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Chapter 1: Introduction

This section describes the License Server, and the IDOL product suite and system architecture.

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License Server

The IDOL License Server allows you to license all your IDOL products.

When you set up your IDOL system, you install a License Server on a machine that all other services can contact over the network. This License Server must have access to the license key file that contains your licensing information.

You then configure each IDOL service with a [License] configuration section. In this section, you configure the host and port of the License Server. These components then contact the License Server for license details when they start. The License Server manages the licenses for all your services.

You can operate the License Server by using ACI actions (HTTP requests that provide a quick way to operate the License Server from your Web browser).

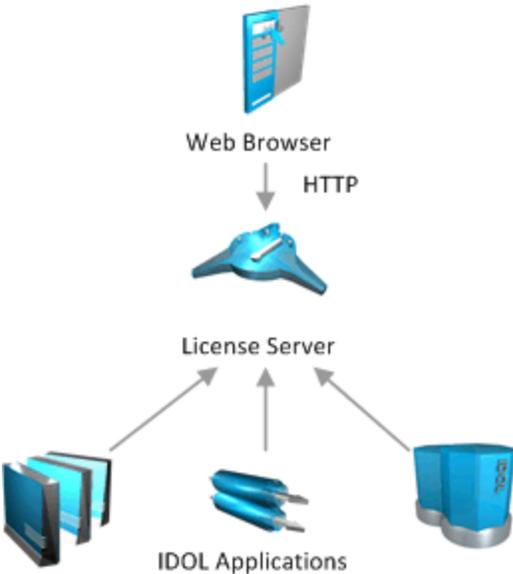
The IDOL Platform

License Server integrates with the *Intelligent Data Operating Layer* (IDOL). IDOL gathers and processes unstructured, semi-structured, and structured information in any format from multiple repositories, using IDOL connectors and a global relational index. It can automatically form a contextual understanding of the information in real time, linking disparate data sources together based on the concepts contained within them. For example, IDOL can automatically link concepts contained in an e-mail message to a recorded phone conversation, which can be associated with a stock trade. This information is then imported into a format that is easily searchable, adding advanced retrieval, collaboration, and personalization to an application that integrates the technology.

For more information on IDOL, refer to the *IDOL Getting Started Guide*.

License Server Architecture

You can send ACI actions or service actions to the License Server by using your Web browser. You send ACI actions by using the ACI port of the machine that License Server is installed on. You can also send service actions to the License Server by using your Web browser (for example, to pause or stop the License Server). You send service actions by using the service port of the machine that the License Server is installed on.



Chapter 2: Install License Server

This section describes how to install License Server. The License Server is required for licensing IDOL products.

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The License Key File

Before you install License Server, you must have a license key file (`licensekey.dat`). You obtain this file from IDOL Technical Support when you purchase IDOL.

The license key contains information about the components that you can run, and the limits for those components (such as index size, or limitations to the types of actions that you can perform).

The license key also contains information about the machine on which you install License Server. You must install License Server in a fixed location, which you can identify by using:

- an IP or MAC address for a static machine.
- a cloud virtual machine instance UUID.

You must provide this information to IDOL Technical Support when you request the license key.

For information about how to obtain the required instance UUID value, refer to the documentation for your cloud provider.

NOTE:
On Linux, to use a UUID-bound license, License Server must be able to access the system DMI/SMBIOS information. This usually requires root access. In this case, configure License Server to run with `setuid root`.

License Server releases the extra privileges as soon as it verifies that the license key is valid for use on that server, and continues to run as the user that started the process.

Install License Server on Windows

You can install License Server by using the IDOL Server installer. The IDOL Server installer includes all the main IDOL components, including License Server.

Use the following procedure to install License Server on Microsoft Windows operating system platforms, by using the IDOL Server installer.

After you install, you can optionally also add License Server as a Windows service. For more information, see [Install an IDOL Component as a Service on Windows, on the next page](#).

To install License Server

1. Double-click the appropriate installer package:

`IDOLServer-VersionNumber-Platform-installer.exe`

where:

VersionNumber is the version of the installer.

Platform is your software platform.

The Setup dialog box opens.

2. Click **Next**.

The License Agreement dialog box opens.

3. Read the license agreement. Select **I accept the agreement**, and then click **Next**.

The Installation Directory dialog box opens.

4. Specify the directory to install License Server and License Server in. By default, the system installs on `C:\Program Files\IDOLServer-VersionNumber`. Click  to navigate to another location. Click **Next**.

The Installation Mode dialog box opens.

5. Select **Custom**, and then click **Next**.

The License Server dialog box opens.

6. To install a new License Server, click **No**, and then click **Next**.

7. Specify the ports that you want License Server to listen on, and then type the path or click  and navigate to the location of your IDOL license key file (`licensekey.dat`), which you obtained when you purchased License Server. Click **Next**.

The Component Selection dialog box opens.

8. Click **Next**.

9. Select the check boxes for the components that you want to install, and specify the port information for each component, or leave the fields blank to accept the default port settings. For more information, refer to the *IDOL Getting Started Guide*.

Click **Next** or **Back** to move between components.

10. After you have specified your settings, the Summary dialog box opens. Verify the settings you made and click **Next**.

The Ready to Install dialog box opens.

11. Click **Next**.

The Installing dialog box opens, indicating the progress of the installation. If you want to end the installation process, click **Cancel**.

12. After installation is complete, click **Finish** to close the installation wizard.

Install an IDOL Component as a Service on Windows

On Microsoft Windows operating systems, you can install any IDOL component as a Windows service. Installing a component as a Windows service makes it easy to start and stop the component, and you can configure a component to start automatically when you start Windows.

Use the following procedure to install License Server as a Windows service from a command line.

To install a component as a Windows service

1. Open a command prompt with administrative privileges (right-click the icon and select **Run as administrator**).
2. Navigate to the directory that contains the component that you want to install as a service.
3. Send the following command:

```
Component.exe -install
```

where *Component.exe* is the executable file of the component that you want to install as a service.

The `-install` command has the following optional arguments:

<code>-start {[auto] [manual] [disable]}</code>	The startup mode for the component. Auto means that Windows services automatically starts the component. Manual means that you must start the service manually. Disable means that you cannot start the service. The default option is Auto .
<code>-username <i>UserName</i></code>	The user name that the service runs under. By default, it uses a local system account.
<code>-password <i>Password</i></code>	The password for the service user.
<code>-servicename <i>ServiceName</i></code>	The name to use for the service. If your service name contains spaces, use quotation marks (") around the name. By default, it uses the executable name.
<code>-displayname <i>DisplayName</i></code>	The name to display for the service in the Windows services manager. If your display name contains spaces, use quotation marks (") around the name. By default, it uses the service name.
<code>-depend <i>Dependency1</i> [,<i>Dependency2</i> ...]</code>	A comma-separated list of the names of Windows services that Windows must start before the new service. For example, you might want to add the License Server as a dependency.

For example:

```
Component.exe -install -servicename ServiceName -displayname "Component Display Name" -depend LicenseServer
```

After you have installed the service, you can start and stop the service from the Windows Services manager.

When you no longer require a service, you can uninstall it again.

To uninstall an IDOL Windows Service

1. Open a command prompt.
2. Navigate to the directory that contains the component service that you want to uninstall.
3. Send the following command:

```
Component.exe -uninstall
```

where *Component.exe* is the executable file of the component service that you want to uninstall.

If you did not use the default service name when you installed the component, you must also add the *-servicename* argument. For example:

```
Component.exe -uninstall -servicename ServiceName
```

Install License Server on UNIX

Use the following procedure to install License Server in text mode on UNIX platforms.

To install License Server on UNIX

1. Open a terminal in the directory in which you have placed the installer, and enter the following command:

```
./IDOLServer_VersionNumber_Platform.exe --mode text
```

where:

VersionNumber is the version number of the installer

Platform is the name of your UNIX platform

NOTE:

Ensure that you have execute permission for the installer file.

The console installer starts and displays the Welcome screen.

2. Read the information and then press the `Enter` key.
The license information is displayed.
3. Read the license information, pressing `Enter` to continue through the text. After you finish reading the text, type `y` to accept the license terms.
4. Type the path to the location where you want to install the servers, or press `Enter` to accept the default path.
The Installation Mode screen is displayed.
5. Press `2` to select the Custom installation mode.
The License Server screen opens.
6. To install a new License Server, type `n`.
7. If you want to install a new License Server, provide information for the ports that the License

Server uses.

- a. Type the value for the ACI Port and press `Enter` (or press `Enter` to accept the default value).

ACI Port The port that client machines use to send ACI actions to the License Server.

- b. Type the value for the Service Port and press `Enter` (or press `Enter` to accept the default value).

Service Port The port by which you send service actions to the License Server. This port must not be used by any other service.

- c. Type the location of your IDOL license key file (`licensekey.dat`), which you obtained when you purchased License Server. Press `Enter`.
8. The Component Selection screen is displayed. Press `Enter`. When prompted, type `y` for the components that you want to install. Specify the port information for each component, and then press `Enter`. Alternatively, leave the fields blank and press `Enter` to accept the default port settings. For more information, refer to the *IDOL Getting Started Guide*.

NOTE:

These ports must not be used by any other service.

The Init Scripts screen is displayed.

9. Type the user that the server should run as, and then press `Enter`.

NOTE:

You must create the user before you run the installer.

10. Type the group that the server should run under, and then press `Enter`.

NOTE:

If you do not want to generate init scripts for installed components, you can simply press `Enter` to move to the next stage of the installation process without specifying a user or group.

The Summary screen is displayed.

11. Verify the settings that you made, then press `Enter` to begin installation.

The Installing screen is displayed.

This screen indicates the progress of the installation process.

The Installation Complete screen is displayed.

12. Press `Enter` to finish the installation.

Install an IDOL Component as a Service on Linux

On Linux operating systems, you can configure a component as a service to allow you to easily start and stop it. You can also configure the service to run when the machine boots. The following procedures describe how to install License Server as a service on Linux.

NOTE:

To use these procedures, you must have root permissions.

NOTE:

When you install License Server on Linux, the installer prompts you to supply a user name to use to run the server. The installer populates the init scripts, but it does not create the user in your system (the user must already exist).

The procedure that you must use depends on the operating system and boot system type.

- For Linux operating system versions that use systemd (including CentOS 7, and Ubuntu version 15.04 and later), see [Install a Component as a Service for a systemd Boot System, below](#).
- For Linux operating system versions that use System V, see [Install a Component as a Service for a System V Boot System, on the next page](#).

Install a Component as a Service for a systemd Boot System

NOTE:

If your setup has an externally mounted drive that License Server uses, you might need to modify the init script. The installed init script contains examples for an NFS mount requirement.

To install an IDOL component as a service

1. Run the appropriate command for your Linux operating system environment to copy the init scripts to your `init.d` directory.

- Red Hat Enterprise Linux (and CentOS)

```
cp IDOLInstalLDir/scripts/init/systemd/componentname
   /etc/systemd/system/componentname.service
```

- Debian (including Ubuntu):

```
cp IDOLInstalLDir/scripts/init/systemd/componentname
   /lib/systemd/system/componentname.service
```

where *componentname* is the name of the init script that you want to use, which is the name of the component executable (without the file extension).

For other Linux environments, refer to the operating system documentation.

2. Run the following commands to set the appropriate access, owner, and group permissions for the component:

- Red Hat Enterprise Linux (and CentOS)

```
chmod 755 /etc/systemd/system/componentname
chown root /etc/systemd/system/componentname
chgrp root /etc/systemd/system/componentname
```

- Debian (including Ubuntu):

```
chmod 755 /lib/systemd/system/componentname  
chown root /lib/systemd/system/componentname  
chgrp root /lib/systemd/system/componentname
```

where *componentname* is the name of the component executable that you want to run (without the file extension).

For other Linux environments, refer to the operating system documentation.

3. (Optional) If you want to start the component when the machine boots, run the following command:

```
systemctl enable componentname
```

Install a Component as a Service for a System V Boot System

To install an IDOL component as a service

1. Run the following command to copy the init scripts to your `init.d` directory.

```
cp IDOLInstallDir/scripts/init/systemv/componentname /etc/init.d/
```

where *componentname* is the name of the init script that you want to use, which is the name of the component executable (without the file extension).

2. Run the following commands to set the appropriate access, owner, and group permissions for the component:

```
chmod 755 /etc/init.d/componentname  
chown root /etc/init.d/componentname  
chgrp root /etc/init.d/componentname
```

3. (Optional) If you want to start the component when the machine boots, run the appropriate command for your Linux operating system environment:

- Red Hat Enterprise Linux (and CentOS):

```
chkconfig --add componentname  
chkconfig componentname on
```

- Debian (including Ubuntu):

```
update-rc.d componentname defaults
```

For other Linux environments, refer to the operating system documentation.

Download the Stand-Alone License Server Package

You can install License Server by using the IDOL Server installer. For details about using this installer, see [Install License Server on Windows, on page 9](#).

You can also download the stand-alone License Server component package from the HPE Big Data customer support site download center. This package includes the component executable file, a configuration file, and the modules that the component requires to run.

To install License Server, you extract the files to the host where you want to run it. If you have more than one version of a component running on the same host, you might also need to update the port information to ensure that each component uses a different port.

On Microsoft Windows operating systems, you can optionally also add License Server as a Windows service. For more information, see [Install an IDOL Component as a Service on Windows, on page 11](#).

Chapter 3: Configure License Server

The settings that determine how the License Server operates are contained in the `licenseserver.cfg` configuration file, which is located in your installation folder. You can modify these settings to customize the License Server according to your requirements.

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Display the Online Reference

All available configuration parameters are documented in the License Server Reference. You can view the Reference in either of two ways:

- In your License Server installation directory, double-click the file `help/index.html`.
- After starting the License Server, send the following action from your Web browser:

```
http://DAHhost:ACIport/action=Help
```

The Reference lists the configuration file sections that you can use each parameter in under the heading **Configuration Parameters**.

Modify Configuration Parameter Values

This section describes how to enter parameter values in the configuration file.

Enter Boolean Values

The following settings for Boolean parameters are interchangeable:

```
TRUE = true = ON = on = Y = y = 1
```

```
FALSE = false = OFF = off = N = n = 0
```

Enter String Values

To enter a comma-separated list of strings when one of the strings contains a comma, you can indicate the start and the end of the string with quotation marks, for example:

```
ParameterName=cat,dog,bird,"wing,beak",turtle
```

Alternatively, you can escape the comma with a backslash:

```
ParameterName=cat,dog,bird,wing\,beak,turtle
```

If any string in a comma-separated list contains quotation marks, you must put this string into quotation marks and escape each quotation mark in the string by inserting a backslash before it. For example:

```
ParameterName="<font face=\"arial\" size=\"+1\"><b>\",<p>"
```

Here, quotation marks indicate the beginning and end of the string. All quotation marks that are contained in the string are escaped.

Include an External Configuration File

You can share configuration sections or parameters between ACI server configuration files. The following sections describe different ways to include content from an external configuration file.

You can include a configuration file in its entirety, specified configuration sections, or a single parameter.

When you include content from an external configuration file, the `GetConfig` and `ValidateConfig` actions operate on the combined configuration, after any external content is merged in.

In the procedures in the following sections, you can specify external configuration file locations by using absolute paths, relative paths, and network locations. For example:

```
../sharedconfig.cfg  
K:\sharedconfig\sharedsettings.cfg  
\\example.com\shared\idol.cfg  
file://example.com/shared/idol.cfg
```

Relative paths are relative to the primary configuration file.

NOTE:

You can use nested inclusions, for example, you can refer to a shared configuration file that references a third file. However, the external configuration files must not refer back to your original configuration file. These circular references result in an error, and License Server does not start.

Similarly, you cannot use any of these methods to refer to a different section in your primary configuration file.

Include the Whole External Configuration File

This method allows you to import the whole external configuration file at a specified point in your configuration file.

To include the whole external configuration file

1. Open your configuration file in a text editor.
2. Find the place in the configuration file where you want to add the external configuration file.
3. On a new line, type a left angle bracket (<), followed by the path to and name of the external

configuration file, in quotation marks (""). You can use relative paths and network locations. For example:

```
< "K:\sharedconfig\sharedsettings.cfg"
```

4. Save and close the configuration file.

Include Sections of an External Configuration File

This method allows you to import one or more configuration sections from an external configuration file at a specified point in your configuration file. You can include a whole configuration section in this way, but the configuration section name in the external file must exactly match what you want to use in your file. If you want to use a configuration section from the external file with a different name, see [Merge a Section from an External Configuration File, on the next page](#).

To include sections of an external configuration file

1. Open your configuration file in a text editor.
2. Find the place in the configuration file where you want to add the external configuration file section.
3. On a new line, type a left angle bracket (<), followed by the path to and name of the external configuration file, in quotation marks (""). You can use relative paths and network locations. After the configuration file name, add the configuration section name that you want to include. For example:

```
< "K:\sharedconfig\extrasettings.cfg" [License]
```

NOTE:

You cannot include a section that already exists in your configuration file.

4. Save and close the configuration file.

Include a Parameter from an External Configuration File

This method allows you to import a parameter from an external configuration file at a specified point in your configuration file. You can include a section or a single parameter in this way, but the value in the external file must exactly match what you want to use in your file.

To include a parameter from an external configuration file

1. Open your configuration file in a text editor.
2. Find the place in the configuration file where you want to add the parameter from the external configuration file.
3. On a new line, type a left angle bracket (<), followed by the path to and name of the external configuration file, in quotation marks (""). You can use relative paths and network locations. After the configuration file name, add the name of the configuration section name that contains the parameter, followed by the parameter name. For example:

```
< "license.cfg" [License] LicenseServerHost
```

To specify a default value for the parameter, in case it does not exist in the external configuration file, specify the configuration section, parameter name, and then an equals sign (=) followed by the default value. For example:

```
< "license.cfg" [License] LicenseServerHost=localhost
```

4. Save and close the configuration file.

Merge a Section from an External Configuration File

This method allows you to include a configuration section from an external configuration file as part of your License Server configuration file. For example, you might want to specify a standard SSL configuration section in an external file and share it between several servers. You can use this method if the configuration section that you want to import has a different name to the one you want to use.

To merge a configuration section from an external configuration file

1. Open your configuration file in a text editor.
2. Find or create the configuration section that you want to include from an external file. For example:

```
[SSLOptions1]
```

3. After the configuration section name, type a left angle bracket (<), followed by the path to and name of the external configuration file, in quotation marks (""). You can use relative paths and network locations. For example:

```
[SSLOptions1] < "../sharedconfig/ssloptions.cfg"
```

If the configuration section name in the external configuration file does not match the name that you want to use in your configuration file, specify the section to import after the configuration file name. For example:

```
[SSLOptions1] < "../sharedconfig/ssloptions.cfg" [SharedSSLOptions]
```

In this example, License Server uses the values in the [SharedSSLOptions] section of the external configuration file as the values in the [SSLOptions1] section of the License Server configuration file.

NOTE:

You can include additional configuration parameters in the section in your file. If these parameters also exist in the imported external configuration file, License Server uses the values in the local configuration file. For example:

```
[SSLOptions1] < "ssloptions.cfg" [SharedSSLOptions]  
SSLCACertificatesPath=C:\IDOL\HTTPConnector\CACERTS\
```

4. Save and close the configuration file.

Configuration File Sections

The License Server configuration file contains several sections, which represent different areas that you can configure. You can configure each area by setting configuration parameters for it. For details of the available parameters, refer to the *License Server Reference*.

Related Topics

- [Display the Online Reference, on page 17](#)

[ACIEncryption]

You can use the [ACIEncryption] section to encrypt communications between ACI servers and any applications that use the IDOL ACI API. For example:

```
[ACIEncryption]
CommsEncryptionType=GSS
ServiceName=Kerberos
```

[AuthorizationRoles]

The [AuthorizationRoles] defines roles that enable a particular set of actions for particular clients, SSL identities, and GSS principals. You must create a subsection for each authorization role that you define in the [AuthorizationRoles] configuration section.

For example:

```
[AuthorizationRoles]
0=AdminRole
1=UserRole

[AdminRole]
StandardRoles=Admin,Index,ServiceControl
Clients=localhost
SSLIdentities=admin.example.com

[UserRole]
StandardRoles=Query,ServiceStatus
SSLIdentities=admin.example.com,userserver.example.com
```

Logging Section

The [Logging] section lists the logging streams that you set up to create separate log files for different log message types. It contains a section for each of the listed logging streams, in which you configure the settings that determine how to log each stream.

For example:

```
[Logging]
LogDirectory=MyLogs
0=APPLICATION_LOG_STREAM
1=ACTION_LOG_STREAM

[APPLICATION_LOG_STREAM]
LogFile=application.log
LogTime=True
LogEcho=True
LogMaxSizeKbs=1024
LogTypeCSVs=application
LogLevel=normal
LogExpireAction=datestamp

[ACTION_LOG_STREAM]
LogFile=action.log
LogTime=True
LogEcho=True
LogMaxSizeKbs=1024
LogTypeCSVs=action
LogLevel=normal
LogExpireAction=datestamp
```

Server Section

The [Server] section contains settings that determine the ports to use to send ACI actions to the License Server, and which machines can send these actions. It also contains settings that control the management of stale licenses (that is, licenses that have not been issued or updated within a specified number of seconds).

For example:

```
[Server]
Port=17500
Threads=8
ReplaceStaleLicenses=True
UseLicenseWithinSeconds=18000
```

Related Topics

- [Revoke Stale Licenses, on page 33](#)

Service Section

The [Service] section contains settings that determine which machines have permission to use and control the License Server service.

For example:

```
[Service]  
ServicePort=40010
```

Configure Client Authorization

You can configure License Server to authorize different operations for different connections.

Authorization roles define a set of operations for a set of users. You define the operations by using the `StandardRoles` configuration parameter, or by explicitly defining a list of allowed actions in the `Actions` and `ServiceActions` parameters. You define the authorized users by using a client IP address, SSL identities, and GSS principals, depending on your security and system configuration.

For more information about the available parameters, see the *License Server Reference*.

To configure authorization roles

1. Open your configuration file in a text editor.
2. Find the `[AuthorizationRoles]` section, or create one if it does not exist.
3. In the `[AuthorizationRoles]` section, list the user authorization roles that you want to create. For example:

```
[AuthorizationRoles]  
0=AdminRole  
1=UserRole
```

4. Create a section for each authorization role that you listed. The section name must match the name that you set in the `[AuthorizationRoles]` list. For example:

```
[AdminRole]
```

5. In the section for each role, define the operations that you want the role to be able to perform. You can set `StandardRoles` to a list of appropriate values, or specify an explicit list of allowed actions by using `Actions`, and `ServiceActions`. For example:

```
[AdminRole]  
StandardRoles=Admin,ServiceControl,ServiceStatus
```

```
[UserRole]  
Actions=GetVersion  
ServiceActions=GetStatus
```

NOTE:

The standard roles do not overlap. If you want a particular role to be able to perform all actions, you must include all the standard roles, or ensure that the clients, SSL identities, and so on, are assigned to all relevant roles.

6. In the section for each role, define the access permissions for the role, by setting `Clients`, `SSLIdentities`, and `GSSPrincipals`, as appropriate. If an incoming connection matches one of the allowed clients, principals, or SSL identities, the user has permission to perform the operations allowed by the role. For example:

```
[AdminRole]
StandardRoles=Admin,ServiceControl,ServiceStatus
Clients=localhost
SSLIdentities=admin.example.com
```

7. Save and close the configuration file.
8. Restart License Server for your changes to take effect.

Customize Logging

You can customize logging by setting up your own *log streams*. Each log stream creates a separate log file in which specific log message types (for example, action, index, application, or import) are logged.

To set up log streams

1. Open the License Server configuration file in a text editor.
2. Find the [Logging] section. If the configuration file does not contain a [Logging] section, add one.
3. In the [Logging] section, create a list of the log streams that you want to set up, in the format *N=LogStreamName*. List the log streams in consecutive order, starting from 0 (zero). For example:

```
[Logging]
LogLevel=FULL
LogDirectory=logs
0=ApplicationLogStream
1=ActionLogStream
```

You can also use the [Logging] section to configure any default values for logging configuration parameters, such as LogLevel. For more information, see the *License Server Reference*.

4. Create a new section for each of the log streams. Each section must have the same name as the log stream. For example:

```
[ApplicationLogStream]
[ActionLogStream]
```

5. Specify the settings for each log stream in the appropriate section. You can specify the type of logging to perform (for example, full logging), whether to display log messages on the console, the maximum size of log files, and so on. For example:

```
[ApplicationLogStream]
LogTypeCSVs=application
LogFile=application.log
LogHistorySize=50
LogTime=True
LogEcho=False
LogMaxSizeKBs=1024

[ActionLogStream]
LogTypeCSVs=action
LogFile=logs/action.log
```

```
LogHistorySize=50  
LogTime=True  
LogEcho=False  
LogMaxSizeKbs=1024
```

6. Save and close the configuration file. Restart the service for your changes to take effect.

Chapter 4: Operate License Server

This section describes how to operate License Server.

- [Start and Stop License Server](#) 27
- [Send Actions to License Server](#) 29

Start and Stop License Server

This section describes how to start and stop your License Server service.

NOTE:

For License Server to run, you must have a valid `licensekey.dat` file in the same folder as the `licenseserver.exe`.

Start License Server

The following sections describe the different ways that you can start License Server.

Start License Server on Microsoft Windows

- Double-click the `licenseserver.exe` file in your component installation directory.
- Start the License Server service from a system dialog box. License Server must be installed as a Windows Service. See [Install an IDOL Component as a Service on Windows, on page 11](#).
 1. Display the Windows **Services** dialog box.
 2. Select the **LicenseServer** service, and click **Start** to start the component.
 3. Click **Close** to close the **Services** dialog box.

TIP:

You can also configure the Windows Service to run automatically when you start the machine.

- Start License Server from the command line. For more information, refer to the *IDOL Getting Started Guide*.

Start License Server on UNIX

- Start the License Server service from the command line. The component must be installed as a service. See [Install an IDOL Component as a Service on Linux, on page 13](#). You can use one of the following commands to start the service:
 - On systemd Linux platforms:

```
systemctl start LicenseServer
```

- On System V Linux platforms:

```
service LicenseServer start
```
- On Solaris platforms (using System V):

```
/etc/init.d/LicenseServer start
```

TIP:

You can also configure the service to run automatically when you start the machine.

- Start License Server from the command line. For more information, refer to the *IDOL Getting Started Guide*.
- Use the start script (`start-licenseserver.sh`).

NOTE:

In most cases, HPE recommends that you use the provided init scripts instead.

Stop License Server

You can stop License Server from running in several different ways.

- (All Platforms) Send the **Stop** service action to the component service port:

```
http://host:servicePort/action=stop
```

where *host* is the name or IP address of the host on which the License Server is running, and *servicePort* is the component service port (which is specified in the [Service] section of the License Server configuration file).

- On Windows platforms, when the component is installed as a service, you can use the system dialog box to stop the service:
 1. Display the Windows **Services** dialog box.
 2. Select the **LicenseServer** service, and click **Stop** to stop License Server.
 3. Click **Close** to close the **Services** dialog box.
- On UNIX platforms, when the component is installed as a service, you can run one of the following commands to stop the service:
 - On systemd platforms:

```
systemctl stop licenseserver
```
 - On system V platforms:

```
service licenseserver stop
```
 - On Solaris platforms (using System V):

```
/etc/init.d/licenseserver stop
```
- On UNIX platforms, you can also use the stop script, `stop-licenseserver.sh`.

Send Actions to License Server

You operate License Server by sending actions from your Web browser. The general syntax of these actions is:

`http://Host:Port/action=action&requiredParams&optionalParams`

where,

<i>Host</i>	is the IP address or name of the machine on which License Server is installed.
<i>Port</i>	is the ACI port by which actions are sent to License Server (set by the <code>Port</code> parameter in the <code>[Server]</code> section of the License Server configuration file).
<i>action</i>	is the name of the action that you want License Server to run.
<i>requiredParams</i>	are the parameters that you must supply for the action. (Not all actions have required parameters.)
<i>optionalParams</i>	are parameters that you can supply for the action. (Not all actions have optional parameters.)

NOTE:

Separate individual parameters with an ampersand (&).

Chapter 5: License Services

License Server provides licenses for IDOL products. When you install the IDOL product, it requests a license from the License Server that you specify during the installation.

NOTE:
For License Server to license a product, the encrypted license file (`licensekey.dat`) for the product must be located in the License Server installation folder. Refer to the IDOL product administration guide for details of how to install and license the product.

- [Display License Information](#)31
- [Notes on Licensing](#)32
- [Revoke a Client License](#)32
- [Revoke Stale Licenses](#)33
- [Forcibly Revoke Licenses for Inaccessible Clients](#)33
- [Troubleshoot License Errors](#)34
- [Find the Number of Licensed Documents](#)36

Display License Information

You can verify which modules you have licensed either by using the IDOL Admin interface, or by sending the `LicenseInfo` action from a web browser.

To display license information in IDOL Admin

- In the **Control** menu of the IDOL Admin interface for your License Server, click **Licenses**.
The **Summary** tab displays summary information for each licensed component, including:
 - The component name.
 - The number of seats that the component is using.
 - The total number of available seats for the component.
 - (Content component only) The number of documents that are currently used across all instances of the component.
 - (Content component only) The maximum number of documents that you can have across all instances of the component.

The **Seats** tab displays details of individual licensed seats, and allows you to revoke licenses.

To display license information by sending the `LicenseInfo` action

- Send the following action from a web browser to the running License Server.

```
http://LicenseServerHost:Port/action=LicenseInfo
```

where:

LicenseServerHost is the IP address of the machine where License Server resides.

Port is the ACI port of License Server (specified by the *Port* parameter in the [Server] section of the License Server configuration file).

In response, License Server returns the requested license information. This example describes a license to run four instances of IDOL Server.

```
<?xml version="1.0" encoding="UTF-8" ?>
<autnresponse xmlns:autn="http://schemas.autonomy.com/aci/">
  <action>LICENSEINFO</action>
  <response>SUCCESS</response>
  <responsedata>
    <LicenseDiSH>
      <LICENSEINFO>
        <autn:Product>
          <autn:ProductType>IDOLSERVER</autn:ProductType>
          <autn:TotalSeats>4</autn:TotalSeats>
          <autn:SeatsInUse>0</autn:SeatsInUse>
        </autn:Product>
      </LICENSEINFO>
    </LicenseDiSH>
  </responsedata>
</autnresponse>
```

Notes on Licensing

You must install License Server on a machine with a known, static IP address.

After you set up your licensing, you can revoke licenses at any time, for example, to reallocate them to different clients, or to change a client IP address.

For modules that License Server licenses, you **must not**:

- remove the contents of the `license` and `uid` directories.
- change the IP address of the machine on which a licensed module is running.
- change the service port of a module.
- replace the ethernet card.

Any of these changes can cause the module to become inoperable. If you need to make changes to a module, you must first revoke the license, and then reissue the license after you have made the change.

Revoke a Client License

After you set up licensing, you can revoke licenses at any time, for example, if you want to change the client configuration or reallocate the license. The following procedure revokes the license from a component.

To revoke a license

1. Stop the IDOL solution that uses the license.
2. At the command prompt, run the following command:

```
InstallDir/ExecutableName[.exe] -revokeLicense -configfile cfgFilename
```

This command returns the license to the License Server.

You can send the `LicenseInfo` action from a web browser to the running License Server to check for free licenses. In this sample output from the action, one IDOL Server license is available for allocation to a client.

```
<autn:Product>  
  <autn:ProductType>IDOLSERVER</autn:ProductType>  
  <autn:Client>  
    <autn:IP>192.123.51.23</autn:IP>  
    <autn:ServicePort>1823</autn:ServicePort>  
    <autn:IssueDate>1063192283</autn:IssueDate>  
    <autn:IssueDateText>10/09/2003 12:11:23</autn:IssueDateText>  
  </autn:Client>  
  <autn:TotalSeats>2</autn:TotalSeats>  
  <autn:SeatsInUse>1</autn:SeatsInUse>  
</autn:Product>
```

Revoke Stale Licenses

If a license is stale, you can revoke it by sending the `RevokeStaleLicenses` action. A stale license is one that has not been issued or updated within a specified number of seconds. You can specify the number of seconds after which a license is regarded as stale as the value of the `UseBy` action parameter.

For example:

```
http://LicenseServerHost:port/action=RevokeStaleLicenses&UseBy=18000
```

You can also use the `ReplaceStaleLicenses` and `UseLicenseWithinSeconds` configuration parameters in the `[Server]` section of the configuration file to automatically revoke stale licenses. For more information, refer to the *License Server Reference*.

Forcibly Revoke Licenses for Inaccessible Clients

If a client machine becomes inaccessible, you can revoke a license on it either by using the IDOL Admin interface, or by sending the `AdminRevokeLicense` action to the License Server.

To revoke a license by using IDOL Admin

1. In the **Control** menu of the IDOL Admin interface for your License Server, click **Licenses**.
2. Click the **Seats** tab.

3. Click the garbage can next to the component whose license you want to revoke.
The Revoke License dialog box opens.
4. Click **Revoke License** to revoke the license and free up the seat that the component was using. If a component is running when you revoke the license, it will stop.
You can view the progress of the action in the Recent Tasks panel.

To revoke a license by sending the AdminRevokeLicense action

- Send the AdminRevokeLicense action to the License Server. This action frees the license from the inaccessible machine.

```
http://  
LicenseServerHost  
:  
Port  
/action=  
AdminRevokeLicense&ClientProductType=  
productType&ClientIP=clientHost&ClientServicePort=clientPort
```

where,

productType is the product type of the IDOL solution whose license you want to revoke from the inaccessible client.

clientHost is the IP address of the inaccessible client machine.

clientPort is the port by which service actions are sent to the IDOL module on the inaccessible client (specified by the ServicePort parameter in the module configuration file's [Service] section).

NOTE:

Call the AdminRevokeLicense function only for inaccessible client machines. Otherwise, the module shuts down and becomes inaccessible.

Troubleshoot License Errors

The table contains explanations for typical licensing-related error messages.

License-related error messages

Error message	Explanation
Error: Failed to update license from the license server. Your license cache details do not match the current service configuration. Shutting the service down.	The configuration of the service has been altered. Verify that the service port and IP address have not changed since the service started.
Error: License for <i>ProductName</i> is invalid. Exiting.	The license returned from the License Server is invalid. Ensure that the license has not expired.

License-related error messages, continued

Error message	Explanation
Error: Failed to connect to license server using cached licensed details.	Cannot communicate with the License Server. The product still runs for a limited period; however, you should verify whether your License Server is still available.
Error: Failed to connect to license server. Error code is SERVICE: <i>ErrorCode</i>	Failed to retrieve a license from the License Server or from the backup cache. Ensure that your License Server can be contacted.
Error: Failed to decrypt license keys. Please contact Autonomy support. Error code is SERVICE:<i>ErrorCode</i>	Provide HPE Big Data Support with the exact error message and your license file.
Error: Failed to update the license from the license server. Shutting down	Failed to retrieve a license from the License Server or from the backup cache. Ensure that your License Server can be contacted.
Error: Your license keys are invalid. Please contact Autonomy support. Error code is SERVICE:<i>ErrorCode</i>	Your license keys appear to be out of sync. Provide HPE Big Data Support with the exact error message and your license file.
Failed to revoke license: No license to revoke from server.	The License Server cannot find a license to revoke.
Failed to revoke license from server <i>LicenseServer Host:LicenseServerPort</i>. Error code is <i>ErrorCode</i>	Failed to revoke a license from the License Server. Provide HPE Big Data Support with the exact error message.
Failed to revoke license from server. An instance of this application is already running. Please stop the other instance first.	You cannot revoke a license from a running service. Stop the service and try again.
Failed to revoke license. Error code is SERVICE:<i>ErrorCode</i>	Failed to revoke a license from the License Server. Provide HPE Big Data Support with the exact error message.
Your license keys are invalid. Please contact Autonomy Support. Error code is ACISERVER:<i>ErrorCode</i>	Failed to retrieve a license from the License Server. Provide HPE Big Data Support with the exact error message and your license file.
Your product ID does not match the generated ID.	Your installation appears to be out of sync. Forcibly revoke the license from the License Server and rename the <code>license</code> and <code>uid</code> directories.
Your product ID does not match this configuration.	The service port for the module or the IP address for the machine appears to have changed. Check your configuration file.

Find the Number of Licensed Documents

You can send the `LicenseInfo` action to your License Server to find out how many documents your License Server installation is licensed for.

The `LicenseInfo` response includes a list of the components that you have a license for. For the Content component license information, the tags in the following table show your licensed number of documents.

Tag	Description
<code><autn:AggregateLimit name="maxdocuments"></code>	The maximum number of documents that you can have across all instances of the Content component that connect to the License Server.
<code><autn:AggregateUsage name="maxdocuments"></code>	The number of documents that are currently used across all instances of the Content component that connect to the License Server.

In addition, the `<autn:Product>` section of the response has an `<autn:Client>` subsection that provides details of the services that are using the license. In this section, the `<autn:TrackedLimit name="maxdocuments">` tag shows how many documents the particular instance of the Content component is using.

For example:

```
<autn:Product>
  <autn:ProductType>SUIR</autn:ProductType>
  <autn:ComponentName>content</autn:ComponentName>
  <autn:Client>
    <autn:IP>12.34.56.78</autn:IP>
    <autn:MAC>01.23.45.67.89.AB</autn:MAC>
    <autn:HostName>MyHost.example.com</autn:HostName>
    <autn:ServicePort>9993</autn:ServicePort>
    <autn:IssueDate>1379588409</autn:IssueDate>
    <autn:ProductUID>1706984408</autn:ProductUID>
    <autn:TrackedLimit name="maxdocuments">10001</autn:TrackedLimit>
    <autn:IssueDateText>19/09/2013 11:00:09</autn:IssueDateText>
  </autn:Client>
  <autn:TotalSeats>100</autn:TotalSeats>
  <autn:SeatsInUse>1</autn:SeatsInUse>
  <autn:AggregateLimit name="maxdocuments">50000000</autn:AggregateLimit>
  <autn:AggregateUsage name="maxdocuments">10001</autn:AggregateUsage>
</autn:Product>
```

Glossary

A

ACI (Autonomy Content Infrastructure)

A technology layer that automates operations on unstructured information for cross-enterprise applications. ACI enables an automated and compatible business-to-business, peer-to-peer infrastructure. The ACI allows enterprise applications to understand and process content that exists in unstructured formats, such as email, Web pages, Microsoft Office documents, and IBM Notes.

ACI Server

A server component that runs on the Autonomy Content Infrastructure (ACI).

ACL (access control list)

An ACL is metadata associated with a document that defines which users and groups are permitted to access the document.

action

A request sent to an ACI server.

active directory

A domain controller for the Microsoft Windows operating system, which uses LDAP to authenticate users and computers on a network.

C

Category component

The IDOL Server component that manages categorization and clustering.

Community component

The IDOL Server component that manages users and communities.

connector

An IDOL component (for example File System Connector) that retrieves information from a local or remote repository (for example, a file system, database, or Web site).

Connector Framework Server (CFS)

Connector Framework Server processes the information that is retrieved by connectors. Connector Framework Server uses KeyView to extract document content and metadata from over 1,000 different file types. When the information has been processed, it is sent to an IDOL Server or Distributed Index Handler (DIH).

Content component

The IDOL Server component that manages the data index and performs most of the search and retrieval operations from the index.

D

DAH (Distributed Action Handler)

DAH distributes actions to multiple copies of IDOL Server or a component. It allows you to use failover, load balancing, or distributed content.

database

An IDOL Server data pool that stores indexed information. The administrator can set up one or more databases, and specifies how data is fed to the databases.

DIH (Distributed Index Handler)

DIH allows you to efficiently split and index extremely large quantities of data into multiple copies of IDOL Server or the Content component. DIH allows you to

create a scalable solution that delivers high performance and high availability. It provides a flexible way to batch, route, and categorize the indexing of internal and external content into IDOL Server.

I

IDOL

The Intelligent Data Operating Layer (IDOL) Server, which integrates unstructured, semi-structured and structured information from multiple repositories through an understanding of the content. It delivers a real-time environment in which operations across applications and content are automated.

IDOL Proxy component

An IDOL Server component that accepts incoming actions and distributes them to the appropriate subcomponent. IDOL Proxy also performs some maintenance operations to make sure that the subcomponents are running, and to start and stop them when necessary.

Intellectual Asset Protection System (IAS)

An integrated security solution to protect your data. At the front end, authentication checks that users are allowed to access the system that contains the result data. At the back end, entitlement checking and authentication combine to ensure that query results contain only documents that the user is allowed to see, from repositories that the user has permission to access. For more information, refer to the IDOL Document Security Administration Guide.

K

KeyView

The IDOL component that extracts data, including text, metadata, and subfiles from

over 1,000 different file types. KeyView can also convert documents to HTML format for viewing in a Web browser.

L

LDAP

Lightweight Directory Access Protocol. Applications can use LDAP to retrieve information from a server. LDAP is used for directory services (such as corporate email and telephone directories) and user authentication. See also: active directory, primary domain controller.

License Server

License Server enables you to license and run multiple IDOL solutions. You must have a License Server on a machine with a known, static IP address.

O

OmniGroupServer (OGS)

A server that manages access permissions for your users. It communicates with your repositories and IDOL Server to apply access permissions to documents.

P

primary domain controller

A server computer in a Microsoft Windows domain that controls various computer resources. See also: active directory, LDAP.

V

View

An IDOL component that converts files in a repository to HTML formats for viewing in a Web browser.

W

Wildcard

A character that stands in for any character or group of characters in a query.

X

XML

Extensible Markup Language. XML is a language that defines the different attributes of document content in a format that can be read by humans and machines. In IDOL Server, you can index documents in XML format. IDOL Server also returns action responses in XML format.

Send documentation feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Administration Guide (License Server 11.5)

Add your feedback to the email and click **Send**.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to AutonomyTPFeedback@hpe.com.

We appreciate your feedback!