

eClinicalWorks Network Specifications and Check List (11-10-11)

The following specifications are required before installation and go live.

Proper hardware and network configuration is crucial to the success of your eClinicalWorks system. The network (including the server, workstations, tablets, laptops, modems, analog phone lines, printers and scanners) must be fully installed before eClinicalWorks is installed.

The Hardware Requirements document states the minimum requirements needed for the network. The client should review this document with their IT specialist to ensure proper ordering or upgrading of equipment.

The items below are to be checked as completed. You will return completed and signed form to EaseMD.

Hardware

- The Hardware Specifications have been followed (see Hardware Specification document).

High Speed Internet

- Internet service must have a fixed public IP address.
- High-Speed internet is available at all locations. For example: DSL, Cable Mode, T1, or T3 (eClinicalWorks will not be able to install via dial-up)
- Upload/Download speeds need to be sufficient for eClinicalWorks to remotely work on the network and download large files. Refer to table below for recommended network speeds:

Nos. of Concurrent Users (sharing this connection)	Recommended Upload Speed	Recommended Download Speed
1 - 10 Concurrent Users	512Kb/s	512Kb/s
11 - 20 Concurrent Users	768Kb/s	768Kb/s
21 - 30 Concurrent Users	1024Kb/s	1024Kb/s

Fax Line, Server, and Modem

- Analog fax line(s) is installed with no in-line filters or surge protectors.
- Fax line(s) is direct to phone company. Fax line does not run through digital switches (such as a hospital's switch).
- Fax line is dedicated. Fax line is not shared with manual fax machine. Fax line is not shared as DSL line.
- Fax box- PC (see hardware specs) has no other applications running and no other use. (See detail about fax installation on main server further down this section)

- The FaxBox **requires an internal "MAINPINE IQ EXPRESS MODEM"**. The Mainpine IQ Express modem is available in 1, 2, 4 or 8 ports. For further details go to

<http://www.data-tech.com/products/hardware.aspx>

*A PCIe slot is required in the computer to be used for faxing

- Fax Box is logged in as administrator (and should always remain under this user login).
- No printer or scanner drivers are installed on fax Box.
- TightVNC Server is installed on fax box. <http://www.tightvnc.com>. Password is set to: mobiledo. Install as service for automatic startup. Check that all computers can be connected to from the ECW server via TightVNC view – Fast Compression.
- Fax box has a fixed IP address.
- NOTE:** eClinicalWorks now uses MS Fax (Windows Fax and Scan in Windows Server 2008). This allows the Fax Server software to be installed on the Main Server. The following items must be completed to run the faxing solution from the main eClinicalWorks server
- Desktop Experience Feature installed (For faxing TIFF documents)
- Fax Server Role installed
- Additionally, on a Windows Server 2008 machine, User Access Control is set to never notify

Server

- Server is not installed with MS Small business server (**Standard Edition only**, See Hardware Specs). Latest specs require **Windows Server 2008 64-bit**
- If running a VPN, VPN is not software driven on server, VPN is initiated by separate router.
- Server is not running Microsoft VPN services or Microsoft Remote Access, or Remote Access Connection Manager.
- IP address is assigned. Suggested IP address: 192.168.1.50
- Server name is assigned. Suggested server name: ecwserver
- Domain is established. Suggested domain name: ecw (**Domain not required**)
- Server is enabled for Remote Desktop Connection (at least until after installation and training)
- DNS forwarding is setup. Primary DNS is server LAN IP address (192.168.1.50)
- TightVNC Server is installed on server. <http://www.tightvnc.com>. Password is set to: mobiledoc. Install as service for automatic startup. (Current version of Tight VNC will only allow a password of 8 characters, we are aware that it will truncate mobiledoc to mobildo)
- Microsoft Word should be installed on server whenever possible, as well.
- User Access Controls set to Never Notify

Workstation Computers and Portable Computers

- Microsoft Word is installed on all computers of users that will use eCW's letter and billing capabilities. Word is activated using Key Codes.
MODI should be installed/active for TIFs.
- TightVNC Server is installed on each computer. <http://www.tightvnc.com>. Password is set to: mobiledo. Install as service for automatic startup. Check that all computers can be connected to from the ECW server via TightVNC view – Fast Compression.
- Each Windows User must have Full Admin Rights to the local PC C:eClinicalWorks folder.
- Screen savers are removed, Monitors are set on for two hours under AC power. Hard drives set to never power down. System standby set to never. Hibernation is turned off.
- Remove unnecessary programs and downloaded gadgets/tools.
- Control Panel Firewall is turned off or exception is made for TightVNC.
- All workstations have printers installed.
- Workstations running Windows Vista or Windows 7 must have User Account Control set to never notify
- IE 9, TOOLS> Internet options> Browsing History> CHECK "delete", then go to SETTINGS> Check EVERYTIME I visit web page.

Scanners

- Scanner TWAIN Drivers are installed on relevant computers. See hardware spec sheet.
Combo scanner/fax/printer doesn't work.

Firewall/Router

- Open port 3389. Port forwarded to the IP address of the server (192.168.1.50).
- The following ports are closed: 4928 (MYSQL) and 8080 (Tomcat)
- Firewall is configured to allow FTP downloads and uploads (for support and installation).

Java Plug-Ins

- The latest Java Plug-in is installed on all computers and server. Available from http://www.java.com/en/download/windows_automatic.jsp

Network

- All PCs are joined to the domain (if domain is present)
- Printers are installed via TCP/IP protocol. Load drivers on individual pc's (not shared from server or any pc).
- Wireless access point is compliant with hardware specifications.
- Wireless survey complete and successful. "Did you check in EXAM room with door CLOSED"?

Remote Connection Options

Some practices have multiple locations or would like to access eClinicalWorks from home. A VPN connection is recommended if the practice has multiple locations but there are other options if wanting to access from home. The following are some options to consider:

• VPN (Virtual Private Network) is a way to connect from location to location over Internet in a secure manner. There are several ways to accomplish this. The following options would provide remote access:

Hardware VPN connections

- Static IP address
- Inexpensive hardware & easy to configure the routers
- Requires VPN Router at each location

Server Hardware & Client Software Connection

- Static IP Address
- Only one VPN router installed at main location
- Client uses software to connect
- Can connect securely from any location with just an internet connection
- CISCO VPN Routers with 10 client licenses (depending on how many users)

• Remote Desktop Connection

- Static IP Address
- A port should be open (3389)
- Connection is secure
- Cannot use full features of the product like scanning, document attachment
- It is part of the operating system

• VNC

- It is similar to Remote Desktop Connection
- Uses very Low bandwidth
- Easy to setup and use
- Really very thin client
- VNC must be installed on the server & all client workstations at the main and remote locations

Backup of Patient Data:

All practice should review and check your back up data to see if:

- The backup is running regularly?
- The backup is “capturing” all the correct data?
- AND, the data can be RESTORED in a quick and usable format?

The following directories are required for backup:

- Datadrive:\eClinicalWorks\mySQL\data\mobiledoc (database)
- Datadrive:\eClinicalWorks\FTP (contains all documents attached patients)
- Datadrive:\eclinicalworks\tomcat\webapps\mobiledoc
 - (contains xml files that customizes the software for the practice)

Email to josiahspann@easemd.com:

- Name, phone number, and email address of technician performing setup services
- administrator name and password
- All IP addresses and names of devices on network
- WAN (external) static IP address
- Any approved exceptions
- Email this completed form, or fax it to 1-866-729-5795 ATTN: Josiah Spann

I have read and verified the above mandatory requirements are in place. I understand these network and hardware requirements are necessary for the installation to proceed as scheduled. If not installed properly, either installation and/or go-live will be delayed and additional charges may be incurred.

Practice representative signature

Date

Printed Name