

MediNotes Hardware Recommendations

This document was designed to assist you in determining the computers you will need to successfully integrate MediNotes e into your practice. The recommendations listed below are to help guide you in selecting the right machines for your practice. You will be able to take this document to a computer store (Best Buy, CompUSA, etc) or go online (Dell, Gateway, Fujitsu, etc) if you need assistance and make the selections that best suit your budget and your practice. As long as the computer meets the recommendations, MediNotes e will function properly on that machine.

In a practice with only a few staff members, **the term "Server" may be misleading.** When Computer Technicians think of a server, they immediately think of a machine that may range in price from \$3,000 - \$12,000. That is not the case with our program. Many smaller offices utilize the most robust, professional machine on their network by **adding a backup strategy** to it, then using it as their "Server".

1 - 2 Physician Practice with a Small Staff – Up to 5 total users –

Server Recommendation

- OS: Windows 2000, Windows XP Professional, Windows Vista Business, Windows Vista Enterprise, Windows 2000 Server, Windows 2003 Server
- Processor: 3.0+ GHz (Single Core Chip), or 2.4+ GHz (Dual Core Chip)
- RAM: At least 1 GB of available memory for use by MediNotes e
- Hard Drive: At least 30 GB of available hard drive space for use by MediNotes e

Client Recommendation

- OS: Windows 2000, Windows XP Professional, Windows Vista Business, Windows Vista Enterprise, Windows XP Tablet Edition
- Processor: 2.6+ GHz (Single Core Chip), 1.5+ GHz (Dual Core Chip), or 1.6+ GHz (Mobile Chip)
- RAM: At least 1 GB of available memory for use by MediNotes e
- Hard Drive: At least 20 GB of available hard drive space for use by MediNotes e



3 to 4 Physician Practice with a Medium Staff - Up to 10 total users -

Server Recommendation

- OS: Windows 2000 Server, Windows 2003 Server
- Processor: 2.8+ GHz (Dual Core Chip), or 3.0+ GHz (2+ Single Core Chips)
- RAM: At least 2 GB of available memory for use by MediNotes e
- Hard Drive: At least 40 GB of available hard drive space for use by MediNotes e

Client Recommendation

- OS: Windows 2000, Windows XP Professional, Windows Vista Business, Windows Vista Enterprise, Windows XP Tablet Edition
- Processor: 2.6+ GHz (Single Core Chip), 1.5+ GHz (Dual Core Chip), or 1.6+ GHz (Mobile Chip)
- RAM: At least 1 GB of available memory for use by MediNotes e
- Hard Drive: At least 20 GB of available hard drive space for use by MediNotes e

5 to 6 Physician Practice with a Large Staff - Up to 20 total users -

Server Recommendation

- OS: Windows 2000 Server, Windows 2003 Server
- Processor: 2.8+ GHz (Quad Core / Xeon Chip), or 3.0+ GHz (4+ Single Core Chips)
- RAM: At least 3 GB of available memory for use by MediNotes e
- Hard Drive: At least 60 GB of available hard drive space for use by MediNotes e

Client Recommendation

- OS: Windows 2000, Windows XP Professional, Windows Vista Business, Windows Vista Enterprise, Windows XP Tablet Edition
- Processor: 2.6+ GHz (Single Core Chip), 1.5+ GHz (Dual Core Chip), or 1.6+ GHz (Mobile Chip)
- RAM: At least 1 GB of available memory for use by MediNotes e
- Hard Drive: At least 20 GB of available hard drive space for use by MediNotes e

Hardware recommendations are for a typical implementation for the amount of users specified. Actual hardware requirements will vary based on individual situational needs. In situations where the synchronization module is to be used, the amount of hard drive space on the synchronization client computers will need to be sufficient to hold the MediNotes e database.

For configurations where more than six physicians, or a total of more than 20 users, will be accessing the program, please contact our Technical Support Department to discuss network recommendations.



Additional Recommendations

The number of processors in an office is based on the number of MediNotes users. Each processor is only capable of 30 simultaneous connections to the MediNotes database (multi-core processors are still limited to 30 users per processor – not per core). For example:

Single Processor Server: 1-30 MediNotes Users

Dual Processor Server: 31-60 MediNotes Users*

* Not to be confused with Dual Core

Server Required for Terminal Service

As with the requirements above, the number of processors in an office is based on the number of MediNotes users. Each processor is only capable of 30 simultaneous connections to the MediNotes database. For example:

Single Processor Server: 1-30 MediNotes Users

Dual Processor Server: 31-60 MediNotes Users

Databases vs. Servers

For each MediNotes database required for the office, one Windows Server will be required. To ensure optimal performance and full application functionality, two databases may not reside on a single server.

Wireless Networking

Due to the large amount of data transmitted in MediNotes e, MediNotes recommends the use of remote access software such as Terminal Services or Go-Global to ensure proper performance when running over a wireless network.

Supported Backup Types

In the event that you must submit your database to support for inspection, please note that MediNotes' Technical Support Department can accept CD, DVD, and external USB Device backups. Due to the number and variety of tape backup devices, MediNotes cannot accept information on tape. If you have questions regarding the proper backup type to send, please contact our Support Team at support@medinotes.com.

Networks/Server

MediNotes recommends that a trained networking consultant inspect and upgrade your network, if necessary, to the proper specifications for use. It would be wise to have this individual call the MediNotes technical support Department prior to upgrade or installation so they may be briefed on how MediNotes e is utilized on a network.



Wireless Technology

There are now four options for wireless speed capabilities that are **listed below in the order of performance**. **Note that 802.11b is not Supported.**

1. **802.11n** - this is a **brand new technology** that is benchmarking between **108 MB - 320 MB**. These routers and network cards are **currently available** and we have a few MediNotes e clients that are very happy with this product. The official transfer rate just hasn't been standardized, yet.

Linksys is currently reporting issues with one of their 802.11n routers.

The configuration in question is listed below:

- Linksys Wireless N Router WRT 300N
- Linksys Wireless N Notebook Adapter WPC300N

Belkin may be the way to go at this point. One of our reference sites recently switched to the following configuration and is very pleased:

- Belkin Wireless N Router Model no. F5D8321-4
- Belkin Wireless N Notebook Cards Part no. F5D8011 Version 1000

2. **802.11g+** - this is also known as **Super G**. This technology is rated at a maximum **108 MB** per second, which is **comparable to a 100MB wired system**. The Super G routers and network cards are widely available.

3. **802.11g** – the speed of this technology is about **half of a hardwired system**. The maximum transfer rate is **54MB** per second. This is **capable** of running MediNotes e, but several clinics still find it **slower than they would prefer**.

4. **802.11b** – this is the **slowest** connection with a maximum transfer rate of **11MB** per second. **This is not supported for MediNotes e.**

Wireless Usage on a Local Area Network (LAN)

If a clinic plans to use wireless tablets in their office, the list below is what our Technical Support Department recommends in the order of performance. The connections are divided into categories with the top recommendation for each category listed first. An office may deviate from the top recommendation, but the changes will reflect in the performance.



Wireless Network Hardware

1. 802.11n
2. 802.11g+
3. 802.11g

1. Direct Connection with an 802.11n network.

- Still in benchmark testing for the official speed rating.
- This should be faster than the standard 100MB network connection.
- A few MediNotes e clients are using this and are happy with it.

2. Remote Desktop Connection

- One free license with the Operating System, so there is no additional cost to small clinics.
- Approximately \$150 for additional licenses.
- Very fast, efficient application.

3. Synchronization

- The client connects to **MediLocal**, then syncs while **hardwired to the LAN**.

Work Flow is not utilized while operating in MediLocal.

- Depending on the clinic and how often they sync, the **data may not be up-to-the-minute enough for the user**.

4. Direct Wireless Connection (DWC) across the network.

- A **majority** of clients using a DWC over **802.11g+** are satisfied.
- A **majority** of clients using a DWC over **802.11g** would prefer more speed.
- **Clients that are using the 802.11b protocol are not happy** with the performance.

Remote Office Connections

If a clinic has **more than one physical location**, the MediNotes Support Department recommends a **thin client solution**. In a thin client solution, the majority of the workload is placed on the server machine, so **minimal traffic is required to travel across the network**. The following connections are listed in the order that we recommend them.

Remote Desktop

If the office has enough licenses, Remote Desktop is proving to be very efficient.

Terminal Services

Terminal Services will not support dual monitors for the end user's workstation. Terminal Services only utilizes 256 colors on a Windows 2000 Server.

Citrix

Citrix is an expensive, but solid solution.

