



# Technical Guide



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# Technical Guide

The following information is presented to give you detailed information on the infrastructure required to operate the SunLync software. You will find information here on the hardware requirements for the SunLync software, the network configuration that you should install, and what peripherals will work with SunLync.

## ***Computer Recommendations***

SunLync Select is built on **client/server** technology. This means that two computer programs communicate with one another to store and retrieve information. The client software makes a service request from the server software, and the server software then responds with the requested information to the client.

The server component of SunLync Select is a **MySQL** database that resides on the **server**. All data is housed and processed on that system. The type of server you need is determined by the number of stores and workstations that will be connecting to that server.

The client component of SunLync Select resides on a **workstation**. A workstation is nothing more than a standard component. However, since the client does not have the same type of processing and connection needs as the server, the workstation does not need to be as powerful.

Both client and server components of SunLync Select can reside within a single computer, but it may be necessary to use separate systems, depending on the amount of connections and processing required of the server.

## **Workstation Specification**

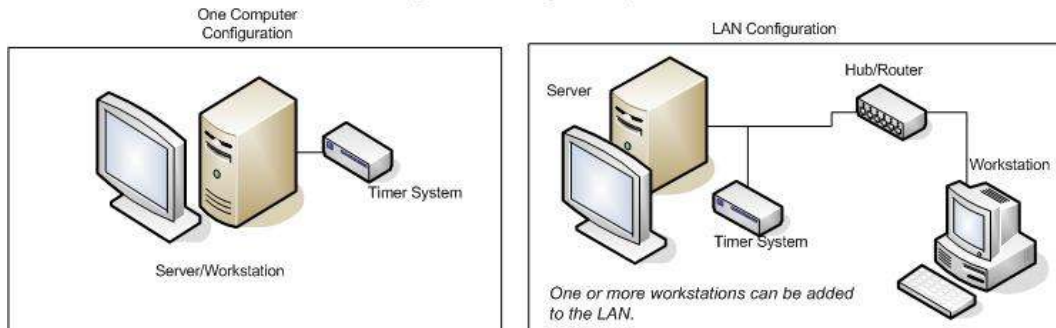
- **Windows XP Professional, or Vista Business Edition (32 Bit)** operating systems.
- **2.0 GHz or better processor, either AMD Athlon or Intel Pentium Class**
- **1 GB RAM (2GB if using Vista)**
- **40 GB Hard Drive**
- **CD-RW or DVD-RW drive.** This is optional, but you should make sure that each workstation has a means of receiving update files. A floppy disk drive would ***not*** be acceptable.

## Server Specification

### Single Store

The following server specification would be sufficient for a single salon. We recommend that the Point of Sale workstation be separate from the server.

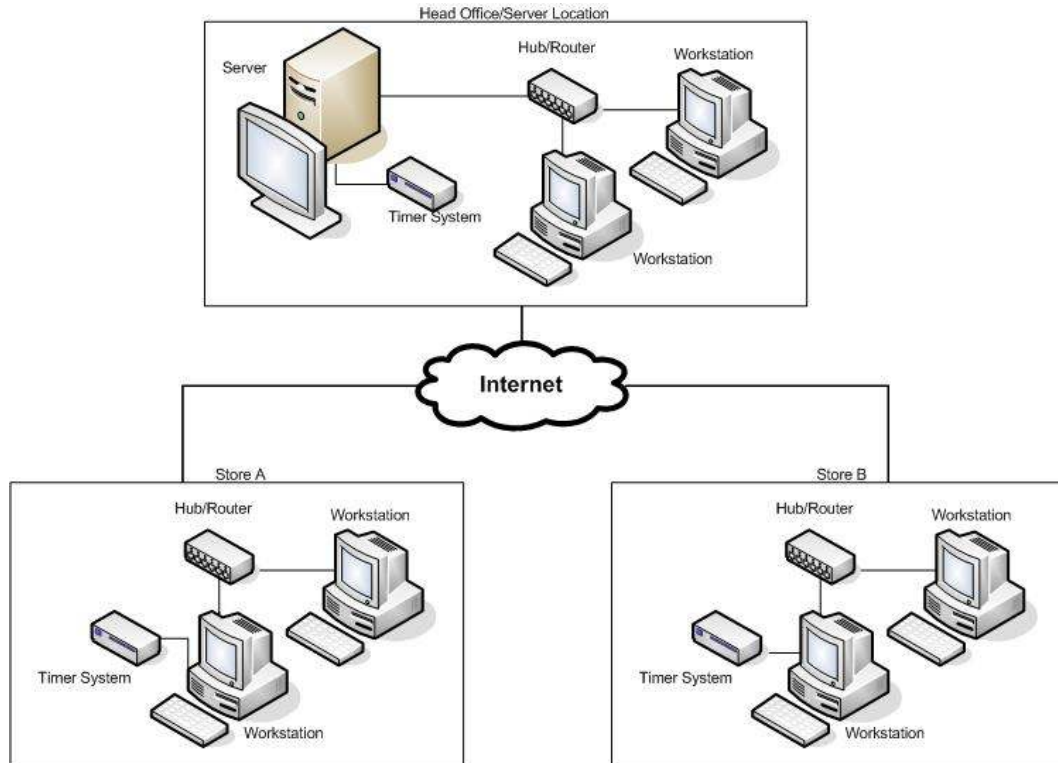
Single Salon Configuration Options



- **Windows XP Pro** or Vista Business Edition (32 Bit) operating system
- **2.0 GHz or better processor, either AMD Athlon or Intel Pentium Class**
- **1 GB RAM (2GB if using Vista)**
- **80 GB Hard Drive**
- **USB Flash Memory Drives (2-8GB)** or other devices to be used for backups.

## Multiple Stores

To determine the specifications for the server that will be used with multiple locations, find the number of salons to be supported below. We **highly** recommend that the Point of Sale workstation be separate from the server when multiple salons are involved.



### 2 - 5 Stores

- **Windows XP Pro**, Windows Vista Business Edition (32 Bit), **Windows Server 2003** or **Linux**
- **2.0 GHz or better** AMD Athlon 64, X2 or Intel Pentium Class Dual Core CPU
- **2 GB RAM**
- IDE or SCSI Drives in a **RAID 1** or **RAID 5** configuration
- **Intel Pro 1000** Network adaptors
- **UPS Backup**, to protect against a power outage.

### 6 - 10 Stores

- **Windows XP Pro**, Windows Vista Business Edition (32 Bit), **Windows Server 2003** or **Linux**
- **3.0 GHz or better** AMD Athlon 64, Athlon X2 or Intel Pentium Class Dual Core CPU
- **4 GB ECC RAM**
- **80 GB SATA** or SCSI Drives in a **RAID 1** or **RAID 5** configuration
- **Intel Pro 1000** Network adaptors
- **UPS Backup**, to protect against a power outage.

## 11 - 30 Stores

- **Windows Server 2003** or **Linux**
- **3.4 GHz** Athlon X2, Athlon FX, Intel Pentium Dual Core CPU
- **4-8 GB** ECC RAM
- **73+ GB 10-15K RPM SCSI Drives** in a **RAID 5** configuration. This will give you a total of 73 GB of storage if you use three 36 GB drives in a RAID 5 configuration.
- **Intel Pro 1000** Network adaptors
- **UPS Backup**, to protect against a power outage.

## 30+ Stores

- **Windows Server 2003** or **Linux**
- **3.4 GHz** Athlon X2, Athlon FX, Intel Dual Core, Intel Quad Core Xeon CPU. A Quad Core processor will give you the best performance.
- **8-12 GB** ECC RAM
- **73+ GB 15K RPM SCSI Drives** in a RAID 5 configuration This will give you a total of 73 GB of storage if you use three 36 GB drives in a RAID 5 configuration.
- **Intel Pro 1000** Network adaptors
- **UPS Backup**, to protect against a power outage.

## Server Recommendations

The following options are not required to use SunLync on your server, but you may want to follow the following guidelines:

- Install a **tape drive**, **external USB drive**, or **DVD-RW drive** for backups.
- Store **MySQL data** on partition separate from your operating system.
- Use a **RAID 5** drive configuration for MySQL data.
- Use **Fast 320 mbps SCSI** drives and card for data storage. These devices include a battery backup on card on the card itself.
- To save money on Microsoft connection licenses, use **Windows XP Pro** (10 stores or less) or **Linux** for your server. You can only use Windows XP Pro if you will have 10 stores or less.
- Use **Intel Pro 1000** Network adaptors and equipment for future 1000 mbps networking.

## Windows Vista Support

Many SunLync users are currently using Windows Vista with SunLync Select. However, please keep the following information in mind.

- Digital Persona, the manufacturer of the **biometrics** scanners that SunLync uses, has made available to us a Windows Vista compatible set of drivers. You must use these new drivers and no others. The drivers will work in both XP and Vista.
- Vista's **User Account Controls (UAC)** and the **Aero Glass** effect must both be disabled in order for SunLync to work properly.

- Timer Server must be set to run **As Administrator**.
- **Signature pads** may or may not work correctly under Vista; this depends on the vendor providing appropriate drivers.
- The settings for the **SunINI** program might be copied to an alternate location by the operating system. Normally, this file is found in **C:\Program Files\SunLync**, but some installations will move this file to the current user's home directory. This should not be an issue if UAC is disabled.

Any version of Vista should be able to run SunLync, but some versions of Vista are more appropriate for business environments. We recommend that you use either **Vista Business Edition (32 Bit)** or **Vista Ultimate Edition (32 Bit)**. Please keep this information in mind when configuring a Vista workstation.

## ***Network/WAN***

The following information will show you how fast of an Internet connection you should have for SunLync. Although slower connections might work to a degree, it is not recommended.

To verify download and upload speeds, go to <http://www.dslreports.com/speedtest>

- **Server Location:** 768 Kbps download and upload speed and a static IP Address. For 20 or more locations, use 1.5MB download and upload speed.\*
- **Other Locations:** 768 Kbps download/256 Kbps upload\*. Static IP addresses at remote locations are recommended.
- Establish a **Virtual Private Network (VPN)** connection between your locations and the server location with a dedicated DNS server. For security purposes, this is **highly recommended**.

Using a VPN connection can help you control the systems that can connect to your server. This type of connection uses the Internet to connect remote sites or users together. Instead of using a dedicated, real-world connection such as a leased line, a VPN uses virtual connections from the company's private network through the Internet to a remote location.

If a user wants to connect to the SunLync database from outside the salon a VPN is strongly recommended for Payment Card Industry compliance. For more information on PCI compliance please visit [https://www.pcisecuritystandards.org/pdfs/pci\\_dss\\_v1-1.pdf](https://www.pcisecuritystandards.org/pdfs/pci_dss_v1-1.pdf)

For assistance with choosing a VPN solution, consult your Information Technology representative. Argo Networks has helped many other SunLync customers with a VPN solution. Please contact them at 502-635-6963.

*VPN connections are outside of SunLync support services. We highly recommend that you consult with an Information Technology professional with regards to the best solution for your needs. SunLync will not assist with setting up or troubleshooting any network or VPN connection.*

## ***Firewall***

Most modern systems will include some kind of firewall solution, meant to protect your system from unwanted connections. Use the following information to configure any associated firewall.

*If you do not know how to configure your firewall, please contact your system vendor. SunLync Support will **not** configure firewalls, routers or networks!*

- The MySQL database uses **port 3306**. Any workstation using SunLync must be able to connect to the server on this port.

- The SunLync Timer Server uses **port 6005**. This port should be available to any workstation in that system's location. All other workstations should allow connections out to the Timer Server workstation.

## ***Peripherals***

The following hardware devices are supported in SunLync.

### **Timer Systems**

SunLync is compatible with the following timer systems:

- **T-Max**
- **Intellitan**
- **FST**
- **Westar Database**

SunLync does not currently offer timers or timer managers for sale.

### **Report Printers**

SunLync Select will work with any **Windows compatible non-TWAIN** printer. Since most "all-in-one" printers are TWAIN compliant, we cannot guarantee that they will work with SunLync. Also, the printer must be 100% compatible with your version of Windows to work properly.

### **Receipt Printers**

Currently compatible with the following Receipt Printers:

- Star TSP100 Series (USB)
- Star SP200
- Star SP500 Series

Although other receipt printers may function correctly, we cannot guarantee their operation.



## Cash Drawers

SunLync Select supports any MMF Cash Drawer that connects to the supported receipt printers.

- Heritage MMF Cash Drawers (15.25" and 19.75")



## Biometrics

- Digital Persona U.are.U 4000 or 4000 B thumbprint scanner

*No other biometric device is supported in SunLync Select at this time. Please contact SunLync prior to installing any biometrics device!*



## Cameras

Any digital camera with a Windows driver will allow you to capture customer images and store them in SunLync. No particular device is required.

## Signature Pads

SunLync Select has been tested and confirmed to work correctly only with signature pads manufactured by ePad. Most signature pads that interface with Microsoft Word will also work with SunLync, but are not supported.

## Barcode Scanners

SunLync Select has been tested and confirmed to work correctly with the following Barcode Scanner:

- ID TECH USB Barcode scanner



## ***Magnetic Strip Readers***

SunLync Select has been tested and confirmed to work correctly with the following Magnetic Strip Readers:

- MAGTEK,TRK 1/2/3,BLACK,USB, WITH KBW EMULATION



The following devices can read both credit cards and checks. However, SunLync version 4.0 only supports the credit card functionality. The ability to read checks was incorporated in SunLync V 5.0.

- MAGTEK MINI MICR-T3-GRAY-KBW (requires PS/2 keyboard)
- MAGTEK MINI MICR-T3-GRAY-USB (SunLync v5.0 ONLY!)



## **Vendors**

As SunLync is a software design firm, our primary focus is on the development of software specifically for the indoor tanning industry. We do not support hardware issues associated with presently installed hardware that does not meet recommended specifications. However, we will offer guidance and provide vendors when it comes to selecting hardware for your business.

Please feel free to contact the following company if you wish to purchase any of the above listed devices:

**Argo Networks, Inc.**

3934 Dixie Hwy STE 500

Louisville, KY 40216

(502) 635-6963

orders@argo-networks.com

See <http://www.sunlync.com> for further recommendations on vendors.

## ***System Security***

Due to the nature of computers and networks, many administrators need additional security settings for their SunLync installation. We highly recommend that such options be enabled, but you must remain aware that certain settings are required for the proper operation of the SunLync software. In Windows, the following security settings are required:

- Any user who will be running Sunlync must have **Full Control** access to the **C:\Program Files\SunLync** folder. If you aren't sure how to set such access, please contact your system vendor.
- The SunLync server must **accept** incoming connections and be able to **transmit** data on **port 3306** for both **TCP** and **UDP** protocols.
- Any Timer system (one running the **Timer Server** program and physically connected to the timers) must **accept** incoming connections and be able to **transmit** data on **port 6005** for both **TCP** and **UDP** protocols.
- Users must be able to access the SunLync setting in **Data Sources (ODBC)**, and the **System DSN** tab on that window.

*Failure to configure the system to use these security options will prevent the SunLync software from operating correctly! SunLync will be unable to assist you in the resolution of any issues should these settings not be configured as listed. By changing such settings, you accept all responsibility for maintaining the SunLync software.*

## ***Prevention and Disaster Recovery***

Although no one can determine how and when a given system may fail, awareness of and preparation for the most common disastrous events can assist you in recovering from such events. This holds true for SunLync Select and its associated hardware components as it does for any system.

The key to surviving a disaster is **prevention**. After all, if you can keep a disaster from occurring in the first place, you would have no need to recover.

Use the following guidelines to determine your own disaster recovery plan.

## **How to backup MySQL**

The most important component of your SunLync Select system is the MySQL database that stores your customer's information. It is **imperative** that this data be maintained and remains available at all times. Without it, not only will the software not operate, but your valuable information would be lost. With this in mind, we at SunLync **highly** recommend that you backup your MySQL data on a regular schedule, if not **daily**.

Remember, SunLync is **not responsible for generating or configuring backups!** We can however suggest the following methods to do so. The vendor listed below can also provide you with a backup solution.

#### **DIVINSA LLC**

Divinsa Online Backup & Recovery is an online internet backup provider. If you have been looking for a way you can insure that you have a safe and secure remote offsite backups at all times and at a reasonable cost, try Divinsa for free for two weeks by contacting David Remer.

Visit their website at: [www.divinsa.com](http://www.divinsa.com)

Call Toll Free: 1-800-624-9561 x106

Contact: David Remer

[dremer@divinsa.com](mailto:dremer@divinsa.com)

## **Using MySQL Administrator**

The company that provides the MySQL database engine has also provided a tool that allows users to easily maintain their MySQL information. This MySQL Administrator allows you to maintain and monitor your MySQL information, change user details, and perform backups. This tool is available at <http://www.mysql.com/products/tools/administrator/>. Full documentation on how to use this tool is available at <http://dev.mysql.com/doc/administrator/en/index.html>. **We recommend that you use this tool to create a regular backup schedule.**

If you do choose to use this tool, make sure you backup both the **mysql** and **sunlync** data catalogs, as well as any other databases you require.

*The MySQL Administrator Backup includes an option that will drop or delete information from an existing database when restoring the backup. We highly recommend that this option be disabled when performing the backups. To do this, go to the Advanced Options tab and turn off the option labeled **Add DROP Statements**.*

## **The mysqldump Command**

In addition to using MySQL Administrator, you can manually backup the databases from the command line by using the **mysqldump** command. There are a number of options associated with this command that will help you process the information. The recommended options are detailed below.

The basic command for mysqldump is:

**mysqldump *databaseName* > *dumpfile.dump***

Replace ***databaseName*** with the name of the database that you want to backup and ***dumpfile.dump*** with the name of the backup file to be created.

There are some additional options that you can use with mysqldump to help speed up the process. Such a command may appear similar to the following:

**mysqldump --user=*sunlync* --password --host=*XXX.XXX.XXX.XXX* --compress --opt --quote-names *sunlync* > *c:\sunlync.dump***

The following information describes each setting in detail:

- **mysqldump**: command to create dump file.

- **--user=sunlync**: the username used to connect to the database. Some options require you to use the root username to create the dump file. We recommend that you do so if possible.
- **--password**: allows the password prompt to appear after the command is run. Use this if a password exists for the account, such as for the **sunlync** user.
- **--host=XXX.XXX.XXX.XXX**: the IP address or host name where the server is located. You can remove this option if you are running the backup on the server itself.
- **--compress**: reduces the size of packets sent to and from the systems involved. This is not necessary if running the backup on the server.
- **--opt**: speeds up the dump process and makes it easier to recreate the database. This is only available in MySQL version 4.0 or later and can only be used if the user has the LOCK TABLES privilege. Note that the sunlync user does **not** have this privilege, and thus cannot use this option.
- **--quote-names**: puts database, table, and column names in single quotes. This helps avoid any cases where a table name is the same as a MySQL command or if the table name includes unusual characters.
- **sunlync**: the name of the source database.
- **c:\sunlync.dump**: the name of the target dump file. We usually save these in the format **salonname\_YYYYMMDD.dump**.

To use this command, follow these steps:

1. Open a **Command Prompt** window.
2. At the prompt, change to the **MySQL** directory. Usually you can just type **cd c:\mysql\bin** and press enter. Modify this depending on your installation.
3. Enter the mysqldump command using any appropriate options and press **Enter**. You may want to copy and paste the command as indicated above.
4. You will be prompted to enter the password for the database. Do so, and press **Enter**. The dump file will then be created.

*It may take some time before the dump is completed. Always make sure that the dump completes successfully by using that dump file to create a new database.*

## Copying the MySQL Data Folders

Backups can also be performed by copying the MySQL data folders. Since this requires stopping the MySQL service, it is not recommended for regular backups. Use the following steps to do so.

1. Go to your **Administrative Tools** and open **Services**.
2. Right-click the **MySQL** Service and choose **Stop**.
3. Open the **MySQL** data folder, typically found at **C:\MySQL\data**.
4. Copy the **sunlync** and **mysql** folders from the data folder to your backup device.
5. Restart the **MySQL** service.

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Contact: John Deacon - [jdeacon@sunergoline.com](mailto:jdeacon@sunergoline.com)

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Call Toll Free: 877-786-5267 x1590

E-mail: [lampsales@globalsunlight.com](mailto:lampsales@globalsunlight.com)

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