

## 2.01. Requirements



For mSupply Mobile, refer [Getting Started](#)

### Hardware requirements

#### General hardware recommendations

We have clients running mSupply on a wide range of hardware in a wide range of operating environments. We are happy to discuss hardware options further via email or phone.

- In environments with regular power outages, it is highly recommended to procure Laptop machines rather than desktop machines. Laptop machines will almost always be the best solution in terms of both cost and effectiveness for these reasons:
  - In environments with poor quality electricity supply, laptop computers will generally be more reliable than desktop computers with UPS protection. In such environments UPS batteries will normally die within 2 years. Laptop batteries have better power management and the batteries last longer
  - Even when the battery runs out on a laptop, the power management will normally cause the machine to shut down gracefully.
  - Laptop computers have built-in microphone and camera for provision of support
  - Laptop computers have built-in Wi-Fi adaptor for network connection
  - Laptop computers are smaller and lighter than desktop computers, and so are less costly to ship.
- A connected printer is not absolutely necessary in every situation, but for most situations it is a requirement. A dot-matrix printer may be used, but an ink-jet or laser is preferable.
- Buy hardware for which good after sales support is available.
- Buy brands with a reputation for quality (even if it means buying a slower/older machine).

#### Windows and Mac hardware requirements

Hardware requirements vary widely depending on what you want to use mSupply for. Here's a rough guide:



Recording stock transactions is a core mSupply activity. Most stock transaction data is numeric. It is essential that mSupply Windows or Mac hardware include a numeric keypad, either as part of a wide keyboard, or as a dedicated external numeric keypad.

## Version 5.0 and above

Any requirement that has changed between v4.14 and v5.00 is outlined in bold in the table below.

Machine	Technical Minimum	Recommended
Windows Client machine for use with server	64 bit processor Windows 10 <b>4</b> Gb RAM, 50Mb of disk space	64 bit processor Windows 10 <b>8</b> Gb RAM, 50Mb of disk space
Mac Client machine for use with server.	64 bit processor <b>macOS Mojave (10.14) - macOS Big Sur (11)</b> (Latest release of major version is required, such as 10.14.6) <b>4</b> Gb RAM, 50Mb of disk space	64 bit processor <b>Mac OS 10.14.6 or later</b> <b>8</b> Gb RAM, 50Mb of disk space
Windows server	64 bit processor Windows 10 Pro or Win Server 2016 <b>8</b> Gb RAM 500 GB HDD/SDD volume with daily backups to an external volume Attached to a Smart UPS (see below)	64 bit processor <b>Win Server 2016+</b> <b>16+</b> GB RAM - 32GB for busy sites with lots of history 4 x HDD/SDD volumes, 3 configured as RAID1 or RAID5 with hot spare Daily backups to the fourth volume plus daily off-site backups Attached to a Smart UPS (see below)
Windows Single-User sync machine	64 bit processor Windows 10 <b>8</b> Gb RAM, 500GB HDD/SDD volume with daily backups to an external volume plus daily off-site backups	64 bit processor Windows 10 <b>16</b> Gb RAM, 500GB HDD/SDD with daily backups to an external volume plus daily off-site backups

## Version 4.14 and below

Machine	Technical Minimum	Recommended
Windows Client machine for use with server	64 bit processor Windows 8.1 (known to work in Windows 7 but <b>not recommended</b> ) <b>4</b> Gb RAM, 50Mb of disk space	64 bit processor Windows 10 <b>8</b> Gb RAM, 50Mb of disk space
Mac Client machine for use with server.	64 bit processor Mac OS 10.13 or later <b>4</b> Gb RAM, 50Mb of disk space	64 bit processor Mac OS 10.13 or later <b>8</b> Gb RAM, 50Mb of disk space
Windows server	64 bit processor Windows 10 Pro/Win Server 2012 or later <b>8</b> Gb RAM 500 GB HDD/SDD volume with daily backups to an external volume Attached to a Smart UPS (see below)	64 bit processor Win Server 2012+ <b>16+</b> Gb RAM 4 x HDD/SDD volumes, 3 configured as RAID1 or RAID5 with hot spare Daily backups to the fourth volume plus daily off-site backups Attached to a Smart UPS (see below)

Machine	Technical Minimum	Recommended
Windows Single-User sync machine	64 bit processor Windows 8.1 (known to work in Windows 7 but <b>not recommended</b> ) <b>8</b> Gb RAM, 500GB HDD/SDD volume with daily backups to an external volume plus daily off-site backups	64 bit processor Windows 10 <b>16</b> Gb RAM, 500GB HDD/SDD with daily backups to an external volume plus daily off-site backups

- **Smart UPS** A 'smart' UPS ([Uninterruptible Power Supply](#)) detects when the battery power is about to run out and sends a notification to software on the server which triggers a graceful shut down of the computer. To enable this, there needs to be a cable connection (normally USB) between the UPS and the computer combined with software running on the computer.

In our experience, the primary cause of computer hardware failure is data corruption due to ungraceful shutdowns. This happens when power to the computer is cut instantly, without any notification to the computer to shut down gracefully. If the machine is 'protected' by a normal UPS, then this can still happen when the battery power runs out. Even if the machine is notionally protected by a 'smart' UPS, there are a number of circumstances where this UPS protection fails:

- Cable connection and software can fail.
  - Cable becomes disconnected
  - Software isn't configured correctly
  - Software doesn't start up
- UPS batteries degrade (normally within 2 years of installation in environments with regular power cuts) and there is too little capacity to run long enough for the computer to shut down gracefully after receiving the notification from the UPS

Laptop computers tend to be much more resilient to power failure:



- A laptop's built-in 'smart' UPS is very reliable
- The internal batteries last much longer than UPS batteries
- Even if the laptop internal battery degrades, the 'smart' function appears to work much more reliably than a standalone UPS communicating with a 'tower' computer.

Here are some additional advantages of laptops vs. desktop machines:

- Lower cost of freight:
  - To send the machine to site
  - To send spare parts for repair on-site
  - To retrieve the machine from site for any repairs that can not be undertaken on site
- Wi-Fi capability normally included without extra cost
- Bluetooth capability normally included without extra cost
- 'Sound card', speaker, earphones and video camera normally included without extra cost

A concern with laptop computers is security. It is easier to steal a laptop computer from an office than it is to steal a desktop computer. For this reason, laptops are normally configured with a physical locking feature such as [Kensington lock slot](#).

Because mSupply is dealing with lots of numbers (quantities of stock), **it is highly recommended to have a keyboard with a numeric keypad**. Smaller laptop computers (14" screen or less) will not have this. Smaller laptop computers normally have an impractically small screen. It is therefore recommended to procure a laptop computer with a keyboard that includes a numeric keypad - which will necessarily entail a larger screen.



Useful productivity accessories for laptop computers include

- External mouse (not wireless - batteries replacement is expensive and environmentally irresponsible)
- External keyboard (not wireless - batteries replacement is expensive and environmentally irresponsible)
- External screen

There has been some good experience with configuring mSupply servers on higher-powered laptop computers. Please talk to us about these possibilities.

## Backup system

Once you start using mSupply, it is of crucial importance that you have a method of backing up your data. mSupply stores all its data in a file that rapidly becomes large. You need, therefore, to have a high capacity removable storage device. We strongly recommend the use of an external hard disk using either firewire (IEEE 1394) or USB2 to facilitate off-site storage of backups.

- See the section in Preferences that covers mSupply's built-in backup features that allow backup to another disk, and to an internet backup site... you'll find it here: [Backup](#)
- If not using our internet backup service, you need to be able to store backed up data off-site to prevent the risk of loss by fire, theft, etc.



Sustainable Solutions will not be able to help you recover lost data in the event of hardware failure if no backup is available.

## Antivirus

Windows based operating systems are particularly prone to malware if precautions are not taken. We recommend the following precautions:

- Install a reputable anti-virus program, including web protection if the computer has access to the internet.
- Disable USB ports - refer to [this site](#) for suggested methods.

Ensure that access to passwords to allow exceptions to the above two measures are kept secure.

## Upgrading mSupply from previous versions

If you open a data file that was created with a previous version, it will automatically be updated to the new format. Please note that this process may take some time.

Note that if you are using a version earlier than v1.96 you must first upgrade to v1.96 and then to version 2 or 3.



**IMPORTANT!** Always make a backup of your data file before upgrading, and preferably keep a copy off-site. We will not be able to help you in the event of some unexpected disaster if you haven't followed this advice!

Previous: [2. Setting Up mSupply: Technical Guide](#) | | Next: [2.02. Installation](#)

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