SANGFOR HCI
(Hyper-Converged Infrastructure)

Fully Converge Your Data Center

www.sangfor.com
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 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 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. Sangfor HCI was also previously listed in the Gartner Magic Quadrant for Hyperconverged Infrastructure for 3 consecutive years.

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. Sangfor HCI was also previously listed in the Gartner Magic Quadrant for Hyperconverged Infrastructure for 3 consecutive years.

Sangfor HCI Solution

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

Sangfor Hyper-Converged Infrastructure (HCI) provides innovative 3rd-gen cloud computing architecture that reduces at least 70% of the TCO, simplifies operations, and multiplies network security. It converges compute, storage, networking and security on a single software stack. The foundation of all these are Server Virtualization (aSV), Storage Virtualization (aSAN) and Network Virtualization (aNET), on top of that we have Security Virtualization (aSEC) integration including all our network applications such as NGAF/IAG/WANO.
Highlights of Sangfor HCI

**aSAN (Storage Virtualization)**
Built with multi-copies and data is written synchronously to ensure data consistency. Multiple innovative features enable Sangfor HCI to reach 1 million IOPS with just three nodes, including SSD caching and patented I/O localization technology - aSAN detects where a VM's data is stored and makes it a priority to run the VM on that physical host, which dramatically increases IOPS in a clustered environment.

**aSV (Hypervisor)**
Distributed resource scheduling, non-uniform memory access (NUMA), and memory overcommitment bring you the ultimate virtualization performance.

**Ultra Simple Deployment & Operation**
Deploy the infrastructure with "what you draw is what you get" topology to get your business online in minutes. Manage your infrastructure through a unified dashboard and get AI-driven insights with a virtualized data center that displays the real-time flow.

**Disaster Recovery Management (DRM)**
Sangfor provides a choice of disaster recovery solutions, including active-active stretched cluster and active-passive DR for Sangfor HCI customers and active-passive DR for third-party hypervisors and servers.

**More Secure Than Ever**
Brand-new aSecurity cloud security center integrates all the security products you need to protect your entire architecture, including built-in web application firewall, next-generation firewall, EDR, and more.
Minimum 70% reduction in overall CapEx & Opex than traditional data center. Up to 90% reduction in power, cooling and space. Start from 2 nodes 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.

**Reduced TCO & Scale as you Grow**

**Distinguished Performance**
Reach 1 Million IOPS with just 3 nodes (NVMe). 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 Security 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.

**Visualized Data Center**

**Build Data Center by Simple Drawing Your Architecture**

**Transit Smoothly into Multicloud Era**

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Sangfor HCI

Hybrid Cloud

Multi Cloud

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Visualized Data Center
Business Use Cases with Sangfor HCI

Data Center Consolidation
Getting rid of legacy architecture and complex costly data centers with Sangfor’s software-defined HCI technology.

Cloud Transformation
Deploy the HCI cloud platform engineering for superior and leading virtualization for your enterprise - providing scalability and agility.

Data Protection & Disaster Recovery
Business continuity is prioritized with effortless and secure data recovery and disaster recovery options such as snapshot, CDP and stretched cluster.

Enterprise Applications
Run your company’s applications through Sangfor’s HCI for elite performance and reliable capabilities.

Sangfor HCI’s Awards & Achievements

Gartner Magic Quadrant
Listed in the Gartner Magic Quadrant Reports 2019-2021

Gartner® Hype Cycle™ Reports
Sample Vendor in 2022 Gartner® Hype Cycle™ Reports for Compute and Infrastructure

Gartner® Peer Insights™
Sangfor HCI Customers Speak through Gartner® Peer Insights™

Top 3 HCI Vendors
Named as Top 3 HCI Vendors in China for 6 Consecutive Years

Listed in Forrester Now Tech
Listed in “Now Tech: Hyperconverged Infrastructure, Q2 2020”

SAP Certification
SAP Certified for Cloud and Infrastructure Operations and SAP HANA Operations
COMPANY PROFILE

Make Your Digital Transformation Simpler and Secure. This is Sangfor Technologies’ commitment to our customers. Since forming in 2000, Sangfor has been a global leader of IT infrastructure, security solutions and cloud computing. Five business groups deliver industry leading products for Hyper-Converged Infrastructure, Virtual Desktop Infrastructure, Next Generation Firewall, Secure Web Gateway, Endpoint Protection, Ransomware Protection, Incident Response, WAN Optimization, and SD-WAN. Constant innovation and dedication to creating value for our customers are the heart of our corporate strategy.

Sangfor’s 9500+ employees take customer’s business needs and user experience seriously by servicing and supporting them at over 60 branch offices globally in exciting locations like Hong Kong, Malaysia, Thailand, Indonesia, Singapore, Philippines, Vietnam, Myanmar, Pakistan, UAE, Italy, Turkiye and the USA.

CONTINUOUS INNOVATION & EXCELLENT SERVICE

Sangfor invests at least 20% of annual revenue in R&D to improve products and develop new solutions at our five R&D centers located. With over 2,200+ patents, Sangfor has more patent applications submitted in 2022. This dedication to innovation enables us to release product updates every quarter and launch new products annually.

We pride ourselves on our excellent service. Customers enjoy fast 24x7 online support 365 days a year and personalized on-site service support from over 10,000 certified engineers at our three Customer Service Centers in Malaysia & China.

GARTNER MAGIC QUADRANT
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.

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

* NFV components on HCI may employ IPSec VPN technologies 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 Data Sheet – Hardware Based

<table>
<thead>
<tr>
<th>Model</th>
<th>aServer-1600</th>
<th>aServer-1800</th>
<th>aServer-2100</th>
<th>aServer-2105</th>
<th>aServer-2205</th>
<th>aServer-2305</th>
<th>Configuration Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>2U</td>
<td>2U</td>
<td>2U</td>
<td>2U</td>
<td>2U</td>
<td>2U</td>
<td>CPU is not expandable (C stands for Core and T stands for Thread)</td>
</tr>
<tr>
<td>CPU Model</td>
<td>Intel® Xeon® Gold 6226R</td>
<td>Intel® Xeon® Gold 6226R</td>
<td>Intel® Xeon® Silver 4210R</td>
<td>Intel® Xeon® Silver 4210R</td>
<td>Intel® Xeon® Gold 6226R</td>
<td>Intel® Xeon® Gold 5220R</td>
<td></td>
</tr>
<tr>
<td>No. of CPU</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>Expandable with 32GB memory stripes</td>
</tr>
<tr>
<td>CPU Specs</td>
<td>16C32T 2.9GHZ</td>
<td>10C20T 2.4GHZ</td>
<td>10C20T 2.4GHZ</td>
<td>10C20T 2.4GHZ</td>
<td>10C20T 2.4GHZ</td>
<td>16C32T 2.9GHZ</td>
<td></td>
</tr>
<tr>
<td>Standard Memory</td>
<td>64GB (2*32)</td>
<td>64GB (2*32)</td>
<td>128GB (4*32)</td>
<td>128GB (4*32)</td>
<td>128GB (4*32)</td>
<td>128GB (4*32)</td>
<td></td>
</tr>
<tr>
<td>Memory Slot</td>
<td>12</td>
<td>12</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Memory Frequency</td>
<td>DDR4 2933MHz</td>
<td>DDR4 2933MHz</td>
<td>DDR4 2933MHz</td>
<td>DDR4 2933MHz</td>
<td>DDR4 2933MHz</td>
<td>DDR4 2933MHz</td>
<td></td>
</tr>
<tr>
<td>Max. Memory</td>
<td>768GB</td>
<td>768GB</td>
<td>1536GB</td>
<td>1536GB</td>
<td>1536GB</td>
<td>1536GB</td>
<td></td>
</tr>
<tr>
<td>Disk Slot</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>OS disks are installed on the dual-slot on the backplane of the server, all models are configured with RAID 1 except 2100OS disks are installed on the dual-slot on the backplane of the server, all models are configured with RAID 1 except 2100</td>
</tr>
<tr>
<td>OS Disk (By default)</td>
<td>1*240GB SSD</td>
<td>1*240GB SSD</td>
<td>1*240GB SSD</td>
<td>2*240GB SSD</td>
<td>2*240GB SSD</td>
<td>2*240GB SSD</td>
<td></td>
</tr>
<tr>
<td>Cache Disk (SSD, mandatory for aSAN cache and tiering)</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional. Need to purchase separately</td>
</tr>
<tr>
<td>Options</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td></td>
</tr>
</tbody>
</table>

Sangfor can also provide a software-only HCI solution compatible with most of the commodity servers commercially available on the market.
<table>
<thead>
<tr>
<th>Model</th>
<th>aServer-1800</th>
<th>aServer-2100</th>
<th>aServer-2105</th>
<th>aServer-2205</th>
<th>aServer-2305</th>
<th>Configuration Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Power</td>
<td>800W</td>
<td>800W</td>
<td>800W</td>
<td>800W</td>
<td>800W</td>
<td>Intel X722: 1GE Port</td>
</tr>
<tr>
<td>Dimension (mm)</td>
<td>800<em>448</em>90</td>
<td>800<em>448</em>90</td>
<td>800<em>448</em>90</td>
<td>800<em>448</em>90</td>
<td>800<em>448</em>90</td>
<td>Intel X720-F2: 10G SFP+Port</td>
</tr>
<tr>
<td>Gross Weight (kg)</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>45</td>
<td>45</td>
<td>45</td>
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<td>Net Weight (kg)</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>37</td>
<td>37</td>
<td>37</td>
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<tr>
<td>Power supply</td>
<td>1+1 Platinum</td>
<td>1+1 Platinum</td>
<td>1+1 Platinum</td>
<td>1+1 Platinum</td>
<td>1+1 Platinum</td>
<td>Optional. Need to purchase separately</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total PCI-e Slots</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Available PCI-e Slots</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>Raid Card</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
<td>LSI SAS 3008-Bi Or PM8222</td>
</tr>
<tr>
<td>RAID Mode</td>
<td>JBOD/Raid 0/1/10</td>
<td>JBOD/Raid 0/1/10</td>
<td>JBOD/Raid 0/1/10</td>
<td>JBOD/Raid 0/1/10</td>
<td>JBOD/Raid 0/1/10</td>
<td>JBOD/Raid 0/1/10</td>
</tr>
<tr>
<td>Cache on RAID Card</td>
<td>No cache</td>
<td>No cache</td>
<td>No cache</td>
<td>No cache</td>
<td>No cache</td>
<td>No cache</td>
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<tr>
<td>COM</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>PCI-e slot is used to expand NIC, HBA card or PCI-e SSD</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>USB 3.0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>VGA</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Working Humidity Range</td>
<td>35%-80%RH</td>
<td>35%-80%RH</td>
<td>35%-80%RH</td>
<td>35%-80%RH</td>
<td>35%-80%RH</td>
<td>35%-80%RH</td>
</tr>
<tr>
<td>Model</td>
<td>aServer-3000</td>
<td>aServer-3100</td>
<td>aServer-3205</td>
<td>aServer-3305</td>
<td>aServer-3405</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>Intel 4310 12C/24C 2.1GHz 120W</td>
<td>Intel 6326 2.9G 16C/32T 185W</td>
<td>Intel 4314 16C/32T 2.4GHz 135W</td>
<td>Intel 6326 2.9G 16C/32T 185W</td>
<td>Intel 5318Y 2.1G 24C/48T 165W</td>
<td></td>
</tr>
<tr>
<td>No. of CPU</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>RAM</td>
<td>32GB</td>
<td>32GB</td>
<td>32GB</td>
<td>32GB</td>
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<tr>
<td>No. of RAM</td>
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<td>4</td>
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<tr>
<td>OS Disk</td>
<td>PM883 240G*1</td>
<td>PM883 240G*1</td>
<td>PM883 240G*2</td>
<td>PM883 240G*2</td>
<td>PM883 240G*2</td>
<td></td>
</tr>
<tr>
<td>RAM Slot</td>
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<td>16</td>
<td>32</td>
<td>32</td>
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<td></td>
</tr>
<tr>
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<td>2</td>
<td></td>
</tr>
<tr>
<td>No. of RAID Card</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Disk Slots</td>
<td>8*</td>
<td>8*</td>
<td>12+2</td>
<td>12+2</td>
<td>12+2</td>
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<td>No. of Backplane</td>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NIC</td>
<td>4<em>GE+2</em>10GE</td>
<td>4<em>GE+2</em>10GE</td>
<td>4<em>GE+2</em>10GE</td>
<td>4<em>GE+2</em>10GE</td>
<td>4<em>GE+2</em>10GE</td>
<td></td>
</tr>
<tr>
<td>USB2.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>USB3.0</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<td></td>
</tr>
<tr>
<td>Dimension</td>
<td>86.1mm(H)*447mm(W)*790mm(L)</td>
<td>86.1mm(H)*447mm(W)*790mm(L)</td>
<td>86.1mm(H)*447mm(W)*790mm(L)</td>
<td>86.1mm(H)*447mm(W)*790mm(L)</td>
<td>86.1mm(H)*447mm(W)*790mm(L)</td>
<td></td>
</tr>
<tr>
<td>Gross Weight</td>
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<td>28kg</td>
<td>29kg</td>
<td>29kg</td>
<td>29kg</td>
<td></td>
</tr>
<tr>
<td>Net Weight</td>
<td>23kg</td>
<td>23kg</td>
<td>24kg</td>
<td>24kg</td>
<td>24kg</td>
<td></td>
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<tr>
<td>Total PCIE Slots</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Available PCIE Slots</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

* 7 Disk slots available.
SANGFOR HYPER-CONVERGED INFRASTRUCTURE

INTERNATIONAL OFFICES

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AVAILABLE SOLUTIONS

IAG - Internet Access Gateway
Secure User Internet Access Behaviour

NGAF - Next Generation Firewall
Smarter AI-Powered Perimeter Defence

Endpoint Secure - Endpoint Security
The Future of Endpoint Security

Cyber Command - Network Detection and Response
Smart Efficient Detection and Response

TIARA - Threat Identification, Analysis and Risk Assessment
Smart Threat Analysis and Assessment

IR - Incident Response
Sangfor Incident Response – One Call Away

Cyber Guardian - Managed Threat Detection & Response Service
Faster Response Through Human/AI Collaboration

HCI - Hyper-Converged Infrastructure
Fully Converge Your Data Center

MCS - Managed Cloud Services
Your Exclusive Digital Infrastructure

VDI - aDesk Virtual Desktop Infrastructure
The Ultimate User Experience that Beats a PC

Access - Secure Access Service Edge
Simple Security for Branches & Remote Users

EDS - Enterprise Distributed Storage
The Only Secured Data Storage You Need

SD-WAN
Boost Your Branch with Sangfor

Sales: sales@sangfor.com
Marketing: marketing@sangfor.com
Global Service Center: +60 12711 7129 (or 7511)
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