Dialogic

Dialogic® Standalone License Server

User's Guide

Copyright and Legal Notice

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Revision History

Revision	Release date	Notes
05-2705-001	October 2012	Initial Release
Last modified: October 2012		

Refer to www.dialogic.com for product updates and for information about support policies, warranty information, and service offerings.

1. About this User's Guide

This document introduces a concurrent licensing model for Dialogic® Host Media Processing (herein referred to as "HMP") platforms 4.1LIN and later.

Licensing Terminology

The following terminology is used in this document.

Term	Definition
Vendor Defined Hostid (VDH)	An encrypted keyword used for an SLS-type license.
License File	A text file containing protected keys that enable the license rights. The License File is controlled by the License Server and contains concurrent license rights as well (see Concurrent Licenses).
Concurrent Licenses	A license type used by a License Server that allows a fixed number of concurrent users to use the same licensed features at any one time.
License Server Manager (lmgrd)	One of two FLEXnet Licensing components which comprise a license server system (the other is the vendor daemon). The license server manager handles the initial contact with FLEX-enabled applications, passing the connection on to the appropriate vendor daemon. lmgrd is used for node-locked type of licenses.
lmadmin	Refers to the SLS License Manager that handles the initial contact with FLEX-enabled applications, passing the connection on to the appropriate vendor daemon. lmadmin is used for SLS installations.
Checkout	The process performed to request license entitlement rights from a licensing server.
Checkin	The process of returning licensing entitlement rights back to the license server pool so they may be allocated to other Clients.
Features File	A sample file named *features.xml* is found in the /usr/dialogic/data/sls directory. This file can be modified and copied anywhere, however, it must be in a directory accessible

	by the HMP system.
PM Client	Refers to both PowerMedia XMS and HMP clients.

2. Overview

This document introduces a concurrent licensing model for Dialogic® PowerMedia™ Host Media Processing (herein also referred to as "HMP") platforms 4.1LIN and later. This chapter provides an overview of this new model.

Node-Locked Licensing Model

The current standard licensing paradigm is based on a Node-Locked Dialogic® Powermedia XMS or HMP licensing model. In this model, all licensed machines (such as platforms with Dialogic® Powermedia XMS or HMP software installed) must have obtained a valid node-locked license.

Node-locked license types restrict use of features to a designated platform, thus limiting the use of the licensed features to platform resident applications. The following figure illustrates the current licensing architecture of a licensed machine. Each component is resident in the licensed machine and functions as described below. The components represent the primary licensing software that configures and manages licensable features. These components can be present on a physical or virtual (VM) server as there are no existing distinctions between either platform environment.
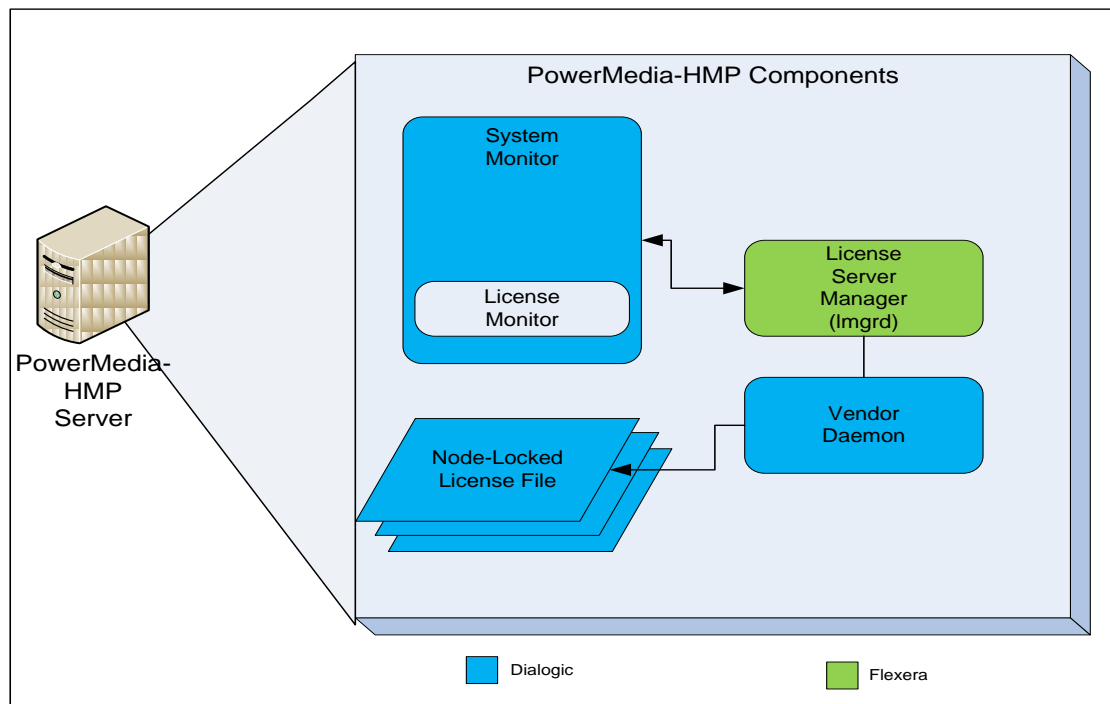
Node-Locked Licensing Model

Server Licensing Model

A server licensing model, or concurrent /floating licensing, is the first step in the licensing migration process from the current node-locked certificate model to a concurrent model that supports resource sharing. This initial release is based on a Client/Server model where the license server normally resides on a separate platform from Client license machines.

The Dialogic® Standalone License Server (SLS) changes the existing licensing model such that licenses are held and maintained centrally by a License Server. HMP clients are granted rights to access and use resources from a designated resource pool controlled by the License Server. HMP connects across a TCP/IP network and sends requests to checkout any number of features that are available from the SLS.
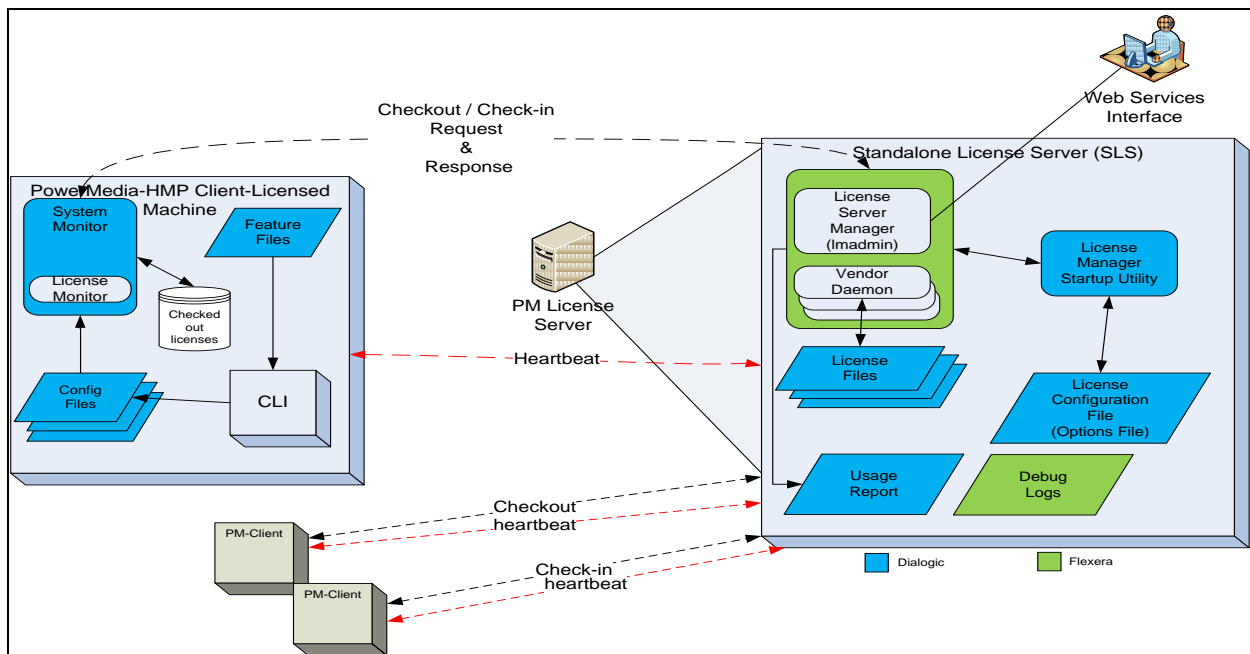
Server License Model

The above figure shows that licensing management is decoupled from the PowerMedia-HMP software. The right side of the figure shows a Standalone License Server (SLS) component that contains the license manager (lmadmin) with the associated vendor daemon. The license files are stored with the SLS, and not the PowerMedia-HMP software. The SLS also offers a web services interface for OA&M purposes.

The left side of the above figure shows the PowerMedia-HMP Client Licensed Machine. Several of these can connect to the same SLS. The PowerMedia-HMP Client Licensed Machine introduces Features File that contain features and their associated counts that it wants to check out from the SLS. The Features File contain the address of the SLS.

SLS Components

The License Server consists of the following files:

File	Definition
Options File	The Options file provides special settings and behaviors for License Manager on the SLS. The file is found at /opt/sls/lmadmin/licenses/INTEL/INTEL.opt. By default , the options file content is as follows: ``` USAGE_REPORT /opt/sls/usage_report VD_DEBUG ERROR ``` The USAGE_REPORT keyword indicates the path were the usage report files are stored. The VD_DEBUG keyword indicates the level of the vendor daemon debug information. It can be set to one of the following: INFO – All logs are shown ERROR – Only errors are shown NONE – Nothing is logged
Usage Report Files	Usage Report files are found in the default directory /opt/sls/usage_report. The file names have the format of Month_DD_YYYY_usage_report.xml (as in, Feb_15_2012_usage_report.xml). This file is maintained by the Vendor Daemon and shows all of the check-outs and check-ins made on this SLS system. An example of the file content is as follows: ``` <checkout> <id>root@mtl-lin1-ptrudel</id> <feature>Voice</feature> <count>1</count> <sign>AA86BCD8743C</sign> <time>02/17/12 11:02:02</time> </checkout> <checkin> <id>root@mtl-lin1-ptrudel</id> <feature>Voice</feature> <time>02/17/12 15:12:32</time> </checkin> ```
Vendor Daemon Log File	The Vendor Daemon Log file traces errors to the *INTEL.log* file that is found at/opt/sls/lmadmin/logs. The level of logging is determined using the keyword VD_DEBUG in the Options file. Refer to the **Error! Reference source not found.**.

License Server Manager Log File	The License Manager (herein also referred to as lmadmin) logs useful error messages in the *lmadmin.log* file found at /opt/sls/lmadmin/logs.

3. SLS Installation Procedure

This chapter describes the Dialogic® Standalone License Server Software Release 1.0LIN installation procedure.

Order of Procedures

This section describes the order in which the installation procedures must be performed. If you wish to automate the software installation or integrate it into another setup program, follow the procedures in the "Performing a Silent Install" section.

The basic order of the installation process is as follows:

1. Be sure to meet the pre-installation requirements described in the following section.

2. Install the Dialogic® SLS software as described in the "Installing the SLS Software" section.

3. Follow the procedure in the "Checking the SLS Software" section to confirm that the software was installed properly.

4. Start the SLS as shown in the "Starting the SLS" section.

Pre-installation Requirements

The following requirements must be met in order to install the Dialogic® SLS Release 1.0LIN software.

-   Physical bare-board Linux system

    NOTE: Virtual Machine is not currently supported.

-   Red Hat Enterprise Linux (RHEL) Release 4.0, 5.0 and later

-   Community ENTerprise Operating System (CentOS) 5, 6 and later

Installing the SLS Software

The Dialogic® SLS software can be downloaded from the http://www.dialogic.com/support/ website. When you select the Download option, you will be asked to either LOGIN or JOIN.

After downloading the software, use the following procedure to install the software. If a silent installation is desired, follow the procedures in the "Performing a Silent Install" section.

1. Log in to the Linux system as root.

2. Download the sls installation tar file.

3. Untar the following files with the command: *tar -xzvf <tarfile>*
    buildinfo
    lsb-dialogic-sls-1.0-3.i386.rpm
    slsinstall.sh
    slsuninstall.sh

4. Run the command *./slsinstall.sh*

```
Options for slsinstall.sh are:

-h              Help
-s              Silent installation
-l              License Manager port. Default is 27000
-w              License Manager web interface port. Default is 8080
```

5. Press ENTER to continue the installation

6. Modify the license server port and the license server web port if necessary.

The following is a sample output:

```
      [root@mtl-lin1-ptrudel sls]# ./slsinstall.sh

================================================================================
Standalone License Server Installation
================================================================================
Press ENTER to install the Standalone License Server
Do you wish to configure the License Server Listening Port (default is 27000) [y/n] ? n
Do you wish to configure the License Web Server Listening Port (default is 8080) [y/n] ? n
Standalone license server installation completed
---------------------------------------------------------------------------
--                                                                       --
-- NOTE:                                                                  --
--                                                                       --
-- (1) The default Verification License has been automatically installed. --
-- (2) The Dialogic(R) sls system services will automatically start every --
--     time the system is rebooted. To start and stop system services    --
--     manually, use the slsstop and slsstart scripts found in           --
--     /opt/sls/bin.                                                      --
-- (3) For details, refer to documentation                               --
--                                                                       --
-- NEXT STEPS:                                                            --
-- (1) Before using the software, you MUST do one of the following:      --
--     a) Reboot the system.      -- OR --                               --
--     b) Do the following:                                              --
--        (i) Ensure that the environment variables are set by performing --
--            the following action:                                      --
--            - Logout and login                                         --
--        (ii) Start the Dialogic(R) sls system services manually using  --
--             the slsstart script found in /opt/sls/bin.                --
--                                                                       --
---------------------------------------------------------------------------
```

7. Logout and then login to a new session to complete the procedure.

The installation script creates a user-named *sls* with the group name *lmadmin*. The SLS installation files will be placed in /opt/sls directory.

NOTE: The SLS script files are required to run with root privilege.

Performing a Silent Install

A silent installation is recommended when no user interaction is intended. This install allows the user to predefine the answers normally supplied to the setup program interactively.

The silent install can be run by entering the following command:

```
./slsinstall.sh –s –l 27000 –w 8080
```

NOTE: No output is printed following this command.

Checking the SLS Installation

After the Dialogic® SLS software has been installed, the user may verify the installation.

To check which packages were installed, enter the following command:

```
rpm -qa lsb-dialogic-sls-\*
```

The names of the installed packages will be listed. The SLS files are found in the /opt/sls directory.

Starting the SLS

The SLS License Manager (lmadmin) will start automatically when the system is rebooted. Otherwise, proceed as follows:

1. Start a new session to make sure that the environment variables are properly set.

2. Enter *slsstart* to run the License Manager.

The following is a sample output:

```
[root@mtl-lin1-ptrudel ~]# # slsstart

Starting License Manager Daemon:                        [  OK  ]
System validation...done!.
License validation...done!.
15:54:42 (INTEL) FLEXnet Licensing version v11.10.0.0 build 95001 i86_lsb
15:54:42 (INTEL) lmremove disabled
lmadmin started success.
[root@mtl-lin1-ptrudel ~]#
```

Proceed to Chapter 4, "Managing the SLS" for details about using the SLS.

NOTE: It is best to dedicate a console for lmadmin as it may still output information messages even after the prompt is available.

4. Uninstalling the Software

This chapter describes how to uninstall the Dialogic® Standalone License Server Software Release 1.0LIN software.

NOTE: It is good practice to create a backup directory to save your configuration data before uninstalling the software. Refer to the "Creating a Backup Directory" section for details.

Proceed as following to uninstall the software:

1. Stop the SLS service by entering the command **slsstop**
   Several screen messages will scroll, and services are stopped when the prompt returns.

2. Enter the following command at the prompt:
   slsuninstall.sh
   The following message displays:

```
==============================================================================

Dialogic(r) SLS Software Release 1.0LIN

UNINSTALL

Before you uninstall the software, you may wish to save certain configuration files that
you have modified based upon the configuration of your system.
If you wish to save these configuration files, answer Y at the prompt below to quit the
uninstall. You may then manually back up any files located under /usr/dialogic.
Once this has been done, re-run this script to uninstall the software.
Quit the uninstall and back up your configuration files now [y/n] ?
```

3. Enter **y** to stop the uninstall process and to back up data, or enter **n** to continue.
   If you enter **n**, the following message is displayed:

```
The Dialogic(r) Software will now be uninstalled.
Stopping Dialogic(r) software ...Successful
```

4. To complete the removal of the software, logout from the current session and start a new one.

NOTE: A reboot is not required to complete the uninstall process.

Creating a Backup Directory

Proceed as follows to create a backup directory:

1. From root, enter the command **mkdir /backup**.

2. Go to the /opt/sls/lmadmin/licenses/INTEL directory (the default directory for license files) or whatever directory contains your license files.

3. Using the copy command, cp, copy all instances of the active license file (with all extensions: .lic) to the backup directory.

5. Managing the SLS

The SLS is managed using a web interface. The SLS License Manager parameters are persistent and are modified using a web browser. Supported web browsers include:

- On Red Hat Linux, Mozilla Firefox 3

- On Windows, Microsoft Internet Explorer 6, 7 and 8

- On Mac OS X, Apple Safari 4.0.

Start the web browser with the address:port of the SLS. The example below uses http://10.130.1.47:8080.
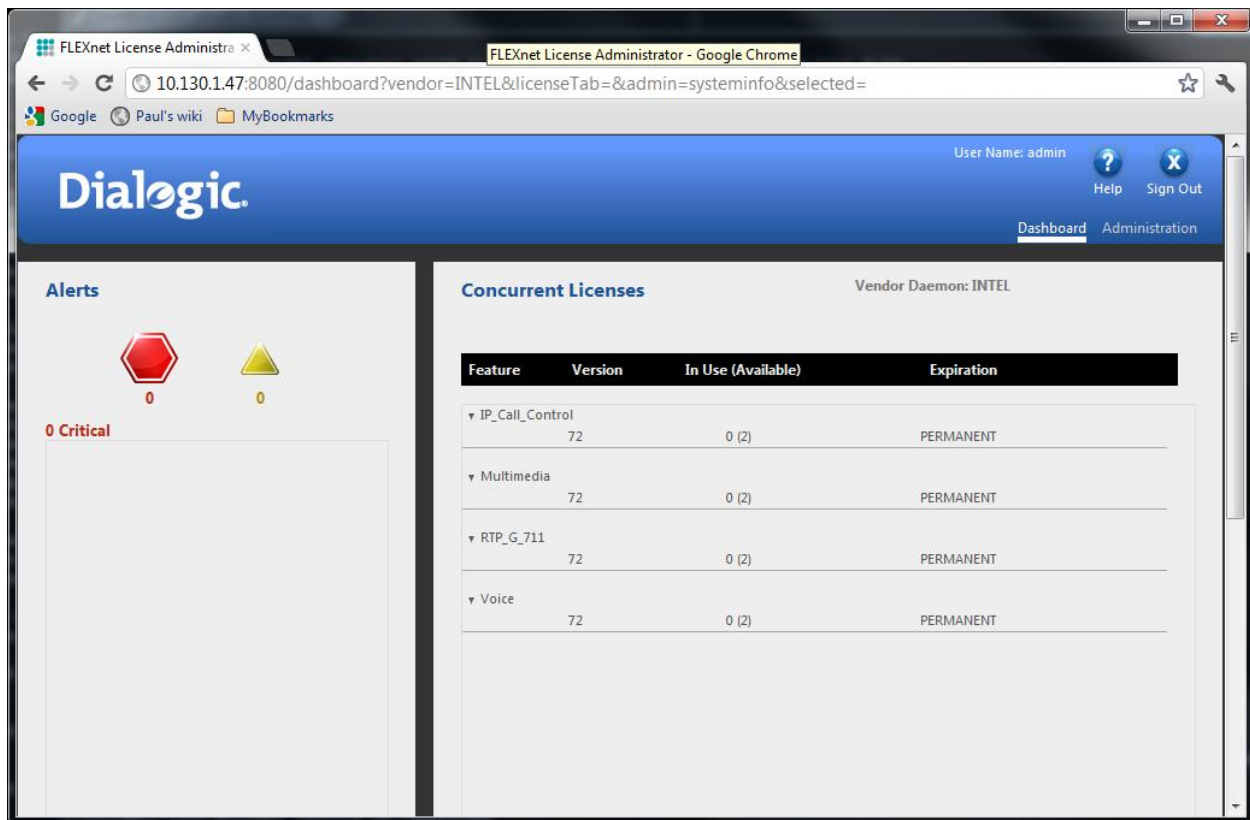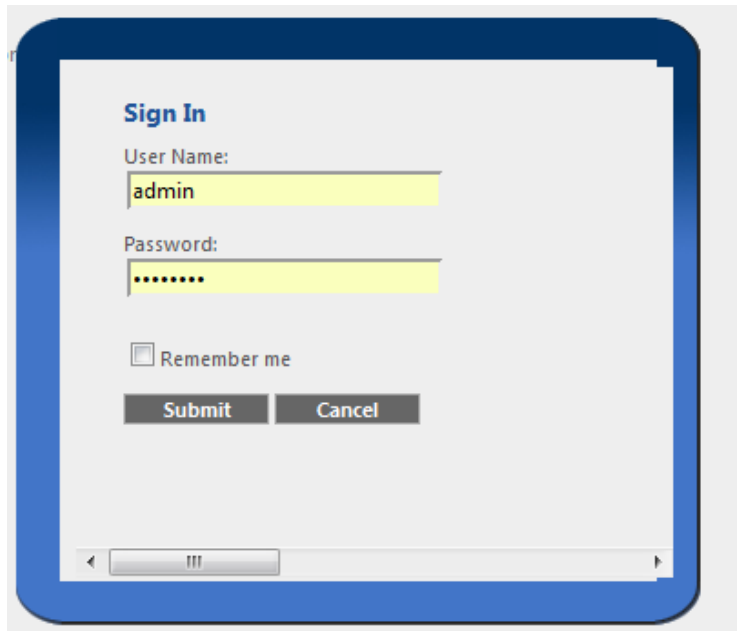
SLS License Manager Dashboard

The SLS comes with an experimental license with two ports for four basic features. The SLS License Manager Dashboard default screen shows all the features available and their statistics.

You must be signed in as Administrator to configure SLS parameters.

1. Click on **Administration** in the upper right corner .

2. Sign in with the default user name **admin** and password **dialogic**

3. Click **Submit**.

Administrator Sign In

After user information is authenticated, the System Information page displays the overall settings of the SLS as shown below:

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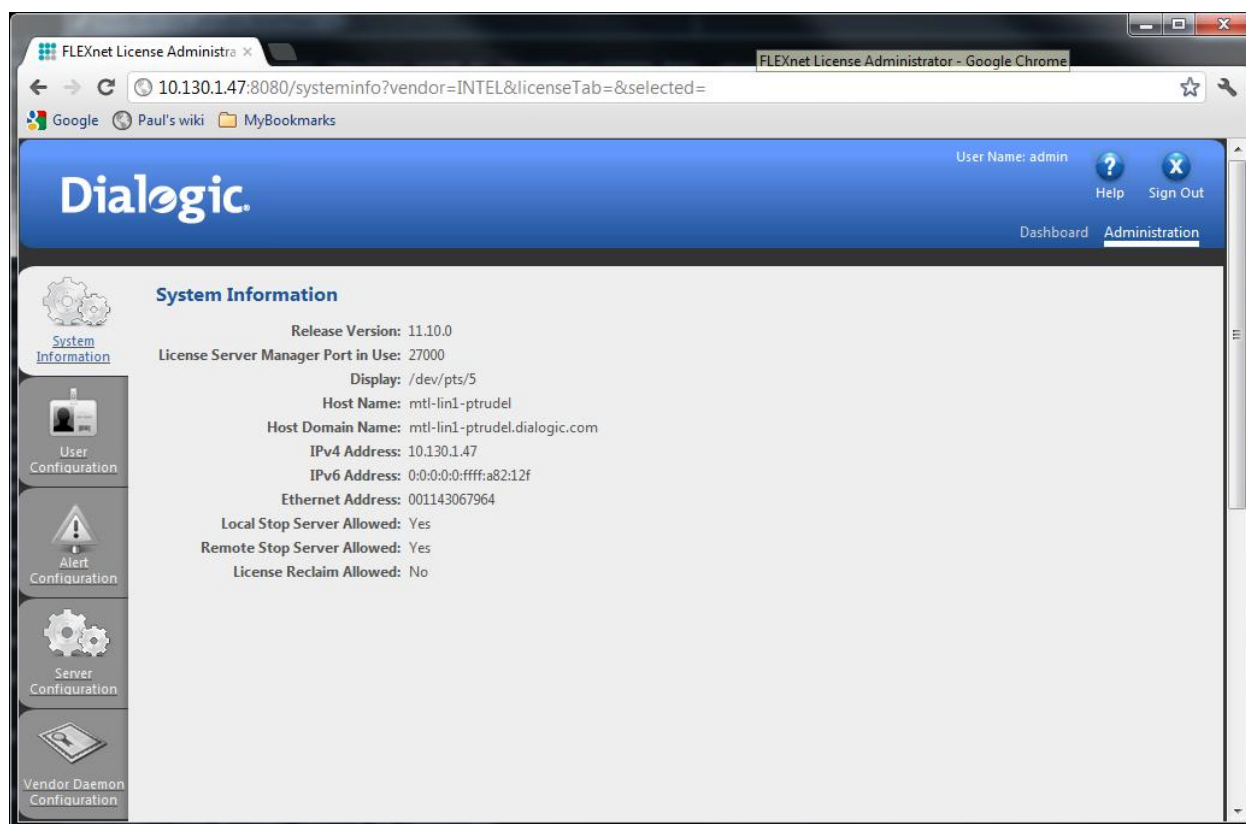**System Information**

The side-bar menu has five topics:

- System Information

- User Configuration

- Alert Configuration

- Server Configuration

- Vendor Daemon Configuration

Click **Help** or the **?** icon in the upper right corner to retrieve online help with any parameters.

Click **Sign Out** or the **X** icon in the upper right-hand corner to sign out of the License Manager administration functions. You will still be able to access the Dashboard to view licensing statistics.

SLS Parameter Configuration

There are four configuration items on the SLS License Manager. The first is User Configuration. Click on **User Configuration** to add new users or modify the administrator sign in settings.
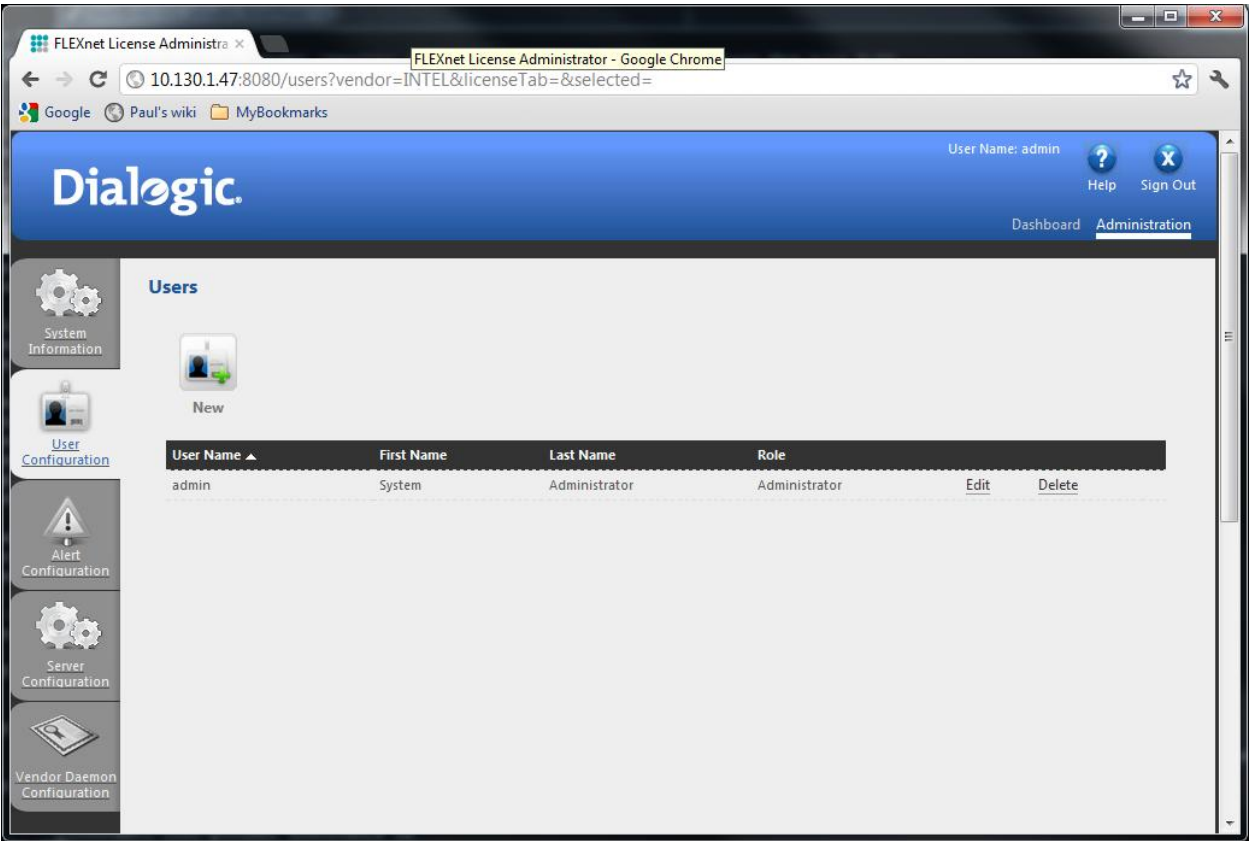
Users Page

Alert Configuration

Alert messages are shown in the Dashboard.
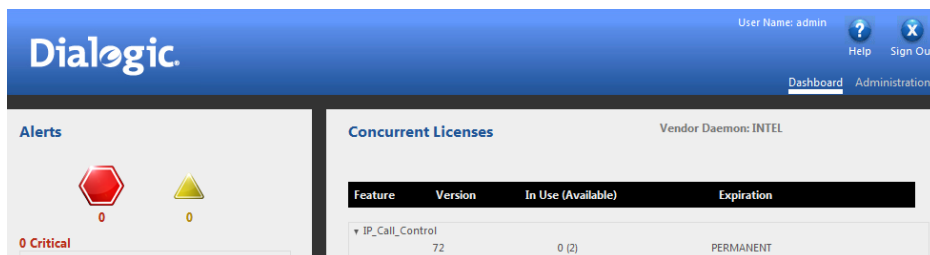
Alert messages are configurable using the Alert Configuration page. Click **Alert Configuration** .
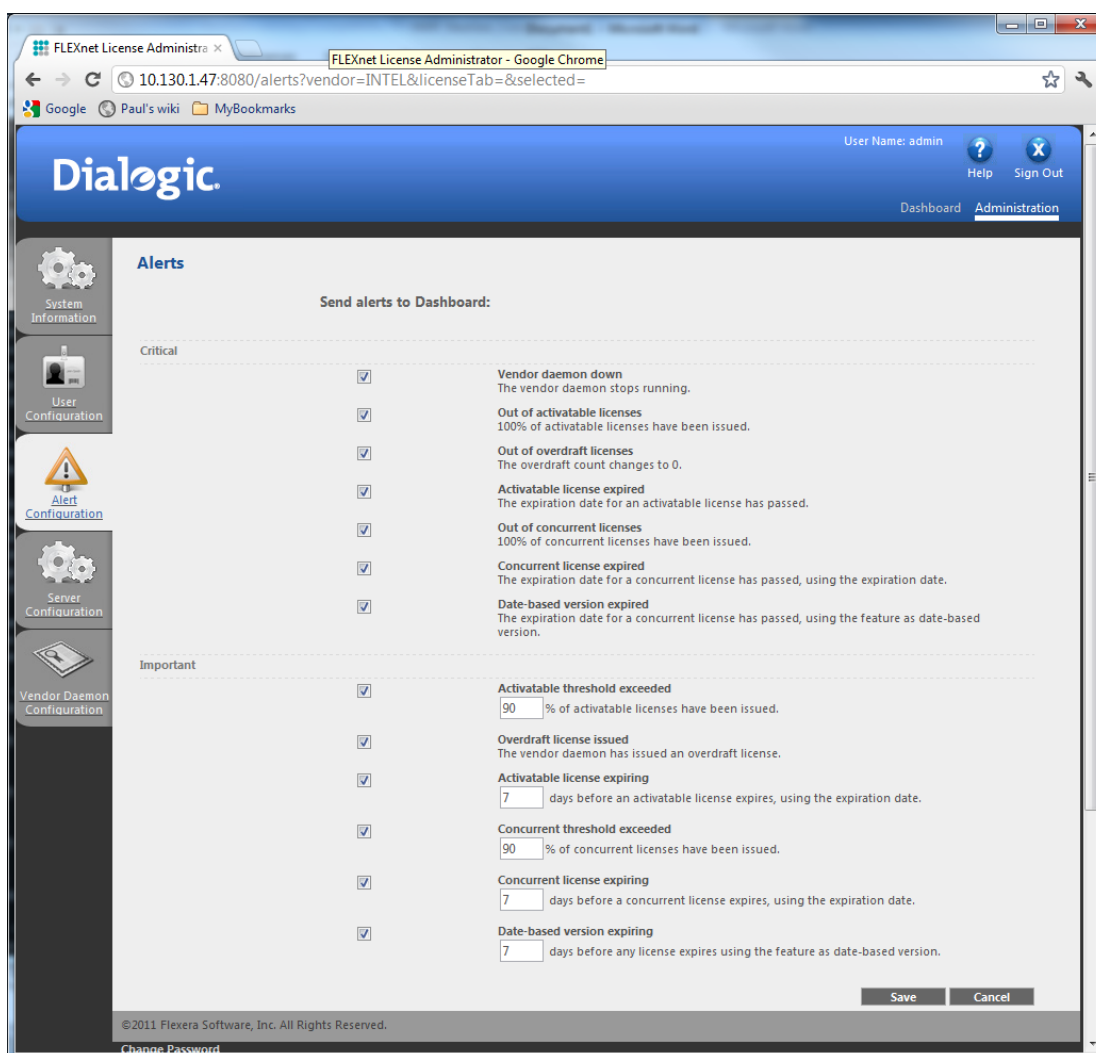
Alert Configuration

These messages can be configured on or off by clicking the appropriate check-box. License thresholds are also set on this page. By default, all alerts are sent to the Dashboard.

Server Configuration

The License Manager server (lmadmin) configuration can be modified by clicking **Server Configuration**. The License Server Manager Port can be configured on this page as well. The default value is 27000.

If you wish to use https for a secure connection to the License Manager web interface, click **Secure Web Configuration**. The settings on this page allow you to configure HTTP-over-SSL (HTTPS) communication with the web server interface. Before configuring these properties, you must generate or obtain the following files:

- Your signed SSL certificate

- Your private key

- The certificate chain file (required only if you plan to use a certificate chain)

NOTE: If you do not have a signed verified SSL certificate, then you may use the default settings. In this case, the browser will show an error indicating that the security certificate is not issued by a trusted certificate authority. Before making any changes, click **Stop Server** to stop the SLS. Once changes are made, click **Save**.
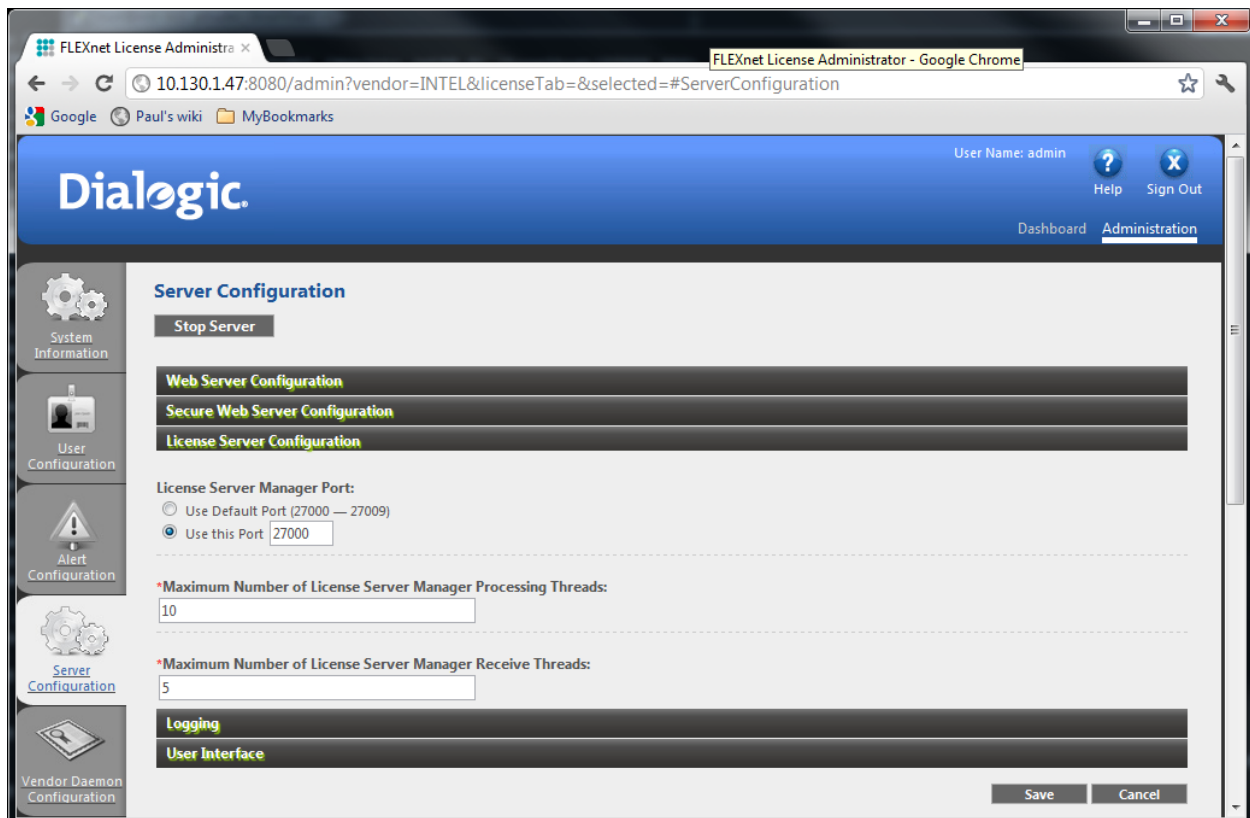
Server Configuration

Vendor Daemon Configuration

The Vendor Daemon keeps track of how many licenses are checked out and who has them.

Click **Vendor Daemon Configuration**. The page shows all the vendor daemons managed by the SLS. In this case, the INTEL vendor daemon is listed.
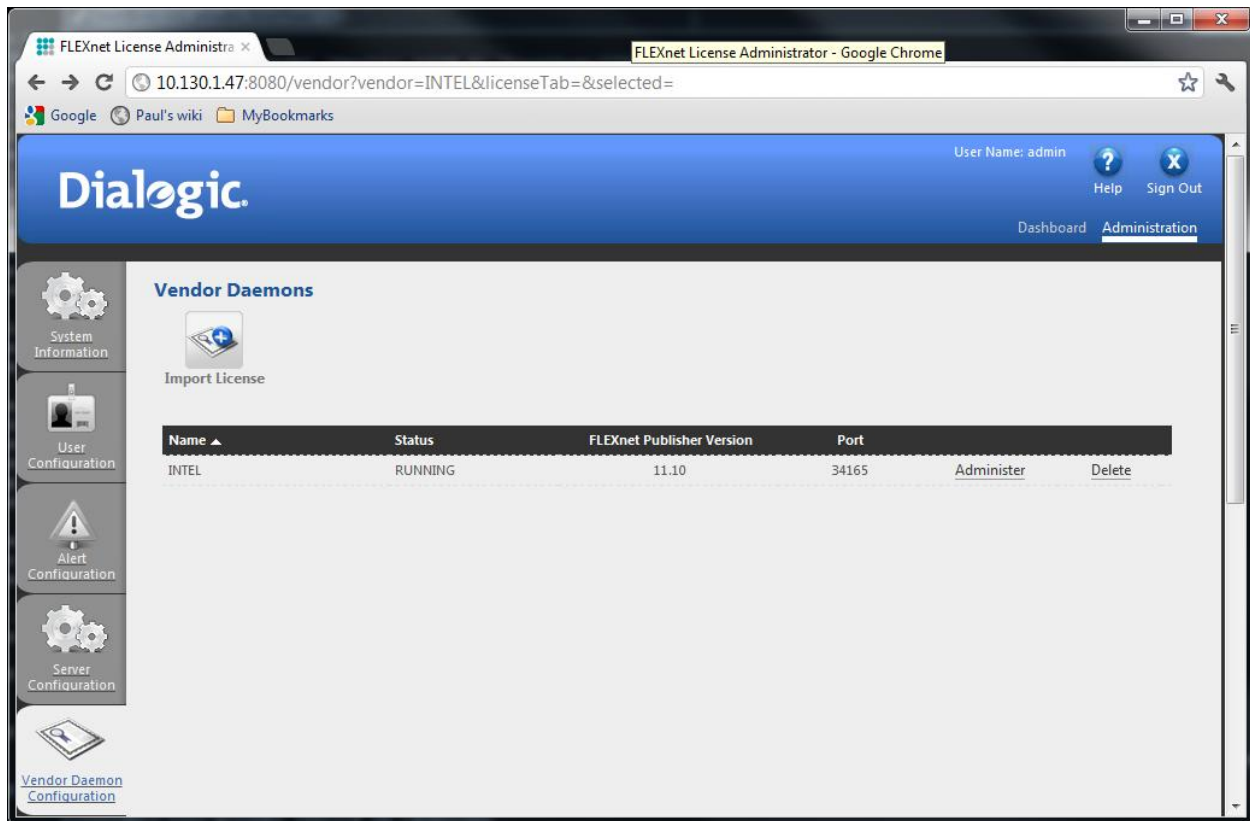
Add a license file to the license manager:

1. Click **Import License**. A file dialog box appears from which to choose a license file.

2. Select an SLS type license file.

   NOTE: Do not use a node-locked license file.

3. Click **Import License**.

In the example below, the license file name *1200v1200e1200c1200r1200m1200i_sls.lic* contains 1200 ports for six (6) different features. The file can be imported from anywhere on the network as it will be copied over to /opt/sls/lmadmin/licenses/INTEL.
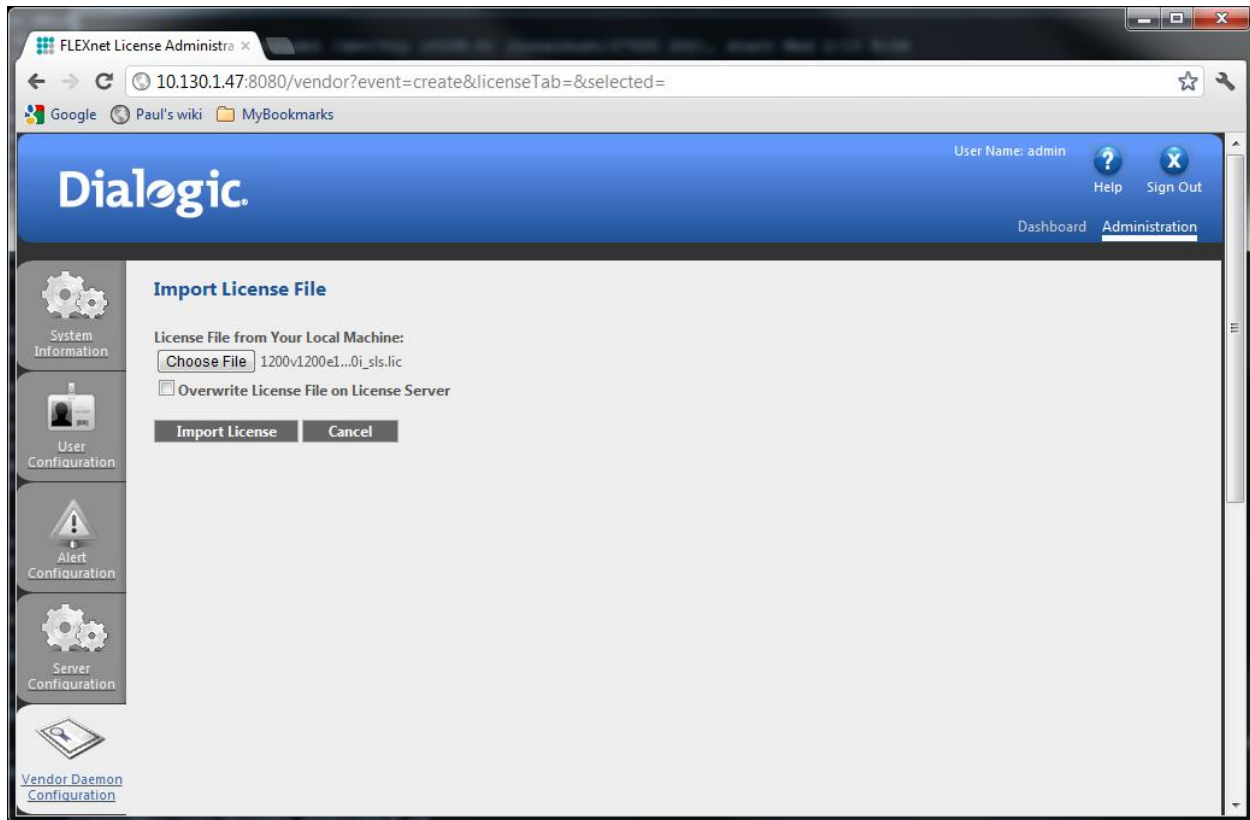
Import License File

The following message is returned from the SLS License Manager:

```
Import Information

Successfully uploaded license file to licenses/INTEL/1200v1200e1200c1200r1200m1200i_sls.lic.

Changed vendor daemon license path for INTEL. Vendor daemon must be restarted for change to take
effect.

Updated vendor daemon configuration for INTEL.
```

A restart of the vendor daemon is required for the license to take effect. Click **Vendor Daemon
Configuration** again to return to Vendor Daemon Configuration page.

Click **Administer** on the INTEL vendor daemon entry line.
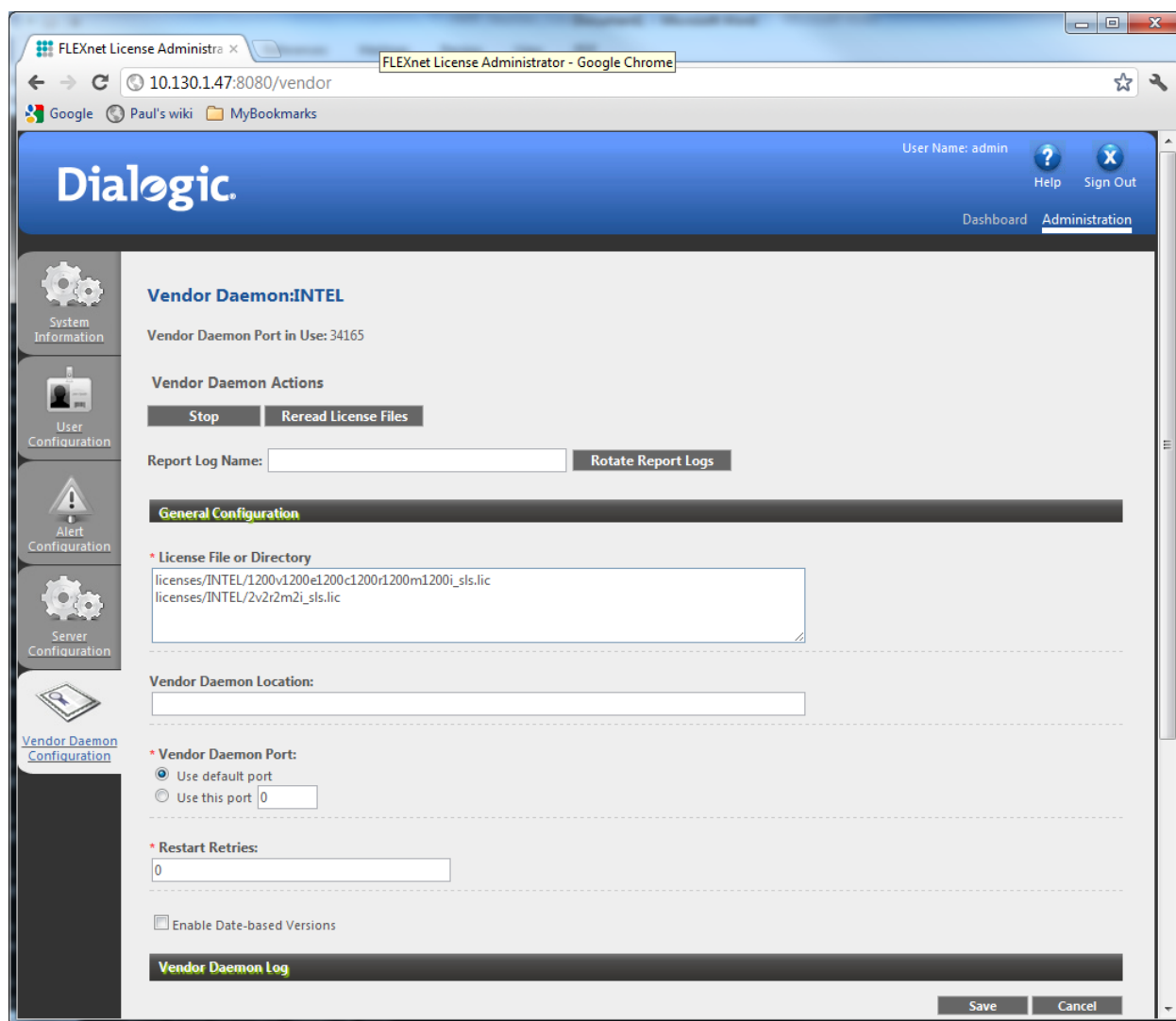
Vendor Daemon:INTEL

The above screen shows two license files:

- *licenses/INTEL/1200v1200e1200c1200r1200m1200i_sls.lic*

- *licenses/INTEL/2v2r2m2i_sls.lic*

If the 2v2r2m2i_sls.lic license file is no longer required, it can be removed from the edit box. Click **Save** for the change to take effect.

After making any changes, you must perform the following:

1. Click **Stop** to return to the "Vendor Daemon Configuration" page.

2. Click **Administer** to return to the Vendor Daemon:INTEL page.

3. Click **Start** to restart the Vendor Daemon.

4. Click **Dashboard** in the upper right-hand corner to view the new license features.

License Import Result

NOTE: If HMP applications already have features checked out, you must do the license update within a five (5) minute period or HMP may shutdown due to no contact with the License Manager.

NOTE: The GUI does not refresh license statistics automatically. It may be required to click the Refresh option . This is a Flexera issue.

6. Generating a Vendor-Defined Hostid

Before generating the SLS license file, a vendor-defined ID key must be obtained from the system that hosts the SLS. This key is referred to as the Vendor Defined Hostid (referred to herein as the VDH). This hostid is composed from encrypted internal serial numbers.

NOTE: You cannot generate a VDH on a Virtual Machine. The SLS License Generator can be run on a "bare metal" system only.

Retrieving the VDH

To retrieve the VDH:

1. Type the following at the command prompt:

```
[root@mtl-lin1-ptrudel INTEL]# vdhkeygen –gkey
```

The system returns:

```
VDH key = <10001020HOm5jEMx1KiqSnH0AQeaz1>
```

2. Copy the VDH key (without the angle brackets). This will be used to generate the SLS license files.

7. Obtaining an SLS License File using the Product Center

NOTE: Before proceeding, be sure to have the VDH . This is required to obtain the SLS license file from Dialogic's Product Center. Refer to the Retrieving the VDH section.

Product Center is a web portal available to customers who purchase HMP licenses from Dialogic. Product Center is found at www.prodcenter/dialogic.com/.

Product Center has the following functions:

- Configurator – Configure the HMP license and see minimum system requirements

- Fulfillment – Request and download permanent licenses

- Replacements – Emergency license replacements

- Upgrades – Upgrade resources or to a later release

- Maintenance – Renew maintenance

The process for obtaining a file is outlined below:

1. On the Product Center site, the Distributor generates a license configuration request that includes features and platform characteristics.

2. Product Center confirms the new license request via email to the Distributor.

3. Distributor orders the HMP license via the Purchase Order process.

4. Product Center notifies the Dialogic Order Desk via an email that a pending license request exists.

5. The Order Desk releases the license configuration upon approval.

6. Product Center notifies the Distributor that the new license is available for download. This notification includes a delivery link.

7. Distributor forwards the delivery link to the customer.

8. The customer follows the delivery link to the Product Center to download the license file.

9. Customer installs the license file and activates the license.

Downloading the SLS License

Once the license is approved, which is dependent on a matching order in the order system, then the license is ready for download.

A delivery link is sent to the customer, as shown in Step 7 above, and the customer accesses the Product Center to download the license. This is accomplished as follows:

Click on the delivery link sent via email.

1. Select the License Type from the drop-down list. In this case, it would be **Lock to Server**

2. Enter the Host ID <nbxxx1>

3. Click **Generate License**

The following is a sample generated license file:

```
#SLS License for 10.130.1.47
SERVER this_host VDH=10001020HOm5jEMx1KiqSnH0AQeaz1
VENDOR INTEL

INCREMENT Voice INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=HMP,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=AA86BCD8743C

INCREMENT Enhanced_RTP INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=HMP,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=C2858DFC8064

INCREMENT Conferencing INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=HMP,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=1A858186F210

INCREMENT RTP_G_711 INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=HMP,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=6571CB3AEF42

INCREMENT Multimedia INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=HMP,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=59D1FF52441E

INCREMENT IP_Call_Control INTEL 110.0 permanent 1200 \
        VENDOR_STRING=LIC_TYPE=Purchased,APP=IPCC,HOSTID=5 \
        vendor_info=Dialogic SN=20120217095123 TS_OK SIGN=04DBF0DCE7AC
```

License Details

This license is 'Approved'. You may take further action such as generating the license using the buttons displayed below the summary information.

License ID	22719	Request ID	14958
Product	Intel® NetStructure™ Host Media Processing v3.0 for Windows		
License Status	Approved	License Type	Purchase
Created By	Chris Little	Create Date	Tuesday, September 26, 2006
Last Modified By	Chris Little	Last Modify Date	Tuesday, September 26, 2006
Notes 1	CustomerA		
Notes 2	Project XYZ		
Notes 3			

[Generate License] [Upgrade License] [Create Delivery Link]
[Modify Notes]

Create a new license request with same configuration
⊞ **Configuration Details**

⊞ License History

License Details View

License Details

This license is 'Complete'. It has been approved and a license file has been generated.

License ID	22814	**Request ID**	15036
Product	Intel® NetStructure™ Host Media Processing v3.0 for Windows		
License Status	Complete	**License Type**	Trial
Created By	Chris Little	**Create Date**	Thursday, September 28, 2006
Last Modified By	Chris Little	**Last Modify Date**	Thursday, September 28, 2006
Notes 1			
Notes 2			
Notes 3			

[Email License]   [Download License]   [Create Delivery Link]
[Modify Notes]

Create a new license request with same configuration
⊞ **Configuration Details**

⊞ License History

Download License View

8. High Availability Redundancy

The SLS licensing model provides support for limited high availability through the use of a Flexera licensing feature called the *Redundancy License Search Path*. This feature allows administrators to construct a redundant search path list. PM-Clients use this list to contact multiple license servers when attempting to checkout license rights during system start up. As many as three servers can be specified in the PM-Client's search path list.

Upon system start, the PM-Client will sequentially traverse its search path list, until it finds a license server that can fulfill its checkout request. If the PM-Client reaches the end of the list without successful checkout, it will fail to start.

The following diagram shows the logical checkout request flow of a PM-Client using a checkout list containing License Servers LS1, LS2 and LS3. Note that checkout attempts fail for LS1 and LS2.
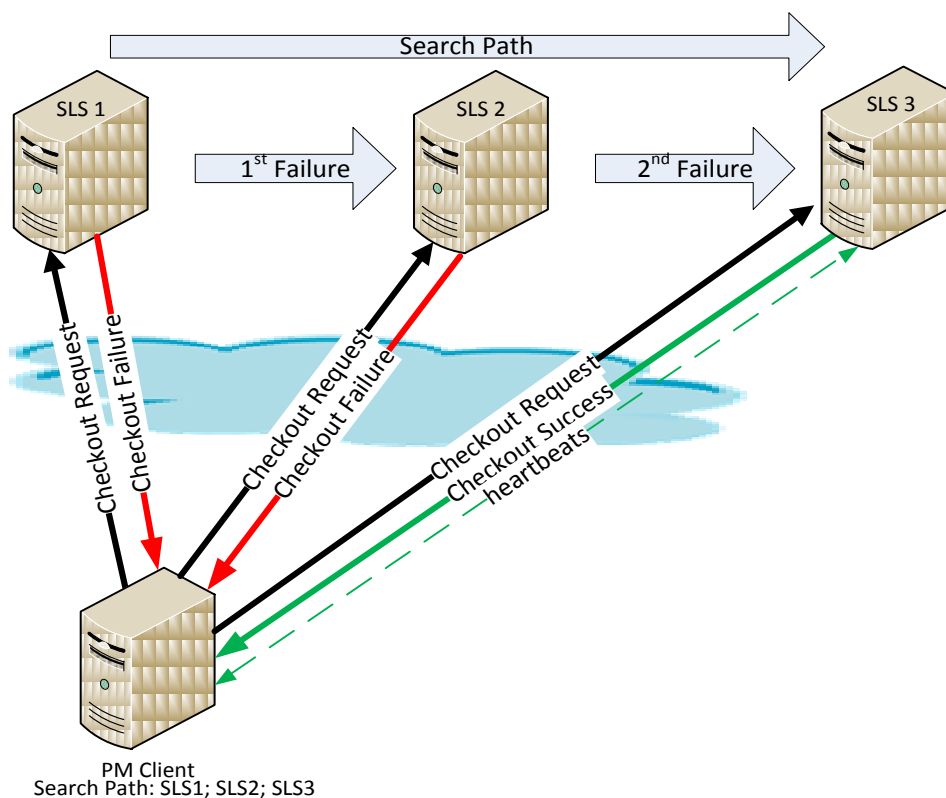
Redundant Search Path

Limitations

The following limitations apply to High Availability Redudancy:

- It is recommended that networks using multiple servers are configured symmetrical. That is, each license server will have the same license feature types and size (count) pool. Each server requires its own license that is locked to its VDH platform credentials. Additionally, each PM-Client's list should be configured identically, insuring that the secondary servers are only used during outage conditions.

- Check-in and check-out attempts may fail for multiple reasons, such as network outages, a license server outage or an incorrect search path list in configuration settings (for example, an invalid IP address).

- The Redundancy License Search Path model is applicable only during system startup. Once a connection has been established as a result of a successful checkout, the PM-Client doesl not attempt to connect to any other license servers. If the license server connection is lost, the PM-Client must be restarted at which time the search path process is repeated until a connection is established with a license server in the search path list.

9. Release 1.0 Known Issues

This chapter lists known issues for the initial release. These issues will be addressed in future releases of the Dialogic® SLS software.

- The GUI does not refresh statistics automatically. It is necessary click the browser's refresh option manually.

- When all the resources are checked out, the GUI may show an alert message every minute. The message should display once. This is a Flexera issue. For now, this can be changed on the GUI Alert Configuration page.

HMP and SLS Co-existence

Although HMP and SLS can co-exist on the same system, HMP cannot be using node-locked licensing when the SLS is active. This is because SLS uses lmadmin as the License Manager, while HMP uses the lmgrd License Manager for node-locked licensing. These two License Managers cannot co-exist at the same time.

Proceed as follows to resolve HMP and SLS conflicts:

1. Enter **dlstop** at the command prompt, followed by **dlstart**

2. At the CLI> prompt, enter **conf system ipmedia stop**

3. Enter **slsstop**

4. After one (1) minute (see Known Issues), enter **slsstart**

5. At the CLI> prompt, enter **conf license directory <dirname>**
   The <dirname> contains *features.xml* file.

6. At the CLI> prompt, enter **conf license activate features.xml**

7. At the CLI> prompt, enter **conf system ipmedia start**