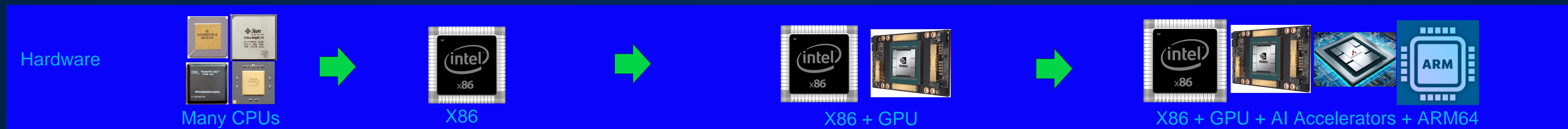
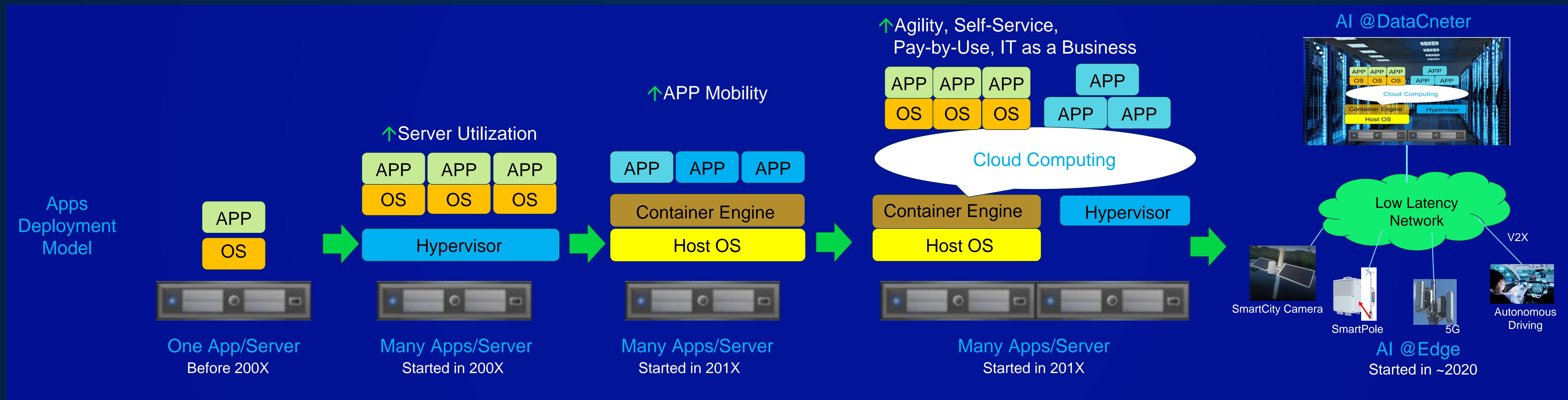
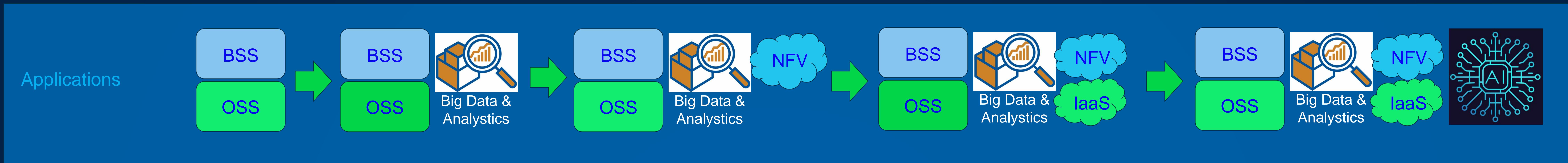


Pervasive Computing, Pervasive Intelligence

Telco Computing Evolution: Cloud, 5G, AI, Intelligent Edge



What Telcos Considered When Choosing Huawei Computing

✓ Quality Products

- DNA of Telecomm Products, E2E Quality Control

✓ Innovative Product Features

- Enabled by Self-Developed ASICs for Management, Perf, Deployment & Diagnosis

✓ Knowledgeable & Experienced Team

- Both Hardware & Software, Applications & Operations

✓ Long-Term Commitment & Support

- Both spare Parts & Software

✓ Supply Chain

- Quick Delivery, Security & Source Quality Control
- Fewer Suppliers to Manage

✓ Local Support

- Quick response & Easy to reach

✓ Competitive Pricing for TCO

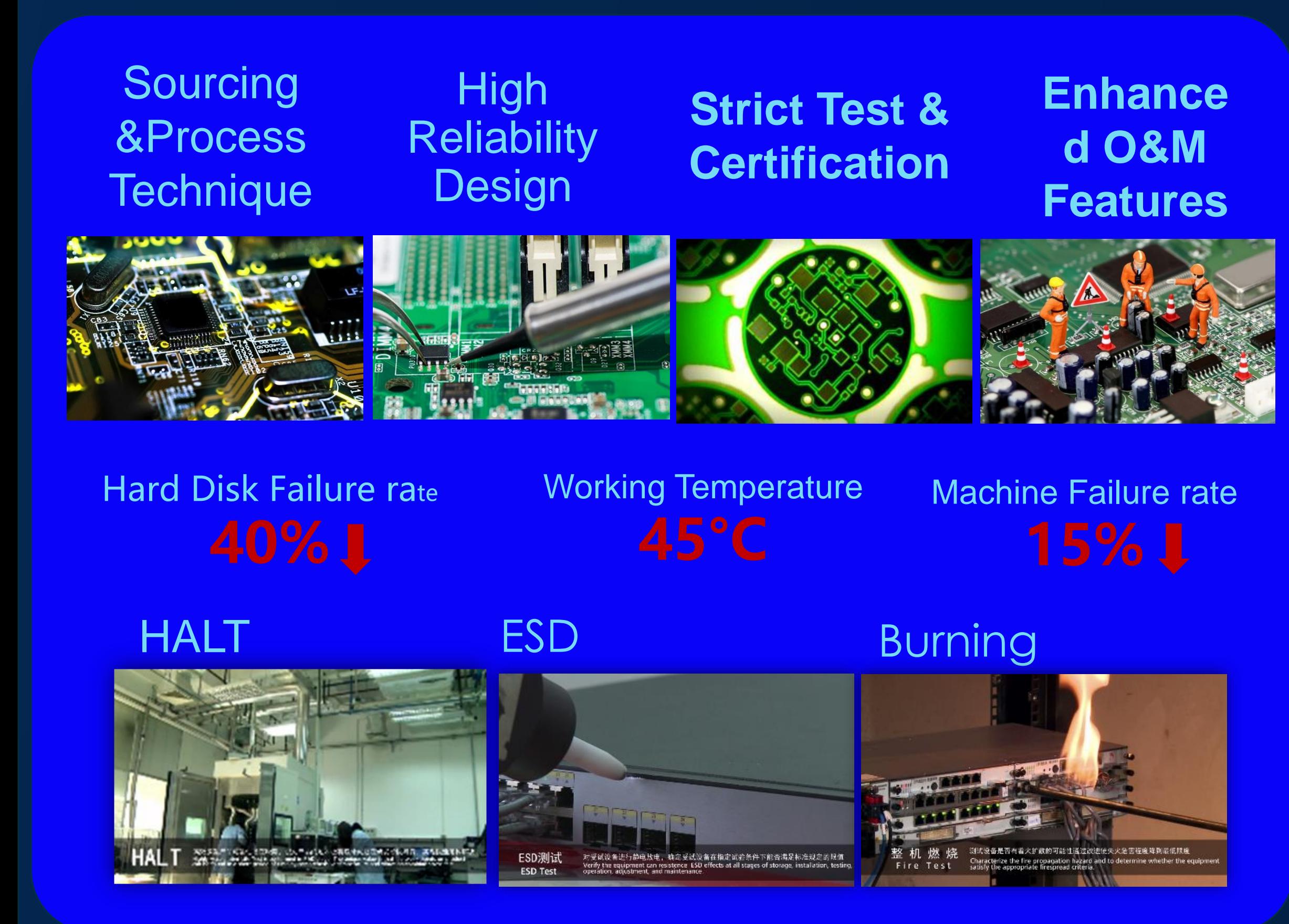
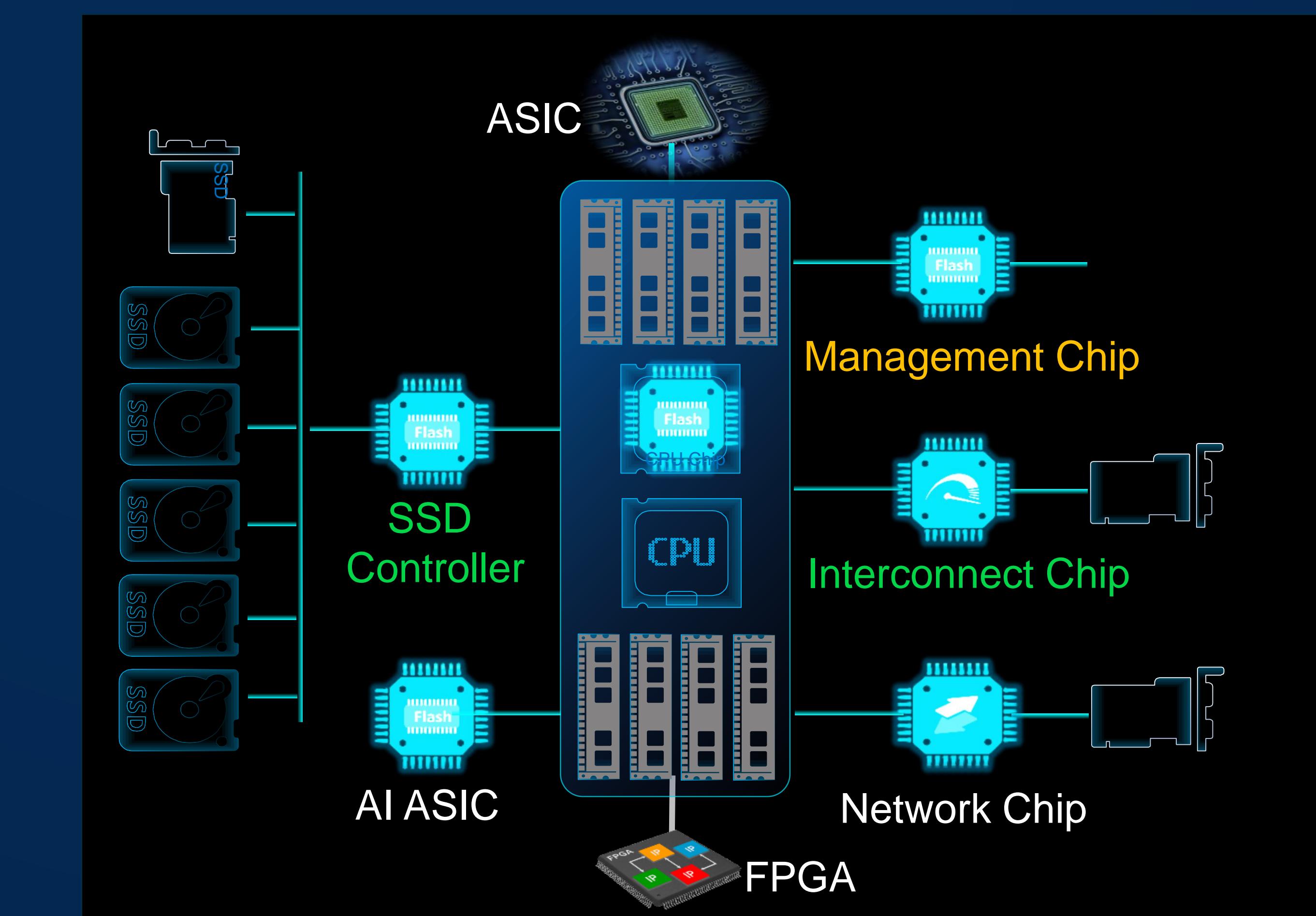
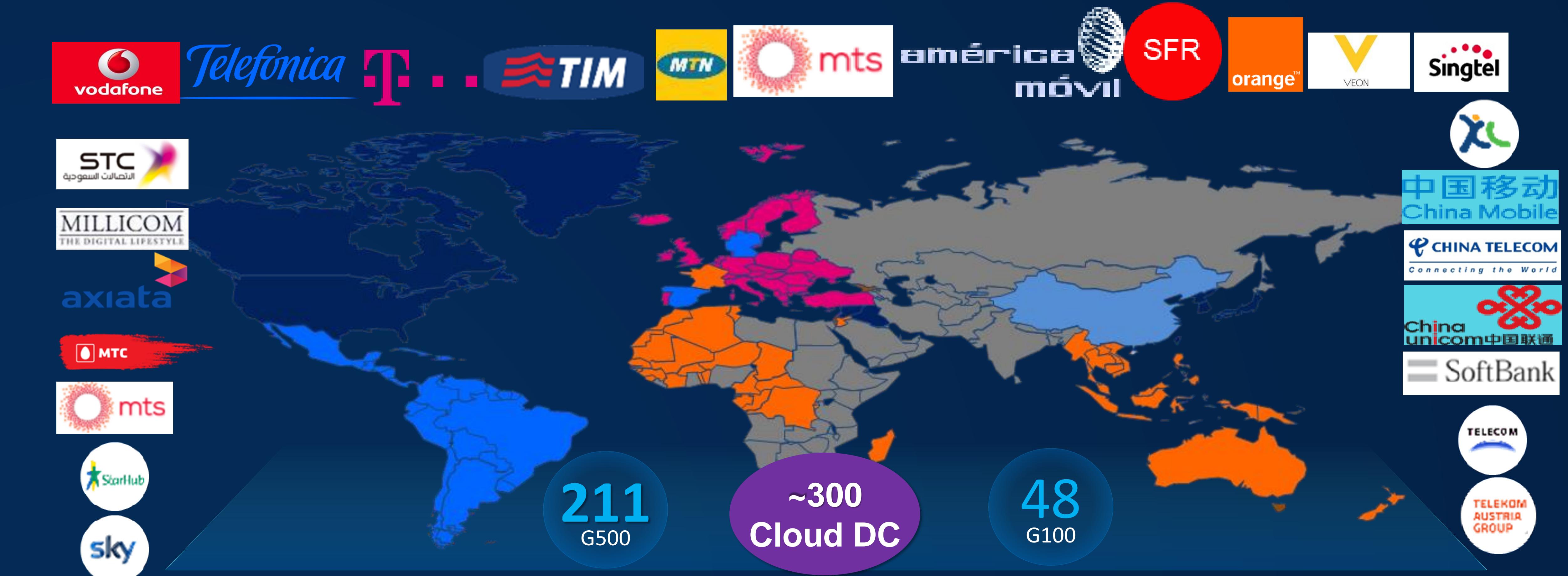
- Not Only CAPEX, but also OPEX

✓ Partnership & Ecosystem

- Strategic Partnership with key players, X86 ecosystem

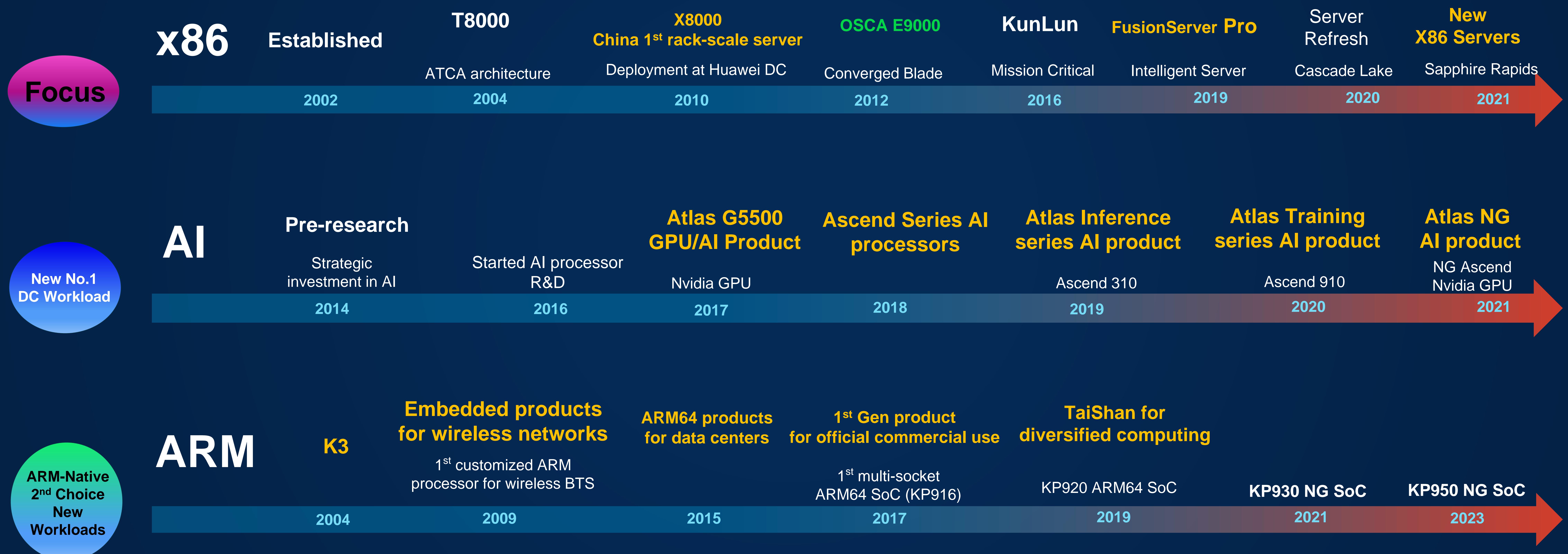
✓ Rich Product Portfolio

- No One Fits All, Rich Models to choose



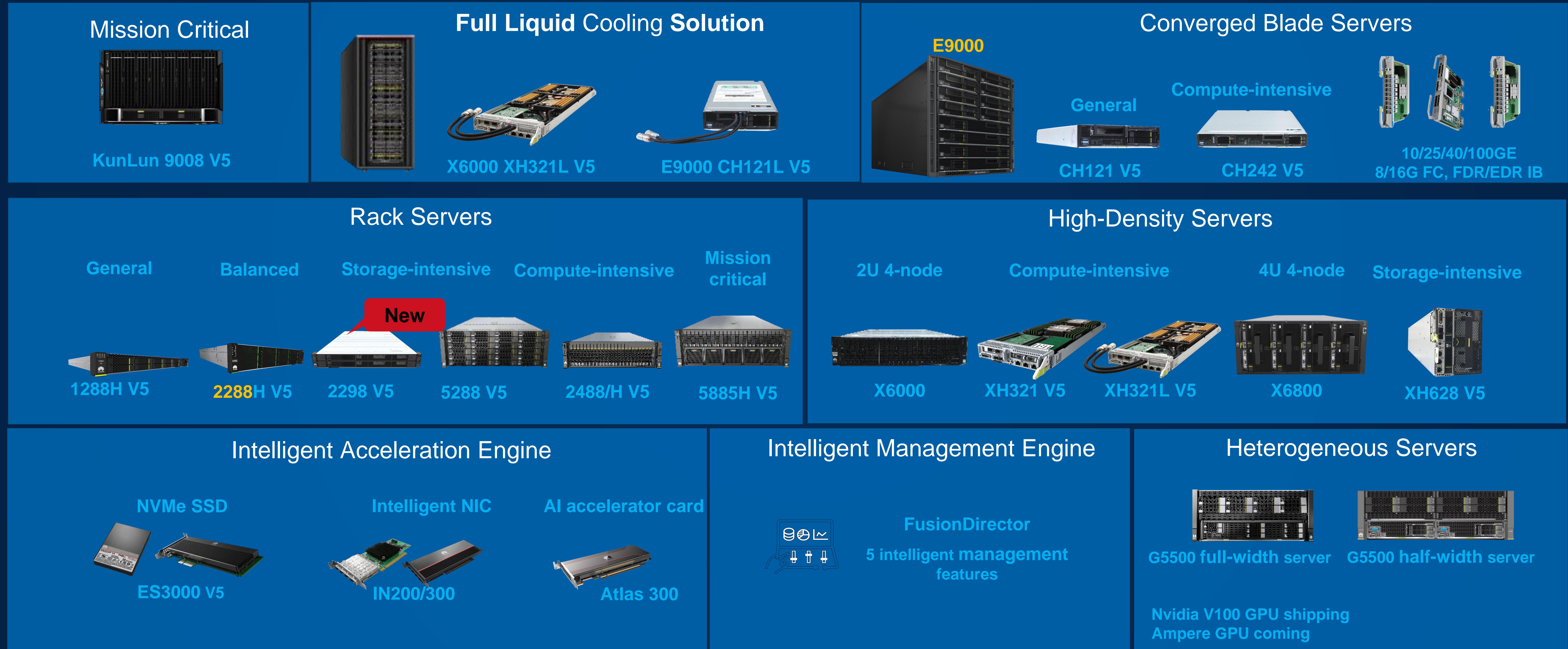
The Best Platform for the Most Suitable Applications

- ✓ No One Fits All: New Applications Need Optimized Hardware Platform for the Best Efficiency & TCO
- ✓ FusionServer/Pro X86 Products Synchronous to Intel Processor Release Schedule



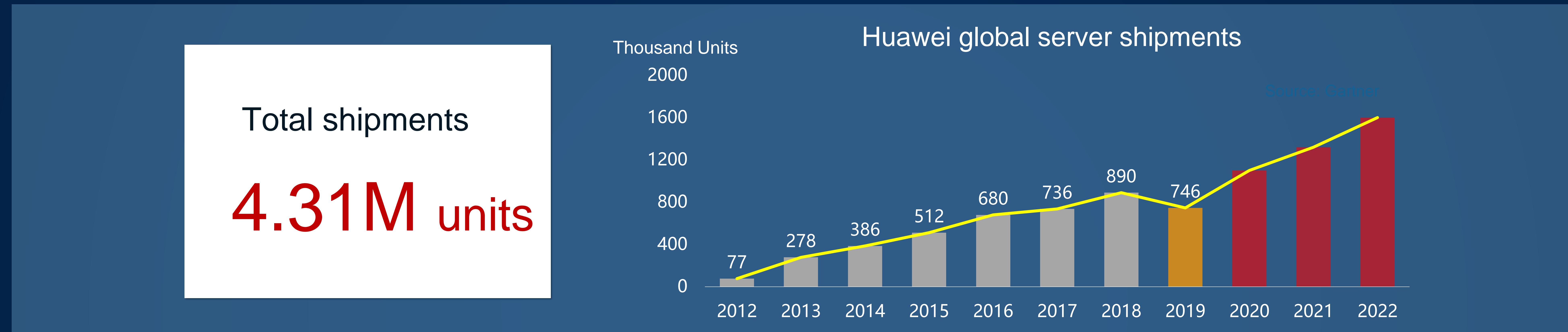
Rich Portfolio to Meet Your Every Intelligent Computing Need

- ✓ Rich Product Portfolio to meet your needs for different application scenarios:
 - Balanced, Computing or Storage Intensive, Air or Liquid Cooling, Rack or Blade, etc.
- ✓ Full series upgraded to the latest **Intel Cascade Lake Refresh processor**, synchronous to Intel CPU Release Schedule



Continuous Innovation with Intel

- ✓ 19 Years Strategic Partnership since 2001, over 4.31M Units Shipped
- ✓ FusionServer/Pro X86 Products Synchronous to Intel Processor Release Schedule



In 2001, strategic partnership Signed, and Huawei started server R&D.

High-level interaction for a long time, continuing to jointly release new products and solutions

2016 HCC Conference, jointly released the RSD server

2016, jointly released KunLun, the 32-socket mission critical server

2016, jointly built the innovation computing center in Hangzhou

2017, Jointly held CTO technical forums about AI, edge computing, and cloud computing

2017, HPC innovation MoU Signed

2019, jointly released the FusionServer Pro server based on 2nd generation Intel Xeon processors

Release next-generation server product

Partners Will Continue to Provide Compatibility Certification and Technical Support for Huawei Servers

- ✓ Partners such as **SAP**, **VMware**, **SUSE**, **CentOS**, and **Ubuntu** will continue to work with Huawei to provide compatibility certification and technical support for **FusionServer Pro** servers.

On May 23, 2020, VMware announced that Huawei FusionServer Pro 2288H V5 and other servers have passed the latest VMware vSphere 7.0 compatibility certification. Certification results are available on the VMware official website: https://www.vmware.com/resources/compatibility/search.php?deviceCategory=server&details=1&partner=242&releases=448&keyword=2288&page=1&display_interval=10&sortColumn=Partner&sortOrder=Asc

*VMware vSphere, vSAN, and vCenter will continue to provide compatibility certification and technical support for Huawei FusionServer Pro servers.

Vendor	Model	CPU min.	CPU Architecture	Appliance Type	Memory
Huawei Technologies Co.	2288H V5	2	Intel Cascade Lake SP	Scale-up: BWoH/BW4H...	192 GiB ✓ 384 GiB ✓ 576 GiB ✓ 768 GiB ✓ 1152 GiB ✓ 1.5 TiB ✓ 2304 GiB ✓ 3 TiB ✓
				Scale-up: SoH/S4H	96 GiB ✓ 192 GiB ✓ 384 GiB ✓
			Intel Skylake SP	SAP Business One	

On May 23, 2020, VMware announced that Huawei FusionServer Pro 2288H V5 and other servers have passed the latest VMware vSphere 7.0 compatibility certification. Certification results are available on the VMware official website: https://www.vmware.com/resources/compatibility/search.php?deviceCategory=server&details=1&partner=242&releases=448&keyword=2288&page=1&display_interval=10&sortColumn=Partner&sortOrder=Asc

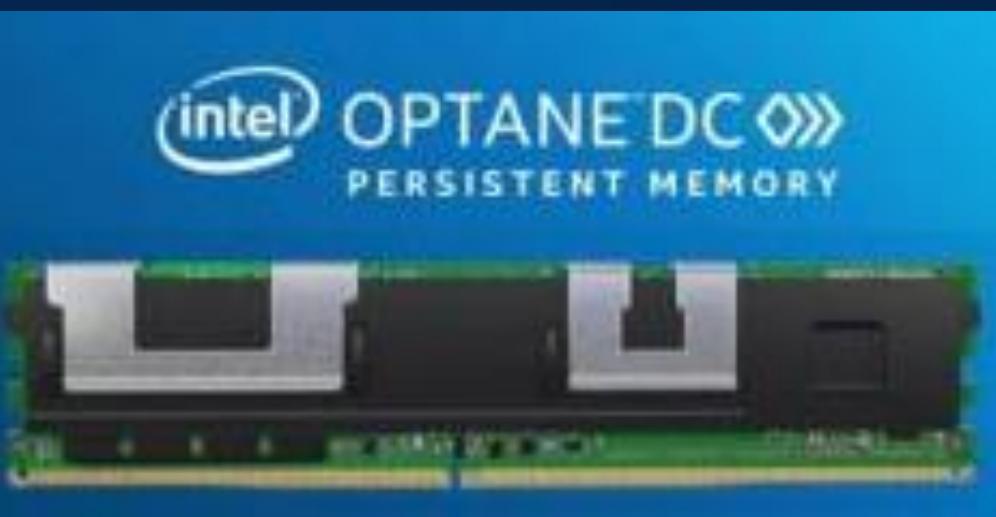
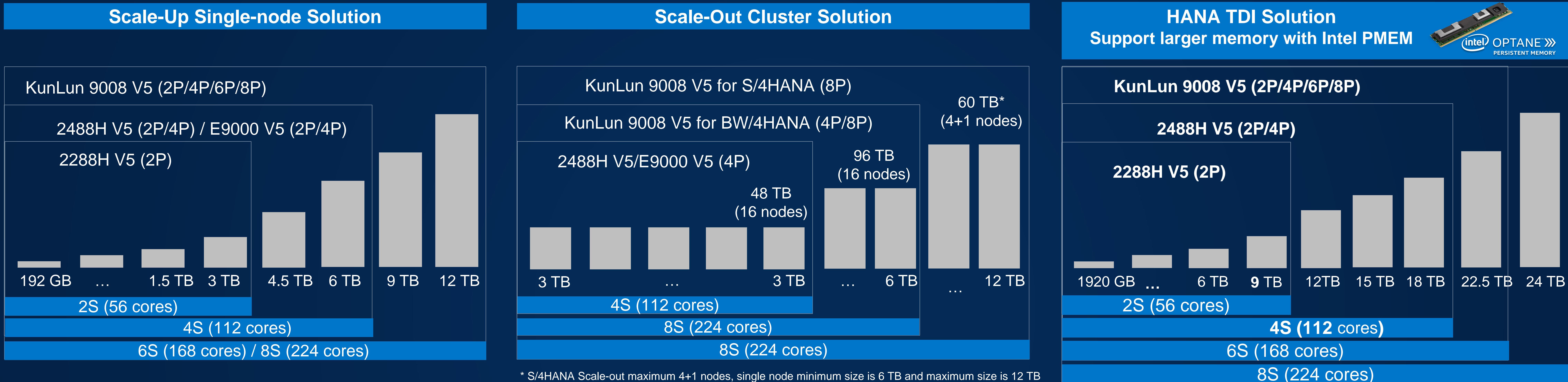
*VMware vSphere, vSAN, and vCenter will continue to provide compatibility certification and technical support for Huawei FusionServer Pro servers.

Partner Name	Model	CPU Series	Supported Releases
Huawei Technologies Co., Ltd.	2288 H V5	Intel Xeon Gold 6100/5100, Silver 4100, Bronze 3100 (Skylake-SP) Series	ESXi 7.0
Huawei Technologies Co., Ltd.	2288 H V5	Intel Xeon Platinum 8 (Skylake-SP) Series	
Huawei Technologies Co., Ltd.	2288H V5	Intel Xeon Gold 6100/5100, Silver 4100, Bronze 3100 (Skylake-SP) Series	
Huawei Technologies Co., Ltd.	2288H V5	Intel Xeon Gold 6200 (Cascade-Lake-SP/Refresh) Series	
Huawei Technologies Co., Ltd.	2288H V5	Intel Xeon Platinum 8 (Skylake-SP) Series	
Huawei Technologies Co., Ltd.	2288H V5	Intel Xeon Platinum 8 (Cascade-Lake-SP) Series	
Huawei Technologies Co., Ltd.	RH2288 V3	Intel Xeon E5-2600-V3 Series	
Huawei Technologies Co., Ltd.	RH2288 V3	Intel Xeon E5-2600-V3 Series	
Huawei Technologies Co., Ltd.	RH2288 V3	Intel Xeon E5-2600-V3 Series	
Huawei Technologies Co., Ltd.	RH2288H V3	Intel Xeon E5-2600-V3 Series	

Vendor	Model	Profile & Capacity
Huawei Technologies Co. Ltd.	HY-2-HUAWEI-1288H V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-2 Series Raw Storage Capacity: 2 TB
Huawei Technologies Co. Ltd.	HY-4-HUAWEI-1288H V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-4 Series Raw Storage Capacity: 4 TB
Huawei Technologies Co. Ltd.	HY-4-HUAWEI-2488 V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-4 Series Raw Storage Capacity: 4 TB
Huawei Technologies Co. Ltd.	HY-4-HUAWEI-X6000 V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-4 Series Raw Storage Capacity: 4 TB
Huawei Technologies Co. Ltd.	HY-6-HUAWEI-2288H V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-6 Series Raw Storage Capacity: 16 TB
Huawei Technologies Co. Ltd.	HY-6-HUAWEI-2288H V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-6 Series Raw Storage Capacity: 8 TB
Huawei Technologies Co. Ltd.	HY-6-HUAWEI-X6800 V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-6 Series Raw Storage Capacity: 48 TB
Huawei Technologies Co. Ltd.	HY-8-HUAWEI-2288H V5	vSAN ReadyNode Generation: Intel Xeon Scalable (Skylake-SP) Profile: HY-8 Series Raw Storage Capacity: 14.4 TB

Leading Big Data Solutions with SAP

SAP® Certified
Hardware for SAP HANA®



512GB/DIMM max
3TB/CPU max

2012
SAP's first global technology partner in China

2013
Jointly launched the first server for SAP HANA: Tecal RH5885 V2

2014
Strategic alliance partnership & launch of FusionCube for SAP HANA solution at CeBIT

2015
MOU on IoT and joint innovation at CeBIT

2016
Top-Class Sponsor at SAP SAPPHIRE in Orlando

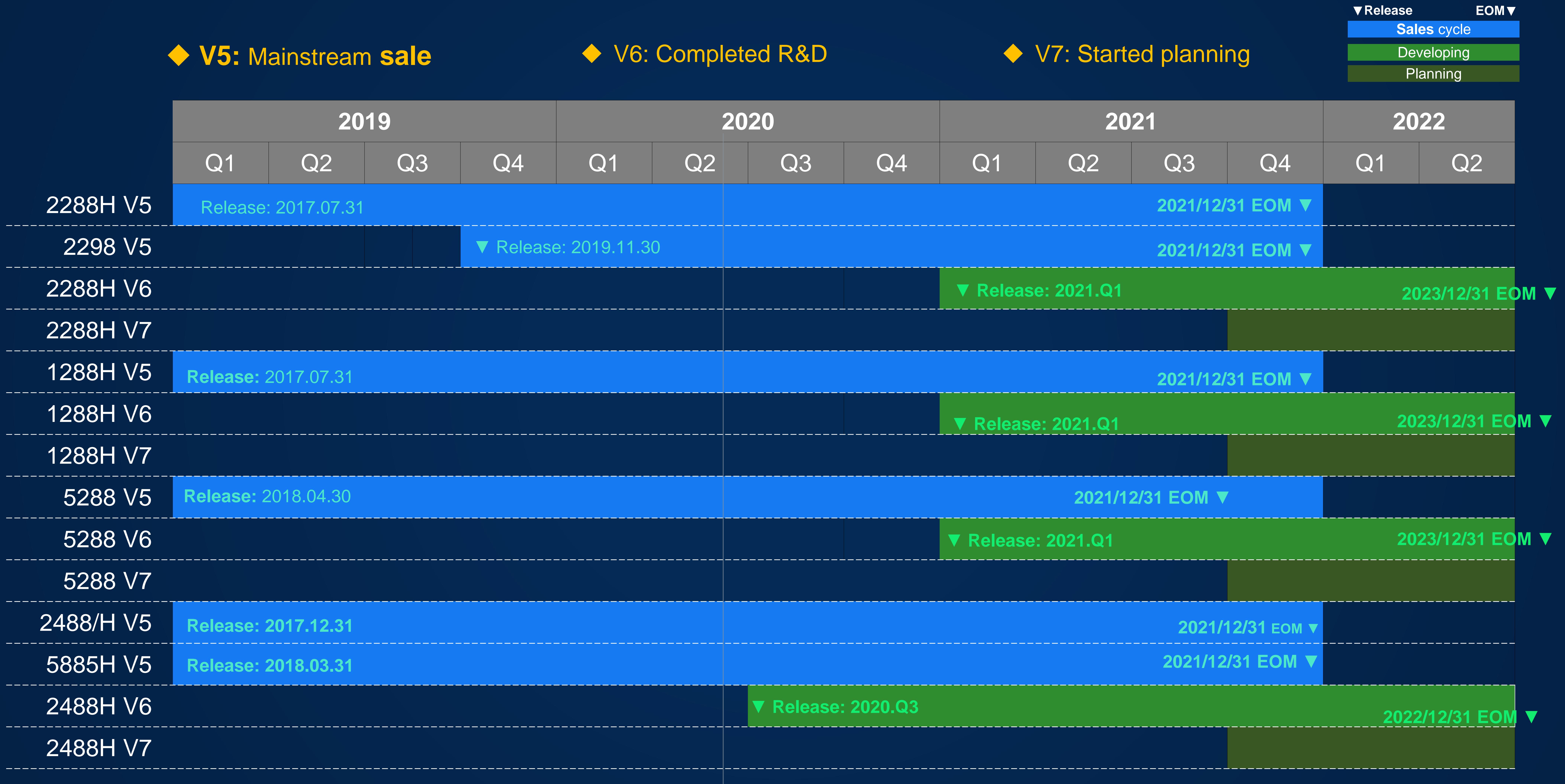
2017
SAP HANA Innovation Award at SAP SAPPHIRE, Orlando

2018
SAP as Diamond Sponsor & Key Partner at HUAWEI CONNECT 2018

2019
Introduction of PMem-based Large Capacity HANA solution



Continuous Evolution Roadmap Synchronous to Intel Release Schedule



Our X86 Flagship FusionServer Pro Products: RH2288 & E9000

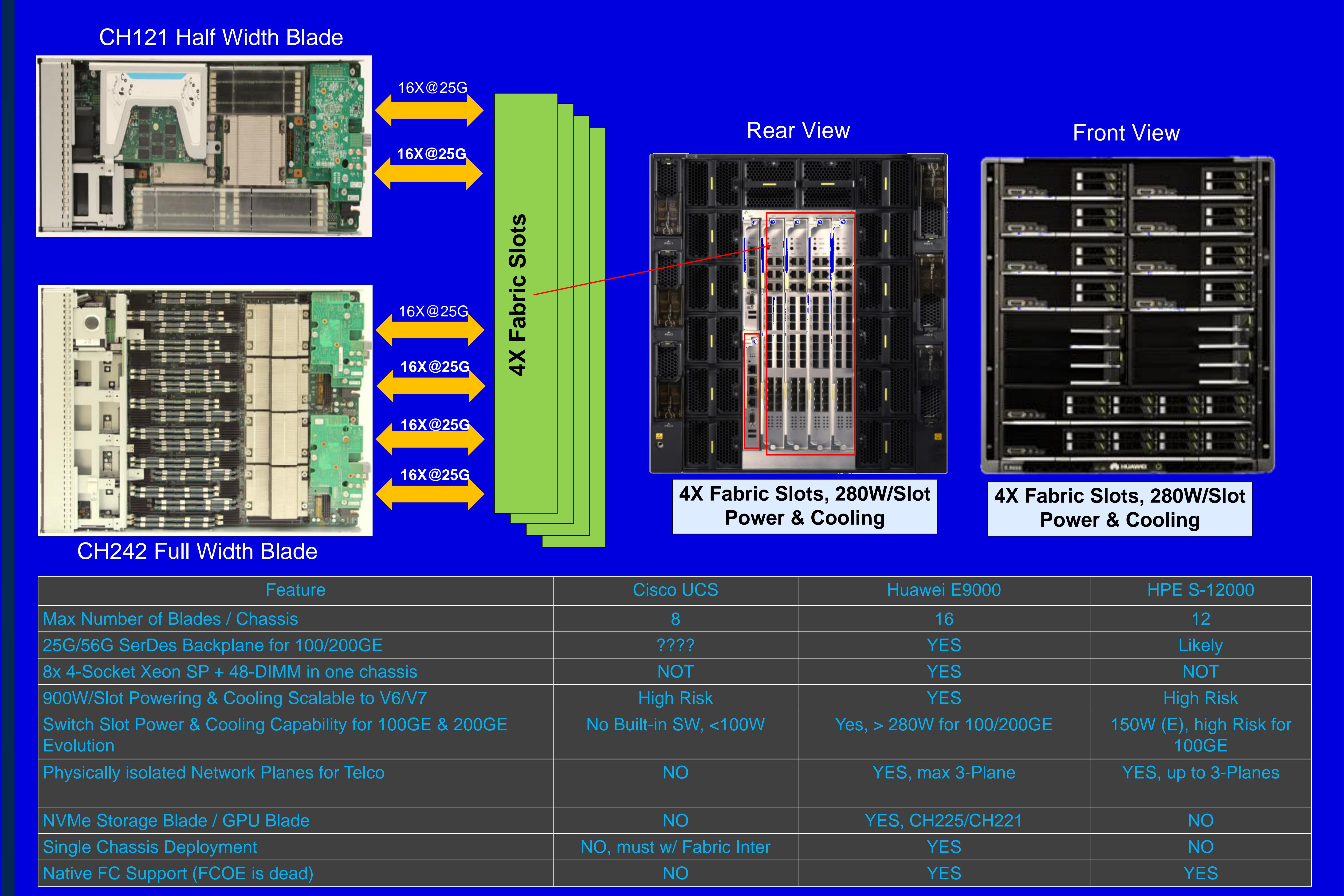
RH2288H V5: 2U Rack Server



Key Features:

- ✓ 1-2 Sockets in 2U, any TDP X86 CPU;
- ✓ 24x-DDR4-2933 Memory
- ✓ 8x External PCIe Gen3 Expansion Slots
- ✓ 2x Internal PCIe Gen 3 Expansion Slots
- ✓ 2x10GE+2xGE LOM
- ✓ Max. 20x 3.5" or 31x 2.5" SATA/SAS HDDs
- ✓ 4/8/12/24/28 2.5" NVMe SSD
- ✓ 1+1 Redundant 96% efficiency PSUs
- ✓ 3+1 Redundant Cooling Fans

E9000 Scalable, Reliable & Converged Blade Server

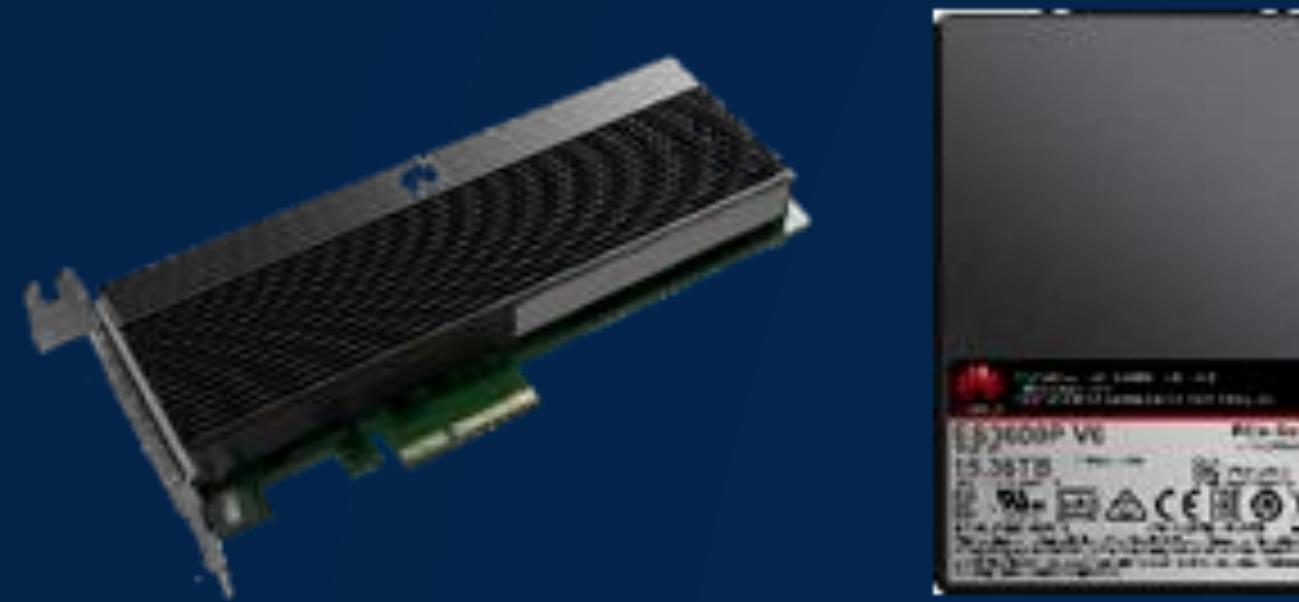


<https://support-it.huawei.com/server-3D/res/server/2288hv5/index.html?lang=en>

<https://support-it.huawei.com/server-3D/res/server/e9000/index.html?lang=en>

Accelerating X86 Server Performance

ES3000 series intelligent SSDs



- Optimal performance: PCIe Gen4 1.66M Random read IOPS, 7.0GB/s sequential read bandwidth
- All-scenarios: low latency, high performance, large capacity
- Service-aware: intelligent multi-stream, SR-IOV, atomic write

Performance
100% up

Service life
20% longer

IN200/300 series intelligent NICs



- Converged: 10GE/25GE/40GE/100GE, 8G/16G/32G FC
- Accelerated: RoCE
- Reliable: industry unique to support firmware upgrade without service interruption

CPU offload
15%

Latency
30% less

Atlas 300 AI accelerator card

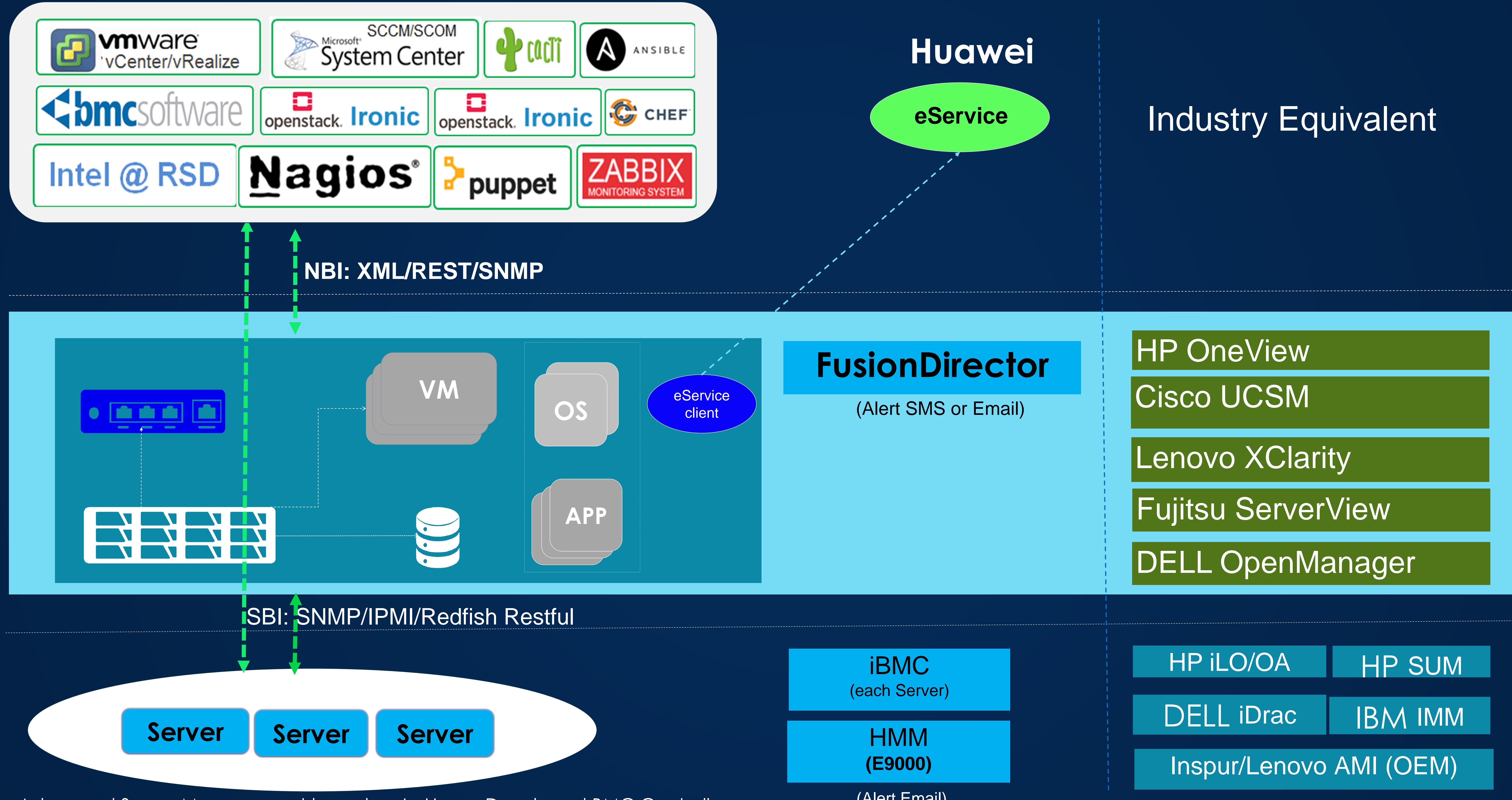


- Powerful computing: 64 TOPS of INT8
- High-density video parsing: 64-channel HD video real-time analytics

CPU offload
15%

Performance
64-Ch HD

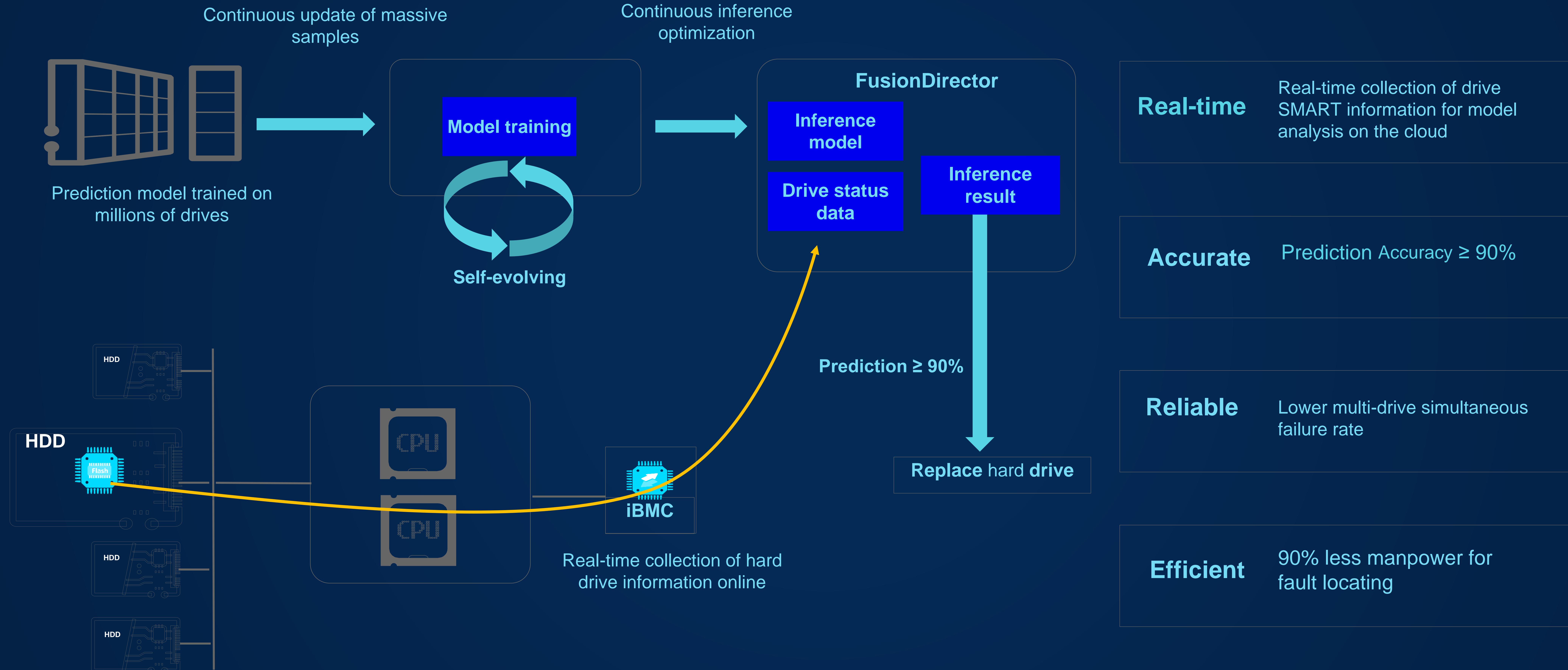
Open & Standard-Based Server Management



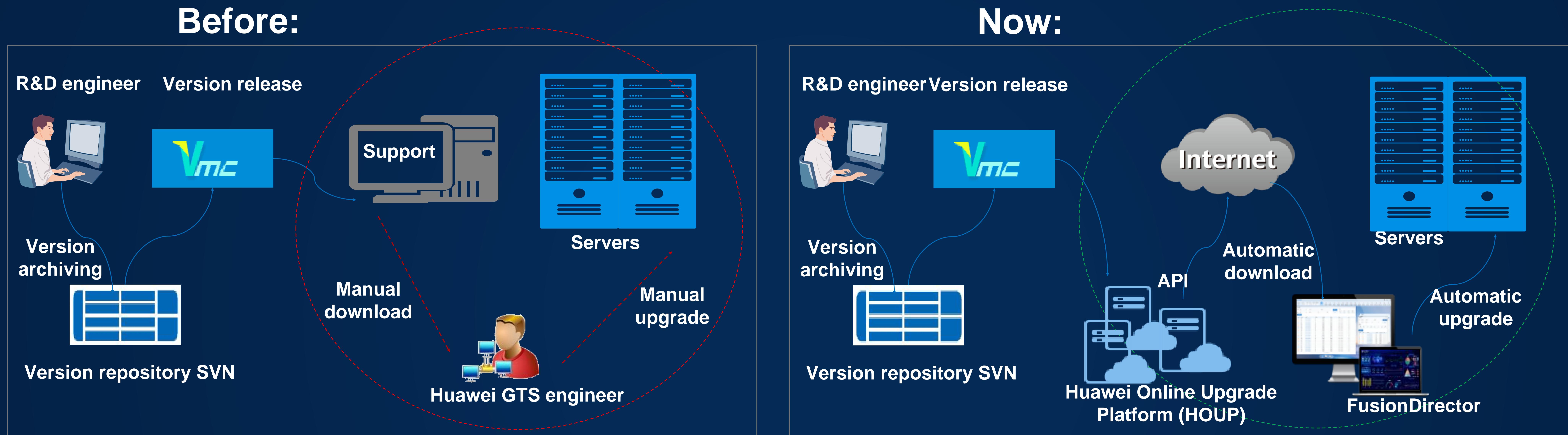
FusionDirector: 5 Intelligent Management Features Reduce OPEX



Intelligent Fault Prediction: Predicts Risky Hard Drives 7–30 Days in Advance



Intelligent Version Management: Automatic Upgrade Of Device Software



- Automatic download: Automatically detects the firmware and drivers of servers of different models and manages firmware versions comprehensively
- O&M engineers do not need to manually download, upload, or upgrade firmware
- Independent out-of-band upgrade, without occupying service bandwidth

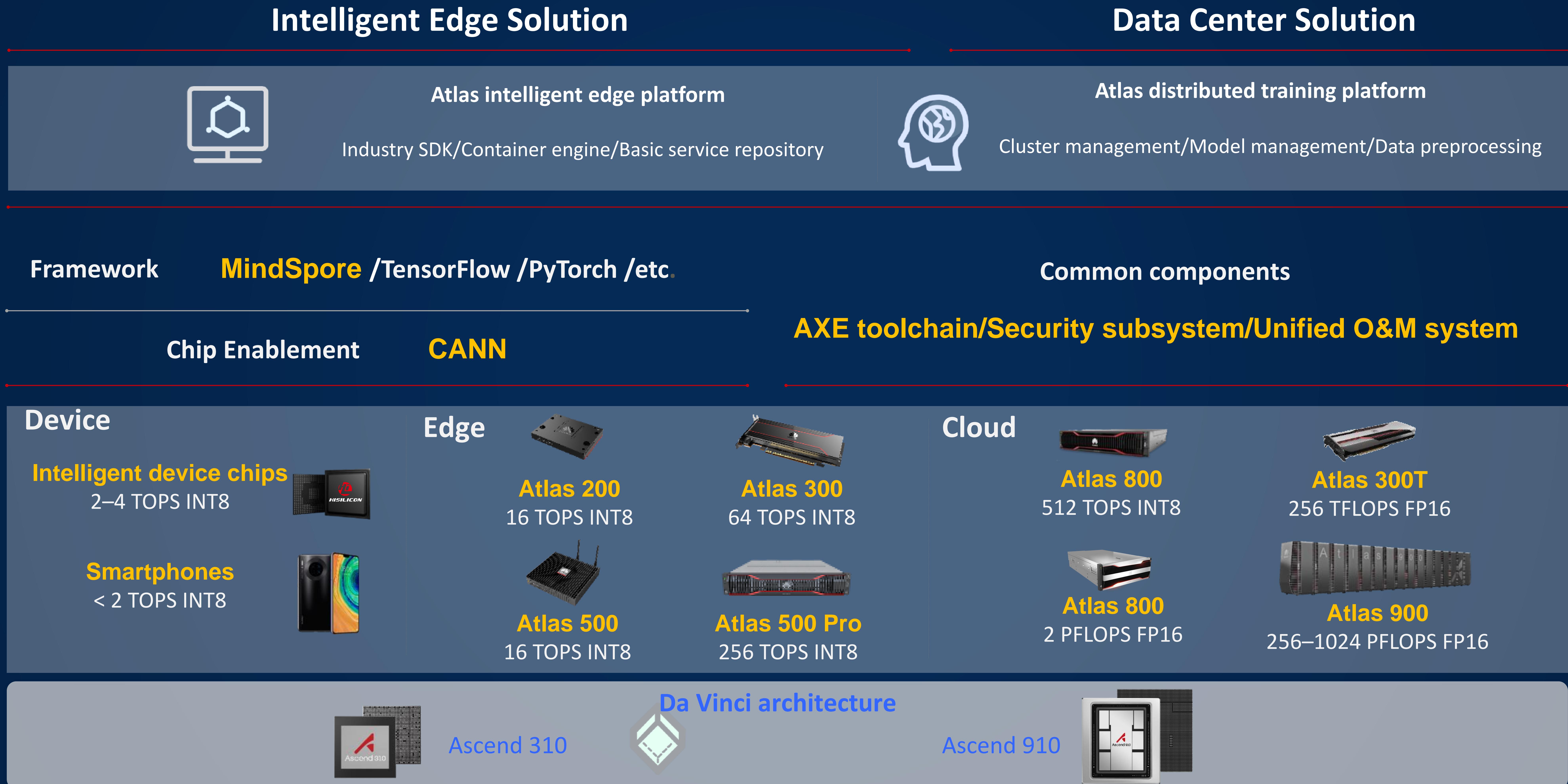
TaiShan ARM64 Servers for ARM-Native & New Applications

- ✓ More High Performance Cores and Memory Bandwidth (64 cores & 8-CH DDR4 / Socket)
- ✓ Lower Power Consumption per CPU & per Server with Higher Integration
- ✓ Software Ecosystem is maturing rapidly
- ✓ Ideal for: ARM-Native Workloads, High Scalable & High Memory Bandwidth Workloads



*New Product: Released in 2020

Powerful AI Computing Platform to Enable Intelligent Transformation



Huawei Server Helps Spain to Build 5G Core Network (2019)



The Vodafone Group, the world's second largest mobile communications company, is a multinational mobile phone operator. Headquartered in Newbury, Berkshire, UK and Düsseldorf, Germany. It is one of the world's largest mobile operators, with a network covering 26 countries and providing network services with its partners in 31 other countries. Vodafone has the world's most complete enterprise information management system and customer service system, and has a strong advantage in increasing customers, providing services and creating value. Vodafone's global strategy is to cover voice, data, Internet access services and provide customer satisfaction. Vodafone Group has more than 100,000 employees worldwide.

Challenges

- Spain's VDF 5G subnet is an important position for VDF Group's 5G strategy. It needs to rapidly deploy 5G networks and quickly occupy the 5G market.
- The deployment scale is large and involves many business modules.

Solution

- Huawei provides 2S FusionServer Pro 2288H V5 rack servers and E9000 blade servers (2S CH121 V5 blade nodes).
- Huawei's next-generation V5 server with Intel Cascade CPU provides a stronger computing power, while supporting GPU cards to meet customers' desire to deploy GPU heterogeneous computing power.
- The eSight management system provides unified intelligent operation and maintenance of servers, storage, and networks.

Customer Benefits

- The modular design of the blade Server greatly simplifies maintenance and allows for flexible expansion.
- Server with heterogeneous computing capabilities, saving customers' investment.
- eSight enhances the O&M capabilities of customer and unified management of IT infrastructure such as servers, storage, and networks to improve customer operation and maintenance efficiency.

Take-Aways

- ✓ As we are moving to the Era of Cloud, 5G, AI and Autonomous Driving, the Telco Data Center Workloads are becoming more & more Complex, going beyond legacy OSS & BSS to Big Data Analytics, Infrastructure as a Service, AI, Intelligent Video Analysis and Autonomous Driving, etc.; and Telcos must be Ready to support these new workloads to keep Competitive.
- ✓ Huawei as a Technology Enabler, in working with Our Partners like Intel, VMware, SAP, has been offering a rich and innovative X86, AI & ARM64 Product Portfolio, and is Ready to Support Your Needs for Your Transformation to the Era of Digital & AI.

Thank you

