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# Specific Hardware Recommendations

Selecting hardware can be a difficult business even for the initiated. It usually takes a lot of time and research, and even then it can still go very wrong (much like DIY surgery).

For those who don't have the time, here is a specific list of hardware for a quiet FreeNAS server I made in early January 2016.

The intention was to build an expandable, 8 bay, quiet FreeNAS system that would be situated in the living room.

(The "quiet" part was very important as I did not want to upset the psychopath I share a house with, although she prefers to be introduced to people as my girlfriend.)

If you don't need a quiet system you can dispense with the costly Noctua fans and use the ones that come as standard in the case.

Also, rack mounting your equipment makes things very neat and tidy, but I couldn't find a rack mount case that accommodated the Noctua fans.

The SSD capacity (in this case 256GB) is excessively large. If you can get smaller you will save some money. As long as it is 16GB or more you should be fine.

The big expense with this system was the storage hard drives. If you don't need 8 of these then the total cost of the server can be significantly reduced.

Incidentally, I do not recommend the SilverStone SST-SDP10B bay adaptor. In the words of my old Professor, "Bag of shite!" He was a plain speaking man.

## Parts List

Item	Description	Qty
Processor	Intel Xeon E5-2620v3	1
CPU Heatsink/Fan	Noctua NH-U12DX i4 High Performance Intel Xeon CPU Cooler & 120mm Fan	1
Motherboard	Supermicro X10SRH-CLN4 Single socket R3 (LGA 2011) 8 SAS3 12Gb and 10 SATA 3 6GB	1
Memory	Samsung 8GB DDR4 2133MHz ECC Registered Server Memory - M393A1G40DB0	2
Graphics Card	Not needed	
OS HDD	256GB Samsung 850 PRO	1
Data HDDs	WD Red 4 TB	8
HBA Card	Not needed	
Optical Drive	Not needed	
Operating System	Not needed	
PSU	Seasonic AU-650x	1

Item	Description	Qty
Case	Fractal Design Define XL R2 Titanium Gray	1
Rails	Not Needed	
Case Fans (Front)	Noctura NF-A14	2
Case Fans (Back)	Noctura NF-A14	1
Gigabit Network Switch	Not needed	
UPS	Eaton 5SC 1000i	1
SAS Cable	LSI 0.6m Cable SFF8643 to X4 SATA CBL-SFF8643-SATASB-06M (SFF8643 to X4 SATA)	2
Server Rack	Not needed	
KVM Switch	Not needed	
SATA Cable		1
Bay Adaptor		1
Molex-to-SATA Adaptor		1

The whole thing came to just over £2600 with the UPS (when the bill came in I slightly soiled myself).

If you decide to go with this very expensive build then it should look something like this when completed.

However, if you let ferrets build your server you will get this.

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