



Technical Guide



EMRlogic activEHR™ Technical Guide, version 1.0

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System Requirements

Server Requirements

The Caché database and activEHR application typically reside on the same server, except in large-site configurations. The requirement is for a dedicated server that does not fill any other roles on the network, e.g. domain controller, web server, terminal server, serving database applications other than activEHR, etc.

NOTE: InterSystems Caché operating in a virtualized environment may require greater systems resources than installations on physical hardware. Please call 866.623.5644 or contact your assigned Implementation Manager assistance when configuring such an environment.

Minimum Requirements

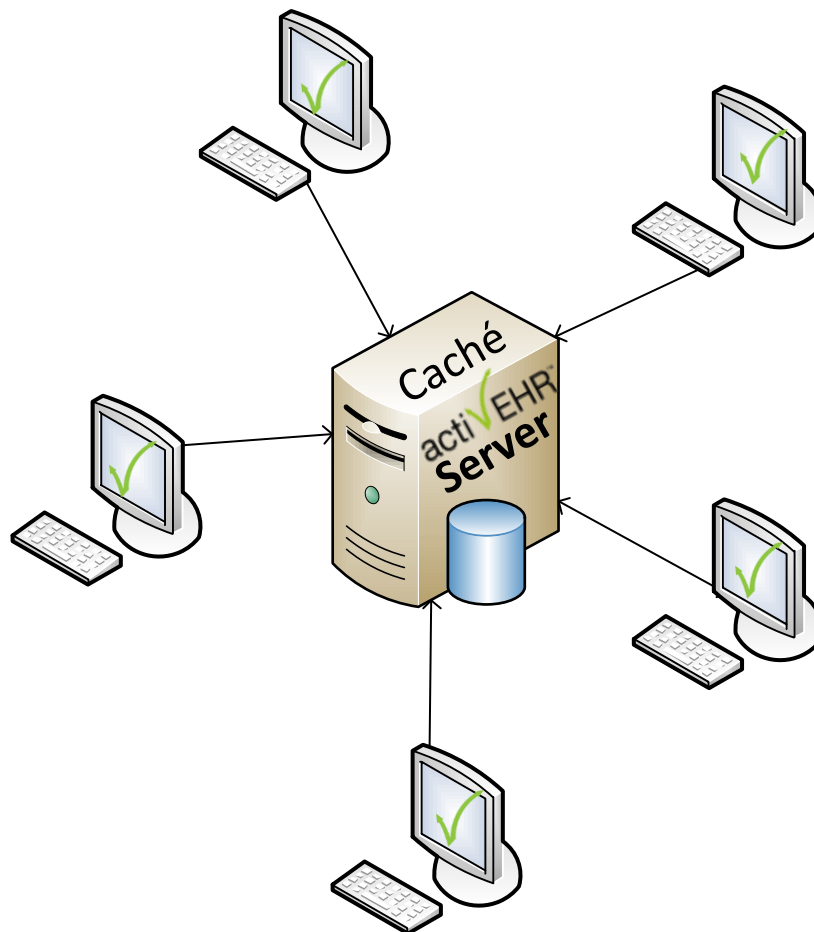
	Up to 12 workstations (single site)	Up to 25 workstations (single site)	Up to 50 workstations (single or multiple sites)	Over 50 workstations (multiple sites)
Operating System * Support for Windows Server 2003 ends December 2012	Windows Server 2008- SP2 and Server 2008 R2-SP1, Standard Edition 64-bit *Small Business Server editions are not supported	Windows Server 2008- SP2 and Server 2008 R2-SP1, Standard Edition 64-bit	Windows Server 2008- SP2 and Server 2008 R2-SP1, Standard Edition 64-bit *Compatible with Terminal Server & Citrix-based environments	Specifications to be determined following consultations with your IT professionals and EMRlogic Inc.
OS sub-components	<ul style="list-style-type: none"> Internet Explorer 9 .NET Framework 3.5.1 			
Processor	Dual CPU x 2 cores	Dual CPU x 4 cores	Dual CPU x 6 / 8 cores	
Memory	8 GB	16 GB	32 GB	
Storage	Approx. 1TB SATA – RAID 1 minimum 25% free space	Approx. 1TB SATA – RAID 1 minimum 25% free space	Approx. 1 TB SAS – RAID minimum 25% free space	
Image Storage	Variables impacting storage include: <ul style="list-style-type: none"> Image resolution and size Number of images taken per patient 			
Video Card	Locations running Terminal Services for multiple remote activEHR sessions will require a dedicated PCIe video card in the server for optimal performance			

Monitor	Wide-aspect monitor (for support & troubleshooting) capable of 1280x800 resolution	
Network Card	100 Mb Adapter	
Remote Support Tool	SecureLink Gatekeeper to be provided and installed by EMRlogic Systems at no cost to the customers	

Workstation Requirements

Client/Server Requirements

Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request. In the case of activEHR, the server hosts the Caché database program and the client(s) run the activEHR program. Logical client server configuration may appear as follows:

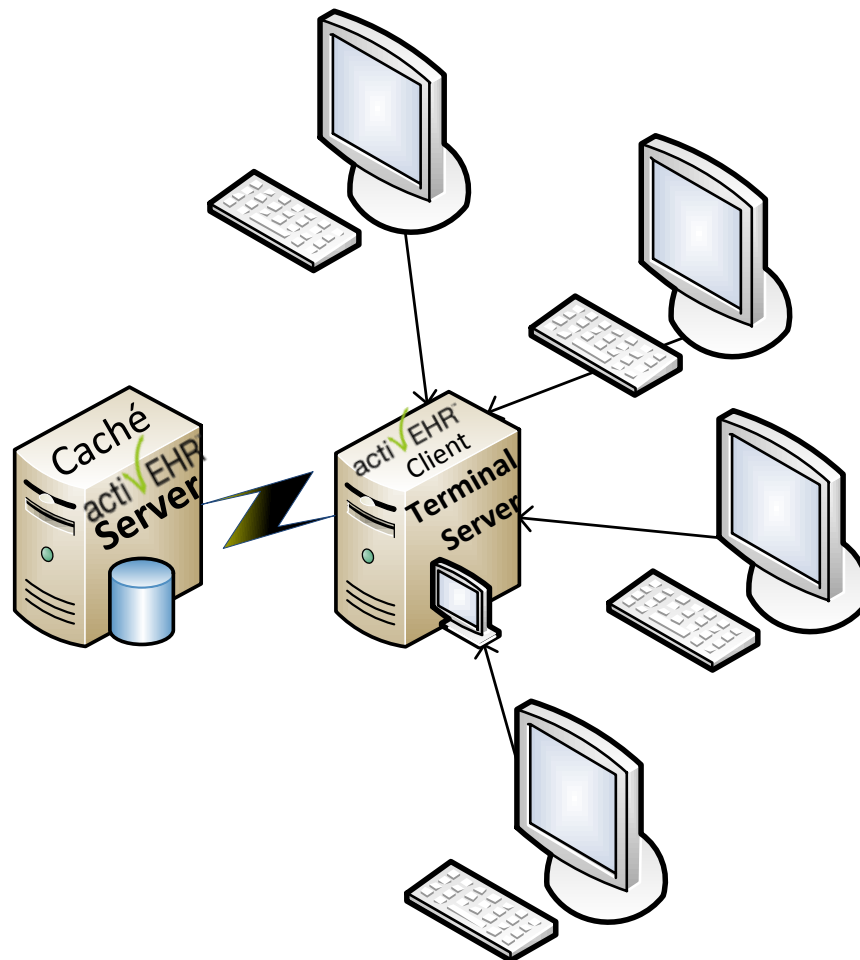


For accessing local Caché database from PC running activEHR

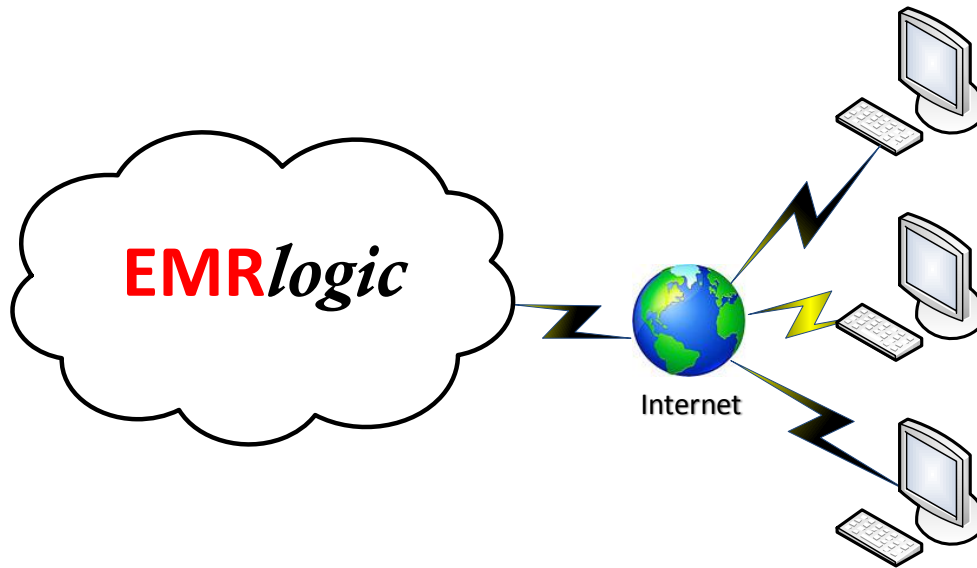
	Workstation or Laptop
Operating System	Windows 7 Professional/Ultimate (32 or 64-bit) .NET Framework 3.5 SP1 (minimum) * Support for Windows XP ends December 2012
Browser	Internet Explorer 9
Processor	Dual Core or greater
Memory	4 GB or greater
Storage	250 GB * Less than 25% free disk space will negatively impact workstation performance
Video Card	128 MB or greater
Monitor	Wide-aspect monitor capable of at least 1280x800 resolution
Network Card	100 Mb Adapter

Remote Desktop Requirements

For multi-site environments, the use of Terminal Server is required. In such an environment, the Caché database and activEHR application are hosted on a server running Terminal Services. Remote client PCs then connect via the Remote Desktop Protocol (RDP) to access activEHR. Only the screen and keyboard information is transmitted between the RDP client and the server. This logical 'thin client' environment will feature a Windows server running Terminal Services as well as the activEHR application. The configuration will appear as follows:



In the EMRcloud environment, the Caché database and Terminal Servers are presented as one logical entity. Customers connect via Remote Desktop over the Internet to EMRcloud. The logical EMRcloud configuration appears as follows:



Computer requirements for accessing a local Terminal Server / activEHR instance or EMRcloud from a PC via Remote Desktop are as follows:

	Workstation or Laptop
Operating System	Computers must meet the System Requirements for running Microsoft Remote Desktop Connection v7.0 (or higher) Supported OS version: Windows 7 SP1, Windows XP SP3, and Windows Vista SP2
Processor	Dual Core or greater
Memory	2 GB or greater
Monitor	16x9" Wide-aspect monitor capable of at least 1280 x 800 resolution
Network Card	10 Mb Adapter

Internet Requirements

Meeting the minimum requirements for Internet connectivity is necessary for proper operation of activEHR. VisionWeb and DrFirst subscribers require Internet to download lens information and/or transmit e-prescribing data. Sufficient connectivity speed and Internet reliability are also crucial for EMRlogic's Support Team's ability to provide remote support and timely updates for activEHR.

Customers with multi-site environments or EMRcloud users must adhere to the same Internet requirements. Failure to achieve adequate Internet bandwidth will impact application performance and reliability of data transfers from linked instruments.

An office or clinic can connect to the Internet through various means: DSL/cable modem, wireless LAN, or cellular network. Regardless of method, the connection must be capable of meeting or exceeding the following requirements:

	Single site	Multi-site
UPLOAD	0.5 Mbps (Mbps per second)	Requirement dependent. Contact EMRlogic Account Manager
DOWNLOAD	5 Mbps (Mbps per second)	

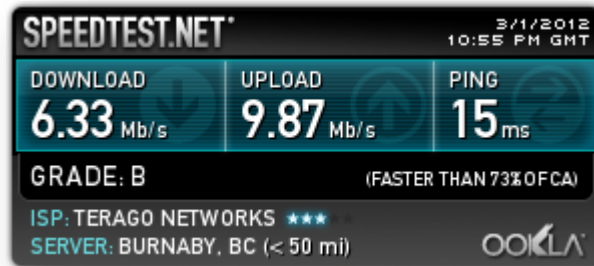
Measuring Internet Connectivity

A reliable and consistent measure of Internet performance can be derived from Speedtest.net. To measure performance:

- Connect to <http://www.speedtest.net>
- Select the host that is geographically closest to your location



- Speedtest will automatically begin testing PING, Download, and Upload response times
- Upon completion of the test, click the **SHARE THIS RESULT** button
- Click the **COPY** button to copy the URL of the test results
- In a new browser window or tab paste the copied URL (e.g. <http://www.speedtest.net/result/1807541264.png>)
- Right-click the image and select Copy. Paste the resulting image into a Word document for historical reference



- Due to the nature of the Internet, performance can vary, depending on many different factors. It is recommended that **3** tests be conducted to determine an average. Weekday tests at 9:00AM, 12:00PM, and 3:00PM (local time) are suggested times.

Interpreting Test Results

If tests results show that Internet connectivity speeds fail to meet the stated requirements, measures must be taken with your Internet Service Provider (ISP) to remedy the situation prior to implementing activEHR.

Workgroup / AD Domain

It is required that the Caché server and all thick-client activEHR workstations belong to the same Windows Workgroup or Active Directory Domain.

Remote Access Support

In order to provide professional remote support, EMRlogic requires remote access to the Caché database server and by-request remote desktop screen sharing at the customer site. To achieve this functionality, EMRlogic uses a highly robust, secure, HIPAA compliant product called SecureLink for remote support. SecureLink is used by leading healthcare facilities and IT Healthcare providers bound by HIPAA compliance, including our partner InterSystems. SecureLink is included as part of EMRlogic's professional services.

The benefits of **SecureLink** include the following:

- Email notification when *EMRlogic* disconnects after a session as well as a summary email with details of all activity will be sent to customer contact
- Quicker problem resolution times due to secure and easy connect features
- A detailed, real-time audit of all activity, down to an individual user
- Access without firewall change other security applications
- On-demand access granted and revoked by the customer

Note: If customers have a satisfactory remote access tool, SecureLink can be used in conjunction with that tool. For security reasons, all EMRlogic remote access will be conducted via SecureLink. To answer all questions or concerns, please contact the EMRlogic First Response Team at support@emrlogic.com

Peripherals Support

Card and barcode scanners must be certified to work with Windows 7. Additionally, card scanners must be TWAIN compliant and the current TWAIN driver installed. TWAIN is a standard software protocol and API that regulates communication between software applications and imaging devices. The latest Windows TWAIN driver, is available at <http://www.twain.org>.

Label Printers

Address Labels

The Dymo Labelwriter models 400 / 450 are fully compatible with activEHR. When a Dymo printer is connected, the system automatically prints the item number barcode. Dymo printer labels are not large enough to print a UPC barcode. When using the Dymo for printing address labels, use the ½" x 1" size.

Dymo Printers:

- Labelwriter 400 & Turbo 400
- Labelwriter 450 (all models)

Labels:

Multipurpose Labels ½" x 1" – Product # 30333 with Plastic Tags: OP-Tags – style No. 830 (suggestion – color ‘frosted’ available from Arch Crown)

Butterfly Labels & Rat Tail Labels

The Cognitive label printers are fully compatible with activEHR for printing “Butterfly Labels”. When a Cognitive printer is connected, the system automatically prints the UPC barcode if available; if the UPC barcode is not available, the system prints the item number barcode. When using the Cognitive printer for labels, use the 2.0" x 0.56" size.

Cognitive Printers:

- LBT24-2043-012 Cognitive Advantage 2.4" Label Printer LX, Thermal Transfer, Parallel Interface.
- DBT24-2085-00L Cognitive Advantage 2.4" Label Printer DLX Thermal Transfer, USB interface.

Cognitive Labels:

Butterfly Labels: (for scanning of SKU, or EMR item number)

- Thermal Transfer Ribbon
- 2.0" x 0.56" with 2665 labels per roll
- Item number: 03-02-1732

Rat Tail Labels: (for UPC scanning)

- 1.25x3 DT Vinyl Permanent RAT TAIL
- Item number (MFR Part No.): 03-02-3000

Barcode Scanners

activEHR can be configured to work with most programmable barcode scanners. Scanners must be able to set a prefix and suffix of a barcode. Symbol LS2208, Metrologic Bluetooth, and HHP ImageTeam scanners are fully compatible.

Symbol LS2208

LS 2208 – Barcode Scanner with USB interface. Part #: LS2208-SR20001R-UR

Metrologic Bluetooth

Metrologic Bluetooth MS9535 VoyagerBT

HHP ImageTeam

3800g – HHP IMAGETEAM 3800g General Purpose Linear Image Scanner (USB interface requires an optional USB interface cable mfg part #44206161-01E)

Scanner Configuration

When using scanners with activEHR, there are two possible configurations, depending on the screen you are using:

Configuration 1 (with ~% symbols)

- Spectacle Prescriptions View
- Barcode Scanning window

Configuration 2 (without ~% symbols)

- CL Prescriptions View
- Inventory Management pages

Please contact the First Response Support Team to have your barcode scanner configured according to your requirements.

Flat-bed Scanners

activEHR is compatible with any TWAIN compliant flat-bed scanner.

Recommendations when purchasing a scanner:

- Accommodates multi-page scanning
- Can output PDF and image files
- Minimum out of 300dpi

Installation Preparation

This section provides a pre-installation checklist to ensure a smooth implementation of activEHR.

- .NET Framework** Ensure Microsoft's .NET meets the level detailed in the Systems Requirements section
- Internet Explorer:** Ensure Microsoft's Internet Explorer meets the level detailed in the Systems Requirements section
- Java plug-in:** The latest version of Oracle's Java Runtime Edition (JRE), available at www.java.com needs to be installed on all machines
- Acrobat Reader:** The latest version of Adobe's Acrobat Reader, available at www.adobe.com needs to be installed on all machines
- Remote Access Account:** EMRlogic requires Remote Desktop access to the server(s) and workstation(s) where Caché and activEHR will be installed. The account must be called **emrlogic** and requires local administrator privileges.
- Shared Folder Access:** When using activEHR, network users must be able to browse and map to a shared folder. The installation process automatically creates this folder on the server. Prior to installing activEHR, we recommend that you test the share functionality by setting up a temporary shared folder on the server and ensuring that each workstation/user can map to the shared folder and can create, edit, rename or delete a file and/or folder in the same folder.
- Local Administrator Rights:** It is recommended that all users have local administrative rights on their workstations. It's a good idea to explain to each user how desktop and other settings can look different when separate user accounts are used to log into a commonly used workstation.
- Power Management:** Select a power plan for both server and workstation that optimizes performance, rather than energy savings. Power plans that focus on energy savings can suspend the operation of computer components such as the **wireless card** or **hard drive** thereby interrupting connectivity to the server or database. Change the settings as follows:
 Control Panel / Power Options / Select a power plan: **High performance**
- Windows Fast User Switching:** Fast User Switching is not supported
- Antivirus:** Following installation of activEHR and Caché, exclude the **C:\InterSystems** and **C:\ODProfessional** folders and their subfolders from antivirus real-time scanning on the database server.
- Screen Saver:** MUST be disabled from servers in a Terminal Server environment. Testing has found a bug that forces Windows PC clients to be prematurely disconnected from activEHR sessions when the screen saver on the server is enabled.
- Backup Process:** Ensure that you have proper backup procedures and practices to securely archive the C:\InterSystems, C:\ODprofessional, and C:\Digiversal folders.
- We recommend that your IT technician contact us to discuss this document in order to ensure a smooth implementation.**