

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.
- SchuyNet Server, if applicable in your configuration, cannot be a "Server-Workstation" or "Workstation."

	Ideal Use	Processor	RAM	Storage	Operating System	Backup Device	Other Hardware
Dedicated Server— Scanning, 6 SSD 2U Xeon Gold	Large labs Any lab storing scans or attachments in SCHUYLAB. Can be paired with Interface Server to load balance	Gold Xeon 6230 2.1G, 20C/40T	128GB	1.2TB SSD SAS ISE x2 1.92TB SSD SAS ISE x4 (RAID-1)	Windows® Server 2022 Standard	Data Backup (Network) 1 TB NAS	Smart UPS – 6 HDD
Dedicated Server 4 SSD 2U Xeon Gold	15-30 Workstation labs with some level of attachments but not every requisition or result. Five or more HL7 interfaces. Can be paired with Interface Server to load balance database vs application	Gold Xeon 6230 2.1G, 20C/40T	128GB	1.6TB SSD SAS ISE x2 1.92TB SSD SAS ISE x2 (RAID-1)	Windows® Server 2022 Standard	Data Backup (Network) 1 TB NAS	Smart UPS – 6 HDD

	Ideal Use	Processor	RAM	Storage	Operating System	Backup Device	Other Hardware
Dedicated Server 4 SSD 2U Xeon Silver	10-20 Workstation labs with some level of attachments but not for every requisition or result	Intel Xeon Silver 4316 2.1G, 20C/40T	64GB	1.6TB SSD SAS ISE x4 (RAID-1)	Windows® Server 2022 Standard	Data Backup (Network) 1 TB NAS	Smart UPS – 6 HDD
Dedicated Server—2 SSD Tower	Mid-sized labs with 5-15 workstations Any lab with 2-3 file-based analyzers Facilities with 1-2 remote labs & 1 unidirectional analyzer connection per remote lab	Intel® XEON® E-2146G 6 Core or equivalent	64GB	Mirrored (2- 1TB SSD) & 250 GB NVMe M.2 Boot Drive	Windows® Server 2022 Standard	Data Backup (Network) 1 TB NAS	Smart UPS
Workstation-Server	Physician’s office lab (POL) with low test volume Connects to a max of 3 other workstations.	Ryzen™ 5 or equivalent	64GB	1TB SSD & 250GB NVMe M.2 Boot Drive	Windows® 11 Professional	USB HDD External	
Virtual Server	Client preference	Intel® XEON® E2136 or equivalent 4 Cores assigned to SCHUYLAB/MS SQL	64GB—32GB just for MS SQL	1TB— More if scanning 250GB for the OS partition Avoid RAID 5 or 6 due to write penalty	Windows® Server 2022 Standard	300 GB partition for internal backups + separate server backup	
Interface Server 2 SSD 2U	Lab with several HL7 interfaces—in addition to other Dedicated Server	Gold Xeon 5318Y 2.1G, 24C/48T	128GB	1.2TB SSD SAS ISE x2 (RAID-1)	Windows® Server 2022 Standard	Data Backup (Network) 1 TB NAS	Smart UPS – 6 HDD
Workstation	All lab work	AMD Ryzen™ 5 or equivalent	16GB DDR4	250GB NVMe M.2 Drive	Windows® 11 Professional	Not Required	4-Port PCI Express Serial Card if connecting to analyzers UPS

*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.

Virtual Hosted Environments

If you choose a virtual hosted environment for your server, reference **Servers and Workstations**, above, and configure your server based on the virtual server specifications.

We do **not** set up nor do we support configuration of your virtual hosted environment. **Note:** 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.

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 ANY cloud systems. This includes but is not limited to AWS, Azure and Google Cloud.

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.**
- Installation of manual backup script.
 - **Backing up and verifying backup data are the client's responsibility.**
- Creation of the users and database.
- 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.
- CGM does not support client networks or network hardware.

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 using commercial remote access software such as AnyDesk, Bomgar, and others.
- CGM SCHUYLAB may recognize logins from the office domain only; any **VPN** network used for access **must connect to the office network's domain**.

Peripherals

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

	Recommended Hardware	Interface	Other Requirements
Report Printers	Laser printer	Local or Network	
Label Printers: 1-2 Workstations, 1 Site, No Orders via EMR	Zebra ZD410 USB or Ethernet, Zebra GC 420, Zebra GK 420d Ethernet, Dymo 450, and GoDex DT2x are known to be compatible	USB, serial, or Network (depending on printer)	
Label Printers: 3 or More Workstations OR Multiple Sites; Orders via EMR	Zebra ZD410 Ethernet, Zebra GK 420d Ethernet, and GoDex DT2x are known to be compatible	Network	Label printers required at both lab and remote sites
Hand-Held Barcode Scanners	High-performance linear image	USB, Network, or Bluetooth	
High-Speed Scanners	TWAIN-compliant, high-speed, high-volume scanner manufactured by Canon, Fujitsu, or Ricoh	USB or Network	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 either containing a test schema or with network access to a test schema. The test schema cannot be connected to the SCHUYLAB production environment.
- A license for CGM SCHUYLAB Test Environment access (includes 1 Faircom C-tree License and 1 SCHUYLAB Workstation license). Additional licensing may be needed when connecting multiple workstations to the test environment.
- Remote access to the test workstation or server by CGM personnel using commercial remote access software such as AnyDesk, Bomgar, and others, to address support issues

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

SchuyNet Requirements

If your configuration includes SchuyNet, below are the additional requirements for the 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 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 Schuyler House to facilitate the installation and maintenance of 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 CGM 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 _____

