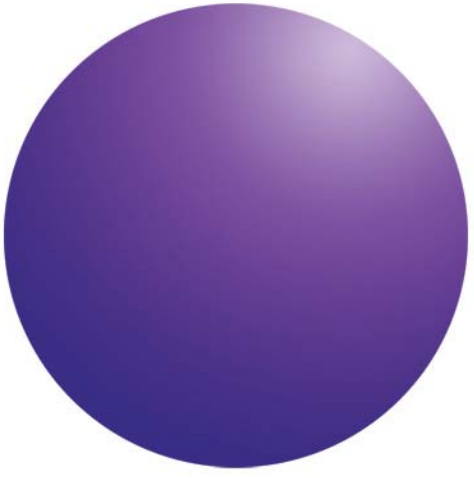
Agilent OpenLAB Chromatography Data System (CDS)

EZChrom and ChemStation Editions



Hardware and Software Requirements

Agilent Technologies

Notices

Manual Part Number

M8301-90044

Edition

June 2013

Printed in USA

Agilent Technologies, Inc.
2850 Centerville Road
Wilmington, DE 19808-1610 USA

Software Revision

This guide is valid for Agilent OpenLAB CDS EZChrom Edition A.04.05 and ChemStation Edition C.01.05.

Microsoft ® is a U.S. registered trademark of Microsoft Corporation.

This product may be used as a component of an in vitro diagnostic system if the system is registered with the appropriate authorities and complies with the relevant regulations. Otherwise, it is intended only for general laboratory use.

Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

Restricted Rights Legend

If software is for use in the performance of a U.S. Government prime contract or subcontract, Software is delivered and licensed as "Commercial computer software" as defined in DFAR 252.227-7014 (June 1995), or as a "commercial item" as defined in FAR 2.101(a) or as "Restricted computer software" as defined in FAR 52.227-19 (June 1987) or any equivalent agency regulation or contract clause. Use, duplication or disclosure of Software is subject to Agilent Technologies' standard commercial license terms, and non-DOD Departments and Agencies of the U.S. Government will receive no greater than Restricted Rights as defined in FAR 52.227-19(c)(1-2) (June 1987). U.S. Government users will receive no greater than Limited Rights as defined in FAR 52.227-14 (June 1987) or DFAR 252.227-7015 (b)(2) (November 1995), as applicable in any technical data.

Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Contents

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.01.05
- ChemStation Edition C.01.05
- EZChrom Edition A.04.05
- OpenLAB Data Analysis A.01.01
- OpenLAB Data Store A.01.02

These requirements apply for full, VL, and Compact Editions of OpenLAB CDS unless otherwise stated.

Hardware

Memory, processing, disk and communications

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

Table 1 Minimum hardware configurations

Item	Workstation, Client, or EZChrom	ChemStation AIC (64-bit OS)	Shared Services Server	Data Store Server	
	AIC (Any OS)		(32- or 64-bit OS)	Entry level*	High-end†
Processor speed (CPU)	2 GHz Dual Core (Windows XP) 3 GHz Dual Core (Windows 7)	2x (2 GHz Quad Core)	3 GHz Dual core	2x (Intel Xeon 2.0 GHz 4 Core), OR 1x (Intel Xeon 3.0 GHz 6 Core)	2x (Intel Xeon 3.0 GHz 4 Core)
Physical memory (RAM)	2 GB (Windows XP) 4 GB (Windows 7 - 32 or 64-bit)	8 GB‡	4 GB (32-bit) 6 GB (64-bit)	8 GB (1333 GHz)	12 GB (1333 GHz)
DISK (OS, DB, Indexes for Data Store)	Total 80 GB Available 40 GB	Total 250 GB Available 50 GB	Total 80 GB Available 40 GB	2x (150 GB 7.2 K rpm SATA) RAID 1	2x (250 GB 15 K rpm SCSI) RAID 1
DISK - Data	NA	NA	NA	3x (150 GB 7.2 K rpm SATA) RAID 5	3x (500 GB 7.2 K rpm SATA) RAID 5
Video Device	SXGA or better - 17'': 1280x1024**	SVGA or better - 1024x768	SVGA or better - 1024x768	SVGA or better - 1024x768 ††	SVGA or better - 1024x768
Optical Device	DVD ROM (12x)	DVD ROM (12x)	DVD ROM (12x)	DVD ROM (12x)	DVD ROM (12x)
Network	100/1000 LAN	100/1000 LAN	100/1000 LAN	1 GB	1 GB

* Recommended for a laboratory with 5 or less concurrent instruments running at any time. This configuration can store up to 300 GB of data, which is considered sufficient for 3 to 5 years of normal use for 5 LC or GC instruments.

† Recommended for a laboratory with 15 or less concurrent instruments running at any time. This configuration can store up to 1 TB of data, which is considered sufficient for 3 to 5 years of normal use for 15 LC or GC instruments.

‡ On AICs with more than 6 instruments, it is recommended to have at least 10 GB of RAM if you plan to work under heavy load (e.g., simultaneous acquisition and reprocessing of long sequences with sequence summary reports).

**Recommended for ChemStation Edition: 19'': 1440 x 900

††Data Store clients must have a SXGA resolution (1280 x 1024) or better

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 and are provided as a bundled system.

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

AIC model	CPU	RAM	Disk space
5000	2.8 GHz	2 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
Z210	3.10 GHz Quad-Core	4 GB	250 GB
Z220	3.20 GHz Quad-Core	4 GB	250 GB

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

AICs must be updated to meet minimum memory requirements as needed.

NOTE On Agilent Instrument Controllers (AICs), OpenLAB EZChrom Edition running on Microsoft Windows 2008 R2 does not support instruments and modules connected via GPIB and SCSI.

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 2x Quad Core	8 GB	2x500 GB
ML350e (P/N M8304AA)	2.2 GHz 2x Quad Core	16 GB	2x500 GB

NOTE On Agilent Instrument Controllers (AICs), OpenLAB ChemStation Edition only supports instruments and modules connected exclusively via LAN. (GPIB, RS232, USB or any converter are not supported on AICs.)

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 with ChemStation Edition

	WorkStation	AIC
GC, LC (2D)	4	10
LC (3D), CE	2	5
LC/MS, CE/MS	1	2*

* One Single Quad LC/MS instrument is equivalent to four 2D LC instruments. A single AIC can handle two Single Quad LC/MS instruments and two 2D LC instruments or two Single Quad LC/MS instruments with one 3D LC instrument.

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

Table 5 Maximum number of instruments for EZChrom Edition

	WorkStation	AIC
GC, LC (2D)	4	4
LC (3D)	2	2

NOTE Only one instrument per AIC should be used for GPIB connections.

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

Software

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

Operating systems

Table 6 lists the Operating systems that are supported for the installation and use of the specified OpenLAB CDS components. This includes support for professional editions and above of the stated operating systems. Home editions of these systems are not supported.

Table 6 Operating systems compatible with OpenLAB CDS components

	Operating system				
OpenLAB CDS component	**Windows XP SP3**	**Windows Vista SP2**	**Windows 7 SP1 (32/64bit)**	**Windows server 2003 R2 SP2**	**Windows server 2008 R2 SP1**
Shared Services Server	–	–	–	√	√
ChemStation Edition Workstation/NWS/VL	√	√	√	–	–
ChemStation Edition AIC	–	–	–	–	√
EZChrom Edition Workstation/NWS (includes VL and compact)	√	√	√	–	–
EZChrom Edition Client	√	√	√	√	√
EZChrom Edition AIC	√	√	√	√	√
Data Store Server	–	–	–	–	√
OpenLAB CDS Workstation/NWS with OpenLAB Data Analysis	–	–	√	–	–
OpenLAB Data Analysis stand-alone Workstation/NWS	–	–	√	–	–

√ Compatible

– Not compatible

NOTE

The OpenLAB CDS ChemStation Instrument Controller (AIC) software uses the Remote Desktop Services (RDS) role in Windows Server 2008 R2 SP1.

Using this role requires a Windows Server 2008 Remote Desktop Services CAL (RDS CAL), in addition to the Windows Server 2008 Client Access License (CAL), to access any application or graphical user interface remotely hosted by Windows Server 2008 R2 SP1.

You need at least one Remote Desktop Services Licensing Server deployed and activated in your environment. During a grace period of 120 days no license server is required. At the end of the grace period, remote connections will be refused.

For more information about CAL and RDS CAL requirements, see Windows Server 2008 R2 Licensing Overview.

OpenLAB ECM

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

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

OpenLAB Data Store

In order for OpenLAB CDS to use Data Store as a file storage location, and to use the Data Store Lab Applications, you will need the following Data Store product revisions:

- Agilent OpenLAB Data Store A.01.02
- Agilent OpenLAB Data Store Add-in A.01.02

The OpenLAB Data Store server system is installed on the following platforms:

- Windows 2008 R2 SP1 (English, Chinese, and Japanese)
- MS SQL Server 2008 R2 SP1

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. 11.1

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 SP1 Express (32-bit) Installed with product
- SQL Server 2008 R2 SP1 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.

OpenLAB CDS systems using a Data Store storage type are only supported on SQL Server 2008 R2 Standard or Enterprise (64-bit) with Service Pack 1.

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. We will support vSphere 4.x and vSphere 5.x software for host machines. See Network Requirements guide 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.x and 6.x.

Other software

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

- Microsoft.Net Framework 3.5 with Service Pack 1
  or
  Microsoft.Net Framework 4.0 (required for OpenLAB Data Analysis)
- Windows Installer 4.5 (required for SQL Installations on Shared Servers and platform updates)
- Adobe Flash must be installed in order to view all graphic features of the Data Store user interface.
- In order to view site prep or administrative reports (such as system reports), or to use the new Report Viewer Feature (ChemStation Edition only) you need version XI of Adobe PDF reader.
- If a PDF reader is not installed on your system, you can install Adobe Reader from the OpenLAB CDS installation DVDs. It is available on *Disk1\Tools\Adobe Reader* in 4 language versions (English, Japanese, Chinese and Portuguese).
- For Data Store with Lab Applications, Java Runtime Environment Revision 7 Update 7 must be installed separately. It is provided on *Disk1\Tools*.

Language compatibility

EZChrom Edition

The English version of OpenLAB CDS EZChrom Edition is validated on Windows English and Western European language operating systems.

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

- Chinese: Simsun
- Japanese: MS UI Gothic
- Brazilian Portuguese: MS Sans Serif (Workstations only)

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

ChemStation Edition

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

- Chinese: Simsun
- Japanese: MS UI Gothic

ChemStation Edition Agilent Instrument Controllers (AICs) and their clients are supported only on English operating systems.

Data Analysis

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

- Chinese: Simsun
- Japanese: MS UI Gothic

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 PAL 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: 60 min, 10 Hz, 2 channel data ~600 Kb
- 3D data: 60 min, 10 Hz, 5 channel plus spectra at 1nm resolution from 200-400 nm ~300 Mb

www.agilent.com

Printed in USA
June 2013

M8301-90044

Agilent Technologies