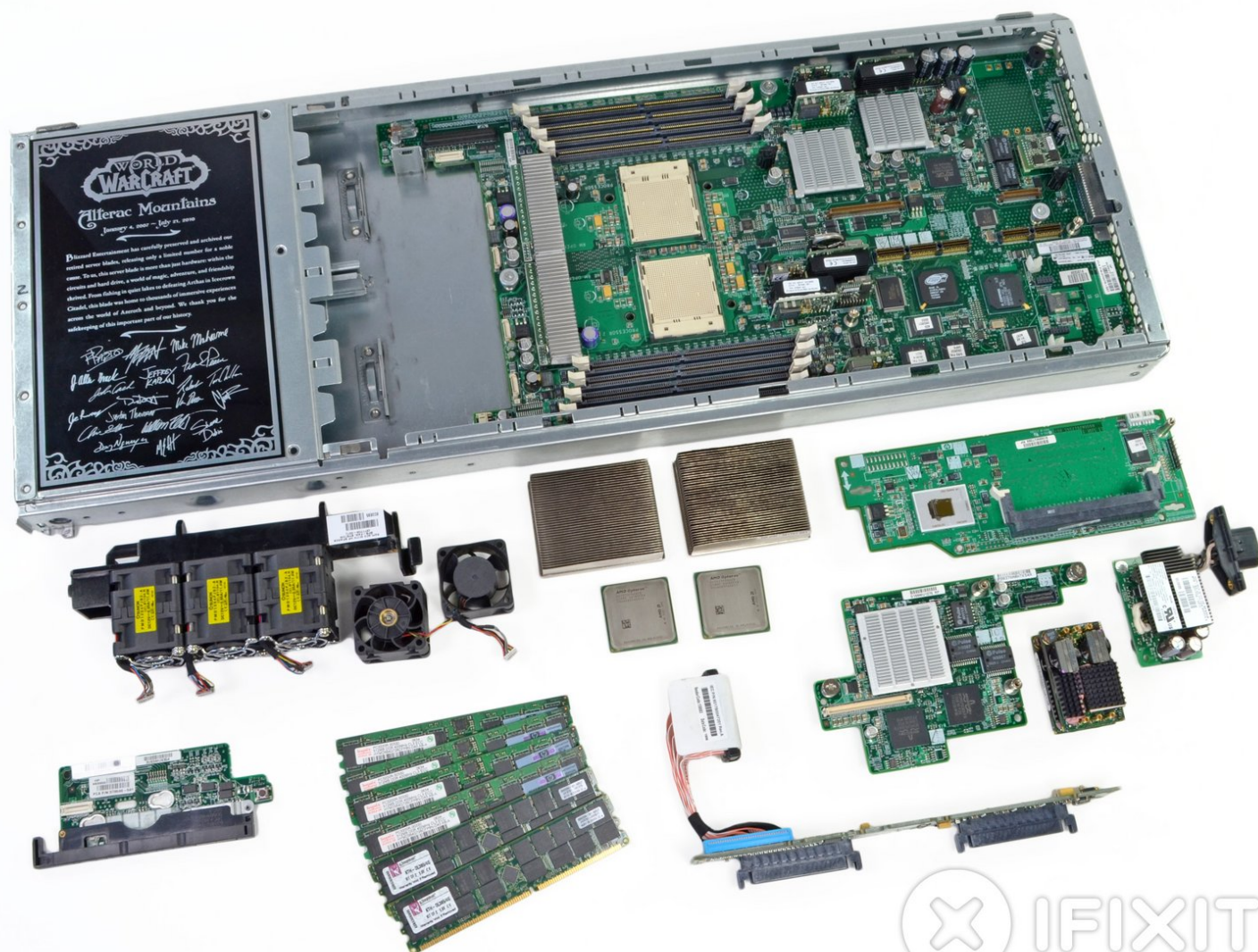# WoW Server Blade Teardown

WoW Server Blade Teardown.

Written By: Walter Galan

INTRODUCTION

Behold! I hold the World of Warcraft in the palm of my hand! Okay, fine. Maybe just a part of it. Or a part of a part of it. And it doesn't really fit in my hands.

When Blizzard decided to upgrade its servers, they sold off the old equipment as collectors pieces. Ever wondered where the World of Warcraft resides? Prepare to be WoWed as we take a look inside the insides of the World of Warcraft.

🔧 TOOLS:

- Coin (1)
- 6-in-1 Screwdriver (1)
- T15 Torx Screwdriver (1)

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Step 1 — WoW Server Blade Teardown
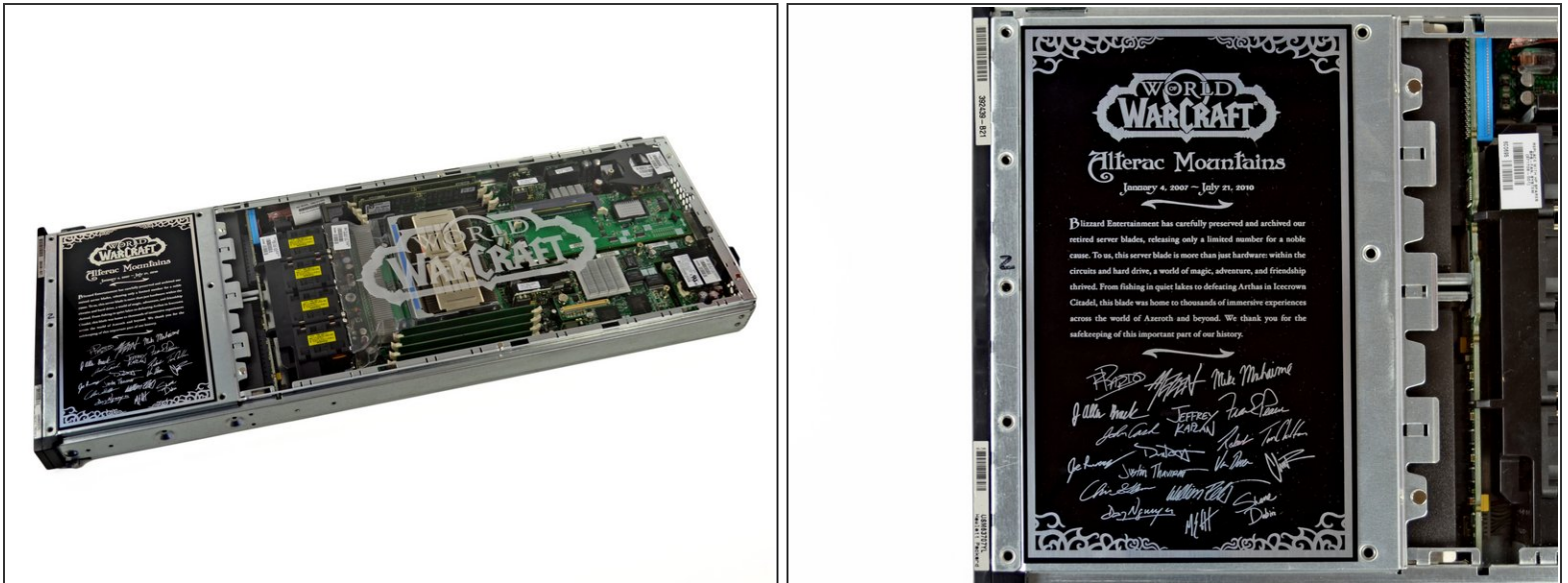
- Ever wondered what fuels the World of Warcraft? Well wonder no more, iFixit has gracefully acquired an old retired WoW Server Blade.

- This particular server blade is an HP ProLiant BL25p that Blizzard decked out with a commemorative plate. Wow.

  - This is one of several server blades sustaining the Altercac Mountains from January 4, 2007 till July 21, 2010.

  - The commemorative plate also bears the signatures of many of the key WoW developers.

- (i) Before we proceed any further, we would like to apologize for any future bad WoW puns and jokes. Trust us, there will be many.
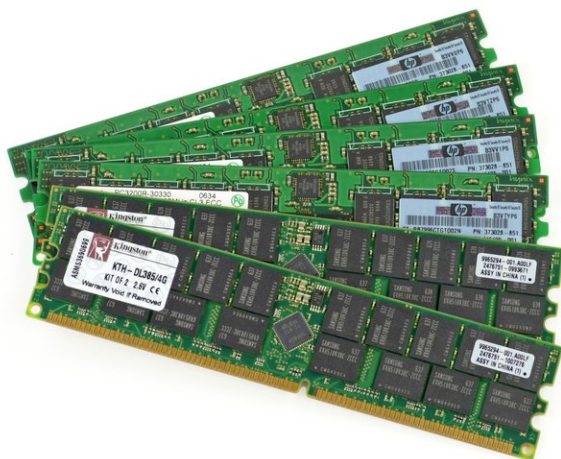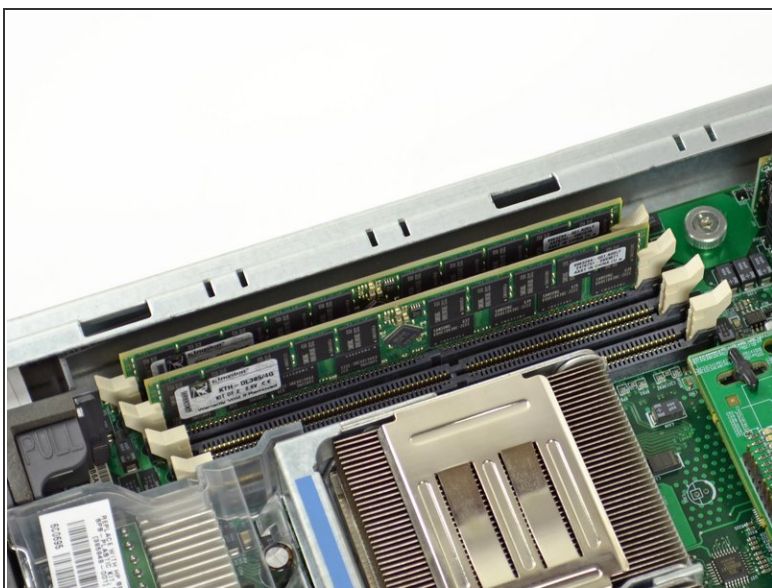
Step 2

- The transparent panel covering all the mechanical madness inside the server blades provides shoddy protection, but is nonetheless ornate.
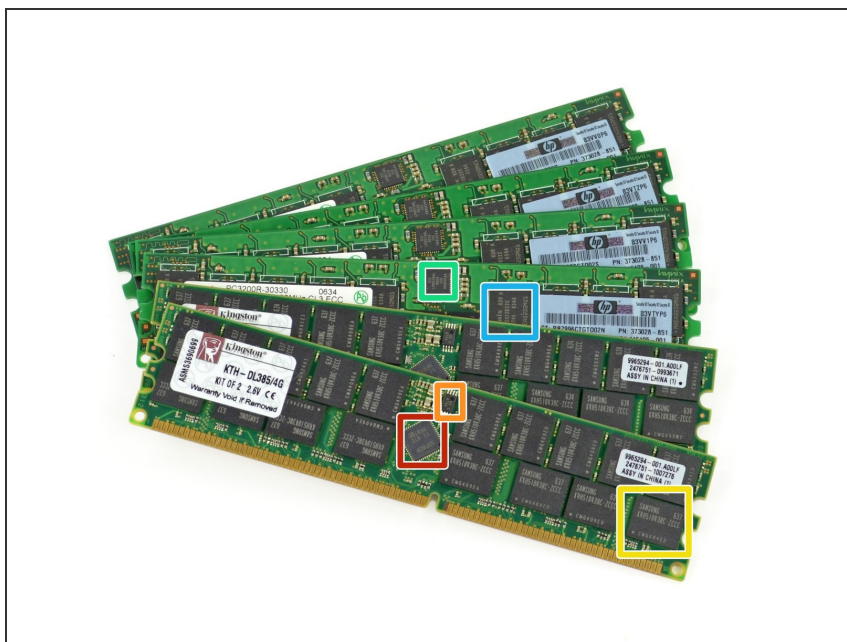
- (i) -10% armor. +15% intellect.

Step 3

- How much RAM does it take to create the high peaks that rise up north of the Hillsbrad Foothills? It seems the magic number is six.

- Although there are a total of 8 RAM slots in the server blade, this model only fills six of them.

  - There are four 512 MB and two 2 GB PC-3200 DDR modules.

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Step 4

- Memory IC Identification (only 1 is labeled of each):

  - Texas Instruments [SN74SSTVF16859](#) 13-26 bit registered buffers

  - Microchip (formerly Microchip) [AT34C04](#) 4 Kb serial EEPROM

  - Samsung K4H510438C-ZCCC 512 Mb DDR SDRAM

  - Renesas (formerly ICS) ICSLP857AKL registered buffers (likely)
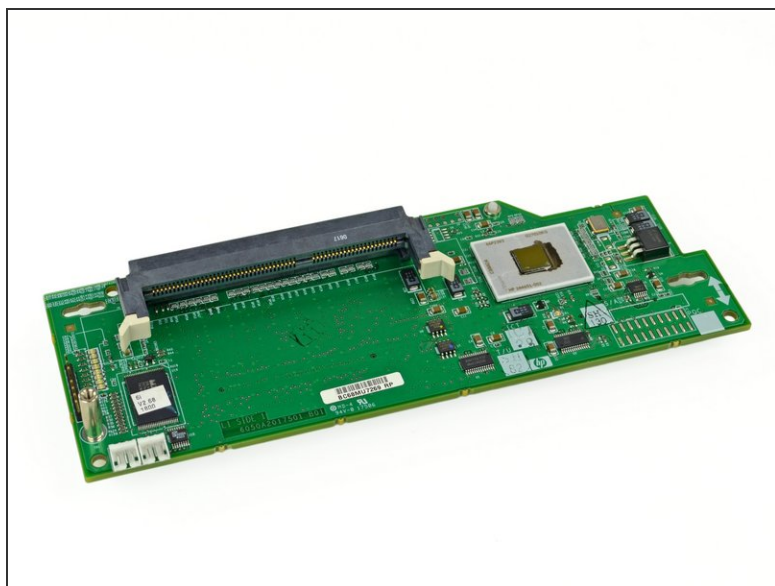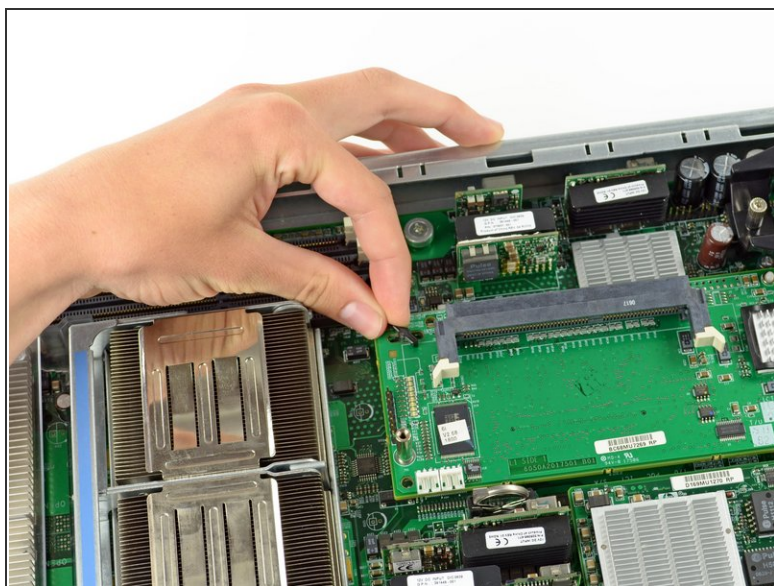
  - SK Hynix DDR SDRAM

Step 5
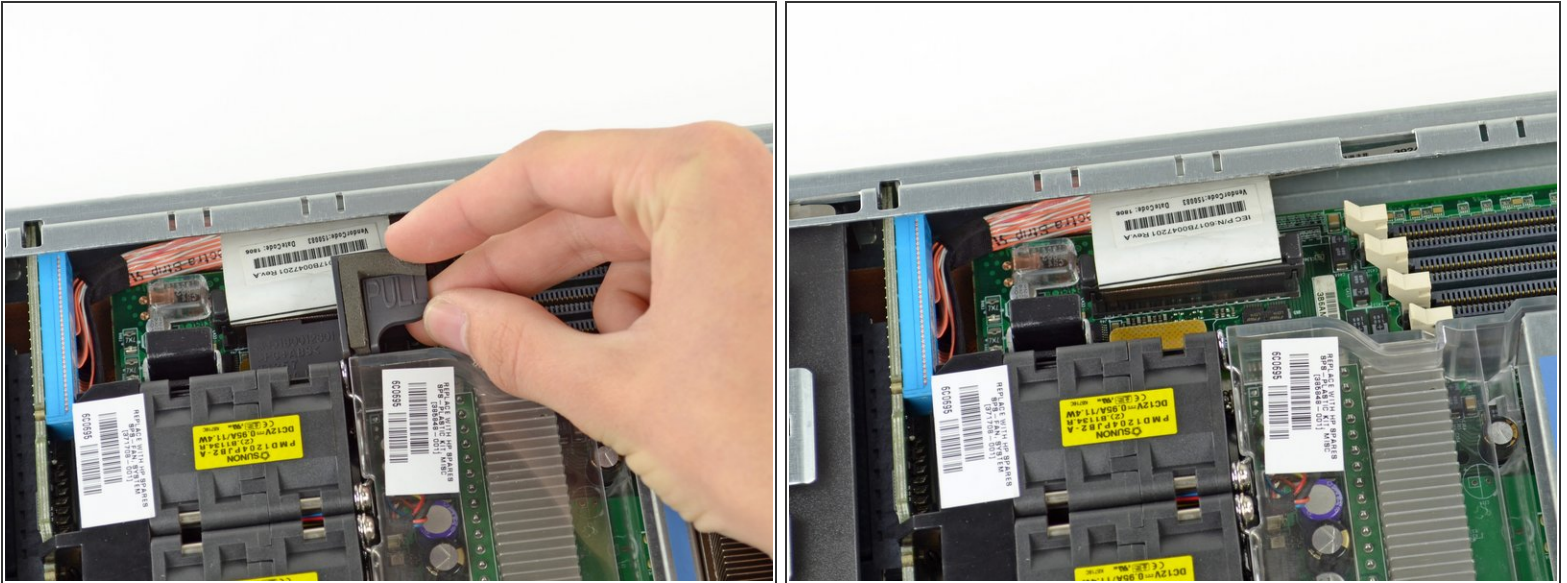
- This is highly reminiscent of the classic pull my finger bit—but then again who can resist such a request? Fine...pull we will.

- We were expecting Frost Wolves, but instead we found a hard drive data cable connector.

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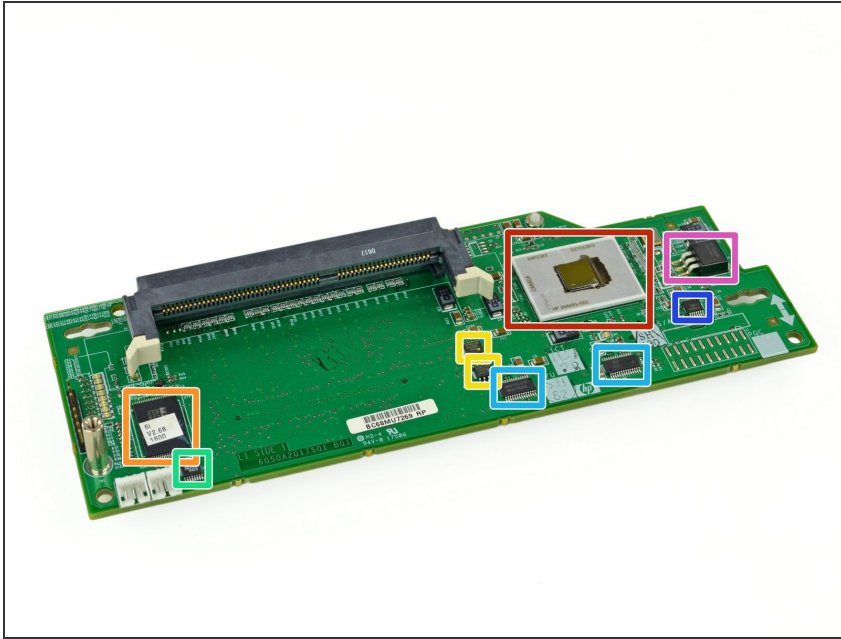
Step 6

- Twisting a few knobs is all that is required to remove the SCSI controller from the motherboard.
  - HP Part Number 355895-002

- The SCSI contoller (pronounced "scuzzie"), is responsible for interfacing with a whole number of things: hard drives, scanners, tape drives, and other alliance technologies.

Step 7

- SCSI Inteface IC Identification:
  - HP 244651-002 processor (likely)
  - Macronix parallel NOR flash memory
  - Microchip (formerly Atmel) AT24C02AN and AT24C08AN 2 K and 8 K serial EEPROM memory
  - Analog Devices [ADM3202A](#) High Speed RS-232 2-ch. interface controller
  - Texas Instruments (formerly Unitrode) [UCC5672PWP](#) 2.7 - 5V multimode terminator
  - ON Semiconductor (formerly Fairchild) [MC74LCX08](#) quad AND-gate
 - ON Semiconductor (formerly Fairchild) LM1597AN linear regulator

Step 8
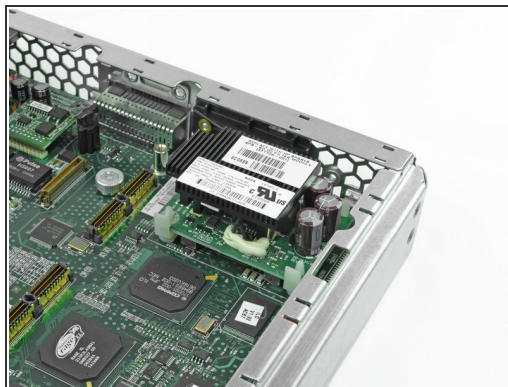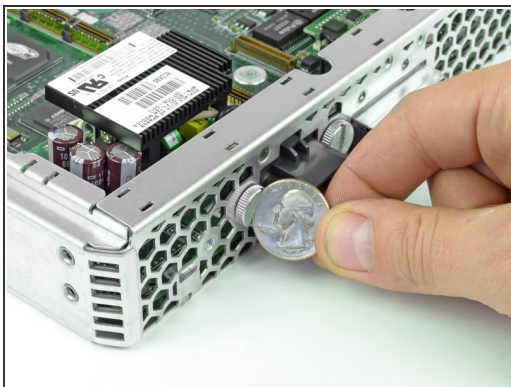
- We had to mine deep into our pockets to acquire the proper tools for removing the power filter.
  - We were hoping that we could sell this wonderful item afterwards, but it's only worth 25 cents.
- The DC Power filter has an input of -43 V ~ 57 V at 13 A max. That's 546 watts of maximum power!
  - Since this is just a power filter and not a transformer, the output is almost the same: -43 V ~-57 V at a maximum of 12.4 amps.
- There's a Texas Instruments (formerly National Semiconductor) LM35CIM3 temperature sensor on-board to monitor the temps.

Step 9
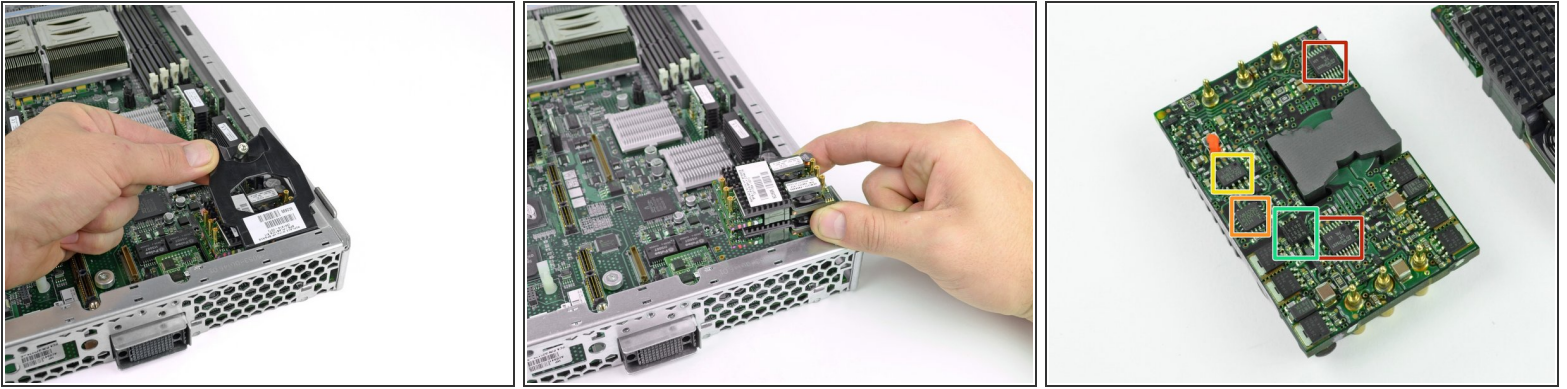
- Once all the server juice has been filtered by the power filter, its gets converted to the correct voltage by the power converter.

- The power converter is actually two identical modules stacked on top of each other, using the standoffs between them as a power relay.

  - The output of the power supply is 12 volts, 40 amps, for a whopping 480 watts.

- As for chips, we find:

  - STMicroelectronics LM339 quad voltage comparator

  - Renesas (formerly Intersil) HIP2100 high frequency half-bridge driver

  - Texas Instruments (formerly Unitrode) UCC2808-1 low power PWM controller

 - Renesas (formerly NEC) PS2701-1 optocoupler

Step 10

- In the World of Warcraft, the Alterac Mountains are located somewhere between the Western Plaguelands and Hillsbrad, but they are *stored* right here on these hard drives.
  - Well, not these hard drives in particular. Blizzard probably wanted to keep all their data handy, so this server blade just comes with blanks.
- The WoW server blade has two dedicated hard drive bays.
- It seems "A device or blank must occupy all bays during operation."

Step 11
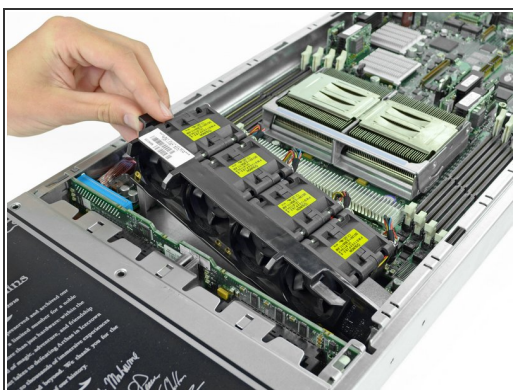
- How do you keep the snow from melting off the Ruins of Alterac? With eight—count 'em, eight—fans.

- Each pair of fans draws .95 amps at 12 volts, for a total power rating of 85.2 watts. That really blows.
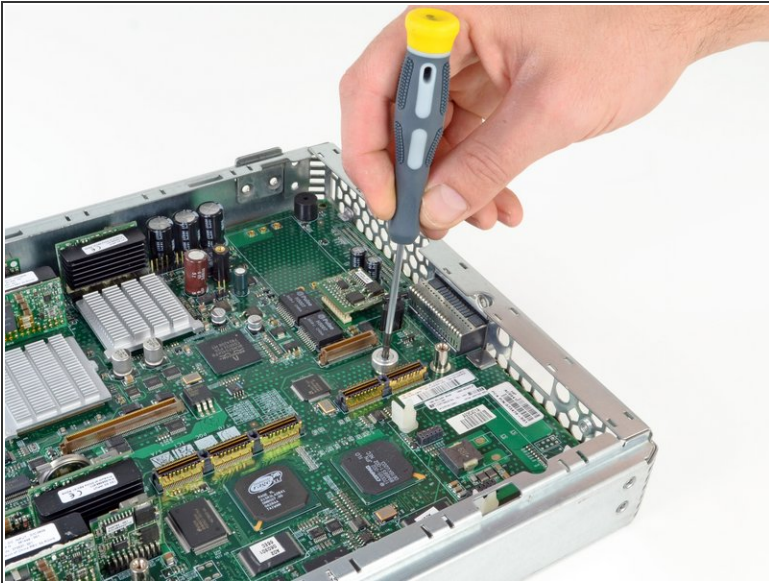
Step 12
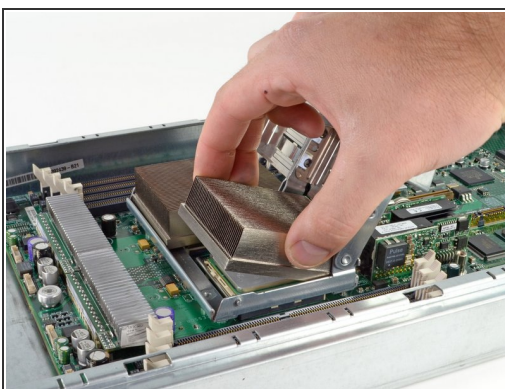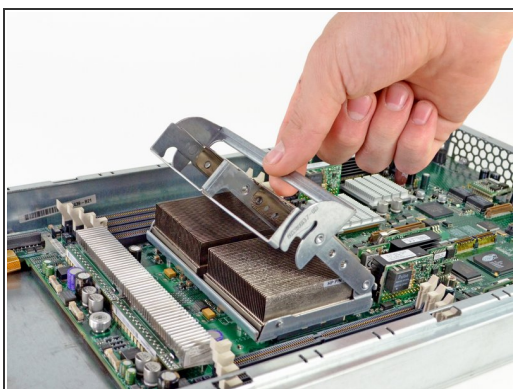
- It looks like they threw everything—including the ~~kitchen~~ heat sink—at keeping those AMD processors cool.

- Each dual-core AMD Opteron 275 processor provides 2.2 GHz of processing power.
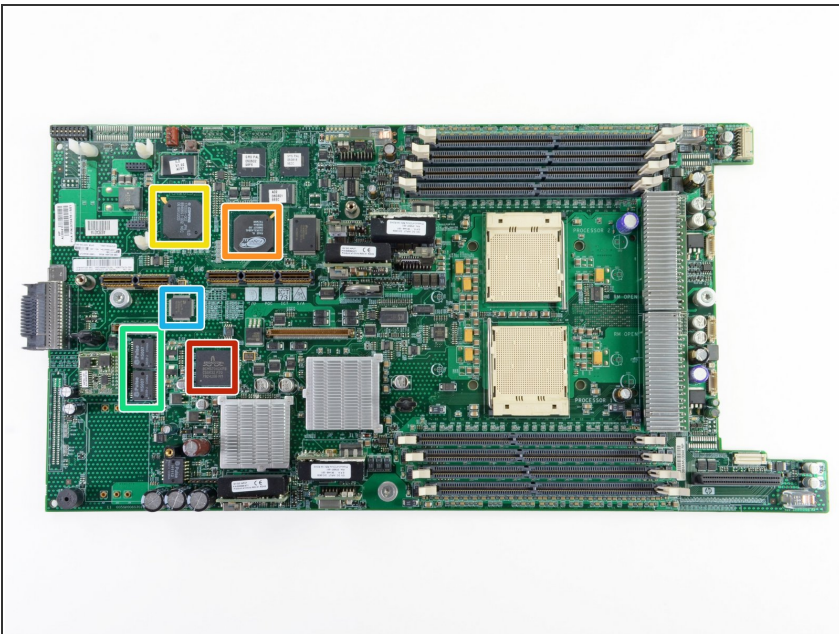
Step 13

- What sort of sorcery is this? Worry not, our trusty T15 Torx screwdriver will slay any beast that stands in the way of removing the motherboard.

- Huzzah! Have at thee ogre! We have conquered the mighty motherboard beast! Victory is ours!

Step 14

- The frontside of the motherboard:

  - Broadcom [BCM5704CKFB](#) Ethernet controller

  - ATI Technologies Rage XL 215R3LASB41 graphics (VGA)

  - Compaq 170095-002 server controller

  - Pulse [H5007](#) 1000BASE-T magnetic modules

  - AMD NetPHY [AM79C874VC](#) low power ethernet transceiver

Step 15
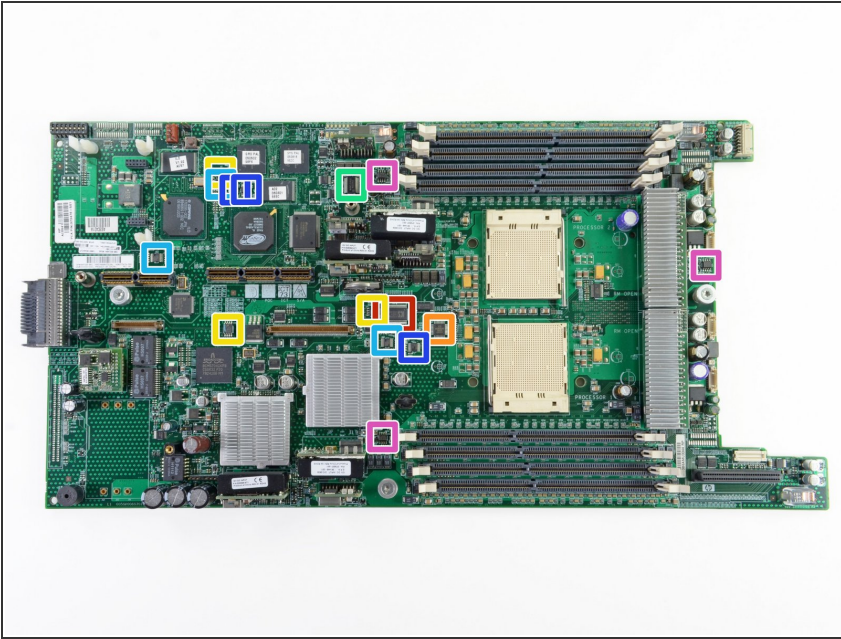
- IC Identification, continued:

  - Renesas (formerly ICS) ICS950402AFLF AMD system clock

  - Renesas (formerly ICS) ICS853031AY Differential/2.5 V / 3.3 V LVPECL/ECL fanout buffer

  - Microchip (formerly Atmel) AT24HC02BN and STMicroelectronics serial memory

  - Texas Instruments MAX3243C RS-232 line driver/receiver w/ ESD protection

  - Diodes Incorporated (formerly Pericom) PI5C3253QE dual 4:1 mux/demux analog switch

  - Diodes Incorporated (formerly Pericom) PI3C3125LE 4-Bit High-Bandwidth Bus Switch and Maxim Integrated MAX696EEE microprocessor supervisory circuit

  - Texas Instruments LM358 dual operational amplifier

Step 16
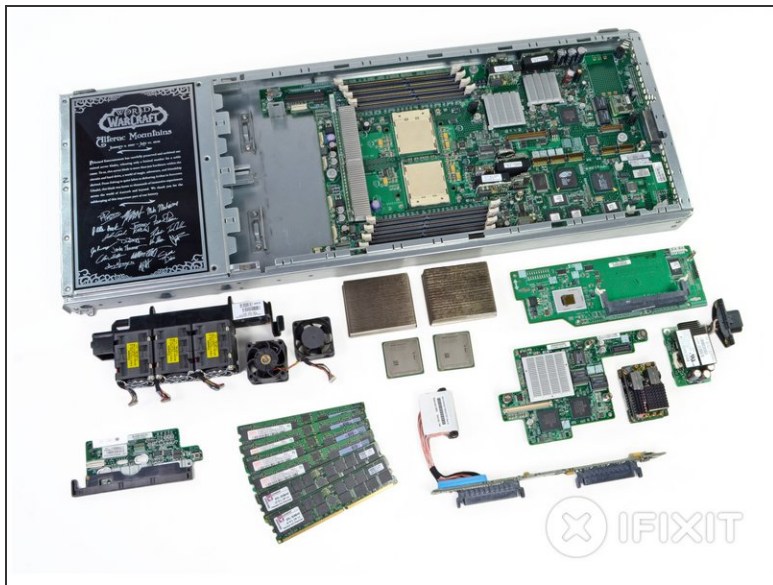
- The Ruins of Alterac! Or, the ruins of a server that hosted part of Alterac.

- WoW Server Blade (HP ProLiant BL25p) Repairability Score: 10 out of 10
    - No security screws
    - Modular, easy to access components
    - HP provides online maintenance repair documentation.

- ⓘ It should be noted that these server blades are designed to be easily maintained and eventually disposed of.
    - ⓘ We really appreciate HP being so mindful of the repair and maintenance aspect of their products.

To reassemble your device, follow these instructions in reverse order.