How to Supporting Datacenter with OCP Solution

ASUS Server Business Unit

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About ASUS Server

Starting from 1995, ASUS endeavor ourselves providing various server solution to help customer build up best-in-class Server Solution.

ASUS Server Product Portfolio

Server/WorkStation MB

Workstation Boards

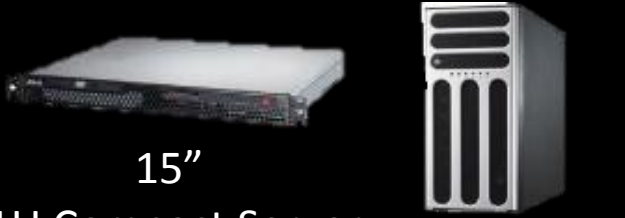ATX, EEB & Half SSI Server Boards

Barebone/System

ESC Super Computer

1U Server

2U Storage Server

2U 4-Way Server

ESC700 G2

ESC2000 G2

ESC4000 G3

15"
1U Compact Server

5U Pedestal

Multi Node Server

ESC500 G2

ESC1000 G2

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ASUS Focused Market

Data Center

IP Data Center, Cloud Computing, Data Warehousing

HPC

Academic Research   Research Laboratory   Industry : Oil & Gas

Industry : Automotive   Scientific   Financial Institution

Enterprise & Storage

Enterprise: CRM, ERP, Order/Financial Mgt.

Storage: Hot-data Oriented

SMB/SOHO

SMB: - File Server
- Printer Server
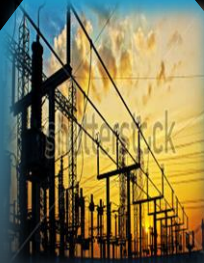- Web Server
- Host Server
- Mail Server

SOHO: Workstation

What ASUS Good at...

Design & Build High Quality, High Performance Server with Industrial Standards for Datacenter & HPC Market
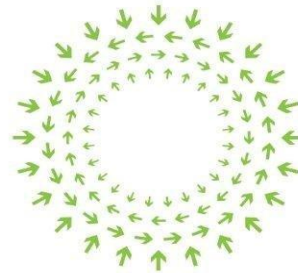
What's OCP Design Concept

Reduce energy

Consumption and cost

OPEN Compute Project

Increase reliability and choice in the marketplace

Simplify operation and maintenance

http://www.opencompute.org/assets/open-rack/Open-Compute-Project-Battery-Cabinet-v1.0-J-Draft-1c.pdf

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Performance, Efficient, Green

What Are Existing Dataceneter Concern

Upgrade Existing Data Center

- How to Minimize Re-Layout of Existing Datacenter, Yet Benefit from New Tech
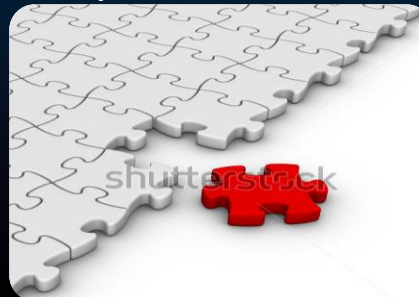- How to Increase Computing Density at given space

Budget Constrain

- TCO = Acquisition Cost + Transportation + Operation + Maintain/Service

Cost

$$$

CONCERNS

Commodity Design

- How to leverage Existing Eco System
- Commodity = Cost Effective

How to Resolve??

Great Appreciate to OCP & OCPT Extend and Adopt 19" Cabinet Standard → Then ASUS Solve Datacenter Problem Effectively

RS400-E8 Family – Ultra Short 1U DP

RS400-E8 Series

Short Depth	**Front IO**	**2 +1 Expansion**	**OS Fast Boot**	**Serviceability**
< 15"				
✓ Compact & Space Saving	✓ Easy to Use, Easy Access	✓ OCP Mezzanine Card Support	✓ M.2(NGFF)	✓ Front Access Design
✓ Increase Density Per Cabinet	✓ B2B, F2B	✓ 2 Full Height PCI-E Card Space	✓ Internal USB Type A CONN	✓ Diagnostic Indicators/LEDs
✓ Suitable to Fit in Telecom Cabinet				✓ Visible Q-Code from outside
				✓ Tool-less Rail Kit

OCP Mezzanine + 2 PCIe Expansion

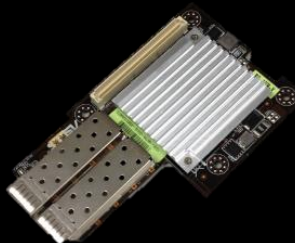- **Powerful I/O Expansibility**
  - ✓ 1 x OCP Mezzanine @ PCI Express Gen3 x8
  - ✓ 2 x PCI Express Gen3 x8 Slots @ Fully Hight

1 x PCI Express Gen3
x8 Slots, FH, HL

OCP Mezzanine

1 x PCI Express Gen3 x8 Slots, FH

MCB-10G-2S

X520-2DAxOCP

ConnectX-EN

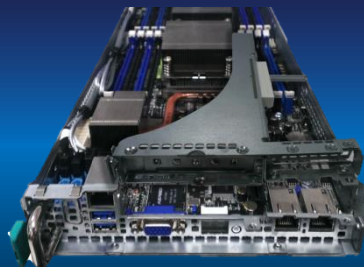IN SEARCH OF INCREDIBLE

RS720Q-E8-RS12 – 2U 4 Nodes Server

RS720Q-E8 Series

Modular & Density

✓ Easy Maintain
✓ 2U 4 Nodes

2 Expansion per Node

✓ 2 PCIe Expansion Space

OS Fast Boot

✓ M.2(NGFF)
✓ Internal USB Type A CONN

Serviceability

✓ Front Access Design
✓ Diagnostic Indicators/LEDs
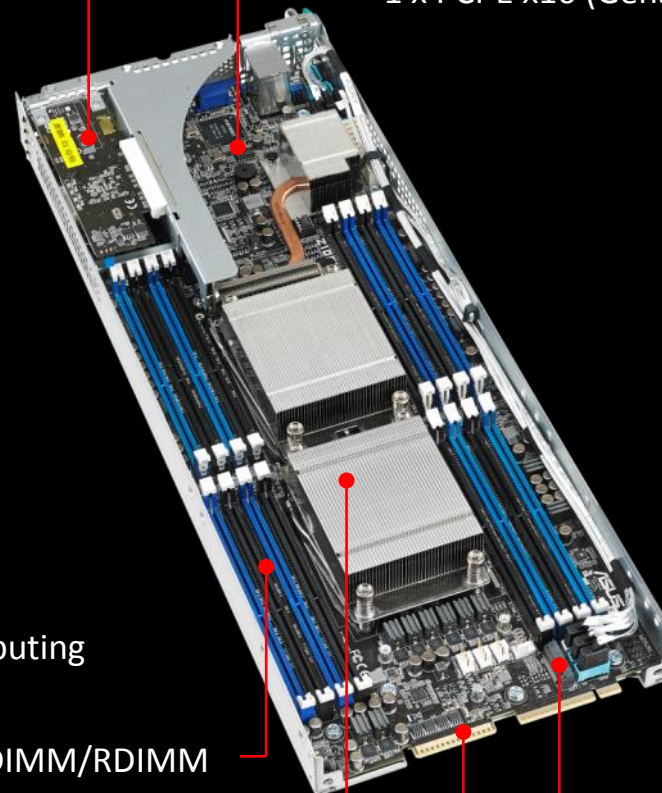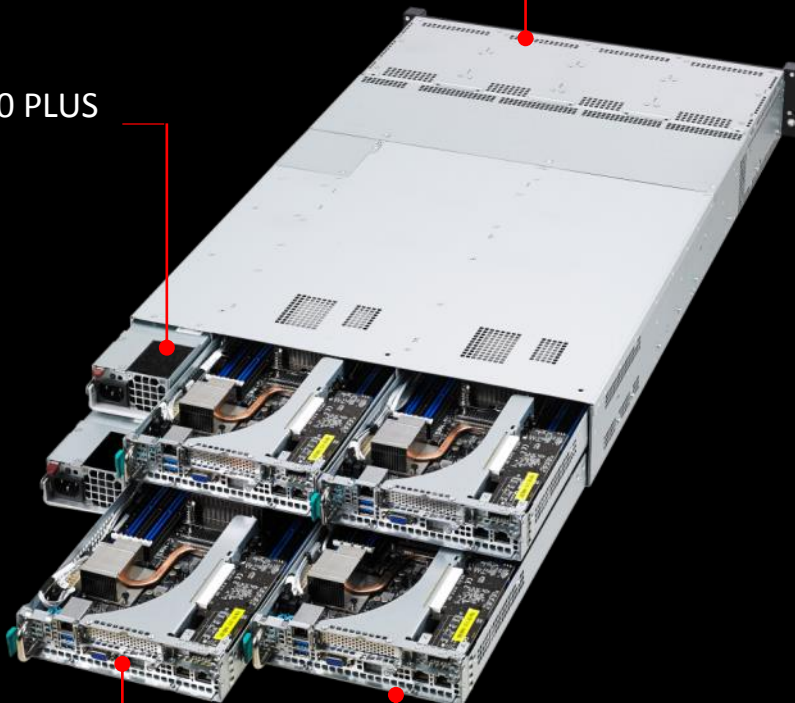✓ Visible Port80 from outside
✓ Tool-less Rail Kit

Prepared by system Sales PM

RS720Q-E8-RS12 – 2U 4 Nodes Server

3 x 3.5" Hot-Swap HDD Bays per node

1 x PCI-E x8 (Gen3 x8 link), Proprietary

1 x PCI-E x16 (Gen3 x16 link)

1 + 1 1620W 80 PLUS Platinum RPSU

Quad DP swappable computing nodes in 2U space

16 x DDR4 UDIMM/RDIMM

Dual Intel® Xeon® E5-2600 v3 processor

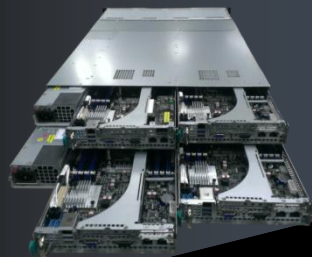Cable-less design

M.2(NGFF) for Quick Boot

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Maximize the Density in 42U Rack

IN ONE CABINET

84
x

or
21
x

84 computing nodes

168 CPU

1344 DDR4 DIMM

42T memory capacity

OPEN
Compute Project

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RS500-E8 – Conventional 1U DP

RS500-E8 Series

Efficiency

✓ Optimized Cooling Efficiency
✓ Platinum-level Power Efficiency

2+1 Expansion

✓ OCP like Mezzanine Card
✓ 2 Full Height PCI Card Space

OS Fast Boot

✓ M.2(NGFF)
✓ Internal USB Type A CONN

Serviceability

✓ Front Access Design
✓ Diagnostic Indicators/LEDs
✓ Visible Port80 from outside
✓ Tool-less Rail Kit

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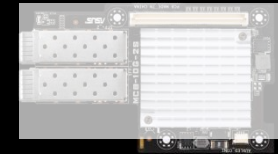
Prepared by system Sales PM

Modular Expandability

OCP Mezzanine:
- Model: MCB-10G-2S; MCB-10G-1T
  ConnectX EN, X520-DAxOCP

- Support Model: RS400-E8, RS500-E8,
  RS700-E8

MCB-10G-2S MCB-10G-1T

ConnectX EN X520-DAxOCP
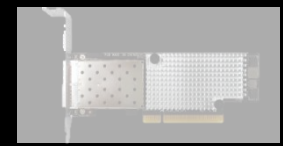
Networking HBA:
- Model: PEM-FDR, PEB-10G Series
- Support List: Z10/Z9/P9/AMD Platforms

PEM-FDR*   PEB-10G/57840-2S   PEB-10G/57840-2T
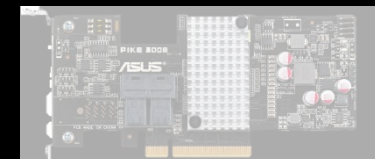   PEB-10G/57811-1S   PEB-10G/57811-1T

Storage HBA:
- Model: PIKE II 3008/3108 Series
- Support List: Z10/Z9/P9/AMD Platforms

PIKE II 3008*   PIKE II 3108*

*IN SEARCH OF INCREDIBLE
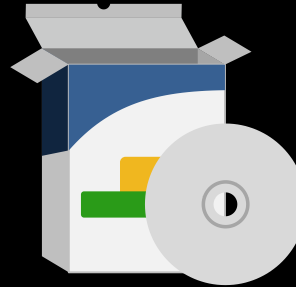
* Only compatible with ASUS Platform

How to Simplify Datacenter Management

- **ASWM Enterprise 3-Tier Management**
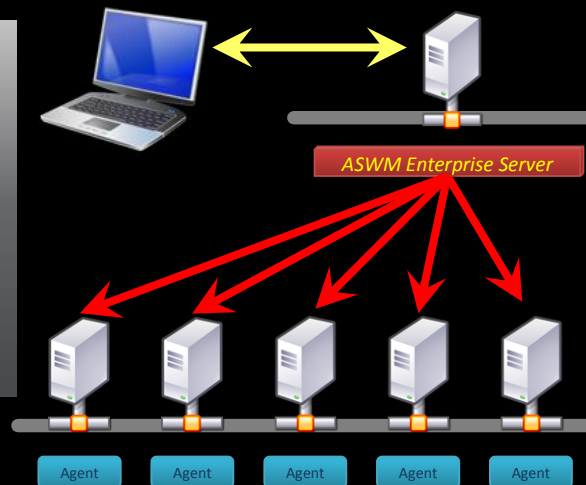
Intuitive User Interface

Software Dispatch

Hot fix, tools, etc.

Task Scheduler

shutdown, service, software dispatch

1 on Many Centralized Management

- BIOS Flash Centralized Management
- Remote Control Centralized Management
- Power Control Centralized Management
- Thin Client EWF Centralized Management
- Software Dispatch Centralized Management
- Task Scheduler Centralized Management

ASWM Enterprise Server

Agent   Agent   Agent   Agent   Agent

APP for Smart Phone & Tablet

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Server OS Validated

	Z10 OS Support List						
MB	Z10PE-D16/10G-2T	Z10PE-D16	Z10PE-D16/4L	Z10PR-D16	Z10PH-D16	Z10PA-D8	Z10PA-U8
SYS		RS720-E8-RS24-EG TS700-E8		RS520-E8-RS8 RS520-E8-RS12-E RS500-E8-RS4 RS500-E8-RS8 RS500-E8-PS4	RS720Q-E8-RS12 RS720D-E8-RS12	TS500-E8	
Windows Server 2012 R2 x64	V	V	V	V	V	V	In progress
Windows Server 2012 x64	V	V	V	V	V	V	In progress
Windows 8.1 x64	V	V	V	V	V	V	In progress
Windows 8 x64	V	V	V				
Server 2008 Enterprise R2 SP1 x64	V	V	V	V	V	V	In progress
RHEL AS 6.0 U5 x64				V	V	V	In progress
RHEL AS 6.0 U4 x64	V	V	V	V	V	V	In progress
RHEL AS 5.0 U10 x64	V	V	V	V	V	V	In progress
CentOS 6.0 U5 x64					V		
CentOS 6.0 U4 x64	V	V	V	V		V	In progress
CentOS 5.0 U10 x64				V	V	V	In progress
Ubuntu 13.10 x64	V	V	V	V	V	V	In progress

ASUS Upgrade Solution for Rack Power

Easy to Own

19" Standard Rack

✓ Compatible with EIA-310D 19" Rack

Flexible Rack Base CONFIG

✓ Typical Rack Base Configuration
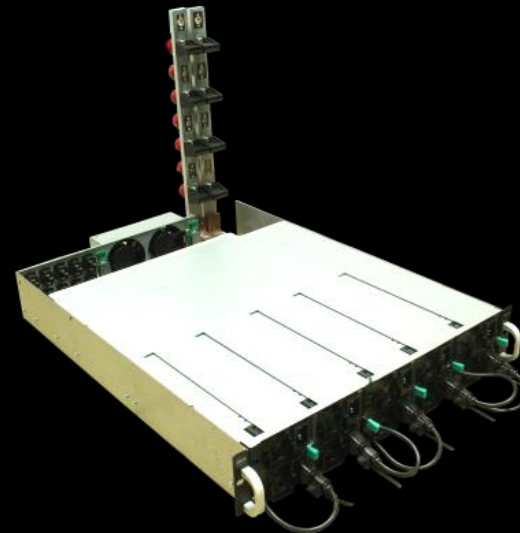
Simple Power Bank Module

✓ Easy to Install

Cost-Effect

✓ No Need
- Proprietary Design
- Re-layout Data Center
- Air Transportation Fee

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19" Open Rack Cabinet

■ High Compatible with EIA-310D 19" Rack Mount Standard And Power
   ✓ Eco System Mature for Long Time → Cabinet can be available at reasonable $$
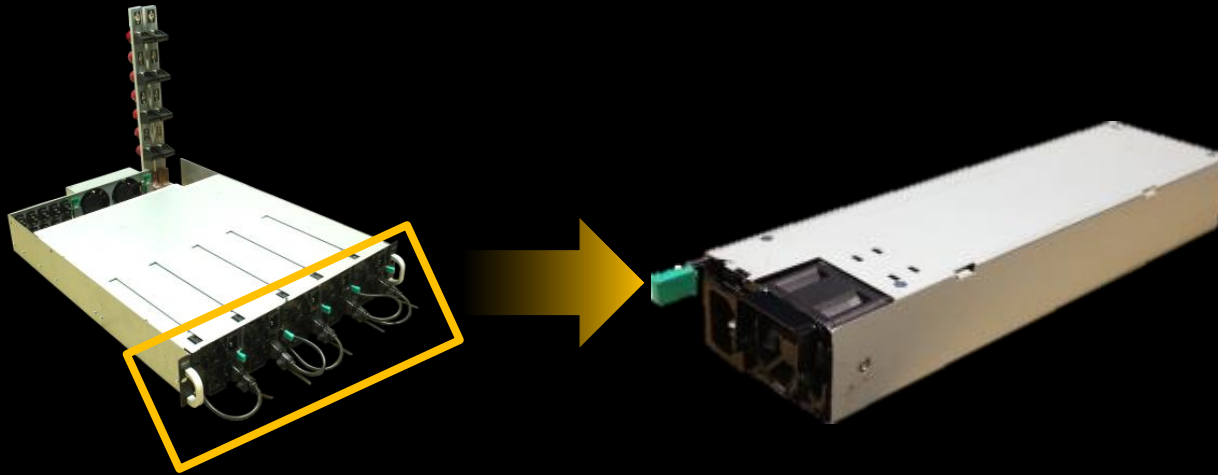

Standard 19" Rack

Power Bank

Power Bank Enclosure

ASUS Server

19" Open Rack Cabinet

■ CRPS Form Factor
✓ Standard Industry Design
✓ High Power Capacity

CRPS: 1600W/2000W(TBC)

■ Standard 19" Rack, Storage, Server, Parts
✓ Compatible with Channel Server MB

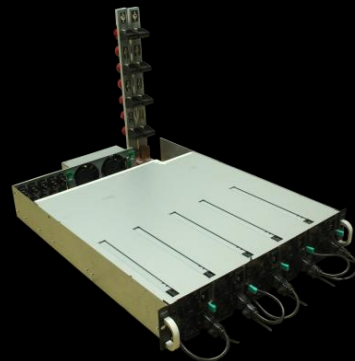19" 1U Server

19" 2U Server

Channel Server MB
(PR Series)

Easy Install, Fast Deployment

■ Easy Integration with 19" Cabinet

✓ Step 1
Install Exclusive Tool-lees Rail Kit

✓ Step 2
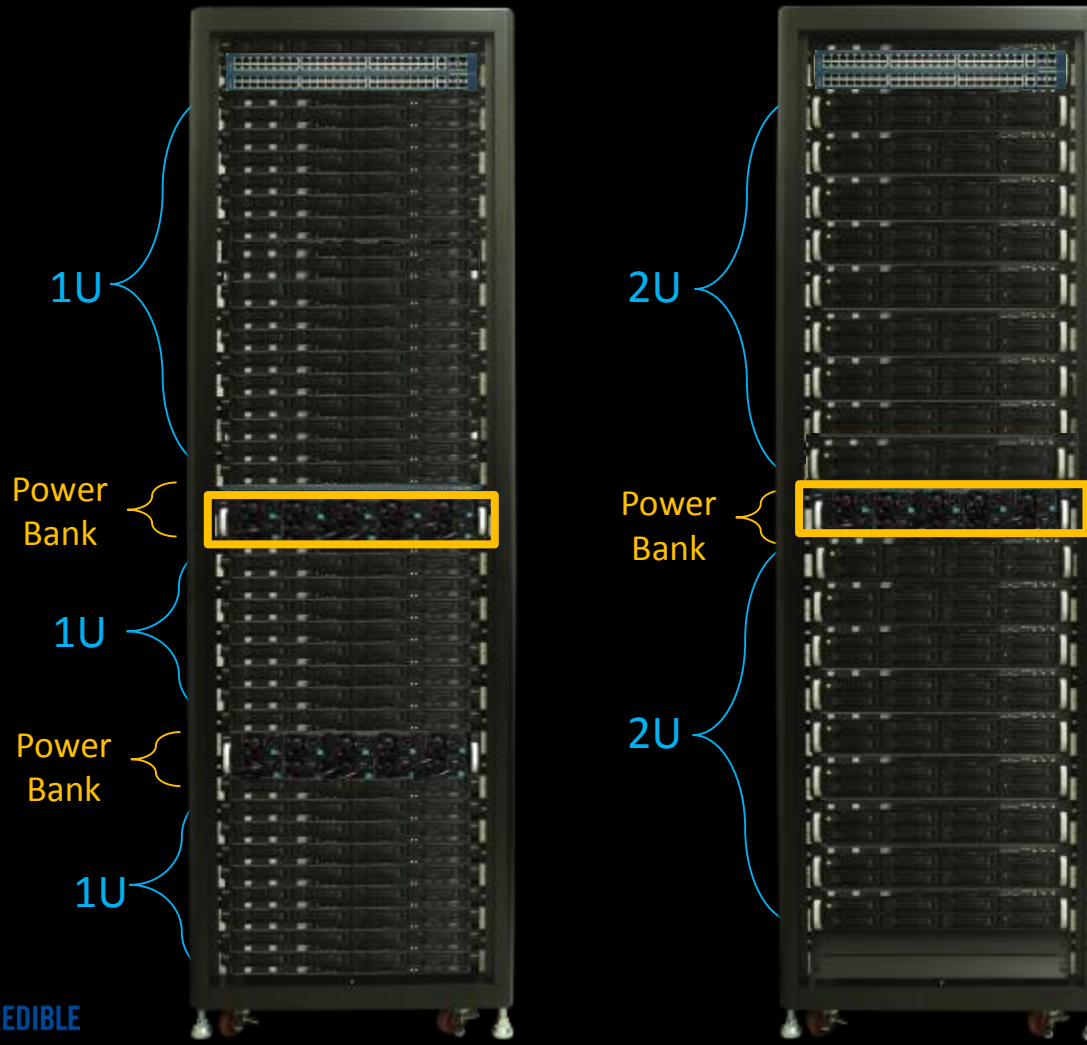Install Power Bank & Bus Bar

✓ Step 3
Install Server in Rack

Flexible Rack Configuration

- Recommend Rack Base Configuration

Power Rack Compute Type
36 x 1U Computing Nodes

Power Rack Hybrid Type
18 x 2U Compute/Storage Nodes

1U

Power Bank

1U

Power Bank

1U

2U

Power Bank

2U

Further Interest, Plz Contact

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Thank You!!