

Socrates General Information

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SOCRATES TECHNICAL SPECIFICATIONS

Socrates is a thick client based Omnis Studio application which runs on both Windows and Mac. Note that there are some features that don't function on a Mac, contact us for details. The database is stored at your institution; you choose where on your own system it is stored, it can be stored on a server or a local drive. If used on a LAN Socrates should be installed on each local computer with the database being stored on the network server or a nominated client machine using a shared drive, and accessed by the local client PC's. It can be installed on multiple local client machines, with the other machines "pointing" to the location of the database on the server. The installation itself doesn't need to be installed on the server. It can also be used with a Terminal Server. The number of PCs that can be used to access the program depends on the number of PC licenses obtained. These can be updated if additional machines are needed.

Patient Score/Survey Online Service

Socrates Ortho offers a hosted solution to manage Patient Score / Survey entry online. This is an optional web based service which allows patients to enter their scores and surveys via a web application hosted in a HIPAA compliant environment. This service is only available in English.

The local Socrates application communicates via a web service to tell the web application what is due, for who and when. It also requests a list of any completed surveys which it then adds back into the local database.

Web scores technical requirements

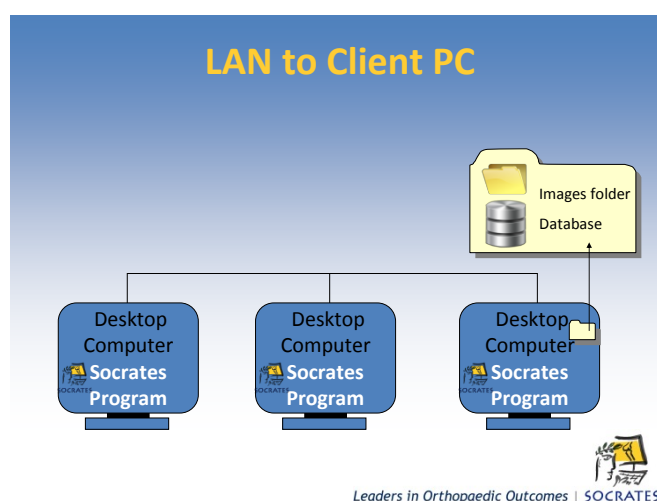
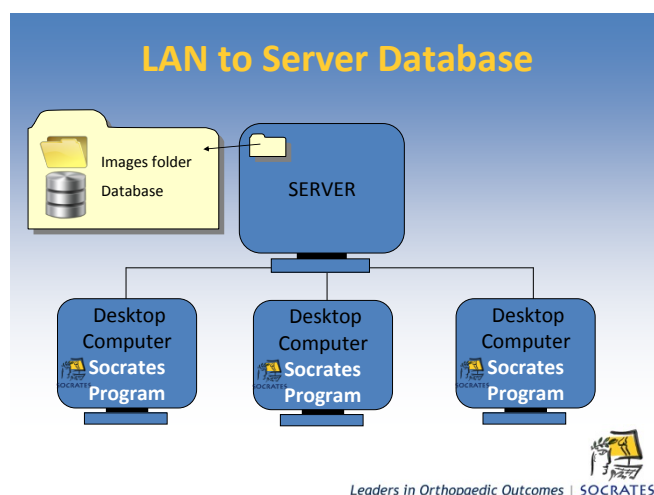
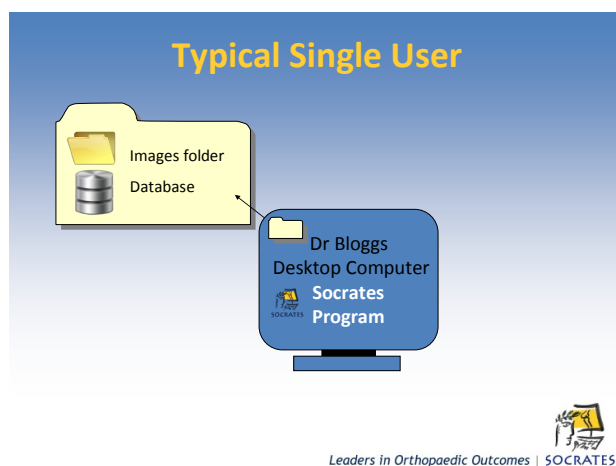
The computer with Socrates installed that is set up to communicate with the web server needs to connect to the Internet over HTTPS.

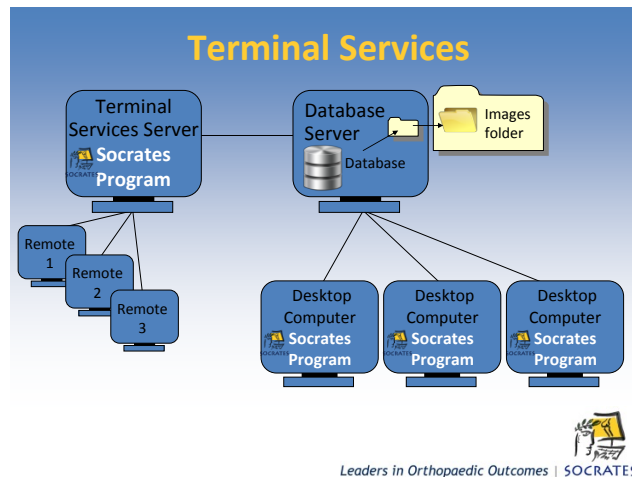
This requires outgoing TCP on port 443 to be allowed (web service communication is request/response driven so 443 is not required to be open for incoming connections). A separate technical document is available to describe the specifications of the web server.

The responses to the scores and surveys are returned to the user's copy of Socrates where the scores are calculated and stored with the other data pertaining to that record on the locally hosted database. There are

two methods of enabling patients to access this service. One is sending the link directly to the patient by email which takes them directly to their scores/surveys due for completion. The other is by logging in to <https://webscores.socratesortho.com> while the patient is in the clinic and entering the ID and password generated by the program for that patient. The site can choose which method to suit the individual patient. The site assigns what scores/surveys they want submitted, at what time points for each record, and Socrates will send those due at the appropriate time points to the server to be available within the time point chosen.

Typical setups





Remote access

Socrates can be used on a terminal services server for remote access, or accessed by a VPN connection. If installed on a terminal services server it is recommended that the program be installed on the terminal services server with the database remaining on a separate server. The user's local IT group is responsible for setting this up.

Multiple Databases

DO NOT run two copies of the same database. There is a combine function but this is designed to merge two separate databases with different records/patients in them, not to merge two databases with the same patients in each group. You can have more than one database with different patient groups in them and switch between the two.

Data storage

There are two options for data storage with Socrates. Users choose which database they want to run Socrates on depending on the level of encryption and security required as well as their available resources.

PostgreSQL v9.0xxx Free open source database www.postgresql.org. An install package is provided which will install this with the Socrates client.

PostgreSQL by default requires TCP Port 5432 to be open for incoming connections. This can be changed to a different port during the installation if required.

Microsoft SQL Server 2005, 2008, 2008 R2, 2012 (Not supported for Mac clients).

Both options require a database administrator familiar with setting up and maintaining external database.

Features of PostgreSQL

PostgreSQL is an open source, widely used database, which can be downloaded free from the internet.

Suitable for:

- ✓ PC and Mac;
- ✓ all setups.

Features of SQL Server

MSSQL is a backend database, used by large institutions and corporations.

Suitable for:

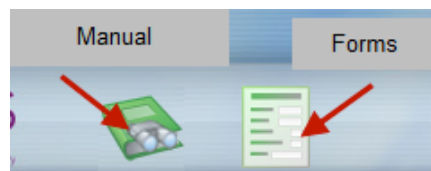
- ✓ large sites with established MSSQL servers.
- ✓ Needs a full database administrator

Not suitable for:

- × Mac - Socrates does not support the use of a Mac on MSSQL.
- × Single surgeon sites or small groups with no good IT and database support.

What is installed

- Socrates Library and Support Files
- Omnis Studio 4.3.2.1 Runtime
- Java 6 JRE Release 26
- Twain Data Source Manager
- Visual C 2008 SP1 Redistributable Files
- Size of the initial client installation is approximately 150 mbs. A database with approximately 7000 records will take up about 90mbs.
- The User Manual and the Forms folders are available via a link from the program, or in the user section of the website.



HARDWARE REQUIREMENTS

PC - Compatible with Windows Vista, Windows 7, 8.1 and 10. It may continue to function in XP but since Microsoft no longer support it we can't guarantee this.

Mac OS – 10.4 and above.

No additional software needs to be installed for either OS. The disk space required depends on the number of records and whether X-rays and videos will be stored. These are stored in a separate shared folder which can be located anywhere on the network. See page 8 for more details.

IMAGE AND DOCUMENT STORAGE

It's possible to store X-rays, videos, and electronic documents which are linked to the patient's record. A shared folder is used to store the files. The images are imported and stored in a proprietary format, they can then be exported from within Socrates as a TIFF, BMP, or JPEG. This currently only functions on Windows.

WEB SERVER DETAILS

The webscore server is hosted in the USA company - FireHost www.firehost.com - that provide us with a HIPAA (Health Insurance Portability and Accountability Act) and PCI (Payment Card Industry) compliant, secure, hosting environment. This is the highest level of security possible. A separate technical document is available to explain the back-end and server specifications. The majority of issues relating to data security and HIPAA compliance apply to the database itself which is still stored with the end user, not Socrates Ortho.

It is important to note that only minimal PHI (personal health information) is on the Socrates webscores server - the patient's first and last name, affected side and joint and the patient email address if email is selected as the method for the patient to enter their data. If email isn't selected only an internal Socrates ID and password for the surgery record is on the web server. The responses to the scores pass through as numbers; the scores are calculated in the user's copy of Socrates once the responses have been sent back from the web server. The PHI details are also encrypted according to the recommended standard using 256 bit encryption. HIPAA also does not consider properly encrypted data that is "unaccounted for" (stolen, lost, hacked) to be unsecured. The sites/users name (you) is also stored as just a number.

A separate technical document is available to describe the specifications of the web server.

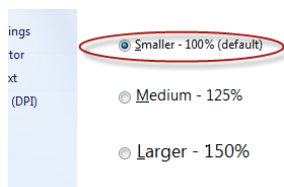
Latency Requirements

Socrates has been designed as a local area network application. As such it is not optimised for high latency client to database connections.

Recommended Latency is < 20 ms. Connections up to 50 ms will still function but there will be some performance degradation as latency heads towards the 50 ms mark. We do not recommend any connections with a latency > 50ms. For distance connections, spikes in latency and packet loss can also cause degrade performance.

Screen resolution

- Socrates runs at a minimum resolution of 1024 x 768.
- If you have a screen with a high resolution you will find the Socrates window is smaller than it will appear on a screen with a lower resolution. The small laptops with the small 8" inch screens won't display Socrates properly as the resolution is too low.
- Your computer should be set to normal fonts. If you choose medium or large fonts it will not display the text on the Socrates screen properly, and it won't all fit in the windows.



Installation, Creating your database, Backing up, Updating, Reinstalling

See the individual chapters for these functions. Upgrades can be done either by a .exe file or online for PC's. Mac's will need to run a .exe file. We send the .exe update via a "You Send It Link. Details of the latest release are available on the Socrates website.

A member of the Socrates technical team is available to assist with initial installation. This can normally be done remotely using Teamviewer or whatever remote login software the site elects to use.

Backing up the SQL database and the image folder is the responsibility of the site.

DATA ENTRY

Data entry remains a significant barrier to collecting outcomes and conducting research, there are several methods of data entry in Socrates.

Patient data - scannable forms almost all the patient outcome scores can be scanned into the program using the proprietary scanning built in to Socrates. The forms are printed out from within Socrates and scanned in using a standard TWAIN scanner. A 4-page form takes around 40 seconds to scan and populate the screen vs. 5-7 minutes by hand and it is a lot more accurate than manual data entry. Here's a section of a scannable form. This feature is not available on Macs.

Patients - please place an X in one box on each line to indicate your response to that question.

1. During the last six months, how many times has your shoulder slipped out of joint (or dislocated)?

☐ Not at all in 6 months ☐ 1 or 2 times in 6 months ☐ 1 or 2 times per month ☐ 1 or 2 times per week ☐ More often than 1 or 2 times/week

2. During the last three months, have you had any trouble (or worry) dressing because of your shoulder?

☐ No trouble at all ☐ Slight trouble or worry ☐ Moderate trouble or worry ☐ Extreme difficulty ☐ Impossible to do

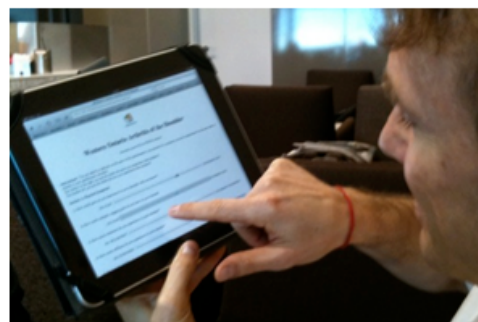
3. During the last three months, how would you describe the worst pain you have had from your shoulder?

☐ None ☐ Mild ache ☐ Moderate ☐ Severe ☐ Unbearable

Web based – There is an optional service available where patients can enter their scores on line either via their own email, or in the clinic using a standard PC or iPad. Ask for more details.

Please rate your ability to do the following activities in the last week by selecting the appropriate response.

	No Difficulty	Mild Difficulty	Moderate Difficulty	Unable	Severe Difficulty
Open a tight, or new, jar.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Turn a key.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare a meal.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Push open a heavy door.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Place an object on a shelf above your head.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do heavy household chores (e.g., wash walls, wash floors).	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Garden or do yard work.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>



Surgeon data entry – Some of the surgical details and the examination screens can be recorded on scannable forms and scanned directly into the program. Using remote data entry we also encourage surgeons to enter their surgical details directly into the program.

Index side: Normal: ☐

Pain

Location of Pain

☐ No pain ☐ Anterior patella ☐ Medial ☐ Lateral

☐ Global ☐ Referred-Hip ☐ Referred-Spine ☐ Other

Swelling ☐ Yes ☐ No If Yes: ☐ General ☐ Joint Line

Locking ☐ Yes ☐ No If Yes: ☐ In Extension ☐ Flexion

Giving Way ☐ Yes ☐ No If Yes: ☐ In Straight Line ☐ Change of Direction

Stiffness ☐ Yes ☐ No

Pathology:

☐ Osteoarthritis ☐ Osteonecrosis ☐ Inflammatory Arthritis ☐ Revision ☐ Trauma ☐ Tumour ☐ Other

Cause of OA:

☐ Idiopathic ☐ Dysplasia ☐ FAI ☐ Perthes ☐ Post fracture /injury ☐ SUFE ☐ Other

Cause of Trauma:

☐ Fractured neck of femur ☐ Fractured shaft of femur ☐ Other

Leg length: ☐ Equal or _____ mm (+ for long, -ve for short)

Procedure:

☐ Total Hip Arthroplasty ☐ Hip Resurfacing Arthroplasty ☐ Unipolar modular ☐ Bipolar ☐ Monobloc ☐ Other

Consent and permission

If you are collecting patient data you should ensure that you have the necessary consent to collect and use this information from the patient and whichever regulatory or ethics board is required by your hospital and the privacy laws of your country. The use of this database does not imply that any permission has been granted to do this for individuals or hospitals; it is the responsibility of the individual user or institution to ensure that he/she complies with these regulations. If you are using a server with remote access it is your responsibility to ensure that your server has the appropriate data security.

Recommended Use

Socrates is recommended for use with products, devices or procedures which have been approved by the appropriate regulatory body. It has not been validated for collecting data for applications/submission to regulatory bodies for approval to market new devices/products or procedures.

Use of Scores and Surveys

The use of certain scores and surveys in Socrates does not imply that users have a license or permission to use them. Sites need to ensure that any surveys/scores they use have the appropriate approvals and licenses for their intended use and any applicable fees are paid to the licensor. Those scores include, but may not be limited to:

Those scores include, but may not be limited to:

- Oxford Hip, Knee, Ankle, Elbow, Shoulder and Shoulder Instability scores
- Manchester foot disability Score
- Oswestry Back Disability Index V2.1 (ODI)
- Veterans Rand 12 and 36
- Dash elbow and shoulder score
- EQ 5D 3L and 5L
- SF 12 and 36 - Note that score totals only can be entered into Socrates. Scoring software must be obtained directly from licensors.

Details of how to contact the licensors is in the Socrates chapter of the Socrates User manual.

HIPAA compliance Issues

Complying with the privacy rules which relate to health related patient records requires both the database and the institution or site to comply. A database such as Socrates contains identifiable patient information (PHI) which approved users need to be able to access. One major use of Socrates is for research and tracking patient's outcomes and much of the analysis can be done without needing to identify individual patient's details. However there are instances where it is necessary to be able to identify individual patient's details. Some examples where this could be necessary would be to track a patient's progress if they had complications, recalls of implants used on selected patients, sending reminders for follow up appointments and finding outliers if results are not favourable. In addition sometimes there are obvious data entry errors and it is necessary to find the individual patient record to revisit the data which was entered. Thus it's necessary to keep these data identifiable at the "front end" of the database and allow the site to select who are approved users with access to these data.

Storage of the database: Socrates is a client based application and is not web based, the data resides on the end user's server, and Ortholink Pty Ltd has no access to any of the data. Thus data and server security is the responsibility of the site.

User access: A database administrator should be allocated who will have control over what other users of Socrates can or can't access within the Socrates "front end" of the database. The following security and access privileges can be allocated to users within Socrates by the administrator.

- Limit access to Socrates by creating individual users with their own log in and password. Password strength requires each user to have a user name, and password with 3 of the following 4 criteria - uppercase, lower case, numbers, or characters.
- Access rights – the administrator can allocate each user the following access rights
- Whether each new user can have administrator privileges

- Limit user access to the export and extract functions which prevent them being able to export lists with identifiable patient data.
- Allow users to add or modify, view, search or run statistics for only the surgeons where they been given access.
- Limit access to the Set up screen so users can't change the major settings.
- All data that can be exported by authorised users has a function which allows the user to de-identify it if they choose to.

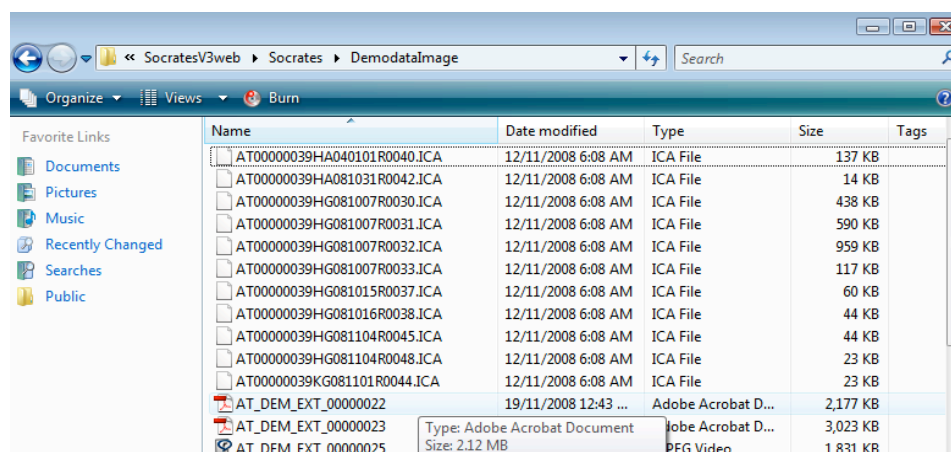
Data tracking: All screens show the date and which user has added or modified data. There are also data entry audit logs for each patient, as well as the overall database to enable users to track which user has accessed and modified any of the screens.

Location of database and image folder

There are two important files to know about. They are the data base file containing all the data entered, scores etc and the Image folder containing all your X-rays, videos, documents etc. The rest of the program can always be reinstalled if things are lost but if you lose these two files/folders and have no back up they are gone forever.

Postgres and MSSQL databases can't be viewed as a single file and are usually on the server. They are located inside the database engine.

The images, X-rays, videos and other documents you might want to file with the surgery record are in an image folder. This is created when you make up your own new file. You can locate it anywhere you like as long as the data file is "pointed" to the path for this folder. See more info in the Images chapter. The images are converted to a proprietary format while they live in Socrates. They can be opened and exported from **within the program** in their original format (jpeg, pdf etc) but they can't be opened directly from within the folder.



Support

On line support/assistance is available. Email us at info@socratesortho.com

Remote login using www.Teamviewer.com

Create a Skype account on www.skype.com for free telephone support internationally.

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