

INSTALLATION and CONFIGURATION GUIDE

FOR COMPULINK ADVANTAGE SOFTWARE (Revised 01/04/10)

PRE-REQUISITES

A Certified Network Professional, if not provided by Compulink, must install, be readily available and administer your network prior to, during and following your Compulink training. Installation and operability must include the following:

- Required and necessary Shared Resources active, i.e., servers, network, scanners and printers.
- Workstations mapped and/or redirected to appropriate shared resources on the server.
- File and Print Sharing from all applicable stations must be functioning prior to the arrival of Compulink Trainers.

HARDWARE MINIMUM REQUIREMENTS

NOTE: THE BELOW ARE ONLY MINIMUM SYSTEM REQUIREMENTS FOR A SMALL WORKGROUP. 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. Compulink IT support staff is also available to answer your IT questions. Contact Compulink IT support at (800) 888-8075.

Minimum Requirements 1 to 10 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 (Based on office needs, Contact IT support department for assistance) | 250 GB SATA - 7200 RPM - RAID 1 or 5 (Based on office needs, Contact IT support department for assistance) |
| Memory | 1000 MB of SDRAM <i>(amount of RAM varies based on the number of workstations and other server tasks)</i> | 2000 MB of SDRAM <i>(amount of RAM varies based on the number of workstations and other server tasks)</i> |
| Operating System | Windows XP Professional Windows Vista Business and Ultimate Windows 7 Professional & Ultimate (Please note: Workstation Operating Systems limit the number of network connections to 9) | Windows Server 2003 - 32 and 64-bit Windows Server 2008 - 32 and 64-bit Small Business Server 2003/2008 (LAN ONLY) |
| Workstation | | |
| Processor | Intel Pentium III 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 | 512 MB of SDRAM <i>(RAM requirements may vary based on the number of tasks and applications)</i> | 1000 MB of SDRAM <i>(RAM requirements may vary based on the number of tasks and applications)</i> |
| Operating System | Windows XP Professional <i>(XP Home may be used for workgroups)</i> | Windows XP Professional Vista Business (may require add. RAM) Windows 7 Pro. (may require add. RAM) |
| Server and Workstation | | |
| Display | SVGA Adapter 1024 x 768 or higher with minimum 256 Colors | SVGA Adapter 1280 x 1024 or higher with minimum 16 bit Colors |
| Network | 100 Mbps Ethernet Network Interface Card (NIC) | 1000 Mbps Ethernet Network Interface Card (NIC) |
| Removable Storage | 48X CD-RW or 16X DVD-RW Server 48X CD-ROM Workstation | 48X CD-RW or 16X DVD-RW Server 48X CD-ROM Workstation |
| (COMPULINK ADVANTAGE VERSION 8.0 OR HIGHER IS NOT SUPPORTED IN WINDOWS 9X) | | |

NETWORK OPERATING SYSTEMS

Compulink has proven compatibility with the following Network Operating Systems:

- **Windows Server 2003/2008 (LAN and WAN)**
- **Windows 2003/2008 64-bit SBS (LAN ONLY)**
- **Windows XP Professional**
- **Windows Vista Business and Ultimate**
- **Windows 7 Professional and Ultimate**

- Advantage software is compatible with 64-bit operating systems, however, many hardware manufacturers have elected not to create suitable hardware drivers for this operating system
- Compulink Advantage Software has been tested and is compatible with Citrix Metaframe using Windows Server environments.
- Using Windows XP Professional or Vista Business Operating System is required on all workstations. Installation of Windows NT SERVER, Windows Millennium (ME) or Windows 98 is not supported on any workstations! Clients with pre-existing Windows XP Home or Vista Home may use these Operating Systems as long as they are not used as the Acting Server and a domain environment.

COMPULINK DOES NOT INSTALL, RECOMMEND OR SUPPORT ANY VERSIONS OF NOVELL NETWARE OR LINUX ON THE SERVER AND DOES NOT GUARANTEE COMPATIBILITY OR RELIABILITY WITH ANY OF OUR ADVANTAGE PRODUCTS IN THESE ENVIRONMENTS.

INSTALLATION OF ADVANTAGE SOFTWARE FROM CD-ROM (GENERAL)

Compulink Advantage Software for Windows can be installed using the ADD/REMOVE PROGRAMS utility in the Windows Control Panel or with the RUN Command. Run the "INSTALL.EXE" from the Advantage CD if the AUTO-RUN function fails. Compulink software will be installed in the C:\... by default. It is recommended that our clients designate an exclusive partition or directory for storing the Advantage software since the contents of its share will be available to all users with full control. Once the installation has completed, a shortcut will be created on the desktop to launch the Advantage software on the server. Please see "Advantage software setup instruction" in this guide for details. **NOTE:** Advantage software does not edit the Windows registry and therefore its original installation folder can be moved without the need for reinstallation from the original CD.

DRIVE SHARING

In a Peer-to-Peer or client/server environment, one computer will act as the file server. This will be the computer where your Advantage software files and databases will be installed. The hard drive, partition or folder that contains the Advantage software in this machine will be shared with the others on the network with full access (Everyone, full control and System, full control). Do not share the folder that contains the Advantage files, i.e. EYECARE or EYEMD. Share only the root of the directory or partition where these folders reside. Multiple copies or copies saved on workstation local hard drives can possibly cause system errors.

COMPUTER NAMES and SHARE NAMES

SERVER NAMES CANNOT contain spaces or hyphens (-), (i.e., Front Computer or Front-Computer). The proper naming would be, "FRONTCOMPUTER" or "FRONT_COMPUTER".

DIRECTORY SHARED NAMES

SHARED NAMES CANNOT contain spaces or hyphens (-), (i.e., NET DRIVE or NET-DRIVE). The proper naming would be, "NETDRIVE" or "NET_DRIVE".

WIDE AREA NETWORK and WINDOWS TERMINAL SERVICES Requirements

COMPULINK ADVANTAGE SOFTWARE REQUIRES MICROSOFT WINDOWS 2003/2008 SERVER WITH TERMINAL SERVER IN APPLICATION MODE.

Accessing Advantage software from a remote location is only possible if Windows Remote Desktop Protocol (Terminal Services) is utilized. System Administrators must login as each individual user during the initial setup and set the environment for accessing Advantage software.

WIDE AREA NETWORK SPECIFICS: Recommended bandwidth per user: 30 kbps (note: up to 50/70 kbps may be required if the TWAINWAN solution is implemented). The general memory recommendation for servers running terminal services is a minimum of 50MB of memory per session. This requirement does not include any other application or the operating system's general RAM requirements. All sessions require a unique USER environmental variable of CBS and CBSWAN (where applicable).

WIDE AREA NETWORK and WINDOWS TERMINAL SERVICES Configuration

Adding the remote desktop users is similar to adding users to the LAN with the exception of environmental variables. Terminal Server session variables must be added using the **USER VARIABLE SECTION ONLY**. A unique variable must be set for each session. **DO NOT ADD THE “CBS” VARIABLE TO THE SYSTEM VARIABLE OF THE SERVER**. Once each variable is set, in each user profile/session, map a network drive to the share where the Compulink software resides and create a shortcut on the remote user’s desktop to launch the software. **ALWAYS USE A MAPPED DRIVE TO LAUNCH THE APPLICATION**, even on the server. It is recommended that all shortcuts have “read only” attributes so they do not resolve to the absolute root in case the network path and the mapped drive are temporarily unavailable.

If your office utilizes multiple locations, use the variable “**CBSWAN**” along with the correct variable value assigned to each location by Compulink. Adding CBSWAN will allow the users to set the respective location prior to the launch of the software. If all terminal server users are from the same location, it is possible to use the **SYSTEM VARIABLE** and set this variable globally. If the terminal server users use different locations codes, use the **USER VARIABLE** section. (Example CBSWAN=001 for main location, and CBSWAN=002 for the remote location.) The **CBSMOBILE** variable has been created for clients with staff members that move between offices and locations. This variable will allow users to enter the correct location code prior to the full launch of the Advantage Software. When **CBSMOBILE=Y** is in the environmental settings, the software will prompt the user to enter the **CBSWAN** and set the location code. **PLEASE NOTE: It is very important that each workstation (remote sessions or local) utilizes a unique environment variable. Duplicating variables will cause interruption in the software operation and serious data corruption. Microsoft Word must be installed on the server to allow Terminal Server users to merge patient data. Adobe Acrobat Reader is also required for printing reports.**

REMOTE PRINTING: All remote printers, including the Dymo label printers, must have an exact matching printer driver on the server and be registered as a known printer in the NTPRINT.INF file. Only printers created by the session will successfully print to Advantage Software. Compulink recommends using simple printer drivers such as PCL5 on all printers.

Questions regarding Wide Area Networks should be directed to: Cole Galbraith, MIS Director at: (800) 888-8075 or “cole@compulink-software.com”

SETUP INSTRUCTIONS FOR WINDOWS SERVER ENVIRONMENT

The following applies to server operating systems such as 2000, 2003 and 2008 Server or a workstation/server using XP Pro. or Vista Business

After the initial installation from the CD, Compulink recommends moving the product directory (i.e. **EYECARE, EYEMD, CHIRO, PT, etc.**) and the mail client software directory, **CBSMAIL**, to a directory named “**DATA**”. Data directory can be created on any available local drive with sufficient storage space (using the boot partition is not recommended). Share this directory as “**NETDRIVE**”. NETDRIVE share must have full access/control for **EVERYONE** and **SYSTEM**. Once shared, all stations launching the application, including the server, will map a network drive to the NETDRIVE share. **Caution:** Do not share the product folder. The incorrect mapping will prohibit the launch of the software.

SETUP INSTRUCTIONS FOR WINDOWS WORKSTATION ENVIRONMENT

On all workstations, map a network drive to the NETDRIVE share. Create a shortcut on the workstation’s desktop using the mapped drive to the product’s executable. Windows will assign the next available drive letter to the mapped drive. Compulink recommends using “**X**” as the drive letter. **PLEASE NOTE:** Advantage software will not function properly if the path to the product executable is using a UNC (UNIVERSAL NAMING CONVENTION.) Example of a **wrong** target in the shortcut properties: \\SERVERNAME\NETDRIVE\EYECARE\EYECARE.EXE. Example of a **correct** target: X:\EYECARE\EYECARE.EXE. The Frog icon is located in the product folder (EYECARE, EYEMD, PT, etc.). The file name for the icon is **PRODUCT.ICO**.

NOTE: ALL STATIONS, INCLUDING ANY REMOTE SESSIONS, MUST MAP TO THE SAME DRIVE LETTER. DO USE DIFFERENT DRIVE LETTERS TO LAUNCH THE PRODUCT.

In versions 9.0 and higher, the installation of Crystal Report’s client setup file and Adobe Acrobat Reader are required on all workstations. If patient’s data merge is utilized, Microsoft Word must be present on the workstation. For creating Microsoft’s XML templates when merging patient’s data, at least one workstation in the office must have Word 2007 installed.

ENVIRONMENT SETTING (AKA SET Statement) Windows XP and Server 2003

Advantage software utilizes the Environment Variables in the SYSTEM Properties to set a unique environment/ID for each user accessing the software. These variables are also referred to as “**SET STATEMENTS**.” To access the Environment Variables, navigate to the control panel, double click the system icon, choose the advanced tab and click on the Environment Variable button. To add a Global set statement, use the SYSTEM Variable (recommended on workstations only). Create a new variable using “CBS” as the Variable Name (without the quotation marks). For Variable Value type “X” (without the quotation marks). “X” represents a sequential alphabetical ID based on the number of Compulink licenses purchased (i.e., five licenses will allow you to use IDs ranging from A~E.)

ENVIRONMENTAL SETTING (AKA SET Statement) Windows Vista

Advantage software utilizes the Environmental Variables in the System Properties Window to set a unique environment/ID for each user accessing the software. These variables are also referred to as “**SET STATEMENTS**.” To access the Environment Variables, navigate to the control panel, double click the system icon (classic view), choose the **Advanced System Settings** in the menu and click on the Environment Variable button under the **Advanced** tab. To add a Global **SET** statement; use the SYSTEM Variable (recommended on workstations only). Create a new variable using “CBS” as the Variable Name (without the quotation marks). For Variable Value type “X” (without the quotation marks). “X” represents a sequential alphabetical ID based on the number of Compulink licenses purchased (i.e., five licenses will allow you to use IDs ranging from A~E.)

_____ Initials

GENERAL: ENVIRONMENTAL SETTING (AKA SET Statement)

THE VARIABLES MUST BE TYPED IN CAPITAL LETTERS.

Should your network exceed 26 workstations, use sequential double alpha IDs, beginning with AA for the 27th workstation, AB for the 28th, etc... It is important to assign the double alpha IDs in consecutive order within the range "AA to RZ".

CAUTION: IT IS VERY IMPORTANT THAT EACH WORKSTATION USES A UNIQUE ENVIRONMENTAL VARIABLE. SHARING VARIABLES WILL CAUSE INTERRUPTION IN THE SOFTWARE OPERATION AND DATA CORRUPTION.

MISCELLANEOUS INFORMATION

CABLING

Minimum of Category 5 or 5e Balanced 100 Ω cable and associated connecting hardware whose transmission characteristics are specified up to 100 MHz. On networks with more than 5 concurrent connections, 1000 Mbps bandwidth from the file server to the switch is recommended. Compulink does not supply, install or contract with any network cable installers. It is necessary that a professional and capable cable installer install your network cable prior to the arrival of your computer systems and your Compulink Trainer.

ELECTRICAL

Power fluctuation and outages are common; Compulink recommends the use of UPS (Uninterruptible Power Supply) on file servers and systems that store your data. Surge protectors are recommended for workstations.

BACKUP RECOMMENDATION

HOW MUCH IS YOUR DATA WORTH? Your Customer Care Team cannot stress enough the importance of performing daily backups. Many businesses fail to appreciate the importance of backing up vital data on a daily basis until it is too late. Valuable equipment is usually insured against fire, theft or other disasters. A current backup is the only insurance policy on your patient data. HIPAA Security Regulations dictate specific details as to how the electronic information used by the healthcare industry should be stored, transferred, and used to ensure the privacy of individually identifiable data related to a patient's healthcare. Your backup is your first defense against the loss of patient data.

- **A full backup of Compulink's Advantage folder (i.e. EYEMD, EYECARE, PT, PSYCH, etc.) must be performed daily. Differential, incremental or on-line (Internet) backup methods cannot be restored successfully and will lead to loss of data.**
- **IT IS IMPERATIVE THAT THE ADVANTAGE SOFTWARE IS NOT IN USE WHILE THE BACKUP IS BEING PERFORMED.** Contact Compulink's IT department regarding the available solutions for closing all open files prior to backup.
- Check the backup log often to make sure your daily scheduled backup is operating error free.
- Hard Drive Redundancy (RAID 5 or RAID 1) is highly recommended for data recovery on the file server.
- For quick and temporary access in case of a disaster, copy the data to a secure local workstation's hard drive or an external hard-drive daily. (Optional)
- For details regarding client data sent to Compulink for review, please visit the following URL:
<http://www.compulink-support.com/technotes/backupswecanreadsw200.htm>

PRINTERS

Compulink Advantage software utilizes printers that are properly setup in the Windows environment. Once printer drivers have been installed and the printer has been configured, a Test Page should be printed from within the Properties Sheet for that printer. If the Test Page has successfully completed, a test can be conducted from within your Advantage software. Some all-in-one (multi-function) printers/scanners are not compatible with Advantage software. Compulink software has been tested successfully and compatible with the HP LaserJet and Dell Laser printer line. It is recommended that basic printer driver language, such as PCL5 drivers are used. Postscript and PCL6 drivers may cause printing errors in Advantage software. **WAN CLIENTS:** Not all printers are compatible with Terminal Services and RDP. Please consult the printer manufacturer's documentation. For generating labels, Advantage software has proven compatibility with **Dymo Labelwriter 400 Turbo** in a WAN environment.

TWAIN DEVICES

Compulink software utilizes TWAIN compliant peripherals to capture and transfer images/data to the various sections of the patient's demographic screen. In most cases, the peripherals with "DEVICE SPECIFIC" file or ".ds" extension located in Windows "TWAIN_32" folder should allow Advantage software to acquire the image/data from the TWAIN source. Due to the wide variety of peripherals 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. A list of Compulink's recommended peripherals is available on the IT web site at: <http://www.compulink-support.com/faq.htm#peripherals>

Note: Multi-page scanning is not supported in wide-area-network environment due to bandwidth restrictions. In these environments, clients can utilize an import solution using the Paperport software. Contact Compulink's IT department for details.

_____ Initials

USERS AND GROUPS

Whether you are using Windows built-in groups or a new group created by the administrator, users of Compulink Advantage software must be granted Full Control/Access to the share where the application resides. If security is an issue, the network administrator can place restriction on all other shares on the network while granting Advantage users Full Control to Compulink’s “NETDRIVE” Share.

SECURITY AND ANTI-VIRUS SOLUTION

Compulink recommends Security and Anti-Virus solutions developed for business/corporate environments. Solutions made for home/home office users, such as Norton Anti-Virus 2009, are not designed for network applications such as Advantage software. It is imperative that your security solution provides an interface for proper configuration and unfiltered network packet delivery on the local area network. All security applications, such as Symantec Endpoint Protection, must be configured by a network professional to permit full access to Advantage software and all of its associated TCP/UDP ports.

The network scanning option MUST be disabled for all available Security and Anti-Virus programs. The content of the local drives are scanned and protected. Enabling the network drive scanning option will only cause latency and create lag time for users of the Advantage software.

***** IMPORTANT NOTES *****

- **Add the server to the Local Intranet Zone using the UNC name (e.g. [\\SERVER](#)). This option can be found in the Internet Options -> Security -> Local Intranet -> Sites -> Advanced. IE’s security may interfere with launching applications.**
- **The use of Sybase Database Management software may be required for any size network with excessive broadcast and traffic. Installation of Sybase Database Management software is mandatory for networks with 7 or more workstations or a wireless connection using Remote Desktop or Terminal Services.**
- All stations, including any remote sessions, must use a specific mapped drive letter such as “X”.
- Installing the most current Windows Service Packs, Critical Updates and Patches is highly recommended.
- When upgrading to Advantage 8.0 and higher, the image frame grabber must be upgraded if Image Advantage add-on is in use. This interface requires a TWAIN compliant image board/frame grabber.
- To avoid possible data corruption, it is REQUIRED that the NTFS File Allocation Table be used on the server if any of the workstations are utilizing NTFS.
- EMC and NEIC require an External Modem connected to 9 pin serial COM1 and/or COM2 Port
- Compulink has experienced difficulties with Keytronics brand keyboards. If you encounter abnormal behavior related to keyboard input with your copy of Advantage software, please consult with your systems supplier.

For additional information and troubleshooting during Compulink off hours, visit the IT support web site at:

<http://www.compulink-support.com>

Compulink provides these instructions as a guide to help insure a hassle free installation and operation. The support staff is available to assist with any questions and/or issues not covered in this guide.

I have read and understand the Installation and Configuration Guide for Compulink Advantage Software (6 pages). A copy of this guide has also been provided to my Network Professional. These instructions have been followed to the best of my knowledge and ability. I hereby release Compulink from any configurations implemented by this office other than what is stated here or recommended by Compulink:

Date: _____ / _____ / _____

Account Number: _____

Client’s Signature: _____ Print Your Name _____

IT Professional’s Signature: _____ Print Your Name _____

_____ Initials

WIRELESS LOCAL AREA NETWORKS (WLAN)

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 Elusiva, are necessary with low bandwidth environments.

Reliability

Like any radio frequency transmission, wireless networking signals are subject to a wide variety of interference.

Speed

The speed of a wireless network depends on several factors. Wireless standards, typically advertised at 1-108 Mbps, will transmit data at a fraction of a wired network (usually at 100 Mbps and up to several Gigabits per second). There are also performance issues caused by TCP and its built-in congestion avoidance. Implementing a Wireless Local Area Network (WLAN) should be limited **ONLY** to environments where wired connectivity is not an option.

Security

The "open air" nature of wireless radio signals poses challenges for securing wireless computer networks. Wireless radio signals broadcast through the air and are naturally easier to intercept. Signals from most wireless LANs pass through exterior walls and into nearby streets or parking lots. Strong encryption and wireless security is highly recommended by Compulink.

Requirements for setting up wireless environments are similar to the Wide Area Network which is outlined in the **WIDE AREA NETWORK and WINDOWS TERMINAL SERVICES Configuration** section on page 3 of this guide. For additional details regarding wireless networking, contact Compulink's IT department.

Please note: Installation of Sybase SQL Database Management software is mandatory for wireless connection using Remote Desktop or Terminal Services.

I have read and understand the Installation and Configuration Guide for Compulink Advantage Software in a Wireless Area Network. A copy of this guide has also been provided to my Network Professional. These instructions have been followed to the best of my knowledge and ability. I hereby release Compulink from any configurations implemented by this office other than what is stated here or recommended by Compulink:

Date: _____ / _____ / _____

Account Number: _____

Client's Signature: _____ Print Your Name _____

IT Professional's Signature: _____ Print Your Name _____

_____ Initials