



compulink ADVANTAGE™

Minimum and Recommended Hardware Requirements

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HARDWARE MINIMUM REQUIREMENTS

NOTE: The Charts below are only minimum system requirements, enhancements to these requirements will boost performance depending on the number of workstations, overall system and network configuration. If in doubt, check with your IT consultant or **Compulink** IT support staff at (800) 888-8075.

******Although Compulink clients are using Windows 8 and Windows 2012, Compulink only recommends operating systems after the release of the first Service Pack.******

Minimum Requirements: 1 to 9 users

SERVER		
	Minimum	Recommended
Processor	Intel Pentium 4 or higher <i>(processor speed will vary based on availability and office needs)</i>	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	80 GB EIDE – 7200 RPM <i>(Based on office needs. Contact IT Support for assistance)</i>	250 GB SATA – 7200 RPM – RAID 1 or 5 <i>(Based on office needs. Contact IT Support for assistance)</i>
Memory	1 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>	2 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>
Operating System	<ul style="list-style-type: none"> Windows XP(SP3) Professional & Ultimate Windows Vista Small Business/Ultimate Windows 7 Professional/Ultimate <i>(Note: These Operating Systems limit the number of network connections to 9)</i>	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows 2008 Foundation Windows Small Business Server 2003/2008/2011 (LAN ONLY)

Minimum Requirements: 10 to 25 users

SERVER		
	Minimum	Recommended
Processor	Intel Pentium 4 with 3.0 Ghz CPU <i>(processor speed will vary based on availability and office needs)</i>	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	250 GB EIDE – 7200 RPM <i>(Based on office needs. Contact IT Support for assistance)</i>	500 GB SATA – 7200 RPM – RAID 5 or 10* <i>(Based on office needs. Contact IT Support for assistance)</i>
Memory	2 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>	4 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>
Operating System	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) 	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY)

*RAID 10 is the best option for critical databases, although more costly

NOTE FOR LARGER SYSTEMS: For high availability, virtualization technology and Storage Area Networks are highly recommended by **Compulink**. It is also recommended that clients with a **large number of users** install and maintain a **redundant/test server** in their environment. The redundant server can be utilized for beta testing software upgrades prior to installation on the production server and serve as a redundant server in case the main production server is unavailable.

Minimum Requirements: 25 to 50 users

SERVER		
	Minimum	Recommended
Processor	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>	Intel Quad Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	250 GB EIDE – 7200 RPM <i>(Based on office needs. Contact IT Support for assistance)</i>	500 GB SATA - 7200 RPM - RAID 5 or 10* <i>(Based on office needs. Contact IT Support for assistance)</i>
Memory	3 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>	6 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>
Operating System	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) 	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) <u>A Redundant/Test Server</u>

*RAID 10 is the best option for critical databases, although more costly

Minimum Requirements: 50 to 100 users

SERVER		
	Minimum	Recommended
Processor	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>	Intel Quad Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	1000 GB EIDE – 7200 RPM <i>(Based on office needs. Contact IT Support for assistance)</i>	2000 GB SATA - 7200 RPM - RAID 5 or 10* <i>(Based on office needs. Contact IT Support for assistance)</i>
Memory	6 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>	8 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i> May increase with added EHR functions
Operating System	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) 	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) <u>A Redundant/Test Server</u>

*RAID 10 is the best option for critical databases, although more costly

Minimum Requirements: +100 users

SERVER		
	Minimum	Recommended
Processor	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>	Intel Xeon Dual/Quad Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	2000 GB EIDE – 7200 RPM <i>(Based on office needs. Contact IT Support for assistance)</i>	3000 GB SATA – 7200 RPM – RAID 10 <i>(Based on office needs. Contact IT Support for assistance)</i>
Memory	8 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i>	12 GB RAM <i>(Amount of RAM varies based on number of workstations and other server tasks)</i> May increase with added EHR functions
Operating System	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) 	<ul style="list-style-type: none"> Windows Server 2003(SP2) - 32/64 bit Windows Server 2008, 2008R2 - 32/64 bit Windows Small Business Server 2003/2008/2011 (LAN ONLY) <u>A Redundant/Test Server</u>

Minimum Requirements: Server and Workstation

WORKSTATION		
	Minimum	Recommended
Processor	Intel Pentium 4 or higher <i>(processor speed will vary based on availability and office needs)</i>	Intel Dual Core or higher <i>(processor speed will vary based on availability and office needs)</i>
Storage	40 GB EIDE - <i>(Size based on current market availability and office needs)</i>	80 GB SATA - <i>(Size based on current market availability and office needs)</i>
Memory	1 GB of SDRAM <i>(RAM requirements may vary based on number of tasks and applications)</i>	2 GB of SDRAM <i>(RAM requirements may vary based on number of tasks and applications)</i>
Operating System	Windows XP Professional (SP3) <i>(XP Home may be used for workgroups)</i>	Windows 7 Pro(SP1) <i>(may require more RAM)</i>

SERVER and WORKSTATION Components

Display	SXGA Adapter 1280 x 1024 or higher with minimum 16 bit Colors	SXGA Adapter 1280 x 1024 or higher with minimum 16 bit Colors
Network	100 Mbps Ethernet Network Interface Card (NIC) – Small Workgroups ONLY	1000 Mbps Ethernet Network Interface Card (NIC)
Removable Storage	CD-RW or 16X DVD-RW Server CD-ROM Workstation	CD-RW or 16X DVD-RW Server CD-ROM Workstation

Supported Peripherals

*For a list of recommended peripherals, please visit our [Recommended Peripherals](#) page.
If asked for login credentials, ask your COMPULINK representative for access.*

MOBILE DEVICES AND SUGGESTED WIRELESS SOLUTION

Compulink Advantage software has been tested and proven compatible with Tablets, Notebooks and Desktops using wireless connectivity while utilizing Terminal Services or Remote Desktop technology **ONLY**.

Wireless connections with direct connectivity to the Wireless Local Area Network (WLAN) are not supported. Implementing a wireless connection from the station hosting the databases and another station on the network could cause delay in packet delivery and result in performance issues, database disconnections and data corruption. The use of Windows Terminal Services, and similar products available from proprietary vendors, such as [Thinstuff](#), are necessary with low bandwidth environments.

Apple iPad - Compulink Advantage software supports the use of Apple devices such as iPad in RDP or Terminal Services mode **ONLY**. The use of proprietary applications such as [DELL Wyse PocketCloud](#) may be necessary to provide certain Windows functionalities such as 'right-click' in this type of environment.

NETWORK OPERATING SYSTEMS

Compulink Advantage has proven compatibility with the following 32 and 64 bit Network Operating Systems:

Windows XP Professional
Windows Vista Business and Ultimate *
Windows 7 Professional and Ultimate
Windows 8 Professional and Enterprise**
Windows 2003/2008/2008R2/2011 SBS (LAN ONLY)
Windows 2003/2008/2008R2* (LAN and WAN)**
Windows 2012**

- **Compulink Advantage** software is compatible with 64-bit operating systems; however, hardware manufacturers may not create drivers for this operating system to support your existing peripherals.
- **Compulink Advantage** software has been tested and is compatible with **Citrix Metaframe** using Windows Server environments.
- Using the compatible Operating Systems listed above is required on all workstations. Installation of Windows NT SERVER, Windows 2000, Windows Millennium (ME) or Windows 98 is not supported on any server or workstation. Clients with existing Windows XP Home, Vista Home and Windows 7 Home may use these operating systems only as a workstation and not in an Active Directory domain environment.

* Due to various issues with Windows Vista Operating Systems, Windows XP and 7 are highly recommended.

** **Compulink** does not officially recommend Operating Systems until the release of the first Service Pack.

*** Windows 2008 R2 used as a Terminal Server has known issues with running DLL based applications through a mapped drive in a Remote Desktop session. For more information, contact your Sales representative. If you are an existing **Compulink** client, you may email consult@compulinkadvantage.com.

COMPULINK does **NOT** install, recommend or support any versions of **Novell Netware**, **Linux** or **MAC OS** on the server or workstations and does not guarantee compatibility or reliability with any of **Compulink Advantage** products in these environments.

MAC OS

Compulink Advantage software only runs in a Windows environment. MACs can be used only by accessing a Windows Operating System through Terminal Services or Virtual Windows PC. Customer support is only available for troubleshooting the Terminal Services session environment.

HARDWARE INFORMATION - MISCELLANEOUS

PRINTERS

Compulink Advantage software utilizes printers that are properly setup in the Windows environment. A Test Page should be printed from within the Properties Sheet for that printer to confirm the printer's functionality prior to printing from **Compulink Advantage** software.

Some all-in-one (multi-function) INKJET printers/scanners are not compatible with **Compulink Advantage** software.

Compulink Advantage software has been tested successfully with the HP LaserJet and Dell Laser Black and White business printer line. It is recommended that basic printer driver language, such as PCL5 drivers are used.

Postscript and PCL6 drivers may cause printing issues in **Compulink Advantage** software. For generating labels, **Compulink Advantage** software has proven compatibility with Dymo Labelwriter 450 Turbo.

WIDE-AREA-NETWORK CLIENTS: Not all printers are compatible with Terminal Services and RDP protocol. Please consult the printer manufacturer's documentation.

SCANNING AND IMAGES - TWAIN LAN AND WAN DEVICES

Compulink Advantage software utilizes TWAIN compliant devices to capture and transfer images/data to the various sections of the patient's demographic screen or medical records. In most cases, the devices with a TWAIN data source file or ".ds" extension located in Windows "TWAIN_32" directory will enable **Compulink Advantage** software to acquire images from a TWAIN compliant device.

Due to the wide variety of devices and their associated drivers available on the market, it is impossible to guarantee which devices/peripherals will successfully work with Advantage software. **Compulink** recommends the use of peripherals that are tested and researched by our IT lab. Visit [Recommended Peripherals](#) for details.

Wide-Area-Network: Clients utilizing Windows 2008 or Windows 7 will not be able to utilize **Compulink's** remote scanning solution due to enhanced security. Third-party remote scan solution such as [TS SCAN from TerminalWorks](#) and [DELL RemoteScan](#) is recommended for such environments. Multi-page scanning is ONLY supported in wide-area-network environments with the use of third-party remote scanning solutions, regardless of operating system. Clients may also utilize various third-party solutions such as [Paperport](#) to export images as Multi-Page TIFF and use the import function in the Patient Demographic screen. Contact **Compulink's** IT department for any additional details.

Compulink recommends [DELL SonicWall](#) routers for Internet, VPN and Remote Desktop services connections.

WIRELESS AND REMOTE ACCESS (Wide-Area-Network)

To access **Compulink Advantage** software over the public INTERNET lines, wireless networks and/or a remote location, a VPN (virtual private network) is highly recommended.

Compulink Advantage software utilizes **Remote Desktop Protocol** to provide access to remote and wireless stations. Public Internet lines or wireless networks do not provide sufficient bandwidth to access the **Compulink Advantage** software. Virtual Private Networks such as Microsoft's L2TP/IPSec VPN Client and IPSec tunnels may be mandatory in the future for the security of patient health data.

RECOMMENDED NETWORK APPLIANCES

As more health care providers make patient information available over the Web and on wireless devices, security and patient privacy are a big concern. The Data Protection Act 1998 (DPA) requires "appropriate technical and organizational measures" to prevent "unauthorized or unlawful processing of personal data." **Compulink** recommends client use advanced network appliances to assist in protecting this information. Aside from the security software, Internet connectivity devices play a big role in securing a network from external threats.

Compulink recommends [DELL SonicWall](#) routers for Internet, VPN and Remote Desktop services connections.

For more details on VPN security, Remote access, Remote peripherals, see the full [Configuration Guide](#).