What is LDK?

LDK (License Development Kit) is a new method of licensing the Navigator RIP. It replaces the older Harlequin License Server technology. In most cases, the LDK systems eleminates the need for a hardware security key (dongle) to license the RIP. Instead, a simple one-time online activation process licenses the RIP to a particular computer.

What are the benefits of LDK?

In most cases, the RIP can be licensed without shipping a physical hardware key, which makes distributing Navigator Rips significantly faster and more cost effective, especially to customers outside of the United States. The RIP can be licensed in new ways not previously possible. For example, Xitron has more flexibility in allowing trial licenses.

With the LDK system, most activations are done using a single 36-character activation code. This one code supplants the hardware security key, permit files, gencust passwords, rip feature codes, SetGold Codes and most plug-in codes. There are no add-on passwords with LDK. Fewer password codes makes it faster to install and license a RIP, and reduces the chance of frustrating errors due to mistyping a code.

For which RIP versions is LDK Available? Which platforms?

LDK is available as an alternative to HLS licensing starting in version 10. In Navigator 11 and higher, LDK will be the only system available for licensing the RIP.

HLS or LDK

HLS ONLY	Navigator v 10	LDK ONLY
Navigator v9 and Lower		Navigator v11 and above
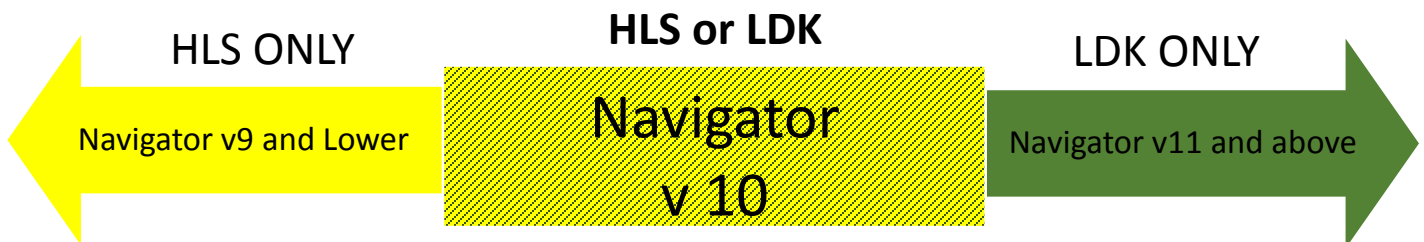
LDK is supported on all Windows versions on which the Navigator RIP is supported.

CAUTION: If you're activating on Windows 7 or Windows Server 2008 R2 you must install SP1 first, otherwise you will receive error 33: "failed to setup extended errors". See http://support.microsoft.com/kb/975858/enus. Note that the Navigator RIP itself is not formally supported on Windows 7 without SP1 either.

Which kind of licenses are available?

Soft-lock – This is the type of license almost all Navigator RIPs will ship with. The license is tied to characteristics of the computer on which the Navigator RIP is running. These characteristics do not need to be known at the time the license is ordered; they are read when the RIP installation is activated. A soft-lock will not enable a RIP on a virtual machine (VM).

VM-lock – The license is tied to characteristics of the computer on which the LDK server is running, and will enable a RIP to run within a virtual machine. A vm-lock can be used outside of a virtual machine, but there are disadvantages. VM

lock licenses cannot be transferred to a different machine once they are activated. Note: Xitron does not formally support or test Navigator in virtual environments.

Hard-lock – This is an LDK licenses that is locked to a physical hardware security key (dongle), similar to old style HLS dongles. USB Security Key-based licenses are still available at a premium charge for customers who prefer a hardware dongle. Although they look physically similar, LDK dongles are not the same as the older style HLS dongles. Therefore, anyone upgrading from an HLS dongle to an LDK hard-lock dongle requires new hardware.

What are protection keys, product keys, and security keys?

Product Key

A product key contains 36 characters and hyphens. For example:
cfdd15d0-2737-4fe0-a58c-2604f9d232d9

Product keys are an activation code that are used to initially activate the product or to upgrade features. This is the code a user enters into the installer or LDK tool to license the RIP. It will typically be delivered via email or on a code-sheet.

Protection Key

A protection key contains 36 digits. For example:
513494183235567732

This code references an activated license. It does not exist until the RIP has been activated. Protection Keys are required to order a RIP upgrade. The code can be located in the log of the Navigator RIP or in the LDK took. Once the RIP has been activated, it's best to supply this code when contacting Xitron for sales or support inquiries.

Security Number

A security number contains between one and six digits. For example:
902550

This is the same as the security key that was associated with old style HLS dongles. It's available for legacy reasons to activate some plug-ins and tools that were written prior to the development of LDK. The security number can be located in the RIP log or via the LDK took. Xitron can also look up the security number of a particular RIP if provided with a Product or Protection Key.

Can I test an LDK Rip before I deliver it to the end-user? When should the RIP be activated?

No. An LDK license is programmed to allow a set number of activations, normally one. If you 'test' a Product Key by activating it before delivering it to your customer you will use up that activation, tying the license to the hardware on which you perform the test.

If you order computer platforms from Xitron, the LDK license will usually be activated on the machine prior to it shipping. If you are supplying computer platforms to your customer, it's appropriate to install and activate the RIP on that hardware. If you are installing the RIP on customer hardware, **DO NOT** attempt to activate the license before installation on the end-user hardware.

If installation on the wrong hardware does occur, it is possible to perform a transfer procedure to move it from one machine to another, provided both machines are functioning and available.

In summary, the RIP should only be activated:

1. By Xitron in the case the computer platform is purchased from Xitron.
2. By an authorized Xitron dealer or OEM partner if they pre-stage computers before installation on-site.
3. By a Xitron technician, dealer or OEM technician, or end-user on the print production site.

How do I add options or extend a time limited license?

To order additional features, upgrades, or extensions to a time-limited RIP contact the sales department at XItron. Provide either the Product Key or Protection Key ID from the original RIP license or the activation at the customer site with your order. This is equivalent to providing the dongle serial and security numbers with an order for an option using HLS. Rip upgrades for LDK are delivered as 36-digit upgrade codes. Activating a new feature is similar to activating a new license. For detailed instructions, see the "Adding RIP features or extending a time-limited license" guide.

Can I backup a license after installation?

Activated LDK licenses are stored in V2C files, which are saved into the following directory after activation:

C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel LDK\installed\109670

Each file is named <Key ID>_base.v2c, where Key ID is the Protection Key ID. There may be additional directories within the "installed" directory; these will hold V2C files for licenses for products from other vendors. V2C files from here may be backed up and can be used later to re-activate a RIP if a computer must be rebuilt on the same hardware and the original activation is lost. The V2C file can only be used on the computer platform that created it.

Can I activate the RIP on a machine with no internet access?

Yes. In order to activate the RIP on a machine with no internet access, you will need access to a separate machine with internet access. You will also need a way to transfer files between the two computers, such as a thumb drive.

To activate the RIP on a computer with no internet access:

1. Make sure you have received your Product Key from Xitron.
2. Make sure you have access to a machine running Windows and with an internet connection. This might, for instance, be the installation technician's laptop connected to Wi-Fi.
3. Install the Navigator RIP and LDK using the installer provided by Xitron on the computer where it will run. For detailed instructions on how to do this see the installation manual for your product.
4. Locate and run the LDK tool from the start menu programs group.
5. Select New License.
6. Select License this computer.
7. Select No internet access. You are prompted to create a fingerprint file (c2v) for this computer. Select Create. A browser opens allowing you to Save a file called <machine name>.fingerprint.c2v.
8. When the file is saved click OK in the dialog. A dialog with a Locate option is displayed. Leave this dialog open and move the <machine name>.fingerprint.c2v file, using a network or USB flash drive etc, to the computer with web access.
9. Copy the ldktool.exe executable to the computer with web access as well.
10. On the computer with web access start the LDK Tool and select New License followed by License a different computer. Type or paste your key into the Product Key field and click Activate.
11. A browser will be displayed, allowing you to select the fingerprint file that you've just copied from

the RIP computer. On selection of the fingerprint file another browser opens allowing you to save a <machine name>.license.v2c file. Select this file and click Save.

12. Move the <machine name>.license.v2c file to the machine where the RIP is installed, that is, the computer with the dialog still displaying the Locate button. Click the Locate button to open a browser. Browse to and select the <machine name>.license.v2c file.

13. When completed an "Activation successful" message appears.

When does the clock start ticking on a time-limited license? How can I tell when it will expire?

Time-limited licenses have a set lifetime which is started when the first RIP licensed on that activation is started up. This means that time-limited licenses can be held in inventory knowing that they won't run out before use. The duration is set in calendar days (strictly, 24 hour blocks, so a 30 day license activated at 4pm will expire at 4pm 30 days later).

Note that you won't know exactly when the expiry is going to happen unless you know when the RIP is activated and run for the first time.

To check when a feature will expire, start the LDK Web Server / Sentinel Admin Control Center by clicking on the LDK Web Server link in Navigator's start menu programs group. Click the features column. Note the start and end dates shown the "Restrictions" column.

SafeNet — Sentinel Admin Control Center

Features on BERRIO: Key 6420715626632548406 (Vendor: 109670)

#	Product	Feature		Access	Location	Counting	Logins	Limit	Detached	Restrictions	Sessions	Actions
1	-	0	🔒	Local	Loc Net Display	Station	-	250+	-	Perpetual	-	Sessions
2	20410 Harlequin RIP (SL)	410 Harlequin RIP	🔒	Local	Loc Display	Process	1	10	-	Time Period (370 Days) Start: Wed Aug 14, 2013 17:48 End: Tue Aug 19, 2014 17:48	1	Sessions
3	4701 35 PS1 fonts	4701 35 PS1 fonts	🔒	Local	Loc Display	Process	-	10	-	Time Period (370 Days) Not started	-	Sessions
4	4700 LINOTYPEFONTS	4700 LINOTYPEFONTS	🔒	Local	Loc Display	Process	-	10	-	Time Period (370 Days) Not started	-	Sessions
5	3415 OKIC9650	3415 OKIC9650	🔒	Local	Loc Display	Process	-	10	-	Time Period (370 Days) Start: Thu Oct 10, 2013 15:23 End: Wed Oct 15, 2014 15:23	-	Sessions
6	3485 TIFF/IT OUT	3485 TIFF/IT OUT	🔒	Local	Loc Display	Process	-	10	-	Time Period (370 Days) Not started	-	Sessions
7	3486 TIFF	3486 TIFF	🔒	Local	Loc Display	Process	-	10	-	Time Period (370 Days) Not started	-	Sessions

Options: Sentinel Keys, Products, Features, Sessions, Update/Attach, Access Log, Configuration, Diagnostics, Help, About

As the expiration of a RIP feature approaches, a warning dialog will be displayed in the RIP to alert the user proactively.

How should I upgrade customers from older versions of the RIP using a dongle to a version licensed with LDK?

You can transition from HLS to LDK by requesting Xitron generate an LDK license that is a clone of the features enabled in the older HLS license, including the dongle details and all passwords for layered options, localizations, plugins etc that were secured using HLS.

In order to do this you first need to recover full details of the original HLS license from the field. The easiest way to do that is to use a Xitron provided utility designed to make the process as easy as possible. (GetDongleInfo.exe). The utility collects all of the required information and saves it into a file that is named for the HLS dongle serial and security numbers, and using the extension '.SuperPro.

The file is can be read by any reasonably technical person if you need to double-check any information included, but also has a checksum that prevents it from being edited to fraudulently add options that were not genuinely covered by the user's existing previous license.

GetDongleInfo **does not** read HLS permit files and should only be used for single-RIP installations secured through a USB Security Key.

1. When a user indicates an interest in upgrading they are provided with the GetDongleInfo utility by Xitron, a Xitron dealer, or OEM partner. If the user is running Navigator 10, the GetDongleInfo utility is already installed and can be found in the LDK directory in the RIP installation.
2. The user (or dealer etc) runs the GetDongleInfo utility on the computer where the existing, HLS-secured, RIP is installed.
3. The ".SuperPro" file is submitted to Xitron alongside the order for the upgrade itself.
4. You receive an LDK Product Key which is supplied to the user together with the RIP installer. You will also receive RMA information to return the old dongle.
5. The user (or dealer etc) installs the RIP and activates it with the Product Key.
6. The old dongle is returned to Xitron for credit.

To facilitate upgrades from older Mac RIPs, the GetDongleInfo utility is available for use on Mac as well.

Does LDK work on a virtual machine?

The normal LDK soft-locks that Xitron provides will not permit the RIP to run on a virtual machine (VM). A specific VM-lock can be ordered instead, which does authorize RIPs to run on VMs, although there are some limitations to that usage:

1. Xitron does not currently formally support Navigator under VMs. This means that RIP releases are not tested under VMs, and Xitron support may not be able to assist you if you encounter a RIP issue that may be VM-related.
2. LDK Virtual Lock licenses are known to work on VMWare Workstation 7.x, VMware ESXI 4.1.0, and VMware ESXi 5.0. Other virtual machine platforms have not been tested.
3. A VM-lock has re-hosting disabled; this means that it cannot be transferred in a planned move from one computer to another. It is recommended that VM-locks are only requested for licenses that will be used under a VM to avoid unnecessarily restricting the ability to re-host.
4. The virtual machine must always be allocated the same MAC address.
5. VM-locks should not be used in a VM clustering solution where the virtual machine image may be ran on different physical hardware.


What happens if I try to use a soft-lock (typical LDK license) under a virtual machine, or a VM-lock on a bare-metal OS?

If an attempt is made to use a soft-lock in a VM it can be activated, but will not enable the RIP. Sentinel Admin Control Center will report that its features are "Disabled in VM". Contact Xitron support if you encounter this situation.

An attempt to activate a VM-lock in a bare-metal OS (i.e. not in a VM) will succeed, but the resulting license cannot be transferred (rehosted). For this reason, this combination is not recommended.

## How do I tell if a user is using an HLS or LDK License?

1. If the user is using a Navigator RIP version 9 or below, they are using an HLS license. If they are using a Navigator RIP version 11 or above, they are using LDK. Version 10 RIPs can be licensed with either HLS or LDK.
2. If there's a SafeNet Sentinel SuperPro dongle present, they're probably using HLS. If no dongle is present, an LDK soft-lock is probably being used.
3. As a RIP using an LDK license starts up it will report its Protection Key ID in the System Monitor in between the reports of the serial number and of memory available. This report will be missing in an HLS licensed RIP. If you have access to a log file from the RIP you will be able to look for this report there as well.
4. The Configure RIP:Extras dialog also shows a field labeled "LDK key ID" in a RIP licensed using LDK, while it's described as Trial code in a RIP using HLS:

LDK   **HLS**
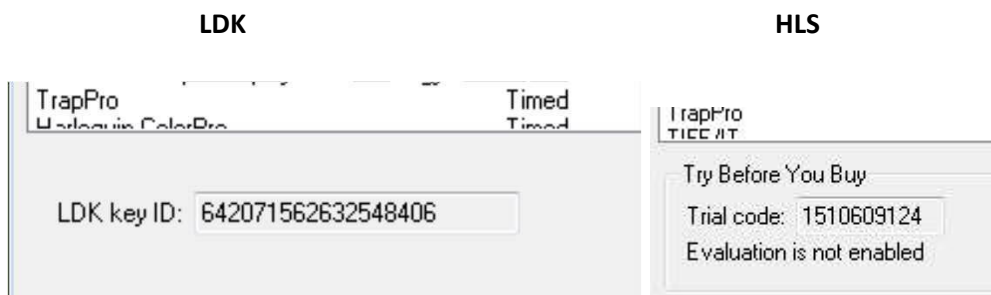
How do I find out the user's Protection Key ID?

1. **In the RIP.**
   You can see the Protection KEY ID at RIP boot up:
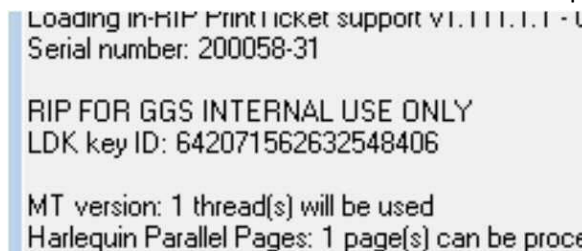
   It is also reported in the Configure RIP: Extras dialog box as "LDK Key ID"
2. **Using the LDK Tool**
   From Navigator 10.0 r1 onwards the "Display Keys" button in the LDK Tool installed into ldk\utils (or available in the Navigator start menu programs group) will display the details of licenses activated on the RIP computer, including the Protection Key ID.
3. **Using the Sentinel Admin Control Center**
   You can see the Protection Key ID in the Sentinel Admin Control Center, which can be started using the link in the ldk\utils directory. You can also launch the Sentinel Admin Control Center by launching the "LDK Web Server" link in the Navigator start menu programs group. See the "Key ID" column in ACC:

Sentinel Admin Control Center

Options

- Sentinel Keys
- Products
- Features
- Sessions

Sentinel Keys Available on BERRIO

#	Location	Vendor	Key ID	Key Type	C
1	Local	109670	642071562632548406	HASP SL AdminMode Rehostable	-

How do I discover at the RIP computer what licenses and features have been activated?

From Navigator 10.0r1 onward, the LDK Tool supplied in ldk\utils (or available by clickink the "LDK tool" link in the Navigator start menu programs group) includes a button labelled "Display keys". Pressing this shows a list of Protection Key IDs in the top window. Select one to see the details of the license provided by that key in the lower window:
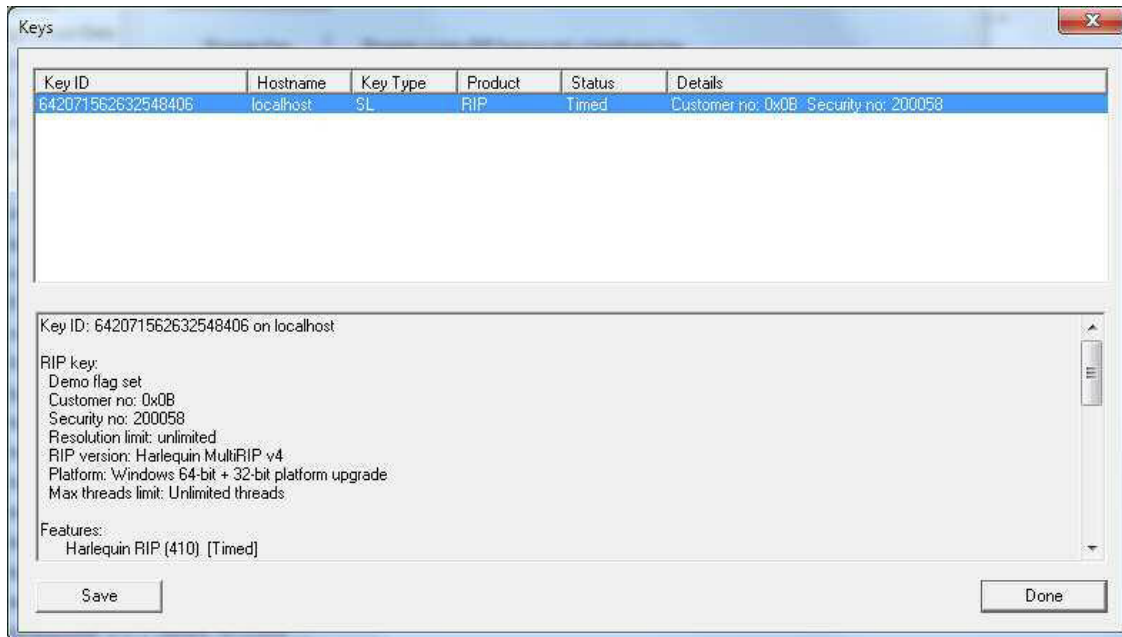
Scroll the window down to see the full list of options, plugins and localizations that are licensed.

The Key Type column will be:

SL for a soft-lock
VL for a VM-lock
HL for a hard-lock

What are RIP serial numbers?

Each RIP license has a defined RIP serial number, a third ID alongside the Product Key and Protection Key ID. It is provided for PostScript Language conformance and to enable components written before LDK was implemented to be secured against it. The RIP Serial Number is equivalent to the security number used in the older HLS licensing system.

When a license is upgraded or transitioned from HLS to LDK the normal procedure will be to continue to use the same serial number in the LDK license as was used in the HLS license so that encrypted fonts, plug-ins and other components that are locked to the RIP serial number continue to work in the new RIP.

How do I diagnose the problem when a RIP reports it can't get an LDK license?

If the RIP fails to obtain an LDK license work through the following steps:

1) Run LDK Tool (from the Navigator start menu programs group) and select "Display Keys". Can the keys be seen there? If so, check that the customer number, RIP version, platform and Key Type in the license are appropriate for the computer and the RIP that you're trying to run.
2) If the LDK Tool shows an appropriate license but the RIP reports that it can't find it, check in the SW directory. There should be a file named secprefs, which must contain only the two lines:

> method
>
> ldk
>
> If the file is missing or contains different content, replace with a correct file and try again.

3) If LDK Tool fails to find a license, run the Sentinel Admin Control Center (using the LDK Web Server shortcut from The Navigator start menu programs group).
4) If the LDK runtime isn't running then ACC won't work - "Internet Explorer cannot display the webpage"
5) If ACC reports that the license is "Disabled in VM" the issue is that a soft-lock has been activated under a VM. Contact Xitron support.
6) If ACC appears to show that the expected license is present, please contact Xitron support.
7) If ACC can't see the license check that the LDK runtime environment is installed and running. See "How do I check and manually install the LDK components? Later in this document for more information.

In many cases the RIP will report an error number and a description which is designed to be self-explanatory. This error info should be passed on if you need to work with Xitron support to resolve the issue.

How do I check and manually install the LDK components?

The LDK runtime environment must be installed and running to activate an LDK license, to run the Sentinel Admin Control Center, etc.

You can check the current status of the LDK runtime environment in the Windows Services tool:

- Up to Windows 7 choose Start menu>Administrative Tools> Services, or type Services into the search box in the start menu.
- In Windows 8 switch to the Start screen and type Services, then select Settings on the right and click on the Services icon.
- In Windows 10, type "Services" into the Windows search box and click the "Services" entry.

Check that either the "Sentinel Local License Manager" or "Sentinel LDK License Manager" service is installed and running. If it is installed but not running set the Startup Type to Automatic and start it.

If it is not installed do the following:

1) Browse to the "ldk" folder inside of the RIP folder.
2) Hold the shift key and right click in the window. Choose the "Open command window here" option.
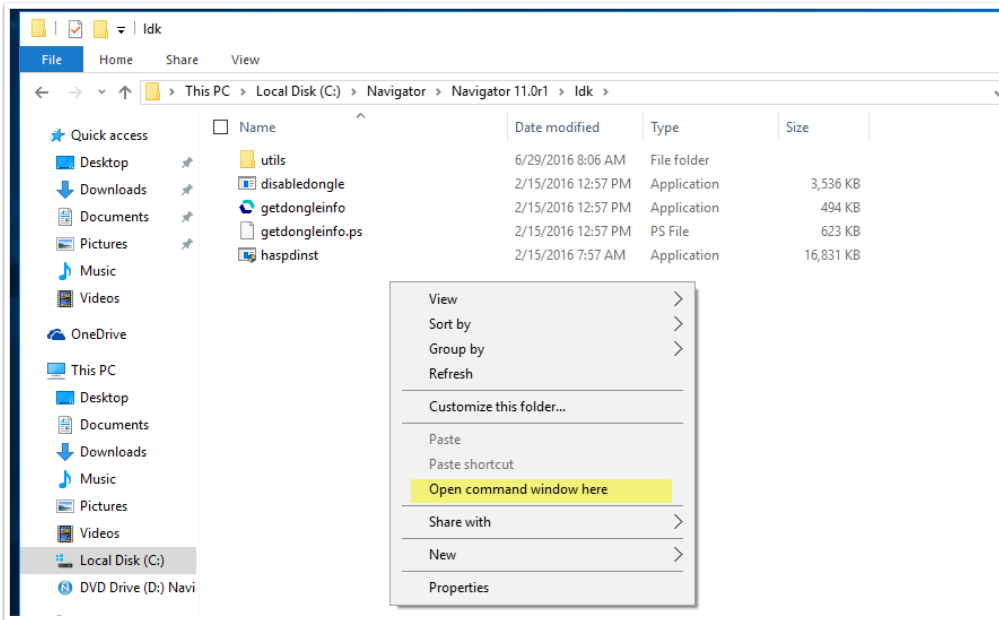
3) Type
   haspdinst.exe -install
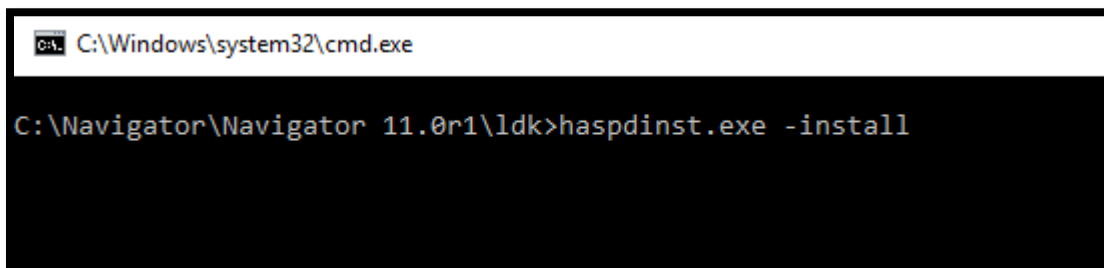
4) Follow the on-screen instructions to complete the installation.

What issues can arise while activating an LDK license?

1) **SSL Connect Error**

   If you attempt to install and activate an LDK license under Windows 7 without SP1 installed you may see an "SSL connect" error. You should install Windows 7 SP1 and try again. Note that this error doesn't use up the activation.

2) **Error 33**

   On very rare occasions the activation to the licensing server succeeds, but the local installation of the V2C file fails. An Err (33) error message is displayed followed by a dialog stating that "Activation was successful but creating the software key failed". You will be prompted to save the v2c file so that it can be applied later. Please save the V2C file when prompted and contact Xitron support.

How can I apply a saved V2C file?

There are a few situations where you may have a V2C file that encapsulates the license activation on specific hardware and you wish to apply it so that you can run a RIP. This might be as a result of an error 33 or after re-installing on the same hardware, for instance.

1. Start the LDK Tool. (Via the Navigator start menu programs group)
2. Click New License.
3. Click License this computer.
4. Click No internet access.
5. Click Create.... (the file you make here will not be used at all)
6. Click OK in the next two dialogs.
7. In the LDK Tool click Locate....
8. Select the v2c file you wish to apply
9. Click Select. An "Activation successful" message is displayed.

What does the uninstaller do with LDK licenses?

The Navigator uninstaller will not remove LDK licenses. If you reinstall the RIP after an uninstall, the RIP should be licensed as before. Note that uninstalling the product does not free up the license to be installed on another computer. If you wish to transfer a license, you must do so while the RIP is installed using the transfer procedure.

How do I transfer an LDK license from one computer to another?

This section describes how you can "re-host" a license, to transfer it to another machine. This is useful if, for example, you have purchased a new more powerful machine and want to move your RIP to it.

In order to transfer the license efficiently, it's recommended that you have simultaneous access, either physically or with a remote desktop tool, to both the source machine and the target machine.

1. Install the RIP onto the new machine (the target computer).
2. On the new machine start the LDK Tool and select Transfer License followed by Transfer to this computer.
3. Select Create. You are prompted to save a <machine name>.recipient.c2v file. Select Save. When the .c2v file is saved click OK. This file encapsulates the fingerprint of the computer hardware. The dialog displays a Locate option. Leave this dialog open.
4. Copy the <machine name>.recipient.c2v file to the computer currently running the RIP-(the source computer).
5. On the source computer start the LDK Tool and select Transfer License followed by the Transfer from this computer option.
6. One or more key IDs will be displayed in a drop-down list in the Key ID field. Select the key ID you wish to transfer, and click Transfer…
7. Browse to and select the <machine name>.recipient.c2v file that you have copied from the target computer. You are prompted to save an <XXX>.h2h file. Where XXX is the key ID.
8. You are prompted to save a <key ID>.h2h file. Where key ID is the Protection Key ID. This encapsulates the LDK license, now associated with the target computer.
9. Copy the < key ID >.h2h file to the target computer.
10. Return to the LDK Tool on the target computer, which you left with the dialog showing the Locate option open (see step 3). Click Locate.

11. You are prompted to select the < key ID >.h2h file that you have just copied from the source computer. A Key Transfer Successful message will appear.

The RIP will now run on the target machine. It will not run on the source machine any more. This procedure transfers the entire key. That is, the licenses for the RIP, any layered options and protected plugins.

Re-hosting is only possible for soft-locks. A VM-lock cannot be rehosted.

What do I do if the machine I'm running an LDK license on has a hardware failure?

The software licensing offered by Sentinel LDK ties the license to the computer motherboard and to the hard disk drive. If either one of those components fails and is replaced, the RIP will continue to run against the same license. The license is only invalidated if both fail. If this happens please contact Xitron support.

How do I remove an expired license?

There is no need to remove a license once it is expired, and you should not do so if you anticipate that it maybe extended in the future.

If you choose to do so then you can remove the appropriate V2C file from the following directory:

C:\Program Files (x86)\Common Files\SafeNet Sentinel\Sentinel LDK\installed\109670

Caution: deleting the wrong V2C file will disable the wrong license. You may want to move the license rather than delete it.