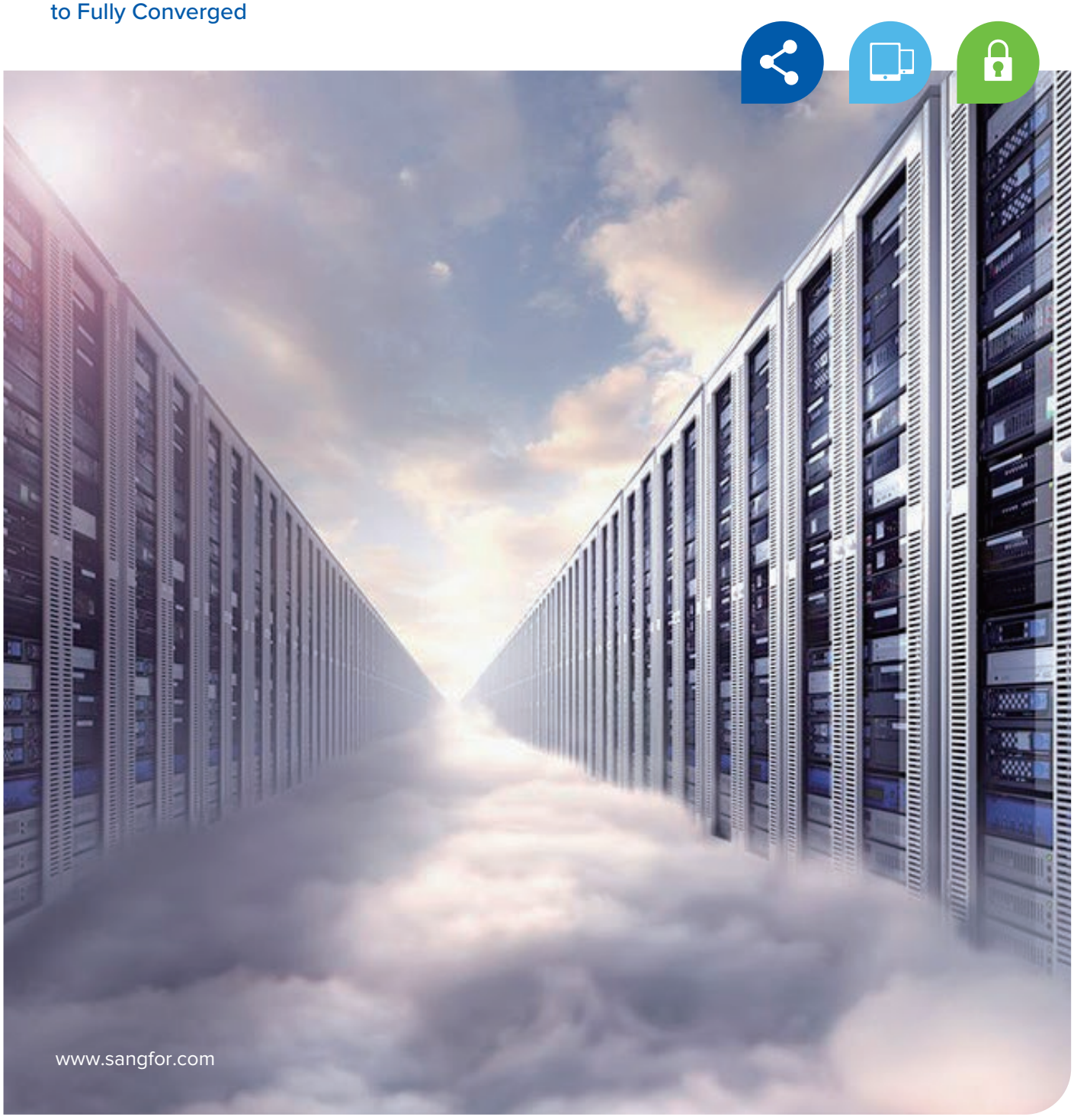
SANGFOR HCI

(Hyper-Converged Infrastructure)

SANGFOR

The 3rd Gen HCI, Driving Hyperconvergence
to Fully Converged



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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.

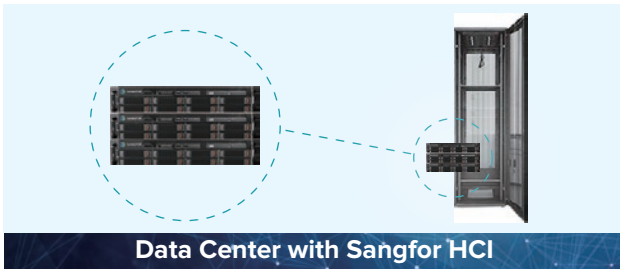
Is Current Architecture Scalable?

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



Sangfor HCI Solution

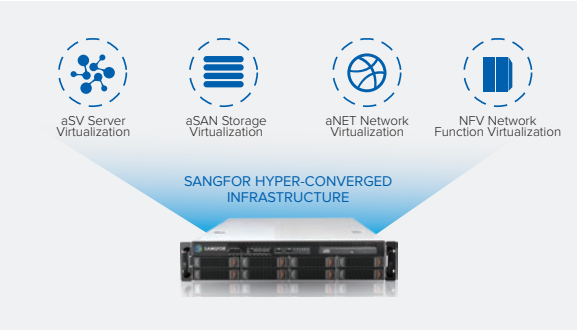
Why Choose Sangfor as Your HCI Solution Provider?

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, IAM, 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/IAM/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

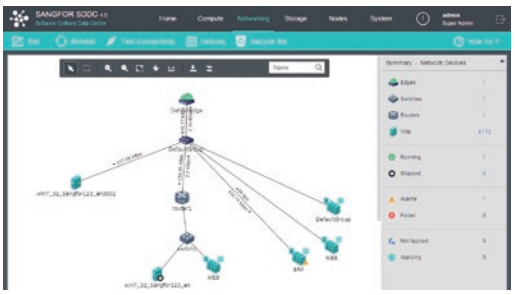
1 single server to achieve 10Gbps virtual network throughput, read 60,000+ IOPS, write 17,000+ IOPS and storage capacity 20TB. High stability and reliability ensured by vAD business clustering, HA (High Availability), distributed management platform, distributed virtual networking device, multi-copies,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

Sangfor HCI Data Sheet – Appliance Based

2U Server with 8 disk slots

Model	aServer 1800	aServer 2000	aServer 2100	aServer 2200	aServer 2300	aServer G350
CPU	1*Xeon Silver 4110 (8C16T, 2.1GHZ)	Xeon Silver 4110 (8C16T, 2.1GHZ)	Xeon Silver 4114 (10C20T, 2.2GHZ)	Xeon Gold 5118 (12C24T, 2.3GHZ)	Xeon Gold 6132 (14C28T, 2.6GHZ)	Xeon Silver 4114 (10C20T, 2.2GHZ)
Memory (max. 768 GB)	64GB ECC DDR4	96GB ECC DDR4	128GB ECC DDR4	128GB ECC DDR4	128GB ECC DDR4	160GB ECC DDR4
Disk Slots	8*SATA/ SAS/SSD	8*SATA/ SAS/SSD	8*SATA/ SAS/SSD	8*SATA/ SAS/SSD	8*SATA/ SAS/SSD	8*SATA/ SAS/SSD
NIC Ports	6*GE	6*GE	6*GE	6*GE+2*10GE	6*GE+2*10GE	6*GE
Storage Capacity	OS Disk: 128GB SATA SSD (integrated). Cache disk options: NVME SSD: 2TB | SATA SSD: 240GB, 480GB, 960GB, 1.9TB Data disk options: SATA HDD: 2TB, 4TB, 6TB, 8TB | SAS HDD: 1.2TB, 1.8TB					

2U Server with 12 disk slots

Model	aServer 2005	aServer 2105	aServer 2205	aServer 2305
CPU	Xeon Silver 4110 (8C16T, 2.1GHZ)	Xeon Silver 4114 (10C20T, 2.2GHZ)	Xeon Gold 5118 (12C24T, 2.3GHZ)	Xeon Gold 6132 (14C28T, 2.6GHZ)
Memory (max. 768 GB)	96GB ECC DDR4	128GB ECC DDR4	128GB ECC DDR4	128GB ECC DDR4
Disk Slots	12*SATA/SAS/SSD	12*SATA/SAS/SSD	12*SATA/SAS/SSD	12*SATA/SAS/SSD
NIC Ports	6*GE	6*GE	6*GE+2*10GE	6*GE+2*10GE
Storage Capacity	OS Disk: 128GB SATA SSD (integrated). Cache disk options: NVME SSD: 2TB | SATA SSD: 240GB, 480GB, 960GB, 1.9TB Data disk options: SATA HDD: 2TB, 4TB, 6TB, 8TB | SAS HDD: 1.2TB, 1.8TB			

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

SANGFOR HCI (Hyper-Converged Infrastructure)

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AVAILABLE SOLUTIONS

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NGAF	Smarter Security Powered By AI
Endpoint Secure	The Future of Endpoint Security
Cyber Command	Powerful Intelligent Threat and Detection Platform
SD-WAN	Boost Your Branch Business With Sangfor
WANO	Enjoy a LAN Speed on your WAN
HCI	Driving Hyperconvergence to Fully Converged
aCLOUD	Enterprise Cloud Built on HCI
VDI	Ultimate User Experience that Beats PC
aBOS	The World First NFV Converged Gateway
CM	Centralized Management Platform

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