Agilent OpenLAB Data Store

Hardware and Software Requirements
Notices

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Introduction

This document details the minimum hardware, software, and network requirements for supporting the Agilent OpenLAB Data Store A.01.03.

Hardware

Table 1 lists minimum and recommended hardware configurations.

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Minimum configuration for 1 ICP-MS system</th>
<th>Recommended for up to 5 ICP-MS systems</th>
<th>Recommended for up to 15 ICP-MS systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>1 × (Intel Xeon 2.0 GHz 4 Core)</td>
<td>2 × (Intel Xeon 2.0 GHz 4 Core) or 1 × (Intel Xeon 3.0 GHz 6 Core)</td>
<td>2 (3.0 GHz Xeon 4 Core)</td>
</tr>
<tr>
<td>Ram</td>
<td>12 GB</td>
<td>16 GB</td>
<td>24 GB</td>
</tr>
<tr>
<td>Disc (OS and software)</td>
<td>1 (100 GB 7.2 K rpm SATA)</td>
<td>2 (150 GB 7.2 K rpm SATA RAID 1)</td>
<td>2 (250 GB 15 K rpm SATA RAID 1)</td>
</tr>
<tr>
<td>Disk (Data)</td>
<td>2 (100 GB 7.2 K rpm SATA RAID 1)</td>
<td>3 (150 GB 7.2 K rpm SATA RAID 5)</td>
<td>3 (500 GB 7.2 K rpm SATA RAID 5)</td>
</tr>
<tr>
<td>Removable Media</td>
<td>DVD ROM (12×)</td>
<td>DVD ROM (12×)</td>
<td>DVD ROM (12×)</td>
</tr>
<tr>
<td>Network</td>
<td>1 GB</td>
<td>1 GB</td>
<td>1 GB</td>
</tr>
</tbody>
</table>
Software

Operating system

The OpenLAB Data Store A.01.03 server system is installed on Windows 2008 R2 SP1 (English, Chinese, and Japanese).

Licensing

Agilent OpenLAB Data Store 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 Data Store Server components.

Databases

Agilent OpenLAB Data Store manages information using a database. The database is installed and configured automatically during installation.

The following database software are supported:

- SQL Server 2008 R2 Standard or Enterprise (64-bit) (Windows 2008 Server R2 databases only)
- PostgreSQL Server 9.0
Other software

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

- Internet Explorer 9 (Active scripting needs to be enabled for accessing Data Store website)
- Windows Installer 4.5
- Adobe Flash Player
- PDF reader (You can install Adobe Reader from the OpenLAB Data Store installation DVDs).

Language compatibility

Localized versions of OpenLAB Data Store are supported on localized language versions of Windows, using default system fonts for English, Chinese, and Japanese.
OpenLAB Data Store uses standard TCP/IP protocols to communicate between the server and client computers. For optimum performance, the network must meet the design criteria for available bandwidth, IP address assignment, name resolution, and appropriate isolation of the lab subnet from the corporate network.

TCP/IP networking is required for all products. WANs (wide area networks) are not supported.

**LAN communications**

**Communication method**

Connect Data Store clients to the Data Store server using one of these LAN communication methods:

- Directly connect the instrument using a crossover CAT-5 cable
- Connect with an isolate switch (see “Network isolation”) using standard CAT-5 network cabling

Use 100/1000 mbps speed capable LAN communication hardware. Do not team LAN cards for system communications.

**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 instrument/components off to save power while sleeping or hibernating. To change the setting:

2. Select the Power Management tab.
3. Un-check Allow the computer to turn off this device to save power.
Firewall settings

If you are using a third party firewall or antivirus software on the network where OpenLAB Data Store is installed, open these firewall ports to allow communication between the system components of OpenLAB Data Store.

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

**Port 21**: Agilent OpenLAB Data Store FTP.

**Port 67 and 68**: used for the receipt and response, respectively, of BootP server communications.

**Port 80**: used by OpenLAB Data Store.

**Port 443**: Agilent OpenLAB Data Store HTTPS.

**Port 2886**: used for buffered upload and monitoring service.

**Port 3424**: used for the transfer of diagnostics information between system components and OpenLAB shared services.

**Port 6570**: (default) used for the active retrieval and release of product licenses.

**Port 6577**: used for the communications of all shared services related information. This includes instrument and run status, active trace data, and global communications.

**Port 8081**: used by Agilent OpenLAB Data Store support.

**Port 8084**: used by Agilent OpenLAB Licensing support.

**Ports 8085-8089**: used as an alternative to port 8084 if that port is in use by another page or process.

**Port 8090**: used to host the viewing page of current license grants and consumptions found in the OpenLAB Control Panel administration interface.

**Dynamic Ports**: used for temporary communications between clients. The ports used depend on the operating system in use and are configurable. Refer to the operating system documentation for more information.

The OpenLAB 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 within the networked OpenLAB Data Store system must reside within the same domain or have the appropriate cross domain trusts to allow name based communications between the client and server.

When installing OpenLAB Data Store on Microsoft Windows 7 or Microsoft Windows Server 2008 R2 systems, ensure that you are logged into the machine as a domain user that is a local administrator. This will allow the OpenLAB installer to apply network exceptions to the Windows firewall under the domain profile to result in a functional system.

The components necessary to support OpenLAB Data Store on a domain are:

- **Domain controller** - broadcasts the domain name and negotiates access to machines.
- **Domain name server (DNS)** - maintains records of what host names 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**

OpenLAB Data Store components may not be installed on the same machine as the domain controller.

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 solution. These include settings for:

- Lookup zones and hostnames
- Group and security policies
- Subnet masks and virtual LANs
Network isolation

An OpenLAB Data Store system should be isolated from network systems that experience frequent failures due to faulty switching, viruses, or worms. If network isolation is not possible, client computers should be reconfigured and disconnected from the problem network until these issues can be resolved. On an isolated network name resolution services must be hosted by a separate machine to enable proper communications between system components by name.

An isolated network is completely physically isolated, so that no LAN switch connections on the network are shared with the corporate network infrastructure. Figure 1 shows a simple client/server topology.

![Figure 1](Sample client/server topology: Network Isolation)