

DENTRIX ENTERPRISE 11.0.2

SYSTEM REQUIREMENTS



Connect In A Meaningful Way

Dentrix Enterprise is a robust practice management software program that is designed to run seamlessly across a network, allowing users to share the same data throughout the enterprise, from the front desk to the operator at multiple locations, making everything available to every user at every workstation.

¹ Source: www.nnoha.org

Dentrix Enterprise is a powerful, feature-rich dental practice management solution for large community health centers, hospital-based dental clinics, large dental practice management groups, multi-location environments and dental schools—and is the leading electronic dental record (EDR) solution used in community health centers¹. Dentrix Enterprise provides a single centralized database with centralized scheduling, billing, insurance, collections and reporting including Uniform Data System (UDS) reports required at Federal level. Its multi-site logic manages any number of clinics and workstations with tight security features that provide instant access to network usage statistics via one main server—in real time!

The system requirements describe minimum and recommended standards for using Dentrix Enterprise 11.0.2. Exceeding the minimum standards may result in better system performance.

Dedicated Database Server

- Intel® Xeon CPU E3 v3 family or newer
 - Microsoft® SQL Server
 - Microsoft SQL Server 2016 with Service Pack 1 or later
 - Microsoft SQL Server 2017 with the latest updates
- Note:** To verify which versions of the Windows® Server operating system that a specific version of Microsoft SQL Server requires, refer to the system requirements of that Microsoft SQL Server version.
- A minimum of 8 GB RAM is recommended. For more than 30 concurrent users, additional RAM is strongly recommended.
 - Allow a minimum of 50 GB free Hard Drive space for the data file and 50 GB free space for transaction logs. A fault-tolerant RAID array is strongly recommended.
 - Virtual application servers: Has been certified to work with all major hypervisors, including VMware® vSphere and Microsoft Windows Server Hyper-V.
 - When running Dentrix Enterprise, memory has a major impact on your system performance. Using more than 8 GB of RAM in the server computer can noticeably improve performance.

Notes:

- Additional performance can be gained by having three physical arrays; one each for the operating system, data, and transaction log.
- The use of clustering with Microsoft SQL Server for a Dentrix Enterprise database is supported only with a failover cluster (active/passive clustering). Active/active or replication clustering is not supported.

THIN Client Application Server

- Intel Xeon CPU E3 v3 family or newer
- Operating system environments (with Terminal Server licenses activated):
 - Windows Server 2012 R2 64 bit with the latest updates
 - Windows Server 2016 with Service Pack 1 or later
 - Windows Server 2017 with the latest updates
 - Windows Server 2019 with the latest updatesCitrix® Presentation Server is supported.
Microsoft RemoteApp Presentation Server is supported.
- Virtual application servers: Has been certified to work with all major hypervisors, including VMware® vSphere and Microsoft Windows Server Hyper-V.
- Allow a minimum of 80 GB free hard drive space.
- Server must be Windows® 2012, 2016, or 2019 certified.
- When running Dentrix Enterprise, memory has a major impact on your system performance. Using more than 8 GB of RAM in the server computer can noticeably improve performance.

Note: Allow 1 CPU core and 4 GB of RAM for every 15 users.

HL7 Interface Server

Depending on the inbound and outbound HL7 traffic, Dentrix Enterprise HL7 interface can be installed on the database server for a smaller site with less than 20,000 HL7 messages per day. For larger sites, a dedicated HL7 server is highly recommended.

- Intel Xeon CPU E3 v3 family or newer with 4 cores. Adding parallel processing will require more cores and RAM to handle heavy message traffic.
- Operating system environments:
 - Windows Server 2012 R2 64 bit with the latest updates
 - Windows Server 2016 with Service Pack 1 or later
 - Windows Server 2017 with the latest updates
 - Windows Server 2019 with the latest updates
- Flash drive is highly recommended for HL7 interface server. Allow a minimum of 100GB for MSMQ and 300 GB free drive space for HL7 logs.
- When running Dentrix Enterprise HL7 interface, hard drive, CPU speed and memory size and speed have major impacts on your system performance. Using more than 32 GB of RAM on the server computer and flash storage can noticeably improve performance.

Workstation for Central Office, Remote Location, or THIN Client

- Intel Celeron CPU 1000 series or newer
- Operating system environments:
 - Windows 8.1 Professional 64 bit with update (*see note below)
 - Windows 10 Professional or Enterprise 64 bit with the latest updates (“N” editions are not supported)Home editions of the above operating systems are not supported.
- 4 GB RAM minimum, 8 GB RAM recommended.
- 20 GB or more of available disk space.

Notes:

- Mainstream support for Windows 8.1 has ended. Extended support for Windows 8.1 ends on January 10, 2023.
- For more information about Windows life cycles, see <https://support.microsoft.com/en-us/help/13853/windows-lifecycle-fact-sheet>.

Windows Theme

The background color of all Dentrix Enterprise windows is determined by your selected Windows theme (8.1, and 10).

Monitors

- A 15" or larger monitor with a 4:3 aspect ratio capable of displaying a resolution of 1152 x 864 or higher using 32-bit color (17" or larger recommended)
- A 15" or larger monitor with a 16:9 aspect ratio capable of displaying a resolution of 1600 x 900 or higher using 32-bit color (17" or larger recommended)
- For optimal viewing, select a higher quality monitor that has a dot pitch of 0.28mm or less, and a refresh rate of 72 Hz or higher at the resolution you plan to use.

Printers

For a typical office, Dentrix Enterprise recommends installation of 2 printers on the network: a laser printer for all forms, letters and reports, and a good color printer for tooth and perio chart printouts. Henry Schein Practice Solutions does not recommend using an inkjet printer as your primary printer. Choose a printer based on your clinic's demands—Every printer has a "page-per-minute" speed and an approximate number of pages per month which should be evaluated according to your clinic's needs. Henry Schein Practice Solutions cannot guarantee that all printers will be completely compatible with Dentrix Enterprise.

Note: HP universal print drivers are not supported.

Label Printers

Henry Schein Practice Solutions recommends using the Dymo Label Printer 450 Turbo for printing labels from Dentrix Enterprise.

Cameras and Scanners

The Dentrix Enterprise Document Center supports cameras and scanners that use TWAIN and WIA drivers. Cameras and scanners using DirectShow must use "Import from File" in the Dentrix Enterprise Document Center. ***Some scanners that claim to be 32-bit TWAIN-compliant are not.*** HSPS has had success with the HP ScanJet 5590 and Canon DR-3010C scanners. Other scanners that claim to be TWAIN/WIA compliant will probably work also, but HSPS cannot guarantee that all cameras and scanners claiming to be TWAIN/WIA compliant will be completely compatible with Dentrix Enterprise. Multi-function print/scan/copy machines are not recommended. Recommended resolution for scanning documents into the Document Center module should be kept to 600 DPI or less.

Note: If you are using Remote Desktop Services (RDS), third-party USB redirect software might be required to scan documents into the Dentrix Enterprise Document Center with a THIN client connection.

Signature Devices

- ePad
- ePad II
- ePad Vision

The use of these signature devices requires the installation of the Universal Installer and Integrisign Desktop software from ePadLink. For more information and software downloads, visit **www.epadsupport.com**.

Optional Software

- Dentrix Enterprise offers extensive letter-merge capabilities with Microsoft Word, which is part of the Microsoft Office suite. Microsoft Office 2010, 2013, 2016, and 365 are supported.
Note: Microsoft Office 365 requires a subscription, and the program files must be installed on the computer.
- Citrix Client (for THIN client)
- Crystal® Reports
- Anti-virus software is recommended on all computers but can affect individual system performance.
Please consult your hardware technician for recommended configuration options.

Backup

Tape drives are generally the least expensive backup option and are very reliable. Choose a reliable software package for backups. Separate backup tape units for each day of the week are recommended, plus one backup tape unit for monthly backups, which is stored off site.

Miscellaneous

- DoubleSpace® or other disk compression utilities should not be used.
- Future expandability is the key to successful hardware. Taking advantage of expansion options like voice activation, intraoral imaging, digital x-ray, multimedia, and others, usually requires an available expansion slot or USB ports in your computer. For each workstation, you should consider what options you might want in the future and purchase machines with sufficient expansion capability.
- Support for Internet Explorer® has ended. Some features of Dentrix Enterprise (such as ePrescribe, Patient Portal, and Patient Education) require an Internet browser. To avoid issues, set Google Chrome® or Microsoft Edge® as the default Internet browser for Windows.

Network Environments

Dentrix Enterprise is a robust practice management software program that is designed to run seamlessly across a network, allowing users to share the same data throughout the enterprise, from the front desk to the operator at multiple locations. Everything is available to every user at every workstation. It's important, however, to have powerful networking software and operating systems installed so that Dentrix Enterprise can perform at an optimal level.

1. **Bandwidth requirements:** Each LAN connection requires 100 Mb of bandwidth. Each WAN THIN client connection requires 50k of bandwidth. Each WAN FAT client (for image capture only) requires 250 – 350 k of bandwidth. (See note below regarding wireless networking.)
2. **Domain:** Windows 2012/2016/2019 Server.
3. **Network wiring:** Having your hardware installed properly is as important as choosing the proper network environment. About 90% of the time, network difficulties in a practice can be traced to improper cabling or other installation problems. Dentrix recommends having a hardware technician with MCSE and MSDBA certification install your hardware. Network wiring needs to be installed by a Certified Network Installer. Do not have an electrician or phone wiring professional install your network cables. Many computer stores may say they know how to install a network, but proper installation requires specialized training, not just general computer knowledge. Check your local area for a qualified installation technician. Instruct the installer to use 8-conductor, twisted pair, Category 5/6 wire with RJ45 connectors. The installer should be aware of x-ray equipment and fluorescent lights, as these can affect your network performance. All cable installed should be certified for use with at least 100 Mb network cards (instead of 10 Mb cards). Have all your wiring certified at that speed. Wiring is a critical component of your network take the necessary steps to assure the highest specifications are met. (See note below regarding wireless networking.)
4. **Power supply:** As part of your network installation, ask your installer to check the power input from electrical outlets throughout the office. Some buildings have a less reliable power supply that can cause network problems. For added protection, you may want to consider an uninterruptible power supply (UPS).

Notes:

- Dentrix Enterprise does not recommend and discourages FAT clients in a WAN environment unless it is necessary for image capture only. Once images are captured, users should switch to a THIN client session for all other work.
- WiFi or wireless networks may not provide sufficient performance or security and are not recommended.
- Your network is the circulatory system of your practice management system. We can't emphasize enough how important it is that a qualified technician properly installs all of your hardware. Your local Dentrix Enterprise representative can help you decide what you need to get started and may be able to recommend a reputable service provider to get your network up and running.

- For Dentrix Enterprise, there is a set of folders on the file server that contain common files that can be used by various features of the program. On the file server, you need a shared, writable folder where the Dentrix Enterprise installer can put a Data, a Docs, and an Eclaims (if applicable) folder. For more information about the writable folder, refer to the *Dentrix Enterprise 11.0.2 Installation Guide*. Give all users on all workstations read and write access to the shared, writable folder.
- Dentrix Enterprise is TLS 1.2 compliant.

API (for Third-party Integrations)

The Dentrix Enterprise API is a web service organized around REST. The Dentrix Enterprise API uses OAuth 2.0 protocol for simple, but effective, authentication and authorization.

1. **Next-gen Firewall:** Recommended for network security and to help you segment your network and whitelist IP addresses.

Note: A popular, free Next-gen firewall is OPNsense.

2. **Open Port and Whitelisted IP Addresses:** It is recommended that you segment your network so that the Node.js servers are in a de-militarized zone (DMZ). On the Next-gen firewall or load balancer, open port 443 for incoming traffic from the Apigee authentication server, and whitelist the authentication server's IP addresses: 35.171.251.129 and 18.211.62.25.

Important: A qualified network engineer should be engaged by you to perform any network enhancements. You (not Henry Schein One) are liable for any security vulnerabilities you may incur.

3. **Load Balancer:** Required for performance and reliability.

- Public facing
- Static IP address
- Round robin load balancing architecture (performing constant "health checks" on the Node.js servers)

Note: A popular, free load balancing software is Nginx.

4. **Web Application Firewall (WAF):** Recommended on the load balancer (but can be on the Node.js servers) for network security.

Note: A popular, free WAF is ModSecurity.

5. **Two (2) Node.js Servers:** Two physical computers or two virtual machines (running on separate physical computers) are required. The servers can be implemented behind your firewall; however, it is recommended that your network be segmented so that the Node.js servers are in an Internet-facing DMZ that is separate from your existing network. The Node.js servers must meet the following specifications:

- Any Microsoft-supported version of the Windows or Windows Server operating system
- Node.js (Contact Customer Service to install)
- 64-bit architecture
- 4 or more CPUs/cores
- 16 GB of Memory/RAM
- 80 GB of disk space
- Windows firewall port 443 open for inbound TCP traffic (for Dentrix Enterprise API not Node.js)

Important: Do not use the Dentrix Enterprise database server as a Node.js server.

Note: To verify the system requirements of the latest version of Node.js, refer to the Node.js documentation.

To discover how your organization can CONNECT IN A MEANINGFUL WAY please visit www.dentrixenterprise.com/connect or Call 1.800.DSCHEIN (1-800-372-4346).

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