

network guide

Easy Dental 2008 is designed to run seamlessly across a network, allowing users to share the same data throughout the practice. Everything is available to every user at every workstation. It's important, however, to have a good network installed, so that Easy Dental can always perform at its best. We cannot emphasize enough how important it is that your hardware is properly installed by a qualified technician.



glossary of terms

Network	A physically interconnected group of computers running software that allows them to share files and resources.
Client (or Workstation)	A computer which is connected to the network and relies on the server for data files.
Server	A computer running administrative software that controls access to the network and its resources. The server acts as the network's file cabinet, providing data files to other computers on the network.
Print Server	A computer (may be either a server or client) that has a printer physically attached to it. Other workstations may print to that printer via the network, but print jobs are controlled by the print server.
Peer-to-Peer Network	<p>A network in which all of the computers can be used as clients/servers. Typically data files are stored on just one of the computers, and other computers communicate with it to retrieve and store data. Usually for small networks (up to 10 stations).</p> <p>Advantages: Less expensive, easier to maintain, can be upgraded to a dedicated system.</p> <p>Disadvantages: Low security, low manageability, less client control.</p>
Dedicated Server Network (recommended)	<p>A network in which one computer is designated as the server and handles network administration tasks. Other computers (clients) are dependent on the server for network connections. Usually for larger networks (more than 10 stations).</p> <p>Advantages: Can handle a great deal of growth, better reliability, more security, more control over network.</p> <p>Disadvantages: More expensive, can be more technical and usually requires a local certified technician to maintain.</p>

server considerations

Performance	<p>There are many performance factors that should be considered when implementing a Dedicated Server Network Configuration. Please review the Easy Dental System Requirements document for the minimum hardware requirements.</p> <p>Processor: The faster the processor, the faster the system can execute functions and process information.</p> <p>Hard Drive: The type and rotational speed of the hard drive can have a major impact on network performance. SCSI drives are primarily used for high performance drive arrays and server systems. IDE drives are common on personal computers. SCSI drives generally provide more data throughput than IDE. However, the rotational speed of the disks in the hard drive is the largest factor in the performance of the drive. The higher the rotational speed of the drive (5200, 7200, or 10,000 RPMs), the more data the system can read and write from the drive in a fixed amount of time. Easy Dental only recommends hardware RAID 1 or 5 for additional fault tolerance and does not recommend software RAID or dynamic drives. Implementing RAID is not a backup solution.</p> <p>Memory: In general, the more memory the system has the better. In addition, newer memory standards on newer systems make it possible to transfer more data.</p> <p>Networking Speed: Network cards, hubs and switches should all be rated for 10/100/1000 performance. Using older and slower networking cards may cause network performance issues.</p>
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Reliability	Easy Dental does not recommend software RAID or dynamic drives. RAID 1 is recommended to add additional fault tolerance and reliability, and RAID 5 increases write speed and is redundant to your server system. However, implementing RAID is not a backup solution.
Expandability	Servers should be purchased with expandability in mind. You should consider whether the server will allow you to add more disk capacity, more memory, additional devices and whether the base-system can be upgraded to faster or multiple processors.
Location	Place your server in a secure practice location where it will be used infrequently. Front desk computers are used more often and can slow down network functions if used as a server. As a general rule, if you have more than 7-10 workstations, you should consider a 'dedicated' server that is not used as a workstation by anyone.

proper hardware installation

Network Wiring	<p>Having your hardware installed properly is as important as choosing the proper network environment. Most network difficulties in a practice can be traced simply to improper cabling or other installation problems.</p> <p>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 around in your local area for a qualified network installation technician.</p> <p>Instruct the installer to use 8-conductor, twisted pair, Category 5 wire (or better), with RJ45 connectors. The installer should be aware of x-ray equipment and fluorescent lights, as these are devices are sources of interference and can affect your network performance and reliability. You should plan to use Ethernet 10/100/1000 network cards (instead of 10 MB cards), and 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 for your wiring.</p>
Wireless Networks	Wireless networks are to be used at your own risk due to the inherent nature of interference in dental offices with x-ray machines and other devices. Wireless networks require professional installation to ensure appropriate security and to provide a reliable signal in order for the Easy Dental system to operate correctly.
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.
Network Cards	For added protection, you may want to consider an uninterruptible power supply (UPS). Please review the current System Requirements document for recommendation details at www.easydental.com .
Local Network Technician	<p>In order to network the computers, each computer will need a network interface card (NIC). This card provides the jack to plug your network wiring into the interface with your workstation. The Easy Dental system runs over a standard Ethernet network, and there are several quality vendors of Ethernet network cards including:</p> <ul style="list-style-type: none"> • 3COM Fast EtherLink (10/100/1000 card for PCI bus machines) • Intel Ethernet Pro 100 (10/100/1000 card for PCI bus machines) <p>Note: Avoid low-end or NE 2000-compatible cards. Low-end cards may be inexpensive, but with the cost of time, money, and extensive troubleshooting, it would be more cost effective to purchase a high-end network card.</p> <p>Recommended for network maintenance that is an Easy Dental Certified Integration Engineer (CIE) or Microsoft Certified Systems Engineer. You can find the nearest CIE in your area by going to www.easydental.com/training/cie. We recommend purchasing hardware from a reputable dealer offering ongoing service and support.</p>