



## BOOKMARK FACT SHEET

### What to do if Bookmark Slows down

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The Bookmark system is designed to operate as fast as it can, given limitations imposed by the computer and network.

Sometimes it slows down. Loans and returns suddenly take a very long time to complete. Searches are lengthy. Saving an item allows a cup of coffee.

Several factors affect speed:

- Computer performance
- Network bottlenecks
- Broken database

#### Broken Database

The database consists of thousands of "segments". These are linked together in a single file. A record may consist of several linked segments. If a link breaks, data may be present but cannot be found. These special links can break when something is deleted. This is very rare but can happen.

Databases also contain many "indexes". An index is like the index of a book...it is used to quickly find records. Indexes also have segments strung together. If a string (link) breaks, the index stops working. The database system then will use "brute force" to find things...a far slower process.

When items are deleted, empty segments are left in the database. Much deleting can make the "link path" a twisted spaghetti mess.

Bookmark contains functions to fix broken linkages and clean up by removing unused segments.

Broken indexes can be fixed by going to Cataloguing then Reindex then Reindex database indexes. Let it run through. This one thing may increase speed considerably.

The other solution is a complete clean-out of the entire database. Go to Utilities then Batcave. Click on Rebuild Entire Database. Make a backup when requested. The backup is always to

Bookmark's location. If the rebuild doesn't work you can quickly restore. Continue. This is a very thorough cleanup of all data. The result is a pristine database with no empty segments and good indexes.

Note: the rebuild option requires that Bookmark operates from a mapped drive letter, not a UNC address. If the latter is the case – and a warning is given – a batch file called Remake.bat can be run from a command window. If it is an UNC address (starts with \\) a temporary drive letter can be assigned. In the Batcave, click on Command Window. Continue. Right-click on the black window then press enter when the Pushd line appears. Then enter Remake.bat.

After the rebuild, a reindex database indexes can be performed which may help again.

This is all that can be done to Bookmark itself. Everything else is up to hardware and the network.

## **Computer Performance**

The computer itself can influence speed, although it is not as great a factor as might be expected.

### *Memory:*

The more memory (RAM) the faster the computer can work. The ideal amount of memory depends on the version of Windows. For any 32-bit system, the maximum is 3 Gb. This is ideal. Bookmark may work in 2Gb but may not with any less.

64-bit systems benefit from even more memory. 4Gb is the minimum for 64-bit. 8Gb is faster but more memory beyond 8 may not make much difference in speed.

### *CPU Speed:*

The central processing unit of the computer can affect speed. The faster the better. Modern desktop PCs are usually over 3Ghz. Some laptops are below 2 but make up using cores.

### *CPU Cores:*

The CPU itself may consist of "cores". Each additional core can make a profound difference. The more cores the faster the computer can "compute". The ideal is 8 or more.

Modern desktop units often have 4, 6 or 8 cores. 6 to 10 year old computers may have 2 cores. 15 year old might have 1 core. Lower-priced modern laptops may only have 2 cores.

A 1.60Ghz laptop with 8 cores and 8Gb of memory might be almost as fast as a 3.40Ghz desktop with 4 cores and 4Gb memory.

Solid state drives are considerably faster than regular hard drives.

## **Network Bottlenecks**

Bookmark sees the network as a "drive". A great deal of data is exchanged across the network so the connection speed can have a big impact on performance.

The network to which the computer workstation is attached has a set of speeds for various components.

The network connection in the workstation itself has a speed. Older computers (5 yrs or more) may be limited to 100Mb/sec, which is fine for NBN but slow on modern networks.

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Wi-fi connections are always slower than cable. Wi-fi speed varies a great deal with the particular devices. Cable is always faster than Wi-fi, in some cases a lot faster. Where possible, connect to the network via Ethernet cable.

The host or server speed does not make a great deal of difference.

Cables are plugged into "switches". These have a speed. Older switches are slower.

The traffic on the network can have an impact. If many computers are being used at the same time, this can bog down the entire network.

The network itself has an overall speed. The term "bandwidth" is often used. Bandwidth=speed. Less bandwidth is less speed.