

## INSTALLATION REQUIREMENTS and STANDARDS

### I. Introduction

ChartLogic, Inc. (CI) is dedicated to providing quality products with the best performance and user experience possible. To attain these goals, CI has implemented network infrastructure, hardware, and configuration requirements and standards. ChartLogic strongly recommends computer equipment be purchased through our IT Services group as all equipment is of the highest quality, configured and built for high performance and reliability and has been fully tested to work with all ChartLogic products and solutions.

ChartLogic software can be installed into basically three different scenarios or environments. Client/Server and Remote desktop/Thin client can also be installed into the same environment. The basic scenarios are:

- Client/Server
- Remote desktop/Thin client
- Hosted

All hardware, network infrastructure, and systems are the sole responsibility of the individual clinic. The following sections detail the MINIMUM requirements for components, systems, configuration and settings.

### II. General Network infrastructure requirements (all install scenarios)

- CAT5e network cabling for all office data communication.
- Minimum network bandwidth should be 100 Megabits/second (Mbs).
- ChartLogic servers must connect to the network at 1Gigabits/second (Gbs).
- TCP/IP networking protocol is required.
- Only Network switch devices should be installed into the network infrastructure, hub devices should not be installed within the network infrastructure.
- Any switch to switch connection must be a minimum of 1Gigabits/second (uplinks or trunks) and should not exceed 1 hop (switch to switch)
- ChartLogic servers should be assigned static-IP addresses.
- File, Print, and data sharing for Microsoft Networks should be installed on necessary systems.
- Each location must have high speed internet access for ChartLogic system support.
- Clinic network infrastructure should be protected from the internet with an enterprise grade firewall device.
- A network security policy should be implemented and followed. This policy should include firewall operations, virus, spyware, and malware protection and general operating and usage procedures.
- Wireless network options are an enhancement to a wired network, they should not be considered a replacement or alternate to a wired network infrastructure.
- 802.11g is required for wireless communications. (54Mb/s) A comprehensive wireless plan should be engineered, by qualified professionals, to include access point locations, proper antennas, and office environment considerations to attain peak wireless performance.
- WPA encryption is recommended. WEP should be the minimum security settings.
- ChartLogic servers may not connect to the network via a wireless connection.

### III. Additional network requirements by install scenario

- 1) Client/Server
  - a) A windows domain (active directory) should be configured when more than eight computers exist on a network.
  - b) All ChartLogic stations/users must have read/write access to all ChartLogic server shares.
  - c) All PrecisionVoice™ users must have local system administrator rights.
  - d) Multiple offices must be connected together via private or secure connections for replication.
- 2) Remote desktop/Thin client
  - a) A windows domain (active directory) is required.
  - b) A remote desktop services server is required.
- 3) Hosted
  - a) Must have internet access sufficient for users/clinic needs (512Kb+ min.)

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### IV. ChartLogic Servers

- All ChartLogic servers must be enterprise class server systems.
- ChartLogic database servers are to be dedicated to ChartLogic software products and configurations and should not provide any other functions to the network or users. This includes but is not limited to domain controllers, DHCP, DNS, file or print sharing, etc.
- Servers need to be build and configured properly by qualified personnel to meet the hardware and computing needs of the scenario they will be installed into.

#### Client/Server

- A dedicated SQL server is required at all locations.
- A dedicated SQL server may also be required for Document Management installations.
- Additional servers should be installed, as needed, for domain, file, print, applications, and other network functions.

#### Remote desktop/Thin client

- Servers need to be capable of hosting ChartLogic databases, remote desktop sessions, and data storage needs. This may require more than one server.
- Microsoft remote desktop services need to be installed and configured.

#### Document Management

- Dedicated SQL server for DM system in clinics with more than 25 users (additional server)
- SQL 2008 Standard Edition
- Windows Server 2003 or later required
- Dedicated data drive, separate from OS. Drive space should be at least 500GB RAID1
- IIS 6.0 or later required
- Not compatible with Exchange, or Small Business Server
- Dedicated to port 443 for SSL security
- No domain, print, file, etc. services may be installed on dedicated DM server

#### Hosted

- No on site servers are required.
- ✓ Server specification and configuration notes: (minimum)
  - ✓ Server specifications depend on clinic size, user count, and configurations.
  - ✓ Server class Intel dual or quad core Xeon processors 2+Ghz
  - ✓ 4GB RAM minimum.
  - ✓ HDD configured with RAID1 minimum, RAID5 w/hot spare is recommended.
  - ✓ 1Gb NIC
  - ✓ ChartLogic data drive must be fully shared.
  - ✓ Windows firewall, password complexity, and IE ESC should be disabled.
  - ✓ Backup solution and procedures should be followed.

### V. ChartLogic client systems

- Client\Server client systems should be business class systems (desktop, laptop, tablet)
  - ✓ Dual core 1+Ghz processor
  - ✓ 2GB RAM
  - ✓ 146+GB HDD
  - ✓ 100+Mb NIC
- Client systems specifications and configuration notes:
  - ✓ User account must have local administrator rights,
  - ✓ Windows firewall should be disabled.
  - ✓ Network discovery set to on in Vista.
  - ✓ Dragon Naturally Speaking must be installed on voice enabled systems.
  - ✓ ChartLogic client must be configured to use proper database path to database server.
- Hosted/Remote desktop
  - System capable of running Microsoft Windows XP pro (SP3) or higher (Vista, Windows7). RDP6.1 or higher and .net 3.5 must be installed on all systems connecting to the host.

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### VI. Software

- **Operating systems**
  - Microsoft Windows 2008 R2 standard server edition is required on all ChartLogic servers. (Windows small business server (SBS) edition is unacceptable for the database server and is not recommended to be installed on the network.)
  - Microsoft SQL 2008 server standard edition is required on all database servers.
  - Microsoft SQL 2008 server workgroup edition is required on all MobileDoc systems.
  - Microsoft Windows XP Pro edition (sp3), Vista business, Or Windows 7 Pro is required on all ChartLogic client systems.
  - Server and Client systems should be current with hardware and software updates including .net framework.
  - Microsoft Windows 7 Pro edition is required on all tablet computers.
  - Adequate Windows, SQL, and remote desktop licenses (CAL's) should be purchased; these are end user licenses and are the sole responsibility of the client to be in compliance with existing regulations and rules.
  - Windows Internet Explorer 6 or above is required on client systems connecting to the hosted environment.
  
- **ChartLogic**
  - Dragon SDK must be installed.
  - Dedicated CLADMIN account is required for SQL management and replication.
  
- **SQL**
  - Database engine and SQL server replication installed.
  - Client tools and backwards compatibility installed.
  - Basic management tools installed.
  - Database engine and server agent set to autostart.
  - Account provisioning set to mixed mode with current user (administrator) added.
  - ChartLogic database must be registered in SQL.
  - SQL backwards compatibility installed.
  - SQL script set to backup ChartLogic database daily.
  - Boost SQL priority in Windows.
  
- **Hosted**
  - ChartLogic installation/setup file (.msi) must be installed on all systems that will connect to the hosted site (installation file provided by CI)