CGM LABDAQ v19.11 & Below *Minimum* System Requirements—Oracle

- Hardware and software must meet all requirements that apply to your CGM LABDAQ 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 LABDAQ server *cannot* function as the primary or backup domain controller.

	Dedicated Server—6 HDD (2U)	Dedicated Scanning 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	Large labs Any lab storing scans or attachments in LABDAQ	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® 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/Oracle	Ryzen™ 3 or equivalent
RAM	32GB	32GB	32GB	32GB	64GB—32GB dedicated for Oracle	8GB DDR4

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	Dedicated Server—6 HDD (2U)	Dedicated Scanning 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	Six 7,200 RPM SAS hard disks configured as three RAID-1 mirrored pairs: Two 1TB disks Two 2TB disks Two 4TB disks	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® 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	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) 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 and Windows® Server 2012 Essentials Edition are *not* supported because they install as a domain controller.
- A contract modification may be required to support a virtual server.

Oracle

Oracle Licensing

- ORACLE DATABASE LICENSING IS PROVIDED BY CGM.
  - CGM supports Oracle *only* when licenses are sold through CGM.
- CGM-provided licenses are not valid on cloud systems such as AWS or Azure.

Other Requirements

- High-volume labs, labs with large CGM LABDAQ databases, and labs that use advanced auditing or the scanning/attachments option, **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.

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.
- The virtual server hosting the Oracle database must have no more than 2 physical processors.
  - o Other resources, such as cores and storage, are *not* part of the licensing calculation.
- Automated live migration (V-motion) of the Oracle Database Virtual Server is not allowed unless additional Oracle licensing is purchased to cover all host nodes where it might migrate

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	Zebra ZD410 USB or Ethernet, Zebra GC 420, Zebra GK 420d Ethernet, and Dymo 450 are known to be compatible	Zebra ZD410 Ethernet and Zebra GK 420d Ethernet are known to be compatible	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

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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 LABDAQ
- Remote access to the CGM LABDAQ 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 LABDAQ workstations—such as web browsing, email, social networking, media streaming

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

HL7 Integration

To complete an interface using the CGM LABDAQ Import/Export Application, the following is required:
- Contract with the third-party vendor supplying software or data requiring an HL7 interface
- An SMTP, VPN, or other link between the network supporting CGM LABDAQ and the HL7 interface

CGM LABDAQ Physician-Office Lab (POL) Product Limitations

- The CGM LABDAQ POL product is limited to 4 CGM LABDAQ concurrent licenses. A fee-based conversion to CGM LABDAQ will be required for system additions/expansion. Some software modules are not available with CGM LABDAQ POL. Please contact CGM for details.

System Requirements Compliance

By signing below, You agree to maintain the above-mentioned software and hardware at its business in order to interact efficiently with CGM LABDAQ.

Signatures

You

Signature _____

Printed Name _____

Title _____

Date _____

CGM LAB/CompuGroup Medical

Signature _____

Printed Name _____

Title _____

Date _____

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