























## // \$700 or less pc build

Component	Selection	Base	Promo	Shipping	Tax	Price	Where	
<a href="#">CPU</a>	 Intel Celeron E3300 2.5 GHz Dual-Core Processor	\$34.40	—	—	—	 <b>\$34.40</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
<a href="#">CPU Cooler</a>	<a href="#">+ Choose A CPU Cooler</a>							
<a href="#">Motherboard</a>	 MSI G41M4-F Micro ATX LGA775 Motherboard	\$149.99	—	FREE	—	 <b>\$149.99</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
<a href="#">Memory</a>	 Mushkin Silverline 4 GB (2 x 2 GB) DDR2-800 CL5 Memory	\$31.95	—	FREE	—	 <b>\$31.95</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
	<a href="#">+ Add Additional Memory</a>							
<a href="#">Storage</a>	 Silicon Power Ace A55 256 GB 2.5" Solid State Drive	\$34.99	—		—	 <b>\$34.99</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
	<a href="#">+ Add Additional Storage</a>							
<a href="#">Video Card</a>	 VisionTek Radeon HD 5450 1 GB Video Card	\$44.99	—	—	—	 <b>\$44.99</b>		<a href="#">Buy</a> <a href="#">×</a>
<a href="#">Case</a>	 Rosewill FBM-X1 MicroATX Mini Tower Case	\$29.99	—	FREE	—	 <b>\$29.99</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
<a href="#">Power Supply</a>	 Logisys 480 W ATX Power Supply	\$16.98	—	—	—	 <b>\$16.98</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
<a href="#">Optical Drive</a>	 Asus DRW-24B1ST/BLK/B/AS DVD/CD Writer	\$19.98	—		—	 <b>\$19.98</b>	amazon.com	<a href="#">Buy</a> <a href="#">×</a>
	<a href="#">+ Add Another Optical Drive</a>							
<a href="#">Operating System</a>	 Microsoft Windows 10 Pro OEM 64-bit	\$139.88	—	FREE	—	 <b>\$139.88</b>		<a href="#">Buy</a> <a href="#">×</a>
<a href="#">Software</a>	<a href="#">+ Choose Software</a>							

Total: **\$503.15**

Buy From Amazon

I pick these parts due to their budget pricing and compatibility with each other. The leftover can be used on upgrades or peripherals.

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## // Unlimited, super rich people pc build



Samsung UN85JU7100 85-Inch 4K Ultra HD Smart LED TV (2015 Model)

★★★★☆ ~ 38

Electronics

\$8,999<sup>99</sup>

FREE Shipping

Display Size: **85 inches**
















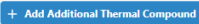


































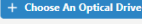
















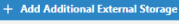


Refresh Rate: **120 Hz**

Resolution: **4K**


Model Year: **2015**

$$8999.99 \times 4 =$$
  
**35,999.96**

Four of this =

Component	Selection	Base	Promo	Shipping	Tax	Price	Where	
CPU	 Intel Xeon E5-2690 V4 2.6 GHz 14-Core Processor	\$5105.10	—	—	—	 <b>\$5105.10</b>		 
CPU Cooler	 Corsair H110i GT 113 CFM Liquid CPU Cooler	\$599.99	—	—	—	 <b>\$599.99</b>		 
Thermal Compound	 Prolimatech PK-Zero 600 g Thermal Paste	\$303.00	—	—	—	 <b>\$303.00</b>		 
								
Motherboard	 Asus X99-E ATX LGA2011-3 Motherboard	\$1516.49	—	—	—	 <b>\$1516.49</b>		 
Memory	 Corsair Vengeance LPX 128 GB (8 x 16 GB) DDR4-3800 CL19 Memory	\$4220.00	—	\$41.25	—	 <b>\$4261.25</b>		 
								
Storage	 Angelbird ED381 7.68 TB 2.5" Solid State Drive	\$6399.90	—	FREE	—	 <b>\$6399.90</b>		 
								
Video Card	 PNY Quadro GV100 32 GB Video Card	\$10560.00	—	FREE	—	 <b>\$10560.00</b>		 
								
Case	 Thermaltake Level 20 ATX Full Tower Case	\$999.99	—		—	 <b>\$999.99</b>		 
Power Supply	 Aerocool XPredator GM 1000 W 80+ Gold Certified Semi-modular ATX Power Supply	\$1919.61	—	—	—	 <b>\$1919.61</b>		 
Optical Drive								
Operating System	 Microsoft Windows 10 Pro 32/64-bit	\$187.99	—	FREE	—	 <b>\$187.99</b>		 
Software	 Microsoft Project Standard 2019 Software	\$565.84	—	FREE	—	 <b>\$565.84</b>		 
Monitor								
External Storage	 SanDisk Extreme 900 1.92 TB External SSD	\$1313.00	—	\$33.53	—	 <b>\$1346.53</b>		 
								
Laptop								
Accessories / Other	Case Accessories, Case Fans, Fan Controllers, Thermal Compound, UPS Systems							
Expansion Cards / Networking	Sound Cards, Wired Network Adapters, Wireless Network Adapters							
Peripherals	Headphones, Keyboards, Mice, Speakers, Webcams							
Base Total:						<b>\$33690.91</b>		
Shipping:						<b>\$74.78</b>		
Total:						<b>\$33765.69</b>		
								

//RGB light strips



Daybetter Led Strip Lights 50ft Smart Light Strips with App Control Remote, 5050 RGB Led Lights for Bedroom, Music Sync Color Changing Lights for Room Party

Visit the DAYBETTER Store

★★★★★ 1,592 ratings | 76 answered questions

Amazon's Choice for "daybetter led light strips 50ft"

Price: **\$21.99** Get **Fast, Free Shipping** with Amazon Prime & **FREE Returns**

**Coupon** ☐ Save an extra \$3.00 when you apply this coupon.

[Details](#)

Get \$50 off instantly: Pay \$0.00 ~~\$21.99~~ upon approval for the Amazon Rewards Visa Card. No annual fee.

Available at a lower price from other sellers that may not offer free Prime shipping.

Size: **50ft**

50ft	100ft
\$21.99	\$39.99

Color: Multicolor

Brand: DAYBETTER

//total amount

$$35999.96 + 33765.69 + 21.99 =$$
$$69,787.64$$

// Questions

- 1) What are the different types of ATX motherboards? What are the different types of ITX motherboards?  
ATX, Micro-ATX, Mini-ATX, Nano-ITX, Pico-ITX
- 2) What is the difference between a thick client and a thin client? In what situation would you likely use a thin client? Thin client is software used primarily to communicate with a server. Thick client is software that implements its own features.
- 3) What is scalability? Why is it important when you're designing a computer?

Scalability is the measure of a system's ability to increase or decrease in performance and cost in response to changes in application and system processing demands. It's important to keep it in mind when you're designing a computer because you have to account for your budget and possible future upgrades you want down the line. So you build the best build you can at the moment but leave some room for enhancements.

- 4) What type of technology are the NVidia SLI and AMD Crossfire? How does it work?

They are multi-GPU technology. It works by linking multiple GPUs together for dramatically improved graphics performance.

- 5) What is G-DDR and what is it used for? What is the size of the buses that it commonly uses? What can G-DDR do in a clock cycle that DDR cannot?

(Graphics Double Data Rate) GDDR is double data rate (DDR) memory specialized for fast rendering on graphics cards (GPUs). GDDR can request and receive data on the same clock cycle, DDR cannot.

- 6) What is the difference between an SSD and a HDD? What are the pros and cons of each of them? Is one better than the other?

HDD has moving parts while SSD does not. SSD has faster read/write speed but is more expensive. HDD is cheaper but has slower read/write speed. HDD breaks more often than SSD. HDD has more storage options than SSD (storage size).

- 7) What is a Raspberry Pi ?

The Raspberry Pi is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python.

- 8) What are some of the Benefits of a Raspberry Pi ?

It's capable of doing everything you'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to

making spreadsheets, word-processing, and playing games. It's doing all with a fraction of the cost of an actual desktop.

9) Where are Raspberry Pi's used ?

Everywhere. Most academic institutions love to use them due to low costs and flexibility of the board. But anyone can use it if they have the knowledge to operate it.

10) Does your PC use BIOS or UEFI ? which one is better why ?

BIOS. UEFI is better due to it being newer. UEFI enables users to handle drives that are larger than 2 TB, while the old legacy BIOS couldn't handle large storage drives. EFI has a simpler graphical user interface and also has much richer setup menus than legacy BIOS.

11) What CPU did you select ? why ? Intel core i7 8750H. It's a fast cpu that came included with my laptop. Usually people go for a more expensive cpu due to how fast it can handle tasks.

12) What are the benefits of the MOBO that you selected ? what is the chipset included with the MOBO?

The board came with the laptop I own. It's widely compatible with most components in the market and provide you with PCI-e 3.0 capability.

13) Does your MOBO use Dual Channel Architecture for the RAM ? what are the benefits of a MOBO that supports Dual or Triple Channel RAM Banks ?

Yes it does support dual channel. Dual channel or more usually relates to better task completion and better handling of multiple programs at once.

14) What are the benefits of USB 3.0 ? why would USB 2.0 still be included on a MOBO ?

USB 3.0 has 10x the transfer speed limit compares to USB 2.0. Some of the reasons on why 2.0 is still used are:


- The circuitry behind USB 3.0 is more complex than USB 2.0, therefore it takes up more space on a computer's motherboard than a USB 2.0 port would require.
- Save on costs
- Most current USB devices (such as keyboards, pointing devices, printers, and webcams for example) work just as well when plugged into a USB 2.0 port as they do with USB 3.0.

15) How many PCIe slots does your MOBO come with ? what are the different PCIe slots your MOBO comes with ?  
One slot. The slot comes with m.2 PCIe 3.0 and SATA support.

---

// \$1000 server build

// two of this cpu = \$226



**Intel Core i3-10100F 3.6 GHz Quad-Core Processor**

★★★★★  
(5 Ratings, 4.8 Average)

Merchant	Base	Promo	Shipping	Tax	Availability	Total
amazon.com	\$112.99	—	—	—	In stock	<b>\$112.99+</b>

[Buy](#)

(19 new from \$112.99, Last updated 28 minutes ago.)

// network card = \$27

[Back to results](#)



**Rosewill Dual Port RJ45 10/100/1000Mbps Gigabit PCI Express, PCIe Network Adapter/Network Interface Card/Ethernet Card, Win10 Supported**

Brand: Rosewill

★★★★★ 907 ratings | 95 answered questions

**23% off** Lowest price in 30 days

Was: ~~\$34.99~~ Details

Price: **\$26.99**

You Save: **\$8.00 (23%)**

Get \$50 off instantly: Pay \$0.00 ~~\$26.99~~ upon approval for the Amazon Rewards Visa Card. No annual fee.

Capacity: **Dual RJ45 1000M**

[USB 3.0 to RJ45](#)
[PCIe 10G](#)
[Type C to RJ45](#)

[Dual RJ45 10G](#)
[Dual RJ45 1000M](#)
[Quad RJ45 1000M](#)

[PCI 100M](#)
[PCI 1000m](#)
[PCIe 1000M](#)

//RAM = \$67



TEAMGROUP Elite DDR3 16GB Kit (2 x 8GB) 1600MHz (PC3-12800) CL11 Unbuffered Non-ECC 1.5V UDIMM 240 Pin PC Computer Desktop Memory Module Ram Upgrade - TED316G1600C11DC01-16GB Kit (2 x 8GB)

Visit the TEAMGROUP Store

★★★★☆ 2,036 ratings | 171 answered questions

Amazon's Choice for "32gb ddr3"

List Price: \$99.99 Details

Price: **\$66.99** & FREE Returns

You Save: **\$24.00** (26%)

Get \$50 off instantly: Pay \$16.99 \$66.99 upon approval for the Amazon Rewards Visa Card. No annual fee.

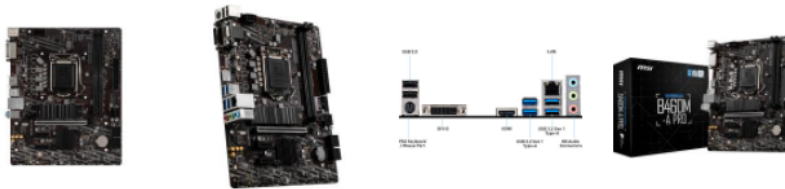
Capacity: **16GB (8GBx2) -1600MHz**

//MOBO = \$80

## MSI B460M-A PRO Micro ATX LGA1200 Motherboard



(9 Ratings, 4.2 Average)



//GPU = \$45

[VIDEO CARD](#) ○ [PRODUCT DETAIL](#)

## VisionTek Radeon HD 5450 1 GB Video Card



(1 Rating, 3.0 Average)



//Tower = \$72

## Nanoxia Deep Silence 4 MicroATX Mini Tower Case



(2 Ratings, 4.0 Average)



//Hard drive = \$201

STORAGE - PRODUCT DETAIL

## Western Digital Gold 6 TB 3.5" 7200RPM Internal Hard Drive

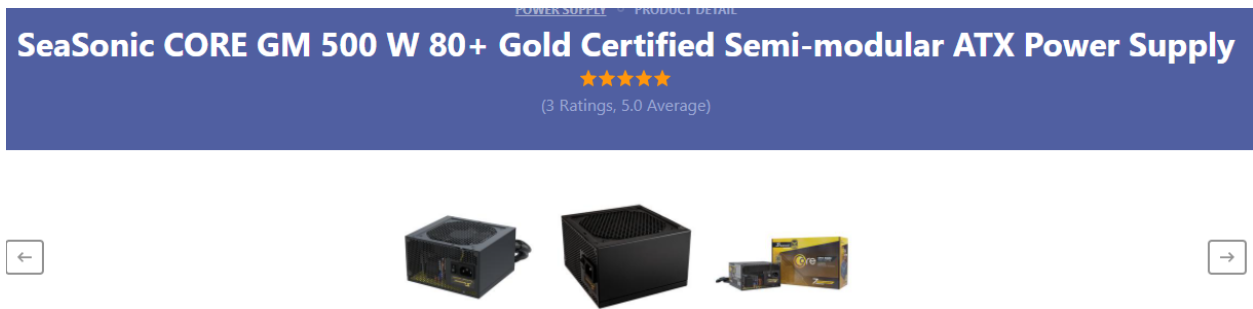


(1 Rating, 5.0 Average)

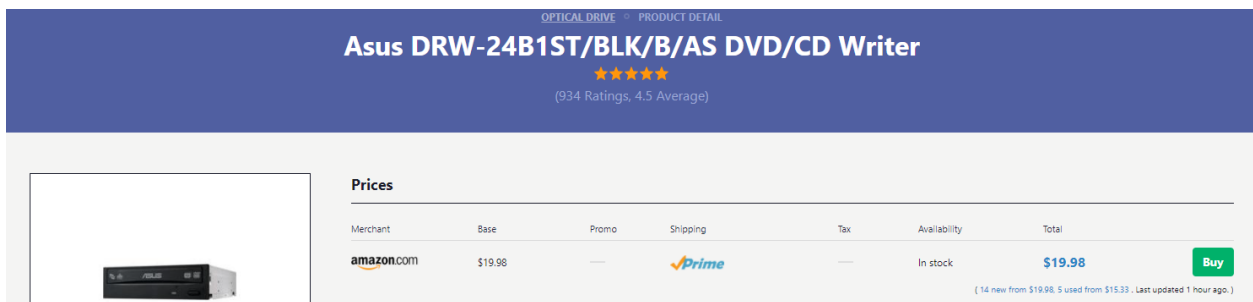




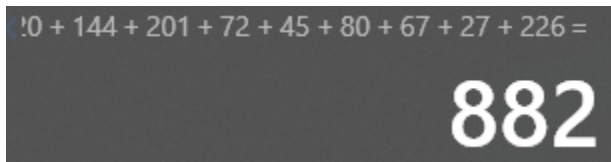
//2x PSU = \$144



//Optical drive = \$20



//total



I chose these components because it fits with the requirements given and is below the \$1000 budget. These components are compatible and work well together.

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//Questions

a. What is form factor and why is it important to a server computer?

it's tower form factor. It's important due to its scalability and low cost.

b. What makes a server computer different from a desktop computer? A desktop computer system typically runs a user-friendly operating system and desktop applications to facilitate desktop-oriented tasks. In contrast, a server manages all network resources.

c. As a systems administrator why should you understand and know how to select server hardware? It's important knowledge they should know so that they can best cater to what the company wants for its server and how much their budget is.

d. What is scalability? Why is it important when you're designing a computer?

Scalability is the measure of a system's ability to increase or decrease in performance and cost in response to changes in application and system processing demands. It's important to keep it in mind when you're designing a computer because you have to account for your budget and possible future upgrades you want down the line. So you build the best build you can at the moment but leave some room for enhancements.

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