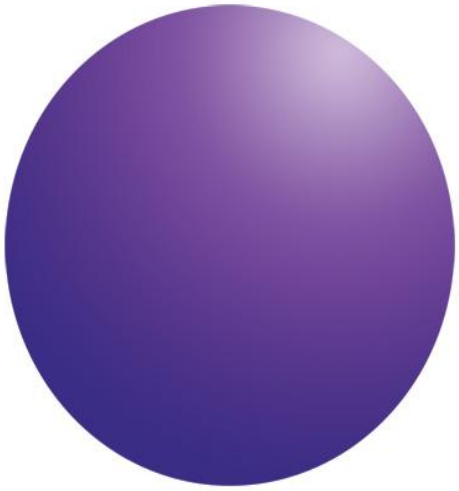
Agilent OpenLAB Chromatography Data System (CDS)

EZChrom and ChemStation Editions



Hardware and Software Requirements

Agilent Technologies

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Introduction

This document details the minimum hardware and software requirements for supporting the Agilent OpenLAB Chromatography Data System (CDS) family of products. This document is valid for OpenLAB CDS Shared Services A.01.02, ChemStation Edition C.01.02, and EZChrom Edition A.04.02.

Hardware

Memory, processing, disk and communications

Table 1 lists minimum and recommended hardware configurations by category and OpenLAB CDS software product.

Table 1 Minimum and recommended hardware configurations

Item		Workstation, Client, or EZChrom AIC on 32bit OS	Workstation, Client, or EZChrom AIC on Win7 or 64bit OS	ChemStation AIC on 64bit OS	Shared Services Server (32 or 64 bit OS)
Processor Speed (CPU					
	Minimum	2 GHz	2 GHz	2GHz	2 GHz
	Recommended	3 GHz Dual core	3 GHz Dual core	Dual Quad Core	3 GHz Dual core
Physical Memory (RAM)					
	Minimum	1 GB	2 GB	8GB	4 GB
	Recommended	4 GB	4GB (32-bit), 6GB (64-bit)	10 GB	6GB (64-bit)
Disk Space Minimum					
	Total	80 GB	80 GB	250 GB	80 GB
	Available	40GB	40GB	50 GB	40GB
Optical Drive		DVD ROM (12x)	DVD ROM (12x)	DVD ROM (12x)	DVD ROM (12x)
Network Adapter					
	Minimum	10/100 LAN Adapter	10/100 LAN Adapter	10/100 LAN Adapter	10/100 LAN Adapter
	Recommended	100/1000 LAN Adapter	100/1000 LAN Adapter	100/1000 LAN Adapter	100/1000 LAN Adapter

Agilent Instrument Controller (AIC) compatibility

Table 2 and **Table 3** list the Agilent Instrument Controllers that support installation of OpenLAB CDS EZChrom Edition or ChemStation Edition.

Table 2 Agilent Instrument Controllers that support installation of OpenLAB CDS EZChrom Edition

AIC Model	CPU	RAM	Disk Space
5000	2.8 GHz	1 GB	80 GB
7800	2.3 GHz Dual-Core	2 GB	135 GB
7900	3.0 GHz Dual-Core	2 GB	232 GB (2x116)
8000	3.16 GHz Dual-Core	4 GB	250 GB

Revision A and B Agilent instrument controllers are not supported for use with Agilent OpenLAB CDS.

Table 3 Agilent Instrument Controllers that support installation of OpenLAB CDS ChemStation Edition

AIC Model	CPU	RAM	Disk Space
ML150 (P/N M8304AA)	2.00 GHz 2xQuad Core	8 GB	2x500 GB

Number of Instruments Supported

There is a limit to the number of instruments (for example, GCs, LCs or CEs) that can be configured on a single OpenLAB CDS **ChemStation Edition** WorkStation or Agilent Instrument Controller (AIC), as shown in **Table 4.**

Each instrument can consist of several modules, as in the case of Agilent modular LC systems. The theoretical maximum number of modules is 31; the recommended maximum number is 14.

Table 4 Maximum Number of Instruments: ChemStation Edition

	WorkStation	AIC
GC, LC (2D)	4	10
LC (3D), CE	2	5
LCMS, CEMS	1	Not Supported

There is no limit to the number of AICs in a distributed system.

Similarly, **Table 5** below shows the instrument connection limit for workstations and AICs running OpenLAB CDS **EZChrom Edition**.

Table 5 Maximum Number of Instruments: EZChrom Edition

	WorkStation	AIC
GC, LC (2D)	4	4
LC (3D), CE	2	2
LCMS, CEMS	Not Supported	Not Supported

Software

The following information applies to **all** installable OpenLAB CDS components except where otherwise noted.

Operating systems

The following Operating systems are supported for the installation and use of the specified OpenLAB CDS components:

Component	Windows XP SP3	Windows Vista SP1	Windows 7 (32/64bit)	Windows Server 2003 R2 SP2	Windows Server 2008 R2
Shared Services Server	✗	✗	✗	✓	✓
ChemStation Edition Workstation/NWS	✓	✓	✓	✗	✗
ChemStation Edition AIC	✗	✗	✗	✗	✓
EZChrom Edition Workstation/NWS	✓	✓	✓	✗	✗
EZChrom Edition Client	✓	✓	✓	✓	✓
EZChrom Edition AIC	✓	✓	✓	✗	✗

OpenLAB ECM software

In order for OpenLAB CDS to use ECM as a file storage location, you will need these ECM product revisions:

- Agilent OpenLAB ECM Server 3.3.2 SP1-3.4.1
- Agilent OpenLAB ECM API v. 1.0.25.x (Available as ECM 3.3.2 Hotfix03, included with ECM 3.4.1)

Licensing

Agilent OpenLAB CDS supports the use of a central licensing server for the distribution and tracking of license entitlements. The following software is supported for this purpose:

- Flex-Net Publisher v. 11.8

This software is installed with the installation of OpenLAB Shared Services Server components.

Databases

Agilent OpenLAB CDS Shared Services Servers manage information using a database. The database is installed and configured automatically during OpenLAB CDS workstation installation.

When deploying networked system configurations, the database requires additional installation to ensure acceptable performance of the system.

The following database software is supported for hosting shared services databases:

- SQL Server 2008 R2 Express (32-bit) : Installed with product
- SQL Server 2008 R2 Standard or Enterprise (32-bit)
- SQL Server 2008 R2 Standard or Enterprise (64-bit) (Windows 2008 Server R2 databases only)
- Oracle 11g Standard and Enterprise Editions

Note: It is strongly recommended that you store database files and transaction logs (when applicable) on physically exclusive hard drives.

Application virtualization/delivery

OpenLAB CDS shared services servers, instrument controllers and client systems can be run on virtual machines that meet the requirements outlined above. Use the VMWare vSphere 4.0 software for host machines. See Network Requirements guides for restrictions regarding implementation of virtualized instrument controllers.

OpenLAB CDS EZChrom Edition clients are also supported to run via terminal services and Citrix XenApp 5.0.

Other software

The following software must be installed on any supported operating system prior to installating OpenLAB CDS components:

- Microsoft .Net Framework 3.5 with Service Pack 1
- Windows Installer 4.5 (required for SQL Installations on Shared Servers)

Language compatibility

The English version of OpenLAB CDS is validated on Windows English and Western European language versions.

Localized versions of OpenLAB CDS are supported on localized language versions of Windows, using default system fonts (Chinese: Simsun; Japanese: MS UI Gothic; Portuguese: MS Sans Serif).

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

Important notes

- Unless otherwise stated, workstations, clients and Agilent instrument controllers listed above are tested and supported with any combination of 4 instruments (LC's containing PDA/DAD count as 2 instruments) with up to one Headspace or CTC Sampler running simultaneously.
- Disk space requirements should be adjusted based on the **number and type of instruments** and **archival periodicity**. Agilent recommends a period of expected disk usage one year beyond the recommendation of the operating system.

Typical file sizes for reference:

- 2D data: 60min, 10Hz, 2 channel data ~600Kb
- 3D data: 60min, 10Hz, 5 channel plus spectra at 1nm resolution from 200-400nm ~300Mb
- Citrix and Terminal Servers are supported for running OpenLAB CDS EZChrom Edition clients only.