

OLTM Connect Send

Installation Guide

Version 1.5

Connect Send Installation Guide

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System Requirements

Plug-In

The **OL Connect Send (OLCS)** Plug-In is designed to work with the workflow module (**Workflow**) of PlanetPress Connect and PReS Connect (**Connect**) which means it will run on any operating system by those products.

Printer Driver

The **OLCS Printer Driver** is compatible with 32 and 64 bit versions of Windows 7, 8.0, 8.1 and 10.

HTTP

Communications between the **Printer Driver** and the **Plug-In** is achieved using HTTP. It is therefore necessary to ensure that HTTP interaction between all Printer Driver and server machines is enabled.

Browser

After print job submission, further interaction between the **OLCS Printer Driver** and **Workflow** is achieved using HTML. Browsers support and process HTML in different ways and so it is important to be aware of possible browser compatibility issues when creating interactive web pages.

Prerequisites

Below is a list of components required to use **OLCS**:

- PlanetPress Connect v1.5 or PReS Connect v1.5
- Workflow v8.5
- OL Connect Send
 - OL Connect Send Printer Driver
 - OL Connect Send Plug-in
- An **OLCS** license (required for interaction to take place)

Overview

OLCS is an application with two components. The first is a Windows printer driver and the second includes a set of Workflow plug-ins. These two components work together – they cannot be used on their own.

OLCS allows for PostScript files to be received over the internet from any Windows Desktop application. It can be used in unlicensed mode and licensed mode.

Unlicensed mode (default) allows users to push documents to **OL Connect Send**. They will receive a pop-up tray confirming whether the job was received or not. **No web interaction is possible.**

Licensed mode causes the OLCS printer driver to request a web page which will be displayed in the user's browser in order to allow them to enter job specific information. The information from this web page can be used to tell **Connect Workflow** what to do next.

OLCS, in licensed mode, can be used to create custom interactive workflows from a centralized location, yet has the ability to be deployed and installed very easily.

Features List

- Allows free of charge non-interactive printing over the internet
- Can be licensed in **User mode** so that specific users (domains/workstations) can print and receive an interactive web page during the job submission process. The number of jobs that can be printed is unlimited.
- Can be licensed in **Credit mode** so that any user can print from anywhere and receive an interactive web page during the job submission process – in this mode **Connect Send** requires credits which are reduced after each job received by the server.
- General:
 - Compresses PostScript files during transmission to minimize bandwidth
- Unlicensed mode
 - Non-interactive job submission
 - Free to use
 - SysTray confirmation for job transmission
- Licensed mode
 - Interactive job submission possible
 - Launches the user's default browser to display web content produced by a Connect server
 - Database containing domain, workstation ID, document information and page count information

Installing OL Connect Send Printer Driver

Setup Process – New Installation

The following section describes the installation process for the **OLCS** Printer Driver

Note

If the Taskbar Notifier is left running on a machine the installer cannot be (re-) started. An error message will be displayed by Windows.

The Taskbar Notifier must be closed before switching to a different user account on the same machine, unless the current user is still logged in.

1. Starting the installation

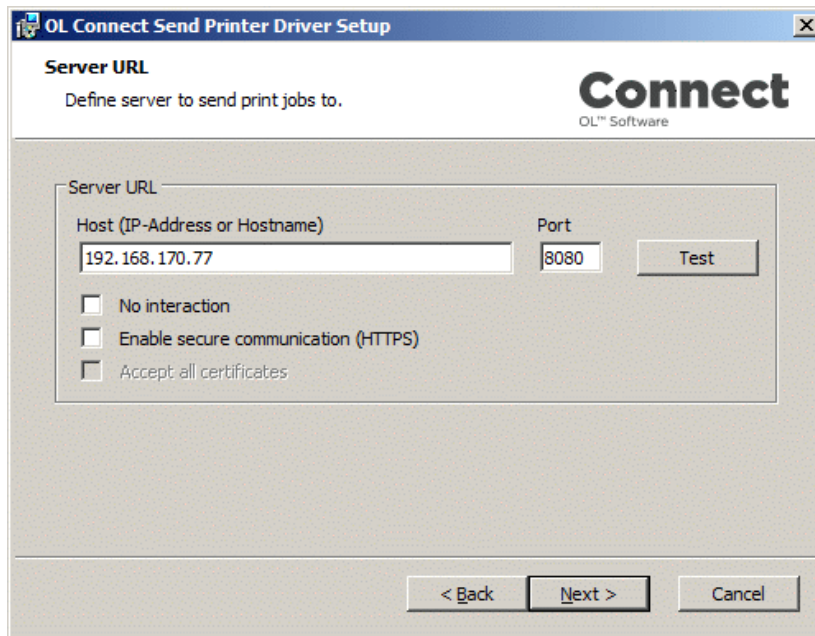
When starting the **OLCS Printer Driver Setup**, this first screen appears, containing basic information. Click **Next** to proceed.



The next screen shows the EULA. Please read and accept it to proceed further by pressing **Next**.

2. Server URL Settings

The Server URL screen allows the host (IP address or name) name for **Workflow** to be entered. This is the server that will capture and process print jobs. The HTTP communication port (default 8080)* should be set too.



If **Workflow** is active, the **Test** button can be used to validate the connection. (It does not check if the **OLCS** plug-in is installed and answering.)

If the **No interaction** checkbox is enabled, it will cause this printer to send jobs to the server without requesting an HTML response. Use this mode to deliver print jobs without further interaction. When enabled, a web browser window will not be opened, but SysTray messages will pop up indicating job transmission success or failure.

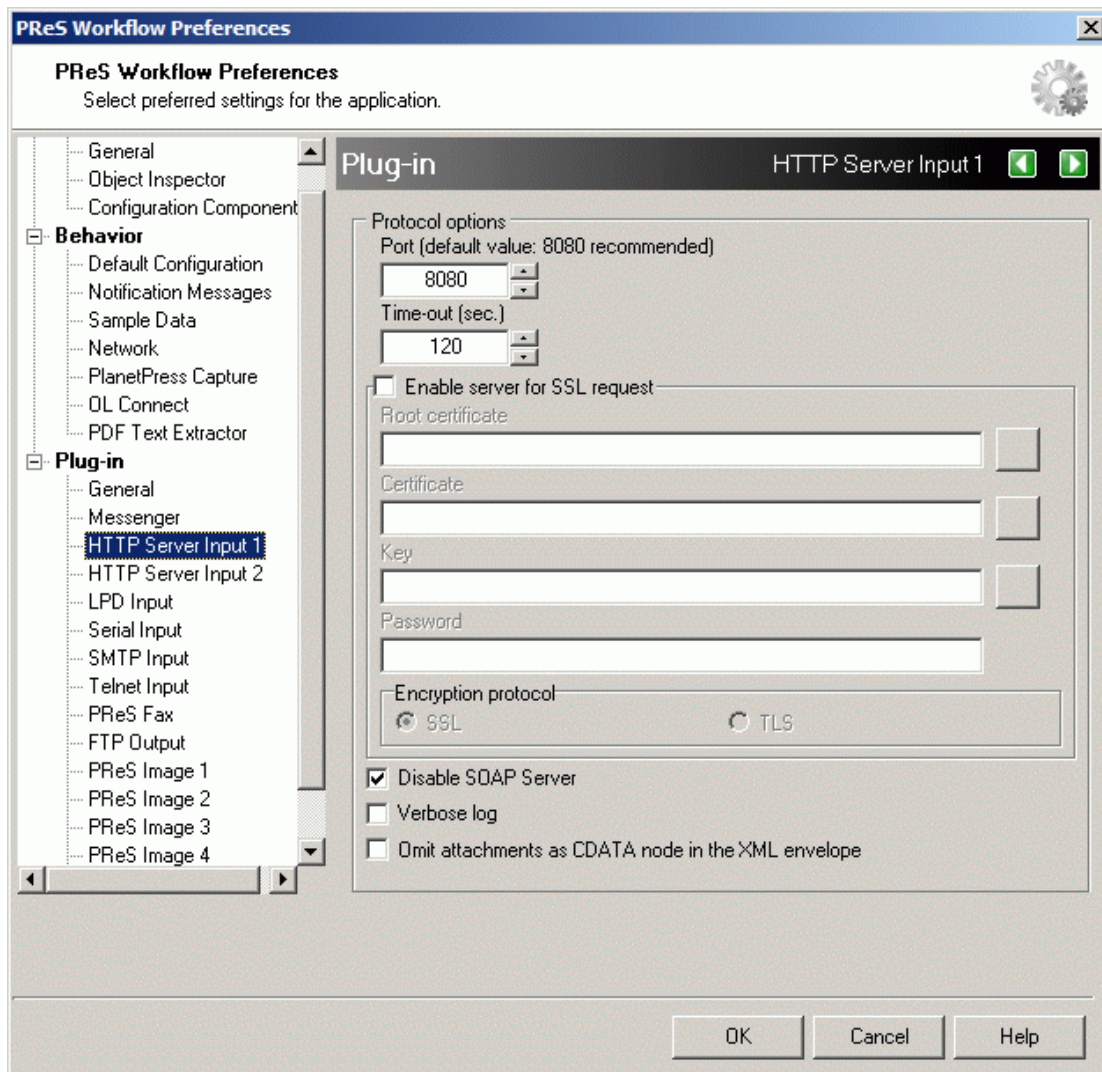
Enable secure communication (HTTPS): When selecting this option, the **Printer Driver** and **Workflow** will communicate using the secure HTTPS protocol (data transfer is secured and encrypted).

Accept all certificates: When HTTPS is selected, by default the **Printer Driver** will only accept valid certificates on **Workflow**. If a self-signed certificate is sufficient for the transfer the root validation of the certificate can be switched off.

For additional information about secure file transfer, HTTPS certificates and how to request a countersigned certificate, please see [SSL HowTo](#) and [Apache SSL/TLS](#) respectively.

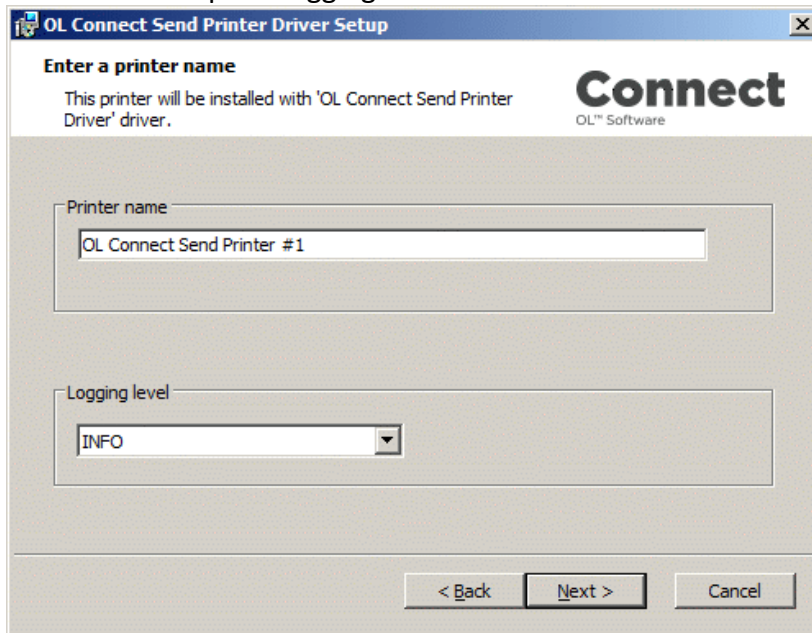
When done click **Next** to continue.

** 8080 is the default port for communications with **Workflow**, but it can be changed. It can be checked in the Workflow preferences under "Plug-in" – "HTTP Server Input 1" – "Protocol options" – "Port".*



3. Printer Name and Logging

In the Printer name and logging screen you can set a name for the printer you wish to create and setup the logging level.



Printer name

The setup program will check if a printer with the same name and number already exists. If so, the number is automatically increased until no matching printer name is detected. This then becomes the proposed printer name in this dialog.

As opposed to the other settings, the printer name can't be changed after installation.

Logging

OLCS creates a log file per printer per day. The number of log messages can be set by choosing the log level. Available log levels are:

- **DEBUG:** Logs all messages and is intended to be used only for bug research. It is not recommended to have the log level set to DEBUG for a long periods, as this will have an impact on the driver's processing speed. This mode will include INFO, WARN and ERROR messages too.
- **INFO:** Logs initialization messages. Administrators may choose this level for an initial installation to supervise the operation of the driver. This mode will include WARN and ERROR messages too.
- **WARN:** This is the default level and should be used for production use. In this mode log files may be empty: this is by design and indicates, that the printer and the driver work as expected. This mode will include ERROR messages too.
- **ERROR:** For users familiar to OLCS, this log level reduces the overhead to a minimum. It is intended for machines where OLCS has been working error free for several weeks.

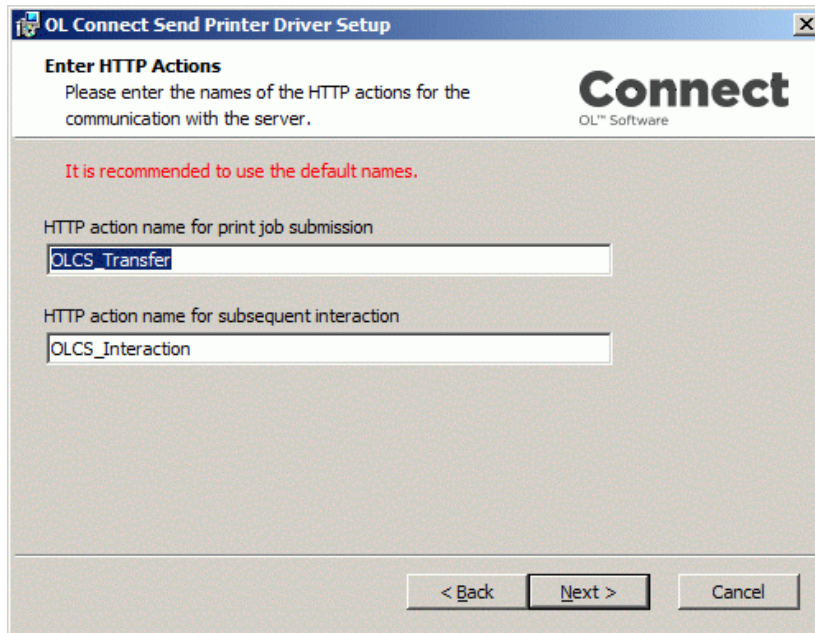
When done click **Next** to continue.

4. Communication Settings

The next screen contains communication settings.

In order to deliver jobs to **Workflow**, an **HTTP Action name for print job submission** needs to be setup.

If **OLCS** is licensed and/or interactive mode is enabled (or required), then an **HTTP Action name for subsequent interaction** is required.



The names of these HTTP action can be changed, but they must match the relevant **Workflow** settings.

When done click **Next** to continue.

5. Finishing the installation

At this point Setup has collected the required information to install the printer driver and create it. The next screen will ask you to continue by clicking the **Install** button.

A progress bar is shown, while the installation process is running.

After a successful installation, the Finish dialog is shown. Click **Finish**.

Your OLCS printer driver has now been installed:



Once a printer driver is installed, a SysTray application is also installed. It displays information relating to the preparation and transfer of each print job.

Modifying an Existing Installation

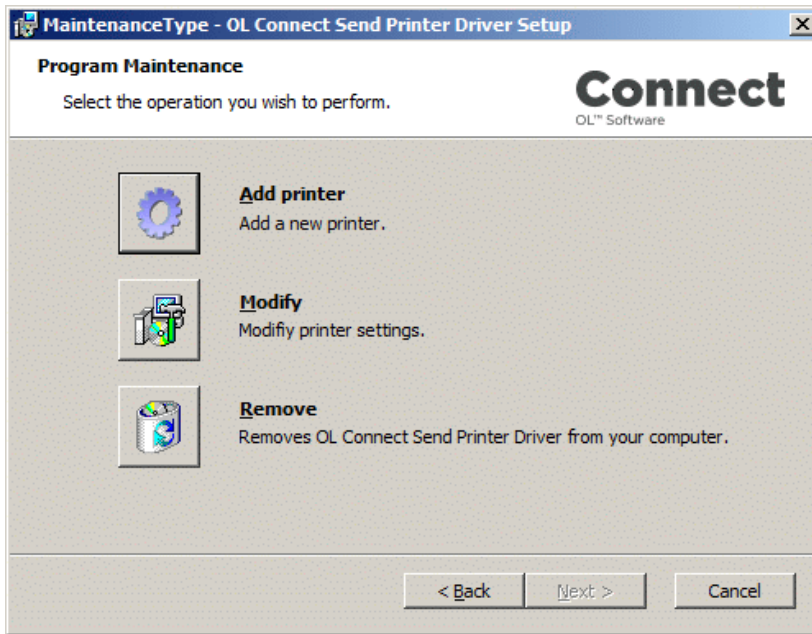
To install an additional printer, modify a printer or delete a printer, run the installer again.

The installer will detect that it's not being used for the first time and will present a different screen.



Clicking the **Next** button will bring you to the selection page where you can decide to:

- Install a new printer
- Modify the settings of an existing printer
- Delete one or all existing printers

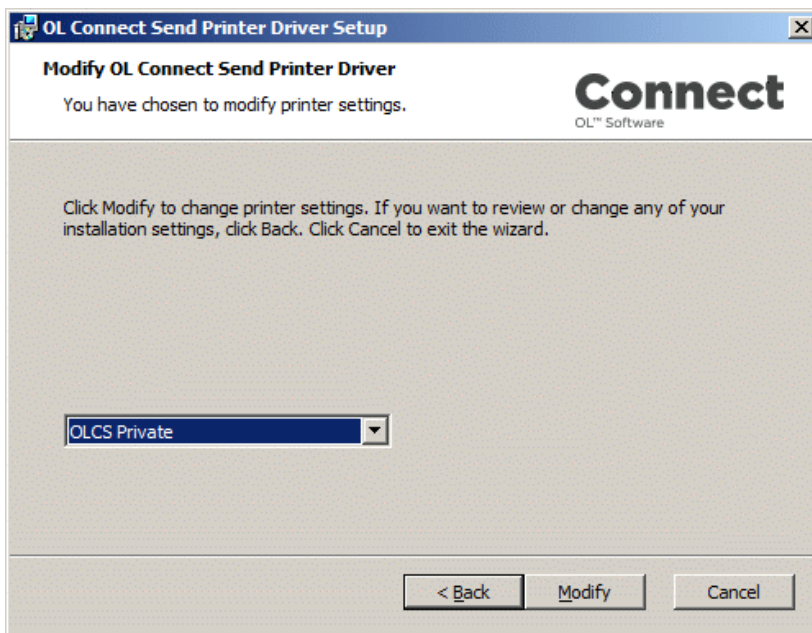


Adding a New Printer

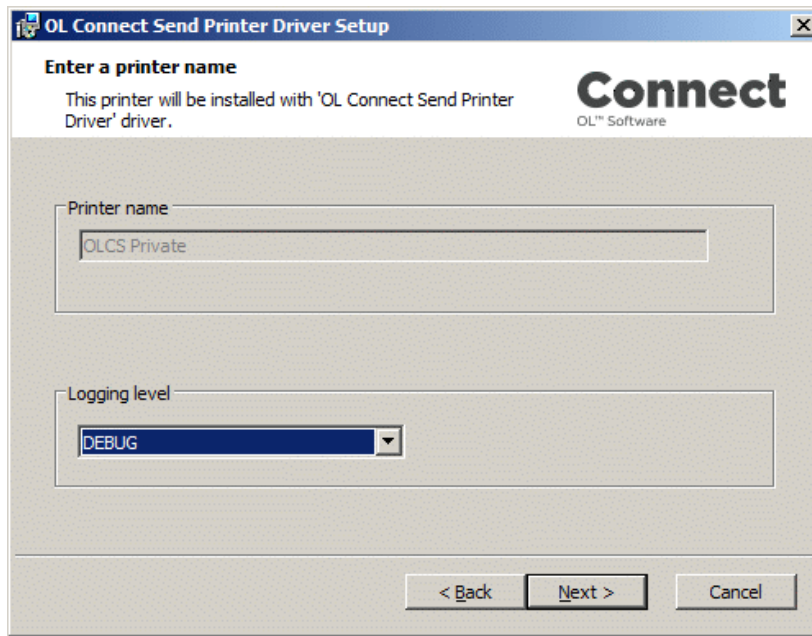
Allows you to create a new OLCS printer. The wizard pages are the same as for a new installation. Each printer can have its own settings.

Modifying the Printer Settings

Depending on the number of printers already installed, you will either see the Wizard window or a dialog box from which you must select the printer you wish to modify.



The wizard pages are the same again, so you can modify any of the values (e.g. if the host name has changed), except for the printer name which is grayed out and locked.



Removing the Printer Driver

Depending on the number of OLCS printers installed, you will either get a selection box to identify which printer to remove, or you can just delete the only one.

Shared Printers

The **OLCS Printer Driver** is **not a shareable driver**. This is because the browser interaction cannot be routed through the print server to the end user's desktop. Also a shared printer would transfer the print server's machine name, user name, domain etc., thus invalidating the intended behavior.

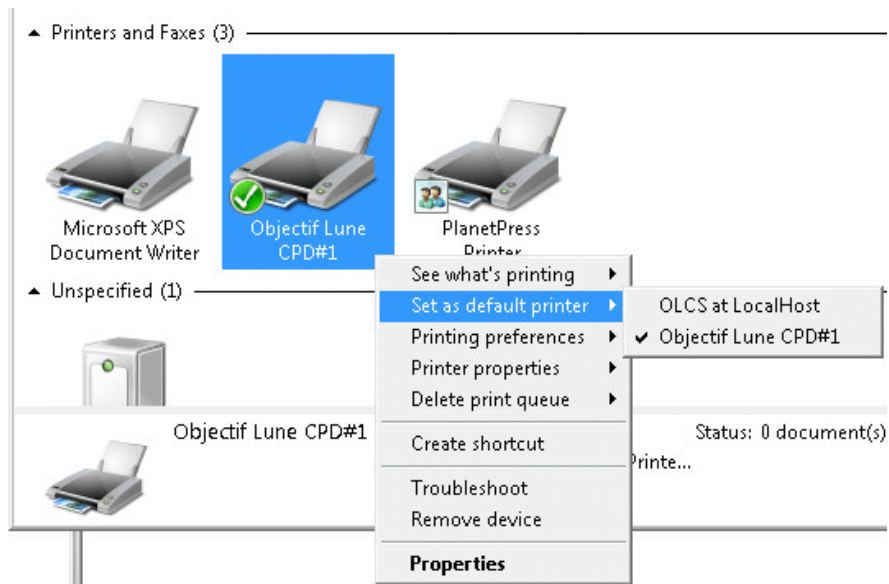
So, **OLCS** Printer Driver **must** be installed on each dedicated machine.

Managing multiple OLCS printers

Newer versions of Windows automatically group all printers that use the same driver under one single entry in the "Devices and Printers" dialog of the control panel. This means that if multiple printers have been set up with **OLCS**, only the first one will show up in this page.

Many, many forum entries worldwide complain about this "feature" reporting "invisible printers". Microsoft has documented this behavior here: <https://support.microsoft.com/en-us/kb/2015694>.

Each printer can be managed individually however, by using the context menu of the printer and selecting the relevant context:



Installing OL Connect Send Plug-Ins

Overview

The OL Connect Send Plug-In installer adds three Connect Send plug-ins and one Connect plug-in to Workflow:

- **OL Connect Send**
- **OL Connect Send Job Info**
- **OL Connect Send Get data**
- **Create Preview PDF.**

The OL Connect Send plug-in is an output plug-in that must be added to a job transfer process.

OL Connect Send Job Info and Create Preview PDF can be used in an interactive process that may be started when a job has been received.

OL Connect Send Job Data allows **OLCS** users (admins, accounting personnel, print masters ...) to get info about all jobs received with **OLCS** on a dedicated machine.

The plug-ins are described in detail in the following chapters. The next section describes the installation process for the OLCS Plug-Ins.

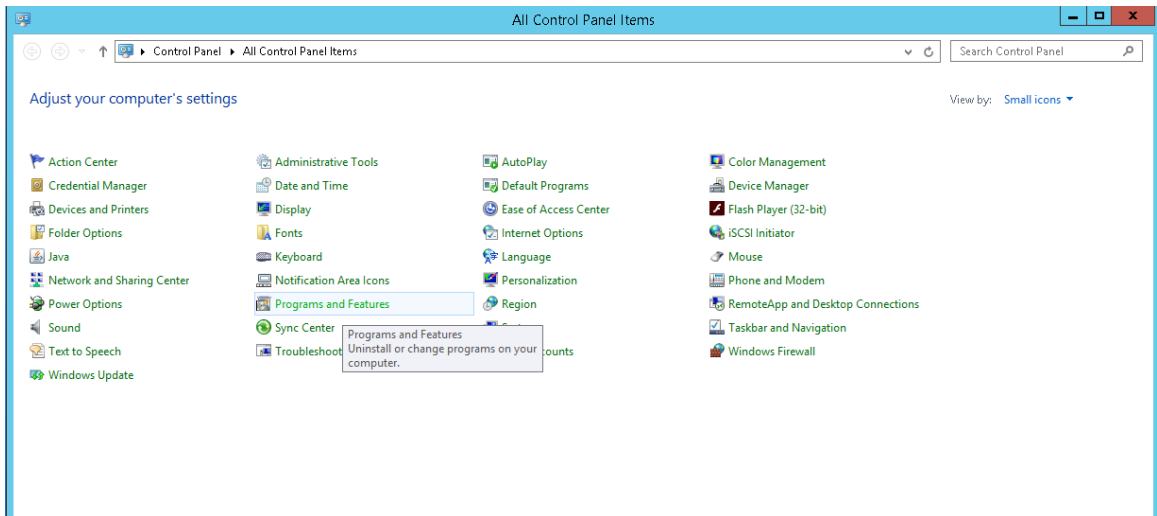
Setup Process

This installer was provided as a pre-release of Connect Send for Connect 1.5. A few additional steps will be required when you will be upgrading to Connect 1.6.

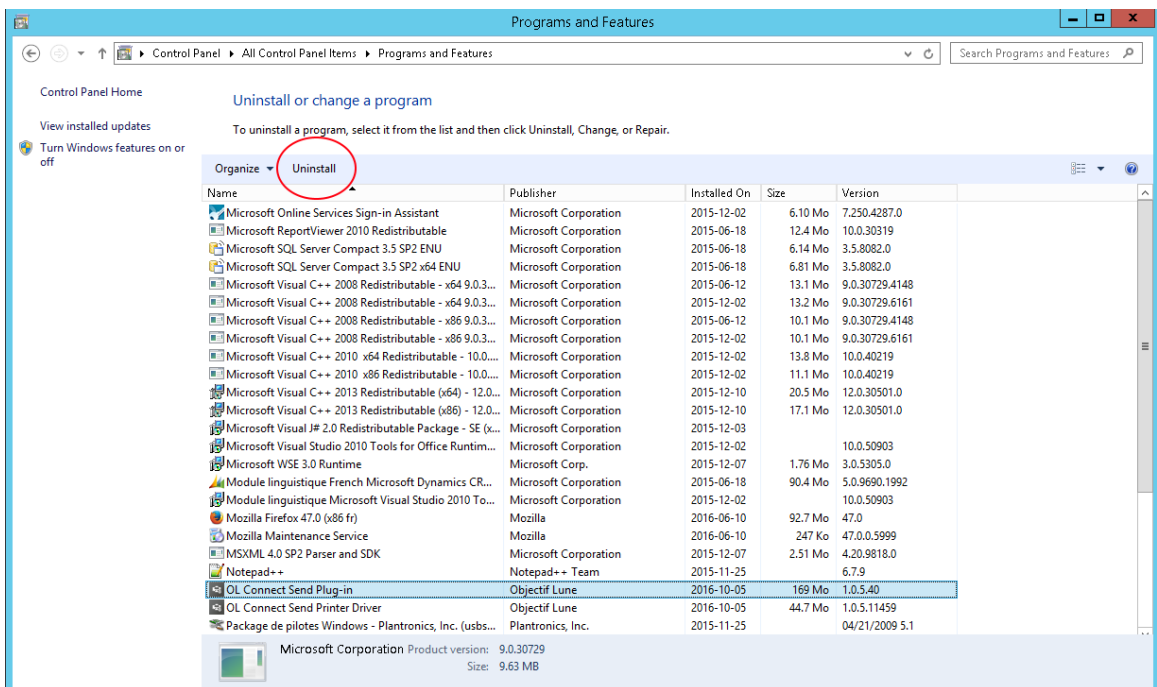
IMPORTANT

Before upgrading to Connect 1.6 and as a precautionary measure, the OLCS plug-ins already installed using this Setup Process must first be uninstalled using Windows Control Panel. Here are the steps to follow:

- 1- Make a backup of Connect Send database:
 - a. Copy the content found in **C:\programdata\objectif lune\cpd** to a safe place. Do not copy any of the other sub folders found under **C:\programdata\objectif lune**.
- 2- Uninstall the OLCS Plug-Ins from the Control Panel / Programs and Features:
 - a. Open Windows Control Panel
 - b. Click **Program and Features**:



c. Select **OL Connect Send Plug-in** and click **Uninstall**:



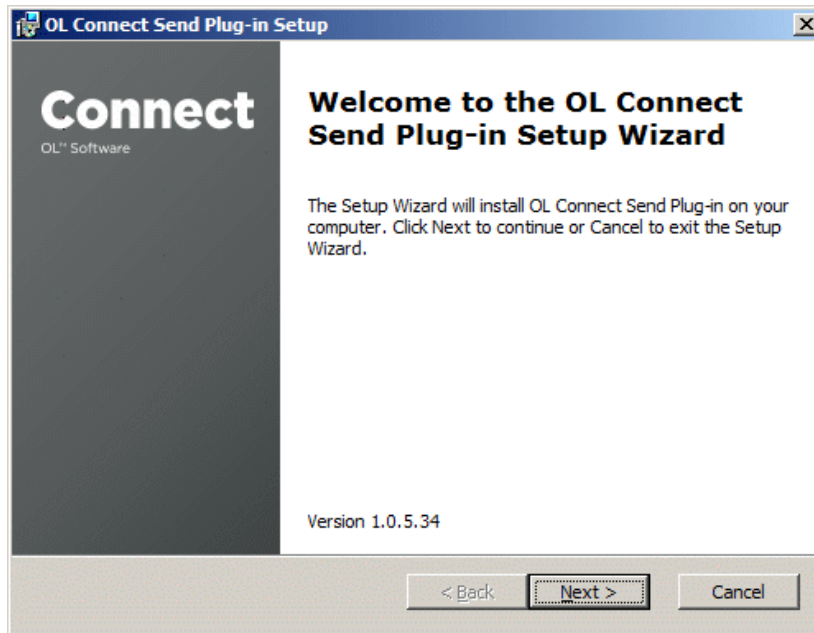
d. Do the same (previous step) for **OL Connect Send Printer Driver**

3- Proceed with the Connect 1.6 upgrade

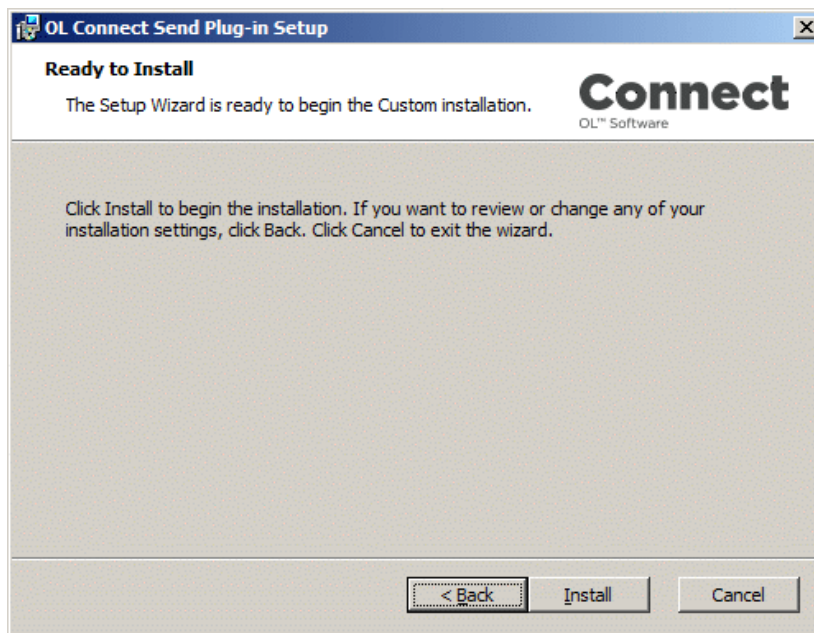
IMPORTANT

Installing the OLCS Plug-In from a shared drive on Windows 10 will fail. This is an issue of the underlying msi and can currently not be fixed. It is therefore recommended to copy the setup file to a local folder on Windows 10 and run the setup from there.

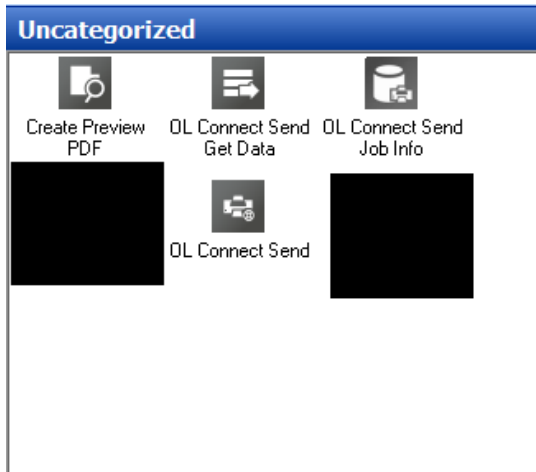
When starting the **OLCS Plug-In Setup**, this first screen appears, containing basic information. Click **Next** to proceed.



The next page shows the EULA. Please read and accept it and proceed by clicking on **Next**. The next page will ask you to continue by clicking on **Install**.



A progress bar is shown, while the installation process is running. After the successful installation the finish dialog is shown. Click **Finish**. The plug-ins are now installed in **Workflow** in the **Uncategorized** window:



In Connect 1.6 (Workflow 8.6) the three Connect Send plug-ins will be installed in Workflow in the Connect Send tab. The Create Preview PDF plug-in will be added to the Connect tab.

Re-installing Plug-Ins

When installing OLCS plug-ins version 1.0.5.44 or higher on a machine, where OLCS plug-ins version 1.0.5.43 or lower are installed, a proper uninstall of the existing OLCS plug-ins has to be done before starting the installation of the new plug-ins. Otherwise the new setup will not work properly.

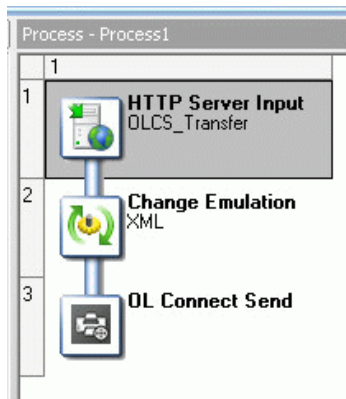
Keeping the OLCS database after uninstall

When uninstalling **OLCS** plug-ins, this will also remove the database including all job information collected until that date. The database, however, can be retained by making a copy before it is uninstalled and then copying it back after the new installation.

The **OLCS** database is called "**OLCSDB.script**" and can be found under "**%ProgramData%\Objectif Lune\CPD**"

OL Connect Send Plug-In

The **OL Connect Send** plug-in appears in the **Plug-In Bar** area of **Workflow** under **Uncategorized**.



The OL Connect Send plug-in is an output plug-in that must be added to a **Workflow** job transfer process that starts with an **HTTP Server Input**. It is recommended to add a **Change Emulation** task before the **OLCS** Plug-in to guarantee accurate incoming data recognition. The **OLCS** plug-in is the last task in the process. It returns a reply from the **OLCS** plug-in back to the **OLCS** Printer Driver in order to notify the user that the job has been received successfully (or failed if an error occurred).

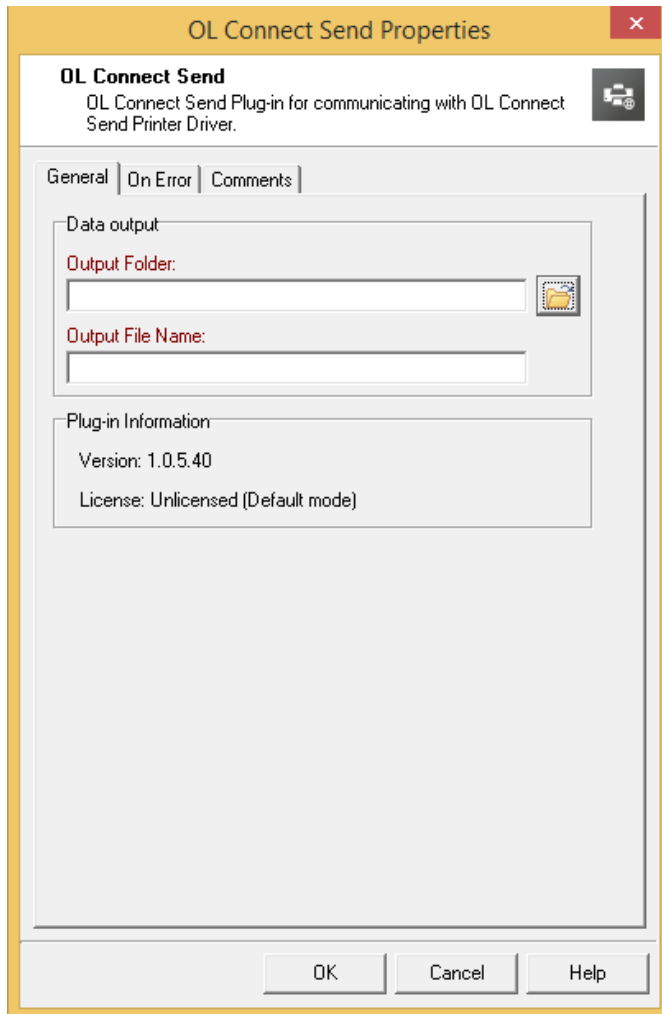
One Job Transfer Process

It is strongly recommended that a single job transfer process for all Printer drivers is created, using the domain or machine's or user information to divert to any follow-up processes.

This single transfer process can be set to "Self Replicating", so that parallelization is possible.

Configuring the plug-in

To configure the Connect Send plug-in, right-click it after adding it to the Workflow process, and click **Properties**.



The color of the property names in the OL Connect Send Properties dialog indicates that these fields can contain variables.

Workflow variables

To facilitate using job related information for the creation of the target folder and file name/s, the **OLCS** plug-in maps job relevant information to the standard **Workflow** variables (%1 to %8). The following mappings apply:

Information	Workflow Variable	When licensed	When unlicensed
Job ID	%1	Job ID	Job ID
License status for this job	%2	"Licensed"	"Unlicensed"
Username ¹	%3	The username	"na"
IP Address ¹	%4	The IP Address	The IP Address

No. of Pages ¹	%5	Number of pages of the job	Number of pages of the job
No. of Copies ¹	%6	Number of copies set by the user	Number of copies set by the user
Domain Name ¹	%7	The Domain Name	"na"
Machine Name ¹	%8	The Machine Name	"na"

¹⁾ These values originate from the Printer Driver machine.

The variables can and should be used to create dynamic file and folder names for each print job. This enables separating "licensed" and "unlicensed" jobs and/or storing the files by domain, machine and even user name.

File extension

If the output file name does not include an extension, the default extension “.ps” is added automatically. The plug-in will also create a Workflow metadata file with the same name containing basic information about the job.

Main steps in using OLCS

If **OLCS** is unlicensed, the plug-in stores the incoming job in the target folder using the specified file name, but it does not save any information in the database. The client will receive a message in its SysTray confirming the unlicensed status, and the printer driver will not request another web page.

In licensed mode, the plug-in will store all relevant information about each job in the database. This database is a HSQLDB and is installed automatically. Subsequent **Workflow** processes can use the information in the database for additional processing.

The main steps in using OLCS are:

1. A user prints a document to a printer using the OLCS printer driver.
2. The print job is captured by the printer driver code, zipped up, and if applicable, split into multiple chunks.
3. These chunks are transferred to the **Workflow** process and received by the OL Connect Send plug-in.
4. The plug-in communicates with the printer driver to ensure that all data has been received correctly.
5. The plug-in combines all the chunks into a .7z and then unpacks it to the original print job. This is a Postscript file.
6. The plug-in stores the print job at a specified location with a specified name.
7. The plug-in creates a Workflow metadata file for the print job, containing basic job information. (See License Modes – Basic Mode, below.)
8. The plug-in (if licensed) stores all job related info in a database.
9. The plug-in returns a status message to the client, indicating a successful or failed job transfer.
10. The plug-in sends the license status to the Printer Driver.

11. The Printer Driver (if licensed and interactive) will launch a browser window and send an HTTP request to **Workflow**. The result of the receiving interactive process will be displayed in the browser.
If the plug-in is not licensed, this HTTP request is suppressed and the Printer Driver will not launch a browser window.
12. The Printer Driver will display status information using the SysTray.

License Modes

OLCS can operate in three different modes but they cannot be mixed on a single **Connect** system. The three modes are: **Basic, User and Click charge**.

Note

As long as **Workflow** is still running in the default trial period of 30 days, OLCS will behave as if it was licensed.

Basic Mode

Basic mode is free to use. This is the default mode and an **OLCS** license is **NOT** required. Operationally speaking basic mode will function as an “unlicensed” system.

The plug-in will capture and store basic job information in a Workflow metadata file:

- User name
- IP address
- Number of pages
- Number of copies
- Original name of the document

These values originate from the client machine.

User Mode

User mode requires a license for each domain submitting jobs. A domain license can be obtained to allow 10, 25, 50, 100, 200 or unlimited (Enterprise) users to print. Each domain needs its own domain/user license, but multiple domains/users licenses can be added to a single **Connect** system to allow job submissions from multiple domains.

The user mode license is actually bound to the world wide unique combination of domain and machine name. This means multiple users sharing a single machine will be counted as a single user by the license.

For each incoming job, the domain and machine’s name (Unique User Slot Identifier or **UUSI**) are combined and matched against the license. The following checks are done:

1. If the **UUSI** already exists, the job is accepted.
2. If the **UUSI** does not exist then,
 - If one is available, this new **UUSI** will be added and the number of free user slots reduced. The job will be accepted.
 - If one is not free, the system will check to see if there is any **UUSI** that has not been used during the last 30 days. If found, it will be replaced by the new user and the job will be accepted.

- If one is not available, it will still be accepted, but only in **unlicensed mode**. The client will get a message indicating that the job was received in unlicensed mode.

No page count checking is done for this mode.

Click Charge Mode

Where the domain & number of users is unknown at the point of sales – for example a public service driven by users creating their own accounts via the web for onboarding documents, the click charge license can be used. It allows any number of domains and users to submit jobs into the **Connect** system, providing credits are available.

1. This mode enables the second **HTTP Get** from the Printer Driver, so that a web page (which could include a preview of the document) request is processed by **Connect**. For each job received, the plug-in records key data in the database.
2. One click equals one page (any size) of the submitted print job. The number of copies (if used) is recorded in the database, but not used for click calculations.
3. The click charge for all incoming jobs is counted upon receipt, but if a job fails for any reason, then the click count is restored as if the job was not received.
4. Each incoming job is checked to see if the number of pages will result in remaining credits. If so, the job will be accepted, otherwise it will be dropped and a message will be sent to the Printer Driver in the SysTray.
5. All jobs from any IP, user, domain or machine will be allowed, if there are credits available.
6. New click charge licenses are added to **Connect**. Each new click charge buy will be reflected by an additional entry in the license file itself, indicating the newly purchased credit amount. The license check algorithm sums up all entries.

Example: A customer purchases a click charge license on 1st January 2016 with a credit of 100,000 pages. At the end of March, they determine that their remaining credits (20,000) won't be sufficient for some big jobs they are expecting and so they purchase another 100,000 credits. The issue date of the new credits is 1st June 2016. The new credit balance will be 120,000

Incoming Print Jobs and the License

Each incoming print job is checked against the license to determine if it can be handled in licensed mode or in unlicensed mode. Here are some examples to clarify this:

Scenario 1

OLCS is licensed in Click-charge mode with 10,000 pages. They have already used 9,870 credits, so 130 are left.

- Case 1: A job comes in with 40 pages. This job can be handled in LICENSED mode, so this is a "licensed job".
- Case 2: A job comes in with 243 pages. This is more than 130. This job is handled in UNLICENSED mode (reduced metadata and no database entries). This is an "unlicensed job".

Scenario 2

Perpetual license with domain = "some.phantasy.com" and number of licensed users = 100.

- Case 1: A job comes in from the domain "some.phantasy.com" and from a machine named "KATERKARLO". The domain is right and this is the first job, so KATERKARLO is added to the **UUSI** and handled in LICENSED mode.
- Case 2: Meanwhile many, many users have printed from that domain, so all 100 **UUSI**'s (Unique User Slot Identifiers) are full (100 different machine names are in the list). A user sends a job from a machine named "MICKEYMOUSE". This machine name is NOT in the list. Connect checks the existing **UUSI**'s to see which one has not sent a print job for the longest amount of time. Let us say, this machine has the name "DAISYDUCK".
 - Option 1: DAISYDUCK hasn't sent a print job in the last 12 days. Since this is less than 30 days the **UUSI cannot** be released and so the incoming job from MICKEYMOUSE is processed in UNLICENSED mode.
 - Option 2: DAISYDUCK hasn't sent a print job in the last 42 days. Since this is more than 30 days the **UUSI will** be released and so the incoming job from MICKEYMOUSE is processed in LICENSED mode.
- Case 3: A job comes in from domain "starship.enterprise.it". This domain is not licensed, so this job is considered an "unlicensed job" and will be processed in UNLICENSED mode.

Security

In order to provide security when printing over the internet, **OLCS** includes several protective features.

HTTPS Communication

The Printer Driver can be set to use HTTPS for any job transfer. To do this **Workflow** must also be set to use HTTPS. This topic is covered briefly in the "Server URL Setting" section in this document (new Printer Driver installation), but full details can be found in the [Workflow](#) documentation.

Job Origin

Each print job will include unique information about the machine it has been sent from. This unique machine ID is calculated with a proven method and will be transferred encrypted and enhanced. The enhancement will result in a different encrypted machine ID per print job, so that spoofing can be detected. On the server side, if spoofing is detected a respective messages will be created.

Users can set up **Workflow** processes and filters to accept only specific jobs from known machine IDs, thus enhancing security.

Database Connection

The **OLCS** plug-in works with a database to store all relevant job information. This database is a "HyperSQL Database" (HSQLDB. See https://en.wikipedia.org/wiki/HSQL_Database_Engine). It is installed as a service with the name "OL Connect Send DBServer" (the internal service name is "OLCSserver").

Communication between the plug-in and the database occurs using port 9001 (the default port for HSQLDB). However, there may be situations where this port is already blocked by another application and may need to be changed.

Several database settings can be modified by creating an ini file. This file must be named "OLCSSvc.ini" and stored in the same folder as the executable OLCSSvc.exe, located under "%CommonProgramFiles(x86)%\Objectif Lune\<Workflow Name>\Plugins\CPD".

By adding the entry "DBPort = <new port number>" under [HSQLDBSETTINGS] and then restarting the service, the communication port is changed.

Note: **Workflow** has to be restarted after such a modification.

Timeout

During a job transfer from the Printer Driver to **Workflow**, a timeout could occur (indicated by a log entry like "ERROR: sendBinaryContents: Could not open request. Reason: 12002"). In this case, the timeout for the HTTP service in **Workflow** needs to be increased. We recommend using a value of more than 5 minutes (>600 seconds).

Additionally, the timeout in the browser on the client side should be enhanced. Please see the help pages for your browser about how to do this.

Compatibility

The **OLCS** components communicate with each other by using a well-defined and versioned protocol. As long as these components use the same protocol version, the job transfer will work even if the plug-ins themselves are changed. The protocol version can be found in the third part of the version number of both components; i.e. if plug-in shows version 1.0.5.11221, the "5" indicates protocol version 1.5 (omitting the leading 1).

Any Printer Driver can communicate with any plug-in, as long as this third version number part is identical.

Known Issues

Paper size vs Printer page size

It is important to ensure that paper size settings match the printer driver settings. If this is not done, it's possible that the print job transferred to **Connect Send** may include some extra white space on the page. In interactive mode, this can be seen, but in non-interactive mode the job will be processed without notification.

OLCS Plug-In and Connect on the same machine

OLCS Plug-Ins are installed with **Workflow**; however **Connect** may be installed on another machine. Where **Workflow** and **Connect** are installed on the same machine there is a chance that interference between the **OLCS**'s internal database and **Connect** may occur causing the browser popup to be blocked. This can be fixed by applying a startup wait to the Connect Service. If the issue occurs during runtime, restarting the Connect Server Service will fix the issue.

OLCS Plug-In and Printer Driver on the same machine

When running the printer driver and plug-in on the same machine the host name must be "127.0.0.1" instead of "localhost", otherwise the communication between the two won't work.

Plug-In's temp folders not removed when file transfer is complete

When a file is sent to the server after the transfer is complete, the clean-up routine does not remove the folder leaving an empty folder on disk.

A solution might be to manually remove those empty folders on a regular basis or create a Workflow Process to automate the deletion of these empty folders after business hours. These temporary folders can be found here:

C:\ProgramData\Objectif Lune\PlanetPress Workflow 8\PlanetPress Watch\CPD\Temp

Data mapping from resulting PS/PDF files can be corrupted

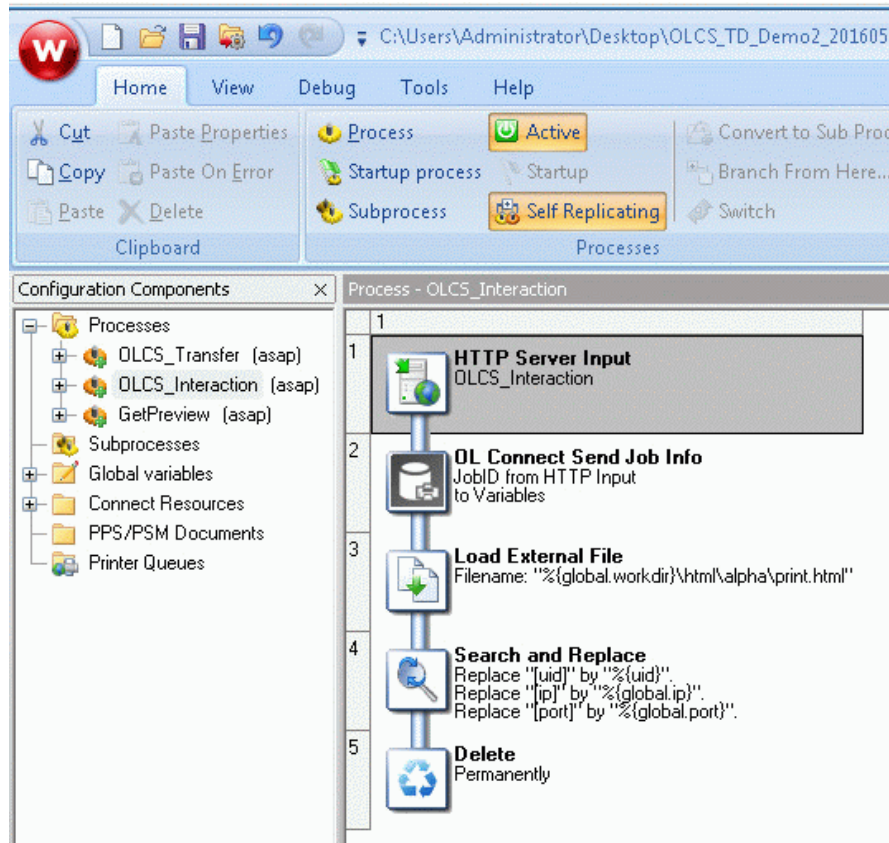
If a saved PDF copy is used rather than the raw mail merge, an error occurs during the data mapping stating that there was an "error retrieving character data". Adobe Acrobat (and some other software) bypasses the printer driver API to print text and uses the API's PostScript Pass-through instead. So no PDF preview appears in the web template.

OL Connect Send Job Information Plug-In

Overview

Creating an interactive process for incoming print jobs using **OLCS** requires that the relevant information about the respective job is available and can be used in **Workflow**.

Job Information retrieval is made easy with the **OLCS Job Info** plug-in. It is installed along with the **OLCS** plug-in and appears besides it in the **Plug-In Bar** area of **Workflow** under **Uncategorized**.



Typically, it is used in the interaction process just after the initial **HTTP Server Input** plug-in. The **Job Info** plug-in gets all relevant information for the dedicated print job using the **Unique Job ID**.

Unique Job ID: Whenever an OLCS Printer Driver is sending a print job to the OLCS plug-in, it creates a unique ID string composed from 10 upper- and lowercase letters and digits e.g. "ri0zZdluLp". This Job ID is used in any communication between the Printer Driver and the plug-in and is the leading identification element for this particular job. All job related information is stored in the underlying database and linked together by this Job ID.

Note:

The OLCS Job-Info plug-in gets data from the OLCS database which means it only works when Connect is in LICENSED mode.

The Plug-In Settings

To configure the plug-in, right-click it after adding it to the Workflow process, and click **Properties**.

OL Connect Send Job Info Properties

OL Connect Send Job Info
Retrieve all relevant information for the given Unique Print Job ID

General | Database | On Error | Comments

Select Job ID Source

☒ Read from HTTP Input data

☐ Read from Variable %{global.JobUID}

Select Returning Type

☐ Immediately

☒ When Job is processed Timeout (sec) 60

Select Output Type

☐ XML Data to workflow

☒ Write to Variables

Job Information	Var/Info#
Job UID	%{uid}
Status ID	
Timestamp	
Number Of Copies	%{copies}
Number Of Pages	%{pages}
Original File Name	%{file}

Version: 1.0.5.3

OK Cancel Help

General Tab

Three different settings affect the general behavior of the plug-in:

- Where to get the Print Job ID
- When to continue with the next step
- Where to store the job information details

Select Job ID Source

The plug-in can be used in a generic way. Whenever information about a specific print job is required, it can be retrieved as long as the related job ID is known. However, the plug-in has been implemented so that it can also be used in the “OLCS_Interaction” process. It can get the job ID from the incoming data of the **HTTP Server Input** plug-in.

Read from HTTP Input Data

When this option is selected, the plug-in analyzes the incoming data and if it can find the job ID at the expected location, it uses it for further processing.

Read from Variable

When selecting this option, any existing **Workflow** variable can be chosen via the dropdown field. In this case the plug-in reads the Job ID from that variable.

Select Returning Type

Depending on this setting the plug-in gets status information about the job before it has arrived or it gets information after the job has been completely received.

Immediately

By choosing this option, the **Job Info** plug-in will return as quickly as it can, providing it can find a matching job ID in the database. It is important to know that it will wait until information about the job is available. If no matching Job ID is found, the plug-in will wait for 5 seconds and then raise an error, which can be acted upon using the **On Error** tab settings.

When selecting this option, the **Status ID** information has to be checked. A **Status ID** value of 1 or 6 indicates a fully processed job. Any value between 2 and 5 (inclusive) means that the job is still in progress.

When Job Is Processed

When this option is checked, the plug-in will query the database until the **Status ID** value is 1 or 6. If the status does not become 1 or 6 within the time defined via the **Timeout (sec)** input field, the plug-in will raise an error (see above).

Select Output Type

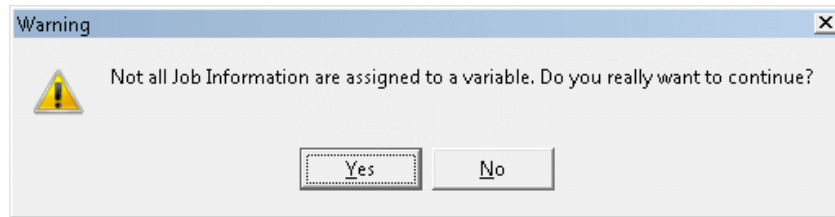
XML Data to Workflow

This will result in an XML file containing all job related data becoming the new **Workflow** job file. In this case, the incoming data file of the **HTTP Server Input** plug-in is overwritten and lost.

Write to Variables

Allows print job information to be stored in Workflow variables by using a simple dropdown list. In this case, the **HTTP Server Input** data will be kept as **Workflow** job file. If the same **Workflow** variable is assigned more than once, the plug-in will give a warning and will not close until the issue is fixed.

Another warning message will be shown to indicate that not all job information has been assigned to variables. This warning can be ignored if required.



Database Tab

Please refer to the [Database Connection](#) section in the OL Connect Send Job Information plug-in chapter.

On Error Tab

Please refer to the **Using the On Error tab** paragraph from the [Workflow](#) documentation.

Comments Tab

Please refer to the **Comments tab** paragraph from the [Workflow](#) documentation.

Returned Information

For each job received by the main **OLCS** plug-in the following values will be available.

Please keep in mind that the **OLCS** Job-Info plug-in gets data from the OLCS database which means it only works when **Connect Send** is in LICENSED mode.

- **Job UID:** This is the 10 (ten) character long **Unique Job Identifier** string.
- **Date/Time stamp:** This is the time when the matching job was initially created in the database. It is stored in UTC format plus time zone indicator inside the database. It will differ from the time stamp logged by the Printer Driver as well as by the **OLCS** main plug-in. Note: The Printer Driver machine time stamp in the Printer Driver log may significantly differ this value.
- **Number of Copies:** This is the value set by the Printer Driver for the number of copies (intended number of copies required for the print job).
Some applications do not use the general print job information to define the number of copies. In such (rare) cases, the **Number of Copies** sent in the job can differ from what the user entered in the print dialog. For example: "IrfanView" does not use the regular Copies indicator, but instead sends the same job as many times as indicated by **Copies** in its print dialog.
- **Number of pages:** This is the number of pages for one copy of the print job. This value is calculated by the Windows spooler, when processing the printing order. Please be aware that some applications do an implicit reformatting of jobs if the intended paper size does not match the paper size as selected in the print dialog. This may lead to the fact that the number of pages, as calculated by the spooler and reported by **OLCS**, can differ from that value as shown to the user in the application itself.
- **User name:** This is the Windows user name of the user who started the application to produce the print job. It is not - in all cases - the user name of the user who is currently logged into the system.
- **Original file name:** This is the "file name" as sent from the application to the Windows spooling system. It is taken from the name as it arrives in the spooler. Some applications

add info to the name (like Notepad++) while others don't (like Adobe Reader). **OLCS** can only use what it gets from the spooler. It does not interact with the applications itself.

- **Original file size:** The size of the print job - NOT the size of the document file.
- **Domain (workgroup) name:** The name of the domain or workgroup the printing user belongs to. This is not necessarily the name of the domain the machine itself belongs to.
- **Domain / Workgroup Indicator:** This domain name is the real domain name or only a workgroup name. For explanations about domains, domain names, users, user names, user domains, logged on users vs. application running users, machine names etc. please refer to the respective Windows help pages or ask your system administrator.
- **Machine name:** The name of the machine the OLCS printer driver is running on as retrieved by the respective Windows API.
- **Machine GUID:** The "Magic Number" of the machine on which the job was produced. It can be used as an additional identification mark to validate the origin of the job.

OL Connect Send Get Data Plug-In

General Tab

This plug-in allows **OLCS** users (admins, accounting personnel, print masters ...) to get info about all jobs received with **OLCS** on a dedicated machine. It allows queries of the **OLCS** Database to be made for the production of reports.

All job info that could be retrieved will be written to a temporary results file that is then passed on as the new Workflow job file. It can be used right after the Job Info plug-in in the same Workflow configuration. It could for example be saved using a "Send to Folder" plug-in.

The screenshot shows a Windows-style dialog box titled "OL Connect Send Get Data Properties". It has a yellow header bar with a close button (X) in the top right corner. Below the header, the title "OL Connect Send Get Data" is displayed, followed by a description: "Returns all relevant OL Connect Send data, matching the defined criteria, in a structured format." To the right of the description is a small icon of a document with an arrow. Below this is a tabbed interface with three tabs: "General" (selected), "On Error", and "Comments". The "General" tab contains two main sections. The first is "Filter Options", which includes five text input fields with labels: "From Date/Time", "To Date/Time", "Filter Domains", "Filter Users", and "Filter Machine Names". The second section is "Select Output Type", which contains three radio buttons: "XML Data to workflow" (selected), "JSON Data to workflow", and "CSV Data to workflow". At the bottom left of the dialog, the text "Version: 1.0.5.40" is displayed. At the bottom right, there are three buttons: "OK", "Cancel", and "Help".

Filter Options

Filters are required for:

- Start and end date (down to minutes)
- Domain(s)
- User(s)
- Machine name(s)

Except for start and end dates, it is possible to pass a list of multiple search criteria, separated with semicolons, containing:

- Workflow variables
- Job variables
- Names.

Important hint: No spaces are allowed around the listed names resp. before or after a semicolon.

Example

A valid user name search string would be:

`%\{global.User};helen;%1;george napier`

This would look for all entries, where the username is:

- as currently stored in the global Workflow variable `User`
- "helen"
- as stored in the job variable number 1
- equals "george napier" (case insensitive)

The search criteria in this case is an **OR**.

If search criteria are entered in multiple input fields, all of them are combined with **{{AND}}**.

Example: Domain name is defined as `{{objmtl.objectiflune.com}}` and username as `{{rentel}}`, then the result will only contain all the print job information for `objmtl.objectiflune.com` where the username is "rentel".

Date and Time Definitions

Both date and time entries must be notated in UTC format. During runtime, the dates are checked and, if any other date/time notation is used, a Workflow error log entry is created.

UTC notation is described here: <https://www.cl.cam.ac.uk/~mgk25/iso-time.html>.

It is possible to define the same date for **From Date/Time** as for **To Date/Time**. In this case, the result will be all jobs between 0:00 and 23:59 of that date.

Valid date/time entries:

2016-07-12	It is possible to only define a date without a time
2016-%m-%d	Standard Workflow variables for year, month and day are allowed
2016-07-12 11:00	From and To dates may also have a time indicator (24 hour notation, separator from the date is a space character, separator between hour and minute is a colon)

Operators

- Searches are case-insensitive.
- Searches with multiple entries in one criteria: **OR**

- Searches with entries in different criteria: AND

Results

For each job that matches the search criteria, the following information will be put in the resulting data file:

- Job UID
- Date/Time stamp
- Number of copies
- Number of pages
- User name
- Original file name
- Original file size
- Domain (workgroup) name
- Domain / Workgroup Indicator
- Machine name
- Machine GUID

Results File Format

The following result file formats are selectable:

1. XML
2. JSON
3. CSV. (Separator = semicolon (0x3B), string indicator = quote (0x22).)

Note that this file is not automatically saved to disk. The retrieved job info is written to a temporary results file that will be passed on as the new Workflow job file. It can be used right after the Job Info plug-in inside the Workflow configuration. To save the results file, use a "Send to Folder" plug-in and configure that appropriately.

Returned Information

For each job received by the main **OLCS** plug-in the following values will be available.

Please keep in mind that the **OLCS** Job-Info plug-in gets data from the OLCS database which means it only works when **Connect** is in LICENSED mode.

- **Job UID:** This is the 10 (ten) character long **Unique Job Identifier** string.
- **Date/Time stamp:** This is the time when the matching job was initially created in the database. It is stored in UTC format plus time zone indicator inside the database. It will differ from the time stamp logged by the Printer Driver as well as by the **OLCS** main plug-in. Note: The Printer Driver machine time stamp in the Printer Driver log may significantly differ this value.
- **Number of Copies:** This is the value set by the Printer Driver for the number of copies (intended number of copies required for the print job).
Some applications do not use the general print job information to define the number of copies. In such (rare) cases, the **Number of Copies** sent in the job can differ from what the user entered in the print dialog. For example: "IrfanView" does not use the regular Copies indicator, but instead sends the same job as many times as indicated by **Copies** in its print dialog.

- **Number of pages:** This is the number of pages for one copy of the print job. This value is calculated by the Windows spooler, when processing the printing order. Please be aware that some applications do an implicit reformatting of jobs if the intended paper size does not match the paper size as selected in the print dialog. This may lead to the fact that the number of pages, as calculated by the spooler and reported by **OLCS**, can differ from that value as shown to the user in the application itself.
- **Username:** This is the Windows username of the user who started the application to produce the print job. It is not - in all cases - the username of the user who is currently logged into the system.
- **Original filename:** This is the "file name" as sent from the application to the Windows spooling system. It is taken from the name as it arrives in the spooler. Some applications add info to the name (like Notepad++) while others don't (like Adobe Reader). **OLCS** can only use what it gets from the spooler. It does not interact with the applications itself.
- **Original file size:** The size of the print job - NOT the size of the document file.
- **Domain (workgroup) name:** The name of the domain or workgroup the printing user belongs to. This is not necessarily the name of the domain the machine itself belongs to.
- **Domain / Workgroup Indicator:** This domain name is the real domain name or only a workgroup name. For explanations about domains, domain names, users, user names, user domains, logged on users vs. application running users, machine names etc. please refer to the respective Windows help pages or ask your system administrator.
- **Machine name:** The name of the machine the Printer Driver is running on as retrieved by the respective Windows API
- **Machine GUID:** The "Magic Number" of the machine on which the job was produced. It can be used as an additional identification mark to validate the origin of the job.

On Error Tab

Please refer to the **Using the On Error tab** paragraph from the [Workflow](#) documentation.

Comments Tab

Please refer to the **Comments tab** paragraph from the [Workflow](#) documentation.

Create Preview PDF Plug-In

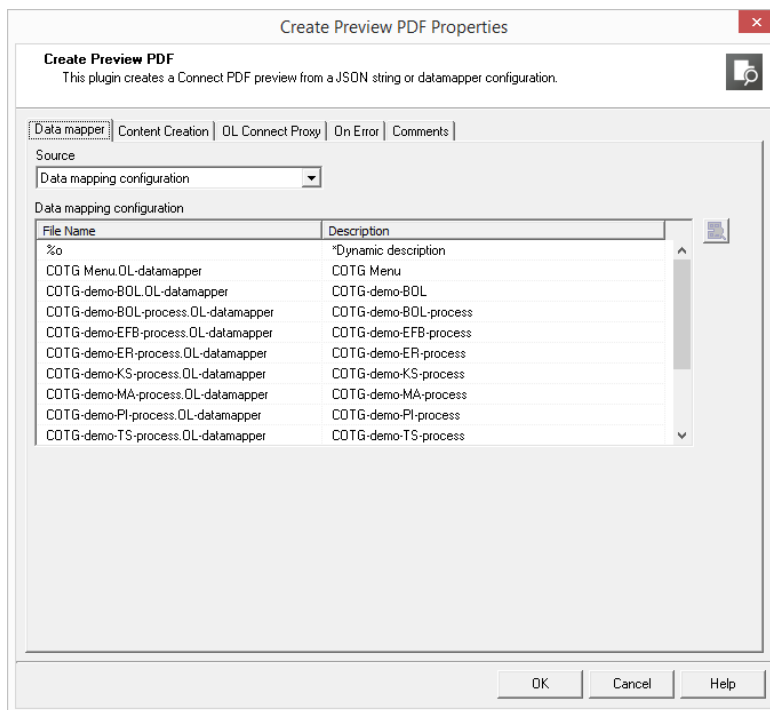
Overview

The Create Preview PDF was created to generate a PDF preview for a single record as fast as possible. This preview is typically used for previews embedded in web pages. The process does not involve the Output Engine and therefore the result does not have output optimizations applied. Omitting this optimization step scrapes of another few milliseconds in the rendering process resulting in even faster PDF creation times. The data source could be set to a DataMapping configuration. As stated the preview returns a PDF for a single record. When providing multiple records the preview is created based on the first record.

The plugin makes the PDF available to the process as the job data file. This file could be written to a publicly accessible location (for example the _iRes folder) so that path could be served back to the browser allowing the web page to embed the PDF data for online viewing.

The user interface of the plug-in consists of the following tabs:

- Data Mapper
- Content Creation, similar to *All in One*
- OL Connect Proxy
- On Error
- Comments



Data Mapper Tab

The **Data Mapper** tab can have one of the following source options:

- Data mapping configuration

- Standard Data mapping configuration option as seen in the **All in One** plugin.
- JSON string
Alternatively, one could set the data source to the JSON string option. In web environments, it is common to send and retrieve data from a server using an AJAX request (typically invoke from within JavaScript). In this scenario, the data is often exchanged in JSON format. JSON is short for JavaScript Object Notation. It is a way to store information in a structured and easy to read format. It is often referred to as xml without nodes and meant for exchanging data. The following shows a simple JSON structure holding the first and last name of a person.

```
{
  "first": "Peter",
  "last": "Parker"
}
```

When the 'keys' in the above sample (e.g. first and last) have matching data fields names, in our template the personalization scripts of the template will have access to the data. The JSON string samples below show various techniques on how to incorporate JSON data in your data source.

- When selected, a text area is shown allowing the user to enter a JSON string.
- The JSON string may contain variables, globals, job infos and lookups as seen in the **Value** field of the **Set Job Info and Variables** plugin.
- The user can use a single variable assuming that the respective variable contains a JSON string.
- In case the JSON string is not a valid JSON object, the plugin will error out with an explicit message.

JSON string samples

A hard-coded JSON string:

```
{
  "first":"Peter",
  "last":"Parker",
  "email":"pparker@localhost.com"
}
```

A JSON string with references to local variables and Job Info 2:

```
{
  "first": "%{first}",
  "last": "%{last}",
  "email": "%2"
}
```

A JSON string containing a local variable and various lookups:

```
{
  "jobid": "%{jobid}",
  "account": "lookup(OLCS_jobs, account, jobid, '%{jobid}')" ,
  "datafile_name": "lookup(OLCS_jobs, datafile_name, jobid, '%{jobid}')" ,
  "pages": "lookup(OLCS_jobs, pages, jobid, '%{jobid}')" ,
}
```

```
"documents":"lookup(OLCS_jobs, documents, jobid, '%{jobid}'),"  
"recordsetid":"lookup(OLCS_jobs, recordsetid, jobid, '%{jobid}'),"  
}
```

An example where the entire JSON string is provided in Job Info 1:

%1

Constructing the JSON string by retrieving information from a XML job data file.

```
{  
  "first":"xmlget('/request[1]/values[1]/first[1]',Value,KeepCase,NoTrim)",  
  "last":"xmlget('/request[1]/values[1]/last[1]',Value,KeepCase,NoTrim)",  
  "email":"xmlget('/request[1]/values[1]/email[1]',Value,KeepCase,NoTrim)"  
}
```

Content Creation Tab

Please refer to the **Content Creation tab** paragraph from the [Workflow](#) documentation.

OL Connect Proxy Tab

Please refer to the **Connect Proxy Tab** paragraph from the [Workflow](#) documentation.

On Error Tab

Please refer to the **Using the On Error tab** paragraph from the [Workflow](#) documentation.

Comments Tab

Please refer to the **Comments tab** paragraph from the [Workflow](#) documentation.

Troubleshooting

If you find that you cannot solve an issue here are a few things to check.

1. Check if the **OLCS** Database service is running on the machine where you have installed **Workflow** and the plug-in. The service is called **OL Connect Send DBServer**. Make sure that the service is running. If not, uninstall and then reinstall the **OLCS** plug-in. After reinstallation, make sure that the service is running.
2. Switch **OLCS** printer driver logging to "DEBUG". This can be done by modifying the OLCS printer driver: run OLCS Printer Driver Setup from "Programs and Features". Please, refer to the chapter Installing OL Connect Send Printer Driver.
3. Before running a new print, please clean up the OLCS printer's temp and logs folders. They are located under:
%ProgramData%\Objectif Lune\CPD\Temp\<OLCS Printer Name>
and
%ProgramData%\Objectif Lune\CPD\Log\<OLCS Printer Name>
It is very important to remove all files from the Temp folder, otherwise the OLCS printer will retry sending these again and again.
4. When running the printer driver and plug-in on the same machine the host name must be "127.0.0.1" instead of "localhost", otherwise the communication between the two won't work.
5. It has been seen, in some cases, that using two instances of the **OLCS** plug-in in different **Workflow** processes could lead to an error. Delete all the processes using the OLCS printer driver and redo them from scratch. **Please do not use copy & paste.** It is also strongly recommended to use only one single process with the OLCS plug-in and set this to "Self Replicating". Any further processing can be managed by the follow-up processes. Using two or more **OLCS** plug-ins in **Workflow** has been known to cause an error when (re-)starting **Workflow**.
6. Sometimes, the license cannot be successfully activated due to the fact that the license file is locked, blocked or under the control of a specific user account. In this case the **Software Activation Tool** of Connect will show a message telling you that the license could not be activated. The **Software Activation Tool** of Workflow will silently take note of this error and close without displaying it. Please double check if the license with the **OLCS** branch has successfully been activated by reopening the **Software Activation Tool** and clicking on the small **i** button. This will open the license overview window. A valid **OLCS** license will have a respective entry at the end of the list. If this is not the case, the activation has failed. In this case you need to activate manually by replacing the existing license file with the new one:
 - a. Rename the new license file with the OLCS enhancement to "OLConnect1.OLConnectLicense".
 - b. Stop any Connect and Workflow services.
 - c. Remove the existing "OLConnect1.OLConnectLicense" from **"%ProgramData%\Objectif Lune\OL Connect\licenses"**.
 - d. Put the new license at that location.
 - e. Restart any Connect services you stopped. You may notice that removing the existing license may be forbidden and you need to allow it explicitly. It may even be that you need to log on as an administrator to delete the file.

Important: This is not an issue with **OLCS**, but with the **Connect** and/or **Workflow** version and under which user it has been installed. This issue will occur with any license activation on such machines.

If none of the above mentioned should help, then collect all relevant information before contacting support or dev:

- The **OLCS** Printer Driver log files (located under “%ProgramData%\Objectif Lune\CPD\Log\<OLCS Printer Name>” on that machine/s, where the Printer Driver has been installed)
- The **OLCS** plug-in log files (located under “%ProgramData%\Objectif Lune\CPD\Log” on that machine, where the plug-in has been installed and where Workflow is running)
- Your Workflow configuration plus all relevant documents and externally required files
- A step-by-step description of what was done so far and what did lead to the issue(s).

Click Charge License Renewal

This chapter deals with such cases and scenarios which require a Workflow license renewal and what must be taken care of if this license contains an **OLCS** Click Charge license.

- **Current license:** This is the existing license which needs to be renewed and/or replaced with a new one. This current license file will or has already become invalid due to one of the scenarios outlined below. Invalidation is usually related to the fact that the magic number of the current license no longer matches the new magic number.
- **WF machine:** The machine/computer where the customer in question runs **Workflow** and the licensed **OLCS** plug-ins and for which his current license is valid.
- **Original Click charge:** The collection of all **OLCS** click charge entries in the current license.

Click Charge Licensing of OLCS

All click charge license related information of **OLCS** is tracked in the **OLCS** database. At any given moment, the consumed click charge credits can be calculated from the database and compared against the licensed click charge credits.

This information is additionally logged in a hidden secret encrypted file so that deleting the **OLCS** database will not result in a click charge reset.

Possible Scenarios

Scenario 1: The customer has modified some hardware on the WF machine. This hardware modification results in a new magic number but has no impact on that specific disk where the OLCS database is located.

In this case, a new license can be issued to the customer with the original click charge.

Scenario 2: The customer has modified hardware on the WF machine including that specific disk where the OLCS database is located but he still has access to the old hard disk with the OLCS DB.

In this case, the customer mandatory has to copy the OLCS DB files to the new location.

See the section on the next page, called “Moving the OLCS DataBase”.

If the customer has done this, he can get the new license file with the original click charge.

Scenario 3: The customer has moved or wants to move to another (new) computer, but still can access the disk of the old computer.

Same as Scenario 2.

Scenario 4: The customer has to move to a different machine because the WF machine has crashed. However he still has access to the old machine’s hard disk.

Same as Scenario 2.

Scenario 5: Like in scenario 4, but the crash is so serious that there is no more access to the old disk.

In this case, there is no chance at all to recover the **OLCS** DB nor the secret file. The account manager for this customer must therefore clarify the amount of **OLCS** pages to be activated for this customer.

Moving the OLCS Database

All OLCS DB files are located under:

%ProgramData%\Objectif Lune\CPD

All files have a name following the pattern "OLCSDB*.*" (The OLCSDB.log file can be deleted before the move/copy action).

Before copying the files, all related applications and services need to be stopped:

1. **Connect** Services (this can be done by using the **Workflow** Service Console)
2. **Workflow** Configuration Tool
3. **Workflow** Service Console
4. OLCS Database Service ("OL Connect Send DBServer")

Step by step

- Install Workflow on the new machine and stop all applications and services listed above.
- Delete all OLCSDB*.* files under %ProgramData%\Objectif Lune\CPD on the new machine.
- Put all OLCSDB files from the old machine into %ProgramData%\Objectif Lune\CPD on the new machine.
- Start OLCS Database Service and Watch Service.