

# Data Entry into a Shared Database

by Clark Anderson

Most of our experience is working on a PC with information that is right there on the same PC with its application. Larger organizations share information across a network. Even many homes, now days, have their PCs on a network, usually to the WEB through some sort of modem or to a shared printer.

I have created one of my applications, SurvyMgr, with the ability to share a centralized database. This can be implemented, using a Local Area Network, LAN, made up of several data entry PCs and a database storage device, all connected by CAT5e cables to a Network Switch.

There are a variety of devices for connecting multiple PCs, including hubs and routers. I specify a 'Network Switch' because this category of interconnecting device is designed to allow each connected device to work at its fastest speed (10/100/1000 Mbps). Most PCs are equipped with Ethernet circuits with their modular RJ45 connectors. Almost all PCs can work at 100 Mbps speeds and most newer PCs can work at 1000 Mbps (gigabit) speeds. Of course, faster is better!

I use CAT5e (Category 5 enhanced) cables, which can operate at the gigabit speeds. They do keep improving the technologies. Their RJ45 modular connectors look like enlarged phone cord connectors.

It is possible to put the database on one of the PCs, but why tie up a PC when all it needs is a fast hard drive? The database can be installed on a NAS (Network Attached Storage) external hard drive, which is connected to the LAN (Local Area Network) using a CAT5e cable. The center of the LAN would be the Network Switch.

Selecting the Network Switch:

- 1) Speed: 'Gigabit' (10/100/1000 Mbps) speed capability is very important!
- 2) Capacity: Plan ahead for the number of ports! I have used an 8-port switch. This allowed one for the Database NAS, six data entry PCs and a temporary laptop PC. Do not be stingy! Double your estimate: 12 - 16 ports.
- 3) An unnecessary feature would be 'Managed' because there is no need to create VLANs, Virtual LANs.
- 4) Another unnecessary feature would be 'PoE' Power over Ethernet because you will not need to recharge portable devices.

Brands I am aware of include: Netgear, Linksys and Cisco.

They can be purchased over the web or in some electronics or office supply stores.

I have seen a price of \$200.

Selecting the NAS (Network Attached Storage):

- 1) Speed: 'Gigabit' (1000 Mbps) speed is very important! It must handle queries from multiple Data Entry PCs.
- 2) Size: You do not need a huge amount of space. The database can take up a few Mbytes. The SurvyMgr installation file is a few Mbytes. The smallest NAS devices I have noticed are 250 Mbytes. Extra space on the centralized NAS hard drive cannot hurt. Many NAS external hard drives are used for backing up entire PCs. Many new ones are in the Tbytes (Tera bytes) range.
- 3) Physical Size: There are huge industrial models, but I have a couple desktop book sized models. Speed and simplicity are best here.

Brands I am aware of include: Buffalo, Western Digital, Iomega and Verbatim.

They can be purchased (New or Used) over the web or in some electronics or office supply stores.

I bought mine, new, for under \$300 several years ago.

Selecting the Data Entry PCs:

This is the user interface. (Over the shoulder lighting is needed to read documents.)

- 1) They must have an easy to use keyboard.
- 2) Monitor screen resolution of at least 1024 v 768.
- 3) An Ethernet speed of 100 Mbps is fine.
- 4) Operating System: Best: MS Windows XP or Windows 7. OK: Windows Vista.

Mapping the NAS:

This lets the PC pretend the database is on its own hard drive.

- 1) Open 'My Computer' (Win XP)  
or  
1) Start -> Computer (Win Vista, Win 7, ...)
- 2) Click menu item Tools -> Map Network Drive... (Win XP)

or

2) Click menu item Map Network Drive (Win Vista, Win 7, ...)

3) Select an 'agreed upon' available Drive (e.g.: S:)

4) Select an 'agreed upon' Folder (e.g.: \\NAS\_Name\Shared\_DB\_Folder)

You may use the [ Browse... ] button to find it.

5) [x] Reconnect at logon

6) [ Finish ]