

Saratoga Radar System

Overview:

It all started eons ago with a 286 based PC, with a 10MByte Hard Drive, floppy disks and a 2400 baud modem that was shared with my teen-aged step daughter. That system went through many upgrades over the first few years. Next came a 386 “powerhouse” system that I built, a separate phone line and a 9600 baud Modem. My first website was created on AOL and was designed around my family genealogy.

Then along came the first lesson, AOL eliminated personal web sites. Fortunately I had all the web designs stored on my hard drive, so it was not a big deal to make copy my site to another internet provider.

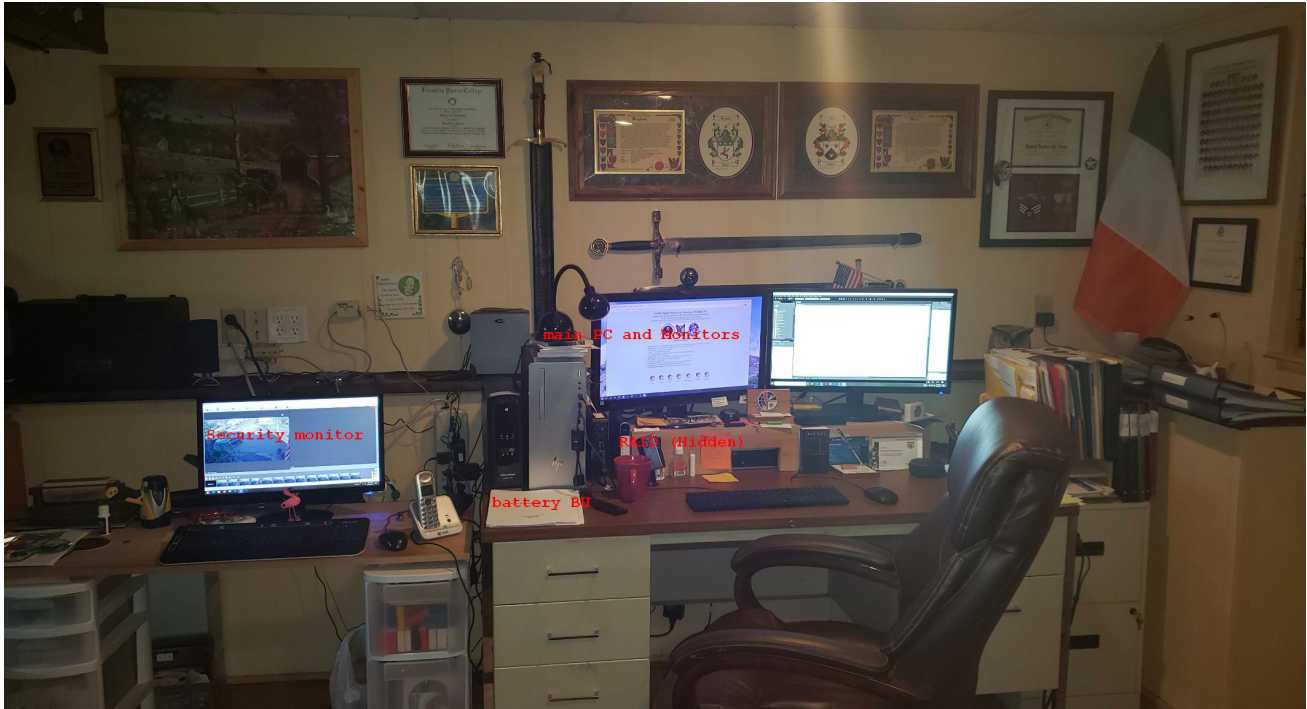
Years of web space limitations, price increases and marginal tech support all contributed to my decision to get my own web domain, hence mdougherty.net.

Crates of floppies, boxes of cd's and dvd's were becoming a real pain in the neck, and I relaxed my backup schedule a little too much and Murphy handed me a catastrophic disk failure.

A very long story short; I started investigating cloud storage. It all sounded good and the price seemed reasonable, but I still had no control over someones server located far out of my reach. Then there are those restriction again! I ended up buying a backup system consisting of two 500GByte redundant drives. These drives were configured as a Redundant Array of Independent Disks (RAID). I stored all my data from every program I used on the RAID and I could access it from any of my devices on my home network. Safe and happy at last. If one of the data drives crapped out, I still had its redundant drive, if the Raid controller hardware crapped out I could take a hard drive from the RAID and install it in my PC. The controller eventually crapped out and when I installed one of the RAID disk in my PC I found out the RAID manufacturer used a proprietary format! 3 years of data gone.

I made certain the next RAID had Disk Drives were NT File System (NTFS) formatted, a painful lesson was learned.

Security System:



The Security consists of an older HP processor (hidden under dual monitors), a monitor and 2 cameras, 1 in front of house the other in back yard.

UPS and Battery Backup:

Will keep both systems running for about 60 minutes if power is lost and will automatically shut both systems down after time has expired.

Main PC

Processor MainBoard

Central Processor

CPU Name	Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
Number of Logical Processors	12
Code Name	N/A
Manufacturer	GenuineIntel
Current Clock Speed	3192 Mhz
Max Clock Speed	3192 Mhz
Voltage	1V
External Clock	100 Mhz
Serial Number	BFEBFBFF000906EA
CPU ID	Intel64 Family 6 Model 158 Stepping 10
Socket Designation	U3E1
L1 Cache	384 KB
L2 Cache	1536 KB
L3 Cache	12288 KB

RAID (Seagate):

Network Drives


Review and manage the network drives.

[Manage](#)

Capacity **1.6 TB free of 2 TB**

Status **OK**

Mode **Maximum protection (RAID 1)**



DRIVE	CAPACITY	STATUS
1	2 TB	OK
2	2 TB	OK



Software:

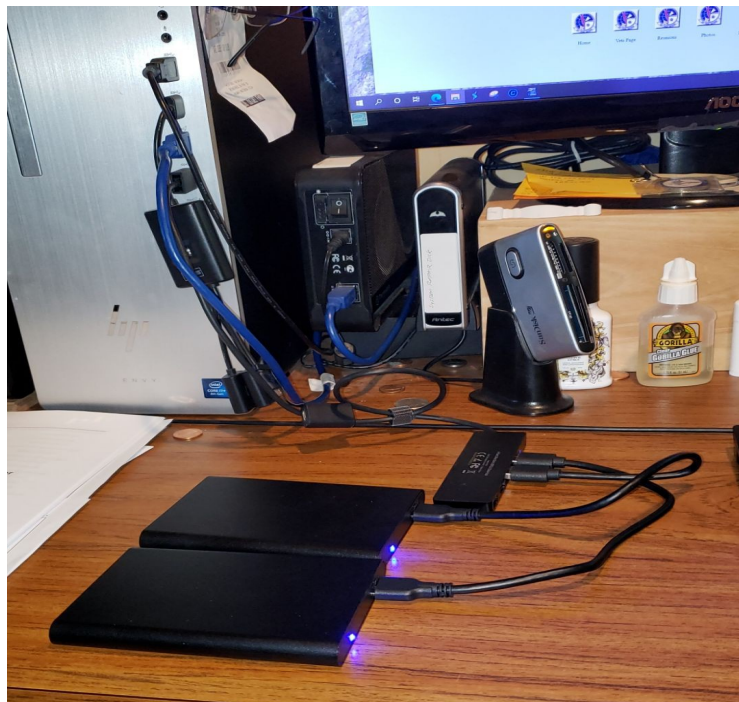
Periodically I will do a complete Disk “image” using Microsoft backup (which is, I believe actually from WIN7), and I have rescue disk to restore the OS. There are other backup/restore programs available. These are generally Windows based and can be very slow depending on the amount of data/programs are on the system.

Back in the Win95 days, I changed the default location on all my programs to store the saved outputs to a Folder (directory) named DATA, with a sub folder for each discrete program. This is where I stored ALL my data ie; photo, website, video and audio. I have only one folder to backup.

Backing up the data was easier after I connected to the RAID, any files that were used by any device or person on the network was saved and automatically backed up (remember Redundant Array). If someone tried to open a file that was being used by another person a READ-ONLY file was opened fan a message sent to the user.

It was still take many hours to backup over a 120 Gbytes of data, not good in my mind. Flashback to the “Olden Days” in a pre-windows environment, DOS Commands, and Batch files. I wrote a backup.bat program based on the XCOPY command, which will backup only the files that have changed since the last backup. Since all of this data is located in one folder and many sub-folders it was a snap to do. It even creates a new log file so I have a record of which files have been updated.

I connect a USB 3 hub to the PC and 2 USB 3 external drives to the hub. I turn on the 2 Tbyte external drive, and execute the backup program. The program updated the 2 Tbyte with the latest data and then updates the 2 external 500 Gbyte drives (one for the safe and one for off-site storage). The initial run on empty drives will take hours because all the data is copied to the external drives. After that, the weekly backups take 10 -20 minutes for all 3 drives to be updated.



Life is good again!