HCI Competitive Analysis v.s. H3C

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Company Introduction of H3C

History Milestones

![H3C - The Leader in Digital Solutions]

1 The Leader in IP Solutions
November, 2003

Huawei-3Com (Former H3C)

2 The Leader in New IT Solutions
November, 2007

Hangzhou H3C

3 The leader in Digital Solutions
November, 2016

New H3C Group

New IP Solution -> New IT Solution -> Digital Solution

Caption: Joint Venture of Tsinghua UNIS Group and Hewlett Packard Enterprise (HPE)

H3C Group Profile

H3C
The Leader in Digital Solutions

Products & Solutions

- Server
- Storage
- Networking
- Security
- HCI
- Software

- Cloud
- Big Data
- Interconnectivity
- Public Safety

USD 4.5 Billion

Annual sales revenue (2018)

28% YoY Growth

NO.1	China Enterprise Market
100%	TOP 50 University
90%	TOP 50 Internet Company
90%	Banks, Security and Insurance
80%	TOP 500 Enterprise
70%	Ministries of Government
60%	TOP Level Hospitals

H3C HCI Product Overview

H3C Cloud Computing Portfolio

H3C
The Leader in Digital Solutions

Cloud Security

H3C CMP Multi-Cloud Management
(Hybrid, Multi-cloud, Multi-DC)

CloudOS 3.0 Cloud Operating System

| Resource Service | Operation Service | Application Service | Data Service | DevOps |

Container Microservice HA Cluster
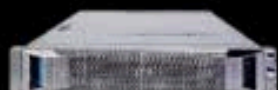
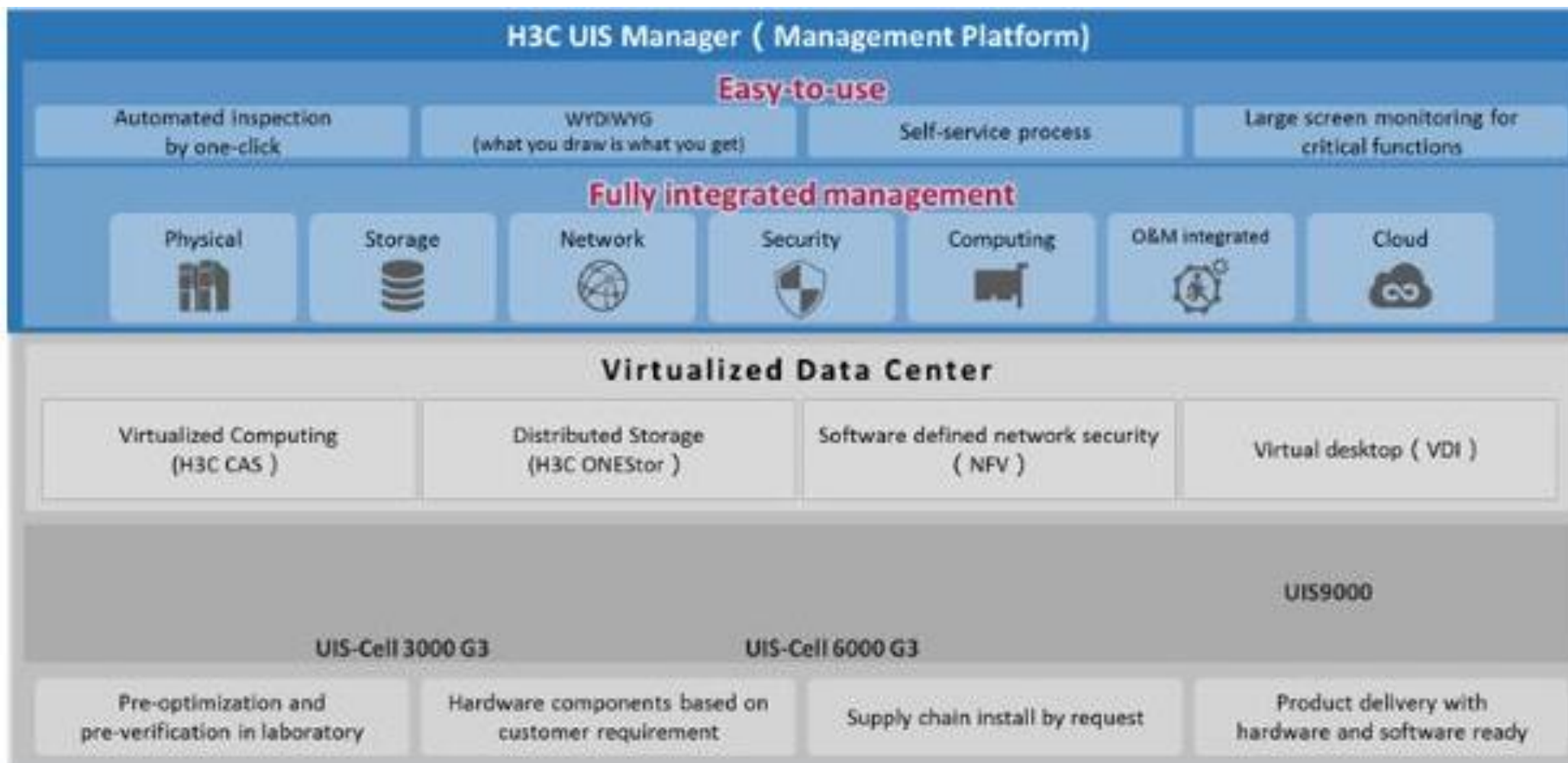| **CAS** Computing Virtualization | **ONEStor** Storage Virtualization | **SDN/NFV** Network Virtualization | **VDI** |

HCI UIS 6.0   UIS Cell 3000/4000/6000/8000/9000

Cloud Terminal C100/C112/C200E

Cloud O&M

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Competitive Analysis

HCI Module Comparison

Module	Sangfor	H3C
Compute virtualization	aSV	CAS
Storage virtualization	aSAN	ONEStor
Network virtualization	aNET	UIS-Net
Security virtualization	aSEC	UIS-Sec
Cloud management	SCP	UIS Manager Enterprise
HCI management	HCI	UIS Manager Standard

Hardware Compatibility

H3C

H3C is largely a hardware-rooted company, their HCI solution is mostly appliance based with limited support for 3rd party servers, which means customers don't have the freedom of choice for hardware.

Server models that can be supported by ONEStor:
- H3C UIS R190 G2
- H3C UIS R390 G1/G2
- H3C UIS B390 G2
- Dell PowerEdge R720

Source:
https://www.h3c.com/cn/d_201709/1033379_30005_0.ht
m#_Toc493593638

Sangfor

Sangfor HCI is utterly software-based, it is compatible with most mainstream x86 servers on the market including (but not limited to): Dell EMC, HPE, Lenovo, Huawei, Inspur, Cisco, etc,. In addition to that, Sangfor also provides appliance-based solution to simplify customer's delivery and operations
Therefore, customer enjoys the freedom of choice for their preferred servers or even reuse their existing servers to protect their investment.

Mission-critical Performance

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Though H3C claims their UIS HCI supports Oracle RAC, according to our test, H3C ONEStor **doesn't** support shared virtual disk, which means RAC **can't** be run on it.

ONEStor is developed on Ceph (long IO path leads to poor performance), performance-sensitive and latency-sensitive applications are not recommended to be run on it.

Performance testing result

测试项	说明	H3 1	H3 2	深信服 1	深信服 2/说明
4k—rand—read	4k 随机读测试	read : io=59350MB, bw=168817KB/s, iops=42204, runt=360000msec	read : io=54058MB, bw=153766KB/s, iops=38441, runt=360000msec	read : io=87617MB, bw=249223KB/s, iops=62305, runt=359999msec	read : io=84911MB, bw=241526KB/s, iops=60381, runt=359999msec
4k—rand—write	4k 随机写测试	write: io=1558.5MB, bw=4432.7KB/s, iops=1108, runt=360014msec	write: io=5935.6MB, bw=16883KB/s, iops=4220, runt=360002msec	write: io=42848MB, bw=121880KB/s, iops=30469, runt=360000msec	write: io=42726MB, bw=121531KB/s, iops=30382, runt=360000msec
1M—seq—read	1M 顺序读测试	read : io=274450MB, bw=780539KB/s, iops=762, runt=360055msec	read : io=260754MB, bw=741591KB/s, iops=724, runt=360053msec	read : io=378789MB, bw=1052.7MB/s, iops=1052, runt=360042msec	read : io=377860MB, bw=1049.6MB/s, iops=1049, runt=360038msec
1M—seq—write	1M 顺序写测试	write: io=77751MB, bw=221103KB/s, iops=215, runt=360091msec	write: io=119585MB, bw=338266KB/s, iops=330, runt=362008msec	write: io=211184MB, bw=600463KB/s, iops=586, runt=360143msec	write: io=202693MB, bw=576312KB/s, iops=562, runt=360148msec

Reliability Comparison

	Sangfor	H3C
Management plane	Distributed architecture, management is de-centralized and not dependent on VMs or physical machines.	Management node needs independent deployment which could incur single point of failure.
Data plane	1. UPS correlative VM power-off 2. Disk sub-health detection and faliure prediction 3. VM-based storage replica configuration 4. Self-developed CDP for 0 data loss protection	1. No such feature 2. No such feature 3. 2-n copies, EC is also supported, but 2-3 copies are recommended by H3C for better cost-efficiency 4. No CDP
Business plane	DRX/DRS/HA/Live migration Active-active stretched cluster	H3C DRX supports VM reclaim Stretched cluster is not supported The HA feature on UIS is not complete: 1. If storage interface fails, VMs get stuck and no HA 2. If business interface fails, VMs get faulty and no HA
Visibility	1. 1-click health check 2. Network connectivity testing 3. Reliability monitoring screen and visualized network topology	No connectivity testing

Security Comparison

	Sangfor	H3C
Security overview	Includes a full set of security components to realize L4-L7 protection, vAF, vAD, vIAM, vSSL, ES, etc,.	No vSSL and vWANO
Virtualization security	Kernel security enhancement, isolation between hypervisor and VMs, VM resource isolation	Support
Network security	vAF, VLAN on vSwitch, distributed firewall	Support
Host security	Intrusion detection, malware code scanning, loophole management, anti-virus, etc,	Support (Anti-virus relies on 3rd party Asia Info-sec)
Application security	vWAF, web scanning	Support
Data security	Encpted transmission and storage, snapshot, backup & recovery, CDP, DR & stretched cluster	No CDP and stretched cluster
Ransomware solution	1. Correlated security service with CyberCommand 2. CDP as the last layer of defence	No similar solution

O&M Comparison

Sangfor

H3C

Here comes the question: who is the copycat?
We are flattered by H3C for so bluntly acknowledging our innovations on HCI.

Source: Gartner (December 2020)

Sangfor HCI has been listed in Gartner HCI Magic Quadrant for two consecutive years since 2019.

Apparently we don't see H3C on it.

Summary

In conslusion, Sangfor HCI is more performant, more reliable, more secure and more innovative compared to H3C UIS.

HCI is a strategic product line inside Sangfor while UIS is not really H3C's focus, they are not willing to give up their hardware bloodline. You can understand the investment difference when comparing the release cycles, Sangfor: 2-3 versions in a year, H3C: 1 version a year.

Choose Sangfor, choose innovation!

Attack points by H3C	Answers
H3C is the virtualization No.1 in China	H3C has not even been listed in Gartner MQ
Erasure coding to save space	Erasure coding has no data locality, it trades off performance for space-saving.
Super cost-effective all-flash solution	UIS all flash uses poor quality SSD flash which is risky of losing data. Sangfor will have all flash configuration soon with better quality.
Separate virtualization platforms for HCI and VDI	VDI and HCI serves different use cases, not much point to put them together only for unified management.
SPECvirt peformance NO.1	SPECvirt is more focused on file storage performance, if it comes to block storage performance testing like SPC-1, H3C UIS may look pretty bad. Sangfor HCI is also under testing, stay tuned.

THANK YOU

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