

SYSTEM REQUIREMENTS FOR CENTAUR APPLICATIONS – ENTERPRISE EDITION

Revised: 21/08/2020

(Valid for 90 Days from Last Revision)

Base Specification for Versions i5 & i6 (previous versions are not supported)

The following document outlines the basic System Requirements for your Dental4Windows^{sql} or Practice Studio^{sql} Enterprise setup. Please contact the Centaur Enterprise Technical Manager to discuss your specific requirements.

OPTION 1: TERMINAL SERVER (RDC/CITRIX)

COMPONENT	DATABASE SERVER	TERMINAL/APPLICATION SERVERS
CPU [^]	Server Grade 2.6GHz+ Minimum 12 Cores	Server Grade 2.6GHz+ Minimum 6 Cores
RAM	8 - 32 GB	8 – 24 GB
HDD [#]	SSD or NVME	SSD or NVME
Optical Drive [§]	DVD	
Network Card	1000 Onboard	
Graphics Adaptor	Capable of 1024 x 768 or higher resolution	
Operating System*	Windows Server 2016/Server 2019 (64-Bit) <i>Windows Server 2008/2012 (32/64-Bit) *</i>	
Notes	These recommendations are based on up to 40 concurrent users per Terminal Server. Hardware requirements will vary based on actual number of concurrent users per Terminal Server, other software running on the Terminal Servers and other factors. The Database and Terminal Servers can be virtualised.	

OPTION 2: LAN/WAN

COMPONENT	DATABASE SERVER	CLIENT COMPUTERS
CPU [^]	Server Grade 2.6GHz+ Minimum 12 Cores	Dual Core 2.0GHz+
RAM	8 - 32 GB	4 GB
HDD [#]	SSD or NVME	80GB 7200 RPM HDD
Optical Drive [§]	DVD	
Network Card	1000 Onboard	
Graphics Adaptor	Capable of 1024 x 768 or higher resolution	
Operating System*	Windows Server 2016/Server 2019 (64-Bit) <i>Windows Server 2008/2012 (32/64-Bit) *</i>	Windows 10 (32/64-Bit) <i>Windows 7/8/8.1 (32/64-Bit) *</i>

[^] For information on the CPU recommendations refer to Section 2.1 below.

[#] For information on the HDD recommendations please refer to Section 2.4 below.

[§] Please refer to Section 2.2 below.

* For more information on supported Operating Systems refer to Section 4 below.


MODULE REQUIREMENTS

MODULE	REQUIREMENTS
Word Link	- Microsoft Word* 2013/2016/2019 on all computers where you will want to generate Letters/Recalls/Etc.
SMS	- Internet Connection.
Payment Gateways	- Payment Gateway Terminals can connect via different methods based on the Terminal itself. Ensure you have the appropriate port on your computer(s) where the Terminal(s) will be connected. Contact the Terminal vendor for more information.
Email	- Internet Connection. - To receive replies: Microsoft Outlook* 2013/2016/2019 or SMTP Based POP3 Email Account (i.e. Hotmail/Gmail).
xPlain Chairside [Option 2]	- Colour Printers for the patient leaflets is preferable. In order to print these leaflets there must be a program that can read .DOC files installed (E.g. Microsoft Word, Open Office).
3D Charting (<i>non-Stepped mode</i>) [Option 2]	- CPU with integrated GPU such as Intel® iSeries (i3, i5, i7) or AMD® APU's. or - DirectX 9 compliant modern dedicated Graphics Card. <i>Note that if you are using any hardware below these specifications this may cause performance issues when using 3D Charting with full rotation mode.</i>

* Refer to Section 4.2 for more details on supported links with Microsoft Office.

BEST PRACTICES GUIDE FOR CENTAUR APPLICATIONS

Best Practices for Versions i5 & i6 (previous versions are not Supported)

*Both Dental4Windows and Practice Studio will be referred to as Centaur Applications in the following document.

1. PRACTICE REQUIREMENTS

ITEM	STRONGLY RECOMMENDED	MINIMUM REQUIREMENTS
Remote Access	Fibre Based Broadband Internet Connection at database server and each practice location.	Fibre Based Broadband Internet Connection at database server location. ADSL2+ Broadband Internet Connection at each remote location.
	<i>NOTE: Poor speeds/bandwidth may result in reduction of application performance.</i>	
Printer	Modern printer with support from manufacturer NOTE: Some printing problems can be resolved by installing the latest printer drivers. Ensure that your technician installs the latest drivers for your printer, now and in the future.	
Network	Gigabit Switch with 1 port per computer (additional ports may be needed for other Network Devices (ie. Network Printer, Internet Modem/Router and future expandability).	

2. HARDWARE & NETWORKING NOTES

2.1. Motherboard/CPU

- While *Centaur Applications* should work on non-Intel processors, they are not tested or certified.
- Ensure that your computer is certified for your operating system (refer to Section 4 for details).
- We recommend the use of Desktop and Server grade CPU's. While Netbook/Mobile grade CPU's (ie: Intel's Atom CPU) will run *Centaur Applications* you may notice slow performance using Netbook/Mobile grade CPU's.
- For multi-CPU/multi-Core systems Centaur recommends the use of less CPU's with more Cores (ie 2x8) over more CPU's with less Cores (ie 4x4).

2.2. Optical Drive

- If Internet Upgrades are not appropriate please contact us to discuss alternative upgrade delivery options such as DVD's, FTP, etc.

2.3. Display Adaptor

- Centaur Applications* require a 1024*768 or higher resolution.
- Display Scaling above 125% is not recommended.

2.4. Hard Drive

- The hard drive is the most overlooked specification but is a very important component of a computer (particularly the speed of the hard drive).
- Note that the specified free space is only for *Centaur Applications*. If you intend to install digital x-ray software (or any other software) you should contact the respective software vendor for their requirements.
- RAID technology is not necessary but may be desirable for added data redundancy and throughput. Note that the RAID solution should never be the only backup solution. RAID is not a replacement for a good backup solution that involves the rotated use of separate removable media. Please contact a Network Technician if you wish to utilise this service. In case of RAID failure, Centaur Software can only offer limited support.

- Using NAS/SAN. Centaur software recommends that the main data files (see below) are located on direct attached drives. The database file must be on the same physical drive as the Sybase Engine.
- It is recommended that 3 separate physical drives are used to increase performance. One drive for each of the following:
 - (1) D4w.db
 - (2) D4w.log
 - (3) *.tmp

2.5. RAM

- Dynamic allocation of RAM is not supported when using *Centaur Applications*.

2.6. Backup Device

- Please see the “*Data Backup Best Practices for Centaur Applications*” & “*Data Backup Requirements for Centaur Applications*”.
- Note that Centaur Software does not setup, configure or support the various types of backup methods. Please refer to your IT Technician.

2.7. UPS

- Uninterruptable Power Supplies are recommended for all Server computers. 400VA/240W or higher Delta Online UPS with Shutdown software are recommended.

2.8. Hardware Firewall

- Offices that are connected to the Internet via broadband access should have a hardware firewall to protect their computers from attack.
- Internet sharing software (or any other software) that causes interference with the TCP/IP protocol that affects *Centaur Applications* will have limited support.

2.9. Anti-Virus/Firewall Software

- Anti-Virus software should be installed on all computers. If you are a network user, then you should look at an antivirus software solution that will “push” the virus updates out to all computers on the network via the computer that has the internet connection. Your IT Technician can recommend an appropriate system for your business.
- We recommend that the following executables are excluded from your Firewall Software:

Centaur Applications (i6)

(a) DBSRV17.exe (b) DBENG17.exe (c) D4w97.exe

Centaur Applications (i5)

(a) DBSRV16.exe (b) DBENG16.exe (c) D4w97.exe

- We recommend that the following ports are excluded from your Firewall Software:

SAP/Sybase	UDP port 2638
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- It is strongly advised that to avoid potential performance problems, or even corruption, the following files be excluded from virus scans:
 - (a) Main Database File (.db)
 - (b) Transaction Log (.log)
 - (c) Transaction Log Mirror (.mlg)
- Other exceptions may be required for other non-Centaur products such as Payment Gateways, Imaging Software, etc. Please contact the vendor for any such requirements.

2.10. Networking

- Centaur Software supports its products running over both wired and/or wireless networks. If there is an issue with your network affecting the use of our products you may be required to seek the services of an IT Technician to assist in resolving the issue.
- Centaur Software strongly recommends that wired networks are used rather than wireless networks due to the inherent issues that may affect a wireless network. Common issues that occur when wireless networks are used include

application dropouts, poor performance issues, network interference, etc. If a customer decides to use a wireless network then it is recommended they talk to their IT Technician to setup a secure, stable and fast network. In order to troubleshoot issues with running our products over a wireless connection we may require the user to recreate the issue after making a physical (LAN) connection. If the issue cannot be created with a physical connection we cannot guarantee a fix.

- The performance of *Centaur Applications* may vary based on any number of conditions outside of our control such as: Wireless Interference of other devices, other Wi-Fi broadcasts, building infrastructure, Wi-Fi Hardware, etc. For ways to improve the performance of your Wireless Network we recommend you obtain the services of an IT Technician.
- Network users should consider the use of a network printer (ie. a printer that is not physically connected to a pc).
- Note: customers with Server Computers that contain multiple active Network Interface Cards (NIC), onboard or add-in cards, the *Centaur Applications* may generate a different Computer Identification Number (CIN) each time the Server is restarted. Centaur will provide you with each of these codes for you to record. When this occurs, you will need to manually enter in the appropriate Registration Code for that CIN the first time the *Centaur Application* interface is started. Alternatively, you can disable all but one NIC.

2.11. RDC - Terminal Services - Citrix - Virtualisation

- Terminal Services/Citrix Metaframe may be a consideration if you have a large network (i.e. 15 Users and above). Terminal server sites that have 6 or more remote connections should consider a dedicated terminal server (i.e. a server dedicated to serving the terminal server sessions only). All terminal server sites that require remote connections should purchase business plans, not plans that are home-user orientated.



Centaur Software can only offer advice on how our applications will work on Terminal Service/Citrix Metaframe. We are unable to advise on installation/configuration of this complicated networking scenario.

- You will need an IT specialist in this area to advise, install, maintain and support problems that are related to this area.
- Running *Centaur Applications* directly over a WAN connection is not supported.
- If you want to run Windows under a Virtual Environment, please contact Centaur Support as some configurations are not supported. Sybase/SAP will support Sybase/SAP products running on VMware as long as the OS running in the virtual machine is certified by Sybase/SAP (<https://blogs.sap.com/2014/12/02/licensing-sap-sql-anywhere-in-virtual-environments/>).
- 3D Charting and other video intensive modules in these operating system environments require special considerations that we can advise your IT Specialist.
- Terminal Server software such as ThinStuff, XP Unlimited, etc are not supported by Centaur. In addition, we strongly recommend customers contact Microsoft before purchasing any such program to ensure their intended use does not violate Microsoft's Windows Licensing.

2.12. Claiming & Payment Solution Terminals

- If you are using any of the Claiming & Payment Solution Terminals linked with *Centaur Applications*, we strongly recommend you contact the vendor to ensure you receive the correct connection cable as well as their System Requirements.

2.13. Tablets/Netbooks

- The base specifications listed on Page 1 are enough to run *Centaur Applications*.
- Mobile grade CPU's are not supported or recommended.

We strongly advise the use of a stylus if you plan on using screens smaller than 13" and want to use the 2D/3D Charting and Perio modules.

3. CENTAUR APPLICATION CONFIGURATION

3.1. Internet Upgrades

- *Centaur Application* upgrades are provided via our propriety Internet Upgrade (IU) system. This can be set to check automatically and once a new upgrade is found the system can either ignore the upgrade, download the new files only (for a later upgrade) or download and upgrade now. This requires that the Server computer has Internet Access.
- If you do not want to use our Internet Upgrade system please contact us to discuss alternate upgrade delivery options.

3.2. Pre-Printed Letterheads & Logo Files

- The maximum height for a pre-printed letterhead or a logo file is 5cm from top of the page (RE: Invoices, Receipts and Treatment Plans). If your printer enforces a margin/padding this will reduce the maximum height of the logo by that amount (e.g. a margin of 5mm means the Letterhead/Logo can be no more than 4.5cm in height). This is a fixed size and cannot be changed.
- Accepted Letterhead/Logo File Types: BMP, GIF, JPG.

3.3. Pre-Printed Footers

- If your pre-printed stationary has a footer and you want to use a Return Payment Slip on your Invoice, the Return Payment Slip will take up 4.7cm of final page of the Invoice, overriding anything on the stationary. This is a fixed size and cannot be changed.

3.4. Customised Setups

- Before attempting a customised setup of a *Centaur Application*, please contact Centaur Support as certain setups are not supported.
- SAP/Sybase does not support accessing a database file via a standard network share (i.e. database on a different physical device than the Sybase engine).

4. OPERATING SYSTEMS & OTHER SOFTWARE

4.1. Operating Systems

- Centaur follows Microsoft's Lifecycle Policy to determine which Operating Systems to continue to develop for and test on. Once an Operating System is no longer covered by Microsoft's Mainstream Support, Centaur will no longer be able to guarantee a resolution where the Operating System is the root cause of the issue.
- The following Microsoft Operating Systems are supported:

Operating System	Centaur Application Version/Build Requirements	Microsoft Mainstream Support End Date
Windows 10 (32/64-Bit)	-	Based on the Windows 10 version
Windows Server 2019 (64-Bit)	Version i5 Build 4477 and above	09/01/2024
Windows Server 2016 (64-Bit)	Version i4 Build 4146 and above	11/01/2022

<https://support.microsoft.com/en-au/lifecycle/search>

- The latest Windows updates must be installed on all supported Operating Systems now and in the future.

4.1.1. Older Operating Systems

- Customers running these older and discontinued Operating Systems will still receive *Centaur Application* Support, however we are unable to guarantee a resolution where the operating System is the root cause of the issue.

This includes:

- Windows XP*/Vista/7/8/8.1
- Windows Server 2003/2008/SBS 2011/2012 (R1, R2, Essentials and Foundation editions)

* NOTE: Windows XP is incompatible with Versions i5 and above.

4.1.2. Other Operating Systems

- Examples: Non-Microsoft Operating Systems or Emulated versions of supported Microsoft Operating Systems (e.g. Running Windows 10 within Parallels Desktop under Mac OS X).
- Centaur will continue to provide Support to our customers however we are unable to guarantee a resolution where the *Centaur Applications* are running on any Operating System other than those listed in 4.1 and where that Operating System/Environment is the root cause of the issue.

4.1.3. 64-Bit Server

- *Centaur Applications* have the option for the Server component to run as 64-bit. This requires the Server computer to be 64-bit compliant with a 64-bit CPU and 64-bit Operating System. If you wish to have the *Centaur Application* configured to run as 64-bit during your initial setup, please discuss this with your Centaur ICS Coordinator. To change your existing setup to 64-bit please contact the Centaur Support dept during standard Support Hours (Mon-Fri 8am-8:30pm).

4.1.4. Operating System settings

- The following configurations are needed:
 - Date Format = dd/mm/yyyy [all computers]
 - Fast Start-up = disabled [*Centaur Application Server*]
 - Sleep Mode = disabled [*Centaur Application Server*]
- Changes to the *Centaur Application Server* computers System Clock (date and time) should only be made when all *Centaur Applications* are shut down. Any changes to the System Clock while *Centaur Applications* are running may result in system instability or even data corruption.
- Centaur strongly recommends rebooting all your computers at least weekly if not more often.

4.2. Microsoft Office

- The “Click-To-Run” versions of Office are not supported. There are no plans to support this version.
- 64-Bit versions of Word are only compatible with our Word Link module when running *Centaur Applications i4* build 4053 or higher.

4.2.1. Microsoft Word

- The *Centaur Application* Word Link feature is only supported with the following versions of MS Word:
 - Office 365 (Local Install only) - Version i4 build 4314 and above
 - Word 2019 – Version i5 build 4560 and above
 - Word 2016
 - Word 2013
- The “Starter” and “Web Apps” editions of Office are not supported.



If the “Word Link” module is used then only those computers with Microsoft Word installed locally will be able to create/view Letters, Accounts Due, Recall Reminders and Queries.

4.2.2. Older Versions of Microsoft Office

- Centaur will continue to provide Support to our customers, however we are unable to guarantee a resolution where an older version of Microsoft Office is installed, and that version of Microsoft Office is the root cause of the issue.

4.3. Other Software

- *Centaur Applications* may conflict with other software which also uses the Sybase 12 or Sybase 16 application such as Symantec Norton End Point Security during the install and upgrade of the *Centaur Application*. If this does occur Centaur Support may need to work with your IT Technician to uninstall the conflicting software and reinstall when complete.

5. COMPUTER SYSTEMS

5.1. Computer Systems

- When purchasing computer systems, the variance in pricing and components can be overwhelming. Be assured that you do get what you pay for. Some lower priced systems may be lacking in the following areas:

Proprietary	Only the manufacturer or specified service centre can make repairs or expand the system. This can be more expensive in the longer term.
Expandability	Some systems don't have adequate expansion slots/and or other connection ports for any extra components you may require in the future.
All-in-One	Some "all-in-one" motherboards will not allow you to disable the onboard components. With these motherboards if one onboard component fails you may need to replace the entire motherboard to fix the problem.

Practices should be aware that good computer consultants tend to offer high-end systems. They work on the principle that reliable systems will produce fewer problems, promoting repeat business.

5.2. Computer System Training

- Practices should consider some sort of training in the Windows Operating System and the management of related peripherals (e.g. Printers).
- Over time your original investment should pay off in the fact that having staff that can solve minor problems will help avoid having to pay on-site technicians. Trained computer users also solve issues faster so it will ensure that your staff will have more time to spend on tasks that are relevant to the practice generating income.

5.3. Hardware & Windows Support

- All practices at some stage will need the services of an on-site computer technician. Larger users should consider the following services that some computer consultants can provide:
 - Maintenance Programs – ensure that your computing environment is maintained before problems arise.
 - Block Support – some companies offer the choice of purchasing "block hours" of support (normally cheaper than ad-hoc on-site rates).

5.4. Equipment Replacement

- All practices should be aware of the "reliable business life" of computer systems. Due to the following factors you can expect between 2.5 – 3 years reliable use of a computer system:
 - (a) Component failure
 - (b) Inability to meet future software & Operating System requirements
- Network users should consider a structured equipment replacement plan so that costs of computing equipment can be absorbed into the business effectively and maximum tax advantages are achieved.

5.5. Warranties

- All practices should understand the implications of any warranties offered and judge them on how they impact the business:

Response Times	Are the response times adequate for your business?
Support Types	Is the warranty on-site or phone support?
System Restoration	<ul style="list-style-type: none"> Is the warranty only for the replacement of the hardware component? Will the Windows Operating System be reinstalled if the replaced component requires it? Will your system be reinstalled to its current state (i.e. all business software reinstalled, networked, printers reinstalled, and other configuration restored)?
Loaner Systems	Are "loaner systems" on offer if the problem is critical?

Considering the above services, you can clearly see that **some** lower-end system providers will not be able to provide these types of guarantees.

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