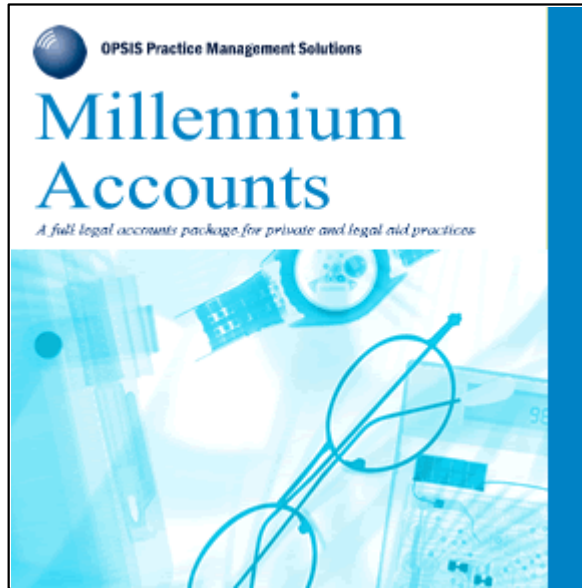




**Millennium Accounts
 (MS Access or MS SQL Server Versions)
 Technical Specification**



Please note the following specifications are intended as a guideline only, and are recommended minimum specifications. Our software may run on a lower specification but performance might be affected. We do not provide support for systems with a lower specification than that shown below. We recommend upgrading operating systems regularly to utilise the most recently available service packs.

	Database Type	
Item	Microsoft SQL Server Database	Microsoft Access Database
WORKSTATIONS	Networked Client PC's	
Processor (CPU)	Pentium III 750MHz (Pentium IV 1.2GHz or higher recommended)	
Memory (RAM)	512Mb min.	512Mb min.
Disk Space	500Mb Min.	
Display Resolution	Min. SVGA 800 x 600 with 256 colours (1024 x 768 recommended).	
Backup Device	Database backup performed by central server. ZIP/Tape/CD-RW drive recommended for local files or additional one-off backups, e.g. Period End.	
Operating System	MS Windows 2000 Pro, XP Pro, Vista Business/Ultimate with latest Service Packs installed. We do not recommend Win 98, XP Home or Win ME.	
Software	MS Office 2000, MS Office XP or MS Office 2003, with latest Service Pack. (Millennium can export reports to MS Word & Excel, and Adobe PDF Format). IE 5.0 or later (for Internet).	
	(continued on next page)	

	Database Type	
Item	Microsoft SQL Server Database	Microsoft Access Database
SERVER	IMPORTANT: Please make allowance by increasing resources for any additional services running on your server that may impact performance.	
Processor (CPU)	Min. Pentium III 750MHz minimum. (Pentium IV 1.2GHz or higher recommended). Recommend use of Uninterruptible Power Supply.	
Memory (RAM)	Min. 1Gb	
Disk Space	<p>In addition to the standard SQL Server installation requirements as specified by Microsoft, additional hard drive space is required for the actual SQL database files created by Millennium, e.g. SQL Server Transaction Log files, also Differential & Full Online Backup files. Approx 4Gb should be allowed.</p> <p>Additional space is required if also using Solicitor Case Manager (SQL Version), e.g. 15Gb total minimum.</p> <p>You may wish to increase tolerance of system failures using options such as RAID (Redundant Array of Independent Disks) to increase data access speed and prevent data loss in the event of disk failure.</p>	4Gb min
Display	Min. SVGA 800 x 600 with 256 colours (1024 x 768 recommended).	
Backup Device	We recommend a well-defined backup solution and strategy is adopted for SQL Server Online backups, with subsequent backup to suitable external media, e.g. backup to hard disk or dedicated backup server on LAN, and then to tapes. You should test your Restore procedure to prove it works as expected.	High capacity Tape drive for automated nightly backups.
Operating System	MS Windows 2000 Server, 2003 Server, 2008 Server, Small Business Server. Always ensure the latest service packs are installed.	
Software	<p>Microsoft SQL Server 2000 Standard Edition (or Enterprise Edition) with latest Service Packs.</p> <p>Microsoft MSDE (only for 20 users or less).</p> <p>Microsoft SQL Server 2005 (Full) with latest Service Packs.</p> <p>Microsoft SQL Server 2005 Express (only for 20 users or less).</p> <p>If a <u>full</u> SQL Server version is used it is the customers responsibility to ensure that an appropriate number of CALs (Client Access Licenses) have been purchased from Microsoft. These SQL Server CALs are in addition to any Millennium User Licenses purchased. i.e. purchasing a Millennium User license does NOT include an SQL Server CAL.</p> <p>If using MSDE or SQL Server 2005 Express no CALs are required from Microsoft, but database size limits of 2Gb and 4Gb respectively are imposed by Microsoft.</p> <p>The minimum requirements for an SQL Server based database are equivalent to the requirements specified by Microsoft for the particular version of SQL Server being used.</p> <p>Millennium uses SQL Authentication for the main database user account.</p>	For MS Access database on the server Opportunistic Locking must be disabled (use our OpLock utility to set required registry settings).



	Database Type	
Item	Microsoft SQL Server Database	Microsoft Access Database
NETWORK		
Network Cards	100Mb Intel, 3COM, D-Link or LinkSys network interface card recommended. 10Mb can be used in Workstations only (not Server). 100Mb or higher recommended for network hubs/switches.	
	Virtual Private Network (VPN) is considered essential for protecting inter-office connections by tunneling/encryption of SQL data if going across the Internet. You will most likely require this anyway to safely transfer your non-database files over wide-area network, e.g. Word processing files, spreadsheets, etc.	Network cards using Realtek RTL8139 chipset are strictly NOT supported (e.g. Realtek, Genius, TrendNET, Micronet, Edimax, Aopen, Accton, Alloy 1439, LanVision, Pancer, Zonet and several others – this cheap make of card causes data corruption with MS Access and is not recommended for professional network use).
Cabling	Category 5 network cabling recommended maximising the performance of your network. Wireless (WiFi) networks are not recommended due to potential transmission dropouts and security risks if incorrectly configured.	
Peer-to-Peer	<p><i>Peer-to-Peer: A simple network where several PC's can share data without special configuration or "server" software. One of the PC's might be nominated to hold data centrally, for access by the other PC's but this does not qualify it as a Server in the technical sense. This central PC will incur additional load whenever data is accessed by the other PC's therefore it must either be <u>devoted to the task</u>, or <u>made more powerful</u>.</i></p> <p style="text-align: center;">Peer-to-peer networking is not recommended for more than 5 users.</p> <p style="text-align: center;">Where Peer-to-Peer networking is required, please note the following:-</p> <p style="text-align: center;">The specification for <u>normal</u> PC use (non data-sharing) is as for Workstations specification shown above.</p> <p style="text-align: center;">Please note the following with regard to the PC acting as the central data repository :-</p> <ol style="list-style-type: none"> a) If it has the <u>minimum Workstation</u> specification, it must NOT be operated by a User so that it can devote its resources to sharing data; or b) If a User <u>will</u> be operating it for normal day-to-day use as well as data sharing, then it must have higher than the recommended Workstation specification. <p style="text-align: center;"><i>Please contact us for specific recommendations.</i></p>	
Remote Access	We insist on remote access for support purposes either via a modem and PCAnywhere (V10 minimum), VNC or VPN access via the Internet using Remote Admin, Terminal Server, or using our Netviewer remote support and demonstration software.	
MISCELLANEOUS		
Recommended Installation & Administration Skills	<p>The IT Manager responsible for on-going administration of the application should possess the following skills:</p> <ul style="list-style-type: none"> • Microsoft Windows 2000, XP and/or 2003 server administration skills • MS SQL Server database administration knowledge for MS SQL version of software • General Internet and TCP/IP networking knowledge 	

1.1 Differences Between MS Access and SQL Server

The main differences are:-

- **MS Access** is suitable for single-user or small to medium sized practices, and quantity of data.

- **SQL Server** is better suited to larger scale operations, involving large amounts of data, many simultaneous users and minimal downtime requirements when backing up data.

SQL Server database is a much more reliable and stable way of running a database. It works by doing the data retrieval processing on the server rather than on the client machines themselves (as is done with **Access** databases). This means far less data is transported across the local network (only the results of a database query or update are sent), meaning that overall your network becomes much more efficient, and may even appear to be faster.

When less traffic is transported the network is more reliable. With **SQL** only the relevant pieces of data you request from the main database are transported, minimising any network problems. In fact you should have no possibility of corruption arising from network problems with **SQL Server** database, because if requested information is not received, it will just automatically request it again.

However, with **MS Access** databases the complete database is opened across the network, and any network fault could cause data corruption in the database, causing horrendous problems.

Security is also better with **SQL Server**, since it can be controlled both inside and outside of the database itself, as well as from within the Application. In **MS Access** it can only be controlled from the application and by the operating system.

SQL Server also allows “on-line” backups, so you can back up the data while people are actually using it. This means less down time during those critical busy periods - like month ends. Also for large-scale operations **SQL Server** can be configured to perform regular “mini” backups during the day, which means that if something goes wrong with the server hardware, the data can be restored to the latest main backup, and then up to the point of the latest “mini” backup. However this kind of backup and restore method requires the more specialized knowledge of a database administrator (DBA), hence the reason why we recommend the IT Manager should have the appropriate skills, or access to a consultant with the required skills.

Part of the DBA’s responsibilities are to ensure the smooth running of the **SQL Server** database, not only for the backup & restore procedure, but also to ensure the database is optimized to perform as best it can. The point at which this kind of additional involvement may be required is determined by the size of the databases, the number of users and requirements of the business, and whether the **SQL Server** is being used to house additional databases for other applications besides OPSIS products.

Remote Access is the other main improvement. **SQL Server** is better suited to, and easier to run from remote connections. Using broadband it is possible to connect to your office. You can then run the application straight over the broadband connection. This reduces the requirement for *Terminal Servers* and other methods of connecting into the office to view and do work, meaning huge savings on the installation of additional terminal server hardware. Also, you will not need a terminal server profile, since the software will run on the local (client) machine.

Important Note: The performance of OPSIS products over remote connection depends greatly on the available bandwidth and reliability of any inter-office connection, and to what degree this connection is shared with other applications. There may be some instances when desktop emulation software such as Terminal Server is still required.

1.2 Further Information

Please do not hesitate to contact our Helpdesk if you need any further information or assistance regarding technical/hardware matters:-



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Republic of Ireland: +353(0)1 294 2903

<http://www.opsisltd.com/>