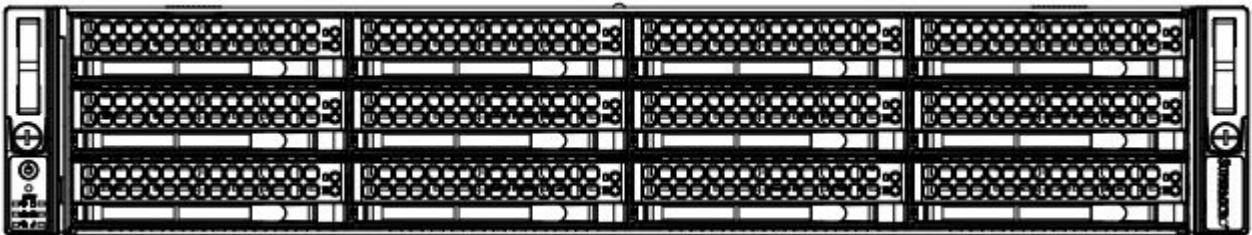




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**PWKS1AA25UTRT, PWKS2AA25UTRT,  
PWKS4AA25UTRT, PWKS1AA15PWTR,  
and PWKS2AA15PWTR Servers**



# **User Manual**

**Revision 1.0**

**Revision Date: 9.21.2021**



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Note: This User Manual was derived from a SuperMicro User Manual, with permission from SuperMicro, to include ACE Computers specific documentation.



# Preface

## About this Manual

This manual is written for professional system integrators and PC technicians. It provides information pertaining to EPEAT for the ACE Computers EPEAT registered servers.

## Notes

If you have any questions regarding this manual or server system, please contact our support team through Ace Computers Support page <https://acecomputers.com/support/>. This manual may be periodically updated without notice.

Please check the Ace Computers website for possible updates to the manual revision level.



# Table of Contents

## Table of Contents

<b>Chapter 1 - European Union (EU) Ecodesign Requirements .....</b>	<b>5</b>
<b>Chapter 2 - Illustrated System Disassembly Instructions .....</b>	<b>8</b>
1. Data Storage Devices.....	9
2. Memory.....	10
3. Processor.....	11
5. Motherboard .....	12
6. Expansion Card/Graphics Card.....	13
7. Power Supply Module .....	14
8. Chassis Cover .....	15
9. Batteries .....	16
10. Riser Card.....	17
11. Fans .....	18
12. Back Plane.....	19
13. External Power Cable.....	20
<b>Chapter 3 – Product Take-Back, End-Of-Life Processing, and E-Waste Program .....</b>	<b>21</b>
<b>Chapter 4 – Product Services .....</b>	<b>21</b>
4.1 Where to Get Replacement Components/Product Services.....	21
<b>4.2 Returning Merchandise for Service .....</b>	<b>21</b>

## Chapter 1 - European Union (EU) Ecodesign Requirements

This chapter addresses European Union (EU) Ecodesign requirements for servers and storage products. All data and ratings within this addendum are in reference only to the Ace Computers product(s) in the manual. The below information conforms to requirements laid down in Annex II of the Commission Regulation 2019/424.

- 3(1)(a): See Section 1.1 of the system manual for the product type.
- 3(1)(b): See the title page and preface of the system manual for the trademark and manufacturer's address.
- 3(1)(c): See the title page of the system manual for product model number(s).
- 3(1)(d): See the serial number on the physical system to determine the year of manufacture.
- 3(1)(e-j): **PSU Efficiency and Power Factor Value (Table) (From 80 Plus report)**

PSU Model #: PWS-1K62A-1R Watts: 1600W	PSU Efficiency				Power Factor
	10 %	20 %	50 %	100 %	50 %
Single Output (AC-DC)	87.42%	92.05%	94.38%	93.25%	0.99

### System (EUT) Efficiency in Idle State Power (Table)

Representative Configurations	Measured Idle State Power (W)	Calculated Idle Power Allowance (W)
High-End Performance Configuration	187.5	375.71
Typical Configuration	147.5	335.70
Low-End Performance Configuration	137.6	256.21

### System (EUT) Efficiency in Active State Power (Table)

Representative Configurations	Active State Efficiency Score (Effserver)	Minimum Active State Efficiency for 2-Socket Server
High-End Performance Configuration	37.0	9.5
Typical Configuration	37.9	
Low-End Performance Configuration	25.9	

3(1)(k): The operating condition class is A2. Based on the results of testing, it was determined that as long as the server functions inside the Allowable Range as noted for “Operating Condition A2” (noted in the table below), there will be no material affect to the system and will continue to operate as intended for the entire lifecycle of the product.

The life expectancy of the server system is eight year on average. If the server runs for 24 hours a day, seven days a week for eight years, the operating hours that the server can operate in the allowable range for class A2 without becoming materially affected would be 70,080 hours.

Operati ng conditi	Dry bulb temp °C		Humidity range, non-condensing		Max dew point (° C)	Maximu m rate of change
	Allowab le range	Reco m- mend	Allowable range	Recommended range		
A1	15- 32	18-27	- 12 °C Dew Point (DP) and 8 % relative humidity (RH) to 17 °C DP and 100 % RH	- 9 °C DP to 15 °C DP and 60 %	17	5/20
A2	10-35	18-27	- 12 °C DP and 8 % RH to 21 °C DP and 80 %	Same as A1	21	5/20
A3	5-40	18-27	- 12 °C DP and 8 % RH to 24 °C DP and 85 %	Same as A1	24	5/20
A4	5-45	18-27	- 12 °C DP and 8 % RH to 24 °C DP and 90 %	Same as A1	24	5/20

3(1)(l): The idle state power at the higher boundary temperature of the operating conditions class is 331.9W.

3(1)(m): The active state efficiency and performance is 26.0.

3(1)(n): There are two methods by which a user can securely delete data from this system. The user performing secure data deletion should be an IT professional.

The first is with a Unified Extensible Firmware Interface (UEFI) shell utility. This utility works on X10/X11/H11/H12/M11 motherboard series with onboard SATA/NVMe devices. Any user may access and download this utility through our trusted third party vendor, following link:

[https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wftp/utility/Lot9\\_Secure\\_Data\\_Deletion\\_Utility/](https://www.supermicro.com/about/policies/disclaimer.cfm?url=/wftp/utility/Lot9_Secure_Data_Deletion_Utility/)

Download the shell utility package and extract it to a USB flash drive, then plug the drive into the server for which secure data deletion is necessary. Then turn the system on. Navigate to the BIOS setup menu, then place the server system into the UEFI shell environment. Follow the instructions in the README file to invoke the utility and complete the deletion.



The second method is through the secure data deletion tool provided by the original manufacturer of the hard drive. This should be used in a scenario where the shell utility is not applicable. Each manufacturer should have the tool available on their website. If needed, please look on the hard drive label for the name of the manufacturer and model information.

3(1)(o): List of recommended combinations of blade servers with chassis: N/A.

3(1)(p): List of all current SKUs within this product family.

<b>SKUs</b>	PWKS_AA25UTRT	PWKS_AA15PWTR
<b>Models</b>	PWKS1AA25UTRT	PWKS1AA15PWTR
	PWKS2AA25UTRT	PWKS2AA15PWTR
	PWKS4AA25UTRT	

3(3)(a): There is no use of cobalt in batteries in this product.

The indicative weight range of neodymium in the HDD is 0.0 if manufactured by Western Digital, and is between 5-25 grams if manufactured by Seagate.

3(3)(b): Please see the disassembly instructions on the next page.

## Chapter 2 - Illustrated System Disassembly Instructions

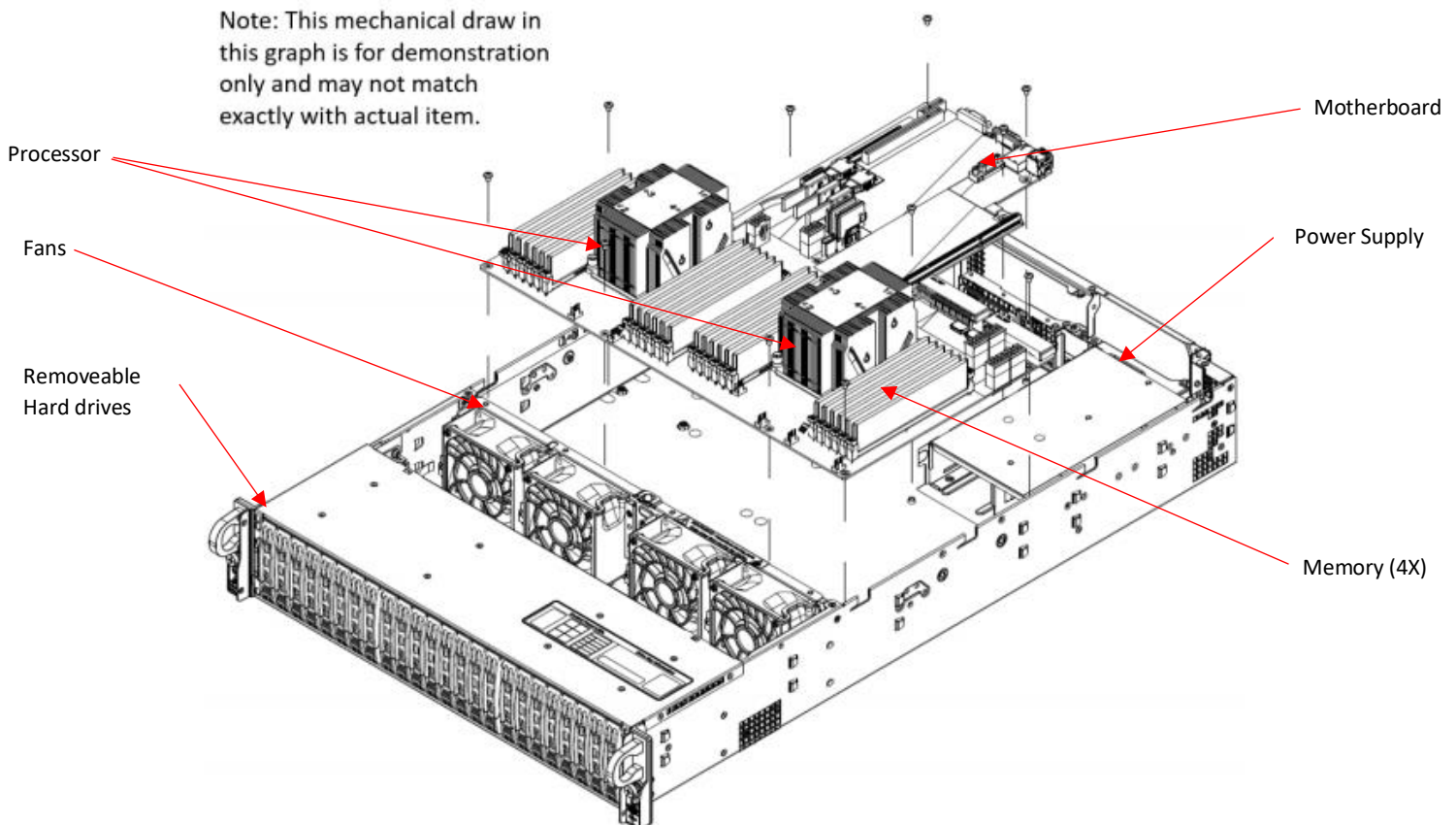
Chapter 8 is intended to provide guidance to recyclers on the presence of materials and components at the product/family level, per Article 15 of the EU WEEE Directive 2012/19/EU. The provided information should also help direct recyclers to proper methods for removing parts and general product disassembly instructions. This Chapter also outlines specific substances, mixtures, and components that must be removed from any separately collected electronic waste component and shall be disposed or recovered in compliance with Directive 2008/98/EC.

Please note: All the illustrations in the below disassembly instructions are for demonstration only. The system and components shown in this section are a representative sample.

**CAUTION:** Always power off the system and unplug the power cord(s) first before disassembling the system!

### Representative Server Component Layout

Note: This mechanical draw in this graph is for demonstration only and may not match exactly with actual item.





# 1. Data Storage Devices

Location: Servers are best known for their storage and interchangeability, this is most commonly done through front hard drive bays as noted in the photo below. Some servers may also have SSD storage, this type of storage can be found on the motherboard. It generally lays flat, parallel to the board, rather than at a right angle. Most common applications insert one end of the SSD into a slot on the motherboard while the alternate end is held in place with a small screw.

Type and number of fastenings: HDD = One (1) latch and four (6) Phillips screws, SSD = (1) Phillips screw.

Tools required: Screwdriver with PH2 bit.

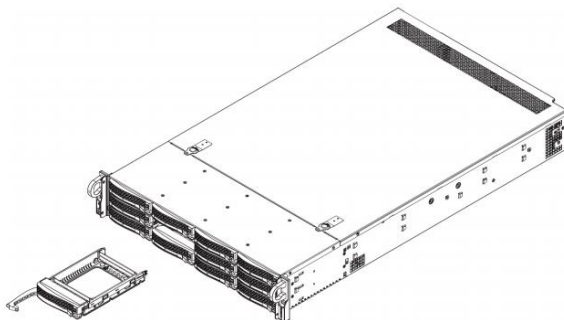
Procedure:

HDD = Push the release button on the carrier. Swing the handle fully. Grasp the handle and pull the drive carrier out of its bay, once the drive carrier is out of the bay, the Phillips screws can be removed.

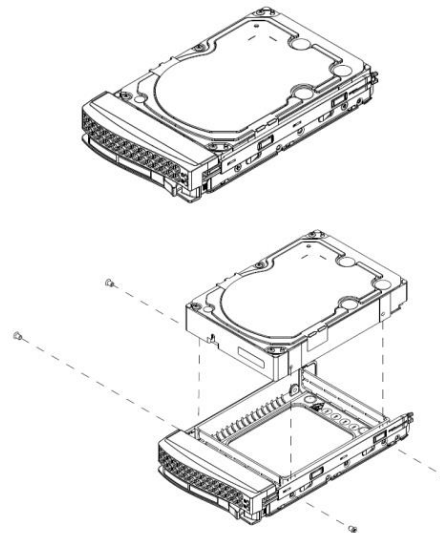
SSD = Identify the SSD on the motherboard, remove the screw, and pull straight back in a parallel position to remove the SSD from the slot on the motherboard.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the data storage devices must be removed separately from the data storage devices and shall be disposed or recovered in compliance with Directive 2008/98/EC.

Step 1



Step 2



## 2. Memory

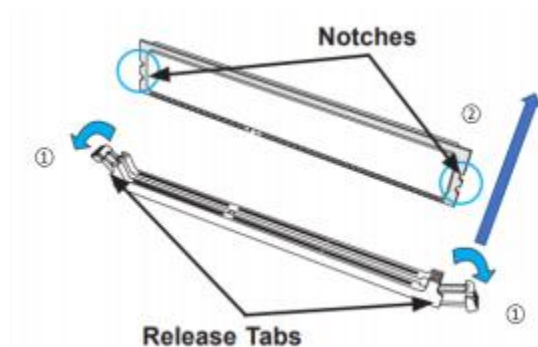
Location: Memory modules are found on the motherboard of the server, the number of memory modules may vary by unit configuration but are generally found in pairs of 2.

Type and number of fastenings: Two (2) latches per memory module.

Tools required: None.

Procedure: Press both release tabs on the ends of the memory module to unlock it. Once the module is loosened, remove it from the memory slot.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the memory must be removed separately from the memory and shall be disposed or recovered in compliance with Directive 2008/98/EC.



### 3. Processor

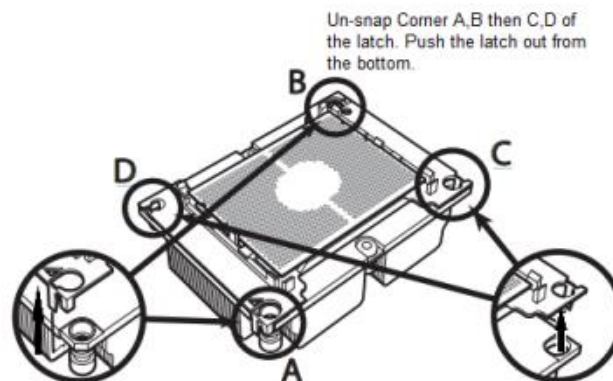
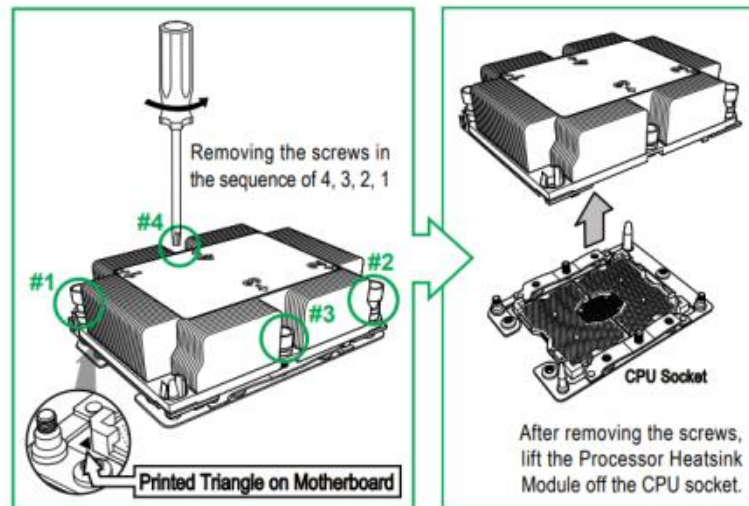
4. Location: The processor is found on the motherboard of the server. As shown in the photo below, the processor is located under the heat sink. The heatsink can look more like a fin type thermal transfer device, or a rotating fan with a thermal transfer plate. There can be more than one processor per motherboard, generally between 1- 4.

Type and number of fastenings: Four (4) T30 Torx screws.

Tools required: Screwdriver with T30 Torx bit.

Procedure: Remove the screws in the sequence of 4, then 3, then 2, then 1, as marked in the illustration below. After removing the screws, lift the processor heatsink module off the processor socket. Unsnap corners A and B, then C and D of the latch. Push the latch out from the bottom.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the processor must be removed separately from the processor and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 5. Motherboard

Location: The motherboard is the largest PCB in the server configuration, it is generally centrally located within the unit. Standard practice would be to remove all the components, peripherals, and add-ons from the motherboard before removal of the motherboard for processing.

Type and number of fastenings: 14 Phillips screws.

Tools required: Screwdriver with PH2 bit.

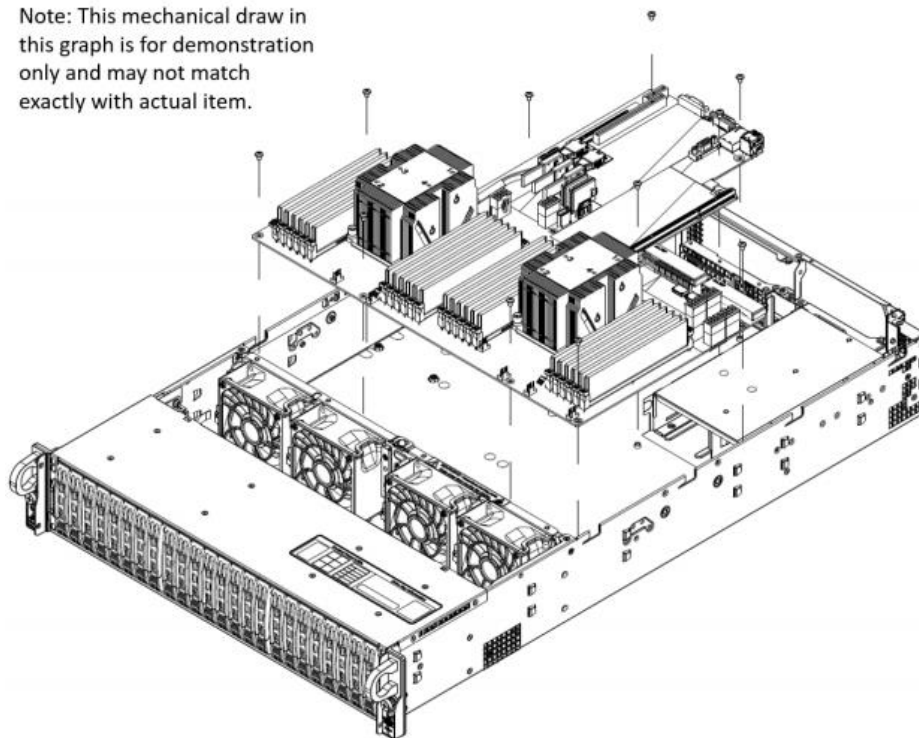
Procedure: Remove all 14 Phillips screws. Lift the motherboard from its base.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the motherboard must be removed separately from the motherboard and shall be disposed or recovered in compliance with Directive 2008/98/EC.

A lithium battery resides on the motherboard. The battery must be removed separately from the motherboard and shall be disposed or recovered in compliance with Directive 2008/98/EC. Refer to section 9 for specific instructions on remove and disposal of LiON batteries.

- Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Note: This mechanical draw in this graph is for demonstration only and may not match exactly with actual item.



## 6. Expansion Card/Graphics Card

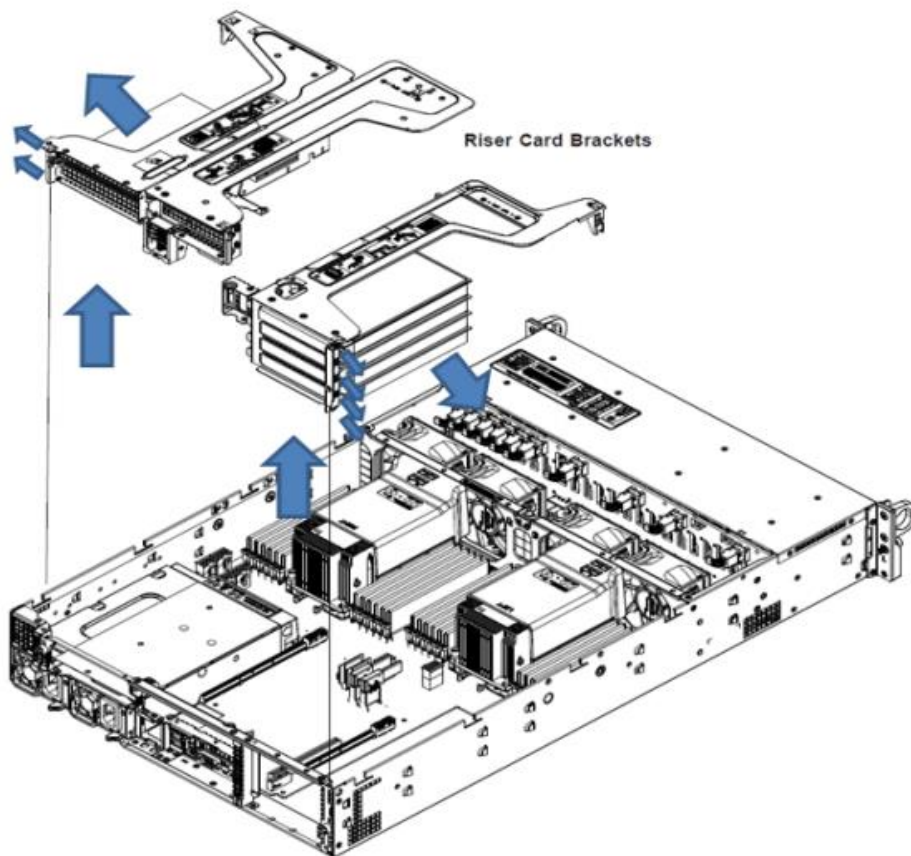
Location: Certain configurations of server may include a riser card bracket, this component allows for utilization of the vertical space in a server, rather than only utilizing the horizontal space. It is used for add-on types of components; it is attached directly to the motherboard. The riser card would generally be populated, and the components integrated should be removed prior to processing the riser card component.

Type and number of fastenings: Six (6) Phillips screws.

Tools required: Screwdriver with PH2 bit.

Procedure: Remove the Phillips screws. Open the rear window latch and carefully remove the expansion card from the riser card slot, lifting it up and away from the system.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the expansion card/graphics card must be removed separately from the expansion card/graphics card and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 7. Power Supply Module

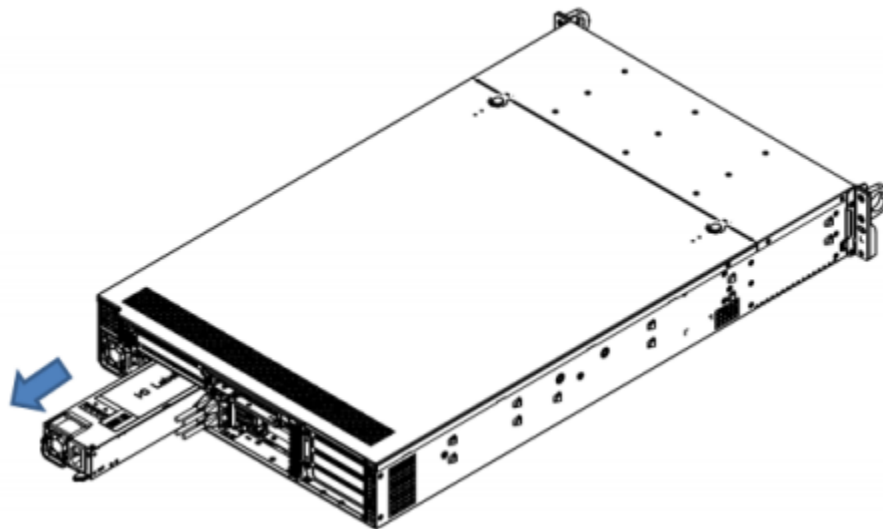
Location: The power supply module is an interchangeable unit, and can be removed with ease from the exterior, rear, portion of the server chassis. Many servers are equipped with redundant power supplies (at least 2) in some instances there may be more than 2 power supplies depending on the configuration.

Type and number of fastenings: One (1) latch per module.

Tools required: None.

Procedure: Unplug the power cord from the power supply. Push the release tab on the back of the power supply module to the side and pull the module straight out.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the power supply module must be removed separately from the power supply module and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 8. Chassis Cover

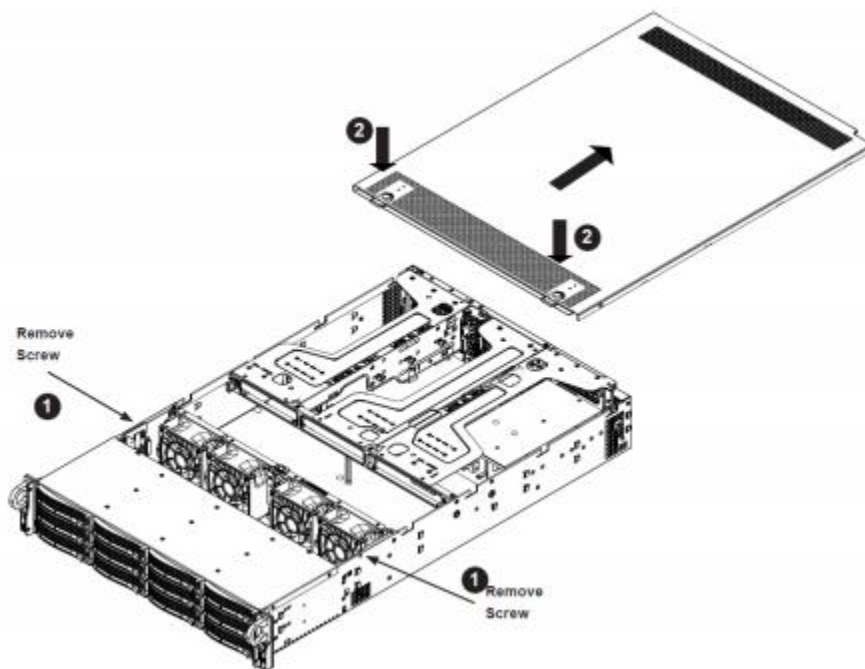
Location: The chassis cover is located on the upright, top side of the server, and it approximately 2/3 the size of the entire top, as noted in the illustration below.

Type and number of fastenings: Two (2) buttons.

Tools required: None.

Procedure: Hold down the two buttons simultaneously while pushing away the top cover.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: None



## 9. Batteries

Location: The battery is located on the motherboard, see illustration below.

Type and number of fastenings: One (1) latch.

Tools required: None.

Procedure: Push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: A lithium battery resides on the motherboard. The battery must be removed from separately from the motherboard and shall be disposed or recovered in compliance with Directive 2008/98/EC. Removal instructions for the motherboard lithium battery are outlined below.

- Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

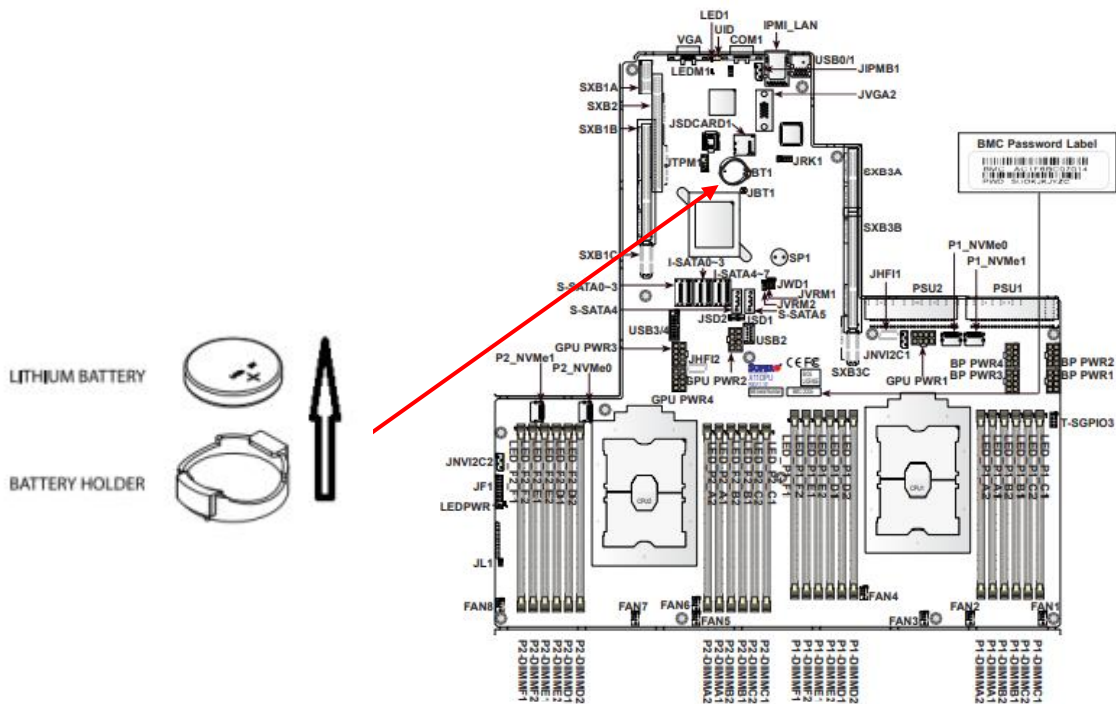


Figure 1-6. Motherboard Layout



## 10. Riser Card

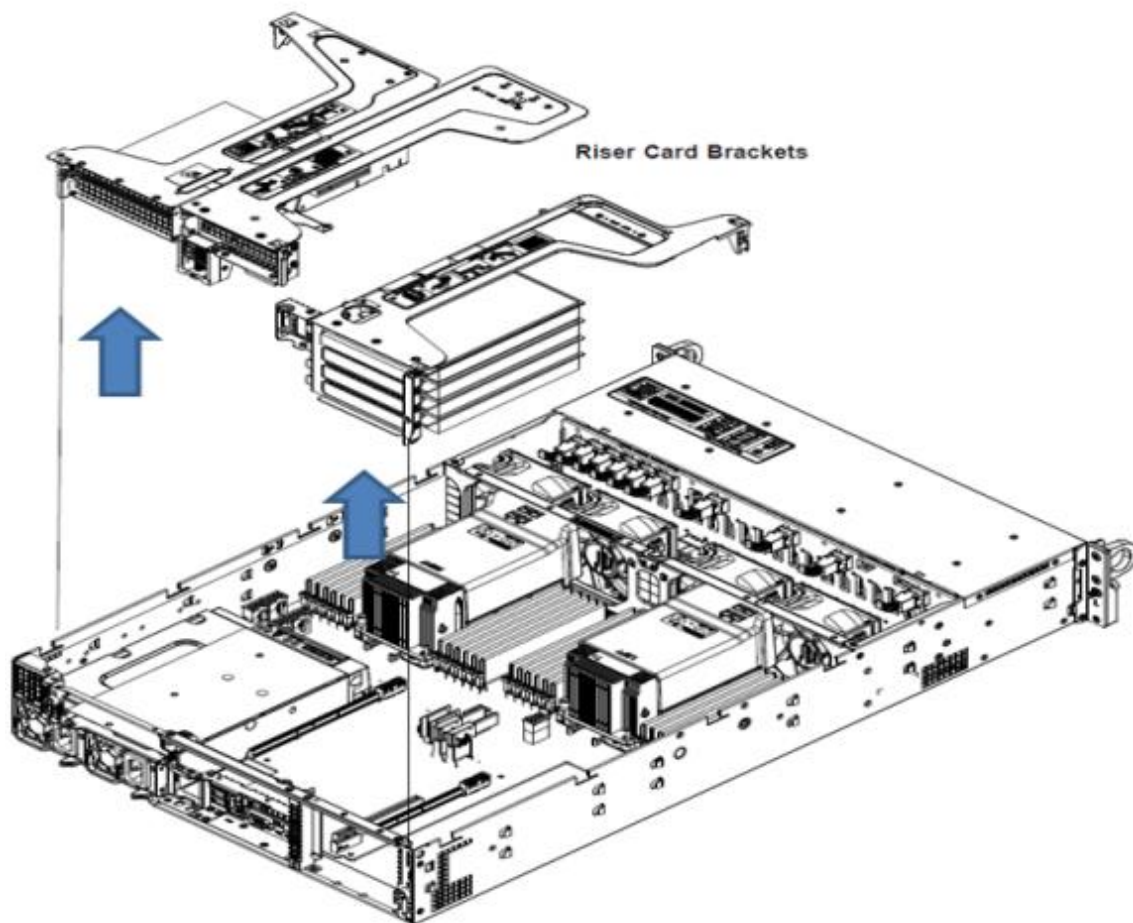
Location: The riser cards are located towards the rear of the server chassis, see illustration noted below.

Type and number of fastenings: One (1) Phillips screw.

Tools required: Screwdriver with PH2 bit.

Procedure: Remove the screw and lift the riser card up from the motherboard expansion slot.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the riser card must be removed separately from the riser card and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 11. Fans

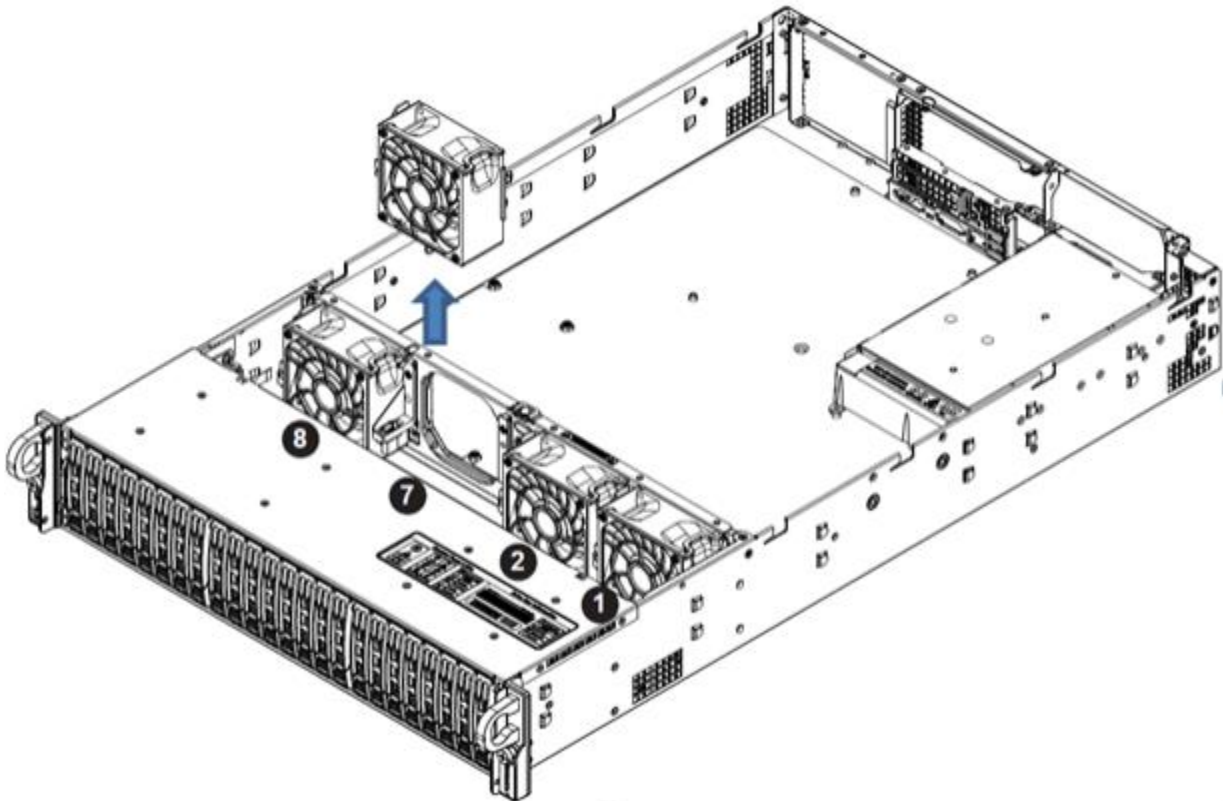
Location: Most servers are equipped with a number of fans, this configuration includes no less than 4 fans. See illustration noted below for location within the server chassis.

Type and number of fastenings: One (1) fan header per fan.

Tools required: None.

Procedure: Disconnect the fan wiring from the fan header on the motherboard. Then remove the fan from the fan tray.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any plastic components within the fan must be removed separately due to the presence of brominated flame retardants and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 12. Back Plane

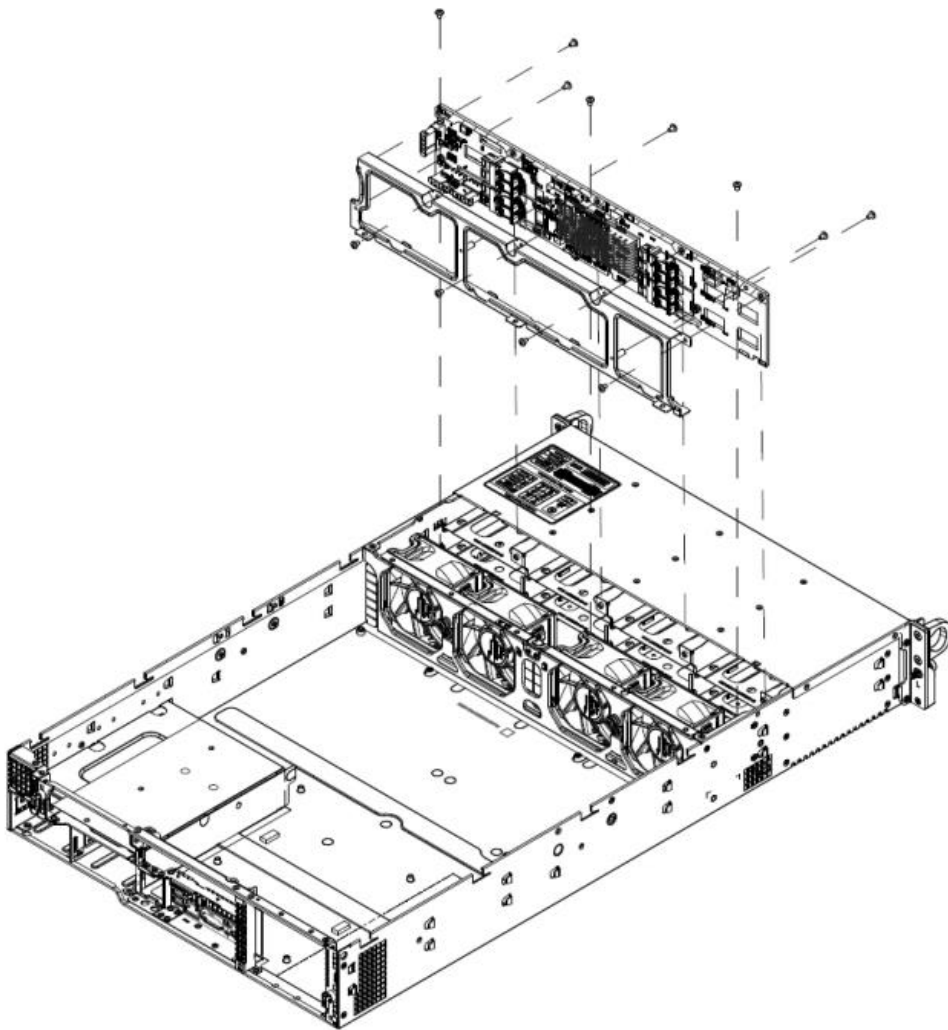
Location: The backplane of the servers is located between the fans and drive bays towards the front of the server chassis. See the illustration noted below.

Type and number of fastenings: twelve (12) screws for PWKS\_AA25UTRT series and PWKS\_AA15PWTR series.

Tools required: Screwdriver with PH2 bit.

Procedure: Disconnect all cables. Remove all Phillips screws to release and remove the backplane.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any printed circuit boards within the backplane must be removed separately from any other supporting/structural components and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## 13. External Power Cable

Location: To power the server a power cable is required. The cable may be separate or attached via a server rack mount power delivery system. The external power cable may be dual ended with an outlet and inlet of the same plug configuration type or one end may be a plug type connection. Configurations may vary. If the server is fully configured, the power supply cord would be connected to the power supply outlet located on the rear of the server chassis. Note: there are two power supplies per unit, so be aware for two power supply cords.

Type and number of fastenings: None, direct pressure connection method.

Tools required: None.

Procedure: Disconnect the external power cable from the main server assembly.

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any external electrical cables > 25mm must be removed separately and shall be disposed or recovered in compliance with Directive 2008/98/EC.



## Chapter 3 – Product Take-Back, End-Of-Life Processing, and E-Waste Program

Ace Computers offers a nationwide take-back service for proper end-of-life management of EPEAT-registered and Non-EPEAT registered products via Ace Computers and partnered with an R2-certified recycling facility.

For additional information and steps to take regarding our Product Take-Back, End-of-Life Processing, and E-Waste Program, please visit our website at <https://acecomputers.com/company/sustainability/> under the EPEAT Take-Back/EOL/E-Waste Program Tab.

## Chapter 4 – Product Services

### 4.1 Where to Get Replacement Components/Product Services

If you need replacement parts or product service for your system, for self-replacement or for on-site replacement, please visit <https://acecomputers.com/support/> and fill out the Ace Computers Support Request form. If phone assistance is needed please call our Support Line 847-952-6999.

**Note:** Most parts/product services are available for at least 5 years after the date of sale. Replacement components at a minimum cover the following: power supply, fans, hard drives, memory, CPU, PCB assemblies, memory and all hardware.

### 4.2 Returning Merchandise for Service

Upon completion of the Ace Computers Support Request Form, indicated in Section 1.5, an Ace Computers Team Member will reach out to further assist with your technical questions. If it is determined that the best course of action is an inhouse repair at Ace Computers, the service technician will help facilitate the process of returning the server for repair.