



PDSMED



PDSMDSUITE



PDSCORTEX



PDS SAAS

System Requirements

This guide is not intended to replace the knowledge and expertise of a qualified IT professional, but to assist them in acquiring and configuring the necessary hardware for a successful implementation.

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Disclaimer

PDSMED has developed the following general system requirements for your server(s). Please be sure to adhere to PDSMED supported operating systems and specifications. Deviation from approved server requirements may result in system instability.

It is recommended to have separate servers for PDS Cortex and PDS MDsuite. Please speak with your sales rep or PDSMED technical support if you have questions.

The below recommendations are for the PDS Cortex and PDS MDsuite software only. If you decide to run additional services (i.e. DNS or Active Directory on your application server, or Microsoft Office on your Remote Desktop server) you will need to add additional CPUs and/or RAM.

PDS Cortex System Requirements

The following system requirements are designed to be used with PDS Cortex and Practice Partner installations.

Database Server

	Required
Processor:	Intel® Xeon® Quad Core 2.4 GHz
<i>*Must be less than 5 years from processor's release date</i>	
Memory:	8 GB
System Drive:	100 GB
Data Drive:	500 GB minimum RAID-5 or SAN
<i>*15k Disk Drives or SSD required for optimal performance</i>	
<i>*Write-Caching enabled with battery installed</i>	
<i>*Document storage may require additional space</i>	
<i>NOTE: For practices larger than 50 users, please consult with your PDSMED Sales Representative.</i>	

Operating System:

- Windows Server 2008 R2 Standard/Datacenter
- Windows Server 2012 R2 Standard/Datacenter
- Windows Server 2016 Standard/Datacenter

Remote Desktop Server

Remote desktop servers are designed to support up to 25 concurrent sessions. For each additional 25 sessions, add 4GB of RAM and 2 more CPU cores.

	Required
Processor:	Intel® Xeon® Quad Core 2.4 GHz
Memory:	8 GB
System Drive:	120 GB

A Remote Desktop server is required if you will be using PDS Cortex applications in a wireless environment or when using a wide-area network/VPN. All printers that will be accessed through the Remote Desktop Server must have their drivers added as local printers on the Remote Desktop Server(s).

Operating System:

- Windows Server 2008 R2 Standard/Datacenter
- Windows Server 2012 R2 Standard/Datacenter
- Windows Server 2016 Standard/Datacenter

PDS Cortex Web Server

This server must be its own server and cannot have patient data on it as the server must be configured to reside in the network's DMZ or have an encrypted tunnel to the internet to facilitate web traffic.

	Required
Processor:	Intel® Xeon® Dual Core 2.0 GHz
Memory:	2 GB
System Drive:	40 GB

Operating System:

- Windows Server 2008 R2 Standard/Datacenter
- Windows Server 2012 R2 Standard/Datacenter
- Windows Server 2016 Standard/Datacenter

PDS Cortex Faxing

If you will be implementing a fax server solution, ZetaFax, is the recommended solution to be used with PDS Cortex. A Brooktrout fax board will be required. The recommended fax board is the Brooktrout TruFax 200 series or the TR1034 series. These boards may be purchased through your normal IT vendor channel or directly from Equisys. Equisys will assist you in sizing your environment correctly and will be able to answer any other questions you may have regarding their solution. You may contact them at 1-770-772-7201 or sales@usa.equisys.com or visit them at www.equisys.com

PDS Cortex Workstation Requirements

A workstation can be a desktop, notebook, laptop, or Tablet PC. Please be sure to adhere to the supported operating systems and specifications. Deviation from approved workstation requirements may result in system instability and lack of support.

	Required
Processor:	Intel® Core™ i3
Memory:	4 GB
Network Card:	1 GB
Monitor:	1024x768 minimum

Operating System:

- Windows 7 Professional/Enterprise
- Windows 8.1 Professional/Enterprise
- Windows 10 Professional/Enterprise

Thin Client Workstations / Laptops / Tablets

Since thin client workstations, laptops and tablets do not run any PDS Cortex software, any operating system capable of running the appropriate thin client software is acceptable. Some thin client devices come with a limited amount of on-device storage. PDS Cortex has not been tested to run in this configuration and there will very likely be problems. Thin client devices that will be accessing PDS Cortex must do so through a Remote Desktop server.

PDS MDsuite System Requirements

The following server requirements are to be used with PDS MDsuite licensed installations. PDS MDsuite requires separate database and application servers. The below workstation requirements are to be used with licensed and PDS SaaS installations.

Database Server

Processor:	Required Intel® Xeon® Quad Core 2.4 GHz	
<i>*Must be less than 5 years from processor's release date</i>		
Memory:	16 GB	
<i>*Memory is a variable amount based on size of customer. 16GB is minimum.</i>		
System Drive:	100 GB	
Data Drive:	500 GB minimum	RAID-5 or SAN
<i>*15k Disk Drives or SSD required for optimal performance</i>		
<i>*Write-Caching enabled with battery installed</i>		
<i>*Document storage may require additional space</i>		
<i>NOTE: For practices larger than 25 users, please consult with your PDSMED Sales Representative.</i>		

Operating System:

- Windows Server 2008 R2 Standard/Datacenter
- Windows Server 2012 R2 Standard/Datacenter
- Windows Server 2016 Standard/Datacenter

Microsoft SQL Server:

- Microsoft SQL Server 64-bit Standard/Enterprise 2008R2
- Microsoft SQL Server 64-bit Standard/Enterprise 2012
- Microsoft SQL Server 64-bit Standard/Enterprise 2014
- Microsoft SQL Server 64-bit Standard/Enterprise 2016

*NOTE: 32-bit versions of Windows Server and Microsoft SQL Server are **NOT** supported*

Application Server

Processor:	Required Intel® Xeon® Quad Core 2.4 GHz	
<i>*Must be less than 5 years from processor's release date</i>		
Memory:	16 GB	
System Drive:	100 GB	
Data Drive:	500 GB minimum	RAID-5 or SAN
<i>NOTE: For practices larger than 25 users, please consult with your PDSMED Sales Representative.</i>		

Operating System:

- Windows Server 2008 R2 Standard/Datacenter
- Windows Server 2012 R2 Standard/Datacenter
- Windows Server 2016 Standard/Datacenter

PDS MDsuite eRX and Patient Portal Requirements

- Static external IP address from ISP
- Fully Qualified Domain Name (FQDN) owned by the practice
- SSL Certificate that matches FQDN to be installed on the Application Server

PDS MDsuite Workstation Requirements

Each workstation that connects to PDS MDsuite must have the PDS MDsuite Workstation client installed. Below are the required system specifications for PDS MDsuite Workstation.

Processor:	Required Intel® Core™ i5 Quad Core or higher
Memory:	8 GB
Hard Drive:	100GB minimum
Monitor:	1152x864 at 16-bit minimum

Operating System:

- Windows 7 Professional/Enterprise
- Windows 8.1 Professional/Enterprise
- Windows 10 Professional/Enterprise

Additional Software Requirements:

- Internet Explorer 8.0 or higher
- Microsoft Office Standard 2007 or newer
- Adobe Reader 9, 10, or 11
- Adobe Flash Player 10.1 or higher

PDS SaaS Workstation Requirements

PDS SaaS clients directly connect via Internet to our PDS SaaS servers. PDS SaaS clients must meet our workstation requirements listed above, and are **REQUIRED** to have at least 5Mbps upload. Please note that PDS SaaS clients **DO NOT** need an application or data server, this requirement applies only to their workstations

For best performance, it is recommended that all PDS SaaS clients obtain the fastest upload speed offered by their ISP.

Satellite or Mobile Broadband (3G/4G/LTE hotspots) of any kind are **NOT** supported. These connection types have unavoidably high latency and will impair performance and provide erratic results.

Please be aware that all Internet and internal network traffic, including non-PDS SaaS traffic, will affect the performance of PDS SaaS. If other software or services are saturating your network bandwidth, PDS SaaS's performance will be degraded.

For more information about multi-location scenarios, please consult with your PDSMED sales representative.

PDSMED Peripherals

Labelwriters:	Dymo Labelwriter 450 Turbo Series
Signature Capture Devices:	Topaz T-LBK462-BSB-R
Scanners:	Twain compatibility required
Card Scanners:	Acuant: Scanshell 800N/800NR/800DXN or SnapShell R2
Full-page Scanners:	Fujitsu fi series (fi-6130)

PDSMED Best Practices:

The following outlined best practices are recommendations made to assist a clinic and ensure optimal performance of PDSMED products.

Anti-Virus

PDSMED recommends that all customers utilize virus and malware protection software in accordance with HIPAA regulations. When using a protection software, it is important that "active file scanning" be disabled on all database files. As well, "active link scanning" and "Internet Security Software" features should be disabled. All of these features will greatly inhibit the performance of

PDSMED products or even prevent any use of the software. PDSMED highly recommends utilizing Microsoft Security Essentials and/or Microsoft Intune for your virus protection needs. Please note, anti-virus software is never a complete solution to preventing viruses on your computer or network, safe Internet browsing and email habits should always be used.

Backups

For PDSMED practices, we highly recommend an enterprise level backup solution with an open-file backup agent. SQL data, PDS Cortex databases, document storage folders, and installation folders should all be backed up regularly. PDSMED is not responsible for your backup solution and cannot be held liable in the event data is lost and/or cannot be restored from backups. Please note that this does not apply to PDS SaaS users, as backups are included in the SaaS service.

Desktop Workstations vs Tablets, Notebooks, Laptops, and other Mobile devices

A mobile device allows the user to keep the same workstation between exam rooms. All PDSMED products rely on strong network connections to the application server, and using a wireless device is much more likely to experience performance issues than a dedicated desktop workstation. Offices who choose to connect to a PDSMED product, including PDS Cortex and PDS MDsuite, wirelessly are encouraged to look into a Remote Desktop server solution to potentially help mitigate wireless connectivity issues.

Hardware and Network (IT) Providers

PDSMED highly recommends purchasing IT services from an experienced and trusted vendor. PDSMED does not supply IT services to its clients but can recommend a national IT company that can assist you in these areas. If you would like more information about an IT company to use, please contact your PDSMED sales representative.

Optimizing SQL Performance

Microsoft SQL Server is the relational database engine used by PDS MDsuite. This component is where most of the resource heavy actions will occur, and as such, SQL's performance is directly related to PDS MDsuite's performance. As mentioned previously, Microsoft does not support SQL Server installations on a Domain Controller. SQL's performance is also extremely dependent on storage speeds, so high RPM hard drives or SSDs will perform best. It is also highly recommended to have your Data and Logs on different spindles or arrays, as this will allow writing to both simultaneously. Please see the following link from Microsoft for more information on their recommended best practices:

[https://msdn.microsoft.com/en-us/library/ms143506\(v=sql.110\).aspx](https://msdn.microsoft.com/en-us/library/ms143506(v=sql.110).aspx)

[https://technet.microsoft.com/library/mt590198\(v=sql.1\).aspx](https://technet.microsoft.com/library/mt590198(v=sql.1).aspx)

Running PDS MDsuite as a Dedicated Server

PDS MDsuite is designed to run on a dedicated server. This means that it should be the only application running on the machine, with exception to its supporting SQL installation. For practices larger than 25 users, we require having a dedicated SQL server separate from the application server. No other roles or applications should be run on the same server as PDS MDsuite or SQL, especially Active Directory Domain Services

Windows and SQL updates

Microsoft regularly releases updates for Windows and SQL Server. These are security updates, bug fixes, and service packs for the products. We **highly** recommend you apply all available updates from Microsoft for these products. Keeping your OS and SQL software updated will provide the most secure environment and the best performance.

Virtualization

PDSMED does support virtual servers. Virtual servers should only be implemented by IT staff familiar in their implementation, configuration, and administration. Hardware resources allocated to virtual servers should be equivalent to the requirements listed above.

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