the previous section, so there is no longer any concerns about multiple security roles or security roles which include other roles. This step is a simple matter of applying the central principle of the session authority. Thus, the system determines the session authority by only granting authority levels that are in the list of authorities granted by the station and in the list of authorities granted by the active user profile.

Following our example, the authority list for our station is combined with the authority list for our active user profile. All the authorities match up except for the CCH transactions (IQ, QH and QR) which are not granted by the station roles, and the MC transaction which is not granted by the user profile roles. Because these transactions do not appear in both the list of authorities for our station and the list of authorities for our user profile, they are not granted for this session.

User Profile Authorities	Station Authorities		Session Authority
CW	CW		CW
DQ	DQ		DQ
IQ			
	MC		
MW	MW		MW
QH			
QNP	QNP		QNP
QNR	QNR		QNR
QR			
QW	QW		QW
RQ	RQ		RQ
XW	XW		XW

User profile and station authorities are combined into the session authority

4.8.2 – Session Authority for Configurator Versions Prior to 7.0

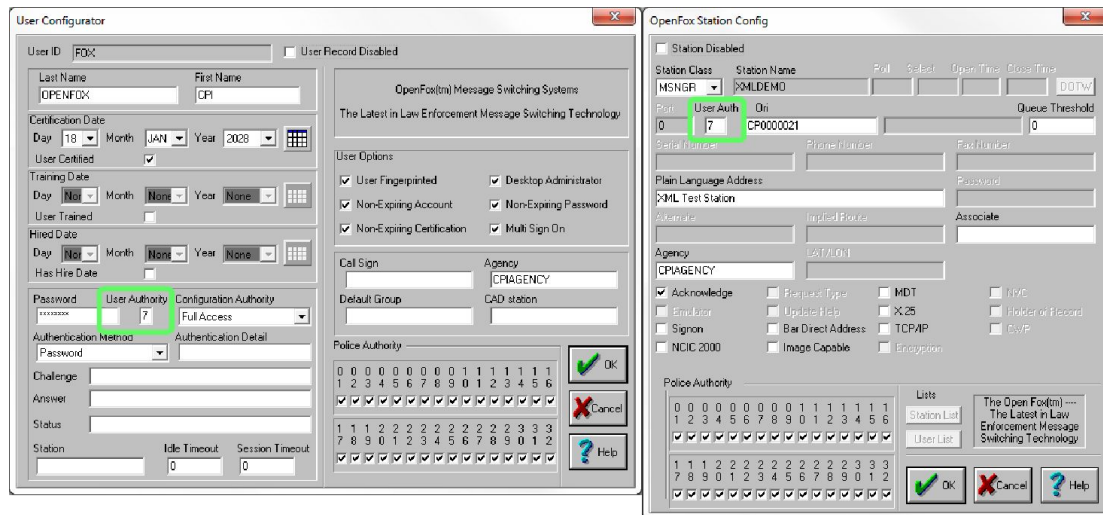
The authority levels of systems running a Configurator version prior to 7.0 consist of three different levels of authority. These are the user authority, the configuration authority, and the police authority. Each of these are described below, and for more information on authority levels, please see the OpenFox® Systems Administration guide.

4.8.2.1 – User Authority

The user authority is a number between zero (0) and seven (7). User authority levels are hierarchical. That means that user authority level two (2) includes all system access granted by authority levels one (1) and zero (0). User authority level three includes all system access granted by levels two (2), one (1), and zero (0).

The session user authority level is equal to the value on the user configuration or the

station configuration, whichever one is lower. For example, if the user configuration grants a level of five (5) and the station configuration grants a level of three (3), then the session authority will grant a level of three (3).



User authority on a user configuration (left) and on a station configuration (right)

4.8.2.2 – Configuration Authority

The configuration authority defines the level of access to the Configurator software. There are four different levels of access, and these are defined below. There is no configuration authority setting on the station configuration. This setting only appears on the user configuration record. Thus, the session configuration authority is equal to the value set in the user configuration.

- None – The user is not able to access the Configurator.
- Users of Agency – The user is able to create/modify/delete user records which belong to the same agency. The user is also able to modify the agency configuration record.
- All Users – The user is able to create/modify/delete any user record in the system.
- Full Access – The user is granted full and unrestricted access to all features in the Configurator.

The screenshot shows the 'User Configurator' window. The 'User ID' is 'FOX'. The 'Last Name' is 'OPENFOX' and the 'First Name' is 'CPI'. The 'Certification Date' is set to Day 18, Month JAN, Year 2028. The 'User Certified' checkbox is checked. The 'Training Date' is set to Day None, Month None, Year None. The 'User Trained' checkbox is unchecked. The 'Hired Date' is set to Day None, Month None, Year None. The 'Has Hire Date' checkbox is unchecked. The 'Password' is '*****' and the 'User Authority' is '7'. The 'Configuration Authority' dropdown is highlighted with a green box and shows 'Full Access' selected. The 'Authentication Method' is 'Password' and the 'Authentication Detail' is empty. The 'Challenge' and 'Answer' fields are empty. The 'Status' is empty. The 'Station' is empty. The 'Idle Timeout' is '0' and the 'Session Timeout' is '0'. The 'OpenFox(tm) Message Switching Systems' section contains the text 'The Latest in Law Enforcement Message Switching Technology'. The 'User Options' section contains several checked checkboxes: 'User Fingerprinted', 'Desktop Administrator', 'Non-Expiring Account', 'Non-Expiring Password', 'Non-Expiring Certification', and 'Multi Sign On'. The 'Call Sign' is empty and the 'Agency' is 'CPI AGENCY'. The 'Default Group' is 'CAD station'. The 'Police Authority' section contains a grid of checkboxes for levels 0 through 31, with the first row (0-7) and second row (8-15) all checked. The 'OK', 'Cancel', and 'Help' buttons are at the bottom right.

Configuration authority on a user configuration

4.8.2.3 – Police Authority

The police authority consists of thirty two (32) separate and independent authority levels. Unlike user authority levels, police authority levels are non-hierarchical. This means that a police authority level of three (3) *does not* include the authority granted by levels one (1) or two (2). Typically, police authority levels control what transactions can be submitted to the message switch, however some systems use police authority levels to control other aspects of system access. If you have questions regarding this topic, please contact the CPI Support Center.

The left screenshot shows the 'User Configurator' window with the 'Police Authority' grid highlighted by a green box. The grid contains 32 checkboxes arranged in four rows of eight, representing levels 0 through 31. The first row (0-7) and second row (8-15) are all checked. The right screenshot shows the 'OpenFox Station Config' window with the 'Police Authority' grid highlighted by a green box. The grid contains 32 checkboxes arranged in four rows of eight, representing levels 0 through 31. The first row (0-7) and second row (8-15) are all checked. Both windows have 'OK', 'Cancel', and 'Help' buttons at the bottom right.

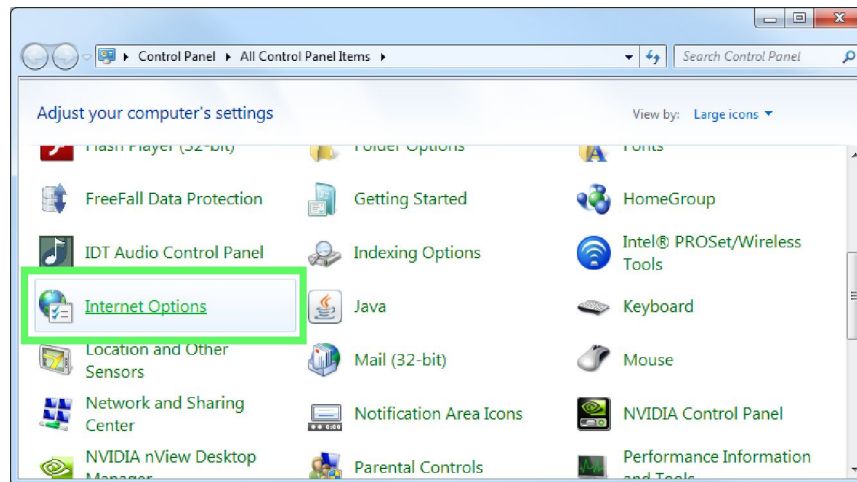
Police authority on a user configuration (left) and a station configuration (right)

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Appendix A – Internet Explorer

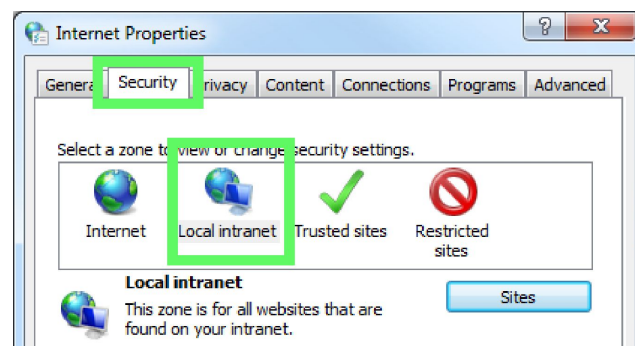
There are special requirements when installing OpenFox® Desktop Launcher via Microsoft Internet Explorer. Please note that these requirements are not required when installing OpenFox® Desktop Launcher via other major browsers, such as Mozilla Firefox, Google Chrome, or Safari.

First, open the Internet Options item under the Control Panel.



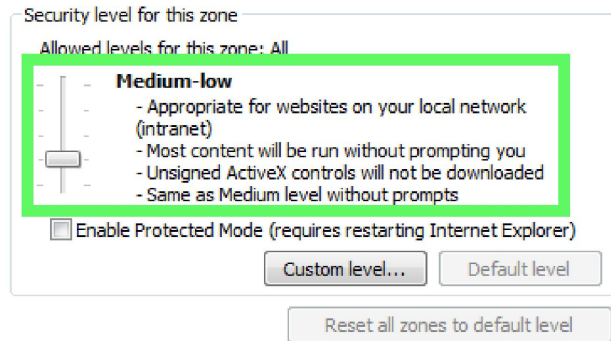
Internet Options item under Control Panel

Select the Security tab and the Local intranet item.



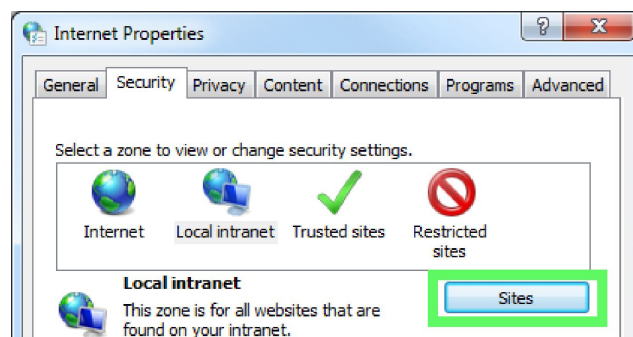
Local intranet settings

Make sure that the security level is set to Medium-low, which is the default setting. Adjust the slider if the security is set higher than this level.



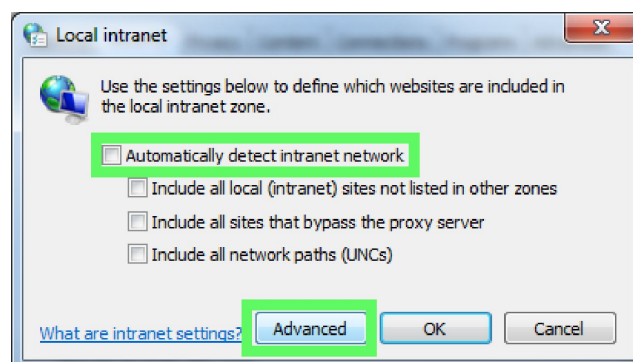
Local intranet security level

Then, click on the Sites button



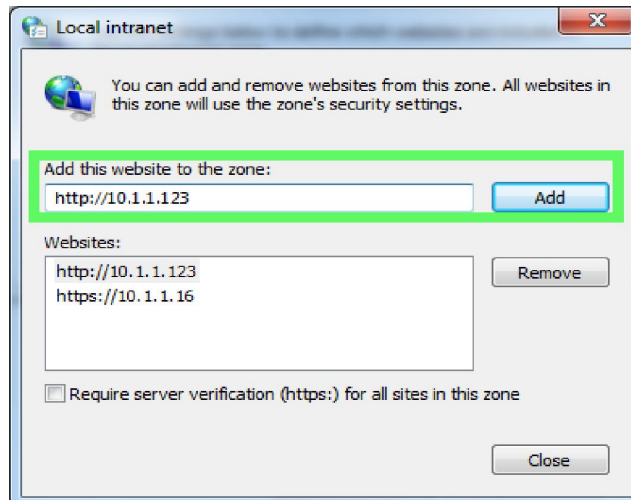
Local intranet sites button

Uncheck the box next to Automatically detect intranet network and click on the Advanced button



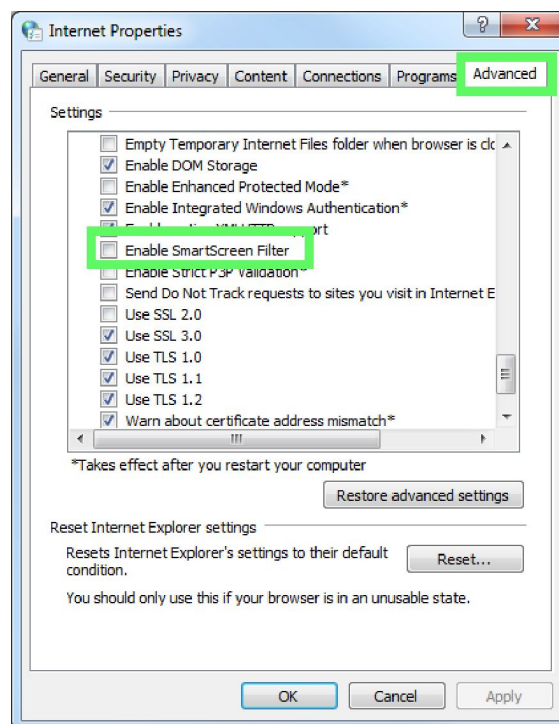
Uncheck box and click Advanced button

Enter the launch portal website address in the box labeled Add this website to the zone. If you recently browsed to the launch portal, then the address auto completes as you type. Then click the Add button.



Enter the launch portal site address and click Add

Close the Local intranet sites window and select the Advanced tab. Scroll almost all the way to the bottom of the list and uncheck the box next to Enable SmartScreen Filter.



Enter the launch portal site address and click Add

Then click the OK button to save the changes. The computer is now ready to install OpenFox® Desktop Launcher via Microsoft Internet Explorer.

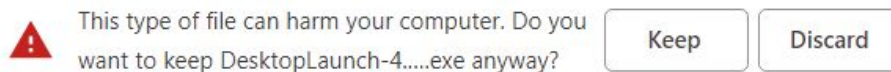
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Appendix B – Google Chrome

There are special requirements when installing OpenFox® Desktop Launcher via Google Chrome. When you click the link to Install the OpenFox® Desktop Launcher, Google Chrome downloads two files. These files are named “config.ofdl”, and “DesktopLaunch-4.0 Setup.exe”.

Chrome Download Prompt

Depending on the configurations in the browser, Google Chrome may display a prompt asking you to “allow” multiple files to download. It may also display a message asking you if you wish to keep or discard the “DesktopLaunch-4.0 Setup.exe” file. To Install the Desktop Launcher, you must click the Keep button.



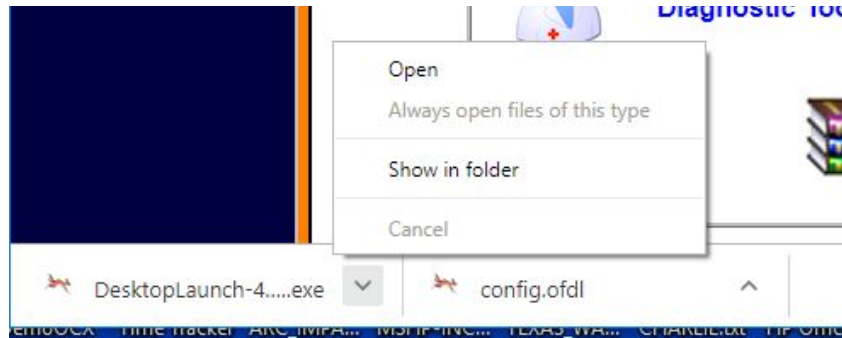
Click the Keep button

Unfortunately, some malicious individuals and organizations have used exe files as an attack vector for malware. This has resulted in some Internet Browsers showing warnings such as the one shown above in Google Chrome. The Desktop application has built in security to ensure that the application running on your workstation has been published by Computer Projects of Illinois, the most trusted supplier of Law Enforcement and Public Safety technology.

After clicking the Keep button, the file is downloaded but nothing further will appear to happen. Google Chrome continues to display the downloaded file at the bottom of your screen, but Desktop will not launch until you click on the downloaded file. You can also click on the drop down arrow and select the Open menu item.



Click on the button



or the Open menu item

Afterwards, the Desktop Launcher will install and you can proceed to launch Desktop.