

DENTRIX ENTERPRISE 11.0.49

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!

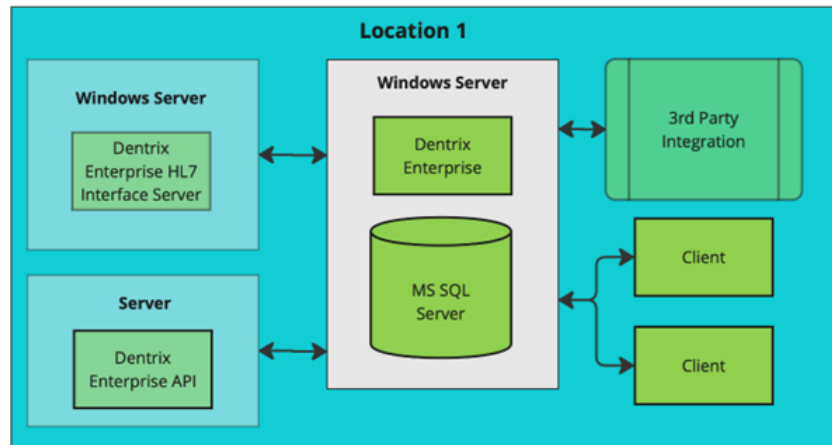
System requirements may vary depending on several factors, such as which features of Dentrix Enterprise are used, how much patient data will be stored, and how many concurrent users there are. The system requirements in this document describe the minimum standards for using Dentrix Enterprise 11.0.49. Exceeding the minimum standards may result in better system performance. However, a point of diminishing returns can be reached as you increase hardware resources. Even though available hardware can grow extremely fast with Server Virtualization, there is a point when a single host simply can no longer perform to certain standards, so multiple hosts, each with reduced hardware resources, will provide better performance.

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Architecture

Single Location (30 Concurrent Users Maximum)

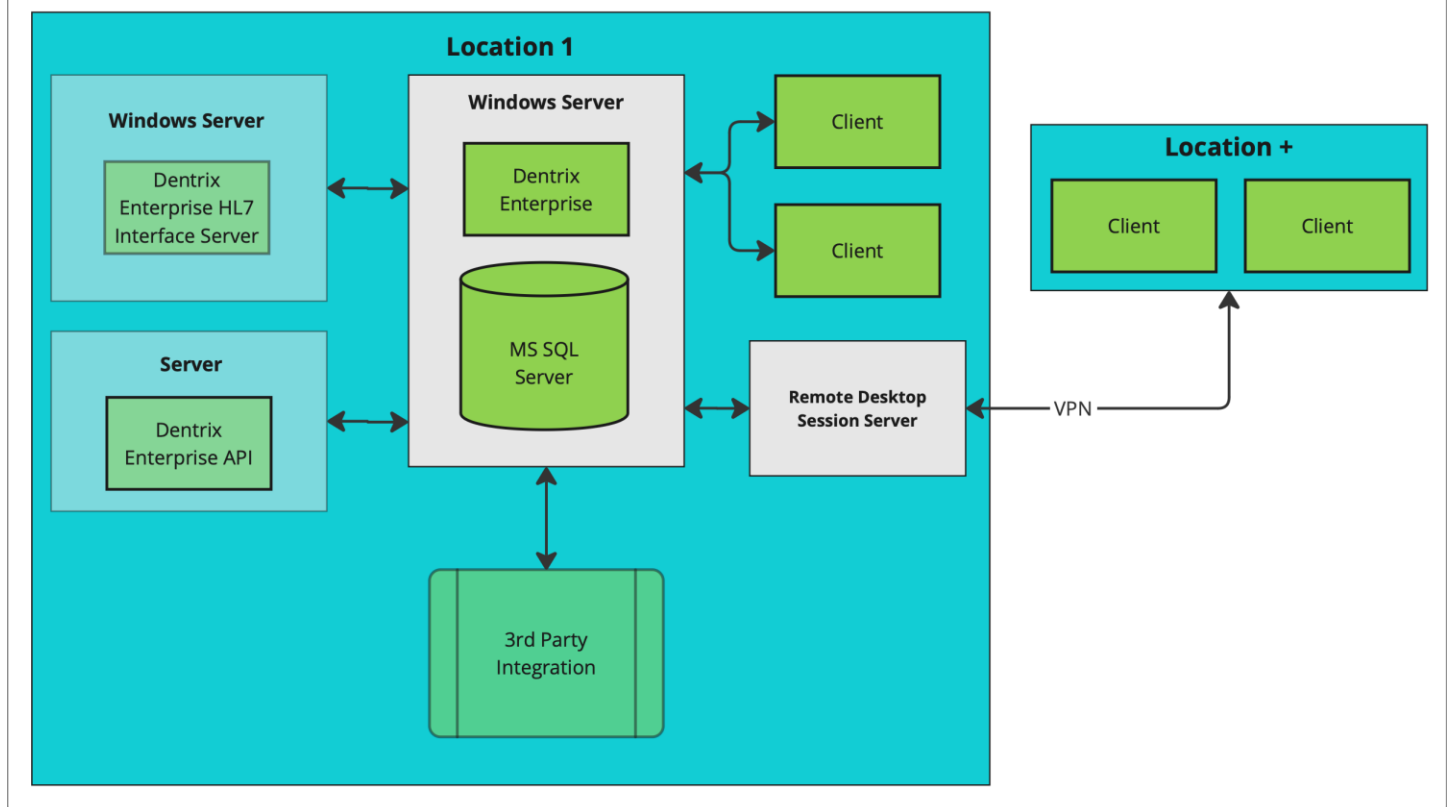
When you are using Dentrix Enterprise in a single location, the Windows Server hosting both Dentrix Enterprise and Microsoft SQL Server is located at the office. Client machines access the server via the office intranet.



Multiple Locations (30 Concurrent Users Maximum)

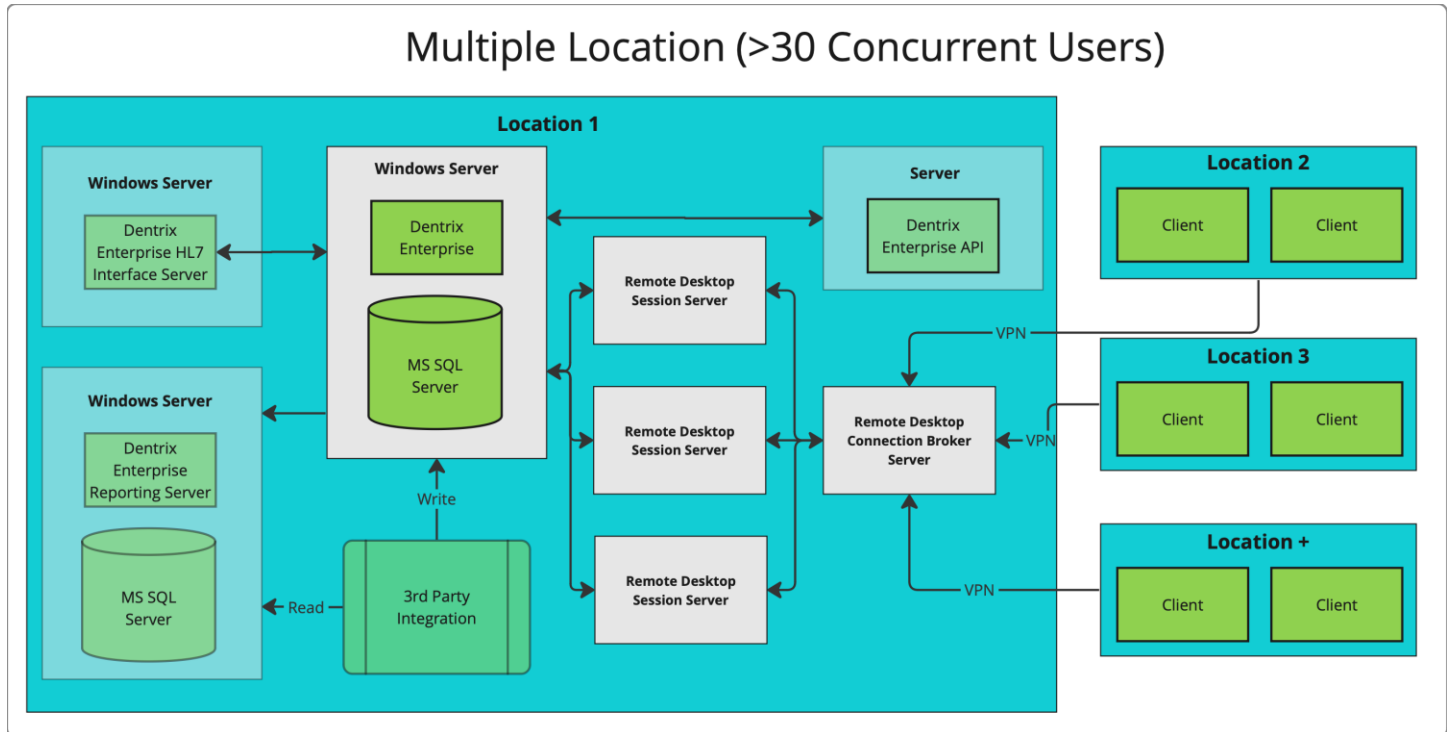
When you are using Dentrix Enterprise in multiple locations, one or more locations must remotely access the Dentrix Enterprise database. With the software architecture of Dentrix Enterprise this is best done using a Remote Desktop Session (RDS) Server at the same location as the Microsoft SQL Server that hosts the Dentrix Enterprise database. The Dentrix Enterprise client program is installed on the RDS Server.

Multiple Location (<30 Concurrent Users)



Multiple Locations (More Than 30 Concurrent Users)

When you are using Dentrix Enterprise in multiple locations, one or more locations must remotely access the Dentrix Enterprise database. With the software architecture of Dentrix Enterprise this is best done using a Remote Desktop Session (RDS) Server at the same location as the Microsoft SQL Server that hosts the Dentrix Enterprise database. The Dentrix Enterprise client program is installed on the RDS Server. When multiple RDS servers are used, you should add a Connection Broker. Additionally, a Dentrix Enterprise reporting server may be needed to offload reporting and third-party queries.



Microsoft SQL Server

CPU	<p>Intel® Xeon CPU E-2200 family or newer</p> <p>4-core processor, 3.4 GHz or greater (for up to 100 concurrent users). For every additional 100 concurrent users, add 2 additional cores.</p> <p>Note: Using a faster processor and/or more cores will provide a better user experience.</p>
RAM	<p>16 GB + 50% of the size of the Dentrix database.</p> <p>Notes:</p> <ul style="list-style-type: none"> The server should have enough memory allocated to the Dentrix Enterprise database that MS SQL Server can load all the data pages, indexes, execution plans, and so forth into memory. If it does not have enough RAM to load all of this into memory, a storage drive will be used, which may reduce performance. You should monitor memory and increase it as needed. Using additional memory may noticeably improve performance and provide a better user experience.
Storage Drives	<p>Each of the following should be on separate physical drive arrays:</p> <ul style="list-style-type: none"> Operating System: 120 GB, MBR Database: <ul style="list-style-type: none"> MS SQL Datafile: 500 GB, GPT 64k block size MS SQL Logfile: 500 GB, GPT 64k block size MS SQL Temp DB: 2 GB per processor core, GPT 64k block size <p>Notes:</p> <ul style="list-style-type: none"> NVMe storage drives currently offer the best performance. A fault-tolerant RAID array is strongly recommended.
Display Resolution	1600 x 900
Operating System	<p>Windows Server 2019 with latest updates</p> <p>Windows Server 2022 with latest updates</p>
Database Server	<p>Microsoft SQL Server 2019 with latest updates</p> <p>Microsoft SQL Server 2022 with latest updates</p> <p>Notes:</p> <ul style="list-style-type: none"> 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. 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.
Virtual Application Server	Must be certified to work with all major hypervisors, including VMware® vSphere and Microsoft Windows Server Hyper-V.
Maintenance Plan	<p>A Database Administrator should set up maintenance plans that include at least the following:</p> <ul style="list-style-type: none"> Regular backups Database integrity checks Index maintenance Statistics updates History cleanup

Remote Desktop Session (RDS) Server

CPU	Intel® Xeon CPU E-2200 family or newer 6-core processor, 3.4 GHz or greater (for up to 30 concurrent users) Note: Using a faster processor and/or more cores may provide a better user experience.
RAM	32 GB Note: You should monitor memory and increase it as needed. Using additional memory may noticeably improve performance and provide a better user experience.
Storage Drive	120 GB Note: Depending on the number of user profiles created, additional space may be required.
Display Resolution	1600 x 900
Operating System (With Terminal Server licenses activated)	Windows Server 2019 with latest updates Windows Server 2022 with latest updates
Virtual Application Server	Must be certified to work with all major hypervisors, including VMware® vSphere and Microsoft Windows Server Hyper-V.
Microsoft RemoteApp Presentation Server	Supported

HL7 Interface Server

CPU	Intel® Xeon CPU E-2200 family or newer 2-core processor, 3.4 GHz or greater Notes: <ul style="list-style-type: none"> Adding parallel processing will require more CPU cores and RAM to handle heavy message traffic. You should monitor CPU usage and add cores as needed.
RAM	8 GB + 2 GB for each additional queue or HL7 service Notes: <ul style="list-style-type: none"> Adding parallel processing will require more CPU cores and RAM to handle heavy message traffic. You should monitor memory and increase it as needed. Using additional memory may increase message throughput.
Storage Drives	Operating System: 120 GB MSMQ: 100 GB (flash drive) HL7 Logs: 300 GB
Display Resolution	1600 x 900
Operating System	Windows Server 2019 with latest updates Windows Server 2022 with latest updates

Document Center (File Server)

CPU	Intel® Xeon CPU E-2200 family or newer 2-core processor, 2.0 GHz or greater
RAM	8 GB
Storage Drive	The amount of storage needed varies dramatically depending on how Document Center is used. It is recommended that you start with at least 500 GB and monitor the free disk space, adding more as needed. Some customers may not need 500 GB while others may need 10 TB.
Operating System	Windows Server 2019 with latest updates Windows Server 2022 with latest updates
File Share	SMB file share

API (For Third-party Integrations Only)

CPU	Intel® Xeon CPU E-2200 family or newer 4-core processor, 3.4 GHz or greater
RAM	16 GB
Storage Drive	120 GB
Display Resolution	1600 x 900
Operating System	Windows Server 2019 with latest updates Windows Server 2022 with latest updates

Workstation

CPU	Intel® Celeron CPU G5900 family or newer 2-core processor, 3.4 GHz or greater
RAM	8 GB
Storage Drive	100 GB
Display Resolution	1600 x 900 or higher 15" monitor (17" or larger recommended) 16:9 aspect ratio, 32-bit color
Operating System	Windows 10 Professional/Enterprise with latest updates Windows 11 Professional/Enterprise with latest updates Note: Home and "N" editions of the above operating systems are not supported.
Windows Theme	The background color of all Dentrix Enterprise windows is determined by your selected Windows theme (10 and 11).

Printers

For a typical office, Henry Schein One recommends the installation of two printers on the network: a laser printer for all forms, letters and reports, and a good color printer for tooth and periodontal chart printouts. Henry Schein One 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 One cannot guarantee that all printers will be completely compatible with Dentrix Enterprise.

Note: HP universal print drivers are not supported.

Label Printers

Henry Schein One 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 32-bit TWAIN and WIA drivers, such as the HP ScanJet 5590 and Canon DR-3010C scanners.

Notes:

- Some scanners that claim to be 32-bit TWAIN-compliant are not. Henry Schein One cannot guarantee that all cameras and scanners claiming to be TWAIN/WIA compliant will be completely compatible with Dentrix Enterprise.
- Cameras and scanners using DirectShow must use “Import from File” in the Dentrix Enterprise Document Center.
- 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.
- 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

The following signature devices are supported: ePad, ePad II, and ePad Vision.

Note: To use these signature devices, the installation of the Universal Installer and Integrisign Desktop software from ePadLink is required. 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 2013, 2016, 2019, 2021, and 365 are supported.

Note: Microsoft Office 365 requires a subscription, and the program files must be installed on the computer.

- 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 operatory 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 50 k 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 Server 2019/2022.
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. (Using wireless networking is not recommended. See the note regarding Wi-Fi on the next page.)
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.
- Wi-Fi 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 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 certain folders: Data, Docs, and Eclaims (if applicable). For more information about the writable folder, refer to the Installation Guide in the Dentrix Enterprise Help. Give all users on all workstations read and write access to the shared, writable folder.
- Dentrix Enterprise is TLS 1.2 compliant.

Test Environment

A test environment that mimics the live environment is required for testing Dentrix Enterprise before you upgrade the live environment.

Database Encryption (For IHS Facilities Only)

- You must employ at least 128-bit encryption to protect data at rest in the database. Bit Locker encryption that is implemented at the operating system level does not suffice for this control.
- You must also employ encryption to protect data during transit. Though EDR and RPMS servers are usually collocated, information is still vulnerable from attackers seeking to hijack information in transit. Encryption is also required because EDR and RPMS are both High systems. DIS-SOP-06-11a:8.3 recommends a FIPS 140-2 certified encryption solution when transmitting and receiving PHI.