

CGM SCHUYLAB *Minimum System Requirements*

- Hardware and software must meet all requirements that apply to your CGM SCHUYLAB configuration. Check your proposal or contract to determine the specific items included with your system.
- This document assigns **minimum requirements**. They may need to be altered or increased to ensure optimal performance.
- The hardware and software described here does *not* constitute a catalog of items sold by CompuGroup Medical.

Servers and Workstations

- Mac OS® and hardware platform are *not* supported.
- A CGM SCHUYLAB server *cannot* function as the primary or backup domain controller.
- CGM SCHUYNET server, if applicable in your configuration, cannot be a "Server-Workstation" or "Workstation".

	Dedicated Server— 6 HDD (2U)	Dedicated Server—2 HDD	Server- Workstation	Virtual Server*	Workstation
Ideal Use	Large labs with 3 or more remote lab locations Single labs with more than 15 workstations More than 3 file-based analyzers	Mid-sized labs with 5-15 workstations Any lab with 2-3 file-based analyzers Facilities with 1-2 remote labs and 1 unidirectional analyzer connection per remote lab	Physician's office lab (POL) with low test volume This server connects to a max of 2 other workstations.	Client preference	All lab work
Processor	Intel® XEON® Silver 4112 Quad Core or equivalent	Intel® XEON® Quad Core E3-1230 v6 or equivalent	Ryzen™ 5 or equivalent	Intel® XEON® E2136 or equivalent 4 Cores assigned to LABDAQ/MS SQL	Ryzen™ 3 or equivalent
RAM	32GB	32GB	32GB	64GB— 32GB dedicated for MS SQL	8GB DDR4

	Dedicated Server— 6 HDD (2U)	Dedicated Server—2 HDD	Server- Workstation	Virtual Server*	Workstation
Storage	Six 1TB 7,200 RPM SAS hard disks, configured as three RAID-1 mirrored pairs	Two 1TB SATA 7,200 RPM hard disks, mirrored	1TB HDD	1TB— More if scanning 250GB for the OS partition Avoid RAID 5 or 6 due to write penalty	1TB hard disk
Operating System	Windows® Server 2016 Standard Edition, 16 Core	Windows® Server 2016 Standard Edition, 16 Core	Windows® 10 Pro	Windows Server 2016 Standard Edition, 16 Core	Windows® 10 Professional, 64-bit
Backup Device	Client responsible for backup device	Client responsible for backup device		300 GB partition for internal backups, plus a separate server backup	Not Required
Other Hardware	Uninterruptible Power Supply (UPS) Dual Power Supply	Uninterruptible Power Supply (UPS)			4-Port PCI Express Serial Card if connecting to analyzers Uninterruptible Power Supply (UPS)

*Virtual Server Notes

- Windows® Server 2016 Essentials Edition is *not* supported because it installs as a domain controller. Windows® Server 2019 Essentials Edition cannot be installed as a domain controller.

FairCom Database

FairCom Database Licensing

- Database licenses may only be used on one (1) machine at a time

DBA support for CGM-Provided FairCom Licenses

CGM will install the FairCom licenses for the dedicated CGM SCHUYLAB instance.

What is included in DBA support?

- Installation of the standard maintenance package for all CGM SCHUYLAB clients. **Custom options are not offered or supported.**
- Creation of scheduled tasks for database backups and common maintenance.
- Creation of the users and database; creation and maintenance of database structure.
- Database recovery in case of failure.
- Troubleshooting database-related errors and performance issues (as needed).
- Contacting FairCom or other vendors/third-parties on the client's behalf.
- Database updates/patches.

What is NOT included in DBA support?

- Monitoring the overall system health and security (user access, storage, disk health, etc.). This is the client's responsibility.
- Active performance monitoring and database reports.

Changes to database structure or configuration without CGM's approval will violate the DBA support agreement. If terms are violated, support of database will be terminated.

Other Requirements

- High-volume labs or labs with large CGM SCHUYLAB databases **may need more storage**. Consult your IT specialist for specifications.
- A high-speed internet connection is required for CGM Technical Support to access your system.
- CGM SCHUYLAB may recognize logins from the office domain only; any **VPN** network used for access **must connect to the office network's domain**.

Virtual Platforms

- CGM supports VMware and Microsoft Hyper-V virtual platforms. If you are already established on another platform, please discuss with a CGM representative.
- CGM-provided database licenses are not valid on cloud systems such as AWS or Azure.

Peripherals

Note: A high-speed, high-volume scanner may be required to convert large amounts of paper, including patient requisitions.

	Report Printers	Label Printers: 1-2 Workstations, 1 Site, No Orders via EMR	Label Printers: 3 or More Workstations OR Multiple Sites; Orders via EMR	Hand-Held Barcode Scanners	High-Speed Scanners
Recommended Hardware	Laser printer	DataMax M-Class 4206 Zebra GC420D	DataMax M-Class 4206 Zebra GC420D	High-performance linear image	TWAIN-compliant, high-speed, high-volume scanner manufactured by Canon, Fujitsu, or Ricoh
Interface	Local or Network	USB, serial, or Network (depending on printer)	Network	USB, Network, or Bluetooth	USB or Network
Other Requirements			Label printers required at both lab and remote sites		Resolution: 200dpi

Network (WAN)

- Dedicated, synchronous bandwidth, minimum of 5 Mbps point-to-point for up to 10 workstations at each remote site connected to the main laboratory
- Maximum average ping time of 20 milliseconds

Test Environment

A test environment, if specified in the contract, requires the following:

- One workstation with network to access test schema
- A license for CGM SCHUYLAB
- Remote access to the CGM SCHUYLAB server and test workstation by CGM personnel

System Security

At a minimum, maintaining required system security consists of:

- Secure network configuration
- Windows Updates *regularly installed*
- Protection measures against malware, viruses, and other malicious intrusions
- Restriction of personal use of CGM SCHUYLAB workstations—such as web browsing, email, social networking, media streaming (except for CGM educational videos)

Note: Anti-virus software may affect performance of CGM SCHUYLAB.

HL7 Integration

To complete an interface using the CGM SCHUYLAB Import/Export Application, the following is required:

- Contract with the third-party vendor supplying software or data requiring an HL7 interface
- An SFTP, VPN, or other link between the network supporting CGM SCHUYLAB and the HL7 interface

CGM SCHUYNET Requirements

If your configuration includes CGM SCHUYNET, below are the additional requirements for the CGM SCHUYNET server:

Server:

1. IIS Web Services must be installed.
2. Ports 80 and 443 must be open in Windows firewall.
3. The CGM SCHUYLAB database should not reside on the same server as CGM SCHUYNET.
4. You must have antivirus software installed on the server. You are responsible for the yearly renewal.
5. Windows Operating system must be kept up-to-date on all service patches.

High-Speed Internet:

1. High-Speed Internet access is required.
2. A static IP address is required.
3. Internet access from ISP must be continuous. We strongly recommend an ISP with 24/7 support.
4. You are responsible for the setup of your internet connection. You are required to provide all passwords, user accounts, IP addresses, and DNS information to CompuGroup Medical to facilitate the installation and maintenance of CGM SCHUYNET.
5. If there is a router or firewall installed, it is your responsibility to configure it properly and to insure that ports 80, 443, 5631, and 5632 are open.

SSL Certificate:

1. CompuGroup Medical provides an SSL certificate for your lab using the domain (labname).schuynet.net as part of the installation process. If you would like a different URL, you are welcome to purchase your own SSL certificate. Please contact us for details.

System Requirements Compliance

By signing below, you agree to adhere to the Minimum System Requirements prior to the installation of CGM SCHUYLAB software. Not meeting these requirements may impact performance and violate the CGM SCHUYLAB maintenance agreement.

Signatures

You

Signature

Printed Name

Title

Date

CGM LAB/CompuGroup Medical

Signature

Printed Name

Title

Date

