

Agilent OpenLAB Chromatography Data System (CDS)

ChemStation Edition AIC
(M8304AA) Setup Guide



Agilent Technologies

Notices

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Manual Part Number

M8304-90002

Edition

01/2015

Printed in Germany

Agilent Technologies
Hewlett-Packard-Strasse 8
76337 Waldbronn

Revision

This guide is valid for the server hardware ML350p.

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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.

In this Guide ...

This document details the necessary configuration steps to deploy the server hardware ML350p as an OpenLAB CDS ChemStation AIC (P/N for the bundle: M8304AA).

Table 1 Terms and abbreviations used in this document

Term	Description
ChemStation	OpenLAB CDS ChemStation Edition
AIC	Agilent Instrument Controller

1 Introduction and Specifications

This chapter contains information on Agilent Instrument Controllers that supports installation of OpenLAB CDS ChemStation Edition.

2 Operating System Installation

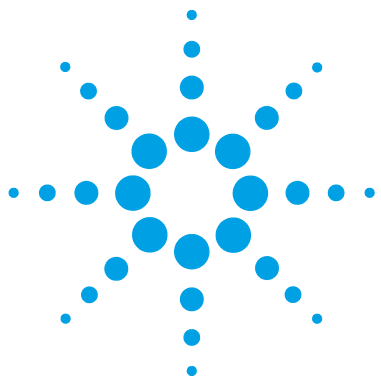
This chapter describes the installation of Windows Server 2012 R2.

3 Operating System Configuration

This chapter describes the configuration of Windows Server 2008 R2 SP1 or Windows Server 2012 R2.

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Introduction and Specifications

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This chapter contains information on Agilent Instrument Controllers that supports installation of OpenLAB CDS ChemStation Edition.

Introduction

The Agilent Instrument Controller is shipped as a bundle. The bundle includes an English installation of Windows Server 2012 R2. However, a ChemStation AIC can also run on Windows Server 2008 R2 SP1 and on Chinese or Japanese operating systems.

NOTE

The OpenLAB CDS ChemStation Instrument Controller software uses the Remote Desktop Services (RDS) role in Windows Server. The usage of this role requires, in addition to the server Client Access License (CAL), a Remote Desktop Services CAL (RDS CAL) to access any application or graphical user interface remotely hosted by Windows Server.

You must also have at least one Remote Desktop Services Licensing Server deployed and activated in your environment. A grace period of 120 days during which 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 *Understanding Remote Desktop Licensing* (<http://technet.microsoft.com/en-us/library/cc772298.aspx>).

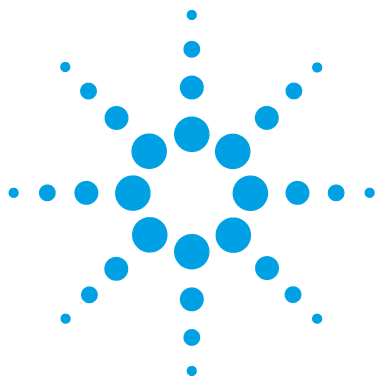


Server Hardware Specifications

Table 2 Specifications

AIC model	CPU	RAM	Hard disc
HP ProLiant ML350p Gen8 E5-2609v2 (P/N M8304AA)	2.5 GHz 2x Quad Core	24 GB	2x500 GB

With a ChemStation AIC, you can control up to ten instruments.



2 Operating System Installation

Installation of Windows Server 2012 R2

After booting up the server, a wizard walks you through interview questions to prepare the server for operating system installation. Follow the on-screen instructions to complete the Operating System installation.

- 1 Boot up the server.
- 2 Select **English** for the language of the operating system, and click → to proceed with the next step.
- 3 In the **Thank You** screen, click → to proceed with the next step.
- 4 Read and agree with the *Microsoft End-User License Agreement*, and click → to proceed with the next step.
- 5 Read and agree with the *HP End-User License Agreement*, click → to proceed with the next step.
- 6 In the OS Partition Screen, select **Custom (438742MB)**, and click → to proceed with the next step.



7 Provide and confirm an administrator password.

NOTE

Password policy:

- Cannot be less than 8 characters
- Cannot be more than 63 characters
- Must contain at least 3 of the 4 classes of characters
- Can only contain valid characters:
 - a-z
 - A-Z
 - 0-9
 - `~!@#\$%^&*()_+={}\\.\":'<>.,/
- Cannot contain username, first name or last name

Click → to proceed with the next step.

8 Read and agree with the *Microsoft Software License Terms* for Microsoft Windows Server.

9 In the operating system contents:

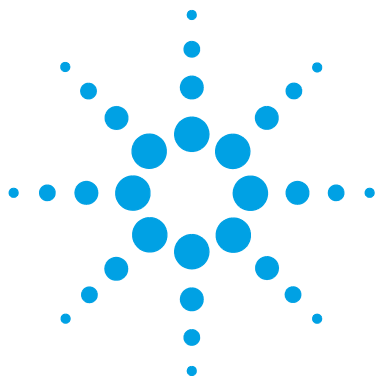
- a Review all settings.
- b Click → when you are ready to proceed with the installation.

NOTE

The server will reboot four times during the installation of the operating system and the HP Service Pack for ProLiant.

10 In Windows, set the timezone, date, and time as required for your location.

11 Confirm your settings.



3 Operating System Configuration

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This chapter describes the configuration of Windows Server 2008 R2 SP1 or Windows Server 2012 R2.



About Configuration

Logon to Microsoft Windows Server using the Administrator account and the password entered in the previous steps.

After you have completed the installation of Windows Server, and before you deploy the new server in your enterprise, some configuration is required to identify the computer to other computing resources on your network, to secure the computer, to enable administrators to perform tasks on the computer, and to customize the computer by adding server roles and features.

Initial Configuration Tasks for ChemStation AIC

You can finish configuring Windows Server by performing the following three tasks, identified in the Initial Configuration Tasks window that is opened when the operating system installation is complete.

- Provide computer information.
- Update this server.
- Customize this server.

NOTE

Windows Server 2008 R2: You can run OOBE.EXE to get back to Initial Configuration Tasks after selecting "Do not show this window at logon".

NOTE

If **User Account Control** (UAC) is switched on, some configuration steps will require active confirmation to continue.

Provide Computer Information

- 1 Activate Windows.
- 2 Set time zone.
- 3 Configure Networking.
- 4 Provide computer name and domain (if required).

Update This Server

- 1 Click on **Enable automatic updating and feedback**, and select **Manually configure settings**.
- 2 In Windows automatic updating section:
 - a Click the **change Setting...** button.
 - b Select **Never check for updates (not recommended)**.
- 3 In Windows Error Reporting:
 - a Click the **change Setting...** button.
 - b Select **I don't want to participate, and don't ask me again**, or leave the default option **Ask me about sending a report every time an error occurs**.
- 4 In the **Customer Experience Improvement Program** section, keep the default selection **Not participating**.
- 5 Click the **Close** button when finished.
- 6 Click **Download and install updates**.

NOTE

Your computer must have an available internet connection to download updates, or to configure Windows automatic updating.

NOTE

Do *not* download and install Internet Explorer 9, unless you use OpenLAB Data Store or OpenLAB ECM 3.4.1 only.

Customize This Server

NOTE

Adding roles, features and enabling Remote Desktop is not required at this stage. The OpenLAB CDS Master Installer will configure these items during the ChemStation Instrument Controller installation.

- 1** Configure Windows Firewall.
 - a** Click **Configure Windows Firewall**.
 - b** In the left pane, click **Allow a program or feature through Windows Firewall**.
 - c** Click **Change settings** . If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

NOTE

If the **Change settings** button is unavailable, you might not have permission to change some settings that are managed by your system administrator.

- d** Under **Allowed programs and features**, select the check box next to **Remote Desktop**, and then use the check boxes in the columns to select the network location types you want to allow communication on.
 - e** Click **OK**.
- 2** Click **Close** on the **Initial Configuration Tasks** window when finished.

Install Microsoft Hotfixes

For OpenLAB CDS ChemStation AIC, a memory leak in RDPShell.exe may cause significant performance decrease. A hot fix is available from Microsoft.

Prerequisites Applies to Windows Server 2008 R2 SP1

- 1 Always install hotfix KB2636613.
(<http://support.microsoft.com/kb/2636613/en-us>)

Configure the System

Configure the Second Hard Disk

- 1 Click  to open Server Manager.
- 2 Go to **Storage > Disk Management** and add Disk 1 to the configuration.
- 3 Right-click on CD-ROM 0.
 - a Select **Change Drive Letter and Paths**.
 - b Click the **Change** button and assign **F** as drive letter.
 - c Click **Yes** in the warning windows.
- 4 Right click on Disk 1.
 - a Select **New Simple Volume**, and click **Next**.
 - b Select **Max size 476937**, and click **Next**.
 - c Select **D** as drive letter, and click **Next**.
- 5 Format the disk with:
 - File System: **NTFS**
 - Allocation unit size: **Default**
 - Volume Label: **Data** (or any other label)
 - Select the **Perform Quick format** check box.

NOTE

For best disk performance make sure to install OpenLAB CDS ChemStation on this new D:\ partition. It separates the ChemStation raw data write processes from the Windows paging file and the operating system user's TEMP directory.

Disable Services

- 1 In Server Manager, go to **Configuration > Services**.
- 2 Stop the **Application Experience** service, set its startup type to disabled, and click **OK**.

NOTE

It is highly recommended to disable the **Application Experience** service. Otherwise it can sporadically happen that the instrument session is closed during a reconnect and ChemStation is shut down unexpectedly. This can result in a data loss when acquisition is ongoing.

By default, the start type **manual** is selected for the **Application Experience** service. To ensure that it does not get started accidentally, set the start type to **disabled**.

- 3 Stop the **Desktop Window Manager Session Manager** service, set its startup type to disabled, and click **OK**.
- 4 Close Server Manager.

Adjust the Screen for Best Performance

To set the visual effects to **Adjust for best performance**, add the following key to the registry:

```
[HKEY_CURRENT_USER\Software\Microsoft\Windows\
CurrentVersion\Explorer\VisualEffects]

"VisualFXSetting"=dword:00000002
```

The value 2 stands for **Adjust for best performance**.

Distribute the registry change to all users who connect to the AIC. You can, for example:

- Create a login script that silently runs the registry file. Use the syntax **regedit.exe /s [path of .reg file]**
- Use the Group Policy or System Policy. For more information, see the Microsoft web site <http://msdn2.microsoft.com/en-us/library/ms954395.aspx>.

Configure the Page File Size

When you set up a 64-bit version of Microsoft Windows Server, the operating system will create a page file that is auto managed (Automatically manage paging file size for all drives) in your computer.

For best performance, do not set the initial size to less than the minimum recommended size under **Total paging file size for all drives**. The recommended size is equivalent to 2 to 3 times the amount of RAM on your system. Usually, you should leave the paging file at its recommended size, although you might increase its size if you routinely use programs that require a lot of memory.

- 1** Open the Control Panel by clicking **Start > Control Panel > System and Security > System**.
- 2** Click **Advanced system settings**.
- 3** On the **Advanced** tab > **Performance** section, click the **Settings** button.
- 4** Select the **Advanced** tab.
- 5** In the **Virtual memory** section, click the **Change** button.
- 6** Adjust the page file size, and click **OK** to save your modifications.
- 7** Click **OK** to close the **System Properties** window.

For more information, please read the following article from Microsoft: *How to determine the appropriate page file size for 64-bit versions of Windows* (<http://support.microsoft.com/kb/2021748>).

NOTE

Changes made for the virtual memory require a restart of the computer before they can take effect.

Data Execution Prevention

- 1 Open the Control Panel by clicking **Start > Control Panel > System and Security > System**.
- 2 Click **Advanced system settings**.
- 3 On the **Advanced** tab > **Performance** section, click the **Settings** button.
- 4 Select the **Data Execution Prevention** tab.
- 5 Enable **Turn on DEP for essential Windows programs and services only**.
- 6 Click **OK** to close the performance options.
- 7 Click **OK** to close the **System Properties** window.

Configure the Power Options for the Computer

- 1 Open the Control Panel using **Start > Control Panel > System and Security > Power Options**.
- 2 Click **Change settings that are currently unavailable**.
- 3 Click **High performance**.
- 4 Click **Change Plan settings**.
- 5 Click **Change advanced power settings**.
- 6 Open the nodes for **Hard disk**, **Turn off hard disk after** and check that Minutes are set to 0 (=Never).
- 7 Click **OK**.
- 8 Save the changes.

Disable Power Management on the Network Adapter(s)

- 1 Open the Control Panel using **Start > Control Panel > System and Security > System**.
- 2 Click **Device Manager**.
- 3 Expand the **Network adapters** node.
- 4 Double-click the listed adapter(s), select the **Power Management** tab, and deselect **Allow the computer to turn off this device to save power**.
- 5 Click **OK** and close the **Device Manager** tool.
- 6 Restart the computer.

Disable File Indexing

- 1 Open the Control Panel using **Start > Control Panel > Indexing Options**¹.
- 2 Click the **Modify** button.
- 3 Clear all drives and locations.
- 4 Click **OK**.
- 5 Click **Close**.

NOTE

Changing the properties on thousands of files may last 15 min or more.

¹ View the items by icon to see a list of all items.

Configure Timeout and Reconnection Settings

- 1 Start the Local Group Policy Editor (**Start > search for 'gpedit.msc'**).
- 2 Navigate to **Local Computer Policy > Computer Configuration > Administrative Templates > Windows Components > Remote Desktop Services > Remote Desktop Session Host**.
- 3 Under **Session Time Limits**, enable the following settings and set all of them to **Never**:
 - Set time limit for disconnected sessions
 - Set the time limit for active Remote Desktop Services sessions
 - Set time limit for active but idle Remote Desktop Services sessions

These timeout and reconnection settings will take precedence over settings that have been configured for a specific user account.

In This Book

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01/2015



M8304-90002



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