DownStream 2024 Release Installation Guide Contents

DownStream Product Releases Applicable to this Guide 2

System Requirements 2

User Requirements 2

License Server Host OS Requirements 3

DownStream Product Installation 4

Product Licensing 4

Supported HostIDs for a DownStream product license 5

License File Content 5

Obtaining the HostID from a License Server 6

License File Sources 9

New Installation Process – Node Locked 10

New Installation Process – Single User Network License 12

New Installation Process – License Server Windows OS 14

New Installation Process – Network License Client Computer 16

New Installation Process – License Server Linux OS Virtual Machine 18

Update Process – Product Software Only 20

Update Process – License File (and License Manager) 21

Using Custom Installation 23

License Borrowing 26

Redundant License Servers 27

License Rollover - Multiple License Servers on the Same Network 28

Silent Installation 29

DownStream Product Releases Applicable to this Guide

This installation guide is applicable to releases of DownStream products including:

DownStream Product	Release Version (all builds)
CAM350	Release 15.1
DFMStream	Release 15.1
BluePrint-PCB	Release 7.1

If you are working with releases CAM350 15.0 or BluePrint 7.0, consult the previous release installation guide:

https://www.downstreamtech.com/downloads/DownStreamInstallationGuide2023.pdf

System Requirements

The following are minimum requirements to use DownStream Products on a client computer.

Note: *The product installation was developed to detect incompatible operating systems or incompatible MS Office and abort the installation.*

Software Requirements

- 64 bit Windows® OS version 10 or 11

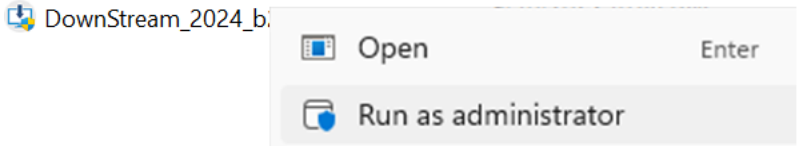
Hardware Requirements

- Processor: 2GHZ or faster processor
- Memory: 8-16 GB RAM
- Disk Space: 2GB available, SSD recommended
- Graphics: Discrete graphics card with on-board memory preferred for 3D performance

User Requirements

If you have Restricted User privileges on the computer or virtual machine, you may be restricted from completing the install of DownStream products or license manager. If this occurs, contact your network administrator.

Alternatively, on Windows OS, locate the installation application in Windows explorer, right click and choose **Run as Administrator**.



License Server Host OS Requirements

DownStream license manager for network licensing can be hosted on a computer or virtual machine. The computer or virtual machine license server must have an operating system compatible with DownStream Products license manager.

Computer Hosted License Server Supported OS:

Operating System:	CAM350 15.0 BluePrint 7.0	CAM350 15.1 BluePrint 7.1	HostID
Windows	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	MAC Address or Dongle
Linux	Red Hat RHEL 7.9	Red Hat RHEL 7.9, 8.1	MAC Address

Virtual Machine License Server Supported Platforms and Guest OS:

VM Provider: Platform	CAM350 15.0 BluePrint 7.0	CAM350 15.1 BluePrint 7.1	HostID
VMware: Desktop (formally VMWare ESX) Server (formally ESXi)	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022 Red Hat RHEL 7.9	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022 Red Hat RHEL 7.9, 8.1	VM_UUID
Microsoft: Hyper V (2012)	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022 Red Hat RHEL 7.9	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022 Red Hat RHEL 7.9, 8.1	VM_UUID
Parallels: Desktop for MAC	**64 bit** Windows 10,11	**64 bit** Windows 10,11	VM_UUID
Citrix: XenServer	**64 bit** Windows 10,11	**64 bit** Windows 10,11	VM_UUID
Oracle: Virtual Box	**64 bit** Windows 10,11	**64 bit** Windows 10,11	VM_UUID
Amazon: EC2	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	VM_UUID
Google: Compute Engine	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	VM_UUID
Microsoft: Azure	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	VM_UUID
NUTANIX: Acropolis (AHV)	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	VM_UUID
QEMU: Quick Emulator	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	**64 bit** Windows 10,11 Windows Server 2016, 2019, 2022	VM_UUID

DownStream Product Installation

The DownStream Product installation is for Windows OS (computer or virtual machine) use only. It is an application used to:

- Install or update the DownStream license manager
- Install or update a DownStream product license
- Install the dongle device driver for Windows
- Test license check out
- Install or update DownStream products

Consult **Using Custom Installation** section for details on custom installation.

Product Licensing

DownStream's BluePrint-PCB, CAM350 and DFMStream products (“DownStream products”), require a license file and optionally a license manager be installed to use the products.

License Term	Definition
License file	DownStream products are secured by a license file bound to a unique identification (or hostID) on a computer or virtual machine that hosts the license manager. The content of a license file determines the products, depth of functionality and number of concurrent usages for the products.
License Manager	License manager is the DownStream product license utility installed on all license servers providing license access to client computers.
HostID	A unique identification string used to bind a license file to a host computer, dongle (USB Device) or virtual machine. A hostID can be the MAC address of a network interface device, dongle serial number or VM_UUID of a virtual machine.
License Count	The number of concurrent uses allowed for Downstream Products and functionality.
Keyless License	A single use node-locked product license configuration bound to a MAC address as hostID for licensing. This is the default node-locked license configuration.
Client Computer	A computer that hosts DownStream products for individual use.
License Server	The license management computer or virtual machine where the DownStream License Manager is installed and administering license access.
Node-locked license	A single use, non-sharable DownStream product license bound to a MAC Address or dongle as hostID.
Network or Floating license	A single or multiple user, shareable DownStream product license typically installed on a license server. A network license file also defines the count of concurrent license usages.
License Expiration (Date)	The calendar date a DownStream Product license will expire. After the expiration date, product access is denied until a new license file with a later expiration date is installed.

Supported HostIDs for a DownStream product license

To receive a license to use DownStream products, a valid HostID must be provided to DownStream Technologies for license generation. There are three types of HostID's supported for DownStream Product licensing:

Dongle Serial Number – the serial number of a secure device provided by DownStream Technologies. The device must be attached to a USB port of a computer to serve as hostID for licensing. The serial number is a 10 digit number separated by hyphens. For example:

010-741-1234

MAC Address – a Media Access Control (MAC) address is a serial number assigned to a network interface device on a computer. It is a 12 character string displayed in pairs of two characters separated by colons, dashes or spaces. Only numbers 0 through 9 and letters A through F are used. For example:

00:08:B9:A7:F1:CA

UUID – a universal unique identifier or a 128 bit number used to uniquely identify a virtual machine. The sixteen octets of a UUID are represented as 32 hexadecimal (base 16) digits. They are displayed in five groups separated by hyphens in the form 8-4-4-4-12 for a total of 36 characters (32 alphanumeric characters and four hyphens). To serve as a DownStream license HostID, the UUID must include its preceding UUID type string. For example:

VM_UUID=123e4567-e89b-12d3-a456-426655440000

License File Content

A DownStream Product license file is an ASCII file with custom encrypted content that becomes invalid and unusable if edited improperly. The DownStream product installation will make changes to a network license file to correctly identify license server, server port address and path to the license manager daemon. The first two lines of a newly generated license file for a network license may appear as (without bold):

SERVER **REPLACE_THIS_HOSTNAME** 606DC7C67F8F TCP:**7102**
DAEMON act_inc **D:\REPLACE_THIS_FOLDER\act_inc.exe**

The content in **bold** must match the license server name, TCP port, path to and exact name of the act_inc.exe license daemon on the server for a license file to be valid. The DownStream product installation will update the two lines of the license file during license file installation. However, at times, manually editing of these strings may be required. Only the bold portions of the license file can be edited. Changes to other portions of a license file will invalidate the license.

Obtaining the HostID from a License Server

The following section provides details on obtaining a valid HostID for use with DownStream Product licensing.

To obtain a MAC address on Windows 10 or 11:

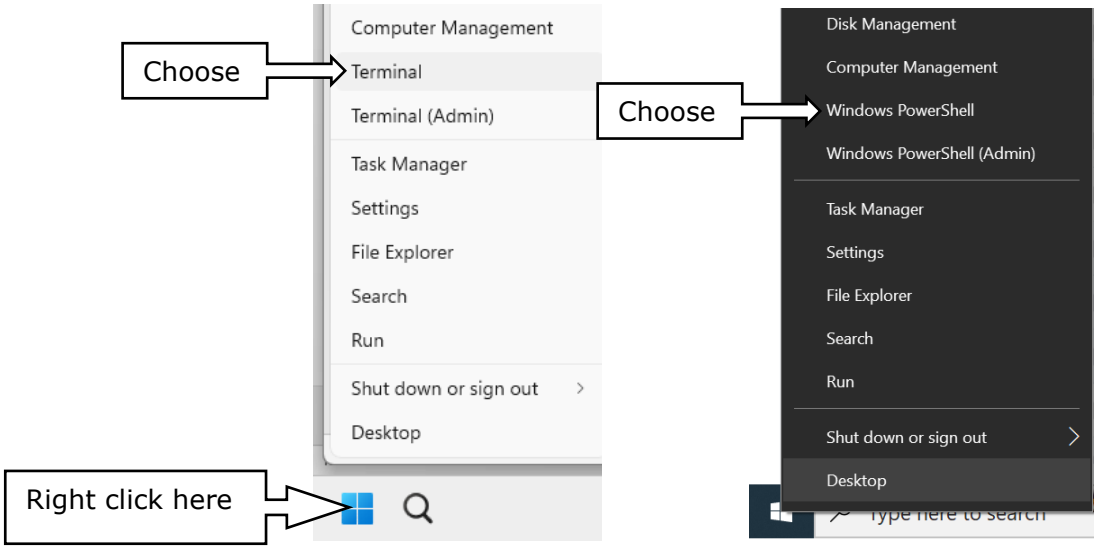
Each network interface device on a computer has a MAC Address. Typically, more than one network device is active on a computer. There may be a hard wired and wireless network device within the computer. The computer may be attached to an external docking station with an internal hard wired network device.

Note: MAC Address is not supported as a HostID for virtual machines.

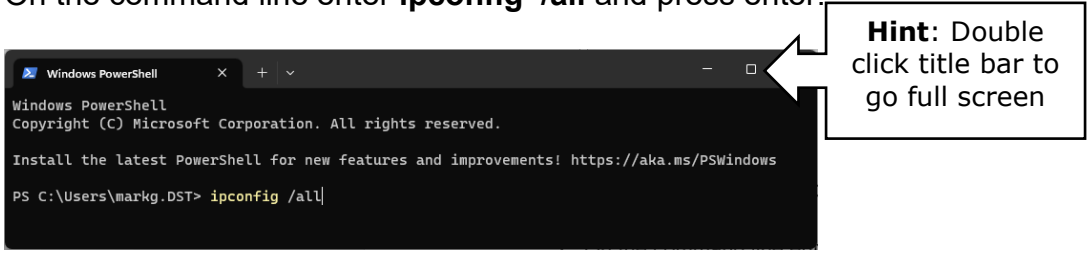
Follow the steps below to obtain a list of all MAC addresses present for all network devices. Choose a preferred MAC address for licensing from the list.

Note: When performing these steps on a computer connected to a docking station, port repeater or other such device, we recommend you disconnect those devices before you begin. Otherwise, the MAC address obtained may originate from that device and not the host computer.

1. Locate your cursor over the Windows **Start** icon and click right mouse button.
2. From the pop-up menu, choose **Terminal** (Windows 11) or **Windows Powershell** (Windows 10)

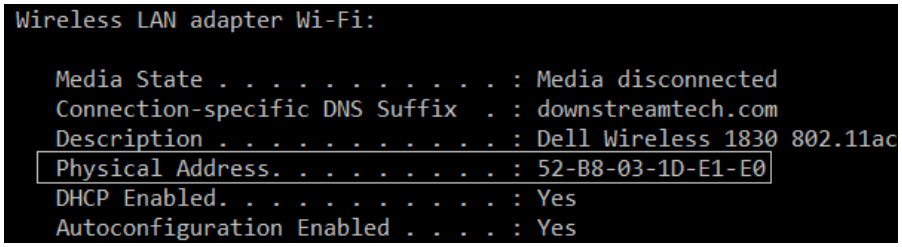


3. On the command line enter **ipconfig /all** and press enter.

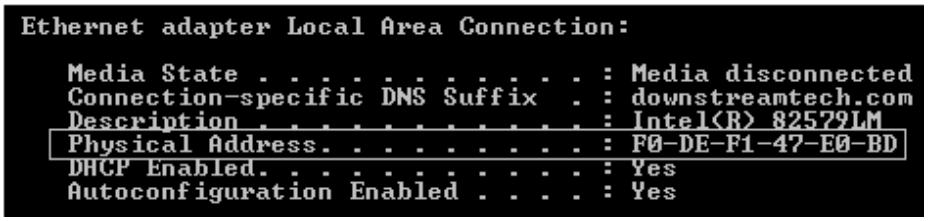


4. In the detailed report that results, you may note several network devices (adapters) listed. The two types of network adapters applicable for product licensing – Wireless LAN or Ethernet adapter are shown below. Some computers, such as a laptop, may have both adapters.

   Wireless LAN adapter Wi-Fi:



   Ethernet adapter (non-Bluetooth) Local Area Connection (unnumbered):



5. Locate your preferred adapter type and note the “Physical Address”. This is the device’s MAC address.

6. Provide the preferred network adapter MAC Address to DownStream Technologies for license generation.

Note: When providing the MAC address to DownStream, characters may be provided in upper or lower case with or without dashes.

Tip: When both wireless and Ethernet adapter types are present, DownStream recommends Ethernet adapter as hostID. Wireless adapters may be disabled or turned off to preserve power on laptops. Power disruption to a wireless adapter may result in temporary deactivation of the license until power is restored.

To obtain a UUID from a Virtual Machine with Guest Windows OS

Note: Only 64 bit Windows 10 or 11 guest OS are supported for licensing of DownStream Releases 15.x/7.x or later. Refer to the License Server Host OS Requirements portion of this document for details.

DownStream Technologies provides a utility to extract the correct Flexnet UUID required for licensing on guest Windows OS virtual machines. While there are other means to extract a UUID from a VM, this utility must be used to obtain the correct UUID used as DST HostID for DownStream product licensing.

These steps must be performed on the Virtual Machine that will serve as license server and host the license manager.

1. On the license server virtual machine, download the utility by clicking the link below (or enter into your web browser).

   http://www.downstreamtech.com/customer-ftp/DSTVMHOSTID.zip

2. Uncompress the file and execute DSTVMHOSTID.exe.
   Note: Administrator rights may be required to run the utility on the virtual machine.
3. The utility will install and run a licensing applet, interrogate the OS for the UUID and present the UUID. Additionally, the UUID string is copied to the paste buffer for pasting to an e-mail or document for sending to DownStream Technologies.

CAUTION: Changes to Virtual Machines Will Invalidate a DownStream License

Changes to a license server virtual machine, like automated VM host software updates, increasing memory and other changes often result in an unintended change to the VM's UUID. When a license server UUID is changed the DownStream product license will no longer work and a new license will be required. Unintended changes to a license server UUID can be avoided by adding a specific statement to the virtual machine configuration file (vmx file) of the virtual machine. To avoid UUID changes add the following statement to the vmx file for the license server virtual machine:

uuid.action = "keep"

To obtain a UUID from a Virtual Machine with Guest Red Hat Linux OS

Note: Red Hat Enterprise Linux (RHEL) version 7.9 through 8.1 is supported for guest OS licensing of DownStream Releases 15.x/7.x or later. Refer to the License Server Host OS Requirements portion of this document for details.

Before you start – Obtaining the UUID from a Linux OS virtual machine has a prerequisite that FlexNet Licensing Service be installed and running. If the FlexNet Licensing Service is installed and running on the virtual machine, proceed to step 1. If the FlexNet Licensing Service has not been installed, Consult the New Installation

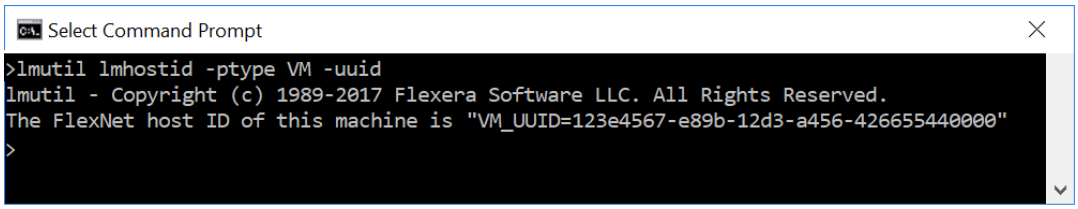
Process – License Server Linux OS Virtual Machine section for instructions to download and install the FlexNet Licensing Service.

DownStream Technologies provides a utility to extract the correct Flexnet UUID required for licensing on guest Windows OS virtual machines. While there are other means to extract a UUID from a VM, this utility must be used to obtain the correct UUID used as DST HostID for DownStream product licensing.

These steps must be performed on the Virtual Machine that will serve as license server and host the license manager.

1. With the FlexNet Licensing Service running, run **lmutil** in a Linux Command Prompt window with the following arguments.

   lmutil lmhostid –ptype VM –uuid



Note: Sample command window shown.

2. Copy the HostID string for use in an e-mail or other means of communicating the HostID to DownStream Technologies.

License File Sources

When installing the DownStream products, a license file is required to access the products. License files can only be generated by DownStream Technologies. There are two methods for receiving a license file.

By e-mail – a license is requested from DownStream for product evaluation, new purchase, annual maintenance re-instatement, license transfer or other reasons.

During Installation of an Update – a major or dot release of the DownStream products is made available. The installation includes a cache of updated licenses for all users with a current annual maintenance contract as of the release date of the software. All license configurations are included such as node-locked, dongle, license server, virtual machine license servers and so on.

Most license files issued by DownStream are created with an expiration date. Each time the installation is used to install an update, users should choose to install a license file from the media to ensure their license expiration date is more recent than their current license.

Note: Subscription licenses are created with an expiration date based on the terms of the subscription.

New Installation Process – Node Locked

License Type: **Node-locked**
HostID: **MAC Address or Dongle**
Operating System: **64 bit Windows OS (Non-Virtual Machine)**

If you purchased a single user node-locked DownStream product for a 64 bit Windows OS computer, follow the instructions below to install the DownStream product license manager, license file and DownStream Products.

These steps assume:

- you **have not** previously installed the DownStream products.
- you received a node-locked license file and have copied the license file locally for selection from within the installation.
- you have access to (downloaded) the DownStream product installation.

1. Close all programs.
2. If using a dongle (USB Device) as HostID, attach it to an active USB port on the computer.
3. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
4. After a few moments, the **DownStream Installation Wizard** appears.
5. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
6. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.

For new installations, the license manager and license file must be installed before the products.

1. Select **Install or Update Licensing**. The FlexNet Licensing Service is installed and started.
2. After a few moments, the **InstallShield Wizard for DownStream License Manager** appears. Click **Next** to continue. The Customer Information page appears.
3. Optionally, enter **User Name** and **Organization** and click **Next** to continue. The Destination Folder Selection page appears.
4. Accept the default installation folder, or choose **Change** and browse to an alternate destination folder. Click **Next** to continue. The Licensing Specification page appears.
5. On the Licensing Specification page, choose **Browse to find License File** and click **Next** to continue. The Navigate to License file page appears.
6. Enter the path to the local copy of the license file, or click **Browse** and browse to and select the license file. Click **Next** to continue.
7. The Setup Type page appears. To install all DownStream license management content, choose **Complete**.

To customize the license content to install, choose **Custom** and select the content. Consult **Using Custom Installation** section for details on custom installations.

8. Click **Next** to continue. The Ready to Install the Program page appears.
9. Click **Install** to start installation of license manager and license file.
10. After a few moments, license manager is installed, the license file copied to the correct location and a license check out test performed. A prompt appears stating the status of the license check out. If the check out test is successful, click **OK** to continue.
11. Click **Finish** to complete installation of the license manager and license file.

A few moments after the last installation page closes, you are prompted to install the DownStream products.

1. When prompted *Do you want to install the DownStream products now*? Choose **Yes** to start the installation of the DownStream products.
2. After a few moments, the **InstallShield Wizard for the DownStream Products** appears. Click **Next** to continue.
3. Optionally, enter **User Name** and **Organization**. Click **Next** to continue.
4. The Setup Type page appears. To install all DownStream products and content, choose **Complete**.

   To customize the DownStream product content to install, choose **Custom** and select the content. Consult the **Using Custom Installation** section for details on custom installations.

5. Click **Next** to continue.
6. Make selections of Installing either **CAM350** or **BluePrint**, or **Both**.
7. Click **Next** to continue. The Ready to Install the Program page appears.
8. Click **Install** to start installation of the DownStream products.
9. After a few moments, the products are installed and a product registration is performed.
10. Click **Finish** when the installation is completed.
11. To start the installed product(s), locate the product shortcut(s) installed on the desktop of the computer.

New Installation Process – Single User Network License

License Type: **Single User Network (For Demonstration systems)**
HostID: **MAC Address, Dongle or UUID**
Operating System: **Any Windows PC or Windows OS Virtual Machine**

If you received a single user DownStream demonstration system for a 64 bit Windows OS computer, follow the instructions below to install the DownStream product license manager, license file and DownStream Products.

Note: The use of a demonstration system is restricted to DownStream approved third-party personnel. Commonly product resellers or technical support persons.

In this license configuration, a single computer is both license server and client computer with DownStream products installed. Other computers on your network can share the single license as additional client computers.

The network license is a single user license. Any client computer on the network will check out a product license when DownStream products are started on their computer. This renders the product license inaccessible to other clients until they close the DownStream product to check in the license and make it available.

These steps assume:

- you **have not** previously installed the DownStream products.
- you received a network license file and have copied the license file locally for selection from within the installation.
- you have access to (downloaded) the DownStream product installation.

1. Close all programs.
2. If using a dongle (USB Device) as HostID, attach it to an active USB port on the computer.
3. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
4. After a few moments, the **DownStream Installation Wizard** appears.
5. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
6. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.

For new installations, the license manager and license file must be installed before the products.

1. Select **Install or Update Licensing**. The FlexNet Licensing Service is installed and started.
2. After a few moments, the **InstallShield Wizard for DownStream License Manager** appears. Click **Next** to continue. The Customer Information page appears.

3. Optionally, enter **User Name** and **Organization**. Click **Next** to continue. The Destination Folder Selection page appears.
4. Accept the default installation folder, or choose **Change** and browse to an alternate destination folder. Click **Next** to continue. The Licensing Specification page appears.
5. On the Licensing Specification page, choose **Browse to find License File** and click **Next** to continue. The Navigate to License file page appears.
6. Enter the path to the local copy of the license file, or click **Browse** to browse to and select the license file. Click **Next** to continue.
7. On the next Licensing Specification page, enter the Computer Name of the computer you are using. Click **Next** to continue.
8. The Setup Type page appears.
9. For single user network installs, choose **Complete** and click **Next** to continue.

   To customize the license content to install, choose **Custom** and select the content. Consult **Using Custom Installation** section for details on custom installations.
10. Click **Next** to continue. The Ready to Install the Program page appears.
11. Click **Install** to start installation of license manager and license file.
12. After a few moments, license manager is installed, the license file copied to the correct location and a license check out test performed. A prompt appears stating the status of the license check out. If the check out test is successful, click **OK** to continue.
13. Click **Finish** to complete installation of the license manager and license file.

A few moments after the last installation page closes, you are prompted to install the DownStream products.

1. When prompted *Do you want to install the DownStream products now*? Choose **Yes** to start the installation of the DownStream products.
2. After a few moments, the **InstallShield Wizard for the DownStream Products** appears. Click **Next** to continue.
3. Optionally, enter **User Name** and **Organization**. Click **Next** to continue.
4. The Setup Type page appears. To install all DownStream products and content, choose **Complete**.

   To customize the DownStream product content to install, choose **Custom** and select the content. Consult the **Using Custom Installation** section for details on custom installations.

5. Click **Next** to continue.
6. Make selections of Installing either **CAM350** or **BluePrint**, or **Both**.
7. Click **Install** to start installation of the DownStream products.
8. After a few moments, the products are installed.
9. Click **Finish** when the installation is completed.
10. To start the installed product(s), locate the product shortcut(s) installed on the desktop of the computer.

Note: Follow the New Installation Process – Network License Client Computer instructions to enable other computers on the network to access the product license.

New Installation Process – License Server Windows OS

License Type: **Network (or Floating)**
HostID: **MAC Address, Dongle or UUID**
Operating System: **64 bit Windows OS (Computer or Virtual Machine)**

If you purchased a DownStream product with a network license for a Windows OS license server, follow the instructions below to install the DownStream product license manager, and license on the license server. The installation will also start the license service to enable license sharing for client computers.

These steps assume:

- you **have not** previously installed the DownStream license manager on the license server.
- you received a network license file and have copied the file locally on the license server for selection from within the installation.
- you have access to (downloaded) the DownStream product installation on the license server.
- you are **not** installing the DownStream products on the license server – only license manager and license file.

1. Close all programs.
2. If using a dongle (USB Device) as HostID, attach it to an active USB port on the computer. **Note: Dongle not supported on Virtual Machines.**
3. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
4. After a few moments, the **DownStream Installation Wizard** appears.
5. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
6. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.
7. Select **Install or Update Licensing**. The FlexNet Licensing Service is installed and started.
8. After a few moments, the **InstallShield Wizard for DownStream License Manager** appears. Click **Next** to continue. The Customer Information page appears.
9. Optionally, enter **User Name** and **Organization**. Click **Next** to continue. The Destination Folder Selection page appears.
10. Accept the default installation folder, or choose **Change** and browse to an alternate destination folder. Click **Next** to continue. The Licensing Specification page appears.
11. On the Licensing Specification page, choose **Browse to find License File** and click **Next** to continue. The Navigate to License file page appears.
12. Enter the path to the local copy of the license file, or click **Browse** and browse to and select the license file. Click **Next** to continue.

13. The Setup Type page appears. To install all DownStream license management content, choose **Complete**.

    To customize the license content to install, choose **Custom** and select the content. Consult the **Using Custom Installation** section for details on custom installations.

14. Click **Next** to continue. The Ready to Install the Program page appears.
15. Click **Install** to start installation of license manager and the license file.
16. After a few moments, license manager is installed, the license file copied to the correct location and a license check out test performed. A prompt appears stating the status of the license check out. If the check out test is successful, click **OK** to continue.
17. Click **Finish** to complete installation of the license manager and license file.

A few moments after the last installation page closes, you are prompted to install the DownStream products.

18. When prompted *Do you want to install the DownStream products now*? Choose **No**.

Note: Follow the New Installation Process – Network License Client Computer instructions to enable other computers on the network to access the product license.

New Installation Process – Network License Client Computer

License Type: **Network (or Floating)**
Host ID: **Not Used on Client**
Operating System: **(Client) 64 bit Windows OS Computer**

If you purchased a DownStream product with a network license, follow the instructions below to setup access to the license server and install DownStream products on a client computer.

These steps assume:

- you **have not** previously installed the DownStream products on the client computer.
- the DownStream product license server is running with license availability and is accessible via a LAN to the client computer.
- you know the system name of the license server.
- you have access to (downloaded) the DownStream product installation on the client computer.

1. Close all programs.
2. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
3. After a few moments, the **DownStream Installation Wizard** appears.
4. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
5. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.

For client installations, use License File installation to enable access to the license server from the client computer.

1. Select **Install or Update Licensing**. The FlexNet Licensing Service is installed and started.
2. After a few moments, the **InstallShield Wizard for DownStream License Manager** appears. Click **Next** to continue. The Customer Information page appears.
3. Optionally, enter **User Name** and **Organization**. Click **Next** to continue. The Destination Folder Selection page appears.
4. Accept the default installation folder, or choose **Change** and browse to an alternate destination folder. Click **Next** to continue. The Licensing Specification page appears.
5. On the Licensing Specification page, choose **Set ACT_INC_LICENSE_FILE Environment Variable**. Click **Next** to continue. The Set Environment Variable page appears.
6. Enter the path to the server as “port@sever_name”. For example:

7102@downstreamserver

7. Click **Next** to continue. The Setup Type page appears.
8. For client installs, choose **Complete** and click **Next** to continue.
9. Click **Install** to start installation of license manager and setting of the environment variable.
10. After a few moments, license manager is installed, and a license check out test performed. A prompt appears stating the status of the license check out. If the check out test is successful, click **OK** to continue.
11. Click **Finish** to complete the installation of the license manager and license file.

A few moments after the last installation page closes, you are prompted to install the DownStream products.

1. When prompted *Do you want to install the DownStream products now*? Choose **Yes** to start the installation of the DownStream products.
2. After a few moments, the **InstallShield Wizard for the DownStream Products** appears. Click **Next** to continue.
3. Optionally, enter **User Name** and **Organization**. Click **Next** to continue.
4. The Setup Type page appears. To install all DownStream products and content, choose **Complete**.

   To customize the DownStream product content to install, choose **Custom** and select the content. Consult the **Using Custom Installation** section for details on custom installations.

5. Click **Next** to continue.
6. Make selections of Installing either **CAM350** or **BluePrint**, or **Both**.
7. Click **Install** to start installation of the DownStream products.
8. After a few moments, the products are installed and a product registration is performed.
9. Click **Finish** when the installation is completed.
10. To start the installed product(s), locate the product shortcut(s) installed on the desktop of the computer.

New Installation Process – License Server Linux OS Virtual Machine

License Type: **Network (or Floating)**
Host ID: **UUID**
Operating System: **64 bit Linux OS Version 8.0 Virtual Machine**

If you have purchased a DownStream product with a network license for a 64 bit Linux OS Virtual Machine license server, follow the instructions below to install FlexNet Licensing Service, DownStream product license manager and license file on the license server.

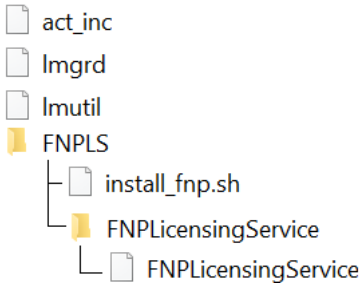
These steps assume:

- you **have not** previously installed FlexNet licensing service or DownStream license manager on the license server.
- you received a network license file and have copied the license file locally to the license server.
- you have access to the DownStream website from the license server.

1. On the license server virtual machine, download the DownStream Linux OS license management tools from the DownStream web site by clicking the link below (or enter into your web browser).

   https://www.downstreamtech.com/DownStream/lsb_rel_8_VM.tar.gz

2. Uncompress the file contents to a folder on the license server. The content of the uncompressed file is shown below:



3. Copy the license file to a location on the virtual machine. For example, copy the file to the folder hosting the **lmgrd** application and name the license file as *license.dat*.
4. As super user, run the *install_fnp.sh* shell script as shown below to install, configure and start the FlexNet Licensing Service. Running the install script is a requirement. The script guarantees the proper version of FlexNet Licensing binaries are installed, configured and the service started correctly.
   As **super user**, run the *install_fnp.sh* shell script with the --cert argument as shown below:

```
install_fnp.sh --cert
```

5. Start the DownStream license manager. Type the following:

```
lmgrd -z -c ./license.dat
```

Notes:

1. The FlexNet Licensing Service needs to run continuously. It should be started each time the license server is restarted. To enable that process an additional installation step is required. Add the following line to a nominated user's crontab:

```
@reboot /usr/local/share/FNP/service64/11.19.6/FNPLicensingService -r
2>&1 >/tmp/fnpd.log
```

2. The virtual machine administrator may want to add an additional line to the crontab to run the above command at regular intervals. This will ensure if the FlexNet Licensing Service is stopped for some unexpected reason, it will be restarted. The FlexNet Licensing Service daemon itself ensures there is never more than one instance running.

3. The required installed path to the FlexNet Licensing Service daemon is:

   /usr/local/share/FNP/service64/11.19.6/FNPLicensingService

4. The virtual machine's administrator is free to redirect output as required.

5. Both the FlexNet Licensing Service and license manager (lmgrd) must be running in order to serve licenses.

6. Typical messages output on running the startup command are “Licensing Service daemon activated” or “Licensing Service daemon already active”.

7. Rather than using cron, administrators may want to add a boot-script for the FlexNet Licensing Service daemon. The following commands can be added to a boot script:

   To start the FlexNet Licensing Service:

   /usr/local/share/FNP/service64/11.19.6/FNPLicensingService -r

   To stop the FlexNet Licensing Service:

   /usr/local/share/FNP/service64/11.19.6/FNPLicensingService -k

8. When an operation requires FlexNet Licensing Service be running, but the service is not running or not installed correctly, an error is echoed. For example:

   The VM Host ID is not available. (-215,14704) - The FlexNet Licensing Service does not appear to be running.

Update Process – Product Software Only

If you downloaded a new release installation from DownStream, follow these steps to update the installed software to the new release. Refer to separate instructions for updating a license file and license servers.

*Note: Most license files issued by DownStream are created with a 13-month expiration from date of issue. Each time installation is used to install an update, the user should choose to install a license file and choose **install license file from media** to ensure their license is up to date.*

Note: Subscription licenses are created with an expiration date based on the terms of the subscription.

Operating System: **Windows OS**
Software Host: **Windows OS Node-locked or Client Computer**

These steps assume:

- you **have** previously installed the DownStream products.
- a DownStream product license is accessible to the computer.
- you have access to (downloaded) the new DownStream product installation.

1. Close all programs.
2. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
3. After a few moments, the **DownStream Installation Wizard** appears.
4. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
5. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.
6. Choose **Install DownStream Products**. The installation preparation begins.
7. A prompt appears asking for **Confirmation to perform an Upgrade of the DownStream products**. Click **Yes** to continue.
8. After a few moments, the **InstallShield Wizard for DownStream Products** appears. Click **Next** to continue.
9. After a few moments, the products are installed and a product registration is performed.
10. When the **InstallShield Wizard Completed** page appears, click **Finish** to complete the installation.
11. To start the installed programs, locate the product shortcut(s) installed on the desktop of the computer.

Update Process – License File (and License Manager)

If you received a new license file from DownStream, follow these steps to update the license file on a Windows OS computer or license server. These steps will update the license manager to a newer version (if present on the installation), and replace the current license file in use.

If updating a license server, license manager will be shut down to make updates to license manager and the license file. After updating, license manager will be restarted.

This process must be performed on the computer or virtual machine hosting the license manager. It is not possible to remotely update a license server.

License Type: **Node-Locked or Network (or Floating)**
HostID: **MAC Address, Dongle or UUID**
Operating System: **Windows OS Computer or Virtual Machine**

These steps assume:

- you **have** previously installed the DownStream license manager.
- license manager is (or was previously) running and product license check out is functioning normally
- you received a new network license file and have copied the license file locally for selection from within the installation.
- you have access to (downloaded) the DownStream product installation on the license server.
- you are not installing the DownStream products – only updating license manager and license file.

1. Close all programs.
2. Using Windows Explorer, locate the DownStream product installation and double-click the executable file to initiate the installation.
3. After a few moments, the **DownStream Installation Wizard** appears.
4. Click **Next** to continue. The DownStream Technologies End User License Agreement appears.
5. Review the license agreement. Choose **I accept the terms of the license agreement** and click **Next** to continue. The Select Installation Option page appears.
6. Select **Install or Update Licensing**. The FlexNet Licensing Service is installed and started.
7. A prompt appears asking for **Confirmation to perform an Upgrade of the DownStream License Manager**. Click **Yes** to continue.
8. The **InstallShield Wizard for DownStream License Manager** appears. Click **Next** to continue. The Program Maintenance page appears.
9. Choose **Modify** to update the license manager and license file.
10. The Licensing Specification page appears.

If a cached license file on the installation matches a HostID detected on the system, the **Install License File from Media** option is selected. Select **Next** to install the cached license file and continue.

Otherwise, choose **Browse to find License File**. Click **Next** to continue. The Navigate to License File page appears.

11. Enter the path to the local copy of the **new** license file, or click **Browse** and browse to and select the **new** license file. Click **Next** to continue.

    If updating a license server – the Enter Computer Name page appears. If the Computer name matches the server name, click **Next** to continue.

    If the computer name is **empty**, the HostID in the selected license file does not match the current server license or other license issues are present. Continue with the installation leaving the name empty. Later steps of the installation will provide greater details regarding the license issues.

19. The Setup Type page appears. To install all DownStream license management content, choose **Complete**.

    To customize the license content to install, choose Custom and select the content. Consult the **Using Custom Installation** section for details on custom installations.

12. Click **Next** to continue. The Ready to Install the Program page appears.
13. Click **Install** to start installation of license manager and license file.
14. After a few moments, the license manager is installed, the license file copied to the correct location and a license check out test is performed. A prompt appears stating the status of the license check out. If the check out test is successful, click **OK** to continue.
15. Click **Finish** to complete installation of the license manager and license file.

A few moments after the last installation page closes, you are prompted to install the DownStream products.

16. When prompted *Do you want to install DownStream products now*? Choose **No**.

Notes:

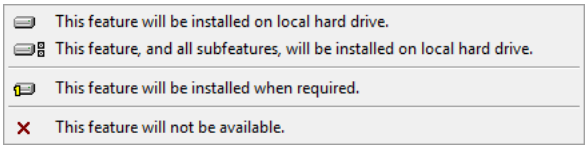
1. Before starting the update, health of the license server should be evaluated. If there are no current failures for the license server, verify license check out is working properly before starting the update.
2. In some installations, it may be necessary to manually stop the license server before starting the license server update process.
3. Some license server updates require the server host computer (or virtual machine) be restarted after the update.

Using Custom Installation

If you have special installation requirements, during installation choose the Custom Setup Type. When this setup type is chosen, you are able to specify the installation content to install. Custom options are available for both license and software content.

Installation Options

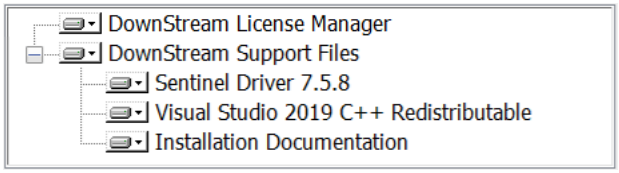
Installation content is arranged in a hierarchy. Choose to install all content and its sub content, or choose specific sub content. For each item in the content list, there are four choices of inclusion in the installation.



Option	Action taken
This feature will be installed on local hard drive	Install this content
This feature, and all sub features, will be installed on local hard drive	Install this content and all of its sub content
This feature will be installed when required	Install this content if required
This feature will not be available	Do not install this content

License Content

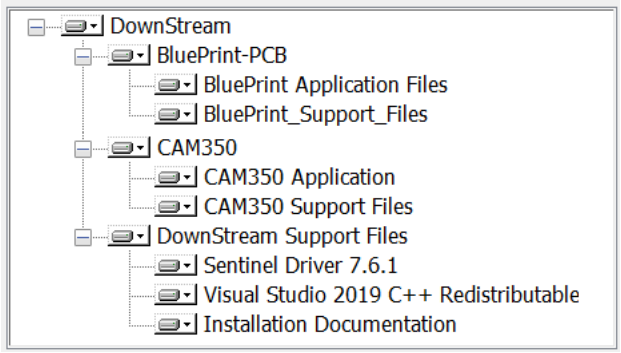
The following options are available when Custom Setup Type is chosen during a license install.



Feature	Includes
DownStream License Manager	DownStream License Manager and other licensing tools
Sentinel Driver	Device driver for Dongle (USB Device)
Visual Studio Redistributable	C++ file used by DownStream products
Installation Documentation	Installation documentation including this installation guide

Software Content

The following options are available when Custom Setup Type is chosen during a software install.



Feature	Includes
BluePrint Application Files	BluePrint application and all content required to run BluePrint
BluePrint Support Files	BluePrint Support Files including sample files
CAM350 Application Files	CAM350 application and all content required to run CAM350
CAM350 Support Files	CAM350 Support Files including sample files
Sentinel Driver	Device driver for Dongle (USB Device)
Visual Studio Redistributable	C++ file used by DownStream products
Installation Documentation	Installation documentation including this installation guide

Install To

The Install to folder defines where the read only files for DownStream Products will be installed. The default location is:

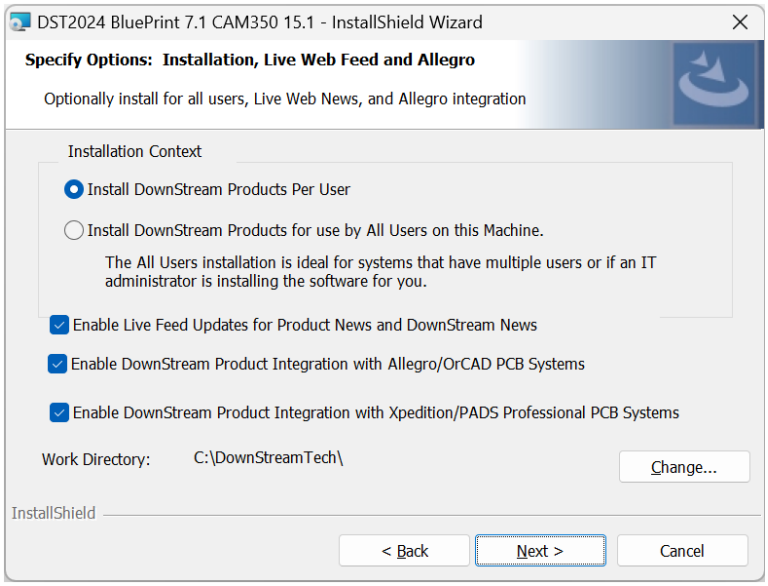
C:\Program Files\DownStream Technologies\<year>\

Other Customization Options

When customizing the installation, these other options are presented.

Installation Context

The Installation Context allows you to choose whether to install the product for all users of the computer or install on a per user basis. The default is to install as Per User (not administrator installation) so each user can customize their own installation. Choose All Users to install DownStream Products using an administrator login and have all user logins use the same customization installed by the administrator installation.



Live Feed Updates

The Live Feed option enables the RSS feed update on the DownStream Product Start pages to connect to the internet to download the latest product and corporate information from an RSS feed web pages on the DownStream web site. The default is enabled for Live News Feed updates.

DownStream Product Integration with Allegro/Orcad PCB

The DownStream Product Allegro integration option enables automatic integration binding with an existing Allegro PCB Design system for the installed DownStream Products. BluePrint-PCB supports automatic creation and update of BluePrint-PCB release packages. CAM350 supports cross probing with Allegro PCB. The default is enabled for DownStream Product integration with Allegro.

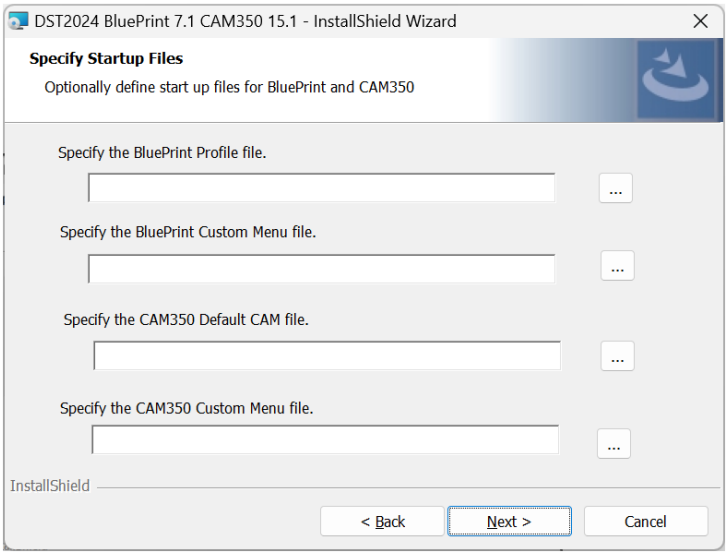
Working Folder (Directory)

The Working Folder is the location where writable work files such as sample, demo and other ancillary files are installed for DownStream Products. The default location is:

C:\DownStreamTech\BluePrint-PCB <version>; or
C:\DownStreamTech\CAM350 <version>; or
C:\DownStreamTech\LicenseManager

Startup Files

Default startup Files can be specified for BluePrint-PCB and CAM350. The BluePrint-PCB Profile file (*.bpp) is an file that defines default options set in the Options dialog in BluePrint-PCB. The BluePrint-PCB Custom Menu file (*.bps) is a file that contains the Customization settings for any user interface customization. The CAM350 default CAM file (CAM350.CAM) specifies the default *.cam file opened by CAM350 on startup. The CAM350 Custom camnt95.ini file used to store options set in the Options dialog.



License Borrowing

If you want to use a product license on a client computer while it is disconnected from a license server (for instance a laptop), a license can be borrowed from a license server via a special check out known as license borrowing. With license borrowing, you check out a product license and specify a future date to return the borrowed license. For the specified period, the product license is available exclusively to the remote computer while disconnected from the network.

The license server keeps the borrowed license checked out. The DownStream product uses the local borrowed license during the borrow period. Upon expiration of the borrow period, the local borrowed license is no longer available on the remote computer and the license server returns the borrowed license to the pool of available licenses.

Running the LicenseBorrow Utility

LicenseBorrow is a DownStream Technologies utility installed in the folder C:\DownStreamTech\LicenseManager.

To Borrow a License:

1. Run LicenseBorrow on the client computer where you want to borrow licenses.
2. Enter the Borrow Expiration Date (dd-mmm-yyyy format).
3. Select **Set Borrow Expiration Date** to set the date of license return.
4. Start the DownStream product to borrow the license features.
5. You can now disconnect your computer from the network and use the borrowed license to run the DownStream product.
6. Select **Don't Borrow Anymore Today** to prevent additional features from being borrowed.

Checking Borrow Status:

1. Run LicenseBorrow on the client computer.
2. Select **List Currently Borrowed Features** to view borrow status.

The client computer does not have to be connected to the network to determine status.

Clearing the Borrow Period:

Once you have borrowed all product licenses required for the current borrow period you can prevent any additional product licenses from being borrowed for the rest of that day.

1. Run LicenseBorrow on the client PC where the license features were borrowed
2. Select **Don't Borrow Anymore Today** to prevent additional borrows.

To Return Borrowed Licenses Early:

1. Stop all DownStream product sessions on the client computer where the license was borrowed.
2. Connect the client computer to the network.
3. Run LicenseBorrow on the client computer.
4. In **DownStream License Manager License File**, enter the DownStream License File name or browse to select the license file.
5. Select **Return Borrowed Licenses Early.** All DownStream Technologies borrowed licenses are returned.

Redundant License Servers

DownStream products allow customers to deploy redundant licensing systems, enabling them to continue to run applications and check out their full complement of licenses in the event of a prolonged server failure. When a failed server is restored, operation continues as usual without interruptions. A redundant server is physically three interconnected servers operating as one logical server, dispensing from a master pool of licenses.

With three-server redundancy, if any two of the three license servers are up and running (two out of three license servers is referred to as a quorum), the system is functional and serves its total complement of licenses. If you wish to use redundant servers, select stable systems as server machines; in other words, do not pick systems that are frequently rebooted or shut down for one reason or another. The machines that comprise a three-server redundant configuration should:

- Run the same operating system
- Have excellent communications
- Reside on the same subnet
- Have the same version of License Manager running
- Have the same license file in use

The three servers must be located physically close to each other. This form of redundancy requires that the servers exchange heartbeats periodically, and poor communications can cause poor performance. Avoid configuring redundant servers with slow communications or dial-up links. Three-server redundancy is designed to provide hardware fail-over protection only and does not provide load-balancing.

The license file on each server must have a server line for each server licensed in the redundancy. For example:

```
SERVER redundant_server1 606DC7C67E6E TCP:20000
SERVER redundant_server2 505CB6B56D5E TCP:20000
SERVER redundant_server3 404BA5A45C4D TCP:20000
DAEMON act_inc C:\DownStreamTech\LicenseManager\act_inc.exe
```

About Redundant License Servers

Each of your license servers should set up and running in a redundant license server setup. If you need help with your setup you should reference the FLEXlm End Users Guide at www.flexerasoftware.com or contact technical support at **support@downstreamtech.com**.

License Rollover - Multiple License Servers on the Same Network

DownStream supports license access from two or more license servers on the same network. However, all license servers must be running the same version of FlexNet service and license manager.

For each license server, follow the instructions for **New Installation Process – License Server for Windows OS** (or other OS).

Once each license server is up and running, locate its license file in use and add a new "USE_SERVER" keyword below the DAEMON line. For example:

```
SERVER Server_1 8C16456371A2 TCP:7102
DAEMON act_inc C:\DownStreamTech\LicenseManager\act_inc.exe
USE_SERVER
```

After editing the license file, shut down license manager and restart it to update the server.

For each client computer, follow the instructions for **New Installation Process – Network License Client Computer**. When setting the path to the license server, substitute the "port@server_name" entry for a multiple server license file path statement. For example:

C:\FlexIm\Server1_license.dat; C:\FlexIm\Server2_license.dat

This will set the ACT_INC_LICENSE_FILE environment variable to:

```
ACT_INC_LICENSE_FILE=C:\Flexlm\Server1_license.dat;C:\Flexlm\Server2_license.dat
```

Silent Installation

Installation of DownStream products can be run silently on client computers by running the DownStream installation from a command prompt window with arguments. There are three command line arguments required for silent installation:

/f1 = path to DST2024.iss response file

/zDST_PROPFILE = path to installation properties file.

A sample command line syntax for silent execution is as follows:

DownStream_2024_b2024.exe /f1<path> /zDST_PROPFILE=<path>

An example with file paths present:

DownStream_2024_b2024.exe /f1"C:\DST2023.iss" /zDST_PROPFILE="C:\props_master.txt"

Files Required for Silent Installation

There are two files required to run silent installation.

Response file DST2024.iss – supplied by DownStream

Installation properties file – user customized install response file

NOTE: The DST2024.iss and a sample properties file (props_master.txt) are located in the following DownStream Product installation folder:

C:\Program Files\DownStream Technologies\2024\Install_Documentation

ISS Response File

The response file DST2024.iss provided by DownStream Technologies is required for silent installation execution. It should not be altered in any way.

NOTE: On the command line, you must specify the absolute file path for the response file or the results will be unpredictable.

Installation Properties File

An installation properties file contains installation keywords and responses for install prompts and other custom installation options.

NOTE: On the command line, you must specify the absolute file path for the properties file or the results will be unpredictable.

The available entries in the properties file for the DownStream product installation are as follows:

```
INSTALLDIR                          = <Installation Folder>
ADDLOCAL                            = <Product Features to Install>
DST_ALL_USERS                       = <0 or 1>
DST_ENABLE_LIVE_WEB_NEW_FEEDS       = <0 or 1>
DST_ENABLE_ALLEGRO_INTEGRATION      = <0 or 1>
DOWNSTREAMTECH                      = <Working Directory Folder>
DST_SRC_CAM350_MENU_FILE            = <CAM350 Custom Menu File>
DST_SRC_CAM350_CAM_FILE             = <CAM350 Default CAM File>
DST_SRC_BP_MENU_FILE                = <BluePrint Custom Menu File>
DST_SRC_BP_PROFILE_FILE             = <BluePrint Profile File>
DST_LIC_ENVIRONMENT_VAR             = <FlexLM ACT_INC_LICENCE_FILE Setting>
REBOOT                              = <ReallySuppress or Suppress or Force>
```

Where:

INSTALLDIR – path to the folder where DownStream product executable files are to be located (or updated). For example:

INSTALLDIR = “C:\Program Files\DownStream Technologies”

ADDLOCAL - DownStream product features to install during silent installation. The features must be comma separated. If ADDLOCAL is not present, all DownStream product features are installed by default.

To install BluePrint-PCB, set ADDLOCAL to:

```
DST_BP_CAM350,BluePrint,BluePrint_Application,BluePrint_Support_Files
```

To install CAM350, set ADDLOCAL to:

```
DST_BP_CAM350,CAM350,CAM350_Application,CAM350_Support_Files
```

To install DownStream support files set ADDLOCAL to:

```
DST_BP_CAM350,DownStream_Support_Files,Install_Documentation,Sentinel_Driver_761,VCRedistributable,AccessDatabaseEngine
```

DST_ALL_USERS – if set to “1” all other user logins use the same customization information installed by the administrator installation.

DST_ENABLE_LIVE_WEB_NEW_FEEDS – if set to “1” all users will have the RSS feed update enabled for DownStream Product start pages.
DST_ENABLE_ALLEGRO_INTEGRATION – if set to “1” automatic integration binding with an existing Allegro PCB Design system for the installed DownStream Products.

DOWNSTREAMTECH – folder where DownStream Product sample and demo files are located.

DST_SRC_CAM350_MENU_FILE - a CAM350 menu customization file (*.settings) to install.

DST_SRC_CAM350_CAM_FILE - the default CAM file for CAM350. For example, cam350.cam).

DST_SRC_BP_MENU_FILE - a BluePrint menu customization file (*.bps) to install.

DST_SRC_BP_PROFILE_FILE - a BluePrint profile file (*.bpp) to install.

DST_LIC_ENVIRONMENT_VAR - the value for the DownStream license variable ACT_INC_LICENSE_FILE. This is commonly used for client installations that obtain product licenses via a network license server.

REBOOT - preference for reboot prompting. Set to “Force” to always prompt for reboot. Set to “Suppress” to only prompt for reboot if needed. Set to “ReallySuppress” to suppress all restart prompts.

The following example property file installs only CAM350 for a network licensed client installation. This will install CAM350, default initialization and CAM350 files and set the ACT_INC_LICENSE_FILE environment variable to enable licensing. In addition, all restart prompts will be suppressed.

```
INSTALLDIR="C:\DownStreamTech2024\"
ADDLOCAL=DST_BP_CAM350,CAM350,CAM350_Application,CAM350_Support_Files
DST_SRC_CAM350_MENU_FILE="W:\DownStreamTech\CAM350 15.x\CAM350.settings"
DST_SRC_CAM350_CAM_FILE="W:\DownStreamTech\CAM350 15.x\CAM350.cam"
DST_LIC_ENVIRONMENT_VAR=7102@FLEXLMLICSVR
REBOOT=ReallySuppress
```

The following example property file installs only BluePrint-PCB for a node-locked installation with a Dongle. Startup files are specified for custom BluePrint-PCB menu file and a BluePrint-PCB profile file.

```
INSTALLDIR="C:\DownStreamTech2024\"
ADDLOCAL=DST_BP_CAM350,DownStream_Support_Files,Install_Documentation,
                                        Sentinel_Driver_761,VCRedistributable
DST_SRC_BP_MENU_FILE="W:\DownStreamTech\BluePrint-PCB 7.x\BluePrint-PCB 70.bps"
DST_SRC_BP_PROFILE_FILE="W:\DownStreamTech\BluePrint-PCB 7.x\Profile 70.bpp"
DST_LIC_ENVIRONMENT_VAR="W:\DownStreamTech\LicenseManager\license.dat"
```