

Wiwynn Achievements in OCP

Wiwynn Solutions Introduction

Min Chao

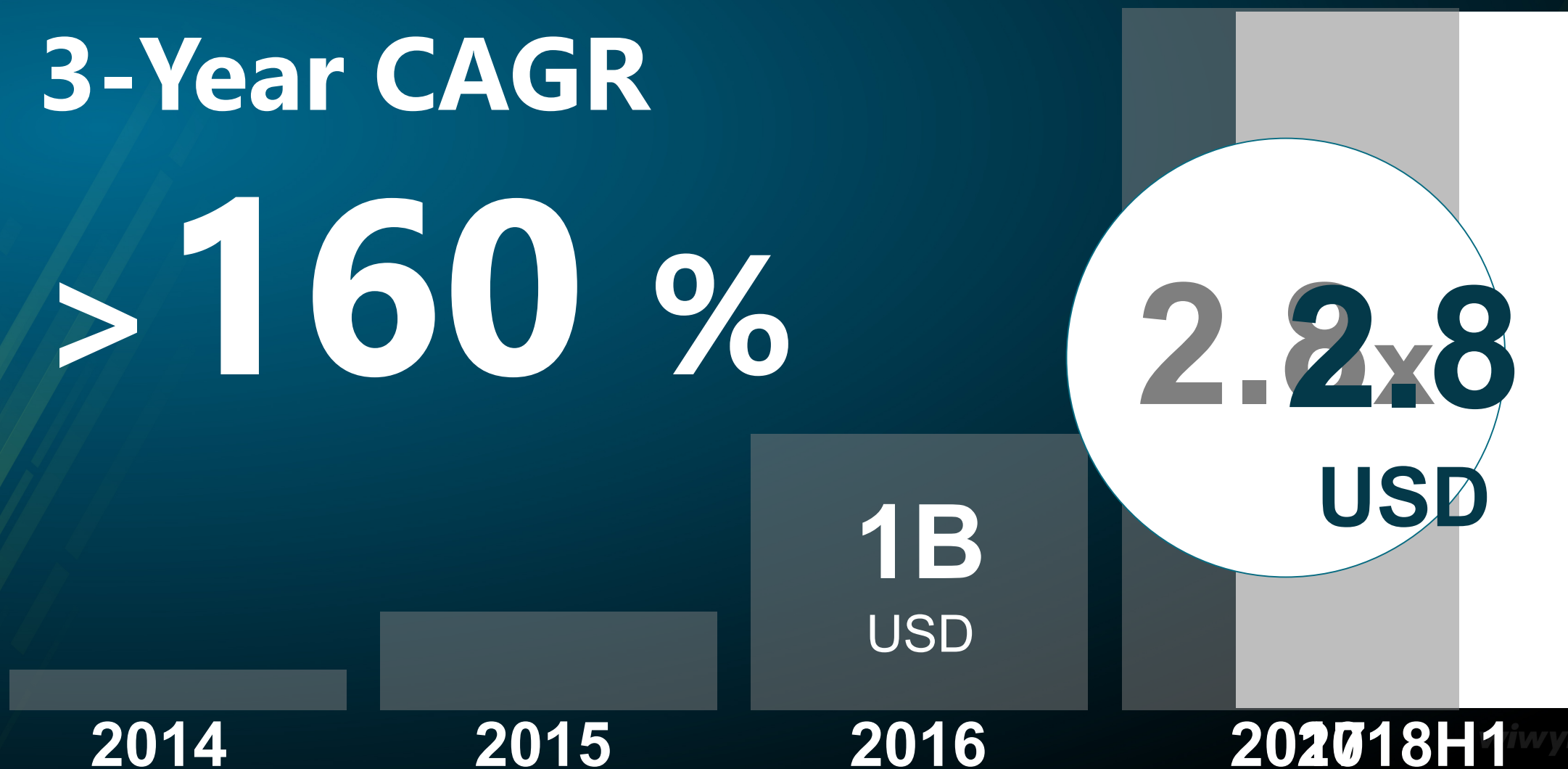
Executive Director, SD2, Wiwynn



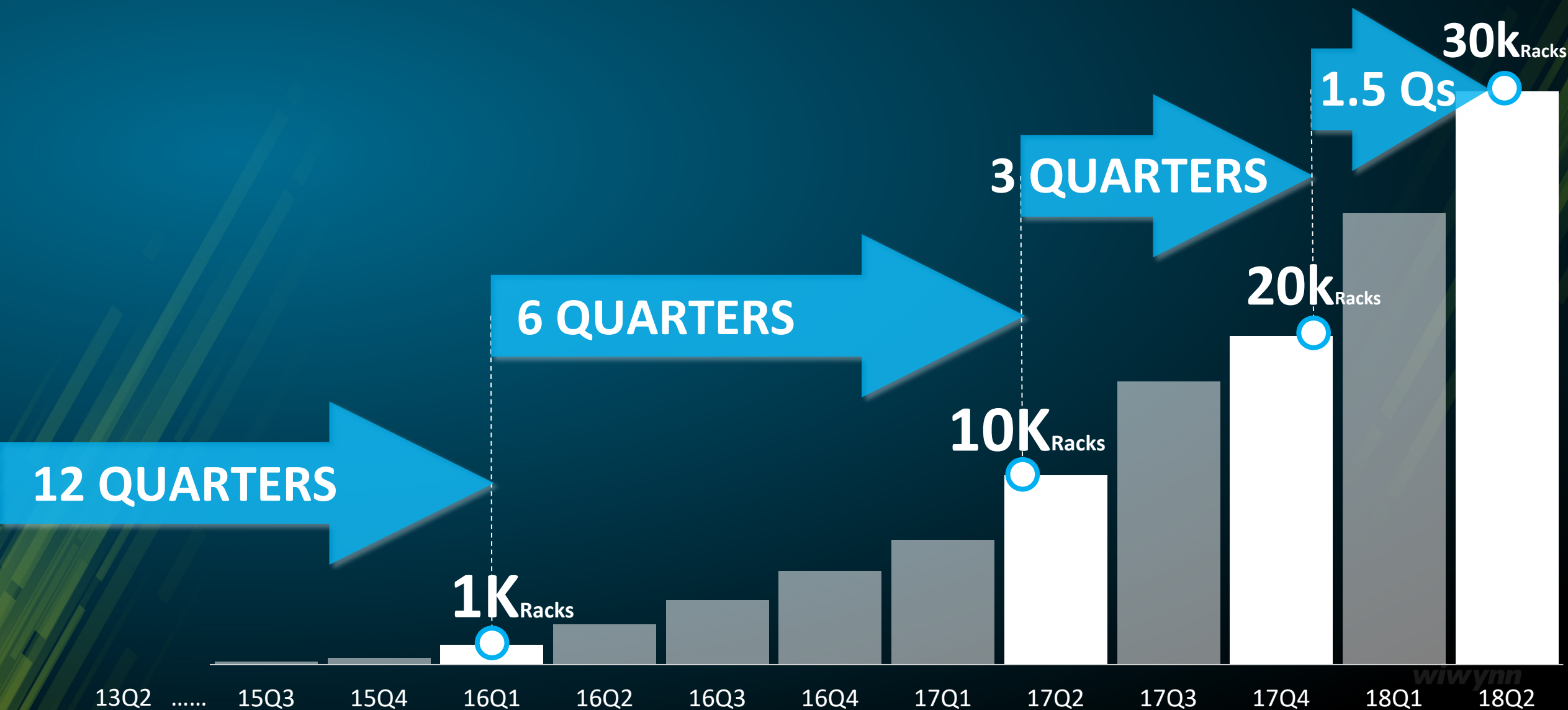
Thriving Demand Leads to Fast Growth

3-Year CAGR

> 160 %

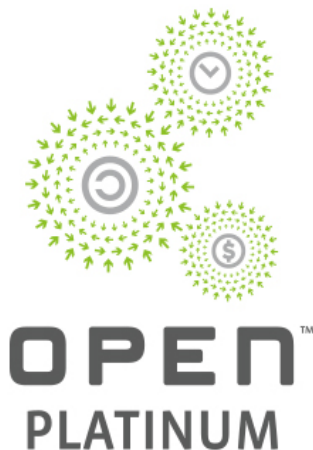
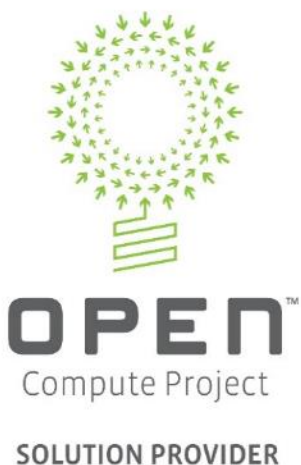


Exponential Growth of Rack Integration





OCP Solution Provider with 21 Accepted Products



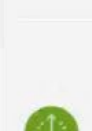
- ☐ Camorus Networks (32)
 - ☐ Edgecore Networks (29)
 - ☐ Hyve Solutions (29)
 - ☐ Penguin (18)
 - ☐ HPE (9)
 - ☐ Quanta Cloud Technology (2)
 - ☐ Inspur (1)
 - ☐ ZT Systems (1)
- Show less

Solution Providers: Wiwynn, ITOCHU Techno-Solutions Corporation, Circle B, Penguin
Part #: SV7221G2-P
[Specifications](#)



Wiwynn Leopard Broadwell ADVANCED Sku - with 2 SSDs.

Server featuring high computing power and optimized power efficiency by leveraging the 14nm architecture of Intel® Xeon® E5-2600 V4. Each 20...



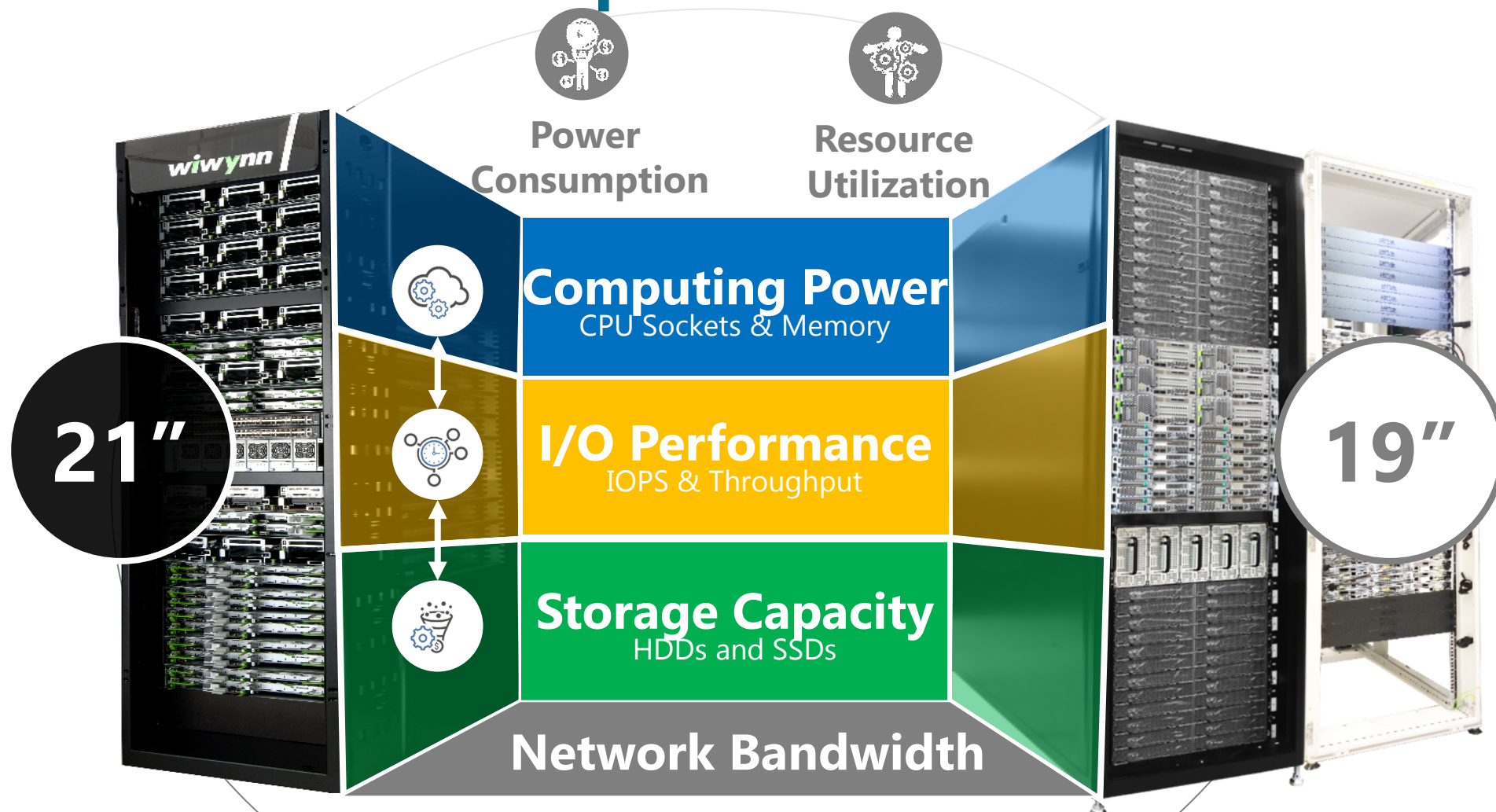


Offering One-Stop Rack Integration Service





WiRack – Workload Optimized Rack Solutions



Tier1 CSPs Verification
Deployed to >133 Hyperscale DCs



OCP[™]
ACCEPTED



30,000+ Racks
Delivered to >61 Global Locations



Two Typical Computing Configurations

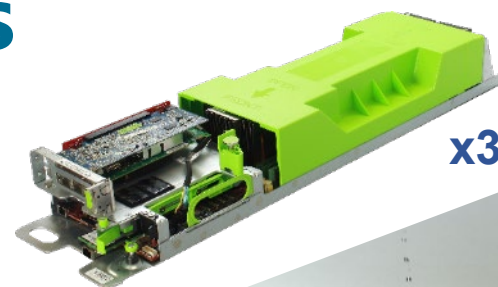
Computation



U41	Blank Plate		
U40	CN #43	CN #44	CN #45
U38	CN #40	CN #41	CN #42
U36	CN #37	CN #38	CN #39
U34	CN #34	CN #35	CN #36
U32	Switch #4 Switch #3		
U30	Power Shelf		
U28	CN #31	CN #32	CN #33
U26	CN #28	CN #29	CN #30
U24	CN #25	CN #26	CN #27
U22	CN #22	CN #23	CN #24
U20	CN #19	CN #20	CN #21
U18	CN #16	CN #17	CN #18
U16	CN #13	CN #14	CN #15
U14	Switch #2 Switch #1		
U12	Power Shelf		
U10	CN #10	CN #11	CN #12
U8	CN #07	CN #08	CN #09
U6	CN #04	CN #05	CN #06
U4	CN #01	CN #02	CN #03

Front-End

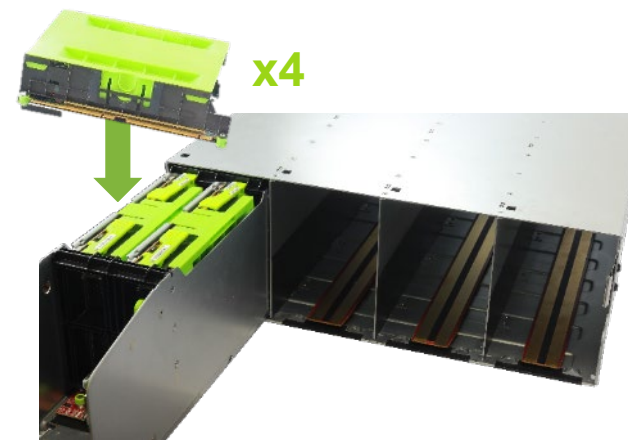
U41	Blank Plate			
U40	Data Switch #2 Data Switch #1			
U38	CN	CN	CN	CN
U36	113~116	117~120	121~124	125~128
U34	CN	CN	CN	CN
U32	97~100	101~104	105~108	109~112
U30	Power Shelf			
U28	CN	CN	CN	CN
U26	81~84	85~88	89~92	93~96
U24	CN	CN	CN	CN
U22	65~68	69~72	73~76	77~80
U20	CN	CN	CN	CN
U18	49~52	53~56	57~60	61~64
U16	CN	CN	CN	CN
U14	33~36	37~40	41~44	45~48
U12	Power Shelf			
U10	CN	CN	CN	CN
U8	14~20	21~24	25~28	29~32
U6	CN	CN	CN	CN
U4	1~4	5~8	9~12	13~16



x3



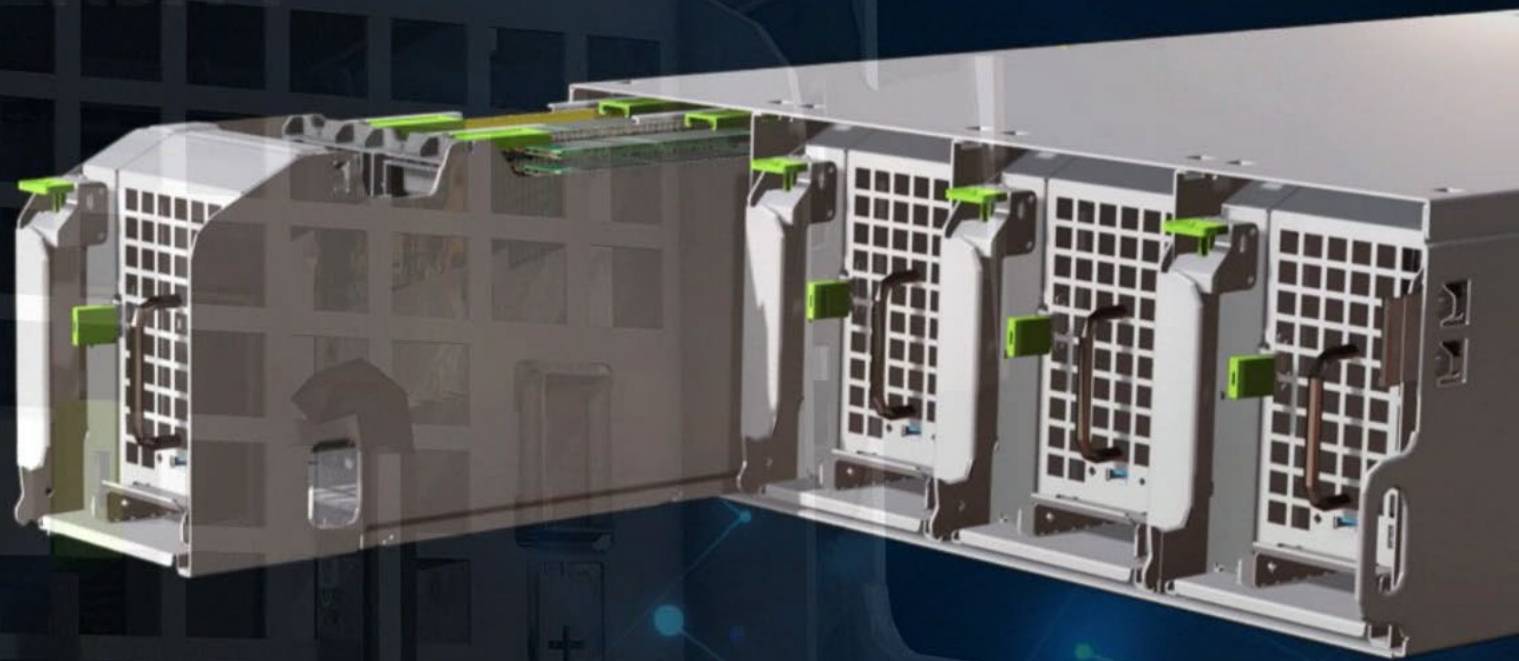
2U3N Dual Socket Server



x4

4U16N Single Socket Server

Performance/Watt Optimized Dense Server



BEST OF ITS KINDS

SV7100 G2



Two Typical Storage Configurations

Hot Storage

U41	Switch #1
U40	Blank Plate
U38	Storage Server #8
U36	
U34	Storage Server #7
U32	
U30	Power Shelf
U28	Storage Server #6
U26	
U24	Storage Server #5
U22	
U20	Storage Server #4
U18	
U16	Storage Server #3
U14	
U12	Power Shelf
U10	Storage Server #2
U8	
U6	Storage Server #1
U4	
U2	

Cold Storage

U41	Switch #1
U40	Blank Plate
U38	Storage JBOD #6
U36	
U34	Storage Server #3
U32	
U30	Storage JBOD #5
U28	
U26	Storage JBOD #4
U24	
U22	Storage Server #2
U20	
U18	Storage JBOD #3
U16	
U14	Storage JBOD #2
U12	
U10	Power Shelf
U8	Storage Server #1
U6	
U4	Storage JBOD #1
U2	



4U72Bay Storage JBOD



4U Storage Server



Density & Cooling Efficiency Optimized Storage Platform



4U72B OCP DENSITY OPTIMIZED STORAGE

ST 7000_{G2}



Two Typical Configurations for AI Applications



Deep Learning

U41	Blank Plate		
U40	Blank Plate		
U38	Switch #1		
	Management Switch		
U36	CN #7	Blank	CN #8
U34	Compute Accelerator #4		
U32			
U30	Power Shelf		
U28			
U26	Compute Accelerator #3		
U24			
U22	CN #5	Blank	CN #6
U20	Blank Plate		
U18	Blank Plate		
U16	CN #3	Blank	CN #4
U14	Compute Accelerator #2		
U12			
U10	Power Shelf		
U8			
U6	Compute Accelerator #1		
U4	CN #1	Blank	CN #2
U2	Blank Plate		

AI Inference

U41	Blank Plate		
U40	Switch #1		
U38	Management Switch		
	CN #15	Blank	CN #16
U36	CN #13	Blank	CN #14
U34	Compute Accelerator #4		
U32			
U30	Power Shelf		
U28			
U26	Compute Accelerator #3		
U24			
U22	CN #11	Blank	CN #12
U20	CN #9	Blank	CN #10
U18	CN #7	Blank	CN #8
U16	CN #5	Blank	CN #6
U14	Compute Accelerator #2		
U12			
U10	Power Shelf		
U8			
U6	Compute Accelerator #1		
U4	CN #3	Blank	CN #4
U2	CN #1	Blank	CN #2



x3

2U3N 2 Socket Server



4U8X GPU Server

The Best Server for AI / Deep Learning and HPC

Wiwynn 4U8G Dual-socket GPU Server

**112T
FLOPS**

8x

GPU / FPGA
PCIe3 x16 Slots

2

**CPU-GPU Connection
Modes**

- . Balanced
- . Cascading GPU

By Single-precision
floating-point

8

SATA SSDs





WiRack21 Solutions

	Computation	Front-End	Hot Storage	Cold Storage	Deep Learning	AI Inference
2U3N Compute Server Project Tioga Pass 	45 Nodes				8 Nodes	16 Nodes
4U16N Compute Server Project Yosemite V2 		128 8 Nodes				
4U72Bay Storage Server Project Bryce Canyon 			8	3		
4U72Bay Storage JBOD Project Bryce Canyon 				6		
4U8G Compute Server					4	4



Complement Physical Layer Management

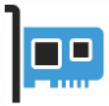
Orchestrators & RSD-aware Workloads

Wiwynn Cluster Manager

RSD PODM (Pod Manager)

RSD Enabled Hardware

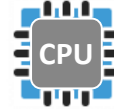
Compute
Accelerator Pool



NVMe
SSD Pool



Compute
Pool



iSCSI
Services



Software Defined
Network



FW of PCIe Switches & BMC
Topology Mapping

FW of BIOS & BMC Health
Check & Diagnosis

FW of HBA & Expander
Topology Mapping



Wiwynn Cluster Manager /RSD v2.3

Pod: RSD2.2

Dashboard

Physical Resources

Logical Ins

Images

Events & A

Users

Settings

RSD2.2

Bey

Total Racks1

Total Blades3

Total NVMe6

Total Storage2.62TB

Node Composition

1 Basic Information ✓

2 Minimum Requirements ✓

3 PCIe Resources

4 Networking

5 OS Deployment

6 Finish

NVMe directly attached

CapacityNot specifiedAmount1

NVMe over fabric

CapacityNot specifiedGB

GPU for general purpose computing

ModelNot specifiedAmount

FPGA

ModelNot specifiedAmount

Tip

Specify additional requirements of storage, such as NVMe SSDs.

Resource Pool Status

Total directly attached NVMe drives

100%

6 in pool

0 allocated

Previous

Next

Storage Pool

In Pool1.86 TB

1.86 TB

0.76 TB

Activity Feed

Deleted node: 'NVMe'.
User: Bey
2018/03/09 11:58

Composed new node: 'NVMe' from compute resource pool.
User: Bey
2018/03/09 11:51

Deleted node: 'test'.
User: Bey
2018/03/09 11:44

Rack 2-c-1 Avg. Temperature in 24 hrs : 0°C

Rack 2-c-1 Avg. Power in 24 hrs : 19.96W



How to Start?

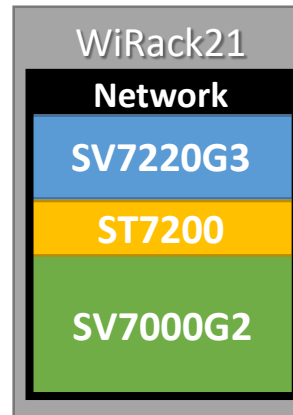
Fully utilize the power of Cluster Manager/RSD, OCP/Olympus, Edge

Wiwynn on-site PoC

- ✓ No Hardware Cost
- ✓ Wiwynn Engineer Onsite Support
- ✓ PoC Closing Reports

Build your own environment

Try at your Lab, e.g.



- 3 server nodes
- 1 JBOF, NVMe over PCIe/Fabrics
- 1 storage server, iSCSI

Wiwynn Provides:

- ✓ Free License (Gold)
- ✓ Free Onsite PoC and Training

Understand more about Cluster Manager/RSD, OCP/Olympus, Edge

Experience at Wiwynn Certified Labs

@Wiwynn HQ in Taipei
@FB Disaggregate Lab in Menlo Park
@Wiwynn Manufacturing Site in Brno



OPEN™
Compute Project
SOLUTION PROVIDER

Best TCO and Workload Optimized IT Solutions for Data Centers



Learn More About Wiwynn Cluster Manager

- **Wiwynn website:**

- Wiwynn Cluster Manager: <http://www.wiwynn.com/english/product/type/details/34?ptype=40>
- White Paper: http://www.wiwynn.com/usr_files/Wiwynn_CM_RSD2.1_Whitepaper.pdf
- Datasheet: http://www.wiwynn.com/usr_files/20171026104415_Datasheet%20-%20CM_171023.pdf

- **Youtube:**

- <https://www.youtube.com/watch?v=3jw5hEs3hoc&t=147s>
- <https://www.youtube.com/watch?v=o2OLPViUUFY>
- <https://www.youtube.com/watch?v=kce6AbLDm7A&t=1s>
- <https://www.youtube.com/watch?v=g8TDKqmZcnI>

- **Need Additional Information?**

- Technical support: Techsupport@wiwynn.com
- Follow us on Facebook / LinkedIn / Youtube