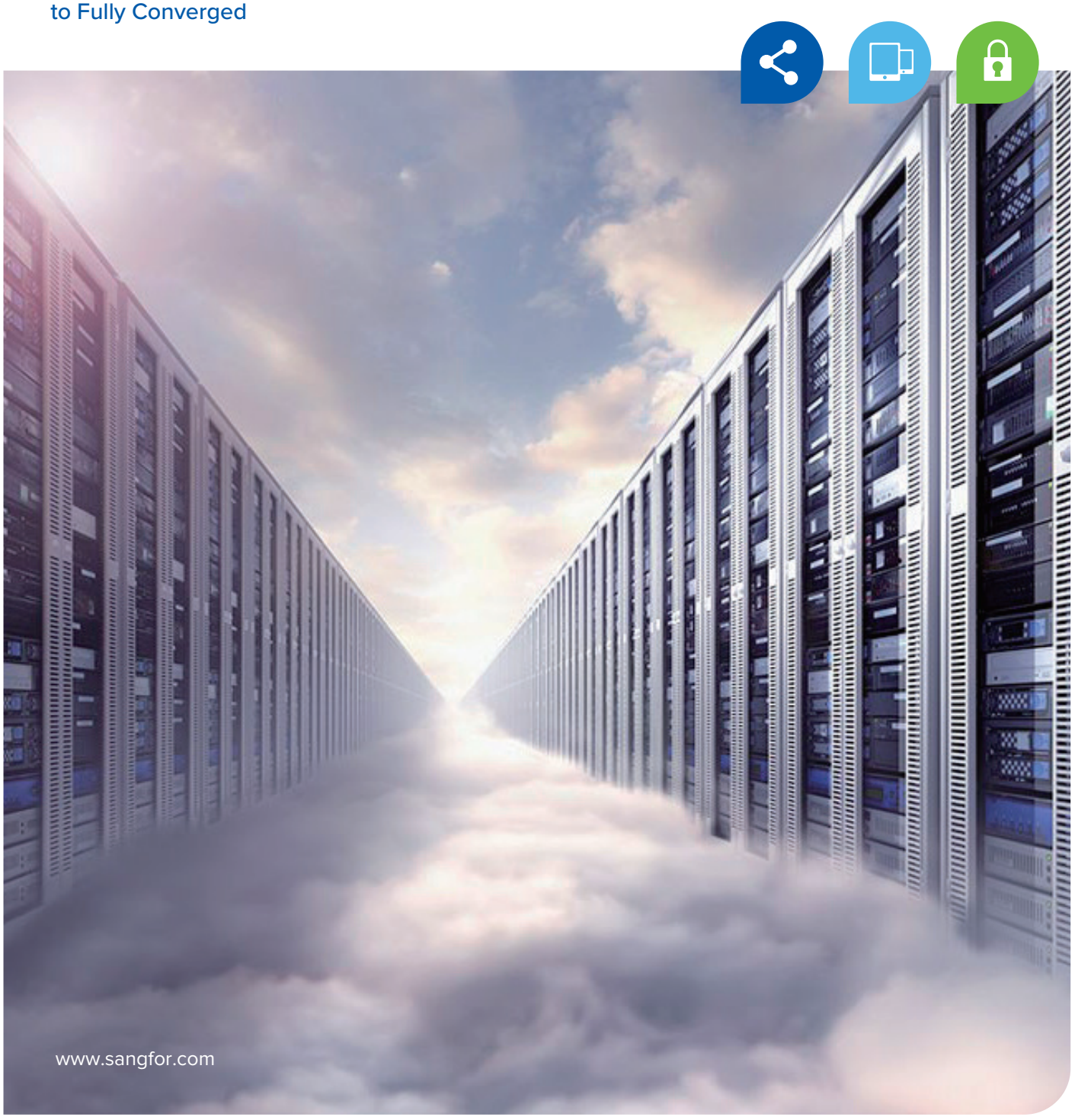
SANGFOR HCI

(Hyper-Converged Infrastructure)

SANGFOR

The 3rd Gen HCI, Driving Hyperconvergence
to Fully Converged



www.sangfor.com

Traditional Data Center — Challenges & Limitations

IT is a fast changing industry. With organizations trying to follow the trend of digitalization and stay agile at all time, IT departments are looking at growing and seemingly endless requests for better and faster services delivery, as well as increased efficiency and robust operating environment. The driving force that ensures your business stays ahead and evolves smoothly, is your data center.

The revolution of x86 server virtualization over a decade ago marked the change of IT service delivery. However, the rest of the IT infrastructure in the data center haven't kept up, namely the virtualization of networking, security and storage.

What was the Time Spent On?

The traditional data center is very delicate in many ways, the work it takes to keep it running properly is complex and tedious – deployment, expansion, resource scheduling, upgrade, maintenance, troubleshooting, fault tolerance and release of new versions – these have occupied the majority of time of IT department's daily work.

What was the Money Invested in?

With traditional data center, the provision of new services usually starts with planning and scaling of networking, and hardware selection. Organizations also take into account their overall planning for the next 3-5 years. As a result, the actual quantity of device purchased and model selected shall exceed the current business needs to a great extent, thus leading to a considerable amount of investment in advance. Not to mention the speed data center technology is evolving and the follow-up investment that comes with it.

Is Current Architecture Scalable?

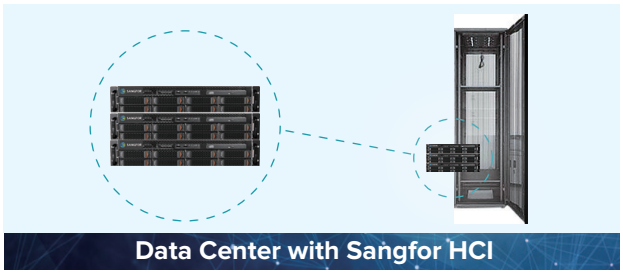
Whenever new business needs to go online or data center needs expansion, it requires supplementary storage and massive data migration; and the IT department have to go over the entire hardware planning/selecting process again. Not to mention the manpower it takes to set it up and keep in running.

Is Your Data Center Cloud Era Compatible?

With the emergence of "The Era of Cloud", increasingly people are resorting to Cloud to deal with the hurdles physical data center brings – namely expensiveness, inefficiency and difficulty to manage – in business transitions. However, it's not the case that you could enjoy the full breadth of benefits that go with cloud at a snap of finger. Easily put your IT architecture needs to be simplified and automated.

Sangfor HCI Solution


Traditional Data Center


Data Center with Sangfor HCI

Sangfor HCI Solution

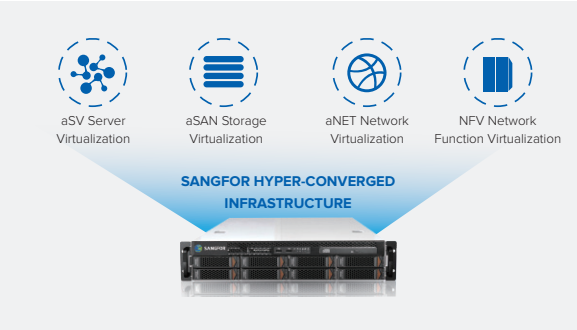
Why Choose Sangfor as Your HCI Solution Provider?

Sangfor has over 20 years' experience in network security and optimization and it has been the only Asian vendor with 6 products (HCI, NGAF, WANO, IAG, AD and SSL VPN) in the Gartner Magic Quadrant. The R&D investment in virtualization started since 2011 and the next year the Virtual Desktop (VDI) has seen successful commercial deployment.

Sangfor HCI at a Glance

5-Tier Architecture Consolidated into 1
1 Single User Interface Managing All IT Resources

Sangfor Hyper-Converged Infrastructure consolidates traditional hardware-appliance-based security, IP network, storage network, server and storage into one tier of commodity hardware (x86 server). The foundation of all these are Server Virtualization (aSV), Storage Virtualization (aSAN) and Network Virtualization (aNET), on top of that we have NFV (Network Function Virtualization) integration including all our network applications such as NGAF/IAG/WANO.



Highlights of Sangfor HCI

aSAN (Storage Virtualization)

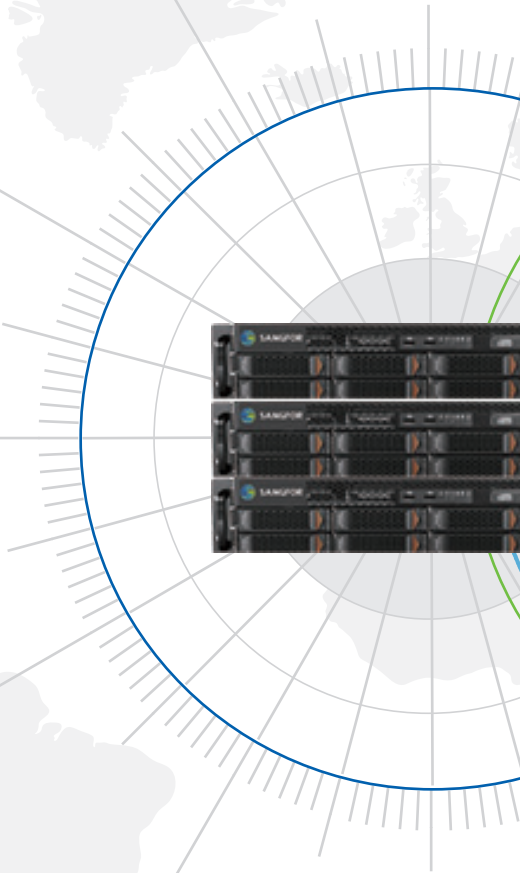
2-3 copies of data are stored and data can be written synchronously so as to ensure data consistency. SSD as cache is utilized for higher IOPS. With the patented I/O localization technology, aSAN can detect where VM's data is stored and make it a priority to run the VM on that physical host, dramatically increase IOPS in a clustered environment.

aSV (Hypervisor)

Using distributed resources scheduler, dynamic resources scheduling functions can be achieved by VMP without installing agents.

High Availability

Applications can be restored from networking, host and storage layer in an extremely short time if physical node failed in the cluster.



Integrated Backup and Recovery

Daily incremental backup and hourly snapshot backup with no need of backup software or host.

Ultra-Simplified Operation

1 integrated software stack. Deploy infrastructure to support business in minutes. "What You Draw is What You Get" topology. Very limited manual operation is needed. Virtualized data center displays real-time flow based on ports, uplink and downlink of virtual machine

Reduced TCO & Pay as You Grow

Minimum 70% reduction in overall CapEx & Opex than traditional data center. Up to 90% reduction in power, cooling and space. Start with 1 commodity server and scale linearly according to your need without limits. Shift your focus to business. IT could be a revenue generating department instead of a cost center.

High Performance

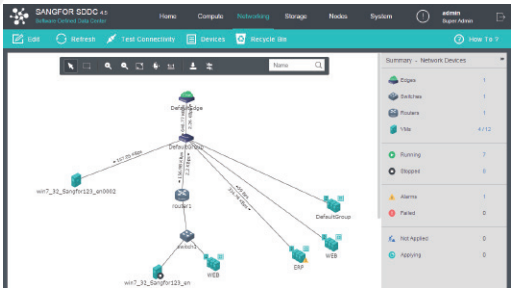
1 single server to achieve 10Gbps virtual network throughput, read 60,000+ IOPS, write 17,000+ IOPS and storage capacity 20TB. High stability and reliability ensured by vAD business clustering, HA (High Availability), distributed management platform, distributed virtual networking device, multi-copies, back-up plans etc.

Best NFV Integration

More flexible and scalable network and service provisioning. Virtualized network functions can be easily moved to various locations in the network without having to install new equipment.3D protection inside-out: Kernal built-in WAF to protect aSV from web threats; distributed firewall to protect east-west traffic and vNGAF to safeguard south-north traffic.

Transit Smoothly towards Cloud Era

Build Data Center by Simple Drawing



Visualized Data Center

Deployment Scenarios of Sangfor HCI

Server & Storage Virtualization

Think about the workload of running and maintaining various units in a legacy data center; think about the increased investment in data center as business grows; think about the amount of time left for IT to innovate; think about how the legacy data center is going to deal with data explosion and the trend of digitalization. Sangfor HCI can reduce TCO by 70% or more by eliminating IT silos, over-provisioning, and simplifying data center operations.

Test/Development

Test/development environments tend to rely heavily on VMs, yet usually the number of running VMs is limited due to the concern that things might be slowed down by them. With Sangfor HCI that concern can be completely eliminated, as hyper-converged infrastructure is based around real, enterprise-class hardware that is specifically designed for virtualization, it is extremely agile and elastic in handling test/dev workload. Moreover, the test/dev environments created on HCI are completely isolated from the production environment, so that no bad code will ever be released into production.

SME

Due to budget constraints, SMEs sometimes are reluctant to upgrade their IT. Also, they don't think it's worth stopping IT production just for upgrade. The consequence of that kind of mindset is outdated technology, which then leads to frustrated employees with limited IT functionality or even worse, disastrous system breakdown. However, with Sangfor HCI, SMEs can now enjoy continuous technology refresh and implementation of new systems via this on-premise solution that enables cloud-like elasticity, agility and economics with superior performance, reliability and availability.

ROBO (Remote Office Branch Office)

As today's enterprises add additional office locations, they are also adding expensive hardware and support challenges for IT. They lack physical space and power resources that traditional datacenter platforms need, and in most cases there is no qualified IT staff on site to manage servers, storage and backup at the branch. These will all have a negative impact on business productivity and ultimately business results. The implementation of Sangfor HCI can eliminate IT infrastructure cost, complexity and the need for specialized personnel in remote offices, providing them with effortless negative impact on business productivity and ultimately business results. The implementation of Sangfor HCI can eliminate IT infrastructure cost, complexity and the need for specialized personnel in remote offices, providing them with effortless operations and flexible scalability.

COMPANY PROFILE

Sangfor Technologies is a leading global vendor of IT infrastructure solutions, specializing in Cloud Computing & Network Security with a wide range of products & services including: Hyper-Converged Infrastructure, Virtual Desktop Infrastructure, Next Generation Firewall, Internet Access Gateway, Endpoint Protection, Ransomware Protection, Managed Detection and Response, WAN Optimization, SD-WAN and many others.

Sangfor takes customers' business needs and user experience seriously, placing them at the heart of our corporate strategy. Constant innovation and commitment to creating value for our customers helps them achieve sustainable growth. Established in 2000, Sangfor currently has 6,000 + employees with more than 60 branch offices globally in exciting locations like Hong Kong, Malaysia, Thailand, Indonesia, Singapore, Philippines, Vietnam, Myanmar, Pakistan, UAE, Italy and the USA.

CONTINUOUS INNOVATION & EXCELLENT SERVICE

Sangfor invests at least 20% of its yearly revenue in R&D, improving current products and developing new solutions in their four R&D centers in the USA & China. So far, Sangfor has applied for more than 1,500 patents with more patent applications scheduled for 2021. This dedication to innovation enables Sangfor to release new and updated versions of products every quarter and launch new products yearly or bi-yearly.

Sangfor also emphasizes excellent service. With three Customer Service Centers in Malaysia & China, Sangfor's total customer service capacity exceeds 250 technicians and providers.

With thousands of certified engineers and 24x7 online support 365 days a year, Sangfor customers enjoy fast and personalized on-site service support. At present, Sangfor has more than 100,000 customers worldwide, many of them Fortune 500 companies, governmental institutions, universities and schools.

AWARDS & ACHIEVEMENTS

- "Technology Fast 500 Asia Pacific Region" Award for 8 consecutive years from 2005 to 2012 by Deloitte
- Sangfor SSL VPN No. 1 in Network Security market in China, Hong Kong & Taiwan according to F&S
- No. 1 for Secure Content Management Hardware and VPN Hardware segment in China according to IDC
- Sangfor NGAF WAF recommended by NSS labs (2014)
- "Most Promising Network Security Solution" in June 2016 by Singapore NetworkWorld Asia
- "Readers Choice Awards for Enterprise Security" in October 2016 by Computerworld Malaysia
- Member of various technology alliances including VirusTotal
- "Next Gen" Award for Sangfor Endpoint Secure by Cyber Defense Magazine (2019)
- SAP Certified for Cloud and Infrastructure Operations and SAP HANA Operations (2019)
- ICSA Labs certification for Sangfor Next Generation Firewall (2020)

Gartner Magic Quadrant

SSL VPN	SWG	WOC	NGFW	X86 Server	HCI
2010-2011	2011-2019	2013-2016	2015-2020	2016	2019

Sangfor HCI Data Sheet – Software Based

Sangfor can also provide a software-only HCI solution compatible with most of the commodity servers commercially available on the market.

License (Per physical CPU)	aSV (Server Virtualization)	Server Virtualization, HA, DRS, Automated Hot Add, Backup, Clone, Sub Administrator, etc.
License (Per physical CPU)	aNet (Network Virtualization)	Network virtualization, Distributed Firewall, Drawable Topology, Visualized Network, aSwitch, aRouter, etc.
License (Per physical CPU)	aSAN (Storage Virtualization)	2-3 Copies, SSD Read & Write Acceleration, Storage Tier-ing, Data Locality, etc.

* NFV components on HCI may employ IPSec VPN techologies using encryption algorithms.
- IPSec Protocol: AH, ESP
- D-H Group: MODP768 Group(1), MODP1024 Group(2), MODP1536 Group(5)
- IPSec Authentication Algorithm: MD5, SHA-1. SHA-2, SM3
- IPSec Encryption Algorithm: DES, 3DES, AES-128, AES-256. SANGFOR_DES, SCB2, SM4

Model	aServer-1600	aServer-1800	aServer-2100	aServer-2105	aServer-2205	aServer-2305	Configuration Remark
Height	2U	2U	2U	2U	2U	2U	CPU is not expandable (C stands for Core and T stands for Thread)
CPU Model	Intel® Xeon® Gold 6208U	Intel® Xeon® Silver 4210R	Intel® Xeon® Silver 4210R	Intel® Xeon® Silver 4210R	Intel® Xeon® Gold 6226R	Intel® Xeon® Gold 5220R	
No. of CPU	1	1	2	2	2	2	
CPU Specs	16C32T 2.9GHZ	10C20T 2.4GHZ	10C20T 2.4GHZ	10C20T 2.4GHZ	16C32T 2.9GHZ	24C48T 2.2GHZ	
Standard Memory	64GB (2*32)	64GB (2*32)	128GB (4*32)	128GB (4*32)	128GB (4*32)	128GB (4*32)	Expandable with 32GB memory stripes
Memory Slot	12	12	24	24	24	24	
Memory Frequency	DDR4 2933MHz	DDR4 2933MHz	DDR4 2933MHz	DDR4 2933MHz	DDR4 2933MHz	DDR4 2933MHz	
Max. Memory	768GB	768GB	1536GB	1536GB	1536GB	1536GB	
Disk Slot	8	8	8	12	12	12	
OS Disk (By default)	1*240GB SSD	1*240GB SSD	1*240GB SSD	2*240GB SSD	2*240GB SSD	2*240GB SSD	OS disks are installed on the dual-slot on the backplane of the server, all models are configured with RAID 1 except 2100
Cache Disk (SSD, mandatory for aSAN cache and tier-ing)	Optional	Options: 240GB SSD Intel S4600 480GB SSD Intel S4600 960GB SSD Intel S4600 1.9TB SSD Intel S4600	Options: 240GB SSD Intel S4600 480GB SSD Intel S4600 960GB SSD Intel S4600 1.9TB SSD Intel S4600	Options: 240GB SSD Intel S4600 480GB SSD Intel S4600 960GB SSD Intel S4600 1.9TB SSD Intel S4600	Options: 240GB SSD Intel S4600 480GB SSD Intel S4600 960GB SSD Intel S4600 1.9TB SSD Intel S4600	Options: 240GB SSD Intel S4600 480GB SSD Intel S4600 960GB SSD Intel S4600 1.9TB SSD Intel S4600	Optional. Need to purchase separately
Data Disk	Optional	Options: 2TB SATA HDD (Enterprise) 4TB SATA HDD (Enterprise) 6TB SATA HDD (Enterprise) 8TB SATA HDD (Enterprise)	Options: 2TB SATA HDD (Enterprise) 4TB SATA HDD (Enterprise) 6TB SATA HDD (Enterprise) 8TB SATA HDD (Enterprise)	Options: 2TB SATA HDD (Enterprise) 4TB SATA HDD (Enterprise) 6TB SATA HDD (Enterprise) 8TB SATA HDD (Enterprise)	Options: 2TB SATA HDD (Enterprise) 4TB SATA HDD (Enterprise) 6TB SATA HDD (Enterprise) 8TB SATA HDD (Enterprise)	Options: 2TB SATA HDD (Enterprise) 4TB SATA HDD (Enterprise) 6TB SATA HDD (Enterprise) 8TB SATA HDD (Enterprise)	Optional. Need to purchase separately
Disk Slot Size	3.5/2.5 inch	3.5/2.5 inch	3.5/2.5 inch	3.5/2.5 inch	3.5/2.5 inch	3.5/2.5 inch	Intel X722: 1GE Port Intel X720-F2: 10G SFP+Port
NIC Ports (Customizable)	4*GE electrical + 2*10GE optical	6*GE electrical	6*GE electrical + 2*10GE optical	6*GE electrical + 2*10GE optical	6*GE electrical + 2*10GE optical	6*GE electrical + 2*10GE optical	
Working Power	468W	468W	468W	518W	618W	618W	

Model	aServer-1600	aServer-1800	aServer-2100	aServer-2105	aServer-2205	aServer-2305	Configuration Remark
Max. Power	800W	800W	800W	800W	800W	800W	
Dimension (mm)	800*448*90	800*448*90	800*448*90	800*448*90	800*448*90	800*448*90	
Gross Weight (kg)	42	42	42	45	45	45	
Net Weight (kg)	35	35	35	37	37	37	
Power supply	1+1 Platnium 800W [100-240VAC] [240VDC]	1+1 Platnium 800W [100-240VAC] [240VDC]	1+1 Platnium 800W [100-240VAC] [240VDC]	1+1 Platnium 800W [100-240VAC] [240VDC]	1+1 Platnium 800W [100-240VAC] [240VDC]	1+1 Platnium 800W [100-240VAC] [240VDC]	
Total PCI-e Slots	3	5	5	5	5	5	
Available PCI-e Slots	1	1	1	1	1	1	PCI-E slot is used to expand NIC, HBA card or PCI-e SSD
Raid Card	LSI SAS 3008-8I Or PM8222	LSI SAS 3008-8I Or PM8222	LSI SAS 3008-8I Or PM8222	LSI SAS 3008-8I Or PM8222	LSI SAS 3008-8I Or PM8222	LSI SAS 3008-8I Or PM8222	
Raid Mode	JBOD/Raid 0/1/10	JBOD/Raid 0/1/10	JBOD/Raid 0/1/10	JBOD/Raid 0/1/10	JBOD/Raid 0/1/10	JBOD/Raid 0/1/10	
Cache on RAID Card	No cache	No cache	No cache	No cache	No cache	No cache	
COM	1	1	1	1	1	1	
USB 2.0	2	2	2	2	2	2	
USB 3.0	2	2	2	2	2	2	
VGA	1	1	1	1	1	1	
Working Temperature Range	10-35°C	10-35°C	10-35°C	10-35°C	10-35°C	10-35°C	
Working Humidity Range	35%-80%RH	35%-80%RH	35%-80%RH	35%-80%RH	35%-80%RH	35%-80%RH	

SANGFOR HCI (Hyper-Converged Infrastructure)

SANGFOR INTERNATIONAL OFFICES

SANGFOR SINGAPORE
8 Burn Road # 04-09, Trivex,
Singapore (369977)
Tel: (+65) 6276-9133

SANGFOR HONG KONG (CHINA)
Unit 1612-16, 16/F, The Metropolis Tower, 10 Metropolis Drive,
Hung Hom, Kowloon, Hong Kong
Tel: (+852) 3845-5410

SANGFOR INDONESIA
MD Place 3rd Floor, Jl Setiabudi No.7, Jakarta Selatan
12910, Indonesia
Tel: (+62) 21-2966-9283

SANGFOR MALAYSIA
No. 47-10 The Boulevard Offices, Mid Valley City, Lingkaran
Syed Putra, 59200 Kuala Lumpur, Malaysia
Tel: (+60) 3-2702-3644

SANGFOR THAILAND
6th Floor, 518/5 Maneeya Center Building, Ploenchit Road,
Lumpini, Patumwan, Bangkok, 10330 Thailand
Tel: (+66) 22-517700

SANGFOR PHILIPPINES
7A, OPL Building, 100 Don Carlos Palanca, Legazpi, Makati,
122 Metro, Manila, Philippines.
Tel: (+63) 917-117-9346

SANGFOR VIETNAM
4th Floor, M Building, Street C, Phu My Hung,
Tan Phu Ward, District 7, HCMC, Vietnam
Tel: (+84) 287-1005018

SANGFOR SOUTH KOREA
Floor 17, Room 1703, Yuwon bldg. 116, Seosomun-ro,
Jung-gu, Seoul, Republic of Korea
Tel: (+82) 2-6261-0999

SANGFOR EMEA
D-81 (D-Wing), Dubai Silicon Oasis HQ Building, Dubai, UAE.
Tel: (+971) 52855-2520

SANGFOR PAKISTAN
44, Navy Housing Scheme, ZamZamma, Karachi, Pakistan
Tel: (+92) 333-3365967

SANGFOR ITALY
Floor 8, Via Marsala, 36B, 21013 Gallarate VA, Italia
Tel: (+39) 3395-7110-78

AVAILABLE SOLUTIONS

IAG	Simplify User & Network Management
NGAF	Smarter Security Powered By AI
Endpoint Secure	The Future of Endpoint Security
Cyber Command	Powerful Intelligent Threat and Detection Platform
TIARA	Threat Identification, Analysis and Risk Management
Incident Response	Closed-loop Incident Response Service Solution
HCI	Driving Hyperconvergence to Fully Converged
MCS	Your Digital Infrastructure Exclusive Store
VDI	Ultimate User Experience that Beats PC
SD-WAN	Boost Your Branch Business With Sangfor
SIER	Simplify & Intelligence Your Branch Network
ACCESS	Cloud-based SASE for Branch Offices & Remote Users
WANO	Enjoy a LAN Speed on your WAN

SANGFOR

Sales: sales@sangfor.com

Marketing: marketing@sangfor.com

Global Service Center: +60 12711 7129 (or 7511)

www.sangfor.com

OUR SOCIAL NETWORKS

https://twitter.com/SANGFOR

https://www.linkedin.com/company/sangfor-technologies

https://www.facebook.com/Sangfor

https://plus.google.com/+SangforTechnologies

https://www.youtube.com/user/SangforTechnologies

HCI_BR_P_HCI-Brochure_20220510