

# **Agilent OpenLAB CDS**

## **Workstation Guide**



**Agilent Technologies**

# Notices

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This guide is valid for revision 2.2 of Agilent OpenLAB CDS.

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## In this Guide ...

This document provides instructions for installation, configuration, administration, and maintenance of an OpenLAB CDS Workstation. It includes information on the license generation with SubscribeNet.

**Table 1** Terms and abbreviations used in this document

Term	Description
Control Panel	Control Panel for Agilent OpenLAB software
Microsoft Control Panel	Part of the Microsoft Windows operating system
Shared Services	Set of administrative services that control, for example, the security policy and the central configuration of OpenLAB CDS. Shared services are accessed via the Control Panel.

### 1 Install OpenLAB CDS Workstation

This chapter describes the installation of the software.

### 2 Post Installation Tasks

This chapter describes tasks that are relevant after finishing the installation.

### 3 Licensing

This chapter provides basic information on licensing. It describes how you generate a license file with SubscribeNet and install the license in the Control Panel.

### 4 Configure OpenLAB CDS Workstation

This chapter describes the initial configuration steps after installing the software. For more details, refer to the Control Panel section in OpenLAB Help & Learning.

## **5 Optional Procedures**

This chapter describes the installation or upgrade of additional instrument driver software. It also contains information on the installation of OpenLAB Help and Learning only, and on performance improvement on offline machines.

## **6 About the OpenLAB CDS Software**

This chapter contains an overview of the software architecture and customization options.

## **7 System Setup and Maintenance**

This chapter contains information on the Control Panel and Shared Services Maintenance. In addition, it describes various maintenance procedures.

## **8 Upgrade OpenLAB CDS**

This chapter describes the upgrade from OpenLAB CDS 2.0 or OpenLAB CDS 2.1 to the current version of OpenLAB CDS.

## **9 Uninstall OpenLAB CDS With All of its Components**

This chapter describes the uninstallation of the software.

# Contents

- 1 Install OpenLAB CDS Workstation 7**
  - Installation Workflow Overview 8
  - Before you Begin 9
  - Run the OpenLAB Installer 10
  - Silent Installation 22
  - Install or Upgrade Driver Software 25
  
- 2 Post Installation Tasks 27**
  - Set Account to Enable Automatic Printing 28
  - Configure the Antivirus Program 29
  - Configure Internet Explorer for OpenLAB Help and Learning 32
  - Local Windows Account for Secure Projects Root Folder 32
  - Disable Windows 10 Updates 33
  
- 3 Licensing 35**
  - About OpenLAB CDS Licensing 36
  - Get a License 38
  - Install Your License 42
  
- 4 Configure OpenLAB CDS Workstation 43**
  - Configure Authentication 44
  - Configure Security Policy 46
  - Configure users, roles, and privileges 46
  - Configure the Storage Location 51
  - Enable File System Security 52
  - Configure Initial Project 52
  - Configure Initial Instrument 53
  - Other settings in the Control Panel 53
  
- 5 Optional Procedures 55**
  - Install OpenLAB Help and Learning Only 56
  - Improve Performance on Offline Machines 57

<b>6</b>	<b>About the OpenLAB CDS Software</b>	<b>59</b>
	Software Architecture	60
	Customization	63
<b>7</b>	<b>System Setup and Maintenance</b>	<b>65</b>
	Control Panel	66
	Shared Services Maintenance	71
	Maintenance Procedures	73
<b>8</b>	<b>Upgrade OpenLAB CDS</b>	<b>91</b>
	License Upgrade	92
	Upgrade OpenLAB CDS Workstation to Latest Version	94
<b>9</b>	<b>Uninstall OpenLAB CDS With All of its Components</b>	<b>95</b>
	Uninstall OpenLAB CDS	96
	Uninstall OpenLAB Help and Learning Only	97
<b>10</b>	<b>Appendix</b>	<b>103</b>
	Hardware and Software Requirements	104
	Network Requirements	108
	Operating System Configuration	113
	Instrument Connections	127
	Software Compatibility	147
	Privileges in the Control Panel	149
	Sales and Support Assistance	157



# 1 Install OpenLAB CDS Workstation

Installation Workflow Overview	8
Before you Begin	9
Run the OpenLAB Installer	10
Silent Installation	22
Export Properties File	22
Run Installation	23
Parameters and Return Codes	24
Logging and Tracing	24
Install or Upgrade Driver Software	25
Register driver software with OpenLAB CDS	26

This chapter describes the installation of the software.



## Installation Workflow Overview

### Prepare

- Run System Configuration Checker from the OpenLAB CDS Installer to ensure that all requirements are met
- Check Appendix for details



### Install

1. Run Installation wizard, incl. software verification
2. Post Installation:  
Set Account to Enable Automatic Printing
3. Optional:  
Improve performance on offline machines



### Get Licenses

1. Obtain licenses via SubscribeNet
2. Install your license



### Configure

- Authentication
- Projects, incl. audit trail settings
- Instruments

If you plan scripted installations, see “[Silent Installation](#)” on page 22.

See “[Install OpenLAB CDS Workstation](#)” on page 7  
See “[Post Installation Tasks](#)” on page 27  
See “[Optional Procedures](#)” on page 55

See “[Licensing](#)” on page 35

See “[Configure OpenLAB CDS Workstation](#)” on page 43.  
All configuration tasks are performed in the administrative and management center of OpenLAB, the Control Panel. For more details, refer to the Control Panel section in OpenLAB Help & Learning.

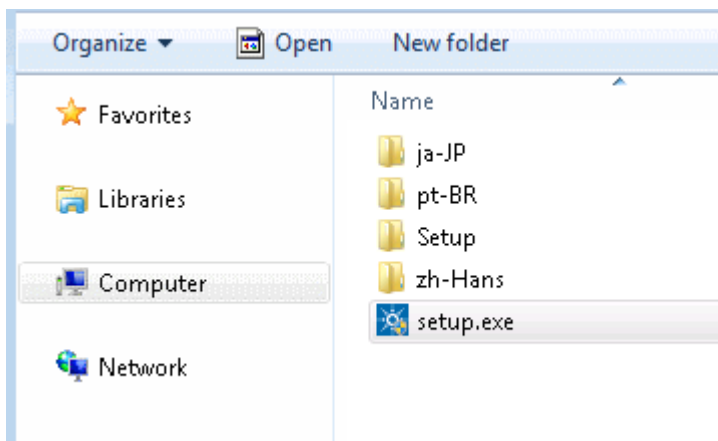


## Before you Begin

- 1 Decide on a computer name. Do not use underscores. Installation is not possible if the computer name contains an underscore.
- 2 Install all required hardware, including any cables, instrument detectors, and communication cables. GPIB interfaces may be needed for Waters instruments.
- 3 Run the **System Configuration Checker** from the OpenLAB CDS Installer to make sure that the PC matches all requirements.  
For details, see [“Appendix”](#) on page 103.
- 4 Update Adobe Reader 11 to the most recent version.  
The OpenLAB CDS installation medium contains the initial version of Adobe Reader 11 (version 11.0.0). To benefit from the latest software improvements, especially related to the software stability, Adobe Reader 11 must be updated to the most recent version (11.x.x).
- 5 Switch off the Adobe Updater.
  - a In Adobe Reader, click **Edit > Preferences**.
  - b On the **Updater** page, select **Do not download or install updates automatically**.  
If you need to update Adobe Reader, update it manually when the machine is not busy.
- 6 If .NET 4.5.1 or higher is not installed on your system, its installation will automatically be triggered by the installation wizard. However, this may require a system reboot. To avoid the system reboot during installation, install .NET in advance.
- 7 Prepare an account with administrative privileges to run the installation.
- 8 If you use Trend Micro<sup>TM</sup> as an antivirus software, turn off **Web Reputation** to allow the installation of all components.
- 9 If you plan to upgrade from a previous version of OpenLAB CDS please refer to [“Upgrade OpenLAB CDS”](#) on page 91.

## Run the OpenLAB Installer

- 1 Insert the USB media, right-click the setup.exe file, and run it as administrator. Alternatively, copy the content of the USB media to a network share, and run the setup.exe file from there.



### NOTE

If User Account Control (UAC) is switched on, this step requires active confirmation to continue.

- 2 The OpenLAB Installer checks if the Microsoft .NET Framework 3.5 is available. If it is not, the installer automatically tries to install and activate it.

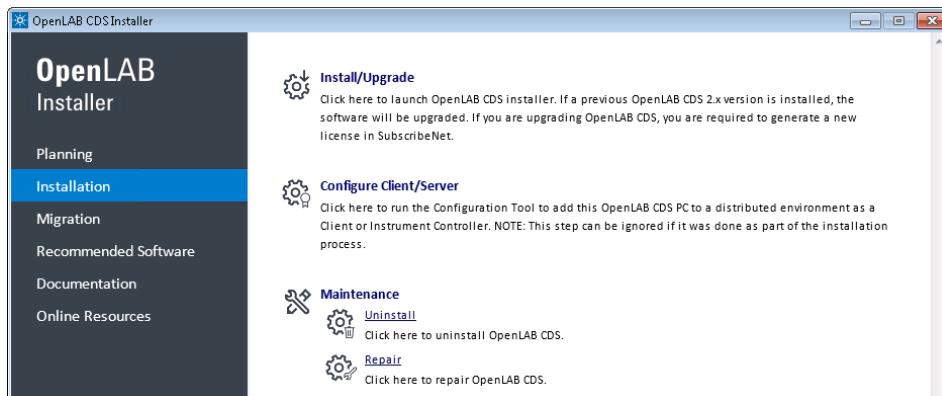
### NOTE

If .NET 3.5 cannot be enabled, for example, because the computer has no internet access, install .NET 3.5 from the Windows installation media (see Method 3 under <https://support.microsoft.com/en-us/kb/2734782>). If you do not have installation media, create them as described under <http://windows.microsoft.com/en-US/windows-8/create-reset-refresh-media?woldogcb=0>.

3 On the start screen, select **OpenLAB CDS**, and click **OK**.



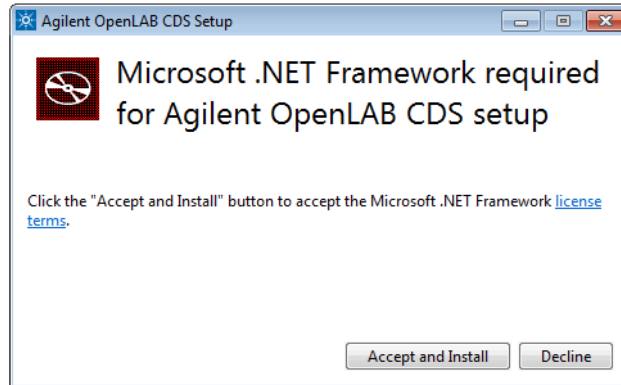
4 Click **Install/Upgrade**.



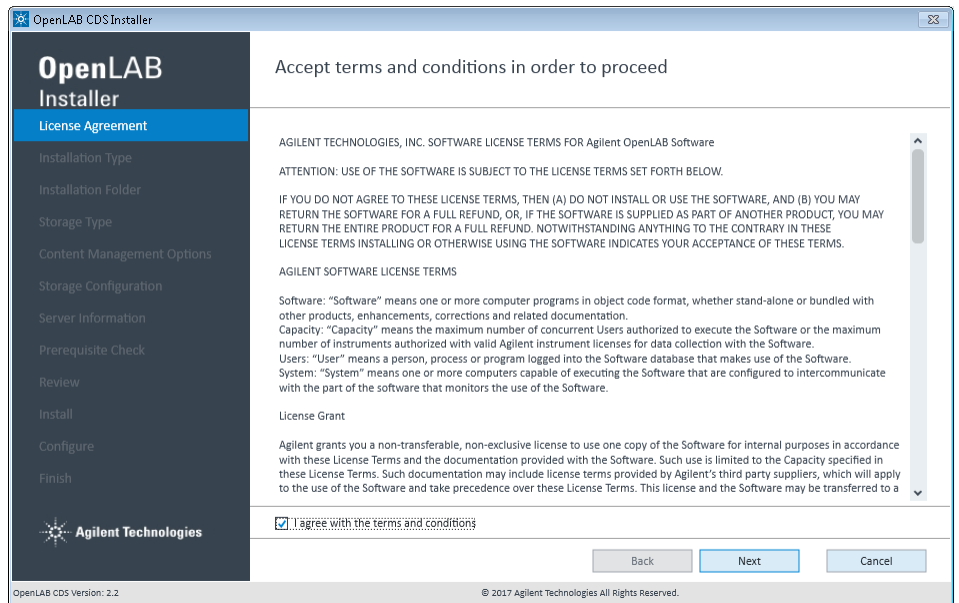
# 1 Install OpenLAB CDS Workstation

## Run the OpenLAB Installer

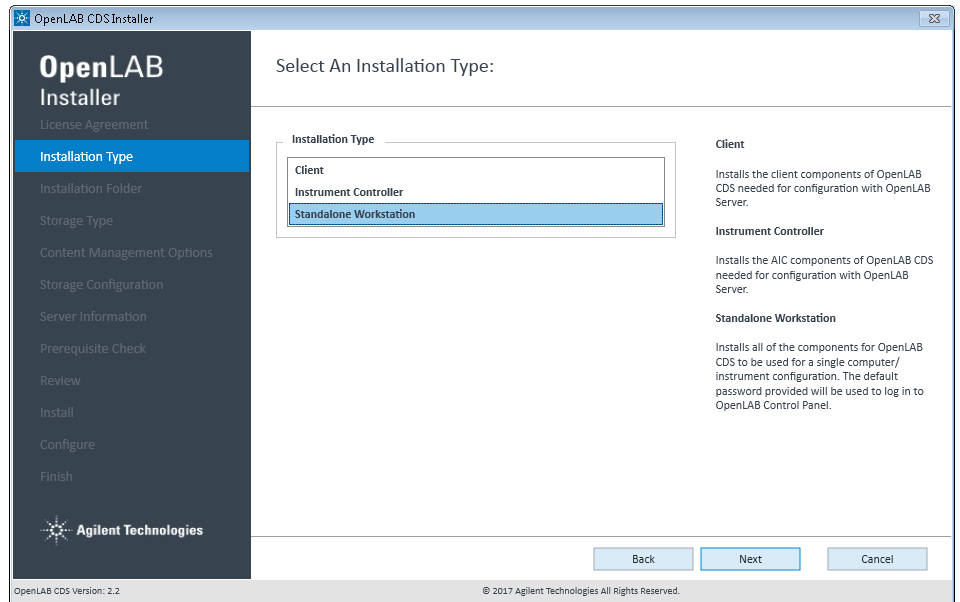
- 5 The OpenLAB Installer checks if correct version of Microsoft .NET Framework is available. If it is not, you will be prompted to install it.



- 6 **License Agreement:** Read and confirm Agilent terms and conditions.



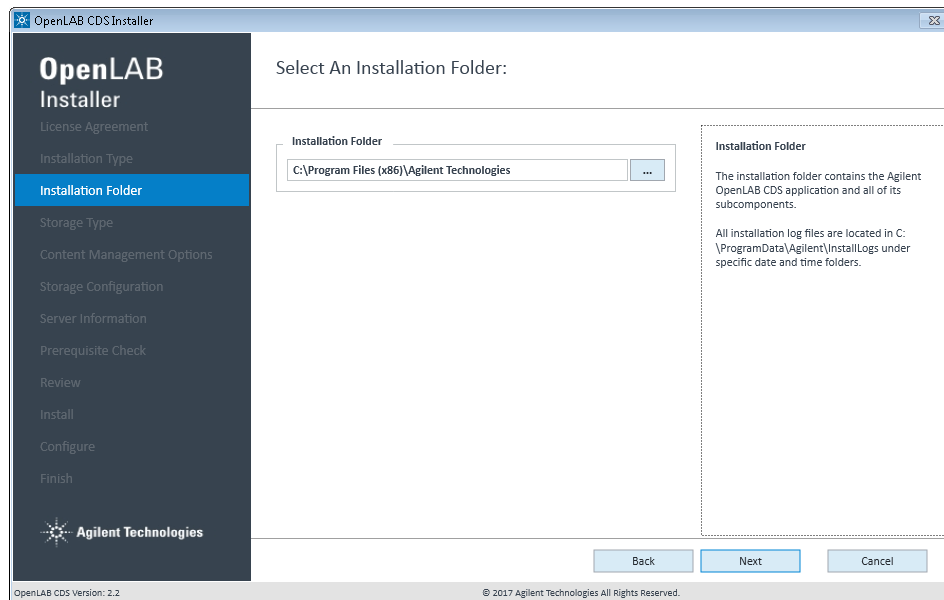
7 Installation Type: Select **Standalone Workstation**.



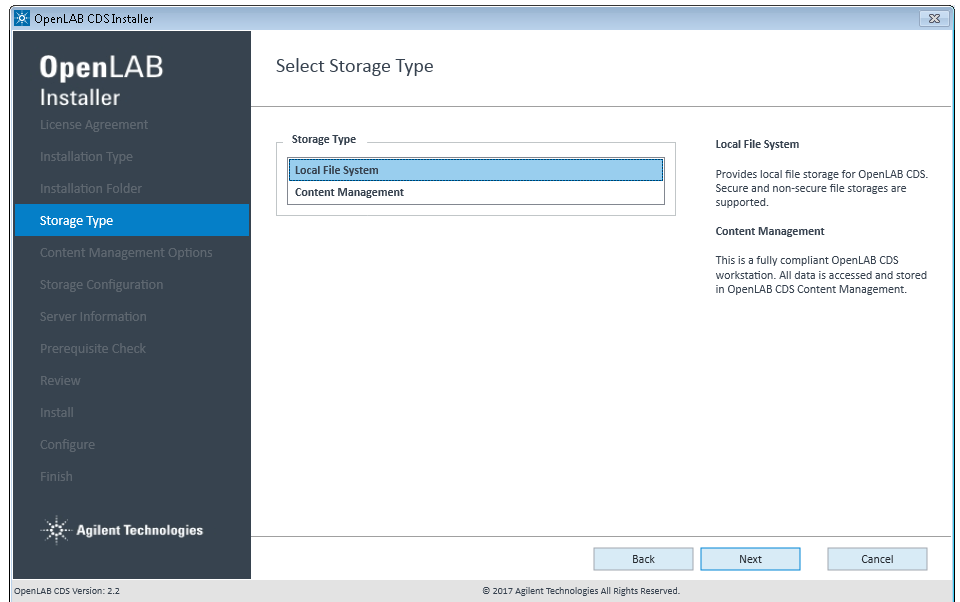
# 1 Install OpenLAB CDS Workstation

## Run the OpenLAB Installer

- 8 Installation Folder:** Provide an installation folder for OpenLAB CDS. Do not use the root folder of any drive.



9 Select Storage Type: Choose Local File System.

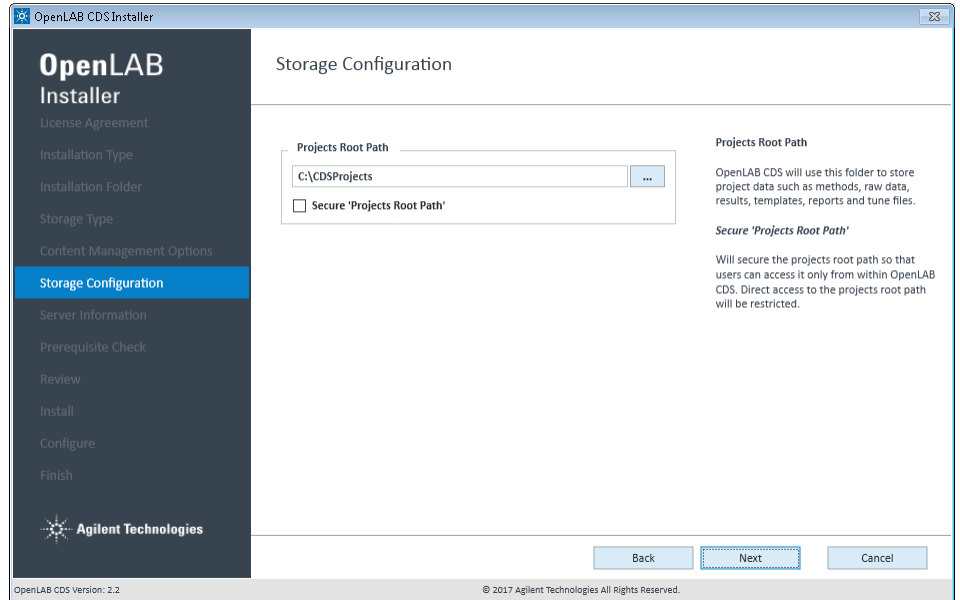


# 1 Install OpenLAB CDS Workstation

## Run the OpenLAB Installer

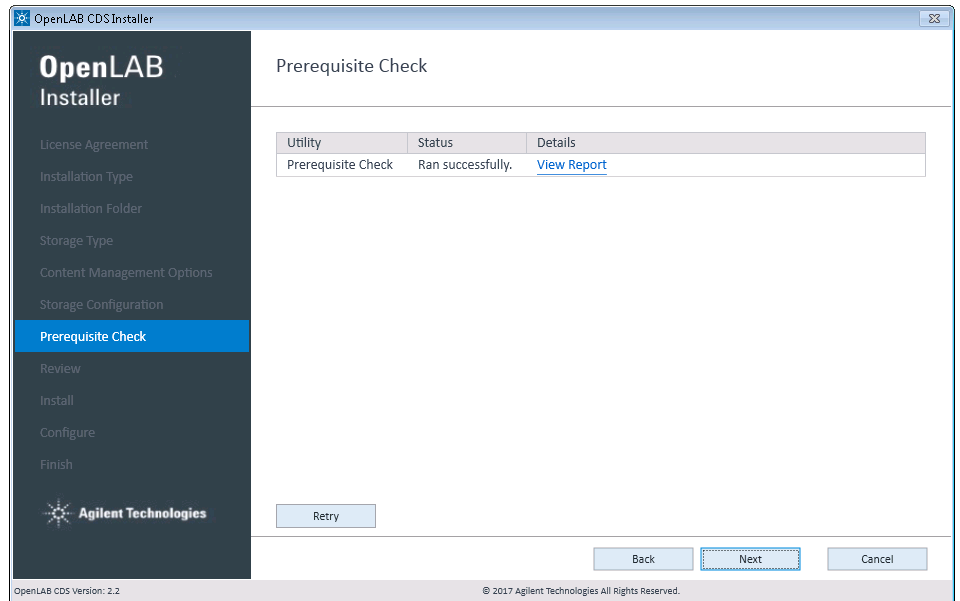
**10 Storage Configuration:** Provide a folder for storing the project data. Do not use the root folder of any drive.

If you want allow access to the projects root path only from within OpenLAB CDS, select **Secure 'Projects Root Path'**.





**11 Prerequisite Check:** Mandatory settings in the operating system are checked<sup>1</sup>.



The report is located in `C:\ProgramData\Agilent\InstallLogs\<date and time>`. Note that ProgramData is a hidden folder.

In case of errors, see the following hints:

- Is the name of the installation folder still applicable?
- Is there enough space available on the hard disk? For details, refer to the *OpenLAB CDS Requirements Guide* (OpenLABCDSRequirements.pdf).

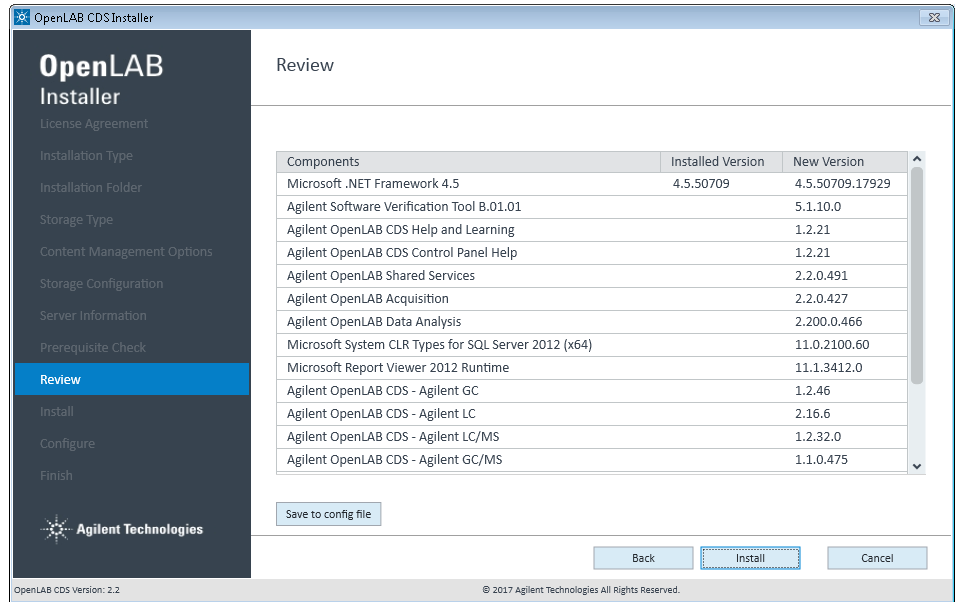
<sup>1</sup> To run the site preparation tool separately before installing: Start the OpenLAB Installer, select the *Planning* page, and click *System Configuration Checker*.

# 1 Install OpenLAB CDS Workstation

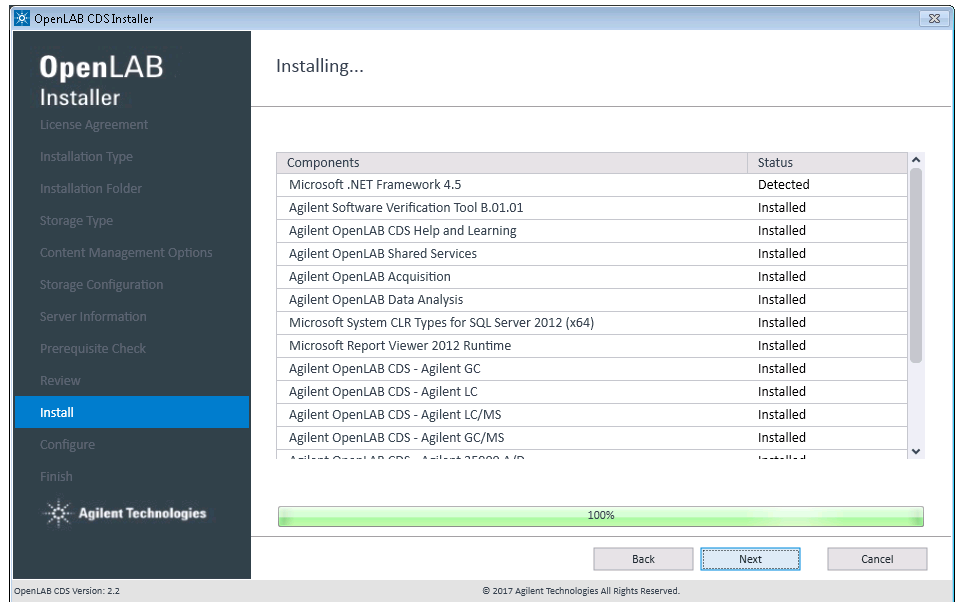
## Run the OpenLAB Installer

**12 Review:** All components that will be installed are listed with their version numbers.

- To save a properties file for a future silent installation (see “[Silent Installation](#)” on page 22), click **Save to config File**.
- To start the installation, click **Install**.



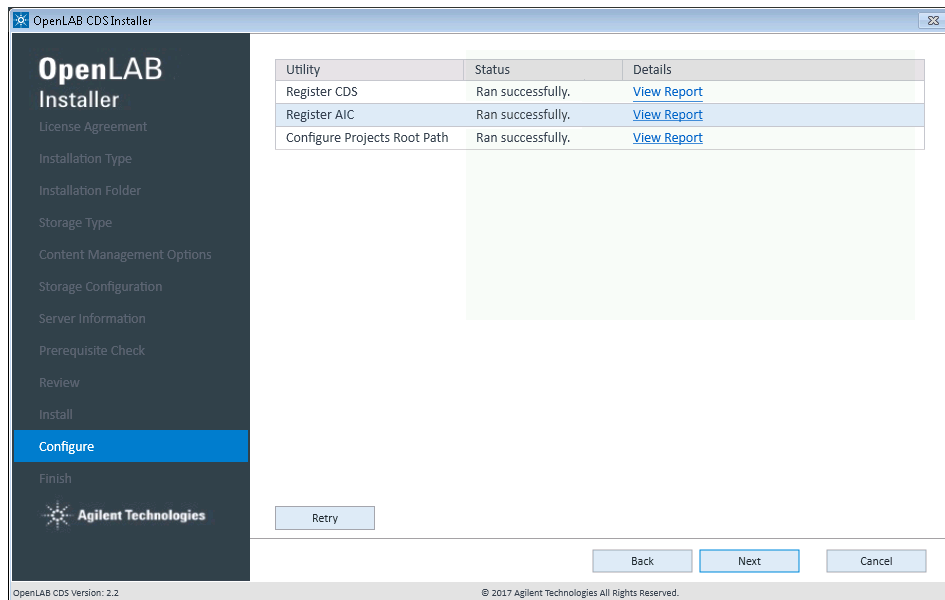
**13 Install:** After the installation has completed, click **Next**.



# 1 Install OpenLAB CDS Workstation

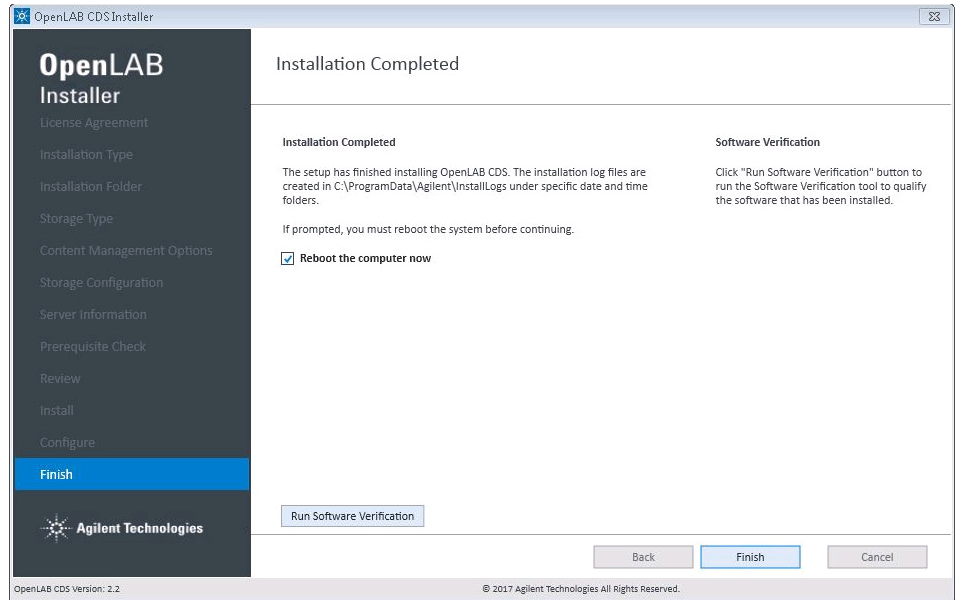
## Run the OpenLAB Installer

**14 Configure:** Configuration tools run in the background to configure the local file system. This takes about 10 min. When finished, click **Next**.



**15 Finish:**

- To confirm everything has been installed correctly, click **Run Software Verification**<sup>1</sup>.
- To complete the installation, select the **Reboot the computer now** check box, and click **Finish**.



**16** In case of errors during the installation: Check the installation log files under C:\ProgramData\Agilent\InstallLogs\[date and time]. Note that ProgramData is a hidden folder.

The installation includes a set of standard instrument drivers. If you need other instrument driver software, install it in a separate step. See [“Install or Upgrade Driver Software”](#) on page 25.

<sup>1</sup> To start the tool separately at a later point in time, select *Start > Agilent Technologies > Software Verification Tool*.

## Silent Installation

OpenLAB CDS supports a command-line mode for installation, also referred to as *silent installation*. This mode supports installation, upgrade, repair, and uninstallation. You can execute silent installations either manually or as part of software management systems such as LANDesk or HP CM.

### Export Properties File

The OpenLAB Installer supports a feature to export the installation parameters into a properties file which you can then use for the silent installation.

- 1** Launch the OpenLAB Installer.
- 2** Follow the instructions of the wizard.
- 3** When you have reached the **Review** screen, click **Save to config file**.  
Save the file to a suitable location. The file will automatically be saved as a .properties file.

You can now use the properties file for the silent installation.

## Run Installation

### Prerequisites

- You have prepared a properties file for silent installation. See “[Export Properties File](#)” on page 22.
- .Net Framework is present on your system.  
If it is not present, it will automatically be installed. You must then manually select **Accept** to agree with the license agreement.

- 1 Copy the content of the USB media to a centralized folder.
- 2 Copy the properties file to the same directory as the CDSInstaller.exe.
- 3 Right-click the executable of the command prompt or Power shell prompt, and run it as administrator.
- 4 Navigate to the location where you have saved the installation files.  
For example: C:\CDS
- 5 To start the installation, call CDSInstaller.exe with the following syntax:  
*CDSInstaller.exe -s -c <PropertiesFile>*  
For example:  
CDSInstaller.exe -s -c Silent.Properties  
With this command, you start the OpenLAB Installer without a user interface.
- 6 Wait about 5 minutes while the installation takes place. To check the process of installation, look at the log files under %ProgramData%\Agilent\InstallLogs.  
If a required installable is missing, the OpenLAB Installer will create an entry in a log file, and, depending on the component type, will continue or roll back the installation. An error code will be returned in such scenarios.
- 7 After the installation has finished, reboot the PC.

## Parameters and Return Codes

### Parameters

Use the following parameters when calling CDSInstaller.exe in command-line mode:

- *-s*  
Silent mode - no user interface will be shown.
- *-c*  
Configuration file - a properties file contains all parameters.
- *<PropertiesFile>*  
The properties file contains all required inputs for the installer. Replace *<PropertiesFile>* with the correct file path and file name. The file must be located in the same directory as the CDSInstaller.exe.

### Return Codes

After installation, uninstallation, upgrade, or repair in the command-line mode, the system will return a number code which is explained below.

**Table 2** Return codes

Error/return code	Return value
Success. You can see all of the information in the log file.	0
Failure. Verify against the log file to see what failed.	any other number

## Logging and Tracing

All exceptions, errors and information messages are logged under C:\ProgramData\Agilent\InstallLogs\*<date and time>*. Note that ProgramData is a hidden folder.



## Install or Upgrade Driver Software

The following driver software packages are automatically installed and configured with OpenLAB CDS. For details, see “[Instrument Connections](#)” on page 127.

- Agilent GC & GC/MS
- Agilent LC & LC/MS
- Agilent A/D
- Virtual Instruments

Other instrument driver software, add-on software, or upgrades to existing driver software, must be installed and configured manually. Instrument driver software and add-on software can be found on the installation media under Setup\Packages\Add-Ons.

The latest Agilent drivers are available in SubscribeNet. In the Product List, select **OpenLAB Software > OpenLAB Agilent Instrument Drivers**.

### Install or upgrade driver software

- 1 Run the installer package, and follow the installation wizard.  
For details on the installation or upgrade procedures, refer to the respective driver documentation.
- 2 Register driver software with OpenLAB CDS.  
See “[Register driver software with OpenLAB CDS](#)” on page 26.

The **OpenLAB Configuration** will find all newly installed or updated instrument drivers and register them with the Shared Services. New instrument types will be available in the Control Panel.

## Register driver software with OpenLAB CDS

### Register driver software with OpenLAB CDS

The following procedure must be carried out after installing drivers other than the ones listed above, and after upgrading any driver. With these steps you make the new drivers available in OpenLAB CDS.

- 1 In Windows, select **Start > All Programs > Agilent Technologies > OpenLAB Configuration**.
- 2 In the **OpenLAB Configuration** tool, enter one of the following strings as a server name:
  - The IP address of the workstation, starting with *192.x.x.x*
  - The IP address of the localhost, *127.0.0.1*
  - The computer name

The screenshot shows the 'OpenLAB Configuration' dialog box. It is divided into three main sections: 'Step 1 - Server', 'Step 2 - Authentication', and 'Step 3 - Additional Options'. 'Step 1' has a 'Hostname' text box and a 'Connect' button. 'Step 2' has 'Username', 'Password', and 'Domain' text boxes. 'Step 3' has a checked checkbox labeled 'Register as Instrument Controller'. On the right side, there is a blue panel with instructions: 'Server' (Enter the hostname of the OpenLAB Server that you would like to connect to and click the Connect button.), 'Authentication' (Enter your login credentials for the server specified.), and 'Additional Options' (Choose any additional options and click the Register button.). At the bottom right are 'Cancel' and 'Register' buttons.

- 3 Click **Connect** to enable the input boxes for the user credentials.
- 4 Under **Step 2 - Authentication**, enter your user credentials.
- 5 Make sure the **Register as Instrument Controller** check box is cleared.
- 6 Click **Register**.



## 2 Post Installation Tasks

Set Account to Enable Automatic Printing	28
Configure the Antivirus Program	29
Configure Internet Explorer for OpenLAB Help and Learning	32
Local Windows Account for Secure Projects Root Folder	32
Disable Windows 10 Updates	33

This chapter describes tasks that are relevant after finishing the installation.



# Set Account to Enable Automatic Printing

OpenLAB CDS allows you to process your data already during the acquisition, without opening Data Analysis. During this automatic processing you can also generate reports and print them to printer or save them as files. Exporting the reports to a network share is a typical way how they are sent to an external system (for example, LIMS).

To access a printer, and also to access a network share, Data Analysis must be started from an account with the required configuration and privileges.

- 1 Create a domain user or local user with access to the relevant printer and network share.
- 2 On the Workstation, add the new user to the local **Administrators** group.
- 3 Log in as the new user, and configure the relevant printer as this user's default printer.
- 4 Change the **Agilent OpenLAB Instrument Service** to run under this user.
  - a In the Windows command line, run **services.msc** as a user with administrative rights.
  - b In the **Services** window, right-click the **Agilent OpenLAB Instrument Service**, and select **Properties**.
  - c On the **Log On** tab, select **This account**, and enter the credentials of the new user.
- 5 Reboot the PC.

## Configure the Antivirus Program

- 1 Be sure to open the firewall ports listed in the Firewall Settings in the *OpenLAB CDS Requirements* guide.
- 2 For best performance, consider the following folder exclusions. These folders should only be scanned while the instruments are idle, and no data acquisition or data analysis takes place.
  - [C:\]CDSProjects
  - [C:\]Program Files (x86)\Agilent Technologies
  - [C:\]ProgramData\Agilent
  - [C:\]ProgramData\Agilent IPB Files
  - [C:\]ProgramData\Agilent Technologies
  - [C:\]ProgramData\ChromatographySystem
  - [C:\]ProgramData\Firebird
  - [C:\]ProgramData\IsolatedStorage

Refer to your specific antivirus software documentation on how to configure folder exclusions.

#### Settings for Trend Micro™ antivirus software

OpenLAB CDS can be used with other antivirus programs as well. If you use Trend Micro™, the following settings are recommended to optimize system performance.

##### 1 **Web Reputation:** Turn off to maximize performance.

The risk of turning off Web Reputation is that web traffic through browsing from the machine will not be checked.

Ensure that there is another URL/web scanner on the gateway level to protect the endpoint, or ensure that the endpoints have limited access to Internet. These production machines should not have access to Internet websites where most of the infections are coming from.

##### 2 **Real time scan:** Add exclusions, and modify scan direction from **Created/Modified/Retrieved** to **Created/Modified**.

Exclusions ensure that the working directory of Agilent Technologies will not be scanned, thus improving performance.

The risk is that only files that are created and changed on this machine are scanned. Files that are just accessed will be bypassed. Dormant Files that got infected without being noticed at the time they were created or written to the machine will not be scanned.

Increase scheduled scan to daily to ensure all files on the machine are being checked for infections that are dormant or not moving.

##### 3 **Behavior Monitoring:** Add below list of programs to **Approved programs**.

C:\Program Files (x86)\Agilent Technologies\...

- OpenLAB Acquisition\Agilent.OpenLAB.Acquisition.AcqInstrumentService.exe
- OpenLAB Acquisition\Agilent.OpenLAB.AcquisitionClient.exe
- OpenLAB Data Analysis\Bin\  
Agilent.Chromatography.DataAnalysis.Processing.ProcessingServer.exe
- OpenLAB Data Analysis\Bin\  
Agilent.Chromatography.DataAnalysis.UI.CustomCalculationDesigner.exe
- OpenLAB Data Analysis\Bin\Agilent.OpenLab.DataAnalysis.exe
- OpenLAB Data Analysis\Bin\Reporting\  
Agilent.OpenLab.Reporting.RdlDescriptor.exe
- OpenLAB Data Analysis\Bin\Reporting\  
Agilent.OpenLab.Reporting.RdlDescriptorContextMenu.exe

- OpenLAB Data Analysis\Bin\Reporting\IntelligentReporting.RenderServiceHost.exe
- OpenLAB Data Analysis\Bin\Reporting\TemplateDocumentation.exe
- OpenLAB Services\Automation\AutomationServerHost.exe
- OpenLAB Services\Diagnostics\DiagnosticsToolsServiceHost.exe
- OpenLAB Services\Licensing\Flexera\ladmin.exe
- OpenLAB Services\Licensing\Licensing.Service.Host.exe
- OpenLAB Services\Server\SharedServicesHost.exe
- OpenLAB Services\UI\Agilent.OpenLab.ControlPanel.exe

The risk is that if any of the excluded files get infected, it will not be detected. For example, trigger a schedule on a daily basis to cover these files.

- 4 Realtime monitoring:** Add below folder to the exclusion list of Realtime Monitoring setting:

C:\Program Files (x86)\Agilent Technologies\

## Configure Internet Explorer for OpenLAB Help and Learning

If you use Google Chrome, no further settings are required.

If you use Internet Explorer as your default browser: Make the following settings to ensure that OpenLAB Help and Learning is opened without showing a confirmation prompt.

- 1 In Internet Explorer, click **Tools > Internet Options**.
- 2 Select the **Advanced** tab.
- 3 Under **Security**, select **Allow active content to run in files on My Computer**.
- 4 Confirm your settings.
- 5 Reboot the computer to make the settings effective.

## Local Windows Account for Secure Projects Root Folder

If you installed OpenLAB CDS using the **Secure 'Projects Root Path'** option, your projects folder (by default, C:\CDSProjects) and anything within this folder is locked. Only the local Windows user **AgtSfsUser** and the local Windows group **AgtSfsGroup** are able to browse this folders. They have been created during installation.

To ensure that the system is working properly:

- Do not delete this group and account, and
- Do not disable Windows logins for local accounts.

### CAUTION

The application may become unusable

If you change file access privileges, Windows 10 removes the default ownership. As a result, OpenLAB CDS will be unable to access your data.

→ Request Agilent's support if you need to change privileges on file system level.



## Disable Windows 10 Updates

Your company's security policy may require that Windows updates not be automatically applied. Updates may need to be tested first, and then be distributed internally.

With Windows 10, automatic updates cannot be turned off in the Windows settings as in earlier Windows versions. Instead, you must disable the Windows Update service. As this service is required during installation, you can only disable it after finishing the installation.

- 1 In the **Start** menu, search for **services.msc** and press **Enter** to open the **Services** window.
- 2 Double-click the **Windows Update** service.
- 3 Set the startup type to **Disabled**.

### NOTE

The computer will not be automatically updated anymore. Make sure you keep the computer up to date by other means.

---

## **2 Post Installation Tasks**

### **Disable Windows 10 Updates**



## 3 Licensing

About OpenLAB CDS Licensing	36
Software subscriptions and Software Maintenance Agreement (SMA)	36
License Types	37
License File	37
Get a License	38
Obtain a License with SubscribeNet	38
Other Ways to Obtain a License	40
Install Your License	42

This chapter provides basic information on licensing. It describes how you generate a license file with SubscribeNet and install the license in the Control Panel.



## About OpenLAB CDS Licensing

### Software subscriptions and Software Maintenance Agreement (SMA)

Bundled into OpenLAB CDS is a one-year software subscription which provides access via SubscribeNet to new software updates, product upgrades, familiarization and media.

As a best practice, we recommend customers renew subscriptions annually so as to maintain their licenses and have full access to the newest updates, upgrades, media and familiarization. To manage software entitlements, order media or download software, log in to SubscribeNet by pasting this link in your browser: <http://agilent.subscribenet.com/>

Software subscriptions do not include installation services. Installation or upgrade services must be purchased by contacting your sales representative in your region.

## License Types

The license file is a collection of Product, Instruments and Add-on licenses (or activation keys), and is installed to your OpenLAB CDS System. Both the OpenLAB Workstation PC, or the OpenLAB Server in a Client/Server system will act as the license server.

The licenses or activation keys in the license file can either be Shared or Counted:

- Shared licenses – system computers and other components can have shared, or add-on, licenses – because they share a core license.
- Counted licenses – these licenses are part of the OpenLAB CDS floating licensing strategy. They are not permanently assigned to any one component. Instead they are automatically assigned to components, such as AICs and instruments, while the components are starting up. The licenses are automatically returned when the component is closed. The license management program controls license issuance and retrieval.

In this case, the only requirement is that a component is licensed while running. You only need enough licenses for all components running concurrently, rather than for each installed component.

A startup license for the system allows you to run OpenLAB CDS for 60 days after the installation. In order to run the data system software after the 60-day period, you must install your license file.

## License File

A license file will contain your software license. This file is installed on the workstation. The license file is bound to this computer, and cannot be moved to another workstation without regenerating the license in SubscribeNet.

Information in the license file defines the number of instruments and other options that may be used concurrently with your system.

The most efficient way to manage and maintain your licensing is through the Internet.

## Get a License

### Obtain a License with SubscribeNet

Use the following procedure to generate and download your license. In case you do not have internet access, skip to the section [“Other Ways to Obtain a License”](#) on page 40.

If you are a new user who has not registered with SubscribeNet, continue with the section *New Users*.

If you have registered with SubscribeNet, skip to the section *Users registered with SubscribeNet*.

#### Prerequisites

To generate, download, and install a final license for your product, you will need:

- The authorization code label provided in the lavender envelope containing your Software Entitlement Certificate.

If you have not received a lavender envelope for your product, contact your vendor or internal support.

- The URL for SubscribeNet from the Software Entitlement Certificate.
- The host name of the computer where the Control Panel is running.
- The MAC address.

To retrieve your MAC address from a computer where OpenLAB CDS is already installed, open the Control Panel and browse to the **Administration > Licenses** section. Use the **Copy MAC Address** or **Save MAC Address** function to obtain the MAC address for license generation.

During this process you will have to enter the MAC address of your license server. For workstations, this is the local computer. For client/server systems, this is the server.

#### NOTE

If any changes are made to the computer name or domain reference after the license is installed, remove the license. A new license will need to be created in SubscribeNet, downloaded, and installed.

#### NOTE

If the network adapter that provides the MAC address used during license creation is removed from the machine, your license will no longer be valid. A new license will need to be generated with a currently available MAC on the license server.

### New Users

- 1 From a computer with Internet access, enter the URL provided in the Software Entitlement Certificate in an Internet browser (<https://agilent.subscribenet.com/control/agil/AgilRegisterToAccount>).
- 2 On the registration page, enter the authorization code from the label and complete the profile information (required fields are marked with an asterisk \*).  
The email address you enter will become your login ID.
- 3 Click **Submit**. The system will generate and display an account name for you. SubscribeNet will send a welcome email with your login ID and password.
- 4 Log in to SubscribeNet using your login ID and password.  
Once you log in, you can use the online user manual link for help with any questions you have.
- 5 Select **Generate or View licenses** from the left navigation bar.
- 6 Follow the prompts to generate your new license.  
You will be prompted for the HOST NAME of the computer. The host name you enter must match with the network name of the computer where the Control Panel is running. Do not include any DNS suffix (*domain.com*) references in the entered machine name.
- 7 When the system generated the license, view its details, then click **Download License File**. Save the license file to your computer and to a backup location (such as a portable storage device).  
Use your login ID and password when you revisit the Agilent SubscribeNet site to regenerate a license file, add new authorization codes, or further configure the license for your system.

### Users registered with SubscribeNet

- 1 Login to SubscribeNet with your e-mail address and password.
- 2 Select the SubscribeNet account associated with this authorization code, if you have more than one account.
- 3 From the SubscribeNet navigation pane, select **Register Authorization Code**.  
This will allow you to enter your new authorization code and make available the new license entitlements
- 4 Follow steps 7 through 9 in the previous procedure, *New Users*, to *generate or view* your new licenses.

## Other Ways to Obtain a License

If you are unable to generate a license, contact your nearest Agilent technical support office. A representative will tell you how to submit an OpenLAB CDS License Generation Form in your location.

### Offline Licensing

If an internet connection is not available in your laboratory:

You or your local on-site service engineer will collect the necessary information from you to allow Agilent to create a license account on your behalf. For phone support in your region, call the sales and service number for your region. See the Appendix for a list of numbers for various countries.

*Required Customer Information for Agilent License Support:*

The following information must be provided to Agilent in order to enable us to create a licensing account on your behalf.

#### 1 Collect Account Information:

Your account name will be your company name and Lab name separated by a comma. Employee information provided here will be used to define the first administrator of your account for future access to the system as required. Please prepare the following pieces of information prior to contacting your local Agilent sales and service center in order to expedite service:

- Company Name
- Lab/Department Name
- First Name
- Last Name
- E-mail address
- Job Title
- Phone #
- Address, City, State/Province, Postal Code, Country

#### 2 Collect Authorization Code(s):

The authorization code is an alpha-numeric code provided on a label which is enclosed in a lavender envelope. If you have received more than one code




you must provide all codes to ensure that all ordered licenses are granted to your account.

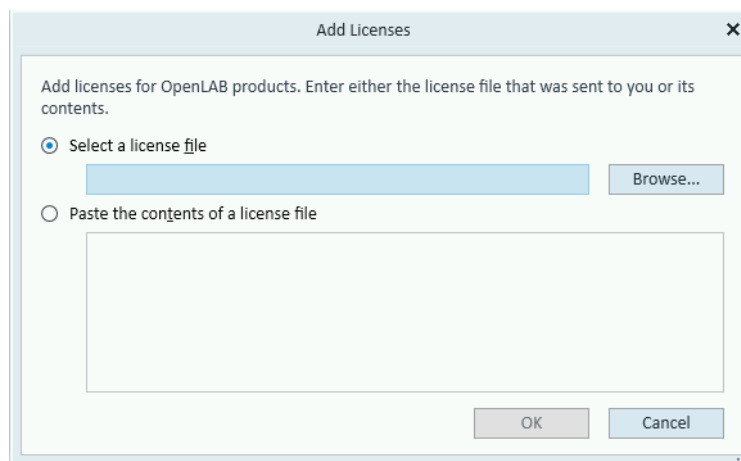
**3** Receiving your license:

Once the above information is provided Agilent will then work on your behalf to generate a license file through SubscribeNet. The license file will either be sent to your shipping address (on a CD), or your local FSE will deliver it in person (usually on USB media). Once your license is received follow the below section on “Install your License” to finish installing your license on your CDS system(s).

## Install Your License

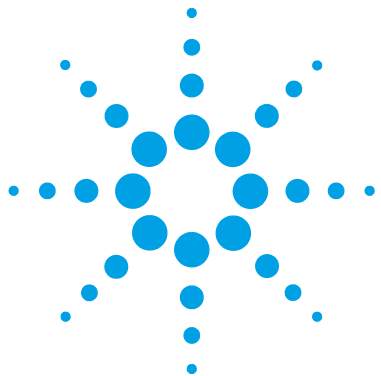
The license must be added to your system using the Control Panel.

- 1 Start the **Control Panel** shortcut on the desktop or go to **Start > All Programs > Agilent Technologies > OpenLAB Shared Services > Control Panel**.
- 2 Navigate to **Administration > Licenses**.
- 3 In the ribbon, click **Add License** .



- 4 Choose to install the license by:
  - Using the license file option to browse to and open the license file (.lic) saved from the license generation process in SubscribeNet.
  - Selecting the License Text option and copying the license text from a text file received into the provided field.
- 5 Click **OK**.

The **Administration** interface in the Control Panel will now display the status of installed licenses.



## 4 Configure OpenLAB CDS Workstation

Configure Authentication	44
Configure Security Policy	46
Configure users, roles, and privileges	46
Create or import users	47
Groups	48
Roles and Privileges	48
Add users or groups to a role	49
Specific Roles for Individual Instruments or Projects	50
Configure the Storage Location	51
Enable File System Security	52
Configure Initial Project	52
Configure Initial Instrument	53
Other settings in the Control Panel	53

This chapter describes the initial configuration steps after installing the software. For more details, refer to the Control Panel section in OpenLAB Help & Learning.

### CAUTION

This chapter is not applicable if you are migrating from OpenLAB CDS ChemStation Edition.

→ If you are upgrading from OpenLAB CDS ChemStation Edition be sure to refer to the "OpenLAB Migration Tool user guide" prior to configuring OpenLAB CDS.



## Configure Authentication

OpenLAB CDS supports the following authentication providers:

- **None** (default setting after installation)

In this mode, no login screen is shown when you access the Control Panel. The user is automatically logged in to the application with security disabled. All log entries record the user as "Anonymous". With the authentication provider **None**, the Security Policy and User Management nodes are unavailable in the Control Panel.

### NOTE


With the authentication provider **None**, any activity logs will display a generic **System** operator with no additional identification. This is not recommended for compliant setups.

- **Internal**

In this mode, the user's credentials are stored in the OpenLAB CDS system. You are asked to create an administrator account for OpenLAB CDS before setting up other users. This is the only mode in which you can create new users within the system; in all other modes you can only map to users that exist in a different system.

- **Windows Domain**

You import existing Windows users into OpenLAB CDS system. The authentication is done either by Windows Active Directory domain or NT 4.0 Domain within the Enterprise. OpenLAB CDS only uses the identity and password of the mapped users; roles and privileges for OpenLAB CDS are still configured in the Control Panel.

- 1 Launch the Control Panel.
- 2 Navigate to **Administration**.
- 3 In the navigation pane, select **System Configuration**.
- 4 In the ribbon, click **Edit System Settings**  .

- 5 Select the required authentication provider from the drop-down list, then click **Next**.

**NOTE**

Do not change the storage type.

- 
- 6 Provide user credentials:
    - a For **Windows Domain**: Select the check box to use a domain user, and provide user credentials with the rights to obtain user and group information. Then click **Select Account** to open the **Search Users** dialog and select an administrator account.
    - b For **Internal**: Click **Create Account** to create a new administrator account for OpenLAB CDS.
  - 7 Confirm your settings. When complete, the Control Panel will restart.

## Configure Security Policy

If you need to comply with specific standards, adjust the security policy as required.

With the authentication provider **Internal**, you can set all parameters in the Control Panel. With an external authentication provider (Windows Domain), you can only set the inactivity time in the Control Panel; all other parameters are defined by the external system.

- 1 Launch the Control Panel and navigate to **Administration**.
- 2 In the navigation pane, select **Security Policy**.
- 3 In the ribbon, click **Edit Security Policy**.

## Configure users, roles, and privileges

With internal authentication, you create the required users in the Control Panel. With Windows domain as an external authentication system, you import the Windows domain users.

To define what users are allowed to view or do, OpenLAB CDS offers predefined roles and allows you to define your own specific roles. Roles are equipped with numerous specific privileges.

Each user can be member of multiple groups. You must assign one or more specific roles to each group. You can also assign roles to single users; however, for the sake of clarity, it is strongly recommended to assign roles only on the group level. Every member of a group automatically has all roles of this group.

- 1 Launch the Control Panel and navigate to **Administration**.
- 2 In the navigation pane, select **Users, Groups, or Roles**.
- 3 Create new items, or edit the existing ones.

## Create or import users

Use the Control Panel to manage the roles and privileges. You can create custom roles, or assign one or more of the predefined roles to give users varying degrees access.

### Add users (Internal Authentication only)

- 1 From the navigation pane, click **Administration > Users**.
- 2 In the ribbon, click **Create User**.
- 3 In the **Create User** dialog, provide the relevant parameters:
  - Enter the name and password for the new user.
  - By default, the new user will need to change the password at next logon. If this is not required, clear the **User must change password at next logon** check box.
  - In the **Role Membership** tab, assign the user to an appropriate role. You can use the default roles, or prepare your own roles in the Control Panel under **Administration > Roles**.
- 4 Click **OK**.

### Import users (Windows Domain Authentication only)

**To add users to your system, you must have privileges to obtain user and group information from the domain.**

- 1 From the navigation pane, click **Administration > Users**.
- 2 In the ribbon, click **Import**.
- 3 In the **Search Users** dialog box, enter search string for the Windows domain username.
- 4 From the **Search Results** list, select the user you want to import, and click **Add**. The user is added to the **Selected Users** list.
- 5 Repeat steps 2 through 4 until you have added all the user names that you want to import to the **Selected Users** list, then click **OK**.

## Groups

If you use an external authentication provider, you can either import the names of groups that exist in the external system, or create new internal groups. There is no limit on the number of groups that can be mapped or created.

Assign users to groups either in the external system or in the Control Panel. If you need additional user assignments that are relevant only for OpenLAB CDS, create them in the Control Panel. Otherwise it is sufficient to only import the groups and assign the required roles to the groups.

If you delete or unmap a group, the users who were members in this group remain unchanged.

## Roles and Privileges

Roles are used to assign privileges to a user or a user group globally or for a specific instrument, project, project group or location. The system contains a list of predefined roles which are installed as part of the system installation (for example, **Instrument Administrator**, **Instrument User**, or **Everything**). Each role has certain privileges assigned.

Privileges are grouped according to the three main role types (Project role, Instrument role, and Administrative role). When you assign privileges to a role, you first select the required role type and then select the privileges related to this role type. Each role can only have privileges of one specific role type; the only exception is the predefined role **Everything**, which has all privileges of all role types. Users or groups may require multiple roles to perform system functions. For example, a user with the role *Chemist* may need another role such as *Instrument User* with the privilege to run an instrument.

You can create a tree of different locations in the Control Panel, and add instruments to the relevant locations. For each instrument or instrument group, you can assign different Instrument roles (see also “[Specific Roles for Individual Instruments or Projects](#)” on page 50). For example, a user can have the role **Instrument Administrator** for one instrument, and **Instrument User** for another instrument.



You can also create a tree of different projects or project groups in the Control Panel, and assign different Project roles for different projects (see also “[Specific Roles for Individual Instruments or Projects](#)” on page 50). For example, a user can have the role **Project Administrator** in one project, so that he can manage the settings in the Control Panel. In a second project, he may have a role that allows him to edit the content of a project, but not to change the project settings.

For more information on privileges, see the Appendix.

**Table 3** Description of role types

Role Type	Description
Administrative privileges	These privileges are globally assigned to a user or group and cannot be changed on the instrument/location level. They are the typical administration privileges such as <b>Backup and restore</b> , <b>Manage security</b> , <b>Manage printers</b> etc.
Instrument privileges	These privileges can be assigned globally or on the instrument/location level. Privileges for instruments are, for example, <b>View instrument or location</b> and <b>Run instrument</b> . Users need the <b>View instrument or location</b> privilege on the global level to see the locations and instruments tree in the Control Panel.
Project privileges	Privileges for accessing or modifying different levels of data. You can assign these privileges globally or on project or project group level.

## Add users or groups to a role

- 1 From the navigation pane, click **Administration > Roles**.
- 2 In the **Roles** window, select the role you want to assign to users or groups.
- 3 In the ribbon, click **Edit Role**.
- 4 In the **Edit Role** dialog box, click the **Members** tab.
- 5 Click **Add user or group**.
- 6 In the **Search Users and Groups** dialog box, enter the name of a user or group, and click **Search** to view a list of all users and groups that meet the search criteria.
- 7 Under **Search Results**, select a user or group, and click **Add**.
- 8 Click **OK**.

## Specific Roles for Individual Instruments or Projects

By default, the roles of users or groups are globally set for all locations, instruments, project groups, or projects. The role settings are inherited from the root node **Instruments** or **Projects** respectively. In order to assign a different role to a user or group for one specific node, you can deselect the **Inherit privileges from parent** check box in the **Edit Privileges** dialog for the required node. Afterwards, you can assign a different role that will be valid only for the specific node.

You can assign **Instrument** roles to individual locations or instruments.

If you use projects, you can assign **Project** roles to individual project groups or projects.

**Administrative** roles are always set globally.


## Configure the Storage Location

All project data is stored on the local file system. Each project has its own project folder, but all project folders are located in the **Projects Root Path**. The following procedure explains how to change Projects Root Path.

**Prerequisites** To be able to change the Projects Root Path, the directory must be empty. You did not yet create any projects.


### NOTE

If you already created projects, move the data away temporarily, then delete the the project. After you have set the correct path, create the projects again and move the data back.

- 1 Launch the Control Panel.
- 2 Navigate to **Administration**.
- 3 In the navigation pane, select **System Configuration**.
- 4 In the ribbon, click **Edit System Settings**  .
- 5 Select the storage location **File System** from the drop-down list, then click **Next**.
- 6 Provide the new Projects Root Path.
- 7 Confirm your settings. When complete, the Control Panel will restart.

## Enable File System Security

With File System Security, you prevent users from modifying OpenLAB files outside OpenLAB CDS. File System Security may have been enabled already during installation, but you can enable it at any time. File System Security is optional.

- 1 Launch the Control Panel.
- 2 Navigate to **Administration**.
- 3 In the navigation pane, select **System Configuration**.
- 4 In the ribbon, click **Edit System Settings**  .
- 5 Select the storage location **File System** from the drop-down list, then click **Next**.
- 6 Select the **Secure project folder** check box, then click **Next**.
- 7 Confirm your settings.

## Configure Initial Project

- 1 Launch the Control Panel and navigate to **Projects**.
- 2 Create and configure a project:  
On the **CDS Settings** tab:
  - Enter the locations for Methods, Sequences, Results, Sequence Templates and Report Templates.
  - Consider the required audit trail settings for this project.

For more details, refer to the Control Panel section in OpenLAB Help & Learning.

## Configure Initial Instrument

- 1 Launch the Control Panel and navigate to **Instruments**.
- 2 Click **Create** in the ribbon to create a new instrument.
- 3 Select the new instrument, and click **Configure Instrument** in the ribbon.
- 4 It is recommended that you use Auto Configuration to configure your instruments: Select a module, click **Auto Configuration**, and provide the instrument's IP address or hostname.

For more details, refer to the Control Panel section in OpenLAB Help & Learning.

## Other settings in the Control Panel

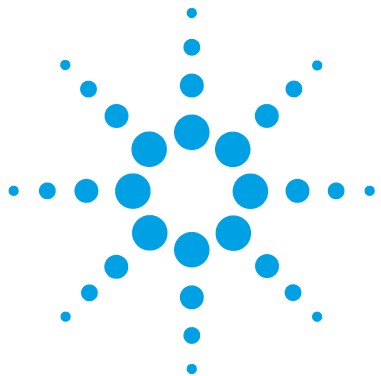
Consider also other settings in the Control Panel, such as:

- changing the instrument status reporting frequency, or
- changing audit trail settings for a project,
- editing signature levels for a project (only accessible from an OpenLAB CDS Workstation or Client).

For more details, refer to the Control Panel section in OpenLAB Help & Learning.

## **4 Configure OpenLAB CDS Workstation**

### **Other settings in the Control Panel**



## 5 Optional Procedures

Install OpenLAB Help and Learning Only 56

Improve Performance on Offline Machines 57

This chapter describes the installation or upgrade of additional instrument driver software. It also contains information on the installation of OpenLAB Help and Learning only, and on performance improvement on offline machines.



# Install OpenLAB Help and Learning Only

Use this option to install OpenLAB Help and Learning content without installing OpenLAB CDS applications.

Do not use this option on a machine where OpenLAB CDS is, or will be, installed.

- 1 Insert the USB media, right-click the setup.exe file, and run it as administrator.
- 2 On the start screen, select **OpenLAB CDS**, and click **OK**.
- 3 In the OpenLAB CDS Installer, click **Documentation**.
- 4 Click **Install OpenLAB Help and Learning Only**.
- 5 Select your language, and click **Next**.
- 6 On the welcome screen, click **Next**.
- 7 Confirm Agilent terms and conditions, and click **Next**.
- 8 Review the installation directory. If desired, click **Change...** to specify a different directory.
- 9 Click **Install**.
- 10 When the installation is complete, click **Finish**.
- 11 If you plan to use Internet Explorer to view the content, set the Internet Options as described under “[Configure Internet Explorer for OpenLAB Help and Learning](#)” on page 32 .

Without these settings, you will need to click **Allow blocked content** when opening the help.

No settings are required for Google Chrome.

You can uninstall or repair OpenLAB Help and Learning from the same link in the installer (see “[Uninstall OpenLAB Help and Learning Only](#)” on page 97).



## Improve Performance on Offline Machines

Computers running OpenLAB CDS may exhibit slow performance when they are not connected to the Internet.

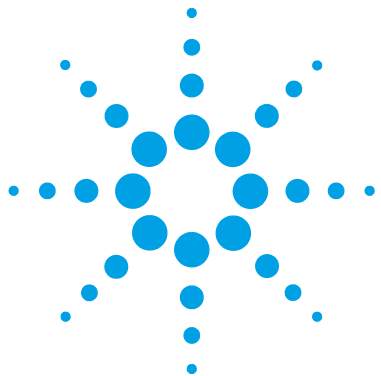
The windows operating system has routines built into its operation that causes it to continuously search for an online connection in order to update to all the latest Windows security certificates when using secure software.

Use the following system settings on all workstations to remedy this problem.

- 1** Open Internet Explorer and select **Tools > Internet Options**. In the **Advanced** tab, clear the following check boxes:
  - **Security > Check for publisher's certificate revocation**
  - **Security > Check for server certificate revocation**
- 2** Change the following registry keys:
  - [HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\SystemCertificates\AuthRoot]  
"DisableRootAutoUpdate"=dword:00000001
  - [HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Policies\Microsoft\SystemCertificates\AuthRoot]  
"DisableRootAutoUpdate"=dword:00000001
- 3** Document that you turned off the Root Certificates, as this can prevent users from installing other applications.

## **5 Optional Procedures**

### **Improve Performance on Offline Machines**



## 6 About the OpenLAB CDS Software

Software Architecture	60
Local File System	62
Customization	63
Customization via custom calculations	63
Customization via report templates	63
Customize application to start external programs	64

This chapter contains an overview of the software architecture and customization options.



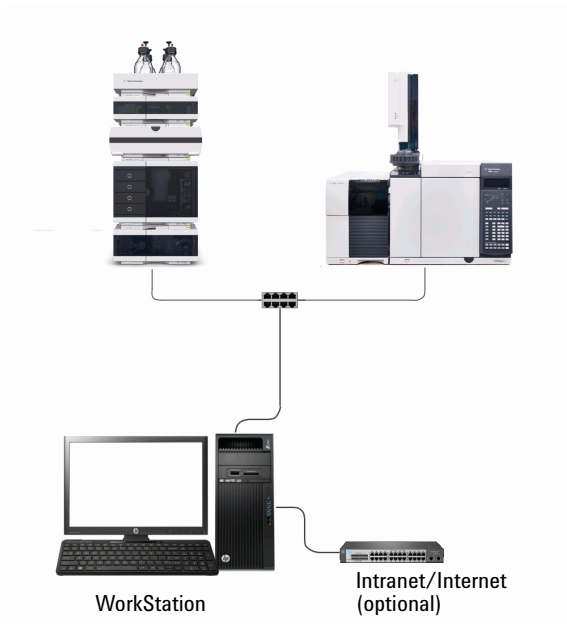
## Software Architecture

OpenLAB CDS is a data system solution for analytical workflows that controls a wide variety of instruments including the industry-leading GC and GC/MS-SQ instruments, along with best-in-class LC and LC/MS-SQ. By combining chromatography and single-quad mass spectrometry into a single scalable solution with centralized system administration, you can streamline your laboratory workflows and maximize productivity. A tailored and simplified user interface with a new state-of-the-art user experience, along with e-learning tools, to help you to get up to speed and productive as fast as possible.

The Agilent OpenLAB CDS software is provided on read-only USB media that contain all required installables and documents. This includes:

- Acquisition
- Data Analysis and Reporting
- Shared Services
- Content Management
- Custom Calculation Editor
- Help and Learning Platform
- User documentation
- Instrument driver software for Agilent LC, GC, LC/MS, GC/MS, or A/D
- Instrument driver software for virtual instruments (Data Player)
- Agilent Parts Finder
- Third party tools

*Workstation:* All components on a single PC; results are stored in the local file system; the system supports up to four instrument connections.



**Figure 1** OpenLAB CDS Workstation

*Workstation Plus (with Content Management):* All components on a single PC; results are stored in a database provided by the Content Management component; Users have no access to the data via the local file system; supports up to four instrument connections.

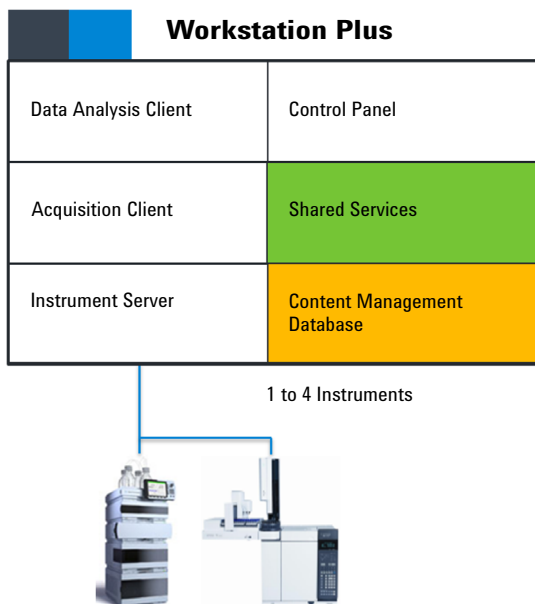


Figure 2 Components on a Workstation Plus

## Local File System

All project data such as methods, raw data, results, templates, or reports are stored in the local file system. Each project has its own folder. All project folders are located in one specific *Projects Root Folder*.

By default, the content of the Projects Root Folder is not protected against modification or deletion from local file browsers. To ensure data integrity, select **Secure project folder** during installation, or select **Secure project folder** in the system settings of a ready installed Workstation.

When the project folder is secured, normal windows file operations are restricted to only members of the **AgtSfsGroup** user group.

## Customization

OpenLAB CDS can be customized to support various workflows and applications. Customizing capabilities are available via different approaches.

For more information on how to use custom calculations and report templates, refer to OpenLAB Help & Learning.

### Customization via custom calculations

Data Analysis can be enriched by calculating additional values. The calculations are done with the Custom Calculator Designer and referenced by or embedded in a processing method.

These calculations can be quite complex. The calculation results are directly visible in Data Analysis, no report generation is needed.

Custom calculations are processed on result set level. They are only computed if all injections of the result set are processed together.

### Customization via report templates

In a report template you can call calculation results from a method-specific custom calculation, or define additional, template-specific calculation expressions. The template-specific values are only visible in the report preview or the final report.

Reports are generated on either injection level, result set level, or across multiple result sets. Reports can be used for automated result evaluation on all the mentioned levels.

Example report templates for typical petrochemical or pharmaceutical applications are provided with the application and can be imported in Data Analysis (see *Import default templates* in OpenLAB Help & Learning).

## Customize application to start external programs

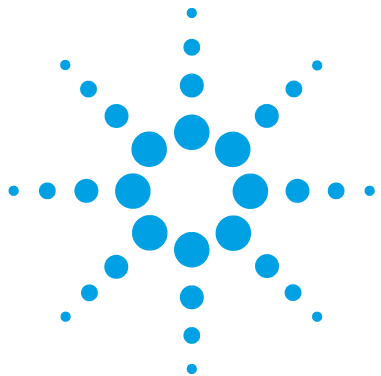
The customization capabilities allow to add ribbon groups and icons in the **Data Selection** and **Data Processing** views of OpenLAB Data Analysis.

It is possible to start an external program via an icon and to hand over the project data path and the path of the current injection as parameters to the program.

The customization is based on a file CustomToolsConfiguration.xml at C:\ProgramData\AgilentTechnologies\OpenLAB DataAnalysis\ that needs to be created by the user. An example CustomToolsConfiguration.xml file is included on the media at **Setup > Tools > Support > UCL > Customization** folder.

For more information, refer to OpenLAB Help & Learning.





## 7 System Setup and Maintenance

Control Panel	66
Instrument Management / Lab Status at a Glance	66
License Management	67
System Activity Log	68
Diagnostics	69
Administrative Reports	69
Authentication Provider	70
Security Policy	70
User Management	70
Shared Services Maintenance	71
Maintenance Procedures	73
Introduction	73
Software backup procedure	74
Data Backup Procedure	81
Software Restore Procedure	84
Data Recovery Procedure	85

This chapter contains information on the Control Panel and Shared Services Maintenance. In addition, it describes various maintenance procedures.



## Control Panel

Using the Control Panel, you can access Shared Services control features such as security policy, central configuration, or lab status at a glance.

### Instrument Management / Lab Status at a Glance

The **Instruments** view in the Control Panel offers an overview of all instruments in the network or on the workstation. You can see the following information for all instruments, summarized on one page:

- Status of the instrument with related color code
- Instrument name
- Instrument location
- Instrument type
- Last change of configuration

Depending on the configuration, this information may be accessed from a single workstation PC or from multiple clients in a network.

You can create a tree of different locations in the Control Panel, and add instruments to these locations. Using locations, you can organize your instruments for example by department, by laboratory, or by lab bench. For each instrument, you can provide basic information such as the name, description, and instrument type.

Depending on your privileges in OpenLAB CDS, you can perform several operations on the instruments:

- View instrument information (instrument status, instrument details, activity log)
- View the locations and instruments tree
- Edit the instrument information
- Configure the instrument

The instrument configuration is stored in the Shared Services database. You access the configuration tool from the Control Panel.

- Launch the instrument

On a Workstation, you can only launch instruments that are configured on this PC.

With a Client/Server system, you can launch instruments remotely from any OpenLAB CDS client in the network.

Your privileges can differ for the different locations and instruments (see [“Specific Roles for Individual Instruments or Projects”](#) on page 50).

## License Management

This service includes the administration of all licenses that are required for your system.

Before adding a license file, you must first purchase the license and generate the license file using SubscribeNet. For more information on generating new license files, see [“Obtain a License with SubscribeNet”](#) on page 38.

License Management in the Control Panel provides the following functions:

- You can add license files to the license server.
- You can navigate to the license monitor and view the properties of all licenses installed on a given license server.
- You can remove license files from the license server. This may be useful if an invalid license file has been added.
- You can view or change the license server.
- You can view, copy, or save the MAC Address of the license server.
- You can navigate to the Agilent Electronic Software and License Delivery web page to obtain a license.

The following properties are shown for installed licenses:

- **Feature:** This indicates the type of license used.
- **Version:** If a license is versioned, you can see the version number. For licenses that are not versioned, the version is always shown as 1.0.
- **In Use (Available):** This indicates the number of licenses that are currently in use and, in brackets, the total number of licenses. With the OpenLAB CDS licensing strategy, a license is only in use as long as a software instance is running (see “[License Types](#)” on page 37).
- **Expiration:** If the license is only valid for a certain period of time, the expiration date is displayed.

In the **Alerts** pane, you are informed if the number of available licenses has gone down to zero for a specific feature, or if you have started a software instance which requires a license that is unavailable.

For more information on adding license files and viewing the license properties, refer to the Control Panel section in OpenLAB Help & Learning.

## System Activity Log

The System Activity Log allows you to centrally access all system activities. It contains information on the various events associated with Shared Services or with specific instruments. You can filter the list in order to view only events of a specific type, in a specific time range, created by a specific user, or containing a specific description.

The following types of events are recorded:

- System
- Instrument Management
- Instrument
- Project Management
- Instrument Controller
- User
- Group
- Security
- Printer
- License

The messages can come from other components, such as the user management, or from an instrument module. Instrument messages include error messages, system messages, or event messages. The System Activity Log records these events irrespective of whether you have been alerted to them or not. To get more information on an event, expand the line of interest in the activity logbook viewer.

## Diagnostics

The **Diagnostics** view allows you to access several reports and tools for diagnostic purposes:

- Ping the server.
- Create a report, either for the local system or for the server, with information on the operation system, processors, disk drives, processes, network, and connections.
- Centrally access and download all the log files, trace files, etc. that are created by the registered modules.

## Administrative Reports

In the **Administrative Reports** view, you can additionally create and export various XML or PDF reports related to the system configuration:

### Instrument Controllers Report

Detailed information of all Instrument Controllers. When this report is generated on a Workstation, the information presented relates to the local system. When this report is generated on a client-server system, all Instrument Controllers are included.

### Instruments Report

Provides detailed information about configuration and access privileges for all instruments on the system. On client-server systems, this report includes all instruments on all Instrument Controllers.

### **Projects Report**

Provides detailed information about configuration and access privileges for all projects on the system.

### **Roles and Privileges Report**

Describes all roles defined on the system, including details of all privileges included in each role.

### **System Report**

This report provides a consolidated view of the system, which includes all information about instrument controllers, instruments, projects, roles, users, and groups.

### **User's and Group's Role Assignment Report**

This report provides an overview of all users and groups with their assigned roles.

## **Authentication Provider**

The authentication provider is described under *Configure an OpenLAB CDS File System Workstation*. For details, see “[Configure Authentication](#)” on page 44.

## **Security Policy**

The security policy is described under *Configure OpenLAB CDS*. For details, see “[Configure Security Policy](#)” on page 46.

## **User Management**

The user management is described under *Configure OpenLAB CDS*. For details, see “[Configure users, roles, and privileges](#)” on page 46.

## Shared Services Maintenance

The **Shared Services Maintenance** program is automatically installed with your OpenLAB software to help administrators manage the system.

To open the utility, select **Start > All Apps > Agilent Technologies > OpenLAB Shared Services > Shared Services Maintenance**<sup>1</sup>. A user must have Windows administrator rights to access this utility.

### Windows Domain tab

In this utility, the **Windows Domain** tab is relevant if you use windows domain authentication to identify your OpenLAB users.

OpenLAB CDS must be given access to the server where these credentials are stored. In the **Windows Domain** tab, you specify or change the credentials that OpenLAB CDS will use to access your windows domain server.

For client/server systems: This feature can only access credentials that are stored on the computer where you launched the **Shared Services Maintenance** program. To specify or change the **Domain**, **User name**, or **Password** for the windows account that will be used to access your windows domain server, use the **Shared Services Maintenance** program that is installed on the server.

### Server Settings tab

The **Server Settings** tab can be used to manage different server connections. In a workstation configuration, there is typically only the connection to the local machine.

### Activity Log Export tab

Activity log databases can become large over time and affect performance of activity log related operations. Use the **Export** and **Purge** functions on the **Activity Log Export** tab to export the activity log entries to an XML file and purge them from the Activity Log database.

### Backup and Restore tab

The Shared Services database contains information that is accessed by the Control Panel (such as users, roles, permissions, projects, instruments etc.). In order to simplify backup and restore tasks for the Shared Services database, the **Backup and Restore** tab provides a simple interface for performing these tasks.

<sup>1</sup> In Windows 7 or 8.1: Start > All Programs > Agilent Technologies > OpenLAB Shared Services > Shared Services Maintenance

## 7 System Setup and Maintenance

### Shared Services Maintenance

To perform a backup:

- 1 Specify the backup directory and retention time.

The retention time is used to delete any files older than specified.

- 2 Click **Backup**.

The backup is placed in the specified backup directory. Backups older than the retention time are deleted.

#### NOTE

The tool automatically generates filenames for the backup files. Never change these filenames, as the tool relies on a specific naming convention.

---

To restore to the selected backup in the list:

- 1 Verify that all connections to the system are shut down before performing a restore.
- 2 Select the backup that you want to restore, then click **Backup**.



# Maintenance Procedures

## Introduction

### Disaster Recovery Planning

Prepare a recovery plan for the unlikely case of OpenLAB CDS becoming inoperable due to a hardware or software failure. This plan must include information and procedures for completely restoring the operating system, the software, and data. Make sure that the disaster recovery plan has been tested and confirmed to be working.

The Disaster Recovery Plan must include the following:

- Hardware information: CPU, Memory, and Hard disk configuration information.
- Computer identity: Name, IP, domain, URI, etc.
  - Computer administrator information: username and passwords for logging in to the server
- Software information: OS version, Patch level.
- Installation parameters:
  - Installation folder
  - Project folder
  - Installation log files
  - Shared Services language
- Installed licenses
- Registered applications
- 3rd party software information: applications and their revisions and install paths.
- Backup procedures (see [“Software backup procedure”](#) on page 74, [“Data Backup Procedure”](#) on page 81)
- Backup media location and organization details.
- Restore procedures (see [“Software Restore Procedure”](#) on page 84, [“Data Recovery Procedure”](#) on page 85)

## **Backup and Restore Procedure Overview**

The backup procedure for an OpenLAB CDS Workstation with local file system includes all software and data. It describes how to create an image of the current system on a portable USB hard drive and a Windows system repair disc. The USB drive and repair disc are used together to restore your system to the original state, if needed.

It is mandatory that every workstation is backed up regularly. Periodic full backups and differential backups between the full backups must be created by administrators. These backups are the only way to restore a system in the event of a hardware or software failure. It is also mandatory that a disaster recovery plan and restore procedures are tested to confirm that the backups are sufficient to restore your system.

The data backup procedure does not cover other products or databases, such as the GC Column Database. Create a new system image after changing other products or databases.

This procedure requires that the user has administrative rights on the workstation.

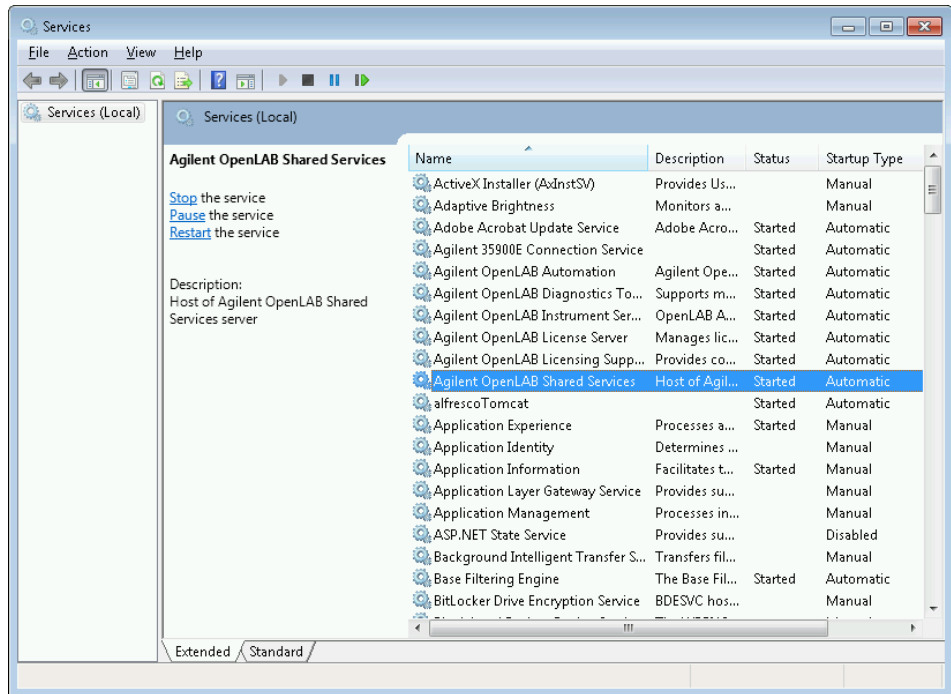
## **Software backup procedure**

Before the backup, make sure that the Run Queue on all active instruments is in idle state (no active run items in the queue) and all Acquisition client application are closed. Use **Close Connection** in the Control Panel to close any acquisitions that may still be running.

### **Stop Windows Services**

**Open Windows Services and Stop the following services in the order listed below. See Microsoft Management Console help for more information on stopping these services.**

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service



**Figure 3** Stop Services

## Create an Image of the Current System

**Create a new system image after any change in your instrument configuration.**

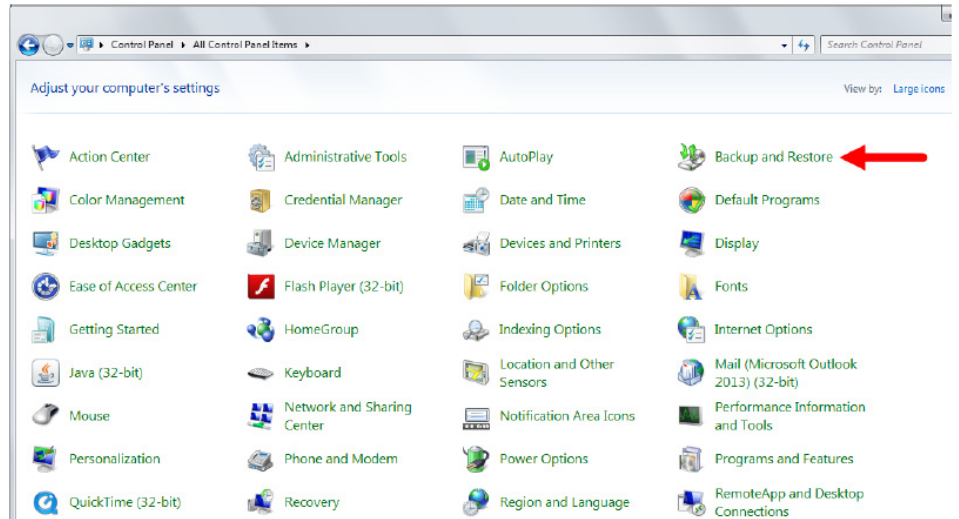
- 1 Connect a portable USB drive to a (blue) 3.0 USB port on the computer.

### NOTE

The AutoPlay window displays the first time the drive is connected to the PC. Close the AutoPlay window.

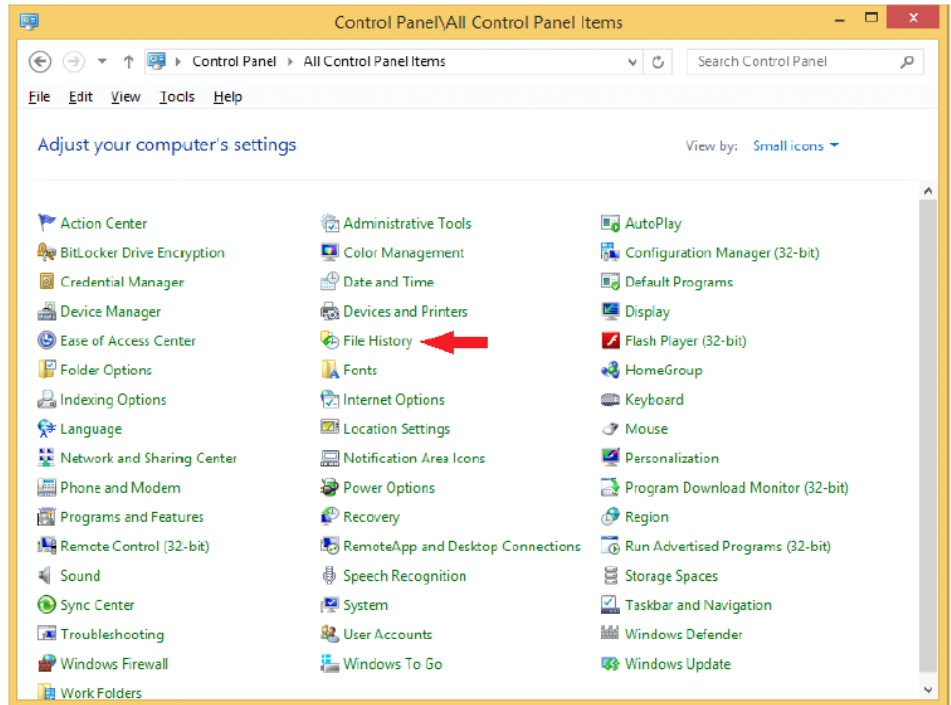
## 7 System Setup and Maintenance Maintenance Procedures

- 2 Use the appropriate Windows program to create a system image. See Windows Help for more information.
  - In *Windows 7*, click **Backup and Restore** in the Microsoft Control Panel.



**Figure 4** Windows 7 Backup and Restore

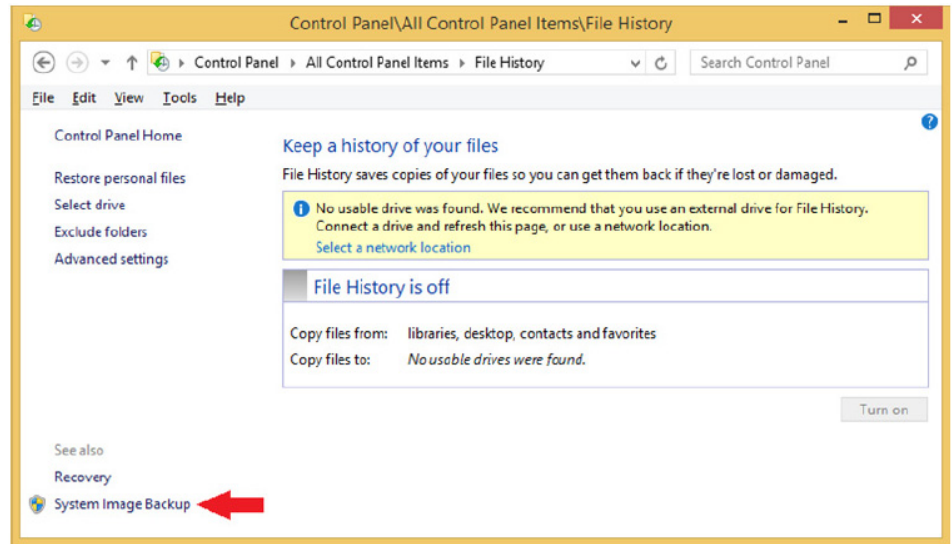
- In *Windows 8.1* or *Windows 10*, click **File History** in the Microsoft Control Panel, then click **System Image Backup**.



**Figure 5** Windows 8.1 File History

## 7 System Setup and Maintenance

### Maintenance Procedures

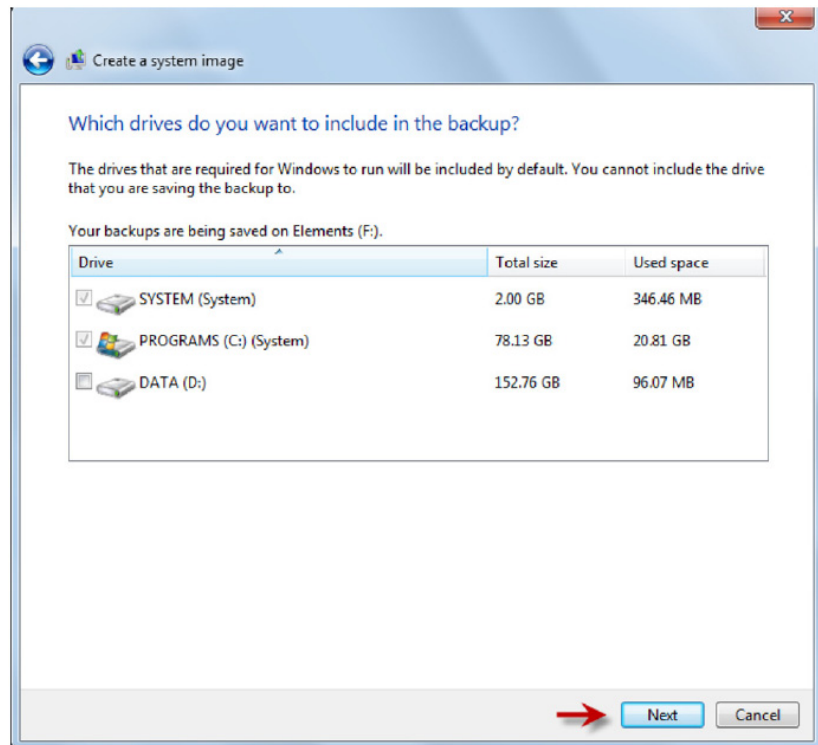


**Figure 6** Windows 8.1 System Image Backup

- 3 Click **Create a system image**.
- 4 Click **Next**.
- 5 Select the drives you want to include in the backup.

If the OpenLAB product was installed in a location other than C:\ drive, you must select that particular drive when asked **Which drives do you want to include in the backup?**

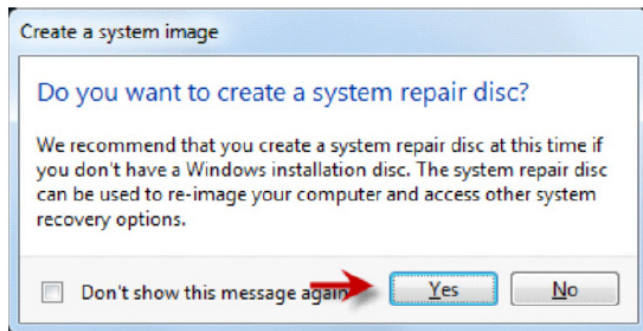
6 Click **Next**.



**Figure 7** Drives included in the backup

7 Click **Start backup**.

- 8 If you are using *Windows 7*, create a system repair disc according to the Windows instructions.



**Figure 8** Create a system repair disc

If you are using *Windows 8.1* or *Windows 10*, use the **Recovery** program from the Microsoft Control Panel and create a recovery drive according to the Windows instructions.

- 9 Close all remaining windows.
- 10 Eject the newly created Windows Recovery disc.
- 11 Disconnect the USB drive.
- 12 Complete the backup Solution Checklist.
- 13 Keep the USB drive, Windows Recovery disc, completed Backup Solution checklist, Backup Guide, and Backup Solution Recovery checklist in a safe place.

## Start Windows Services

**Open Windows Services (services.msc) and Start the services in the order listed below. See Services Microsoft Management Console help for more information.**

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service

You might need to wait a couple of minutes for the services to fully start.



## Data Backup Procedure

Before the backup, make sure that the Run Queue on all active instruments is in idle state (no active run items in the queue) and all Acquisition client application are closed. Use **Close Connection** in the Control Panel to close any acquisitions that may still be running.

### Stop Windows Services

**Open Windows Services and Stop the following services in the order listed below. See Microsoft Management Console help for more information on stopping these services.**

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service

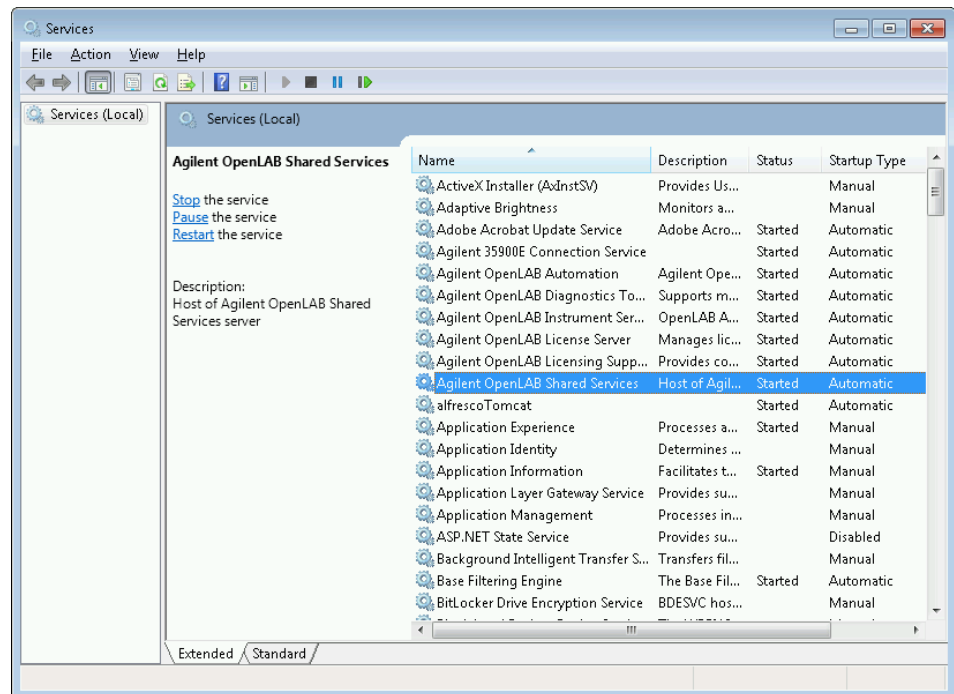
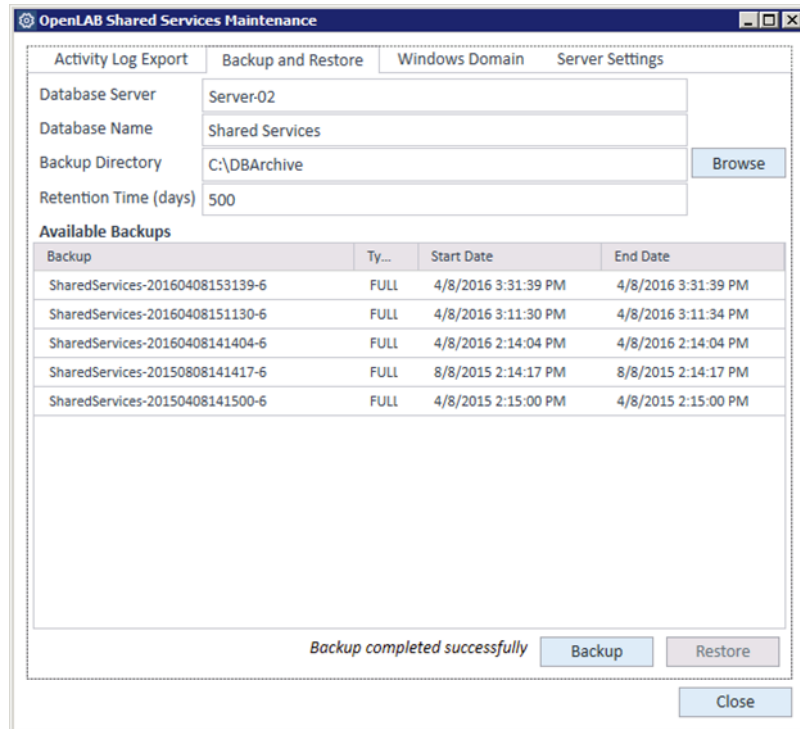


Figure 9 Stop Services

## Database Backup

- 1 Launch the **Shared Services Maintenance** utility and select the **Backup and Restore** tab.



**Figure 10** Backup utility

- 2 Specify the backup directory and retention time. When a new backup is performed, the currently set retention time is used to delete any files older than specified.

### NOTE

It is recommended that you use a safe location as the backup directory (for example, a thumb drive, a network location, or an external storage device).

- 3 Click **Backup**.

The backup is placed in the specified backup directory. Backups older than the retention time are deleted.

## Content Backup

- 1 Copy the contents of the project folder specified during installation into a safe location (for example, a thumb drive, a network location, or an external storage device).

### NOTE

If you are using Secure Storage, your current Windows user needs to be a member of the **AgtSfsGroup** local group.

---

## Start Windows Services

**Open Windows Services (services.msc) and Start the services in the order listed below. See Services Microsoft Management Console help for more information.**

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service

You might need to wait a couple of minutes for the services to fully start.

## Scheduled Backup

To automate the data backup procedure, you can create a batch file performing all of the steps above and schedule it to run regularly using **Windows Task Scheduler**.

For your convenience, there is an example provided in the installation folder (for example, C:\Program Files (x86)\Agilent Technologies) under \BackupScripts. Please examine it carefully and adjust according to your system configuration.

### NOTE

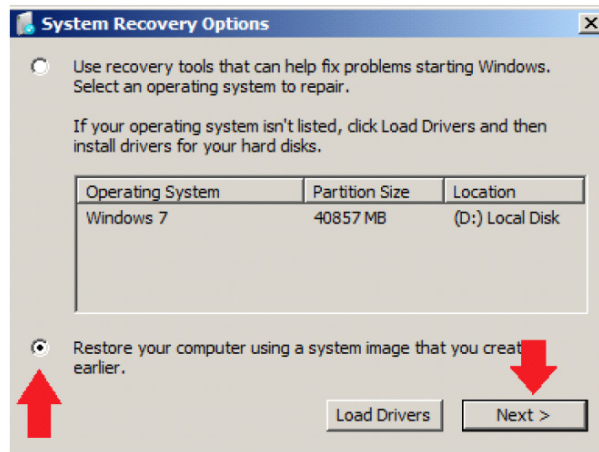
The script needs to be run with administrative privileges and as a user who has access to the project folder. If the project folder is secure, the user must be a member of the **AgtSfsGroup** local group.

---

## Software Restore Procedure

Use this procedure to restore your system from an existing backup system image. See the Windows Installation documentation for detailed information.

- 1 Connect the recovery USB drive to a (blue) USB 3.0 port and insert the Windows Recovery DVD in the DVD drive.
- 2 Start or restart the PC and watch the PC monitor carefully during the restart process for the message **Press any key to boot from CD or DVD....** Press the space bar or any other key when the message appears.  
The PC will boot from the DVD.
- 3 Enter the appropriate information to start the **Install Windows** program.
- 4 Select **Repair your computer**.
- 5 Specify system recovery options.
  - If you are using Windows 7, select the system recovery options according to the Windows instructions.



**Figure 11** System recovery options

- If you are using Windows 8.1, click **Troubleshoot > Advanced Options > System Image Recovery > Choose a target operating system**.

- 6 In the **Select a system image backup** screen, **Use the latest available system** image is selected by default.
  - If the auto-filled information is correct, click **Next**.
  - If no image match is found,
    - a Select **Select a system image** and click **Next**
    - b Select the appropriate image and click **Next**.
    - c Select the date and time and click **Next**.
- 7 Select **Format and repartition disks** and click **Next**.
- 8 Click **Finish**.
- 9 When the re-image process is complete, restart the system to finish the restoration.

## Data Recovery Procedure

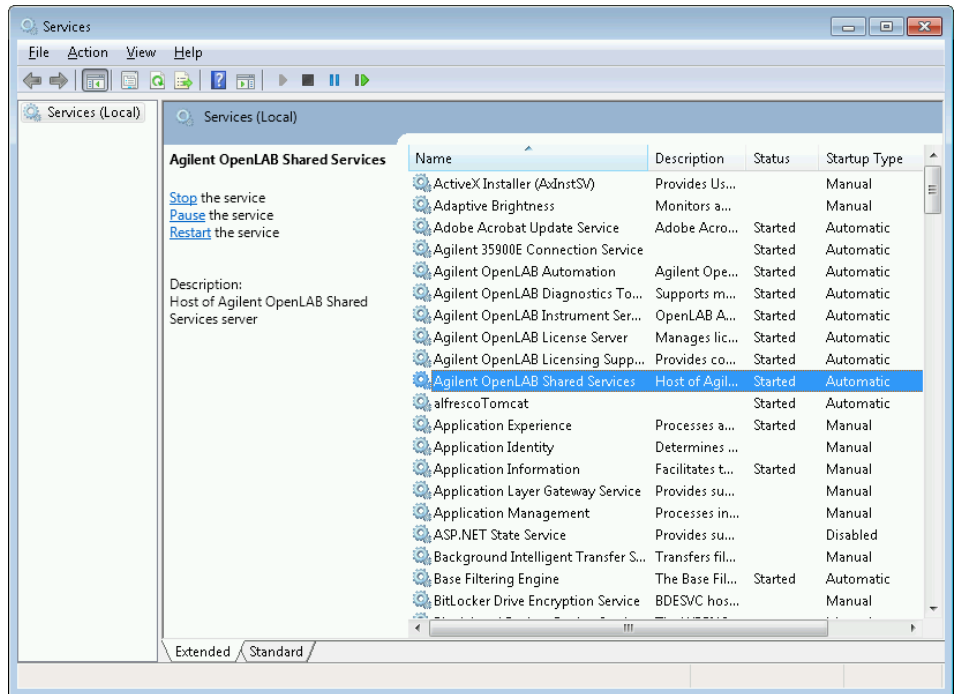
### Stop Windows Services

Open Windows Services and **Stop the following services in the order listed below. See Microsoft Management Console help for more information on stopping these services.**

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service

## 7 System Setup and Maintenance

### Maintenance Procedures



**Figure 12** Stop Services

## Content Restore

- 1 Copy the contents of previously preserved project folder to the location used at the moment of backup.
- 2 To restore a system with secured project folder:
  - a Your current Windows user needs to be a member of the **AgtSfsGroup** local group.
  - b Open an Administrative command prompt (type **cmd** into the Windows Start Menu search, right click **cmd.exe**, then select **Run as administrator**).
  - c Execute the following commands:

```
cd C:\Program Files (x86)\Agilent Technologies\OpenLAB  
Services\Server  
  
SecureFolder.exe /group C:\CDSProjects
```

### NOTE

In case of a non-default installation, replace *C:\Program Files (x86)\Agilent Technologies* and *C:\CDSProjects* with the OpenLAB CDS installation path and project folder selected during installation.

---

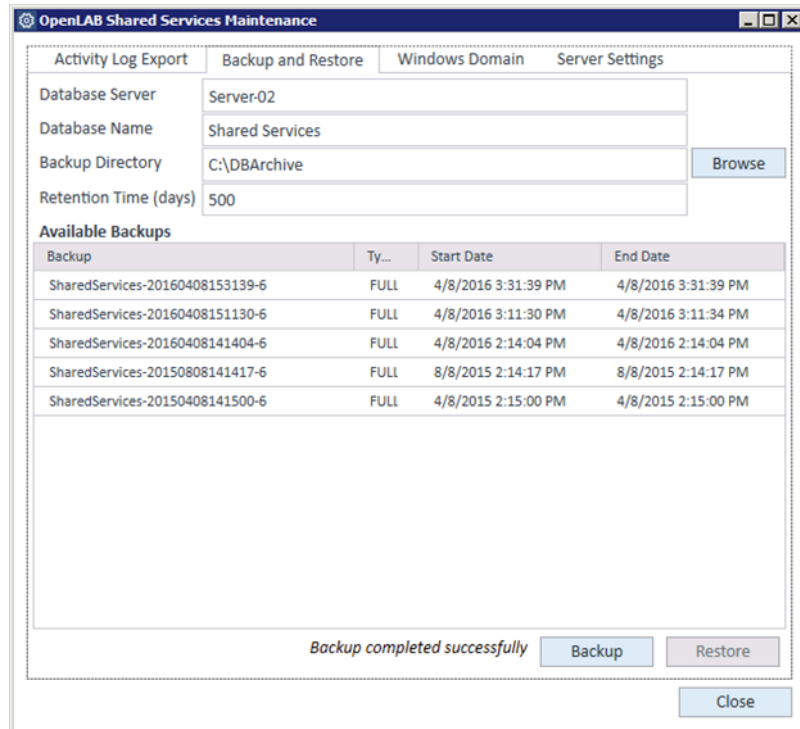
### NOTE

Incorrect usage of the **SecureFolder.exe** utility (specifying folder other than the Project Root) can harm other applications or even your operating system, and potentially prevent it from starting up.

---

## Database Restore

- 1 Launch the **Shared Services Maintenance** utility and select the **Backup and Restore** tab.



**Figure 13** Backup utility

- 2 Click **Browse** to select the folder with previously created backups.

### NOTE

Backups older than the retention time will not be shown.

- 3 Select the backup you want to restore, and click **Restore**.



## Start Windows Services

Open **Windows Services** (services.msc) and **Start** the services in the order listed below. See Services Microsoft Management Console help for more information.

- 1 Agilent OpenLAB Shared Services
- 2 Agilent OpenLAB Instrument Service

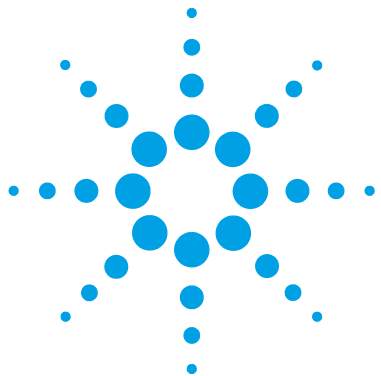
### NOTE

In case of a successful restore, the Shared Services service will start automatically.

---

## **7 System Setup and Maintenance**

### **Maintenance Procedures**



## 8 Upgrade OpenLAB CDS

License Upgrade	92
Get Upgraded License File	92
Add Upgraded License File to the System	93
Upgrade OpenLAB CDS Workstation to Latest Version	94

This chapter describes the upgrade from OpenLAB CDS 2.0 or OpenLAB CDS 2.1 to the current version of OpenLAB CDS.

### CAUTION

This chapter is not applicable if you are migrating from OpenLAB CDS ChemStation Edition.

→ If you are upgrading from OpenLAB CDS ChemStation Edition be sure to refer to the "OpenLAB Migration Tool user guide" prior to configuring OpenLAB CDS.



## License Upgrade

### Get Upgraded License File

You will need to upgrade your licenses in SubscribeNet prior to upgrading to the next version of OpenLAB CDS. We strongly recommend upgrading your workstation licenses *before* upgrading the core software. Standalone workstations which are upgraded to the new core software version, without a new workstation license, will not work until the new workstation licenses are added to the OpenLAB Control Panel.

If you are under SMA subscription, proceed as follows to upgrade your licenses:

- 1 During the following process, you will be prompted in SubscribeNet for the host name or MAC address of the workstation where OpenLAB CDS is already installed.

To retrieve this hostname and MAC address, open the Control Panel and browse to the **Administration > Licenses** section. Note down the host name and use the **Copy MAC Address** or **Save MAC Address** function to obtain the MAC address.

- 2 Log into the Agilent Electronic Software and License Delivery (<https://agilent.subscribenet.com/>).
- 3 Navigate to **Manage Licenses by Host**. In the **Host ID** field, enter the previously noted MAC address, and click **Search**.

**Software**

- Product List
- Product Search
- Entitlements
- Licenses**
- Register Authorization Code
- Generate or View Licenses
- View Licenses by Host
- Manage Licenses by Host

**Administration**

- Account Members
- Change Password

**Electronic Software and License Delivery**

**Manage Licenses by Host**

Manage Licenses by Host provides a convenient way to upgrade or return all licenses for a license server. For nodelocked license Hosts, licenses can only be returned as upgrades do not apply.

Please select a host by entering the Host ID or Host Name in its search field, or select a host from the pull-down list. You can use \* as a wildcard value.

Host ID  What is my Host ID?

Host Name

If the relevant host name does not appear, you may be managing your licenses in multiple SubscribeNet accounts. You will need to log into those accounts to upgrade those workstation licenses.

- 4 If your license(s) are eligible for an upgrade, you will see the **Upgrade All** button. Otherwise you will need to contact your Agilent Sales Representative to renew your Software Maintenance Agreement (see [“Sales and Support Assistance”](#) on page 157). To proceed with generating your upgrade license, click the button.

- 5 On the **Upgrade All Licenses for License Host** page, review the data, and confirm by clicking **Upgrade All**.

This upgrades the license file to the most current version. SubscribeNet will send you an email with a new license file.



- 6 Put the new license file on your system (see [“Add Upgraded License File to the System”](#) on page 93).

If you have multiple standalone Workstations, repeat this step for each individual workstation.

Note that each workstation's MAC address is the file name. This helps identify the correct license file to import into the workstation's Control Panel.

## Add Upgraded License File to the System

If you have purchased new options, such as additional instrument controls or client license and regenerated your license in SubscribeNet, the upgraded license file must be re-applied to the system.

- 1 Start the Control Panel from any machine connected to the system you want to install the license for.
- 2 Navigate to **Administration > Licenses**.
- 3 In the ribbon, click **Remove License**  .
- 4 In the ribbon, click **Add License**  .
- 5 Browse to and open the license file saved from the license generation process in SubscribeNet.
- 6 Restart the following Windows services:
  - **Agilent OpenLAB License Server**
  - **Agilent OpenLAB Licensing Support**

## Upgrade OpenLAB CDS Workstation to Latest Version

You can upgrade an OpenLAB CDS standalone workstation to the latest version using the OpenLAB CDS Installation Wizard.

- 1** Run the Setup.exe file from the installation medium as a user with administrative rights.
- 2** Select **OpenLAB CDS**.
- 3** In the OpenLAB CDS Installer, select the **Installation** screen.
- 4** Click **Install/Upgrade**.
- 5** Provide your OpenLAB CDS credentials.
- 6** Click **Upgrade**.
- 7** In the **Upgrade** screen, click **Next** to start the reconfiguration.
- 8** In the **Configuration** screen, click **Next** to start the upgrade.
- 9** On the **Finish** page, keep the **Reboot** check box selected, and click **Finish**.
- 10** If you use a GC/MS instrument: Upgrade the GC/MS firmware to the latest revision. The upgrade is required for the GC/MS software to work properly with OpenLAB CDS 2.2.

For more information on driver upgrades, see [“Install or Upgrade Driver Software”](#) on page 25.

It is recommended that you reconfigure the instrument in the Control Panel.



## 9

# Uninstall OpenLAB CDS With All of its Components

Uninstall OpenLAB CDS 96

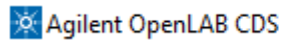
Uninstall OpenLAB Help and Learning Only 97

This chapter describes the uninstallation of the software.



## Uninstall OpenLAB CDS

- 1 Log in as an administrator.
- 2 In the Microsoft Control Panel, open **Programs and Features**.
- 3 To uninstall OpenLAB CDS double-click **Agilent OpenLAB CDS**.



Agilent Technologies

The Agilent Uninstallation Wizard opens. In the wizard, click **Uninstall**.

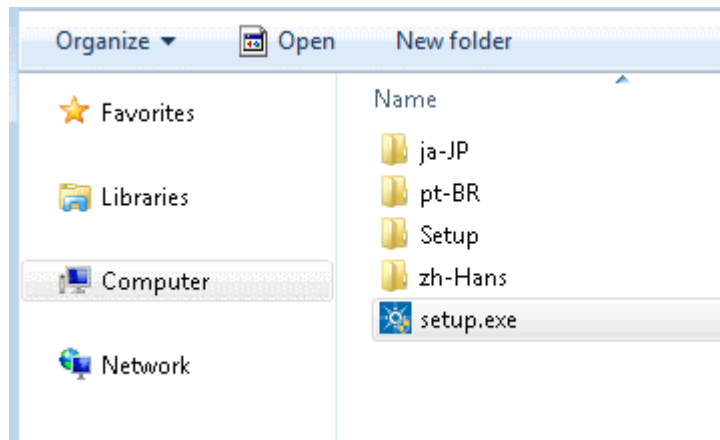
- 4 After uninstalling OpenLAB CDS, reboot.



## Uninstall OpenLAB Help and Learning Only

If you installed OpenLAB Help and Learning only, follow this procedure to uninstall it.

- 1 Insert the USB media, right-click the setup.exe file, and run it as administrator. Alternatively, copy the content of the USB media to a network share, and run the setup.exe file from there.



### NOTE

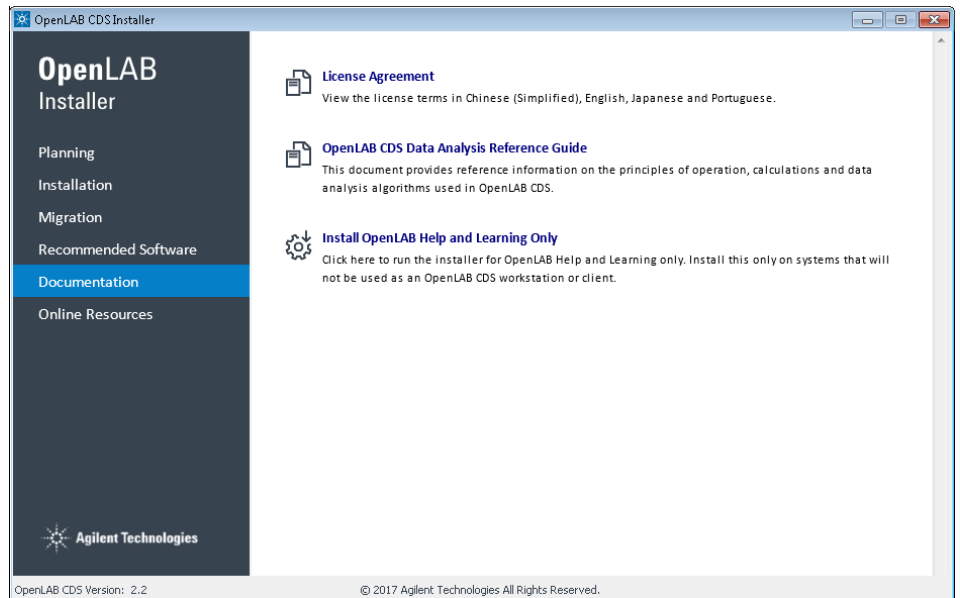
If User Account Control (UAC) is switched on, this step requires active confirmation to continue.

**9 Uninstall OpenLAB CDS With All of its Components**  
Uninstall OpenLAB Help and Learning Only

- 2 On the start screen, select **OpenLAB CDS**, and click **OK**.



3 On the **Documentation** page, select **Install OpenLAB Help and Learning Only**.

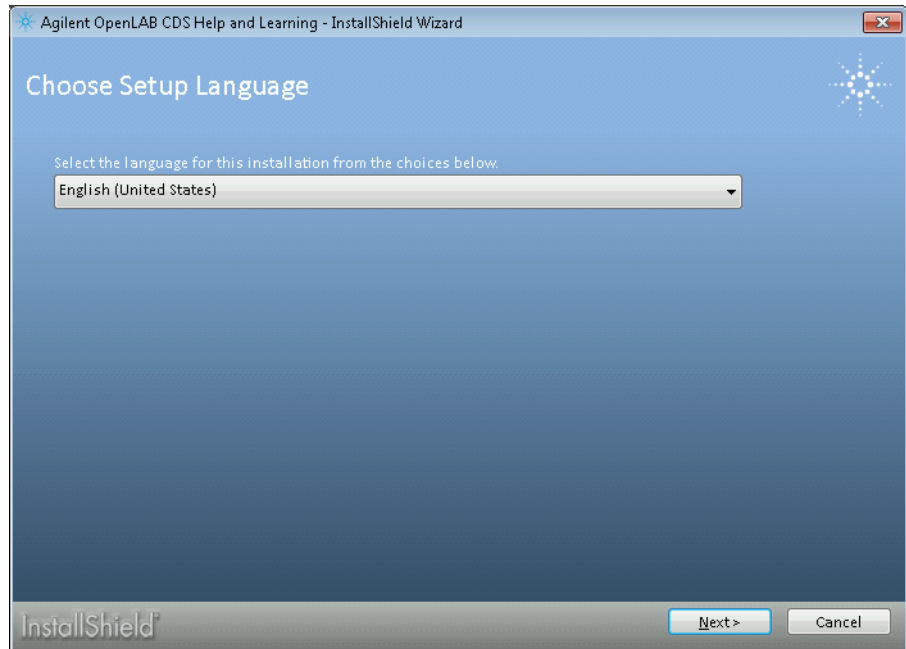


The **Agilent OpenLAB CDS Help and Learning** wizard opens.

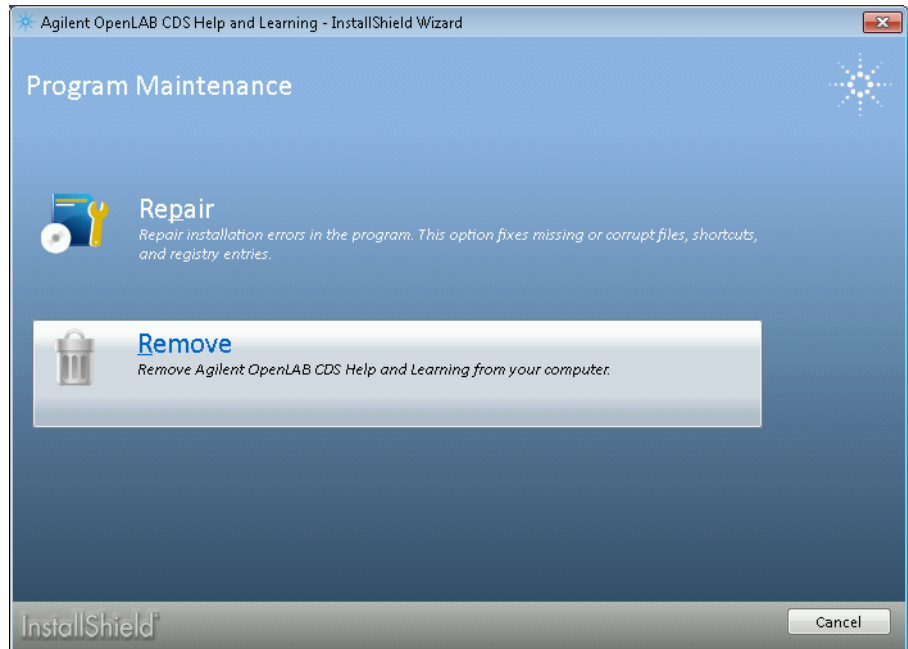
## 9 Uninstall OpenLAB CDS With All of its Components

### Uninstall OpenLAB Help and Learning Only

- 4 Select the correct language, then click **Next**.



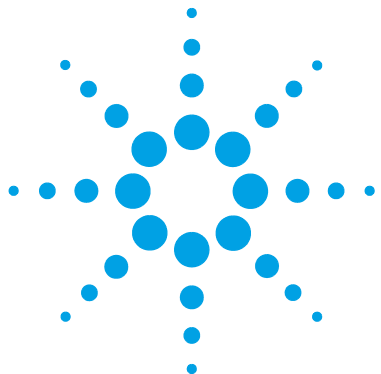
5 Click **Remove**.



The wizard removes OpenLAB Help and Learning from your system.

## **9 Uninstall OpenLAB CDS With All of its Components**

### **Uninstall OpenLAB Help and Learning Only**



## 10 Appendix

Hardware and Software Requirements	104
General Software Requirements	104
Language Compatibility	105
Disk Space	105
Hardware	106
Number of Instruments	106
Software	107
Network Requirements	108
Introduction	108
LAN Connectivity	108
Operating System Configuration	113
Configure Windows 10	113
Configure Windows 8.1	118
Configure Windows 7	122
Instrument Connections	127
RC.NET Drivers compatible with OpenLAB CDS	127
Agilent LC and LC/MS	129
Agilent GC and GC/MS	139
Other supported Agilent Instruments	143
Third Party Instruments	143
Incompatible Instruments and Modules	145
Software Compatibility	147
Agilent Software	147
Libraries and Databases	148
Privileges in the Control Panel	149
Project Privileges	149
Instrument Privileges	155
Administrative Privileges	156
Sales and Support Assistance	157



## Hardware and Software Requirements

### General Software Requirements

Component	Details
.NET framework	<ul style="list-style-type: none"><li>.NET 3.5.1 must be enabled on systems running on Windows 8.1, Windows 10, or Windows Server 2012 R2.</li></ul> and <ul style="list-style-type: none"><li>.NET 4.6.2 or above (if needed, it will be installed automatically by the OpenLAB Installer)</li></ul>
Web browser	<ul style="list-style-type: none"><li>Internet Explorer 11</li><li>Google Chrome 40 or higher</li></ul>
Antivirus software <sup>1</sup>	<ul style="list-style-type: none"><li>Symantec Endpoint Protection</li><li>Trend Micro</li><li>Microsoft Security Essentials</li><li>McAfee</li></ul>

<sup>1</sup> The listed antivirus software has been tested and is recommended by Agilent. Check with your Agilent service person in case you want to use other software.

The following software is recommended to be installed or enabled on any supported operating system prior to installing OpenLAB CDS components. It is not required for the system to function correctly. You will need it, however, to view videos or PDF manuals in OpenLAB Help & Learning.

- Adobe Flash Player 17*
- Adobe Reader XI*

#### NOTE

If these tools are not installed on your system, you can install them from the OpenLAB CDS Installer.



## Language Compatibility

The English version of OpenLAB CDS is validated on Windows English and Western European language operating systems. Regional settings (locales) can be adjusted as required. In a Client/Server system make sure regional settings are the same for the server, AIC and clients.

Localized versions of OpenLAB CDS are supported on localized language versions of Windows, using default system fonts:

- Chinese: Microsoft YaHei
- Japanese: Meiryo UI
- Brazilian Portuguese: Calibri

OpenLAB CDS can run on other language versions of Windows as well, but the user interface will be English.

Non-localized instrument drivers are supported and will appear in English even when running localized versions of OpenLAB CDS.

## Disk Space

Disk space requirements should be adjusted based on the number and type of instruments and archival periodicity. Agilent recommends providing enough disk space for one year of lab operation, in addition to the operating system and OpenLAB CDS requirements.

**Table 4** Typical expected file sizes

	Run time	Description	Expected data size
2D data	60 min	10 Hz, 2 channel data	300-700 KB
3D data	60 min	10 Hz, 5 channel data, plus spectra at 1 nm resolution from 200 to 400 nm	100-300 MB
LC/MS data (SQ)	60 min	Scan mode	20-40 MB
GC/MS data (SQ)	60 min	Scan mode	50-300 MB
GC/MS data (SQ)	60 min	SIM mode with 2 ions	1-3 MB

## Hardware

**Table 5** Tested and recommended hardware configuration for an OpenLAB CDS Workstation

Item	Requirement
Processor speed (CPU)	Intel® Xeon E3, 3.2 GHz, 8MB Cache, 4 Core, Hyper Threading, Intel® vPro™ Technology, Intel® HD Graphics, or equivalent
Physical memory (RAM)	8 GB
Hard disk	1 x 500 GB SATA 7200 RPM See <a href="#">Table 4</a> on page 105
Graphic Resolution	1600 x 900
RS-232 port	1 serial port (certain instruments require a serial port)
USB port	1 USB port required for installation.
LAN card	Integrated Intel® I217LM PCIe GbE Controller

## Number of Instruments

With the standard configurations you can configure any number of instruments that sums up to 4 instrument points per OpenLAB CDS Workstation.

With the VL configurations you can configure only 1 instrument with up to 2 instrument points per OpenLAB CDS VL Workstation.

Instrument points are an indicator for the data stream that needs to be managed, and thus also for the required hardware and software. Instruments count as follows:

GC:	1 instrument point
LC:	1 instrument point
3D LC:	2 instrument points
GC/MS:	3 instrument points
LC/MS:	3 instrument points
3D LC/MS	4 instrument points

## Software

**Table 6** Supported operating systems for a workstation

Operating System	Details
Windows	<ul style="list-style-type: none"><li>• Windows 10, Enterprise or Pro, 64bit</li><li>or</li><li>• Windows 7 SP1, Enterprise or Professional, 64bit</li><li>or</li><li>• Windows 8.1, Enterprise or Professional, 64bit</li></ul>

## Network Requirements

This chapter describes the network requirements that must be met in order to support the environmental computing needs of an OpenLAB Chromatography Data System (CDS).

### Introduction

OpenLAB CDS systems rely on network infrastructure in order to support the communication between various system nodes. This communication is based on standard TCP/IP protocols. In order to provide optimum performance and uptime, the network must meet design criteria for available bandwidth, IP address assignment, name resolution and appropriate isolation of the lab subnet from the corporate network.

### LAN Connectivity

When using LAN communications to connect workstations or instrument controllers to an instrument, use one of these methods:

- Connect via an isolated switch using standard CAT-5 network cabling
- LAN communication hardware should be 100/1000 mbps (or higher) speed capable.
- NIC teaming<sup>1</sup>: LAN cards should *not* be teamed on workstations, instrument controllers, or clients.
- LAN communication must be on the same subnet as instruments, and preferably on the same segment.

#### NOTE

See the separate driver installation guides for further information regarding vendor specific instrument connections. GPIB or RS232 might be required.

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<sup>1</sup> Network Interface Card (NIC) teaming is also known as Load Balancing and Failover (LBFO)

## LAN Power Management

Avoid data capture or transfer interruptions in your data acquisition system by making LAN communication cards available for instrument and system component communications.

**Windows may be set to turn instruments/components off to save power while sleeping or hibernating. To change this setting:**

- 1 In the Microsoft Control Panel, open the **Network and Sharing Center**<sup>1</sup>.
- 2 Select **Change adapter settings**. Right-click **Local Area Connection > Properties > Configure**.
- 3 Select the **Power Management** tab.
- 4 Clear the **Allow the computer to turn off this device to save power** check box.

<sup>1</sup> View the items by icon to see a list of all items.

## Firewall Settings

If you are using a third party firewall or antivirus software on the network where OpenLAB CDS is installed, open these firewall ports to allow communication between the system components of OpenLAB CDS. These apply to workstations as well as to Client/Server systems as component communications rely on these communication channels:

<b>Port 21:</b>	GC MSD - Firmware Installation (FTP)
<b>Port 23:</b>	GC MSD - Firmware Installation (Telnet)
<b>Port 25:</b>	Agilent OpenLAB send eMail (SMTP)
<b>Ports 67 and 68:</b>	BootP Server communications
<b>Port 80:</b>	GC MSD - Embedded Web Server HTTP McAfee
<b>Ports 111, 1007, 1024-1025:</b>	GC MSD - Instrument Control (Proprietary/SunRPC/TCP)
<b>Ports 2883-2885:</b>	GC MSD - Instrument Control (Proprietary/SunRPC/TCP)
<b>Port 2886:</b>	Agilent OpenLAB Automation Services GC MSD - Instrument Control (Proprietary/SunRPC/TCP)
<b>Ports 3068 and 3071:</b>	GC MSD - Instrument Control (Proprietary/SunRPC/TCP)
<b>Port 3424:</b>	Transfer of diagnostics information between OpenLAB CDS system components
<b>Port 4879:</b>	Required for Headspace events
<b>Port 5813:</b>	GC MSD - Firmware Installation (ICMP/Ping)
<b>Port 5973:</b>	GC MSD - Instrument Control (Proprietary/SunRPC/TCP)
<b>Port 6570:</b>	SubscribeNet: active retrieval and release of product licenses
<b>Port 6577:</b>	Communications of OpenLAB CDS administrative information. This includes instrument and run status, active trace data, and global configurations.
<b>Port 6624:</b>	Agilent OpenLAB REST API
<b>Ports 7972 and 7973:</b>	GC MSD - Instrument Control
<b>Ports 7980-7983:</b>	GC MSD - Instrument Control - RSlick (TCP)

<b>Port 8084:</b>	Agilent OpenLAB Licensing support
<b>Ports 8085-8089:</b>	Alternative to port 8084 if that port is in use by another page or process
<b>Port 8090:</b>	Hosts the viewing page of current license grants and consumptions found in the Control Panel administration interface
<b>Ports 9001-9002:</b>	Communication with instruments and shared servers
<b>Port 9110:</b>	Instrument comm (GC/LC)
<b>Port 9753:</b>	Task-based messaging communication between acquisition controllers and chromatography clients Configurable during AIC registration. It is required that all ports designated during AIC registration be opened for access.
<b>Ports 10000-10010:</b>	Status and acquisition communication with Agilent 7890 GCs
<b>Ports 27000-27009:</b>	Communication of license availability
<b>Port 55065:</b>	GC MSD - Instrument Control - RSlick (TCP)
<b>Dynamic Ports:</b>	Temporary communications between clients and instrument controllers The ports used depend on the operating system in use and are configurable. Refer to the operating system documentation for more information.

The OpenLAB CDS installer will automatically open these ports on an enabled Windows firewall during installation.

## Domain Requirements

Domains support the flow of information and user access rights across machines in the network. This means that all machines and instruments within the networked OpenLAB CDS system must reside within the same domain or have the appropriate cross domain trusts to allow name based communications between all components in the system. In the case of a workstation installation, domains are only relevant if you are using a Windows domain-based authentication model. In this case the workstation or client must always be able to communicate with domain components in order to function as expected.

Installing OpenLAB CDS will apply network exceptions to the Windows firewall under the domain profile to result in a functional system. The components necessary to support OpenLAB CDS on a domain are:

- *Domain controller* – broadcasts the domain name and negotiates access to machines.
- *Domain name server (DNS)* – maintains records of what hostnames belong to which IP on the network. This component is always required for effective components communications in networked systems.
- *Active directory* – maintains the list of users and their access rights on the domain.

#### NOTE

The domain name server (DNS) must be able to resolve the IPv4 address of all instrument controllers and instruments. Any unresolved instrument controller or instrument will disrupt the functionality of OpenLAB resulting in errors or delays. IPv6 is not supported and must be deactivated.

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#### NOTE

OpenLAB CDS components must not be installed on the same machine as the domain controller.

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The domain components above host a variety of services and settings that must be configured appropriately to allow communication across machines. The following services and settings will need to be configured to fit your domain. Your internal IT group is responsible for proper configuration of any custom domain solutions. These include settings for:

- Lookup zones and hostnames
- Group and security policies
- Subnet masks and Virtual LANs
- IP reservation (static or DHCP)

### Environments with Proxy Servers

The OpenLAB server must be accessible via http or https in the network. If you use proxy servers, verify that they can be accessed. If required, adjust the proxy settings.



# Operating System Configuration

## Configure Windows 10

- [MUST] 1 **System** (Microsoft Control Panel)<sup>1</sup>: Register Windows with Microsoft.
- 2 **File Explorer Options** (Microsoft Control Panel): In the **View** tab:
- Select **Always show menus**.
  - Select **Display the full path in the title bar**.
  - Clear **Hide extensions for known file types**.
  - Clear **Use Sharing Wizard**.
- [MUST] 3 **Start > Settings > Update and Security**:
- a Click **Check for updates** to check for updates and apply all critical security patches.  
Before proceeding, ensure that all updates are downloaded and installed. Ensure that there is no reboot pending.
- b Click **Advanced options**.
- c Select the **Defer feature updates** check box.
- d Click **Choose how updates are delivered**.
- e Turn off **Updates from more than one place**.
- [MUST] 4 Settings for updates: **Windows Update** service MUST NOT be running during installation.
- [MUST] 5 **Indexing Options** (Microsoft Control Panel): Disable indexing.  
Click the **Modify** button. Clear all drives and locations.
- [MUST] 6 **Start > Settings > System > Tablet Mode**: For **When I sign in**, select **Use desktop mode**.

<sup>1</sup> View the items by icon to see a list of all items.

## 10 Appendix

### Operating System Configuration

- [MUST] 7 **Power Options** (Microsoft Control Panel):
  - a As preferred plan select **High performance**
  - b Click **Change Plan settings**
  - c Set the option **Put the computer to sleep** to **Never**.
  - d Click **Change advanced power settings**.
  - e Open the nodes for **Hard disk > Turn off hard disk after**.
  - f Set the Minutes to 0 (=Never).
  
- [MUST] 8 **Start > Settings > System > Offline Maps::** Turn **Metered connections** and **Map updates** off.
  
- [MUST] 9 **Administrative Tools** (Microsoft Control Panel): Configure security options:
  - a Double-click **Local Security Policy**.
  - b Navigate to **Security Settings > Local Policies > Security Options**
  - c Double-click the following policy listed in the right hand panel: **Network Access: Sharing and security model for local accounts**
  - d In the displayed dialog select the following item from the drop-down list: **Classic - local users authenticate as themselves**
  
- [MUST] 10 **Start > Settings > System and Security:**
  - a Click **Change Windows SmartScreen settings**.  
Select **Don't do anything (turn off Windows SmartScreen)**.
  
- [MUST] 11 **Date and Time** (Microsoft Control Panel): Choose the time zone of your machine's location.
  
- [MUST] 12 **Network and Sharing Center** (Microsoft Control Panel):
  - a Select **Change adapter settings**. Right-click **Local Area Connection > Properties > Configure**.
  - b On the **Power Management** tab, clear all check boxes.

**[MUST] 13 Programs and Features** (Microsoft Control Panel):

- a Click **Turn Windows features on or off**.
- b Enable .NET 3.5 by selecting the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** check box.

This option requires an internet connection.

**NOTE**

If this procedure does not work as expected, or the computer has no internet access, install .NET 3.5 from the Windows installation media (see details for Windows 10 under <https://support.microsoft.com/en-us/kb/2734782>). If you do not have installation media, create them as described under <https://www.microsoft.com/en-us/software-download/windows10>.

- c To make sure that all the net.tcp components are properly initialized, Non-HTTP activation must be enabled. Expand the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** node and select the **Windows Communication Foundation Non-HTTP Activation** check box.
- d Select the **.NET Framework 4.6 Advanced Services** check box. Use the default values for sub items.
- e Select the **Internet Explorer 11** check box.
- f Select the **Telnet Client** check box.
- g Select the **TFTP Client** check box.
- h Reboot the PC.

**[MUST] 14 Start > Settings > System > Default Apps:** Select Internet Explorer as default Web browser.

Do not use Edge, it is not supported. Unpin Edge from the task bar.

**[MUST] 15 Disable Compatibility View in Internet Explorer.**

- a Open Internet Explorer.
- b Click the Tools menu, and then click **Compatibility View Settings**.
- c Clear the **Display intranet sites in Compatibility View** check box.

**[MUST] 16 Enable the navigation pane:**

Open Windows Explorer, then select **View > Navigation pane** from the ribbon and make sure that **Navigation pane** is selected.

- [PERFORMANCE] **17 System** (Microsoft Control Panel): Change performance options:
- a Click **Advanced system settings**.
  - b On the **Advanced** tab > **Performance** click **Settings**.
  - c On the **Visual Effects** tab, select **Adjust for best performance**.
  - d Under **Custom**, select the following check boxes for better usability:
    - **Smooth edges of screen fonts**
    - **Show shadows under mouse pointer**
    - **Show shadows under windows**
- [PERFORMANCE] **18 Start > Settings > Personalization > Colors**: Turn **Make Start, taskbar, and action center transparent** off.
- [PERFORMANCE] **19 System** (Microsoft Control Panel): Change system properties:
- a Click **Advanced system settings**.
  - b On the **Advanced** tab > **Performance** click **Settings**.
    - **Advanced** tab > **Virtual Memory**: For optimum performance use the **Change** button to adjust the paging file size to a value of 2 to 3 times of the physical RAM on the PC. If possible locate the paging file on a drive different from the system installation drive.
    - **Data Execution Prevention** tab: Select **Turn on DEP for essential Windows programs and services only**.
  - c **Advanced > Startup and Recovery > Settings** button:
    - **System startup** section:  
Change both **Time to display ...** fields from **30** to **3** sec.
    - **System failure** section:  
Select **Automatically restart**, in the **Write debugging information** section select **Kernel memory dump** from the drop-down list.
  - d **System Protection** tab  
Make sure that **Protection** is turned off. If required, click **Configure** and select **Disable system protection**.
  - e **Remote** tab
    - In the **Remote Assistance** section, clear the check box **Allow Remote Assistance connections to this computer**.
    - In the **Remote Desktop** section, select **Don't allow connections to this computer**.

- [OPTIONAL] **20 Start > Settings > Personalization:** Disable advertising info:
- a On the **Lock screen** page:
    - Under **Background**, select **Picture** or **Slideshow**.
    - Turn off **Get fun facts, tips, tricks, and more on your lock screen**.
    - Turn off **Show lock screen background picture on the sign-in screen**.
  - b On the **Start** page:  
Turn off **Occasionally show suggestions in Start**.

- [OPTIONAL] **21 Start > Settings > Privacy:**
- a On the **General** page, turn off the following:
    - **Let apps use my advertising ID**
    - **Turn on SmartScreen Filter to check web content**
    - **Send Microsoft info about how I write**
  - b On the **Location** page, turn off **Location**.

- [OPTIONAL] **22 Start > search for 'gpedit.msc':** Welcome Center:
- a Navigate to **Local Computer Policy > Computer Configuration > Administrative Templates > System > Logon**.
  - b Set **Don't display the Getting Started welcome screen at logon** to **Enabled**.

- [OPTIONAL] **23 Recycle Bin Properties:** (right-click on desktop icon **Recycle Bin**) Select the following options:
- **Custom size:** Select a size corresponding to approximately 10% of the complete disk space for the drive.
  - Select **Display delete confirmation dialog**.
- Repeat these steps for all drives of your computer.

- 24 Region** (Microsoft Control Panel): Language for non-Unicode programs:  
On the **Administrative** tab, click **Change system locale...** From the drop down list, select **English (United States)**.

**NOTE**

Do not the change system locale if you are using an English, Portuguese, Japanese or Chinese Operating System.

- [OPTIONAL] **25** Right-click the taskbar to open the **Taskbar and Start Menu Properties** dialog. In the **Taskbar** tab, under **Taskbar buttons** select **Combine when taskbar is full**.  
This will simplify switching between open CDS instances.

## Configure Windows 8.1

- [MUST] 1 **System** (Microsoft Control Panel)<sup>1</sup>: Register Windows with Microsoft.
- [MUST] 2 **Folder Options** (Microsoft Control Panel): In the **View** tab,
- Select **Always show menus**.
  - Select **Display the full path in the title bar**.
  - Clear **Hide extensions for known file types**.
  - Clear **Use Sharing Wizard**.
- [MUST] 3 **Windows Update** (Microsoft Control Panel):  
Click **Check for updates** to check for updates and apply all critical security patches.
- [MUST] 4 **Windows Update** (Microsoft Control Panel): Change the settings for updates:  
Click **Change settings**. In the **Important updates** section, select **Never check for updates**. Clear the other update options.

### NOTE

This setting is required during installation of OpenLAB CDS.

On clients in a client/server system, you may activate automatic updates again after finishing the installation.

On Agilent Instrument Controllers (AIC) or standalone workstations, keep the **Never check for updates** setting. This setting is important to avoid data loss due to system reboot during data acquisition.

- [MUST] 5 **Indexing Options** (Microsoft Control Panel): Disable indexing.  
Click the **Modify** button. Clear all drives and locations.
- [MUST] 6 **Power Options** (Microsoft Control Panel):
- a As preferred plan select **High performance**
  - b Click **Change Plan settings**
  - c Set the option **Put the computer to sleep** to **Never**.
  - d Click **Change advanced power settings**.
  - e Open the nodes for **Hard disk > Turn off hard disk after**.
  - f Set the Minutes to 0 (=Never).

<sup>1</sup> View the items by icon to see a list of all items.

- [MUST] 7 **Administrative Tools** (Microsoft Control Panel): Configure security options:
- a Double-click **Local Security Policy**.
  - b Navigate to **Security Settings > Local Policies > Security Options**
  - c Double-click the following policy listed in the right hand panel: **Network Access: Sharing and security model for local accounts**
  - d In the displayed dialog select the following item from the drop-down list: **Classic - local users authenticate as themselves**
- [MUST] 8 **Date and Time** (Microsoft Control Panel): Choose the time zone of your machine's location.
- [MUST] 9 **Network and Sharing Center** (Microsoft Control Panel):
- a Select **Change adapter settings**. Right-click **Local Area Connection > Properties > Configure**.
  - b On the **Power Management** tab, clear all check boxes.
- [MUST] 10 **.NET settings** (Go to **Control Panel > Programs and Features**):
- a Click **Turn Windows features on or off**.
  - b Enable **.NET 3.5** by selecting the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** check box.
- This option requires an internet connection.

**NOTE**

If this procedure does not work as expected, or the computer has no internet access, install .NET 3.5 from the Windows installation media (see Method 3 under <https://support.microsoft.com/en-us/kb/2734782>). If you do not have installation media, create them as described under <http://windows.microsoft.com/en-US/windows-8/create-reset-refresh-media?woldogcb=0>.

- c To make sure that all the net.tcp components are properly initialized, Non-HTTP activation must be enabled. Expand the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** node and select the **Windows Communication Foundation Non-HTTP Activation** check box.
- [MUST] 11 **Disable Compatibility View in Internet Explorer**.
- a Open Internet Explorer.
  - b Click the Tools menu, and then click **Compatibility View Settings**.
  - c Clear the **Display intranet sites in Compatibility View** check box.

## 10 Appendix

### Operating System Configuration

- [PERFORMANCE] **12 System** (Microsoft Control Panel): Change performance options:
- a Click **Advanced system settings**.
  - b On the **Advanced** tab > **Performance** click **Settings**.
  - c On the **Visual Effects** tab, select **Adjust for best performance**.
  - d Under **Custom**, select the following check boxes for better usability:
    - **Smooth edges of screen fonts**
    - **Show shadows under mouse pointer**
    - **Show shadows under windows**

- [PERFORMANCE] **13 System** (Microsoft Control Panel): Change system properties:
- a Click **Advanced system settings**.
  - b On the **Advanced** tab > **Performance** click **Settings**.
    - **Advanced** tab > **Virtual Memory**: For optimum performance use the **Change** button to adjust the paging file size to a value of 2 to 3 times of the physical RAM on the PC. If possible locate the paging file on a drive different from the system installation drive.
    - **Data Execution Prevention** tab: Select **Turn on DEP for essential Windows programs and services only**.
  - c **Advanced** > **Startup and Recovery** > **Settings** button:
    - **System startup** section:  
Change both **Time to display ...** fields from **30** to **3** sec.
    - **System failure** section:  
Select **Automatically restart**, in the **Write debugging information** section select **Kernel memory dump** from the drop-down list.

- [OPTIONAL] **14 Start** > search for 'gpedit.msc': Welcome Center:
- a Navigate to **Local Computer Policy** > **Computer Configuration** > **Administrative Templates** > **System** > **Logon**.
  - b Set **Don't display the Getting Started welcome screen at logon** to **Enabled**.



**[OPTIONAL] 15 Recycle Bin Properties:** (right-click on desktop icon **Recycle Bin**) Select the following options:

- **Custom size:** Select a size corresponding to approximately 10% of the complete disk space for the drive.
- Select **Display delete confirmation dialog**.

Repeat these steps for all drives of your computer.

**16 Region** (Microsoft Control Panel): Language for non-Unicode programs:

On the **Administrative** tab, click **Change system locale...** From the drop down list, select **English (United States)**.

**NOTE**

Do not the change system locale if you are using an English, Portuguese, Japanese or Chinese Operating System.

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## Configure Windows 7

- [MUST] 1 **System** (Microsoft Control Panel)<sup>1</sup>: Register Windows with Microsoft.
- [MUST] 2 **Folder Options** (Microsoft Control Panel): In the **View** tab,
- Select **Always show menus**.
  - Select **Display the full path in the title bar**.
  - Clear **Hide extensions for known file types**.
  - Clear **Use Sharing Wizard**.
- [MUST] 3 **Windows Update** (Microsoft Control Panel):  
Click **Check for updates** to check for updates and apply all critical security patches.
- [MUST] 4 **Windows Update** (Microsoft Control Panel): Change the settings for updates:  
Click **Change settings**. In the **Important updates** section, select **Never check for updates**. Clear the other update options.

### NOTE

This setting is required during installation of OpenLAB CDS.

On clients in a client/server system, you may activate automatic updates again after finishing the installation.

On Agilent Instrument Controllers (AIC) or standalone workstations, keep the **Never check for updates** setting. This setting is important to avoid data loss due to system reboot during data acquisition.

- [MUST] 5 **Indexing Options** (Microsoft Control Panel): Disable indexing.  
Click the **Modify** button. Clear all drives and locations.
- [MUST] 6 Only for Standalone Workstations that do not belong to a domain:  
**Start > search for 'gpedit.msc'**: Windows logon options:
- a Navigate to **Local Computer Policy > Computer Configuration > Administrative Templates > System > Logon**.
  - b Set **Hide entry points for Fast User Switching** and **Always use classic logon** to **Enabled**.

<sup>1</sup> View the items by icon to see a list of all items.

- [MUST] 7 **Power Options** (Microsoft Control Panel):
- a As preferred plan select **High performance**
  - b Click **Change Plan settings**
  - c Set the option **Put the computer to sleep** to **Never**.
  - d Click **Change advanced power settings**.
  - e Open the nodes for **Hard disk > Turn off hard disk after**.
  - f Set the Minutes to 0 (=Never).
- [MUST] 8 **Administrative Tools** (Microsoft Control Panel): Configure security options:
- a Double-click **Local Security Policy**.
  - b Navigate to **Security Settings > Local Policies > Security Options**
  - c Double-click the following policy listed in the right hand panel: **Network Access: Sharing and security model for local accounts**
  - d In the displayed dialog select the following item from the drop-down list: **Classic - local users authenticate as themselves**
- [MUST] 9 **Date and Time** (Microsoft Control Panel): Choose the time zone of your machine's location.
- [MUST] 10 **Network and Sharing Center** (Microsoft Control Panel):
- a Select **Change adapter settings**. Right-click **Local Area Connection > Properties > Configure**.
  - b On the **Power Management** tab, clear all check boxes.
- [MUST] 11 **Programs and Features** (Microsoft Control Panel):
- a Click **Turn Windows features on or off**.
  - b Expand the **Microsoft .NET Framework 3.5.1** node and select the **Windows Communication Foundation Non-HTTP Activation** check box.
  - c Select the **Internet Explorer 11** check box.
  - d Select the **Telnet Client** check box.
  - e Select the **TFTP Client** check box.
  - f Reboot the PC.

## 10 Appendix

### Operating System Configuration

- [MUST] 12 Disable Compatibility View in Internet Explorer.
- Open Internet Explorer.
  - Click the Tools menu, and then click **Compatibility View Settings**.
  - Clear the **Display intranet sites in Compatibility View** check box.

- [PERFORMANCE] 13 System (Microsoft Control Panel): Change performance options:
- Click **Advanced system settings**.
  - On the **Advanced** tab > **Performance** click **Settings**.
  - On the **Visual Effects** tab, select **Adjust for best performance**.
  - Under **Custom**, select the following check boxes for better usability:
    - Smooth edges of screen fonts**
    - Show shadows under mouse pointer**
    - Show shadows under windows**

- [PERFORMANCE] 14 System (Microsoft Control Panel): Change system properties:
- Click **Advanced system settings**.
  - On the **Advanced** tab > **Performance** click **Settings**.
    - Advanced** tab > **Virtual Memory**: For optimum performance use the **Change** button to adjust the paging file size to a value of 2 to 3 times of the physical RAM on the PC. If possible locate the paging file on a drive different from the system installation drive.
    - Data Execution Prevention** tab: Select **Turn on DEP for essential Windows programs and services only**.
  - Advanced > Startup and Recovery > Settings** button:
    - System startup** section:  
Change both **Time to display ...** fields from **30** to **3** sec.
    - System failure** section:  
Select **Automatically restart**, in the **Write debugging information** section select **Kernel memory dump** from the drop-down list.

[OPTIONAL] 15 General Layout: (right-click **Start > Properties**)

**a Start Menu Tab:** In the **Privacy** section select both items

**b Start Menu Tab > Customize button:** In **Customize Start Menu** dialog:

- Clear the following option:
  - **Favorites menu**
- Select the following options:
  - Computer **Display as a link**
  - **Connect To**
  - Control Panel: **Display as a menu**
  - **Default Programs**
  - **Devices and Printers**
  - Documents: **Display as a link**
  - **Enable context menus and dragging and dropping**
  - Games: **Don't display this item**
  - **Help**
  - **Highlight newly installed programs**
  - Music: **Don't display this item**
  - **Network**
  - **Open submenus when I pause on them with the mouse pointer**
  - Personal folder: **Display as a link**
  - Pictures: **Display as a link**
  - **Run command**
  - Search other files and libraries **Search with public folders**
  - **Search programs and Control Panel**
  - **Sort All Programs menu by name**
  - System administrative tools: **Display on the All Programs menu and in the Start menu**
  - **Use large icons**

## 10 Appendix

### Operating System Configuration

- [OPTIONAL] **16 Start > search for 'gpedit.msc':** Welcome Center:
- a Navigate to **Local Computer Policy > Computer Configuration > Administrative Templates > System > Logon.**
  - b Set **Don't display the Getting Started welcome screen at logon** to **Enabled.**

- [OPTIONAL] **17 Recycle Bin Properties:** (right-click on desktop icon **Recycle Bin**) Select the following options:
- **Custom size:** Select a size corresponding to approximately 10% of the complete disk space for the drive.
  - Select **Display delete confirmation dialog.**
- Repeat these steps for all drives of your computer.

- [OPTIONAL] **18 Region and Language** (Microsoft Control Panel): Set the language for non-Unicode programs.
- On the **Administrative** tab, click **Change system locale....** From the drop down list, select **English (United States).**

#### NOTE

Do not the change system locale if you are using an English, Portuguese, Japanese or Chinese Operating System.

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## Instrument Connections

This section provides information on the instruments supported by the current revision of OpenLAB CDS and the required respective instrument drivers and firmware revisions.

### RC.NET Drivers compatible with OpenLAB CDS

OpenLAB CDS can control instruments and modules that use **RC.NET** based driver software only.

Agilent and other vendors may release RC.net drivers independent of the OpenLAB CDS releases. Agilent recommends always using the most recent firmware revisions which include latest firmware features and improvements. Agilent driver software is forward compatible with respect to firmware, i.e. the firmware can be updated without the need of updating the driver or CDS.

More information on instrument drivers and firmware is available in the respective RC.net driver release notes.

The following Agilent instrument driver software revisions are part of the OpenLAB CDS 2.2 software package, and are installed by default with the software:

**Table 7** Agilent driver packages shipped and installed with OpenLAB CDS 2.2

RC.net Instrument Driver	Driver Software Revision
Agilent LC	A.02.16
Agilent LC/MS SQ	A.01.02
Agilent GC	B.01.02
Headspace	B.01.07
Agilent GC/MS SQ	A.01.01
Agilent 35900E A/D	2.3.0
Agilent SS420X	A.01.01.64
Agilent Data Player	A.01.02.010
Pal 3	A.01.03
Pal-xt	B.01.08

Additional **RC.NET** instrument drivers are supported with OpenLAB CDS. You will need to install them separately (see section *Install or Upgrade Driver Software* in chapter 1 of your Workstation or Client Server guide).

Supported Agilent drivers are listed in the following table with their minimum software revisions.

**Table 8** Other compatible Agilent Instrument Drivers (on the installation medium)

RC.net Instrument Driver	Driver Software Revision
CTC PAL3	A.01.03
PAL XT	B.01.08
ELSD	A.01.07
Agilent 490 Micro GC	B.01.12
Agilent Headspace	B.01.07.2



## Third Party Drivers

OpenLAB CDS 2.2 supports selected third party instruments. See [Table 15](#) on page 143 for more details.

Always install dedicated RC.net drivers available from SubscribeNet at OpenLAB CDS > OpenLAB 3rd-Party Instrument drivers.

## Agilent LC and LC/MS

### Agilent LC

Most Agilent LC Modules can be controlled with the current version of OpenLAB CDS. LC driver release A.02.14 has been tested with this revision and is installed by default with the software.

### Recommended Firmware

Agilent recommends using current LC firmware sets with your OpenLAB CDS. The latest LC firmware sets are 7.01, 6.50, and 6.30. Firmware Set 7.01 can be downloaded from

<http://www.agilent.com/en-us/firmwareDownload?whid=99818>.

#### NOTE

LC and CE firmware revisions are grouped into sets for each module or system. Firmware sets include just the latest firmware of each module.

Modules combined into one LC instrument always need to have firmware from the same set. Firmware of one set is fully compatible with your CDS that supports this firmware set. However, if one module uses a firmware revision lower than the specified Minimum Firmware Revision some functionality might not be supported.

Do not mix firmware revisions from one set with older or newer sets. Firmware is not tested across set borders!

Device	Recommended Firmware
Agilent 1100 Series, 1200 Series and 1200 Infinity	A.07.01 or later
Agilent 1200 Series, 1200 Infinity and 1120 Compact LC	B.07.20 or later
Agilent 1200 Infinity Hosted Modules	C.07.20 or later
Agilent 1260/1290 Infinity II Modules	D.07.20 or later

You need to upgrade all existing modules to the latest version only if

- you add a new LC module to the existing system (recommended).
- one of the existing modules requires an upgrade due to a bug fix solved with the latest release.

For more information on downloading the current LC firmware, please refer to the Agilent website at [LC Firmware News and Downloads and Firmware Update Tools & Procedures](#) (, ).

The tables below “[Supported LC modules](#)” on page 131 list the supported LC modules with the minimum required firmware. Please note that using some driver features like valve-thermostat clusters and new temperature control modes require firmware updates beyond the minimum required firmware for related modules. For more information please refer to the respective release notes. The current *Release Note for Agilent LC and CE drivers Revision A.02.16* LC Driver Release Note A0216.pdf is available in the Docs/Enu folder of the OpenLAB CDS media.

## Supported LC modules

**HINT**

Check for the product number at the lower right of each module or system.

### Agilent LC - Sampling Systems

Product Number	Module Name	Minimum Firmware Revision
G1313A	1100 Series Standard Autosampler	A.06.10
G1329A	1100 Series Standard Autosampler	A.06.10
G1329B	1260 Infinity Standard Autosampler	A.06.10
G1330A/B	1200 Thermostat	n/a
G1367A	1100 Series Well-plate Sampler	A.06.31
G1367B	1200 Series High Performance Autosampler	A.06.31
G1367C	1200 Series High Performance Autosampler SL	A.06.31
G1367D	1200 Series High Performance Autosampler SL+	A.06.31
G1367E	1260 Infinity High Performance Autosampler	A.06.32
G4226A	1290 Infinity Autosampler	A.06.31
G4303A	1260 Infinity SFC standard autosampler	A.06.54
G4767A	1260 Infinity II SFC Multisampler	
G5667A	1260 Bio-inert High Performance Sampler	A.06.32
G5668A	1260 Infinity II Bio-inert Multisampler	D.07.01
G7129A	1260 Infinity Vialsampler	D.06.76
G7129B	1290 Infinity II Vialsampler	D.06.76
G7167A	1260 Infinity II Multisampler	D.06.75
G7167B	1290 Infinity II Multisampler	D.06.75

## 10 Appendix

### Instrument Connections

**Table 9** Agilent CTC PAL Autosampler with Agilent LC

<b>Product Number</b>	<b>Module Name</b>	<b>Minimum Firmware Revision</b>
G4277A	Agilent 1290 Infinity LC Injector HTS	Agilent 2.6.8 or 4.1.5
G4278A	Agilent 1290 Infinity LC Injector HTC	Agilent 2.6.8 or 4.1.5
G4270-CTC	HTC PAL Auto sampler	Agilent 2.6.8 or 4.1.5
G4271-CTC	HTS PAL Auto sampler	Agilent 2.6.8 or 4.1.5

## Agilent LC – Pumps

Product Number	Module Name	Minimum Firmware Revision
G1310A	1100 Series Isocratic Pump	A.06.10
G1310B	1260 Infinity Isocratic Pump	A.06.32
G1311A	1100 Series Quaternary Pump <sup>1</sup>	A.06.10
G1311B	1260 Infinity Quaternary Pump <sup>1</sup>	A.06.10
G1311C	1260 Infinity Quaternary Pump VL <sup>1</sup>	A.06.32
G1312A	1260 Infinity Binary Pump <sup>1</sup>	A.06.10
G1312B	1260 Infinity Binary Pump SL <sup>1</sup>	A.06.10
G1312C	1260 Infinity Binary Pump VL <sup>1</sup>	A.06.32
G4204A	1290 Quaternary Pump <sup>1</sup>	B.06.50
G4220A	1290 Infinity Binary Pump <sup>1</sup>	B.06.23
G4220B	1290 Infinity Binary Pump	B.06.43
G4302A	1260 Infinity SFC Binary Pump <sup>1</sup>	A.06.10
G4782A	1260 Infinity II SFC Binary Pump	
G5611A	1260 Infinity Bio-inert Quaternary Pump <sup>1</sup>	A.06.10
G5654A	1260 Infinity II Bio Quat Pump	D.07.01
G7104A	1290 Infinity II Flexible Pump	B.06.71
G7110B	1260 Infinity II Iso. Pump	D.07.01
G7111A	1260 Infinity II Quat. Pump VL	D.07.01
G7111B	1260 Infinity II Quat. Pump	D.07.01
G7112B	1260 Infinity II Bin. Pump	D.07.01
G7120A	1290 Infinity II High Speed Pump	B.06.71

<sup>1</sup> Pump valve clusters are possible for marked pumps with up to 2 valves of type G1160A and/or G1170A

## Agilent LC – Column Compartments

Product Number	Module Name	Minimum Firmware Revision
G1316A	1260 Infinity Thermostatted Column Compartment	A.06.10
G1316B	1200 Series Column Compartment SL	A.06.10
G1316C	1200 Series Thermostatted Column Compartment SL <sup>1</sup>	A.06.14
G7116A	1260 Infinity II Multicolumn Thermostat	B.07.01
G7116B	1290 Infinity II Multicolumn Thermostat	B.06.75
G7130A	Integrated Column Compartment ICC	D.06.76
VTC Valve Thermostat Cluster	Combinations of G7116B, G1170A and G1316C (valve or column hosts) and G1316A/B and G7130A	See <i>Valve-Thermostat Cluster</i> in the LC Driver Release Notes

<sup>1</sup> Cluster with up to three G1316C with integrated 8pos/9port valves (products G4230A/B). Minimum two G1316C TCCs, the third TCC can be a G1316A, B or C.

## Agilent LC – Detectors

Product Number	Module Name	Minimum Firmware Revision
G1314A	1100 Series Variable Wavelength Detector	A.06.10
G1314B	1200 Series Variable Wavelength Detector	A.06.10
G1314C	1200 Series Variable Wavelength Detector	A.06.10
G1314D	1200 Series Variable Wavelength Detector	B.06.32
G1314E	1290 Infinity Variable Wavelength Detector	B.06.32
G1314F	1260 Infinity Variable Wavelength Detector	B.06.32
G1315A	1100 Series Diode Array Detector	A.06.10
G1315B	1200 Series Diode Array Detector	A.06.10
G1315C	1200 Series Diode Array Detector VL+	B.06.30
G1315D	1200 Series Diode Array Detector VL	B.06.30

<b>Product Number</b>	<b>Module Name</b>	<b>Minimum Firmware Revision</b>
G1321A	1100 Series Fluorescence Detector (FLD)	A.06.10
G1321B	1260 Infinity Fluorescence Detector	A.06.32
G1321C	1260 Infinity Fluorescence Detector	A.06.54
G1362A	1260 Infinity Refractive Index Detector	A.06.10
G1365A	1100 Series Multiple Wavelength Detector	A.06.10
G1365B	1100 Series Multiple Wavelength Detector	A.06.10
G1365C	1260 Infinity Multiple Wavelength Detector	B.06.30
G1365D	1260 Infinity Multiple Wavelength Detector VL	B.06.30
G4212A	1290 Infinity Diode Array Detector	B.06.30
G4212B	1260 Infinity Diode Array Detector	B.06.30
HDR-DAD Cluster	2x G4212A, 2x G4212B, 2x G7117A or 2x G7117B, or a combination of either 1x G4212A and 1x G4212B, or 1x G7117A and 1x G7117B	B.06.57
G7114A	1260 Infinity II VWD	D.07.01
G7114B	1290 Infinity II Variable Wavelength Detector	D.06.70
G7115A	1260 Infinity II DAD WR	D.07.01
G7117A	1290 Infinity II Diode Array Detector	D.06.70
G7117B	1290 Infinity II Diode Array Detector FS	D.06.70
G7117C	1260 Infinity II DAD HS	D.07.01
G7121A	1260 Infinity II FLD	D.07.01
G7121B	1260 Infinity II FLD Spectra	D.07.01
G7162A	1260 Infinity II Refractive Index Detector	D.06.76
G7162B	1290 Infinity II Refractive Index Detector	D.06.76
G7165A	1260 Infinity II MWD	D.07.01
<i>ELSD</i>		
G4260A	380-ELSD	25.00

<b>Product Number</b>	<b>Module Name</b>	<b>Minimum Firmware Revision</b>
G4261A	385-ELSD	25.00
G4260B	1260 Infinity ELSD	31.06
G4261B	1290 Infinity ELSD	31.06
G7102A	1290 Infinity II ELSD	31.06

### Agilent LC – Valve Solutions

<b>Product Number</b>	<b>Module Name</b>	<b>Minimum Firmware Revision</b>
G1156A	1200 Series 6 Position / 7 Port Valve (400 bar)	A.06.02
G1157A	1200 Series 2 Position / 10 Port Valve	A.06.02
G1158A	1200 Series 2 Position / 6 Port Valve	A.06.02
G1158B	1200 Series 2 Position / 6 Port Valve (600bar)	A.06.02
G1159A	1200 Series 6 Position Selection Valve	A.06.02
G1160A	1100 Series Multiple Purpose Switching Valve (12 Position / 13 Port)	A.06.02
G1162A	1200 Series 2 Position/ 6 Port Micro Valve	A.06.02
G1163A	1200 Series 2 Position/ 10 Port Micro Valve	A.06.02
G1170A	1290 Infinity Valve Drive <sup>1</sup>	B.06.40
G4227A	1290 Infinity Flexible Cube <sup>1</sup>	B.06.52
G1390B	UIB II	B.06.53

<sup>1</sup> A host may be required. For details see latest driver release note.



## Agilent LC Systems

Product Number	Module Name	Minimum Firmware Revision
G4286A	1120 Compact LC, Isocratic	B.06.50
G4286B	1220 Infinity LC System Isocratic, Man. Inj., VWD, 600 bar	B.06.50
G4287A	1120 Compact LC, Isocratic with Oven and ALS	B.06.50
G4287B	1220 Infinity LC Isocratic, ALS, TCC, VWD, 600 bar	B.06.50
G4288A	1120 Compact LC, Gradient	B.06.50
G4288B	1220 Infinity LC Gradient, Man. Inj., VWD, 600 bar	B.06.50
G4289A	1120 Compact LC, Gradient with Oven	B.06.50
G4289B	1220 Infinity LC Gradient, ALS, TCC, VWD, 600 bar	B.06.50
G4290A	1120 Compact LC, Gradient with oven and ALS	B.06.50
G4290B	1220 Infinity LC Gradient, ALS, Man. Inj., TCC, VWD, 600 bar	B.06.50
G4291B	1220 Infinity LC Isocratic, Man. Inj., TCC, VWD, 600 bar	B.06.50
G4292B	1220 Infinity LC Isocratic, ALS, VWD, 600 bar	B.06.50
G4293B	1220 Infinity LC Gradient, ALS, VWD, 600 bar	B.06.50
G4294B	1220 Infinity LC Gradient, ALS, TCC, DAD, 600 bar	B.06.50
G4286C	1220 Infinity LC System VL, Isocratic, Man. Inj., VWD, 400 bar	B.06.50
G4287C	1220 Infinity LC System VL, Isocratic, ALS, TCC, VWD, 400 bar	B.06.50
G4288C	1220 Infinity LC System VL, Gradient, Man. Inj. VWD, 400 bar	B.06.50
G4289C	1220 Infinity LC System VL, Gradient, Man. Inj. VWD, 400 bar	B.06.50
G4290C	1220 Infinity LC System VL, Gradient, ALS, TCC, VWD, 400 bar	B.06.50
G4291C	1220 Infinity LC System VL, Isocratic, Man. Inj. TCC, VWD, 400 bar	B.06.50
G4292C	1220 Infinity LC System VL, Isocratic, ALS, VWD, 400 bar	B.06.50
G4293C	1220 Infinity LC System VL, Gradient, ALS, VWD, 400 bar	B.06.50

## Agilent LC/MS

### Recommended Firmware

Always use the most recent Firmware installation package that comes with the driver package.

### Agilent LC/MS Single Quad 6100 Series

The following Agilent LC/MS instruments can be controlled with OpenLAB CDS.

Product number	Description	Note
G6120C	MS Module	61x0B to 61x0C via upgrade kit (G2725N)
G6125C	LC/MSD	
G6130C	MS Module	
G6135C	LC/MSD XT	
G1947B	APCI	ESI or AJS capable source required
G1971B	APPI (Photo Ionization)	
G1948B	ESI	
G1978B	Multimode Source	
G1958B	Agilent Jet Stream for Single Quad	

## Agilent GC and GC/MS

### Agilent GC

Agilent recommends using the latest firmware revision in order to provide the highest level of system capability.

The tables below list the firmware used during the last software tests. Upgrading firmware to this version is not required in all cases. A firmware upgrade should be done if you face problems or want to add system capability to your GC. Refer to latest Hardware Service Notes for latest firmware available.

### Supported GC Systems

Product Number	Description	Firmware Revision
G3950A G3952A G3953A	Intuvo 9000 GC system	A.01.01
G3440A G3445A	7890A	A.01.16
G3440B G3445B	7890B	B.02.04.2
G4350A	7820A	A.01.17.004
G1530N G1540N	6890N	N.06.07
G1530A G1540A	6890A 6890Plus	A.03.08
G2630A	6850 Serial # >= US10243001 Serial # < US00003200	A.06.02 A.03.07
G3581A	490 Micro GC	3.32

## Supported Autosamplers

**Table 10** Agilent GC Autosampler

Model number	Description	Firmware Revision
G4513A	7693 Injector	A.10.09
G4514A	Tray	A.10.16
G4515A	BCR/Mixer	A.10.05
G4516A	ALS Controller Board for 6890 Plus GC	A.01.07
G4517A	ALS Controller for 6890A GC	A.01.07
G2912A	7683B ALS Controller for 6890	A.02.01
G2613A	7683A Injector	A.10.07
G2913A	7683B Injector	A.11.03
G2614A	Tray	A.02.01
G2615A	BCR/Mixer	n/a
G4567A	7650A ALS Injector	A.10.02
G2880A	6850 ALS Injector	A.10.05

**Table 11** Agilent Headspace Autosampler

Product number	Description	Firmware Revision
G4556A G4557A	7697A Headspace	A.01.07.1
G1888A	G1888 Headspace	A.01.10

**Table 12** Agilent CTC and PAL-xt CTC Sampler with Agilent GC

Product number	Description	Firmware Revision
G6500-CTC	CTC Combi-Pal for Liquid and Headspace Injection	Agilent 2.6.8 or 4.3.0
G6501-CTC	CTC Combi-Pal for Liquid Injection	Agilent 2.6.8 or 4.3.0
G6509-CTC	CTC Combi-Pal for Liquid Injection	Agilent 2.6.8 or 4.3.0
G6502-CTC	CTC GC-Pal for Liquid Injection	Agilent 2.6.8 or 4.3.0
G6501B	Agilent GC Sampler 80 for Liquid Injection	4.3.0
G6502B	Agilent GC Injector 80 for Liquid Injection	4.3.0
G6509B	Agilent GC Sampler 120 for Liquid Injection	4.3.0

**Table 13** Agilent CTC PAL-3 Autosampler with Agilent GC

Product number	Description	Firmware Revision
G7366A	PAL RTC 120 Robotic Tool Change X-rail	2.2.3
G9256A	PAL RSI 120 Robotic Sample Injection X-rail	2.2.3
G7368A	PAL RSI 53 Robotic Sample Injection X-rail	2.2.3
G7370A	PAL LSI 53 Liquid Sample Injection X-rail	2.2.3

## Agilent GC/MS

### Recommended Firmware

Always use the most recent MS Firmware installation package that comes with the driver package.

### Agilent GC/MS Single Quad Series

The following GC/MS Models can be controlled with OpenLAB CDS.

Model number / series	Description	Note
5975A 5975B 5975C 5975E 5977A 5977E	MS System	EI/CI
5977B	MS System	HES and EI/CI supported
7890A 7890B 7820 6890N 6850	GC System	GC's supported as part of GC/MS system - see <a href="#">"Supported GC Systems"</a> on page 139 for details
7693 7683B 7650	GC ALS	Samplers supported as part of GC/MS system - see <a href="#">"Supported Autosamplers"</a> on page 140 for details
PAL-XT PAL-3	CTC	
G7697A G1888	Headspace	

## Other supported Agilent Instruments

Other Agilent instruments or modules that you can connect with the latest revision of OpenLAB CDS:

**Table 14** Other Agilent modules

Product number	Description	
35900E	35900 A/D Interface	E.01.02
35900E (Series II)		E.02.04
SS420x	A/D Interface	
7667A	Mini Thermal Desorber	

## Third Party Instruments

The following Non-Agilent Instruments can be controlled with OpenLAB CDS 2.2.

**NOTE**

Download the most recent instrument drivers available from SubscribeNet to control non-Agilent Instruments.

**Table 15** Drivers for non-Agilent instruments compatible with OpenLAB CDS 2.2

Part Number	3rd Party Vendor	Driver Type	Instrument Name	Driver Version
M8505BA	Waters	LC	Acquity and Acquity H-Class	A.1.2
M8505BA	Waters	LC	Waters Alliance 2690, Waters Alliance 2695, e-Alliance e2695, Waters 996 PDA, Waters 2996 PDA, Waters 2487 UV, Alliance 2489 DWD, Alliance 2998 PDA	6.1.4
M8237BA	Scion / Bruker/ Varian	GC	430/436 450/456 CP3800, CP3900, and associated Auto-samplers	A.02.02

## 10 Appendix

### Instrument Connections

**Table 15** Drivers for non-Agilent instruments compatible with OpenLAB CDS 2.2

Part Number	3rd Party Vendor	Driver Type	Instrument Name	Driver Version
M8240BA	Shimadzu	LC	LC-20 (Prominence), LC-30 (Nexera), LC-2030 (Prominence-i), LC-2040 (Nexera-i), SPD-M20A/SPD-M30A	V1.41
M8232BA	Shimadzu	GC	GC 2010,GC 2014, GC 2010 Plus, GC-2014C, HS-10, HS-20	V1.10
M8224BA	Valco Instruments (VICI)	Valve	EMHCA-CE (High Speed), EMHA-C (Two Position), EMTCA-C (High Torque)	A.01.01
M8236BA	Thermo Fisher	LC	Accela, Surveyor	4.1.4.28
M8241BA	Thermo Fisher	GC	Focus GC, Trace GC Ultra, Trace 1300/1310 plus samplers (TriPlus AS, TriPlus RSH, TriPlus 300 HS, TriPlus 100 LS, AI-1310, AS-1310)	Expected availability within 2017 <sup>1</sup>
	Hitachi	LC	ChromasterUltra Rs, Chromaster, Primaide	Expected availability within 2017 <sup>1</sup>
	PerkinElmer	GC	Clarus 400/480/500/580/600/680	Expected availability within 2017 <sup>1</sup>

<sup>1</sup> For further information, please contact your local Agilent Sales representative



## Incompatible Instruments and Modules

The following tables summarize selected instruments or modules that can *not* be controlled with the current revision of OpenLAB CDS.

### Incompatible LC and LC/MS Modules

Product Number	Module Name
G1364A-D	Fraction Collector / Fraction Cluster
G5664A	Bio-inert Fraction Collector
G1377A	High Performance Micro Autosampler
G1389A	Micro Thermostatted Autosampler
G2258A	Dual-Loop Autosampler
G2260A	Preparative Autosampler (High flow)
G7157A	1260 Infinity II Prep Sampler
G1376A	1200 Micro Capillary Pump
G2226A	1200 Nanoflow Pump
G1361A	1200 Preparative Pump
G7161A	1260 Prep Pump
G4218A	Evaporative Light Scattering Detector
G1390A	UIB
G4240A	Chip Cube Source
6120B, 6125B 6130B, 6135B 6150B	LC/MS Single Quad modules 6120B, 6125B, 6130B and 6135B systems are supported after upgrade with Smart Card product (G2735N)

### Incompatible CE Instruments

OpenLAB CDS 2.2 can *not* be used to control CE Instruments.

## Incompatible GC and GC/MS Instruments

<b>Product Number</b>	<b>Instrument Name</b>
4890D	GC system
5890	5890A GC system 5890 Series II GC system
G1176A	6820 GC system
G1180A	6820 GC system
G2629A	6850 Handheld Controller
G3581A	3000 Micro GC, M200, M400
19405A/B	Sampler Event Control Module (SECM)
18593A 18594A 18596A	7673A GC Autosampler family
18593B 18594B 18596B	7673B GC Autosampler family
G1512A G1513A 18596C	7673C GC Autosampler family
7694A	Headspace
G1289A G1290A G1883A	Headspace
G8130A	Workbench Tray
G7361A	Archon Purge and Trap Auto sampler for Needle Sparge
G7360A	Archon Purge and Trap Auto sampler for Water only
G5975T	Integrated GC/MS
G1926A	Barcode Reader
G4557A	Barcode Reader for 111 vial, not supported on 12 vial
G2403A	LAN/RS232 converter Dudley box
G2629A	6850 Handheld Controller

# Software Compatibility

This chapter contains information on compatibility with other Agilent or Non-Agilent Software.

## Agilent Software

The following Agilent software is compatible with version 2.2 of OpenLAB CDS:

- LabAdvisor for LC
- Instrument Utilities for GC
- ACE
- Remote Advisor
- Sample Scheduler 2.0 for OpenLAB CDS
- OpenLAB ELN
- Match Compare

## Libraries and Databases

The following libraries and databases are compatible with version 2.2 of OpenLAB CDS:

Thoroughly tested:

- **NIST MS Search/ NIST Library, Revision 2.2 / NIST14**

This library ships with NIST MS Search

Functionally tested libraries are:

- NIST MS Search/ NIST Library revisions:

- 2.0g / NIST11
- 2.0f / NIST08 NIST Functionally tested PLLI
- 2.0f / NIST08Demo

- Wiley/NIST Combined MS Library revisions:

- W10N14

Ships with the NIST MS Search appropriate to the NIST version (N), e.g. W10N14 contains MS Search v2.2.

- W10N14
- W10N11
- W9N08

- Other libraries of NIST format:

Any library in the appropriate NIST format, can be opened in NIST MS Search and a basic search e.g. name search, run against it.

## Privileges in the Control Panel

The privileges described in the following can be associated with different roles in the Control Panel. The following roles are available:

Everything	Instrument User
System Administrator	Technician
Instrument Administrator	Chemist
Project Administrator	

In the Control Panel under **Administration > Roles**, you can view or change the associated privileges, or create your own roles.

### Project Privileges

**Table 16** Project Management

Name	Description
Manage project or project group	User can create or edit project properties and can move the project but cannot view or edit the project access settings.
Manage project or project group access	User can view and edit the project access settings.
View project or project group	User can see a project and project details but cannot edit. <i>Note:</i> This privilege is required for all users.
Access content using web client	User can view the data via the Content Management web interface.
Edit content of project	User can create new versions of documents (e.g. data, methods, or templates).

## 10 Appendix

### Privileges in the Control Panel

**Table 17** E-Signature

Name	Description
E-Signature Sign Data Files	User can sign data files
Revoke E-Signature	User can revoke the e-signature.

**Table 18** Sample Prep

Name	Description
Create and modify sample prep	View, edit, and save an autosampler sample prep file

**Table 19** Acquisition Method

Name	Description
Create and modify acquisition method	Create, edit and save an acquisition method file (*.amx)

**Table 20** Processing Method

Name	Description
Create processing method	Create a new processing method (*.pmx), or save a method under a new name.
Save master method	Save changes to a processing method in the Methods folder.
Save result set method	Save changes to a processing method in the result set folder.
Edit sample information	Edit information in the <b>Injection List</b> window.
Edit integration parameters	View and edit the parameters in the <b>Integration Events</b> section of a method.
Edit method override parameters	Override parameters in a predefined acquisition method.

**Table 20** Processing Method

Name	Description
Edit identification parameters	View and edit the parameters in the <b>Compounds &gt; Identification</b> section of a method.
Edit chromatogram extraction parameters	View and edit the parameters in the <b>Extraction &gt; Chromatogram</b> section of a method.
Edit spectrum extraction parameters	View and edit the parameters in the <b>Extraction &gt; Spectrum</b> section of a method.
Edit MS library search parameters	View and edit the parameters in the <b>MS Library Search &gt; Properties</b> section of a method.
Edit calibration parameters	View and edit the parameters in the <b>Compounds &gt; Calibration</b> section of method.
Edit spectra parameters	View and edit the parameters in the <b>Compounds &gt; Spectra</b> section of method.
Edit system suitability parameters	View and edit the parameters in the <b>Compounds &gt; System Suitability</b> section of method.
Edit custom calculation parameters	View and edit the parameters in the <b>Tools &gt; Custom Calculation</b> section of a method.
Edit signal parameters	View and edit the parameters in the <b>General &gt; Signals</b> section of a method.
Edit sample purity parameters	View and edit the parameters in the <b>MS Sample Purity</b> section of a method.
Edit reporting parameters	View and edit the parameters in the <b>Reports &gt; Injection Report</b> section of a method.
Edit general parameters	View and edit the parameters in the <b>General &gt; Properties</b> section of a method.
Load older master method	With Content Management, load an older version of a master method.

## 10 Appendix

### Privileges in the Control Panel

**Table 21** Report Template

<b>Privilege</b>	<b>Description</b>
Unlock/lock report template items	Lock and unlock report template items (tables, chromatograms, groups of items, ...) to control who is allowed to modify those.
Validate report template	Confirm usage of report templates that have been modified outside OpenLAB CDS.
Create report template	Create and edit report templates in the Reporting view.

**Table 22** Sequence Template

<b>Name</b>	<b>Description</b>
Create and modify sequence template	Create, edit and save sequence creation templates (*.stx).

**Table 23** Sequence

<b>Name</b>	<b>Description</b>
Edit any users running sequence	Edit any user's running sequence (status <b>Acquiring</b> in the Run Queue).
Create and modify sequence	Create, edit and save sequences (*.sqx)
Edit users own running sequences	Edit your own running sequences (status <b>Acquiring</b> in the Run Queue).

**Table 24** Audit Trail

<b>Name</b>	<b>Description</b>
Change method audit trail settings	Edit and save method audit trail settings (project properties in the Control Panel).
Review audit trail	Confirm that you reviewed a changed audit trail.
Add manual audit trail entry	Add a manual entry to document your own actions in the audit trail.



**Table 25** Control

Name	Description
Abort any running sample	Abort any running sequence or single run.
Manual control (in run)	Access manual control functions while the instrument is running.
Manual control (only when instrument idle)	Access manual control functions while the instrument is idle.
MS autotune and manual tuning	Access all MS tune and maintenance functionality, including manual tune, autotune, and check tune.
Delete any pending run	Remove pending runs from the Run Queue.
MS autotune	Perform MS autotune and check tune.

**Table 26** Data Processing

Name	Description
Reprocess data	Reprocess injections or result sets.
Do manual compound identification	Manually assign a compound to a peak.
Do manual integration	Activate manual integration in the <b>Chromatograms</b> window.
Do manual chromatogram extraction	Manually extract UV wavelength chromatograms or MS (TIC-SIM/TIC-SCAN) chromatograms from your data.
Do manual spectrum extraction	Manually extract UV or MS spectra from your data.
Do manual MS library search	Manually search for matches in an MS library.
Update master processing method	Save changes from a result set method to the corresponding master processing method in the Methods folder.
Create new result set	Combine single samples or sequences from different sources in a new, self-assembled result set.

## 10 Appendix

### Privileges in the Control Panel

**Table 26** Data Processing

Name	Description
Print results reports	Create reports for your methods or results.
Launch Custom Calculation Editor	Start the Custom Calculation Editor from Data Analysis.

**Table 27** File and Folder Operations

Name	Description
Delete report templates	Delete report templates (*.rdl) in the <b>Data Selection</b> view of Data Analysis.
Delete sequence templates	Delete sequence templates (*.stx) files in the <b>Data Selection</b> view of Data Analysis.
Delete methods	Delete processing methods (*.pmx) or acquisition methods (*.amx) in the <b>Data Selection</b> view of Data Analysis.

**Table 28** Data

Name	Description
Export data	Export data into an OpenLAB archive (*.olax).
Import data	Import data from OpenLAB archives (*.olax) into the OpenLAB system.
Save reports to disk	Save or export a report to a location on a disk or network share.

**Table 29** Lock

Name	Description
Lock Results	Lock a result set to protect it from being changed.
Unlock Results	Unlock a locked result set.

**Table 30** Custom Tools

Name	Description
Access Custom Tools section	Start external programs that were added to the application via the customization tool

**Table 31** Snapshot

Name	Description
Review snapshot results	From Acquisition, open a currently running sample in Data Analysis.

## Instrument Privileges

**Table 32** Instrument Management

Name	Description
View instrument or location	User can view and access a location in the tree, but not edit access security, can view properties.
Manage Instrument or location	User can create and move locations and edit properties (name, description, etc).
Manage instrument or location access	User can view and edit the location access settings.
Run instrument	User can start an instrument session.
Service instrument	User can lock or unlock an instrument (to service it).

## Administrative Privileges

**Table 33** System Administration

Name	Description
Manage printers	Can add/remove printers and print server.
Edit activity log properties	Can change the Activity log Settings in the Control Panel (that is, can turn logging on for the System Activity Log).
Create administrative reports	Can create any of the system admin reports.
Manage system components	Can install/remove components (applications).
Manage security	Can change security settings and assign security roles. Can edit (add, change etc) users, groups and roles. Can move and delete files and folders in the Content Management database. <i>Note:</i> A user with this privilege can grant himself access to all settings in Shared Services. Be careful who you grant the Manage Security privilege.
Manage instrument controllers	Can edit Instrument Controllers in the Control Panel.
Unlock any locked UI	Can log in to another user's locked session.

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## In This Book

This document provides instructions for installation, configuration, administration, and maintenance of an OpenLAB CDS Workstation. It includes information on the license generation with SubscribeNet.

The manual describes the following:

- Install OpenLAB CDS Workstation with Local File System
- Generating and Downloading Your Software License
- Configure OpenLAB CDS Workstation
- Optional Procedures
- Customization
- About the OpenLAB CDS software
- System Setup and Maintenance

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