
HAFS
Distributeur à valeur ajoutée
VOTRE PARTENAIRE TECHNOLOGIQUE
POUR DES INFRASTRUCTURES IT SÉCURISÉES ET PERFORMANTES
EXPERTISE
Des solutions adaptées à chaque environnement
CONFIANCE
Un partenaire fiable à vos côtés
PERFORMANCE
Des infrastructures sécurisées et évolutives
SUPPORT
Un accompagnement technique de qualité
HAFS
Distributeur à valeur ajoutée
Des solutions IT innovantes pour un monde connecté et sécurisé
WIRELESS RADIO
Connectivité sans fil haute performance
RÉSEAUX & SÉCURITÉ IT
Des réseaux fiables et sécurisés
VIRTUALISATION CLOUD
Des solutions Cloud flexibles et évolutives
CYBERSECURITY
Protéger vos données et vos systèmes
VIDÉO PROTECTION
Solutions de vidéosurveillance intellligentes
HCI STOCKAGE SAUVEGARDE
Stockage, sauvegarde et haute disponibilité
SOLUTIONS IT | CYBERSÉCURITÉ | CLOUD | INFRASTRUCTURE RÉSEAU | STOCKAGE | PROTECTION

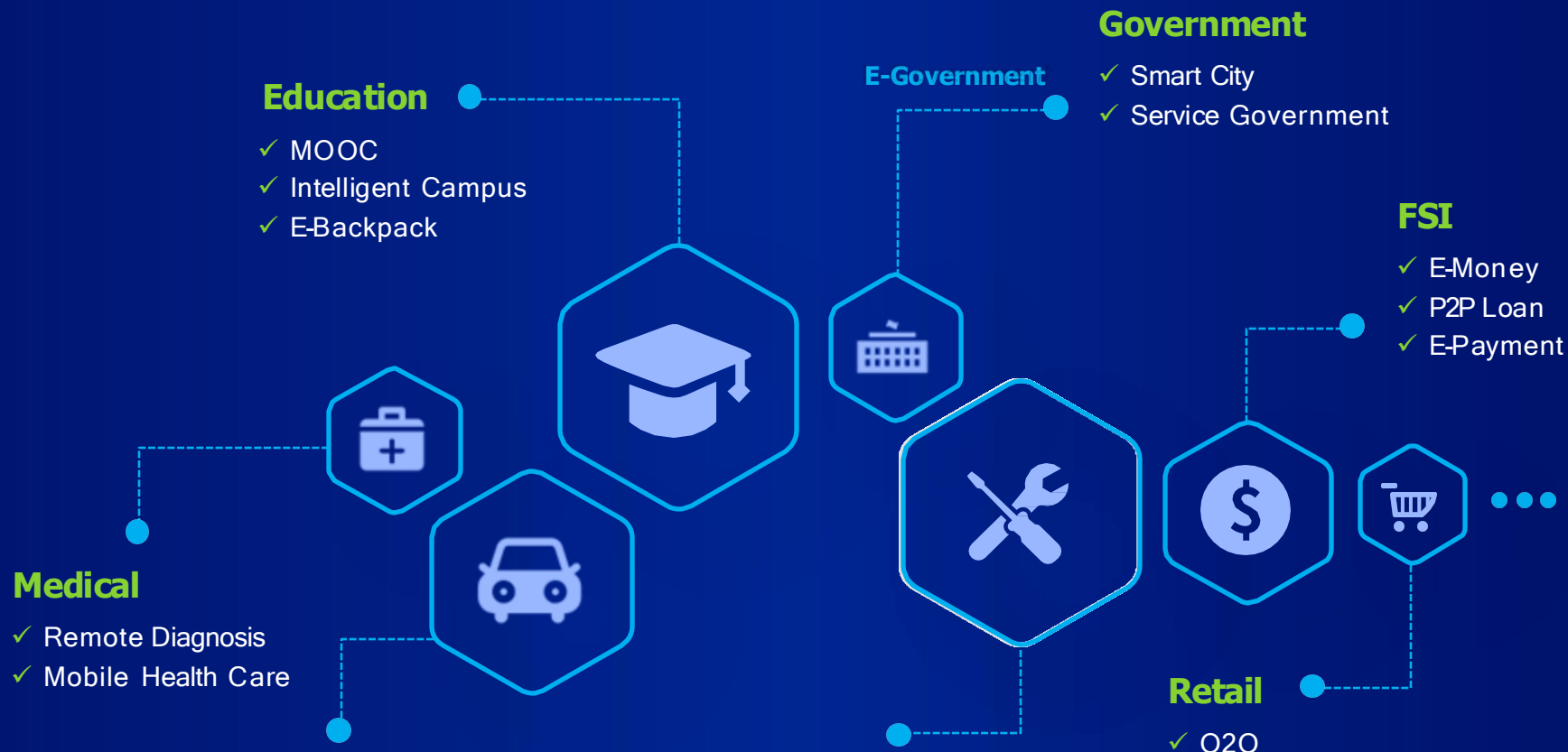
SANGFOR | SANGFOR HCI

Sangfor Hyper-Converged Infrastructure

The Best Building Block for Your Future-Proof IT

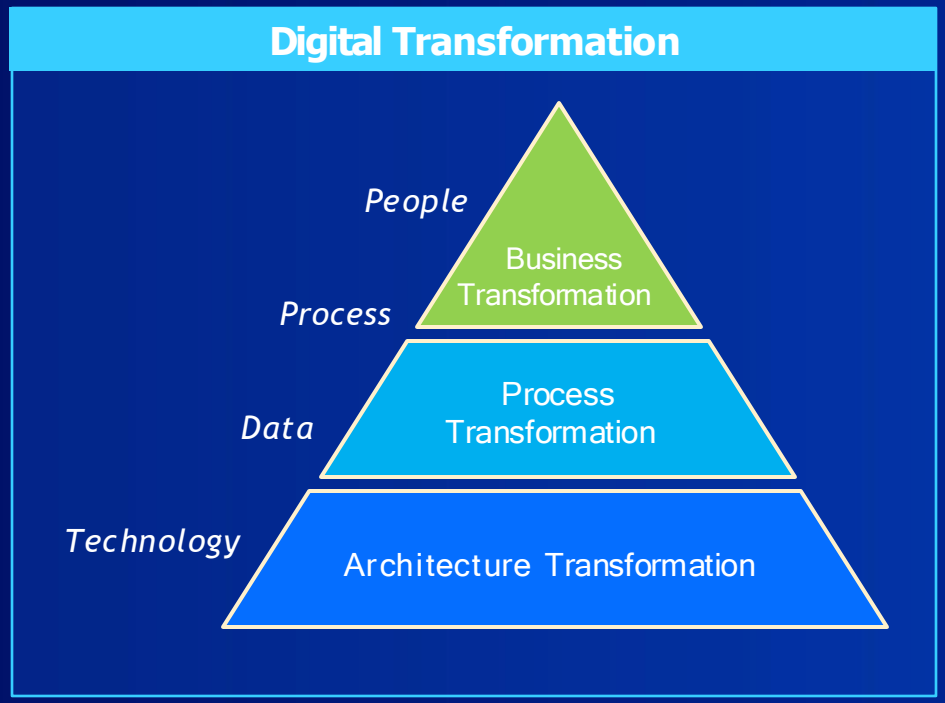
Digital Transformation in All Industries

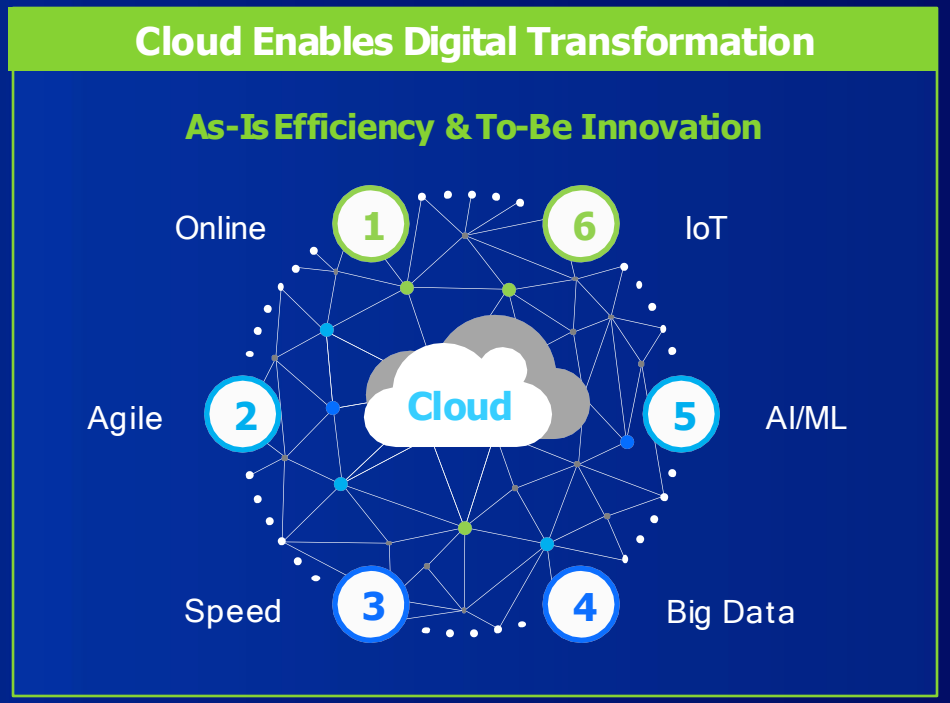
SANGFOR



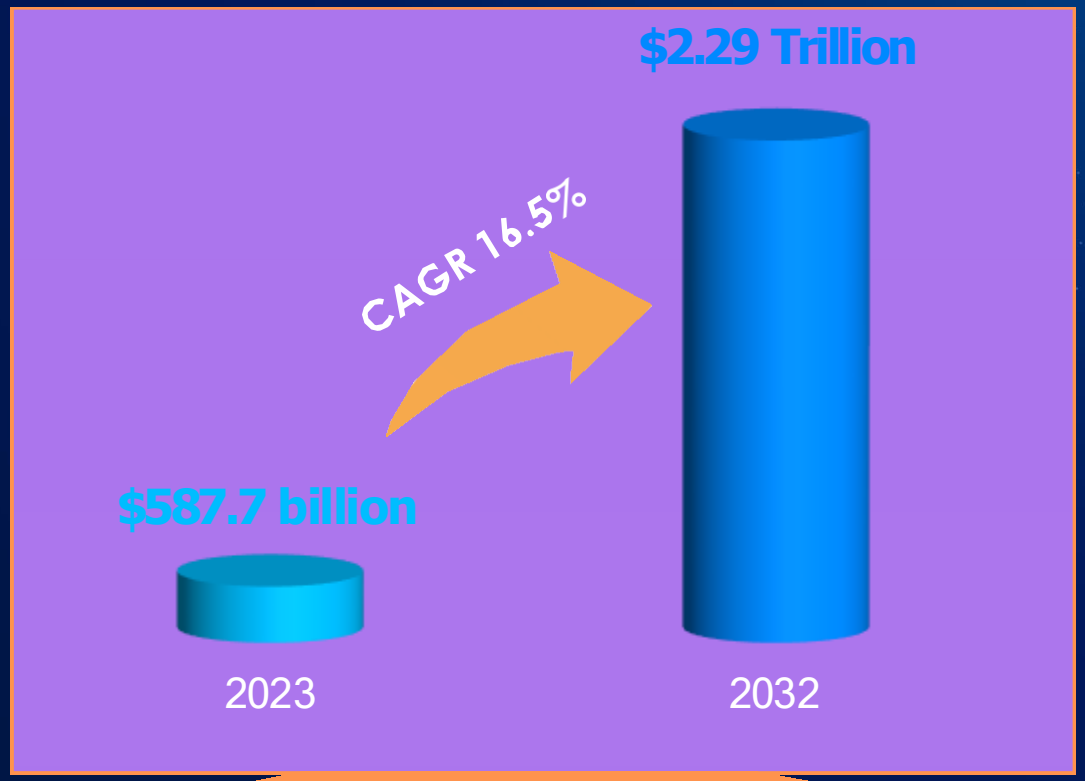
Cloud Enables Digitalization

- 74% of organizations consider digital transformation a top priority, with cloud computing being a key component of these initiatives.
- The pandemic has accelerated digital transformation initiatives by an average of 6 years for 97% of companies, with cloud technologies playing a pivotal role in this acceleration.





Generative AI Is The Key Driver For Cloud Spending

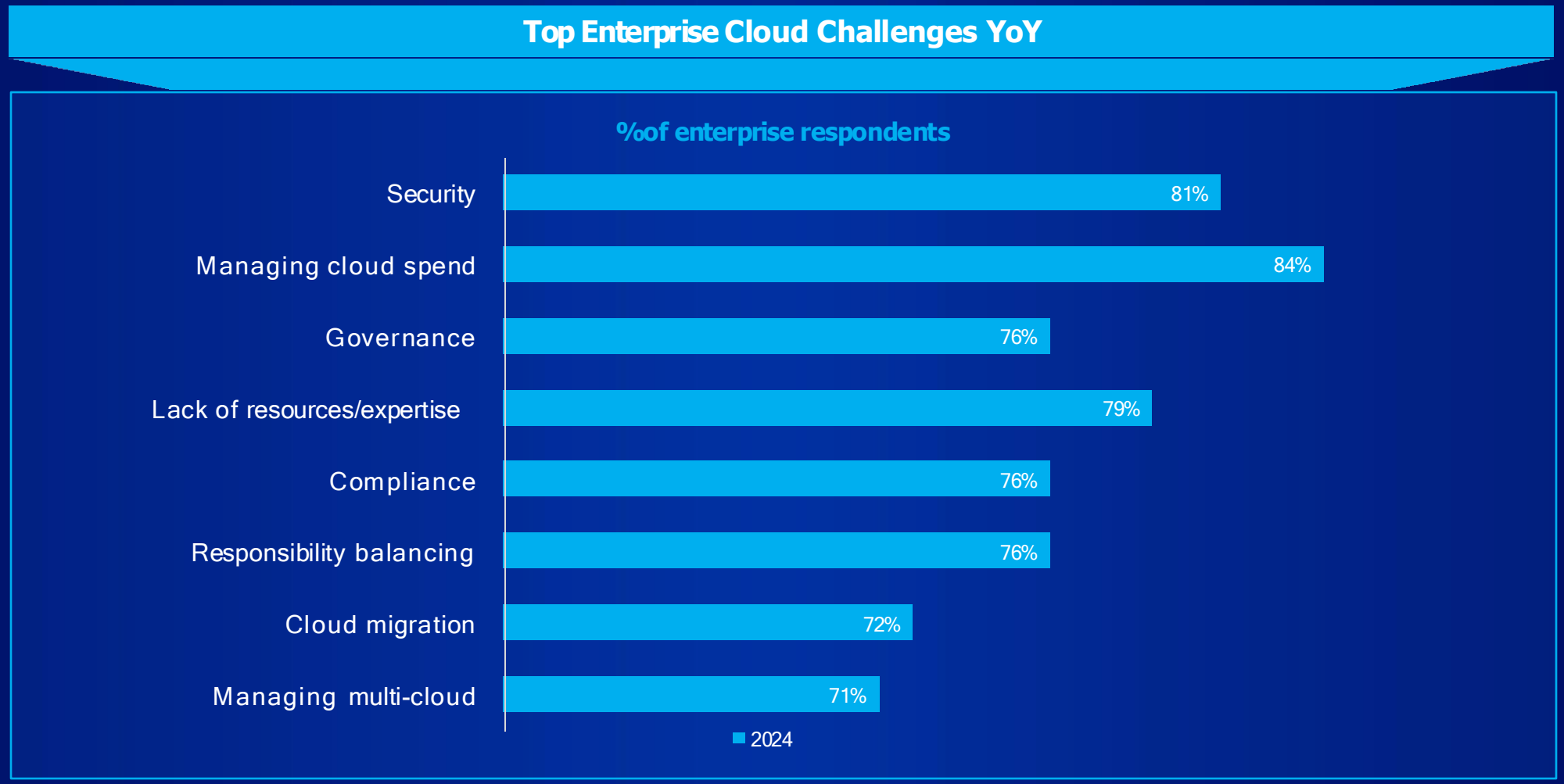


Global Cloud Market Value

AI Infrastructure

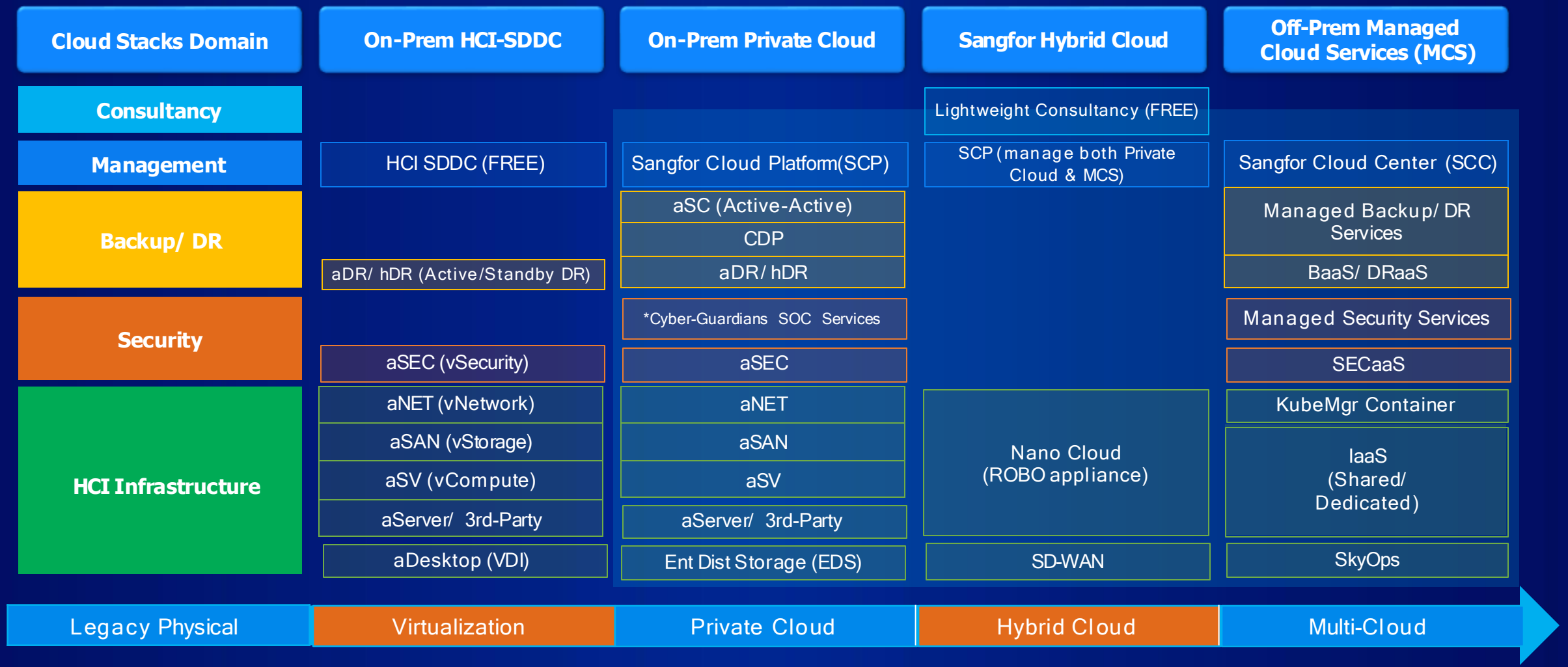
Data Source: Gartner & IDC

Cloud Adoptions Challenges



Source: Flexera 2024 State of the Cloud Report

Sangfor Offerings: Transform Your Cloud Journey

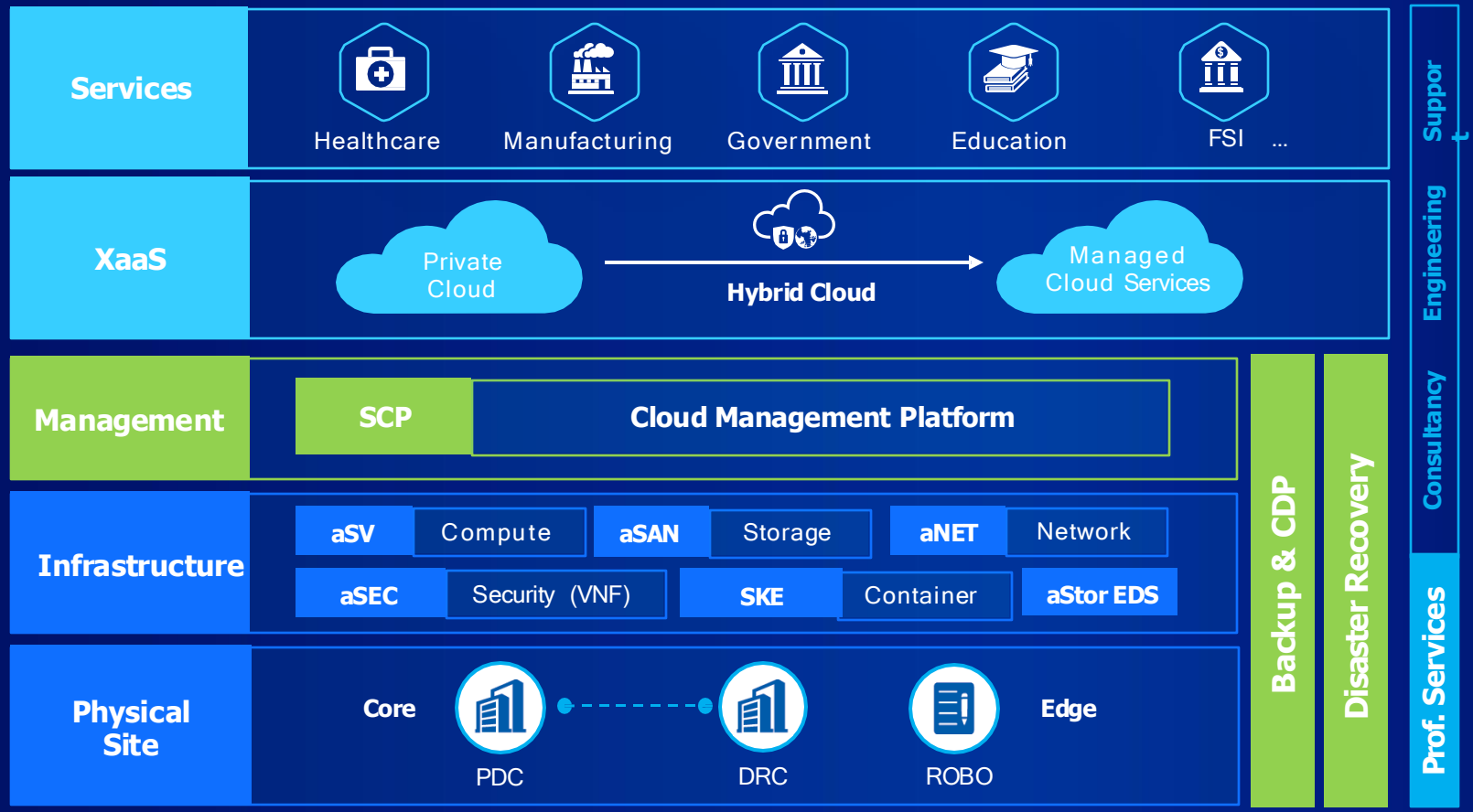


Remarks: Cloud Evolution & Cloud Stacks design variance by actual business case. *Cyber-Guardians SOC Services only available in Malaysia now.

Sangfor Cloud Solution Overview

SANGFOR

➢ Simplified, Secured and Value Optimized.



E2E Solution

- Powered by NG-CDI
- Homogeneous Hybrid Cloud

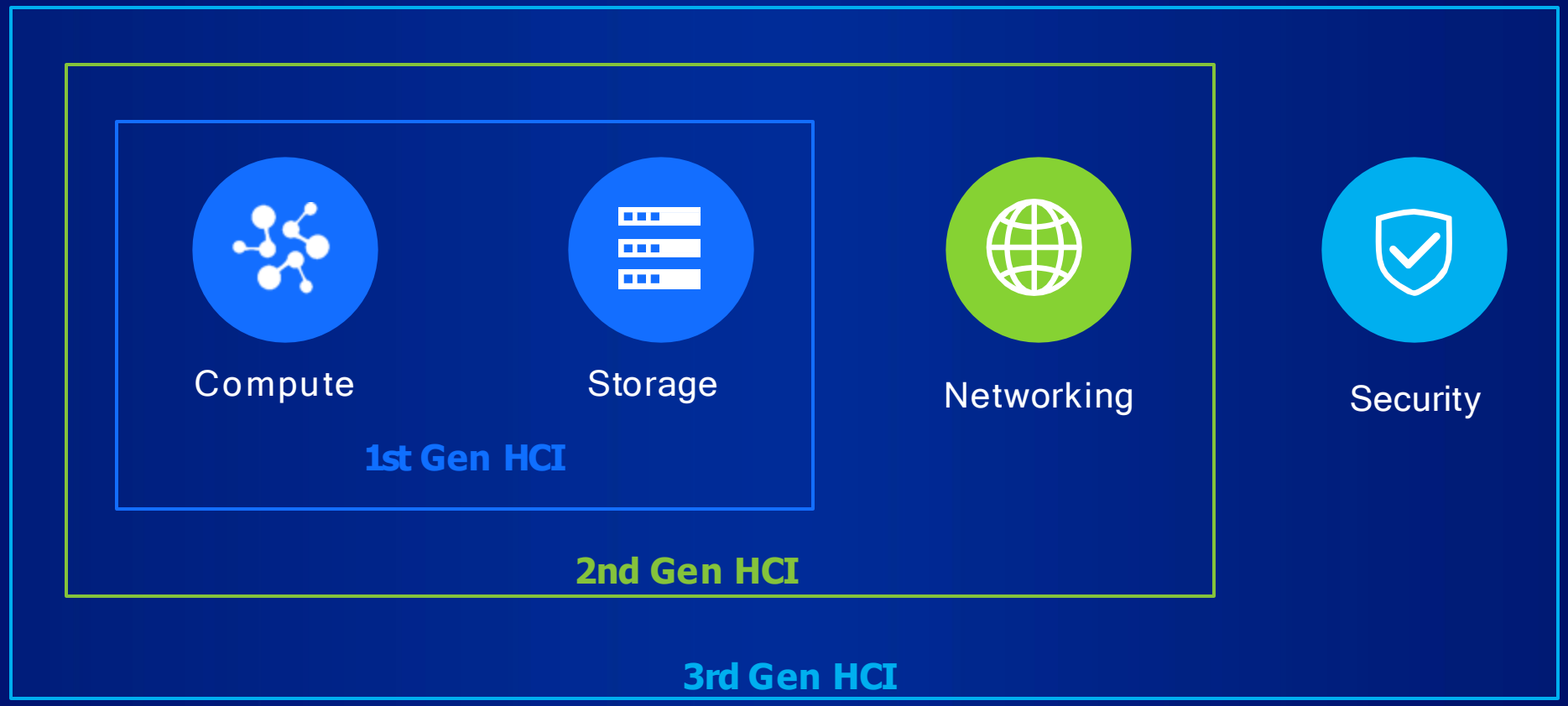
Simplified Operation & Maintenance

- Visualized topology
- Minimize talent investment

Resilience and Secured

- Integrated DP & DR
- All layer security protection

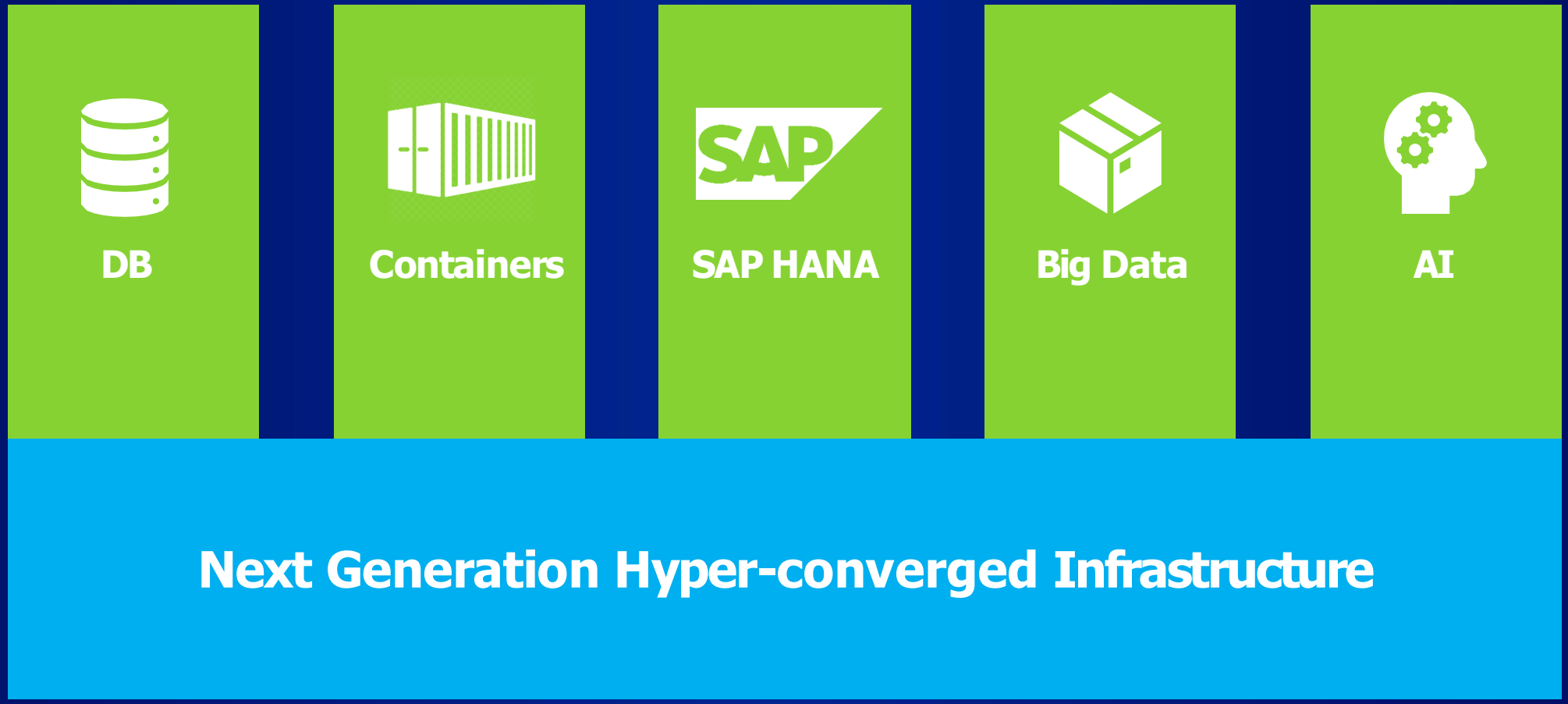
Based on 3rd Gen HCI with Full Convergence



Sangfor HCI offers a one-stop software-defined infrastructure that enables customers to smoothly transition to a unified cloud that is ultra-simplified, highly performing, comprehensively secured and extremely resilient.

The Cloud Infrastructure That Can Support Any App

SANGFOR



Sangfor HCI Solution Framework

SANGFOR

Use cases

- Data center consolidation
- Data protection & DR
- Enterprise application
- Enterprise cloud

Management

Operation center	Reliability center	Security center	Reporting center
IT automation	DR / HA design	Micro segment / Process control	Health check / Logs
Multi tenants	Visualization & advisor	Visualization & advisor	Policy compliance

Hyperconverged Infrastructure

aSV | aSAN | aNET | aSEC | vGPU | VMware vSphere

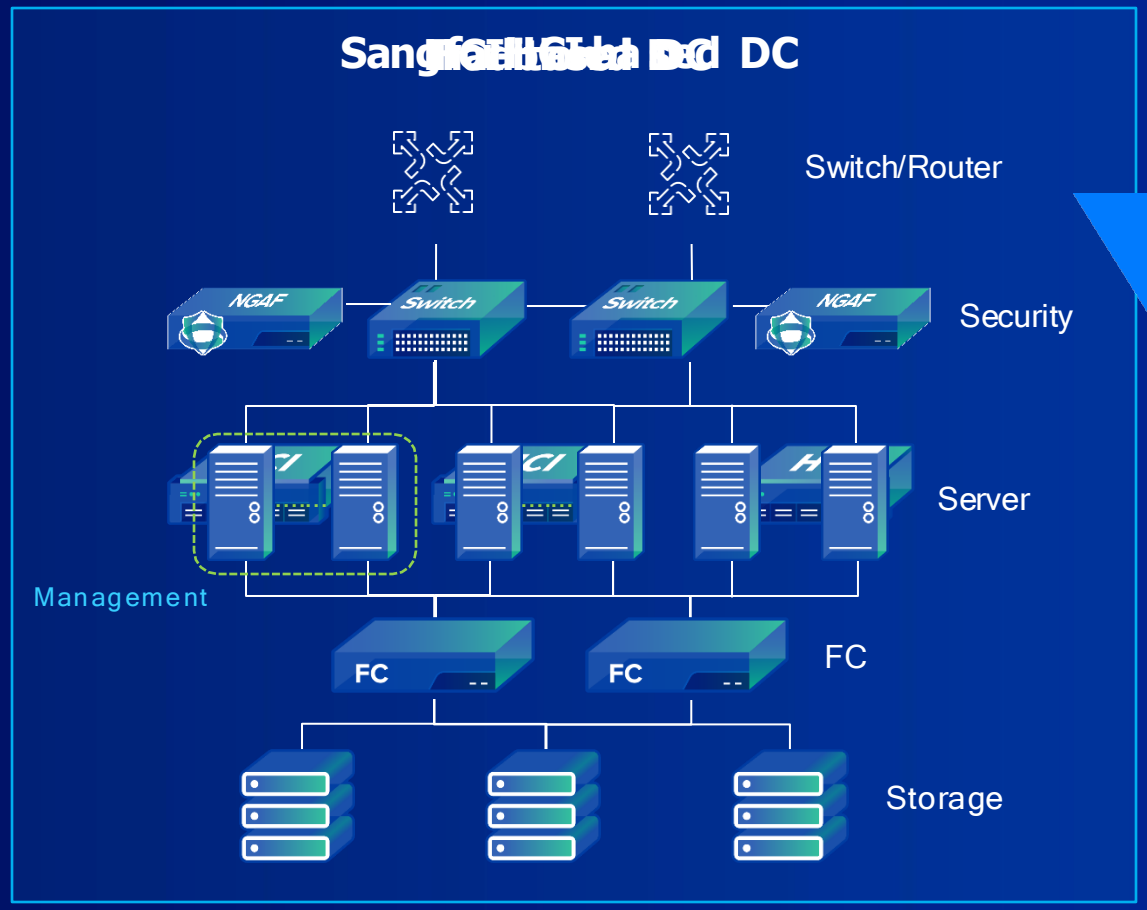
HCI | External storage

Key Business Requirements for IT Infrastructure

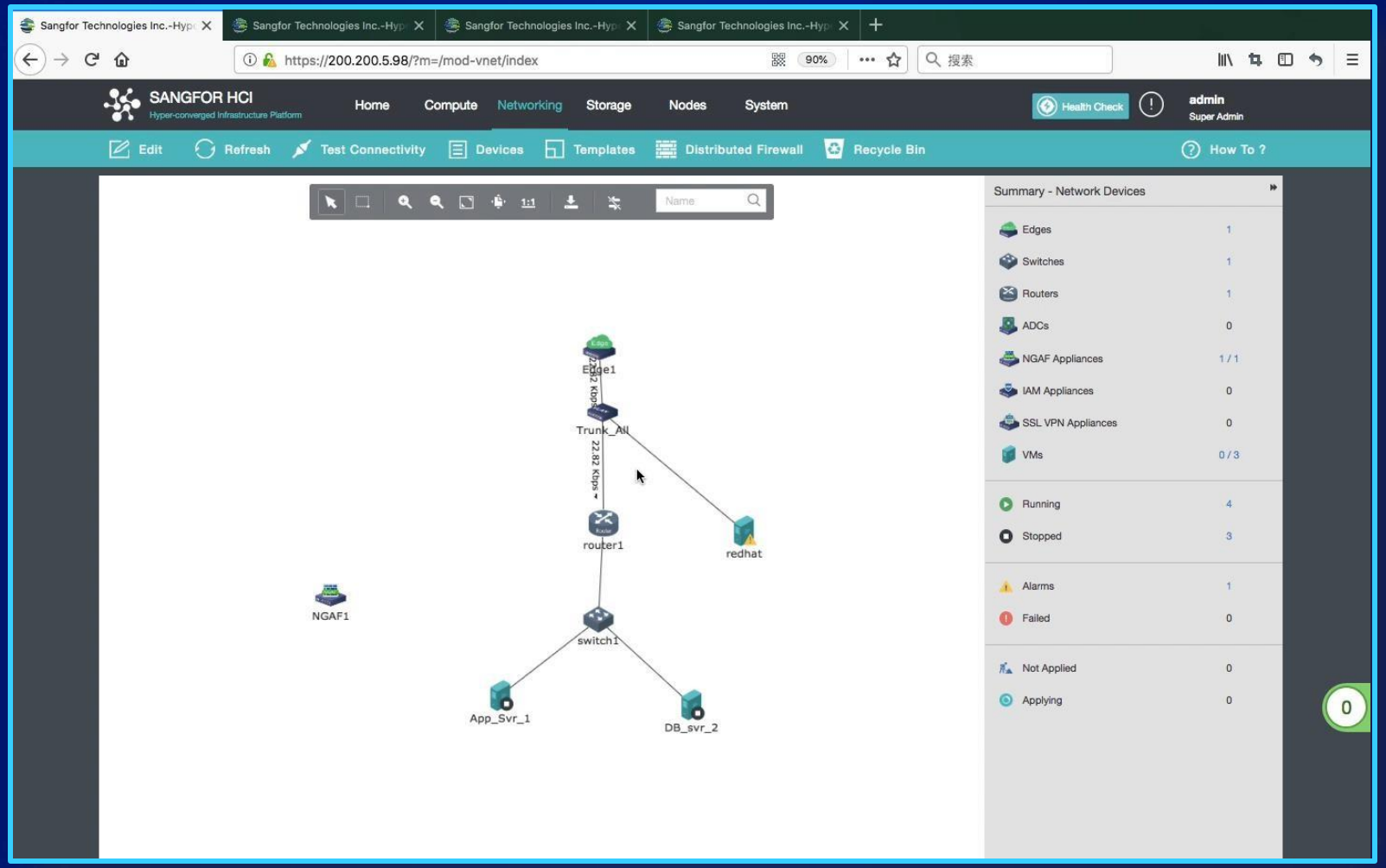
Simplified	Stable	Secure	High Performance

Simplified

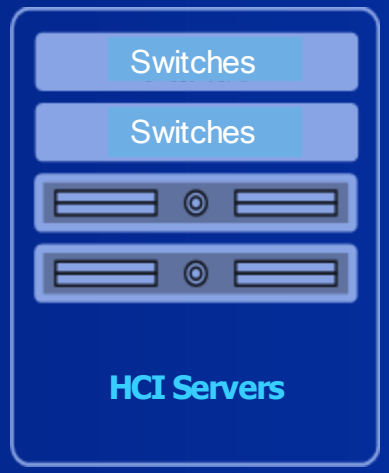
Sangfor HCI is Consolidating 3-tier IT

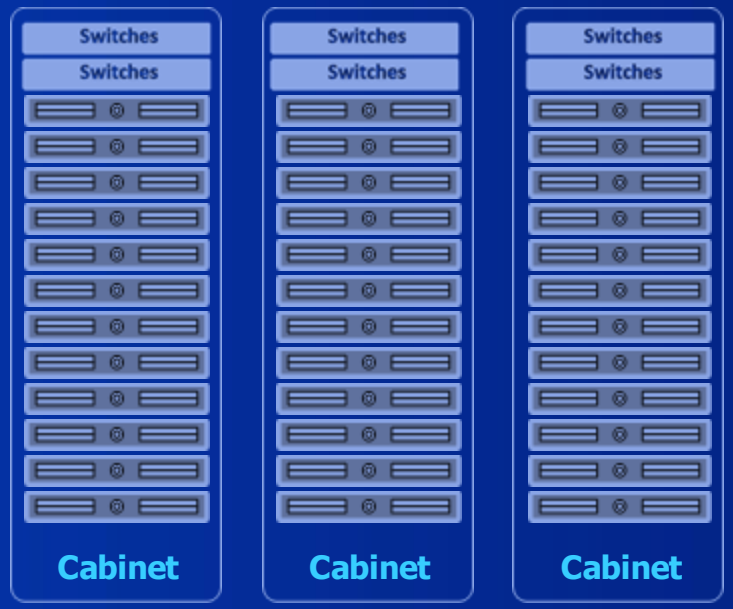


Data Center at Your Fingertip



Easy Scale-out





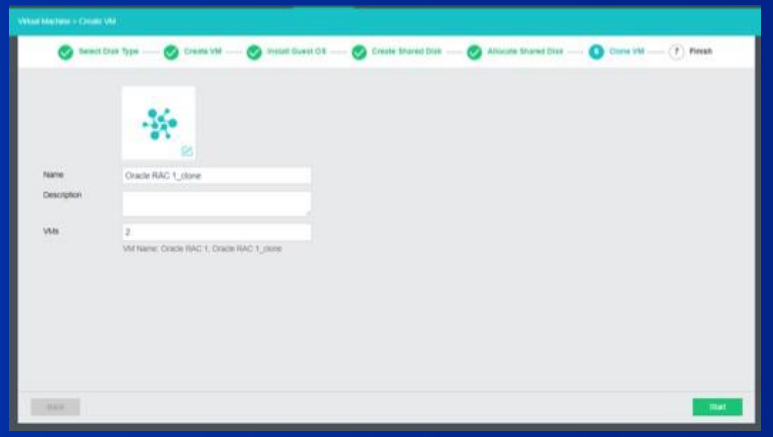
- Pre-investment 3-5 years in advance
- Data migration for expansion
- Performance bottle neck

- Start with only 2 nodes
- Expansion without down time
- No capacity limitation

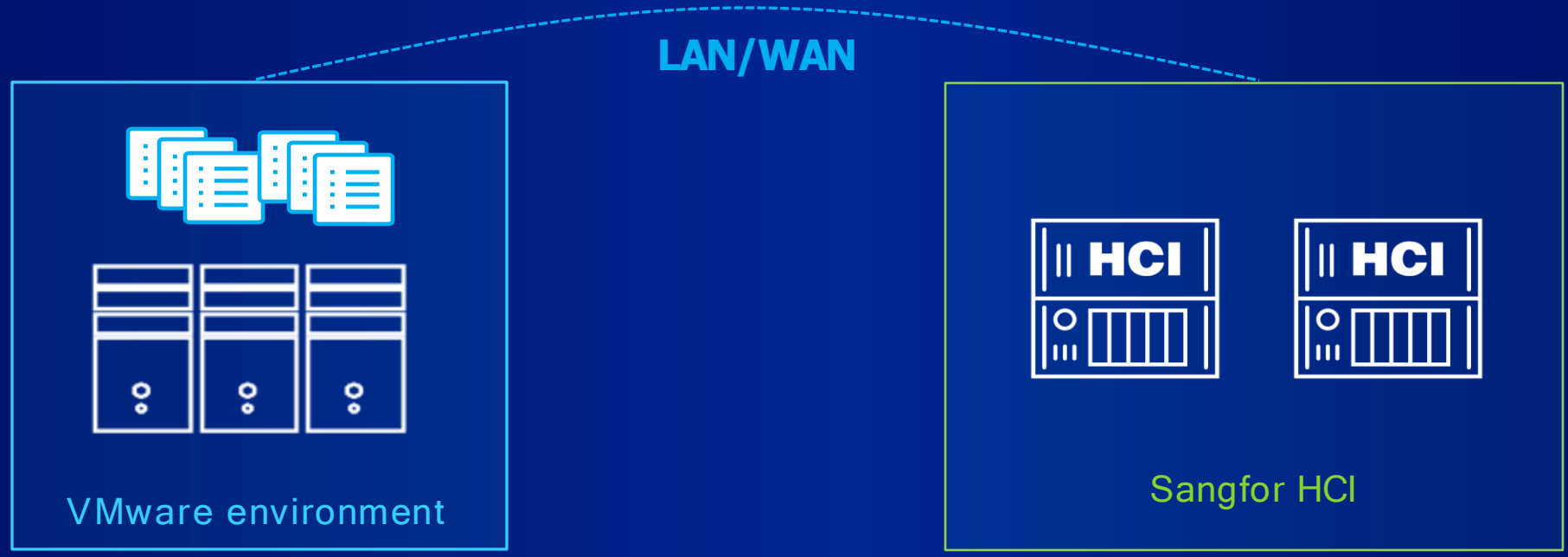
Specific Design for Critical Apps

MySQL
ORACLE
ERP
mongoDB
Microsoft SQL Server
PostgreSQL

6 steps to launch Oracle RAC cluster

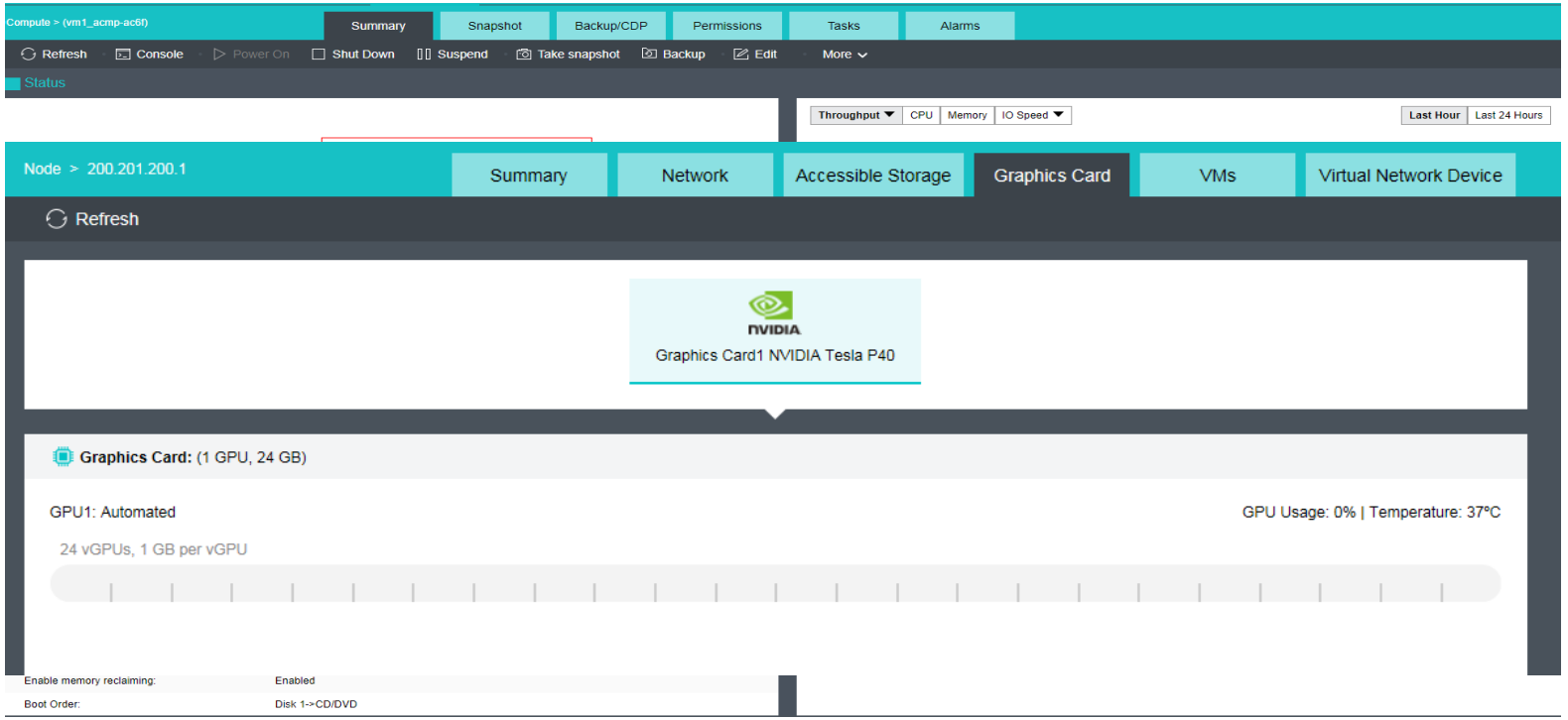


Built-in VMware Management & Backup



- Built-in VMware lifecycle management
- Bi-directional migration
- Built-in backup from VMware to Sangfor & instant recovery
- VMware vSphere 7.0 Support

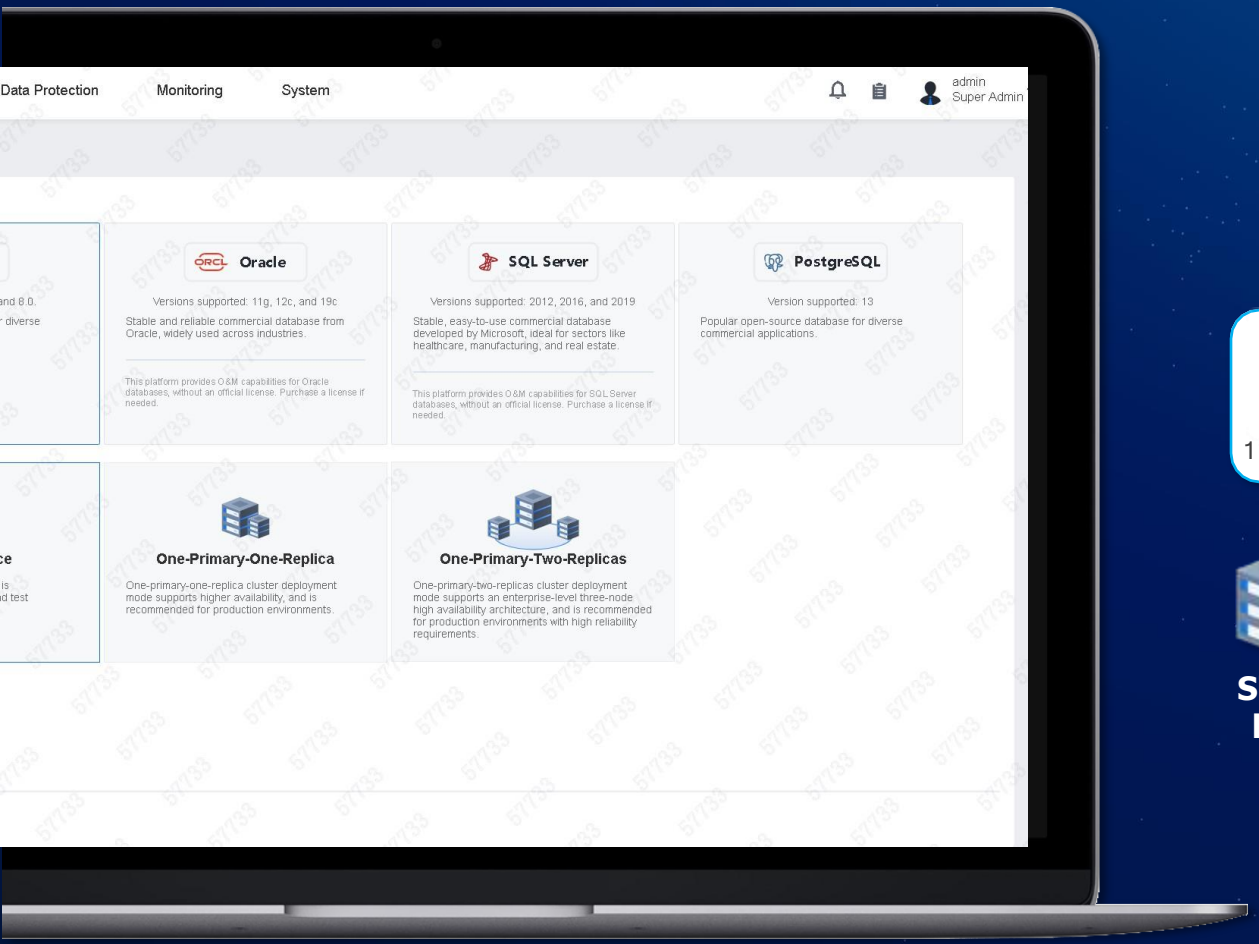
GPU Resource Visualization



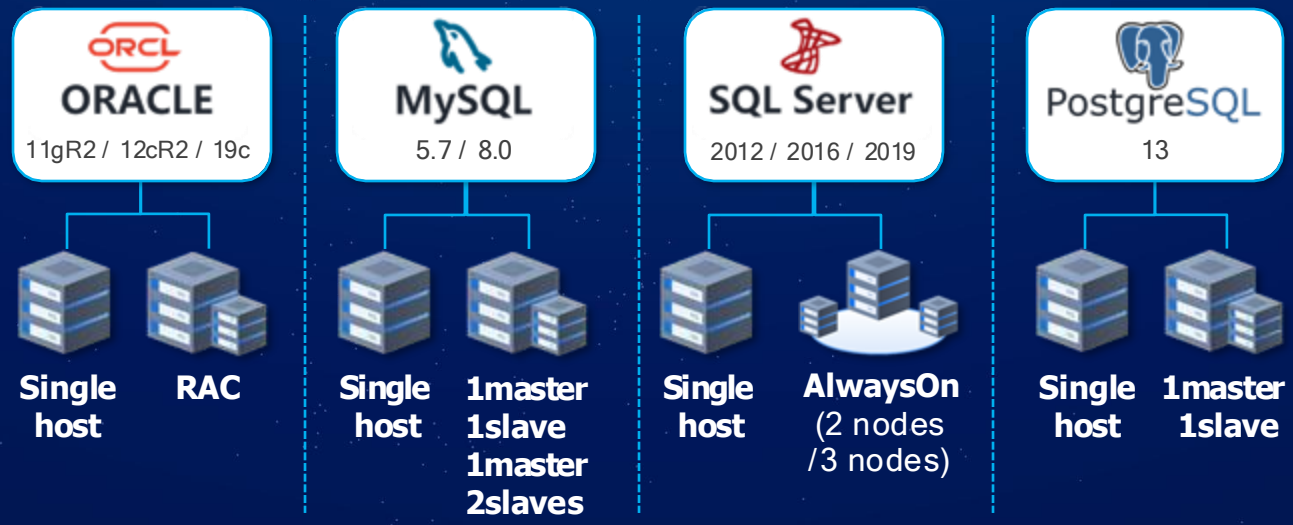
1. Visualized management for GPU, demonstrating GPU utilization in real-time
2. Dynamic display of current GPU's resource assignment to optimize distribution and utilization

Easy Database Management

DMP is deployed on SCP and supported on version 6.10.0 and later only.



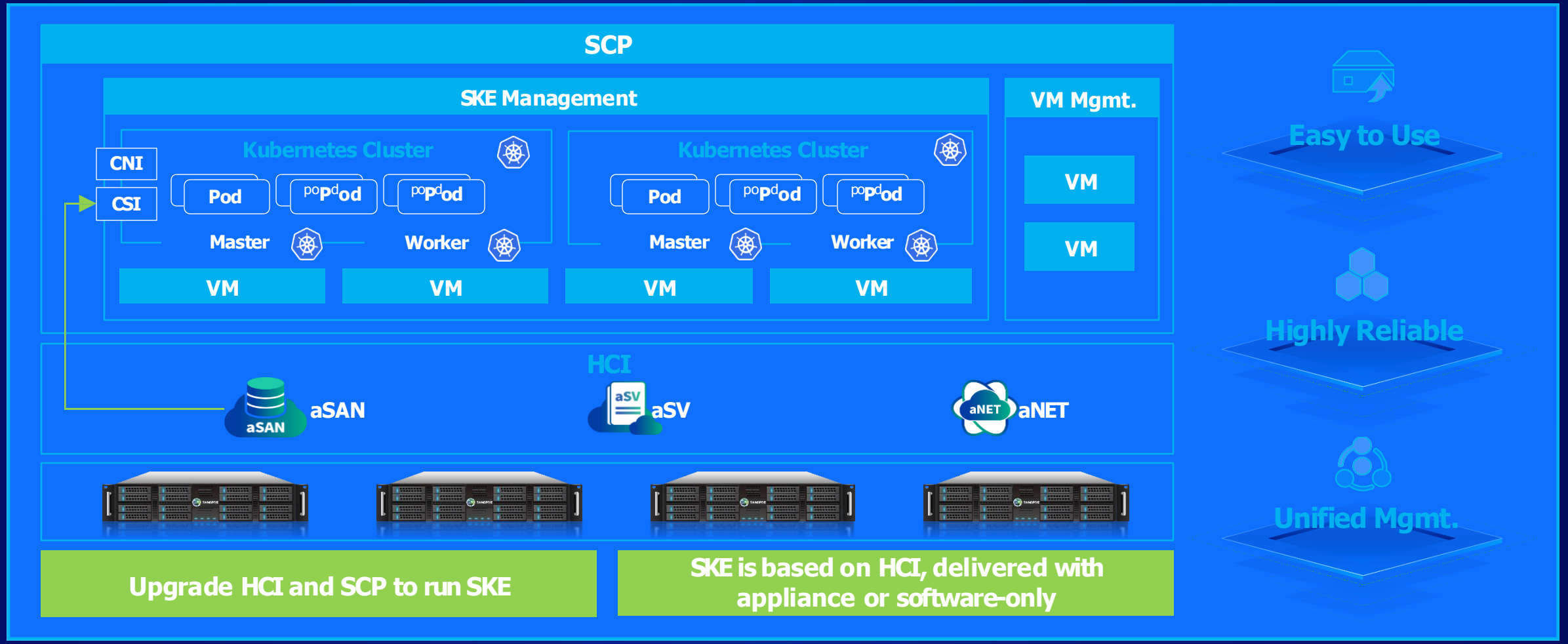
*You can **create new database** instances as well as **manage existing databases** with Sangfor DMP.*



Unified Platform for Both VM and Container

SANGFOR

Cloud-native | MES | E-com. | Internet | **Traditional** | Oracle | MySQL | OA



More Simplified in Management

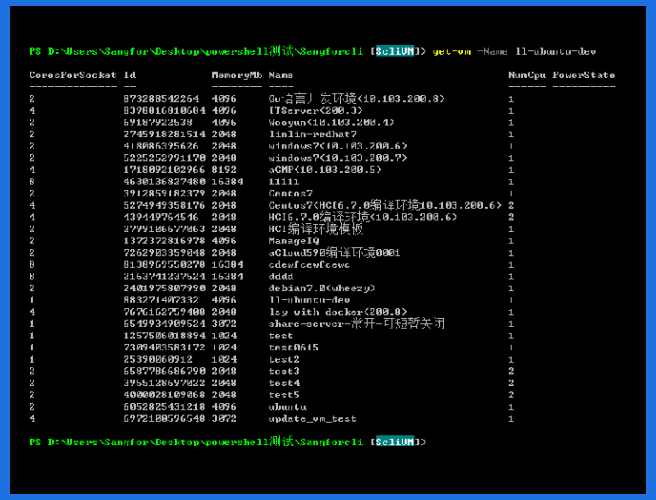
HCI + VDI

SCP unified management

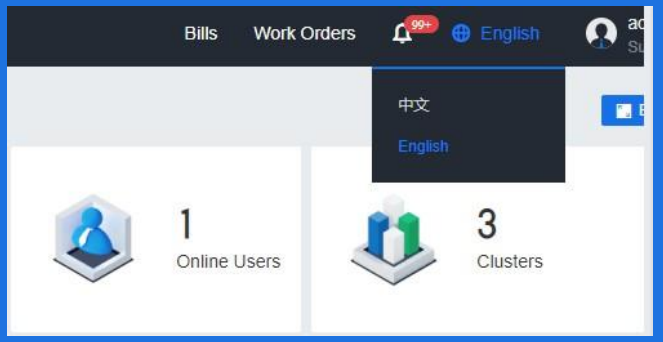
VDC | Business VMs

HCI cluster

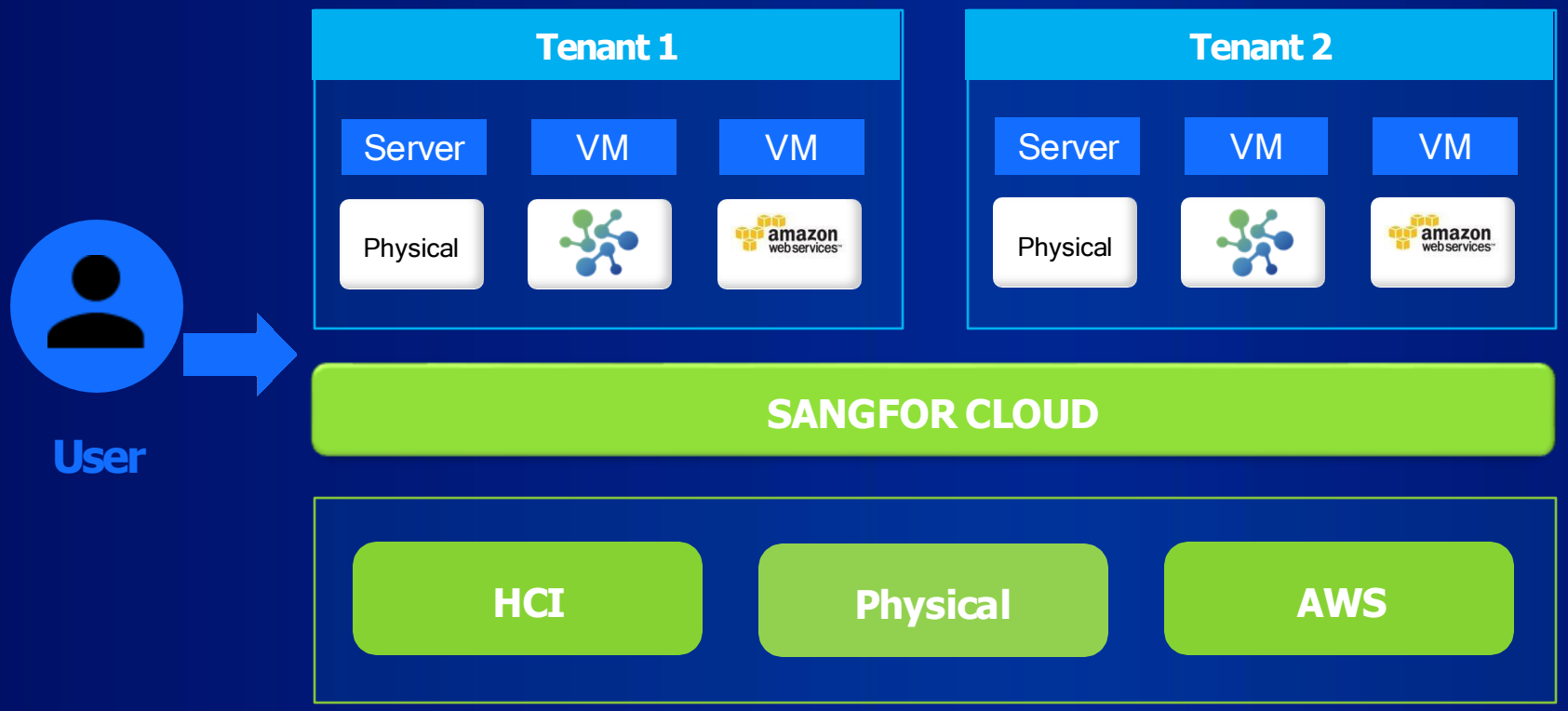
CLI support



Dual language support



Unified Management for Physical, AWS and HCI

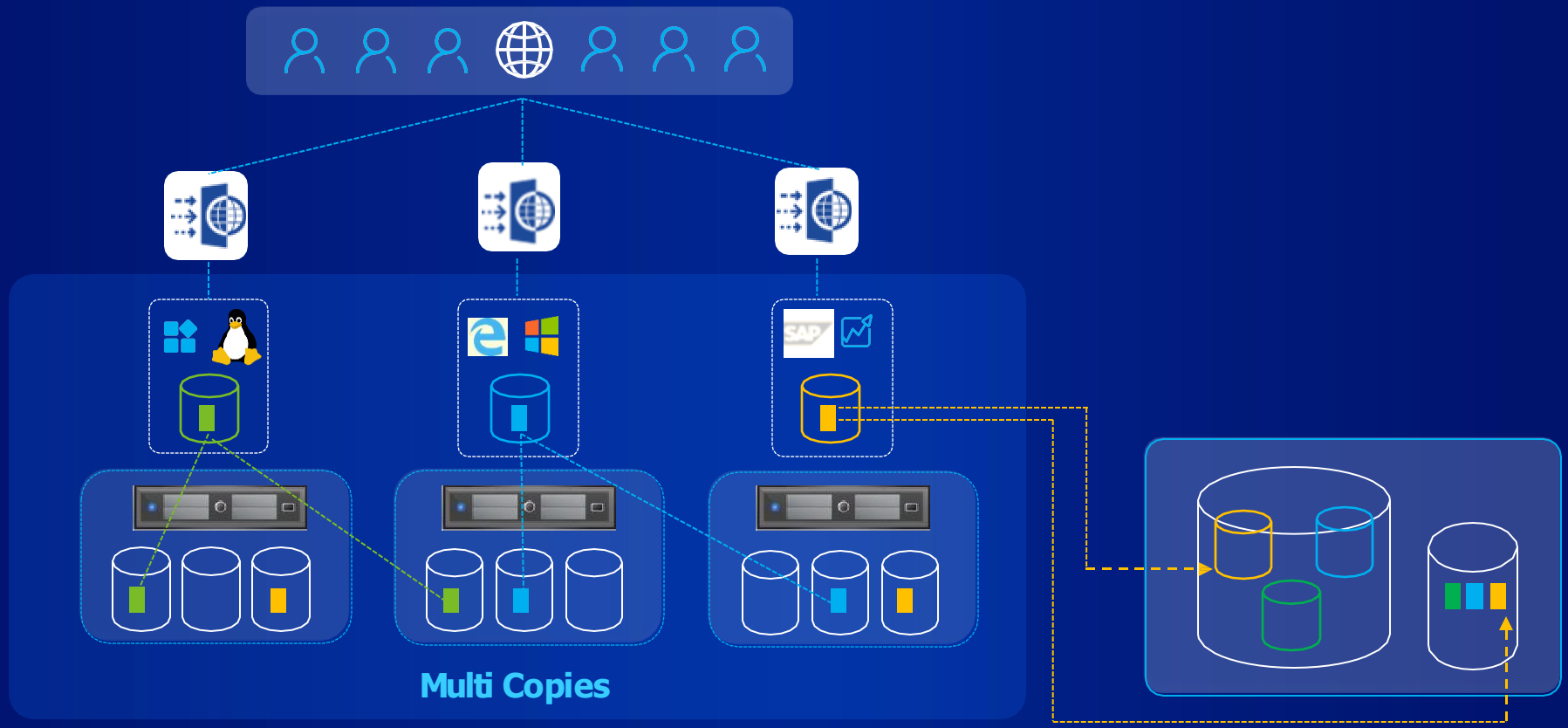


Unified mgmt. for hybrid cloud and multi-cloud:

- Consistent IaaS user experience between physical, private cloud and public cloud.
- Each tenant can only see and manage its own cloud resource, simplified O&M with guaranteed isolation

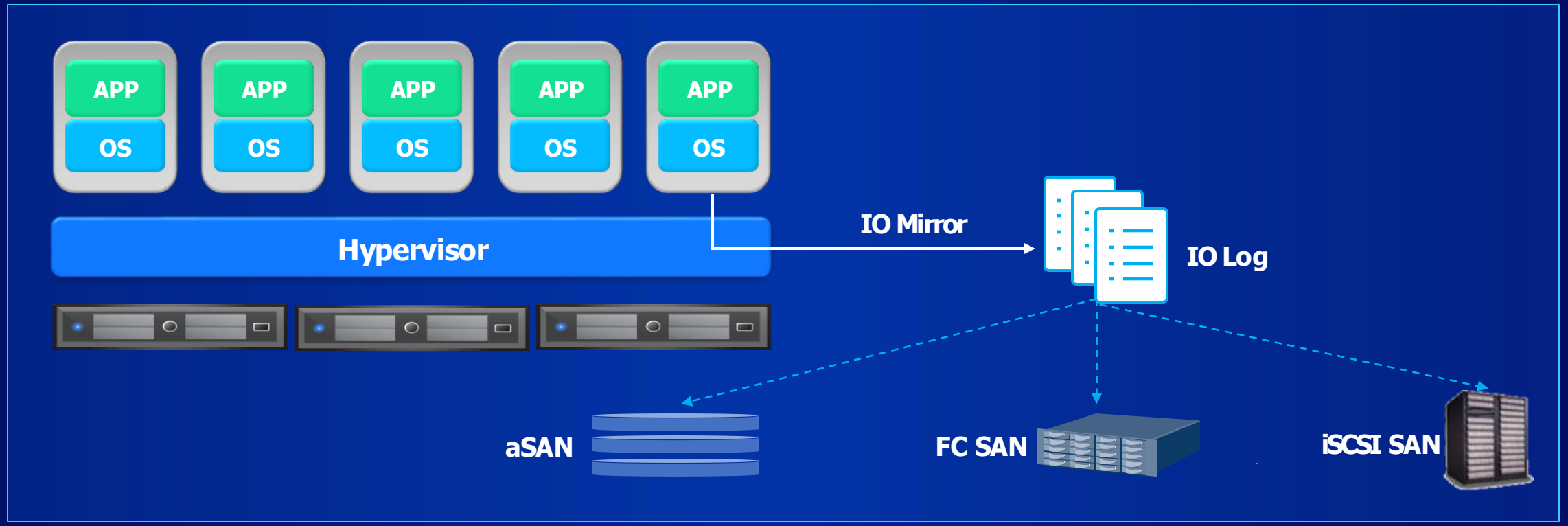
Stable

Multi Copies & Built-in Backup



- Single point of failure
- Additional backup software required
- Inherent multi copies design
- Built-in backup feature with RPO=1 hour

CDP: Data Time Machine



- Built-in advanced data back up
- RPO≈0. RTO≤5 Min

DRS 2.0: Proactively Intelligent

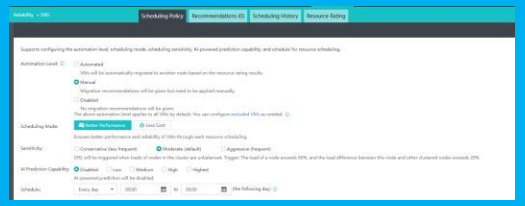
- Dynamic Resource Scheduling (DRS) is a technology used for balancing and scheduling cluster resources. By monitoring the resource usage of each host, DRS promptly migrates VMs to avoid resource hotspots or uneven loads, ensuring business continuity.

Unable to predict in advance	Host-based	Resource-based
Triggered on thresholds; no forecasting or recommendations	Does not take VM workloads into account	Does not consider the performance and reliability impact after scheduling

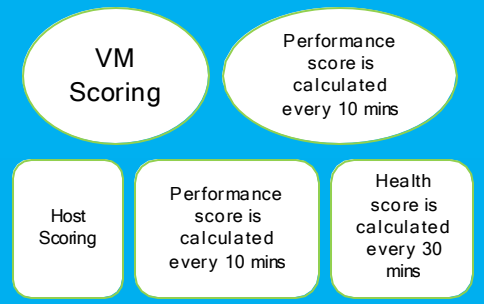
Usage over 70%
Load gap over 30%
→ **Live migration**
Running location
→ **Low-load host**

DRS 2.0

- **Load balanced**
- **High reliability**
- **Minimal impact**
- **No performance degradation**



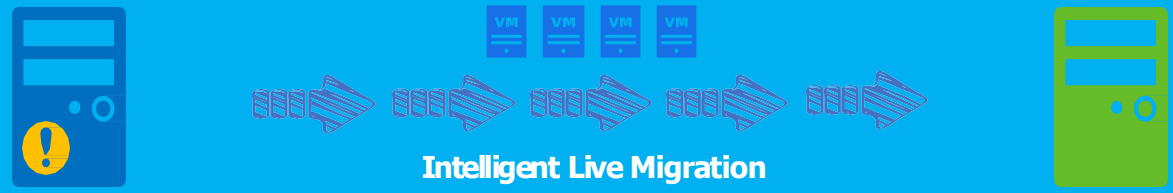
Intelligent scheduling can be applied to either on-premises or cloud-based hosts based on the historical resource data from the past 5 days and the estimated future load for the next 2 hours.



To optimize DRS effectiveness and ensure business continuity, scheduling considers scores from two dimensions: hosts and VMs.

Performance & Reliability Scoring Parameters (Partial)	
Factor	**Parameter**
CPU	CPU actual usage/expected usage, logical cores
RAM	Actual RAM usage, swap partition size, CE qty., CE storm, UE error
Network	Packet loss/error rate
Storage	Replica location, disk usage
RAID	RAID card reset/backplane and SAS cable alert
Disk	HDD bad sectors/irreparable sectors, SSD life
	Disk overheat, failure alert

A comprehensive scoring system based on detailed metrics ensures that business reliability remains high and performance improves after migration.



HA 2.0: Proactive Reliability

SANGFOR

- HA (High Availability) is an effective solution for ensuring business continuity in virtualized clusters. It aims to minimize the impact on business operations when system software or hardware failures occur.

HA 1.0

Passive Response

It primarily focuses on handling failures when they arise and is unable to address potential risks.

Limited Scope

Only considers data and resources. However, failure could occur due to extreme scenarios.

No Detection

Lack of monitoring and assurance of HA conditions.

Failure Detection

- Server power outage
- Motherboard component failure
- Storage service failure
- Business network failure

Response Mechanism

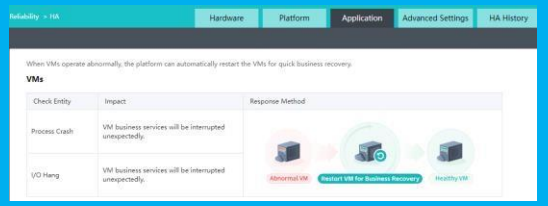
- Kills the process on the source end
- VM restarts on a new host

Target Host

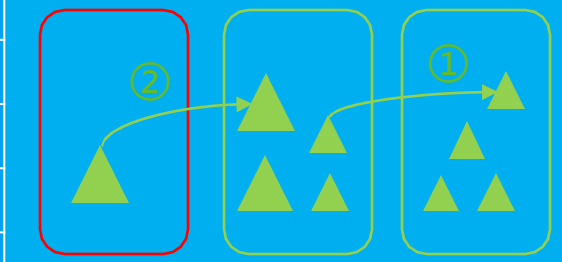
- Replica available
- Sufficient CPU resources
- Remaining configurable memory is greater than the VM

HA 2.0

- ✓ More comprehensive detection dimensions
- ✓ More proactive response actions
- ✓ More intelligent scheduling methods
- ✓ More visualized operation and maintenance records

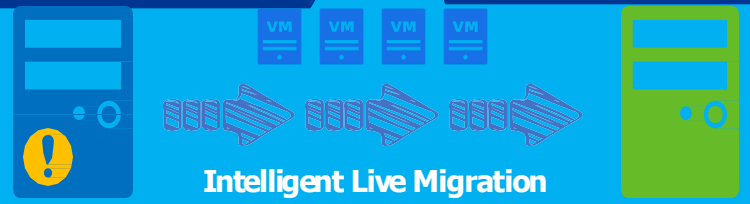


Anomaly	Impact	Response
Low CPU microcode version	Host is at risk of failure	Intelligent live migration
Persistent CPU overheating	Host is at risk of failure	Intelligent live migration
Memory ECC errors	Available memory resource decrease	Intelligent live migration
OS disk lifespan ends	May lead to host going offline	Intelligent live migration
Only 1 power module remaining	May lead to host going offline	Intelligent live migration



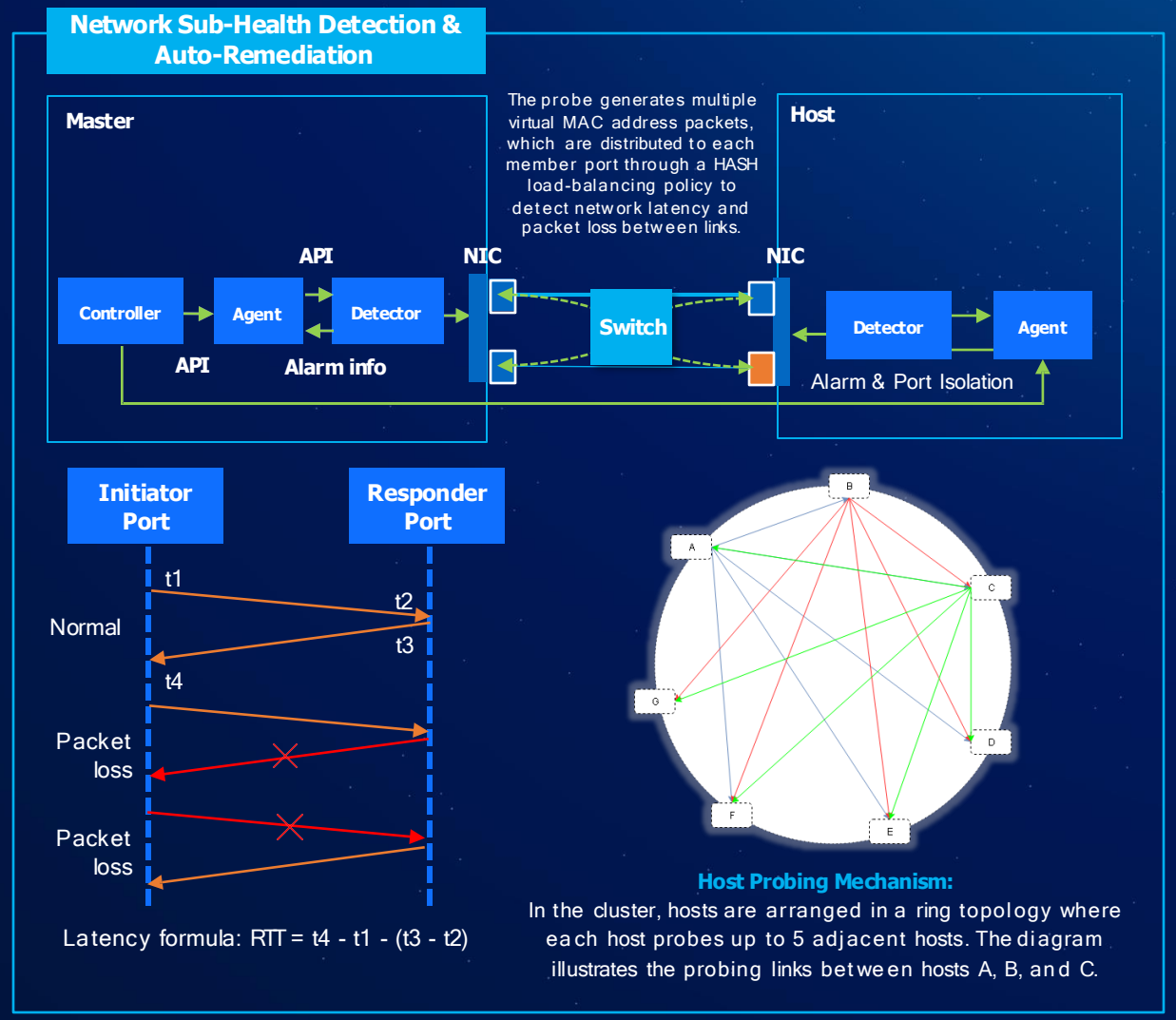
Proactively handles suboptimal health states through detection instead of passively migrating when failures occur

Intelligently predicts and reallocates host resources based on resource demands instead of experiencing direct HA failures



Intelligent Live Migration

Network Sub-Health Detection & Auto-Remediation



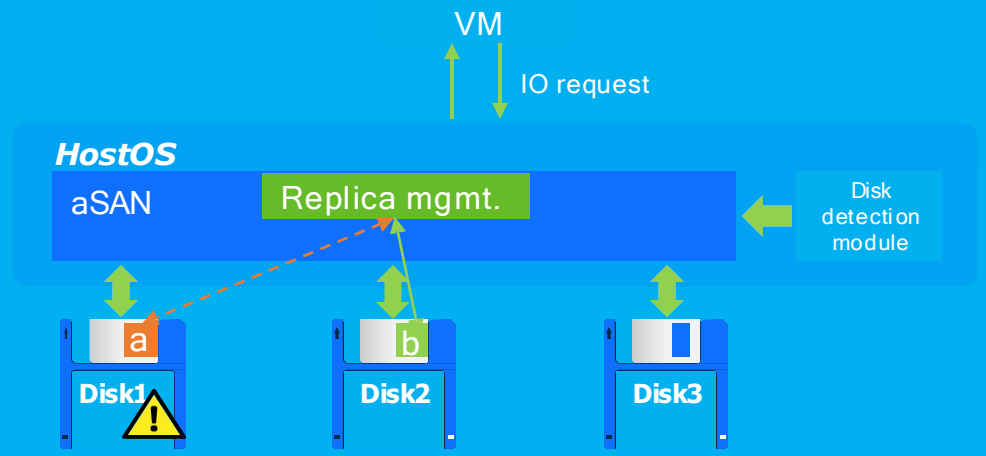
- Link aggregation provides protection against scenarios where port failures or optical module unavailability directly cause single-link failures by automatically switching to redundant links. However, it does not address network performance anomalies caused by optical attenuation - such as latency or intermittent connectivity - and continues to use the degraded link for packet transmission, ultimately resulting in service slowdowns. These issues are particularly challenging to diagnose, requiring significant troubleshooting time and resulting in prolonged business impact. Sangfor's network sub-health detection technology addresses this by generating multiple virtual MAC address packets that are distributed across member ports via a HASH load-balancing algorithm. This method proactively measures inter-network latency and packet loss to rapidly identify problematic links.
- The detection process works as follows: The initiating HCI physical network port sends probe requests, which are received and responded to by the destination HCI host. If the initiating port receives the corresponding response packet, the probe is considered successful with no packet loss. Failure to receive a response is recorded as packet loss. When port latency or packet loss exceeds predefined thresholds, the system evaluates whether remediation conditions are met and executes appropriate actions when thresholds are breached.

	LACP	Non-LACP
Storage Ports	Remove faulty port from the aggregation group	Shut down the faulty port
Non-Storage Ports	Remove faulty port from the aggregation group	For active/standby aggregation: Shut down the port Other aggregation modes or standalone non-aggregated ports: No action taken

Storage Sub-Health Detection & Reliability Enhancements

Storage Virtualization Sub-health Detection & Automated Remediation

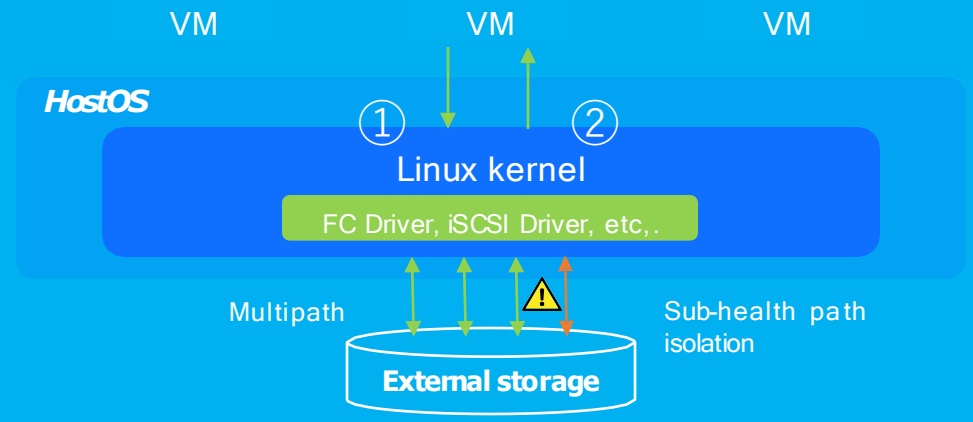
- In **storage virtualization**, a **new service I/O latency awareness module** has been introduced. This module determines disk sub-health status by analyzing I/O latency combined with disk detection results. When identifying slow I/O replicas, it forcibly returns results to prevent service slowdown while **silently handling the affected replica**. Subsequent I/Os are configured by default to avoid reading from this replica. However, before Disk 1 is micro-isolated, replica A can still be read if another replica B becomes abnormal. Compared to current industry practices that only detect disks, this mechanism offers three key advantages:



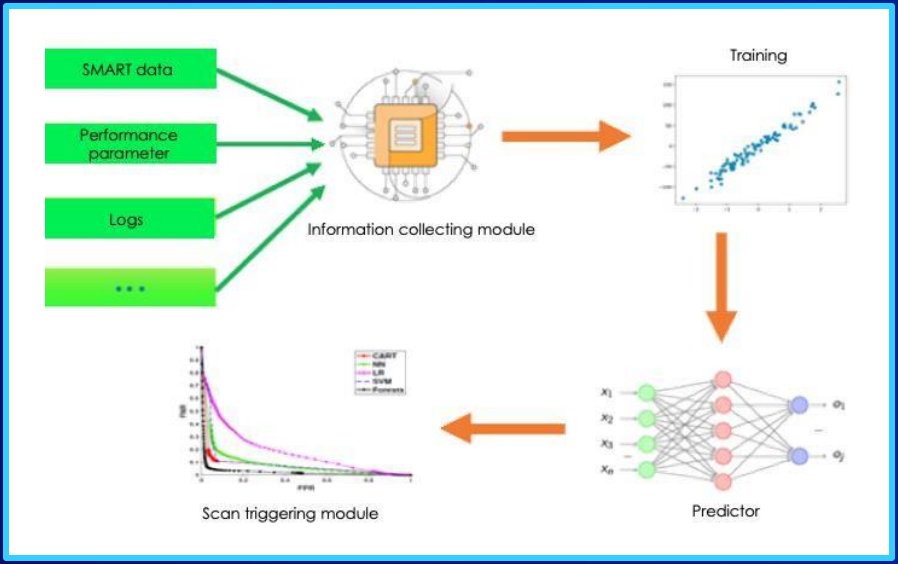
a/b represents two replicas of the same data

External Storage Sub-health Detection & Automated Remediation

- The system actively collects storage I/O latency statistics for every path of each LUN **at the kernel layer** (reference diagram location ②→①), enabling **high-accuracy identification** of storage performance degradation.
- Automated Sub-health Path Handling For identified sub-healthy external storage paths, the system executes:
  - **Alerting -** Immediate notification of path anomalies
  - **Intelligent Isolation** - Enforces two critical safeguards:
    1. **Never exceeds 50% isolation of available paths**
    2. **Always maintains at least one active path**
- This dual-protection mechanism ensures minimal business impact during remediation.



Disk Bad Sector Prediction And Repair (with aSAN)



Prediction

Result output: A bad sector will occur on disk A in 7 days

Scanning

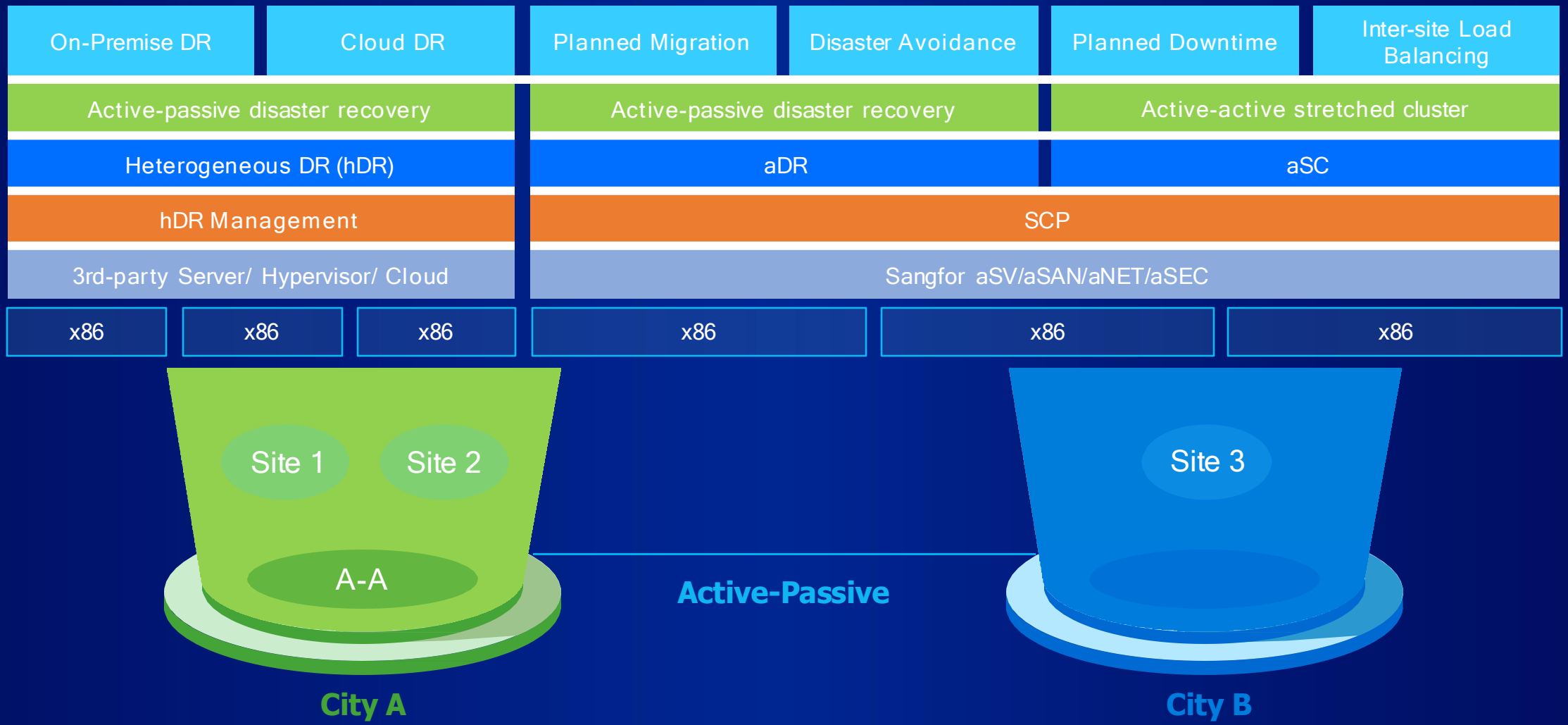
Disk A will be scanned in priority in the daily scanning task

Repair

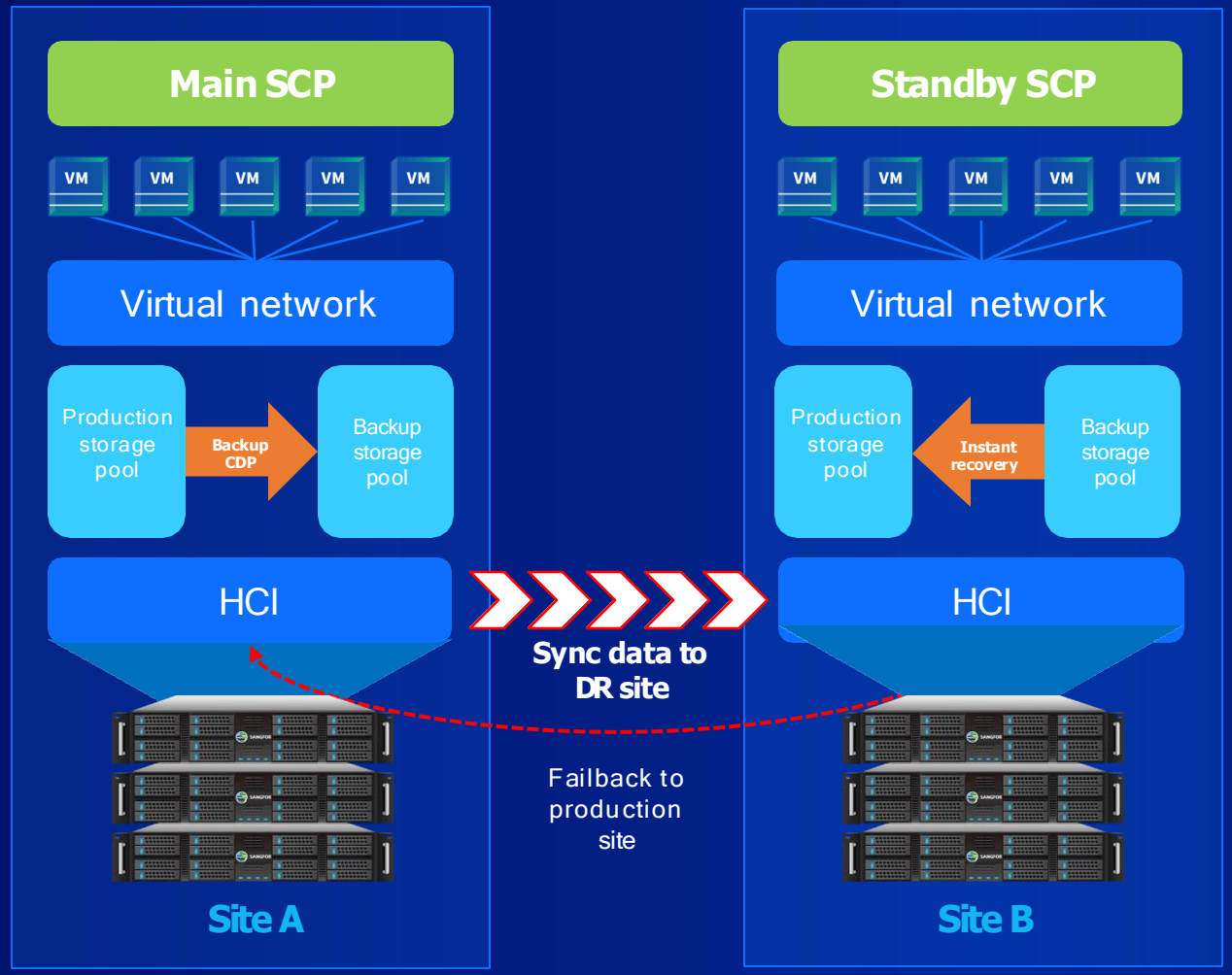
Data is repaired once the bad sector is confirmed

- The time it takes to discover bad sector is reduced from **weeks** to **1 day**, minimizing data loss risk.

Sangfor Disaster Recovery Management (DRM)

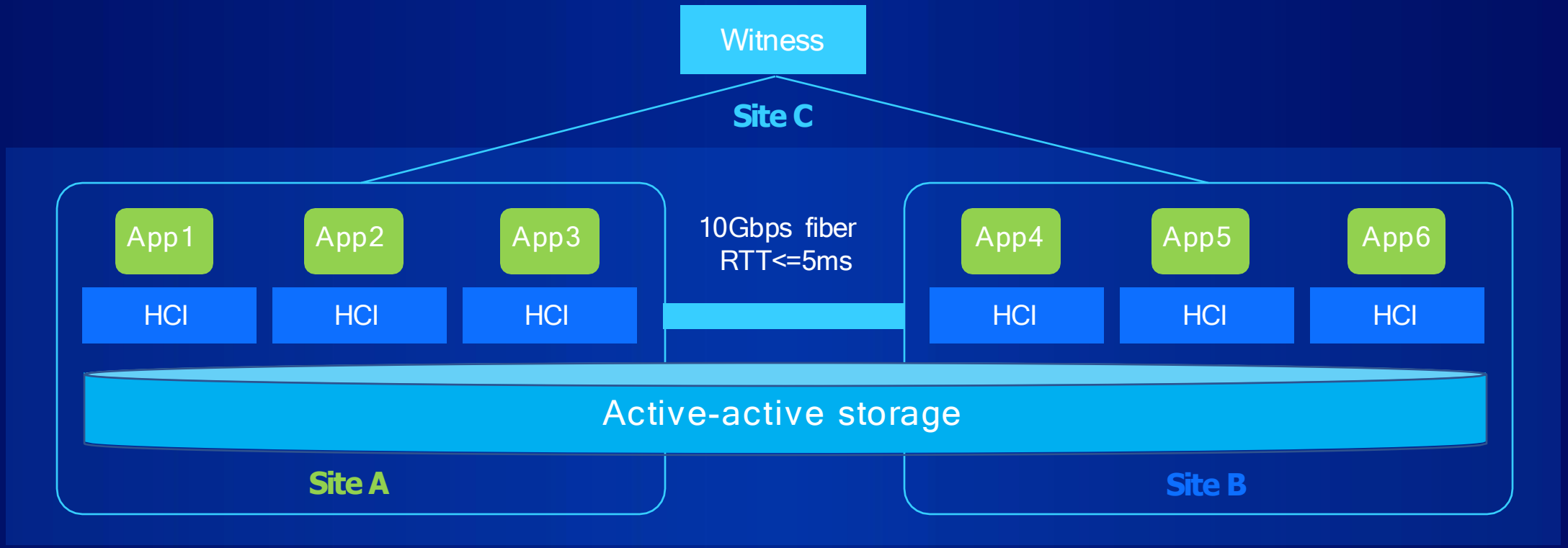


Sangfor Active-Passive Disaster Recovery



- Integrated and easy to use
- Local backup + remote replication
- Flexible RPOs, min. 1s

Sangfor Active-Active Stretched Cluster



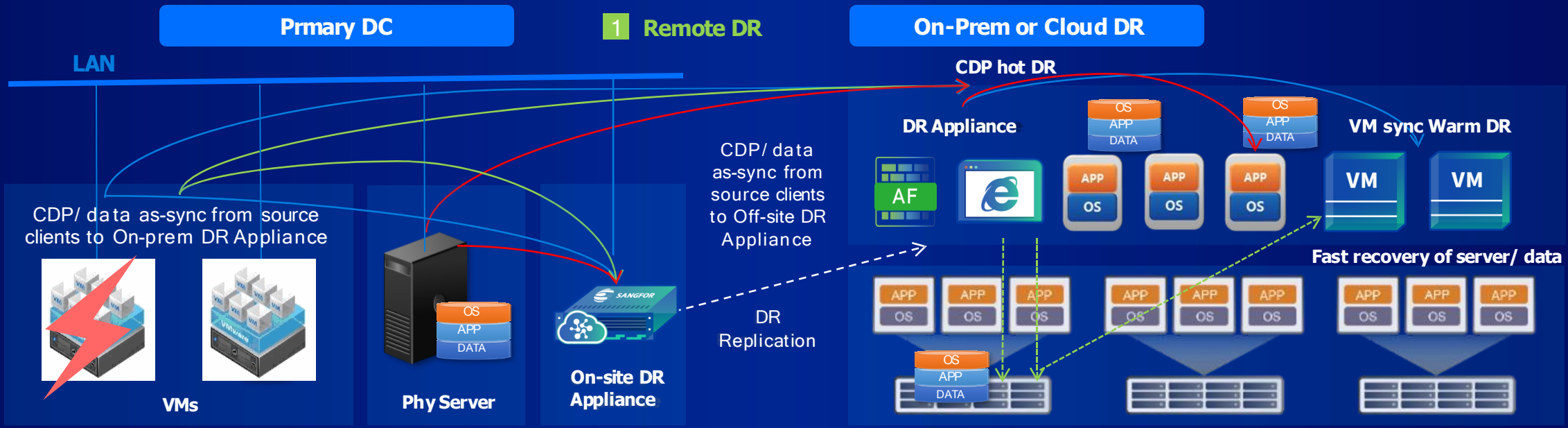
Automatic failover

Minimal downtime

0 data loss

Easy to deploy and manage

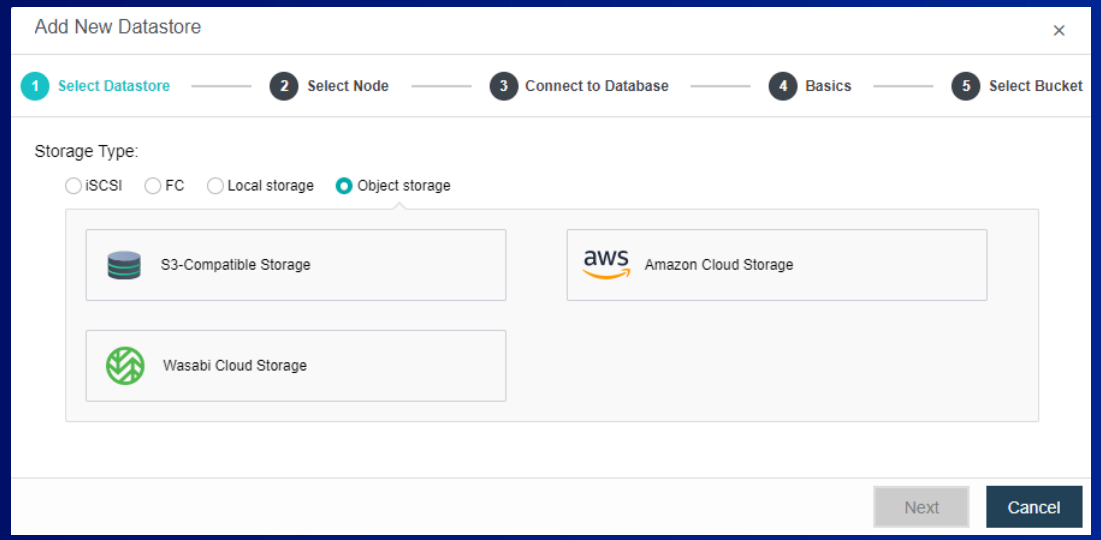
Sangfor heterogeneous DR (hDR)



Backup Copy to S3-Compatible Object Storage

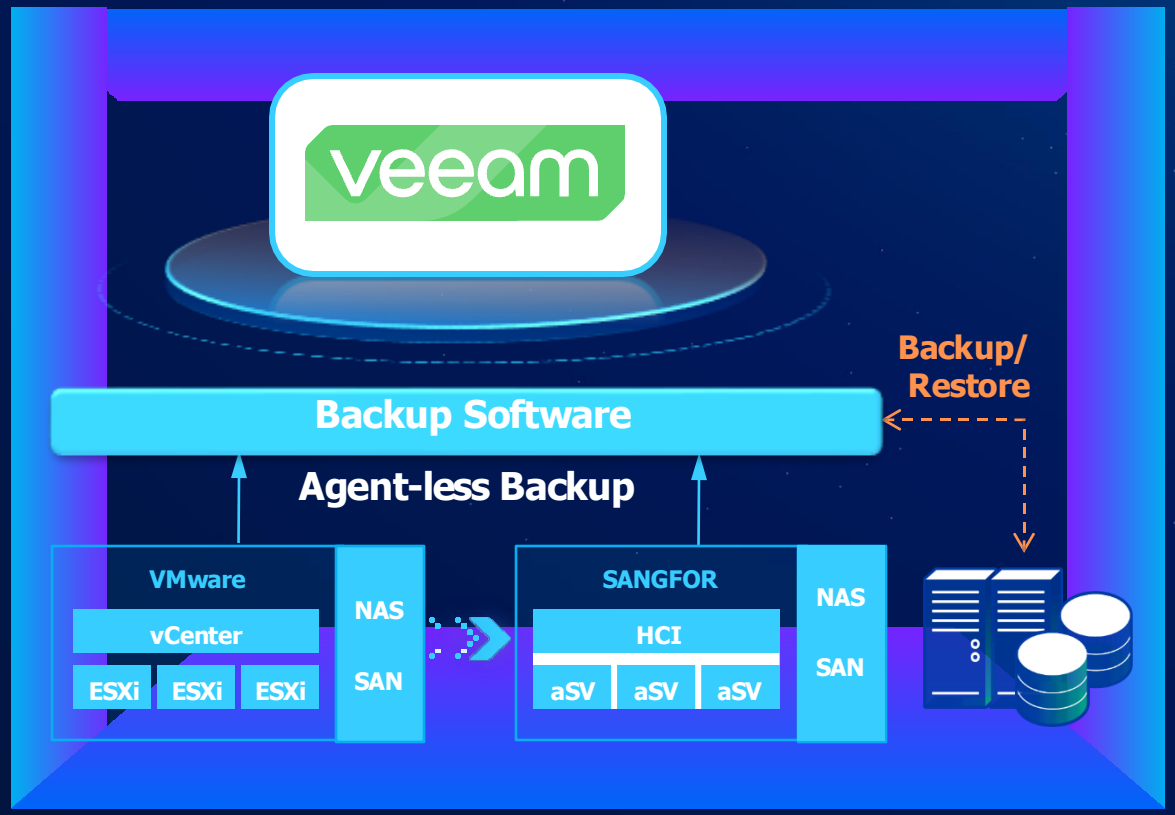
Features	Target Users	Competitors	Values
Backup copy to S3	MSP, CSP: HCI+SCP+S3	VMware, Veeam, AWS	1. Improved data protection with backup copied to S3, supporting encrypting backup files.
			2. Reduced cost of off-site backup and archiving, lowering TCO and O&M difficulties.
			3. Better data compliance (especially for the European market).

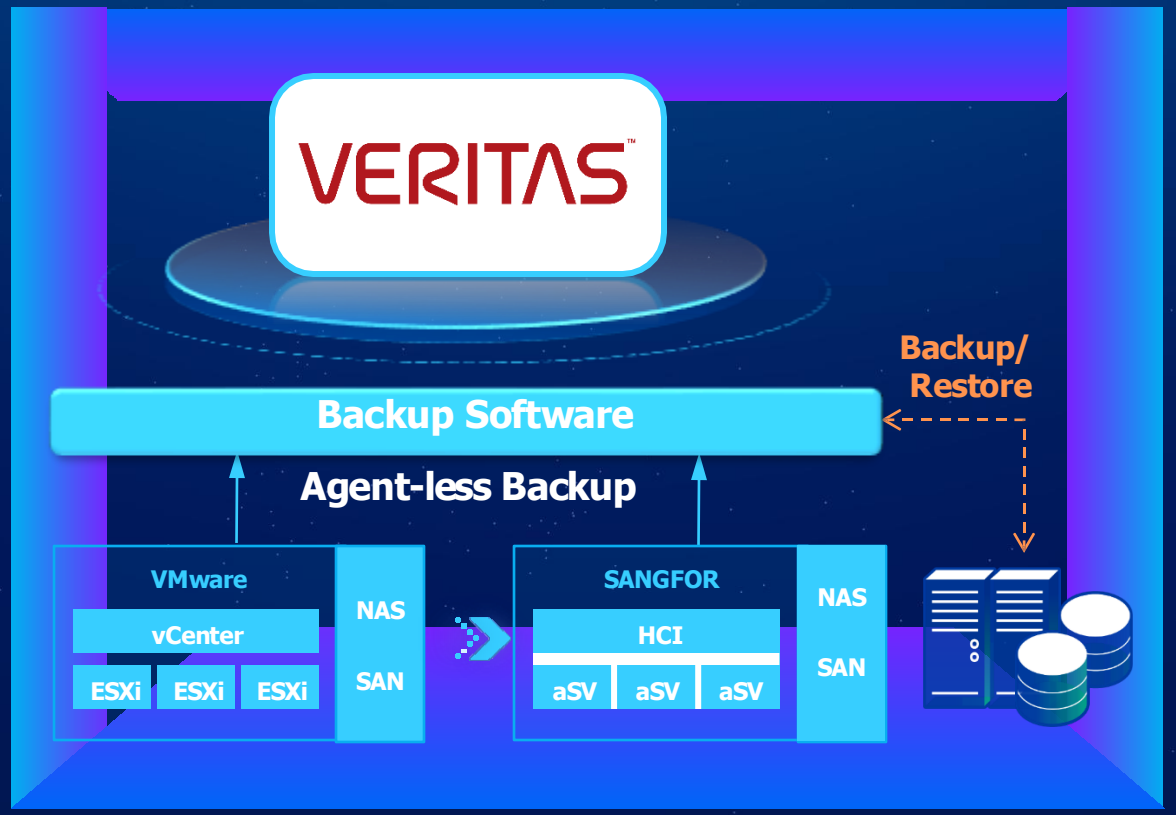
A MySQL database VM needs to be configured on HCI to store metadata. 200GB disk space is required for 100TB of backup data.



Backup Ecosystem Integration

Agent-less backup support for Veeam and Veritas.





Secure

Sangfor HCI Security Architecture

Platform Security

- HTTPS Login
- Anti-blasting
- 2FA Login
- Weak pwd detection
- Idle session timeout
- Resource Access Mgmt
- IP/MAC Whitelist
- Built-in WAF

Platform Security

aSEC-NFV

- NGAF
- IAG
- AD
- Log Audit (LAS)
- Database Audit
- BVT
- OSM

aSEC
Built-in Cloud Security Center

- Host Protection
- Asset Identification
- Event Mgmt
- Vulnerability Mgmt
- Built-in Network Security*

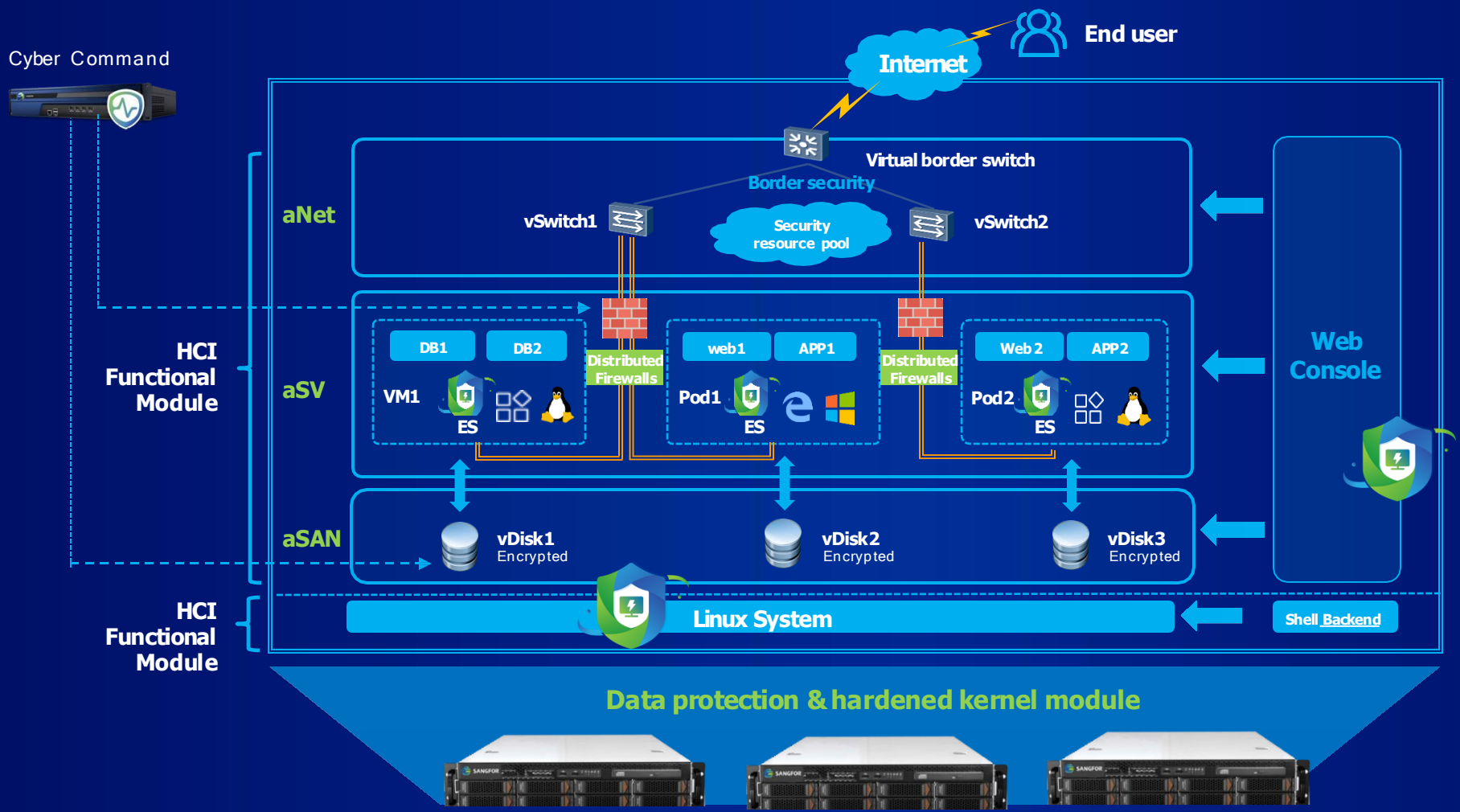
Monitoring

- Operation Log
- Audit Log Backup
- Risky Behavior Alert
- Security Event Monitoring
- Security Monitoring Dashboard

Coding Security

- SDL
- Code Obfuscation
- Code Vulnerability Scanning
- Penetration Testing
- Dependency Mgmt

Maximized Security, Inside out



Platform Security

- Cyber Command correlated service

Network Security

- vAF
- Distributed FW

Endpoint Security

- Endpoint Secure integration

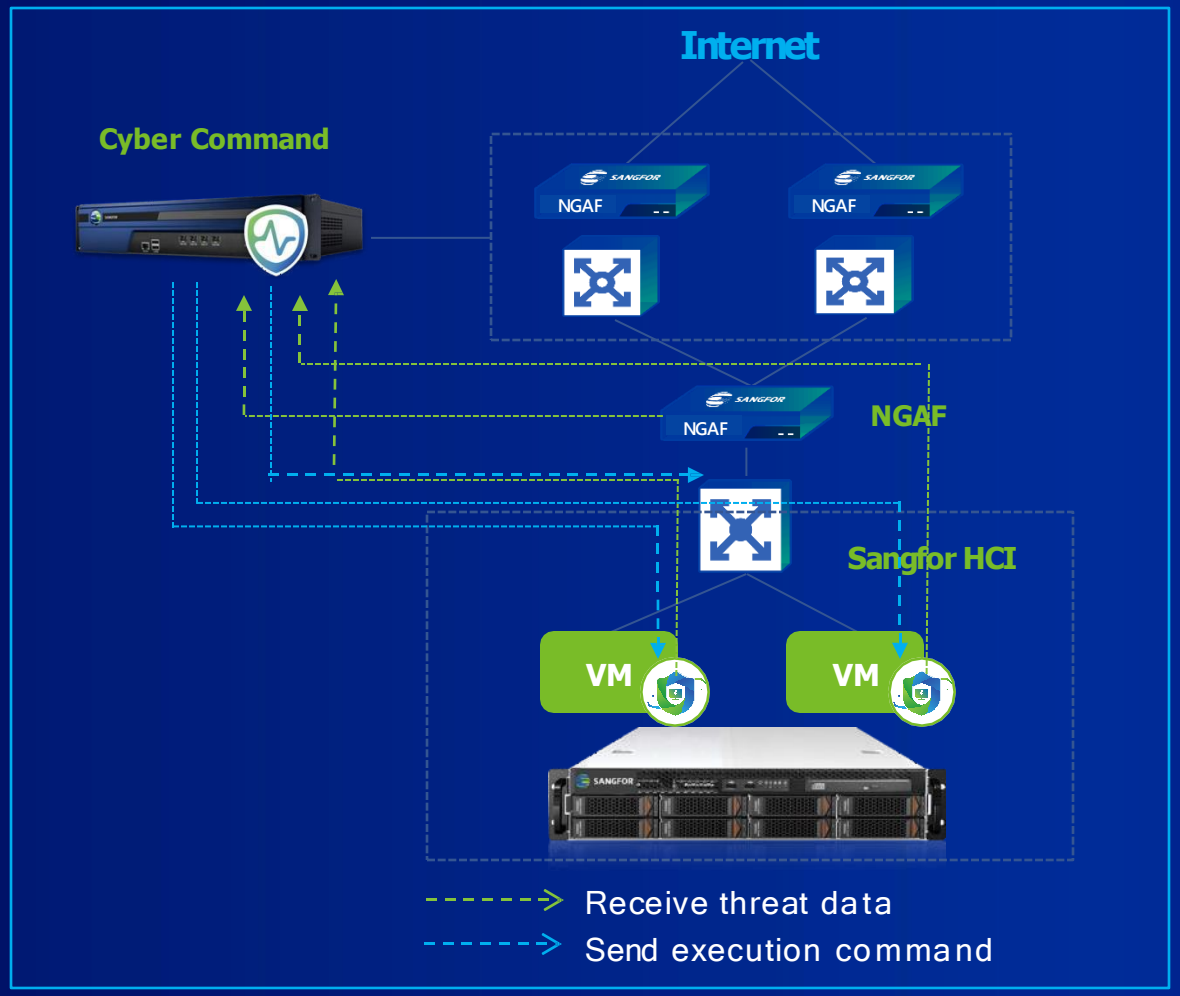
Data Security

- Encryption

Kernel Security

- Built-in WAF

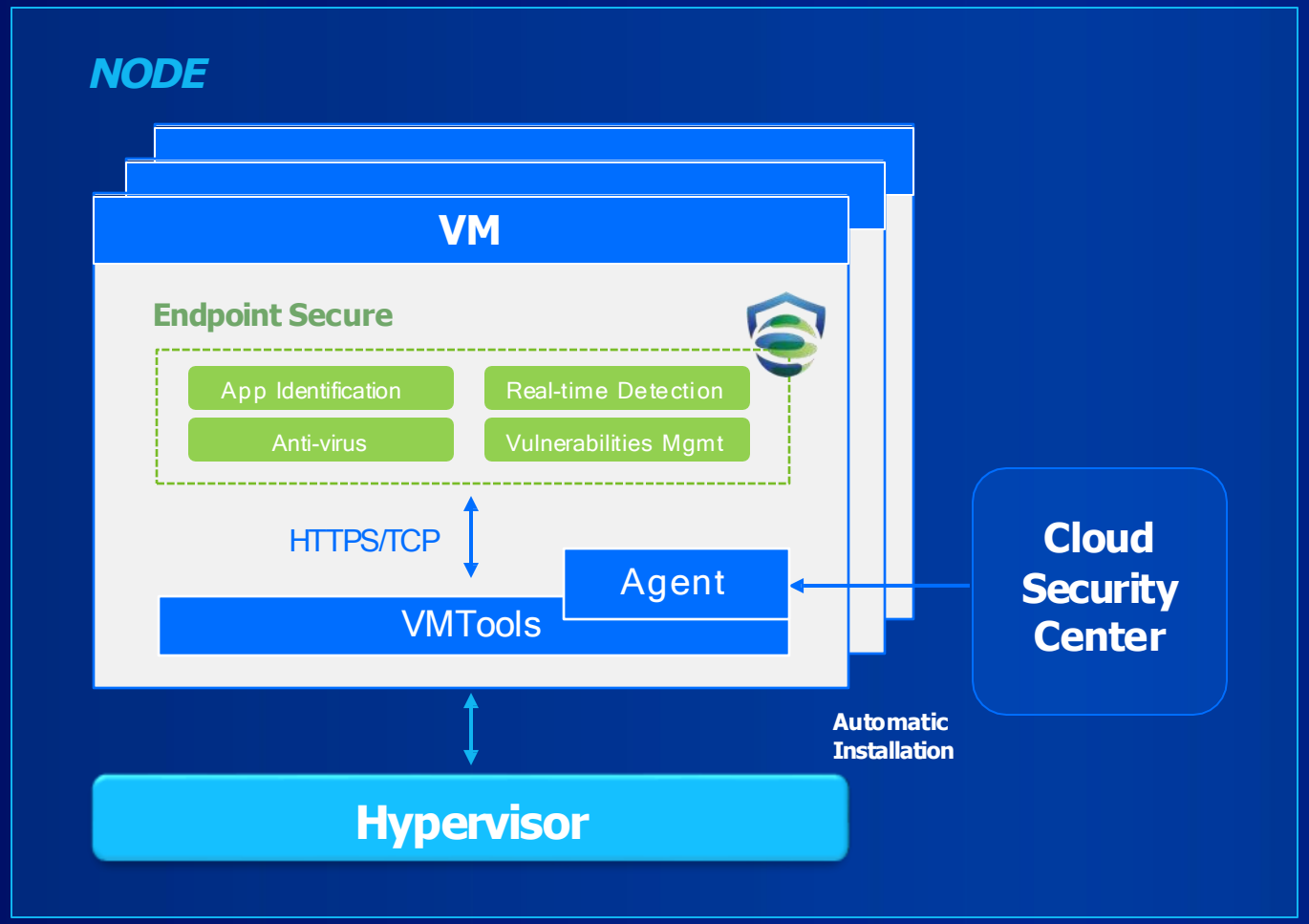
Working Together with Cyber Command



CC detects security threats through network traffic analysis, NGAF and ES, and then takes action based on different threats:

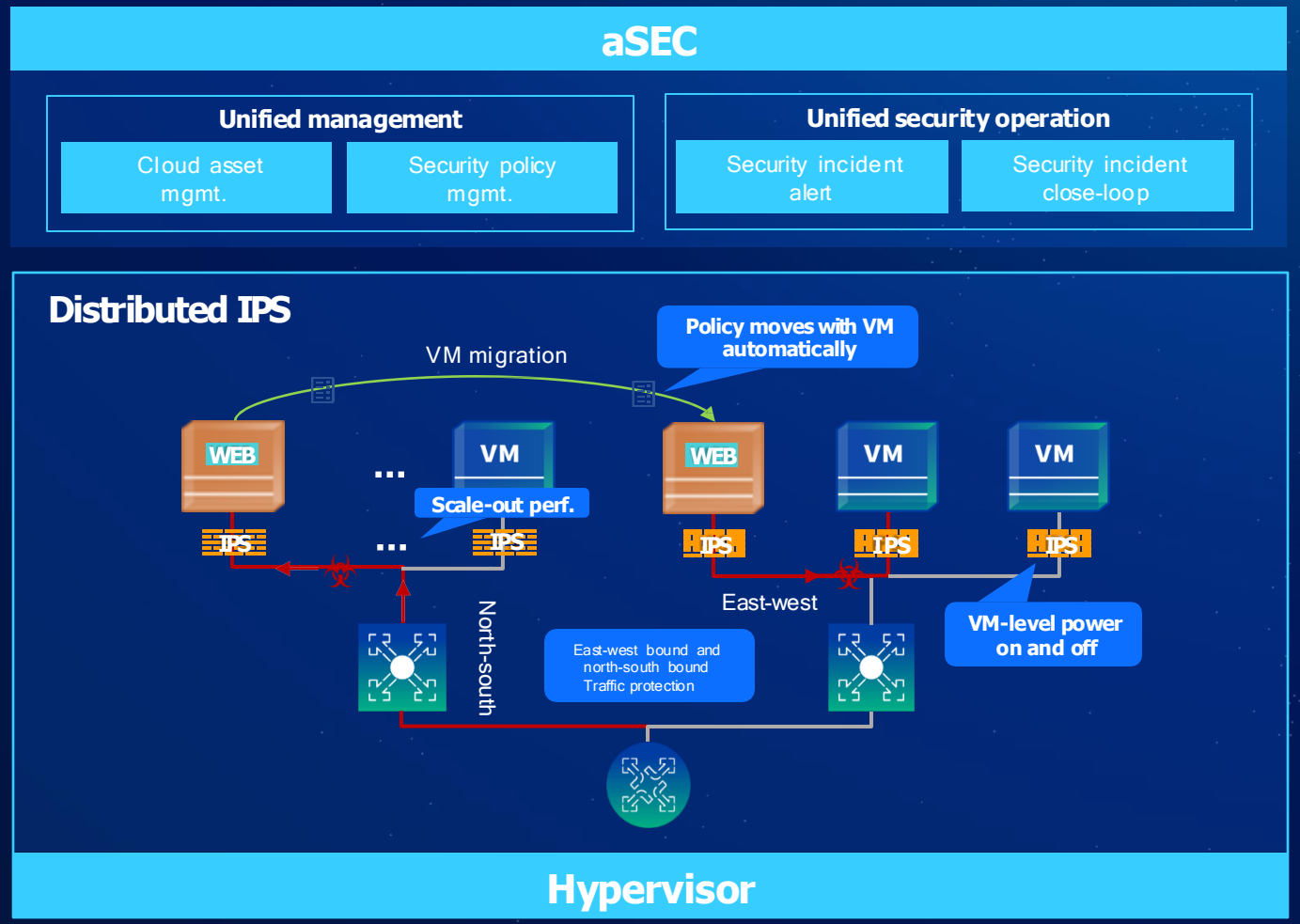
- For scenarios like zombie network, CC works with distributed firewall to quarantine infected cloud host automatically
- In ransomware scenario, CC leverages storage snapshot API to take snapshot of the infected VM to minimize loss
- For mining scenario, CC sends command to power off/ suspend the mining VM to avoid unnecessary resource consumption
- Manual/automated policy: policy can be issued manually on CC

Automatic Endpoint Protection



- Automatic Agent Installation
- Built-in Endpoint Secure Capabilities
- Low Resource Consumption
- File-level Protection for Linux

aSEC 2.0 with Distributed IPS



Business is secured once it's online

- No additional deployment and configuration is required, 1-click security policy application.

Adaptive security policy

- The security policy automatically follows the dynamic state of VMs.

Unified management

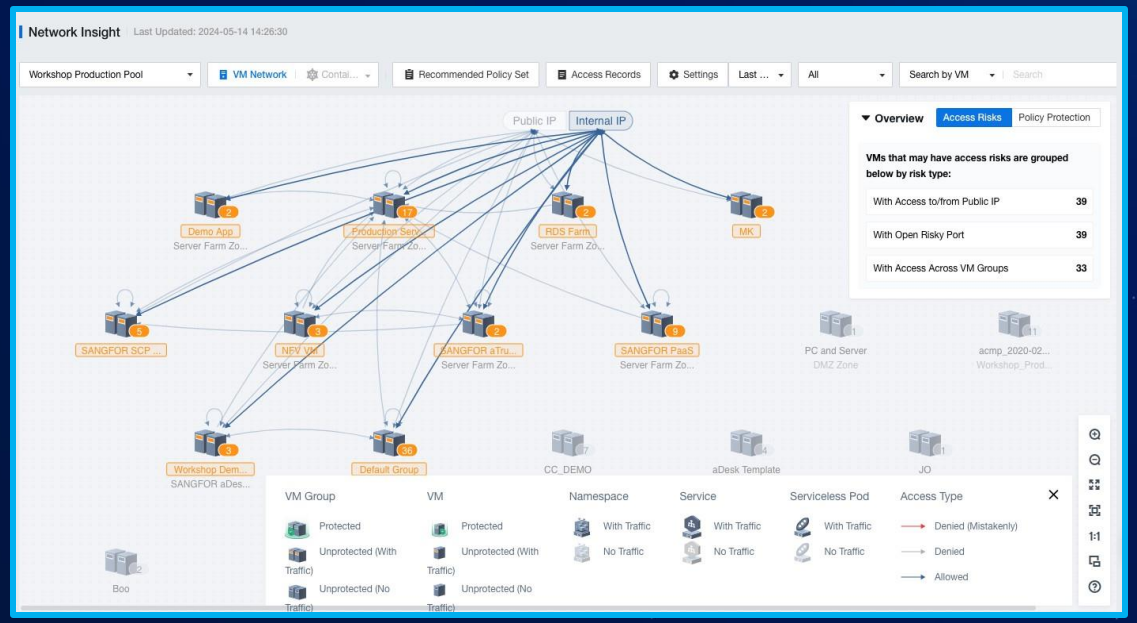
- Unified management for both security and cloud resource.

Flexible and scalable

- VM-level control granularity
- Scale out with business

Automated Policy Recommendation for Micro-Segmentation

- Sangfor HCI 6.10.0 intelligently recommends policies for micro-segmentation by **visualizing aNI (Network Insight) flows**. It **relies on the effectiveness of distributed firewalls** rather than aSEC's distributed IPS engine. However, this feature belongs to the aSEC component, so it requires an aSEC license, not aNET. The price of the aSEC license **remains unchanged** in this version.



Easy Configuration

Automatically generates access control policies between business VMs based on their application access relationships from the last 30 days. This helps operations personnel configure access control policies more quickly and easily.

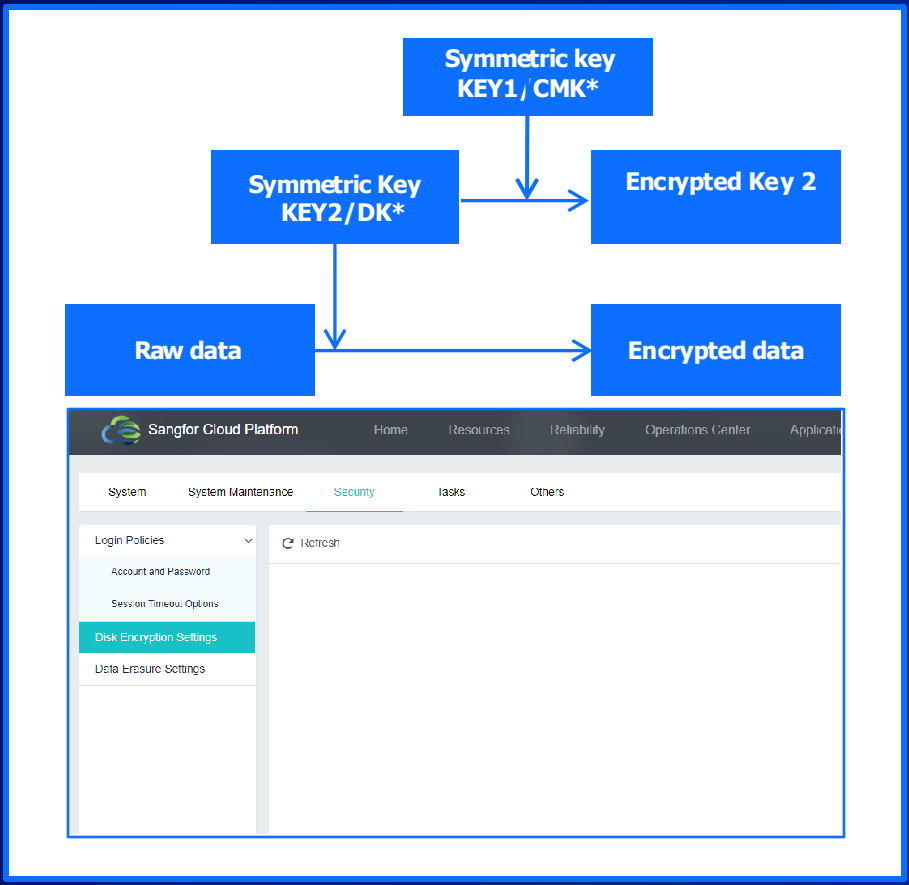
After generating the policies, a visual preview of deployment effects is provided to spot misconfigurations or omissions. This allows for quick verification and adjustments to ensure policies don't negatively impact the business.

Effective Verification

Policy Alerts

The system continuously monitors business access patterns and raises alerts for abnormal access. This helps operations personnel identify and address any misconfigurations, enabling them to promptly restore application access.

Disk Data Encryption



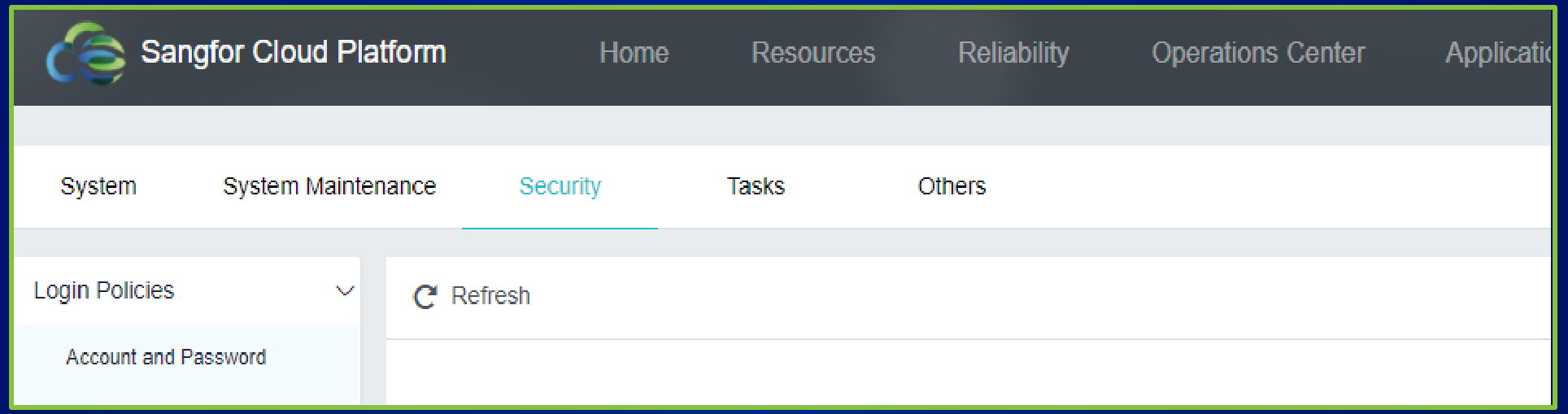
Scenario

- Realizing the encryption of images and snapshoots based on VM disk encryption.

Feature

- **Encryption algorithm:** AES-256, SM4.
- **Range:** one VM with one encryption module.
- **Key:** one VM with one key.

Disk Data Erasure



Scenario

- Ensuring the deleted data is completely wiped from the disk when recycling storage resource.

Feature

- Wiping disk data thoroughly.
- Customized overwriting strategy.
- Supporting specific rate of overwriting and erasure for different cluster.

Note

- Users' business system will be interfered in data erasure process because of occupancy of Disk I/O and CPU capacity.
- The wiped data cannot be recovered.

High Performance

Panorama of High Performance Capabilities

SANGFOR

Infrastructure

- CPU
- GPU
- Memory
- High performance network card
- Hard disk
- Switching network

Application Layer High Performance

- Shared disk optimization
- Intelligent resource engine based on AI analysis
- Database Best Practices Deployment
- Database performance optimization assistant

Compute Layer High Performance

- I/O path optimization
- NUMA technology optimization
- Huge page memory
- KMS memory coalescing

Network Layer High Performance

- Low Latency Optimization
- Network Zero Copy Technology
- Independent Forwarding Core Design
- DPDK
- Network card interrupt binding

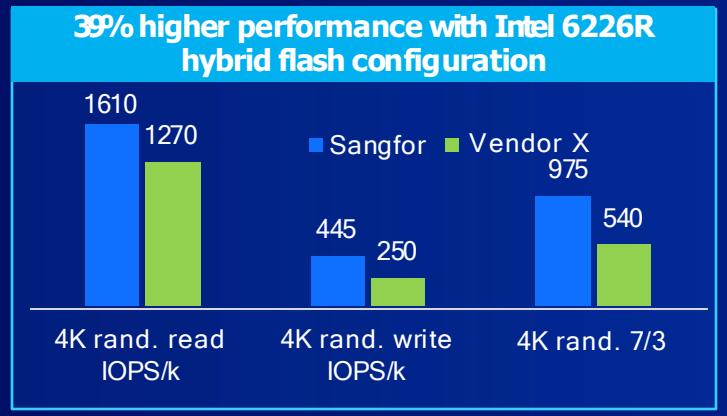
Storage Layer High Performance

- Data tier-ing
- I/O localization
- Adaptive Cache Replacement Algorithm
- Cross-host read cache
- Data sharding
- Adaptive Striping
- Data multi-copy distribution
- Data Balancing

Performance monitoring

- Cache hit ratio
- Traffic real-time monitoring
- Disk sub-health detection
- Latency real-time analysis
- One-click performance analysis

Full-stack Performance Optimization



3 nodes, 2* NVMe + 6* HDD + Turbo + 25G RDMA

4K	randwrite	89287	189024	111.7%	357	756	111.8%
4K	randrw_70%	97441	254642	161.3%	389	1018	161.7%
4K	randread	99214	266931	169.0%	396	1067	169.4%
8K	randwrite	91922	164103	78.5%	735	1312	78.5%
8K	randrw_70%	96608	248721	157.5%	772	1989	157.6%
8K	randread	100158	262833	162.4%	801	2102	162.4%
4K	randwrite	109826	223106	103.1%	439	892	103.2%
4K	randrw_70%	100309	237138	136.4%	401	948	136.4%
4K	randread	106051	245773	131.7%	424	983	131.8%
8K	randwrite	101229	213505	110.9%	809	1708	111.1%
8K	randrw_70%	104153	244669	134.9%	833	1957	134.9%
8K	randread	116560	260387	123.4%	932	2083	123.5%
4K	randwrite	177971	374448	110.4%	711	1497	110.5%
4K	randrw_70%	291351	683085	134.5%	1165	2732	134.5%
4K	randread	292469	796123	172.2%	1169	3184	172.4%
8K	randwrite	160336	361886	125.7%	1282	2895	125.8%
8K	randrw_70%	291402	635965	118.2%	2331	5087	118.2%
8K	randread	296678	789441	166.1%	2373	6315	166.1%
4K	randwrite	170068	418605	146.1%	680	1674	146.2%
4K	randrw_70%	355420	751206	111.4%	1421	3004	111.4%
4K	randread	804533	1385222	72.2%	3218	5540	72.2%
8K	randwrite	158078	395798	150.4%	1264	3166	150.5%
8K	randrw_70%	336506	718905	113.6%	2692	5751	113.6%
8K	randread	638913	1280532	100.4%	5111	10244	100.4%
				82.4%			82.4%

Compute

Heavy-load VM Intelligent Scheduling

- Large-core VM CPU scheduling optimization
- NUMA resource affinity

20% increase in CPU scheduling efficiency
10% increase in resource reservation

DB

Oracle DB performance optimization

10% increase in overall DB performance
20% higher performance than peers

Storage

Turbo SPDK Kernel Acceleration RDMA

50% higher throughput
20% higher IOPS
35% higher write performance

Network

SR-IOV Low Latency Transmission

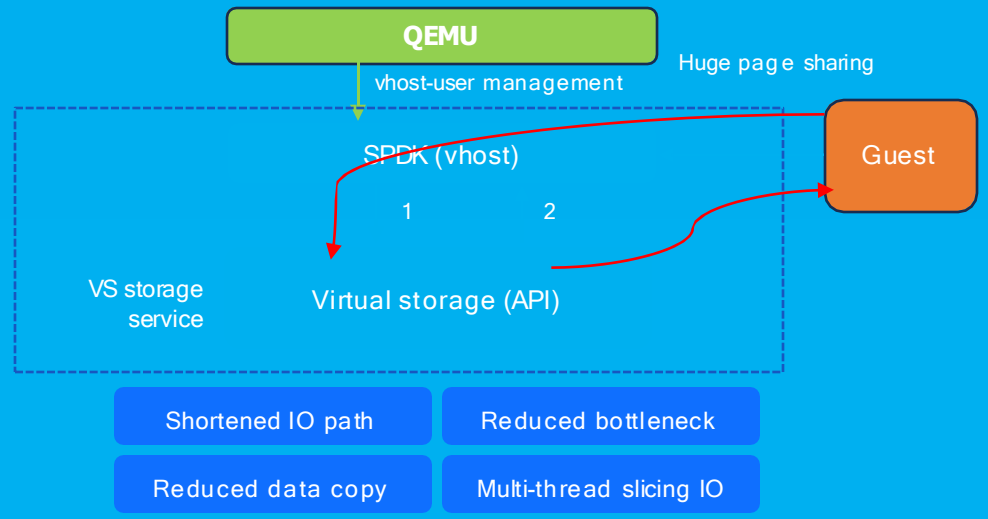
- DPDK data processing optimization
- Network forwarding process affinity

20% higher network performance
>90% bandwidth utilization across hosts

Greatly Reduced IO Latency with SPDK Turbo and RDMA

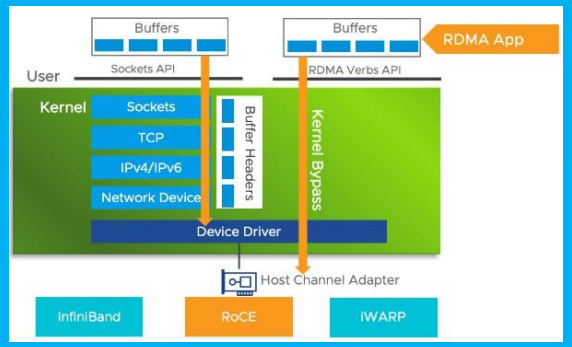
SPDK-based Turbo Boost

- SPDK (Storage Performance Development Kit) is a toolkit used to build high-performance storage applications. In the virtualization layer, Sangfor HCI utilizes SPDK vHost technology to run VMs in user space, , thereby reducing the scheduling performance overhead caused by virtualization traps.
- With Turbo acceleration based on SPDK vHost, average latency for large block mixed read-write operations is reduced from 4ms to 2ms,



RDMA Network

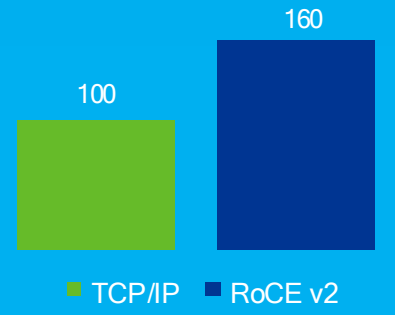
- RDMA (Remote Direct Memory Access) allows computers to directly transfer data to memory without involving the operating system, thus avoiding the performance overhead of traditional TCP/IP network protocol stack in system calls and memory copying. Distributed storage based on RDMA significantly reduces data transmission latency between different nodes and improves storage network efficiency.
- Sangfor HCI introduces RDMA in virtual storage using the RoCE v2 protocol. Combining single and dual-sided communication, it **boosts write performance by over 35% and outperforms competitors by 90% in small block write scenarios.**



The NICs and switches must support RDMA protocol

Single VM, 32 concurrent 4k random writes

50% Higher Performance



RDMA is only supported by virtual storage

Fully Optimized Network Performance

Sangfor HCI Network Performance Test

Testing Model	VM Location	Device in Between	Test Results
Intro-host	Single flow	Virtual switch	23Gbps
		Virtual router	23Gbps
	Multi-flow	Virtual switch	46Gbps
		Virtual router	42Gbps
Inter-host (20Gbps)	Single flow	Virtual switch	8Gbps
		Virtual router	8Gbps
	Multi-flow	Virtual switch	19Gbps
		Virtual router	18Gbps

Low-Latency Network Performance

Testing Model Sockperf	Physical NIC	SR-IOV (VF)	
	Physical to Physical	VM to Physical	VM to VM
64 Byte	2.30 µs	2.33 µs	2.32 µs
128 Byte	2.34 µs	2.37 µs	2.35 µs

vCPU Binding

Binds vCPUs to VMs to reduce resource contention and scheduling overhead. Improves cache hit rates and stabilizes network latency.

SR-IOV Acceleration

Uses SR-IOV acceleration and user-space protocols to avoid the scheduling overhead caused by the virtualization layer.

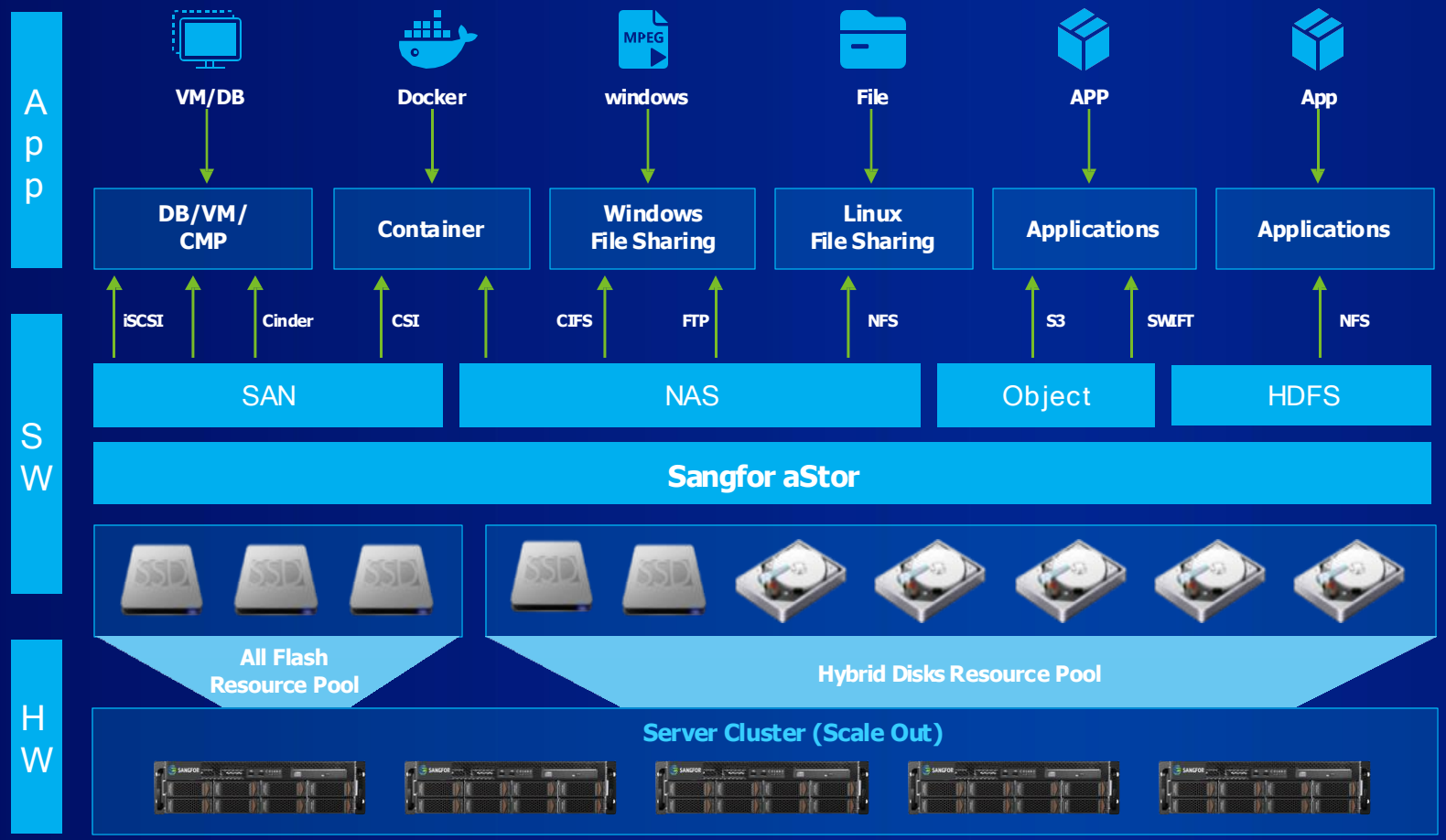
pCPU Scheduling

Introduces low-latency network cards and application-layer technologies like VMA or onload to reduce network overhead from the VM OS.

Onload Technology

Groups and schedules hypervisor CPU core and cache resources to minimize network jitter caused by CPU resource contention between HCI services and VMs.

New Product Available Since 2023 – aStor EDS



High Compatibility

A cluster supports multiple storage types of blocks, files, objects, and big data, using over a dozen storage protocol interfaces, making it widely compatible with business applications.

Agile Iteration

The aStor storage software uses the agile development model with rapid iteration, which can quickly support new scenarios and applications.

HW Decoupled

Consolidation means lower cost on scale out and replacement providing minute-level expansion of capacity to quickly meet changing business needs; Quick adaptation of new hardware (eg: U.2 NVMe, Optane memory, etc.)

New Solution Available Since 2023

HCI + aStor Use Cases

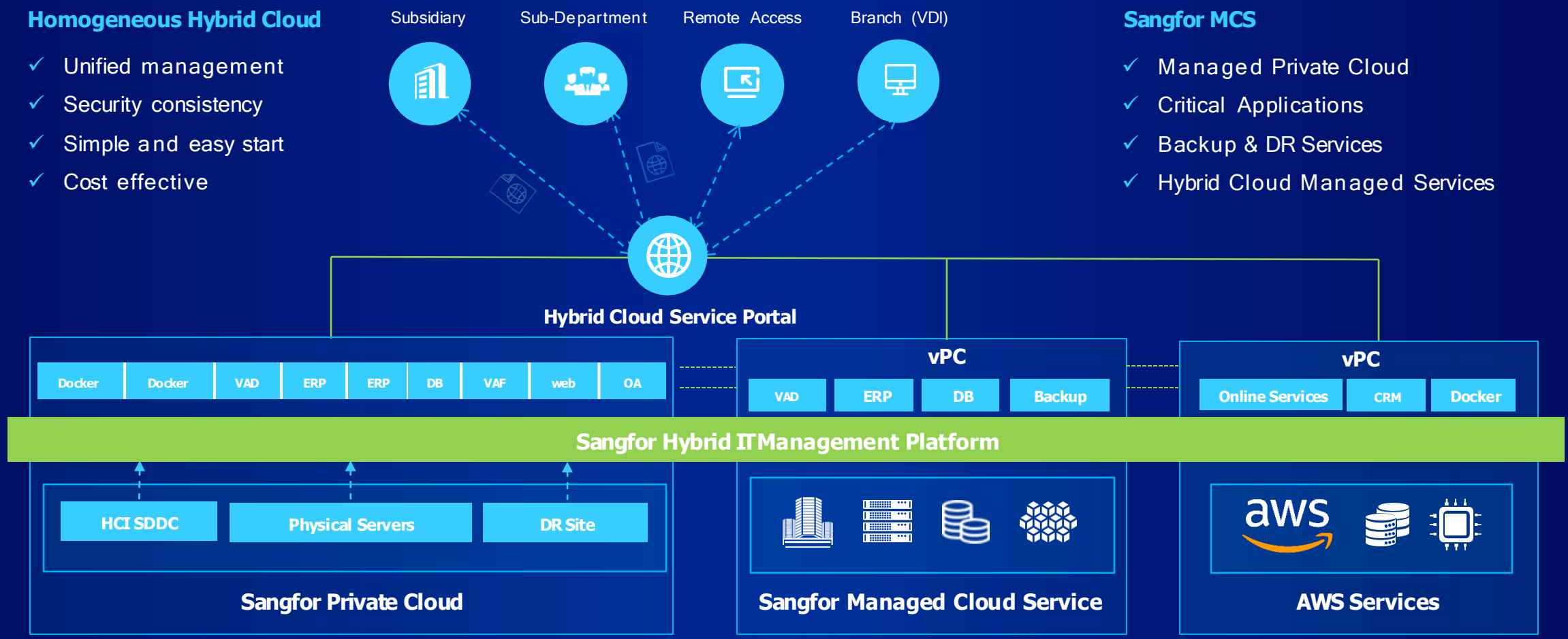
- **Large capacity:** aStor provides better per GB cost than HCI in large capacity storage deployment
- **Backup:** aStor serves as the backup repository for HCI
- **New storage protocols (file & object):** applications that require file or object storage can leverage aStor.

The Best Building Block for Your Hybrid Cloud

SANGFOR

Homogeneous Hybrid Cloud

- ✓ Unified management
- ✓ Security consistency
- ✓ Simple and easy start
- ✓ Cost effective



Sangfor MCS

- ✓ Managed Private Cloud
- ✓ Critical Applications
- ✓ Backup & DR Services
- ✓ Hybrid Cloud Managed Services

Target Use Cases

SANGFOR

Data Center Consolidation

- Full convergence of compute, storage, networking and security, massive TCO reduction
- Extremely simplified data center operation with ”what you draw is what you get

Enterprise Applications

- Intuitive guiding wizard for Oracle and SQL Server to drastically simplify database set-up and operations
- Optimized architecture to ensure application performance and data reliability

Data Protection & DR

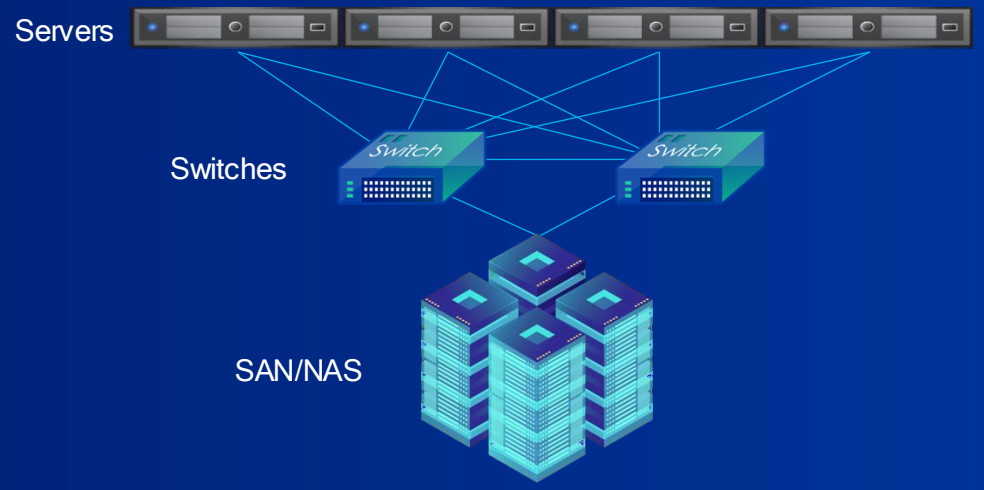
- Integrated backup and CDP to meet various data protection requirements
- All in one without 3rd party data protection software to simplify management and cut cost
- DR orchestration & testing

Cloud Transformation

- All-in-one private cloud solution with all the beauty from HCI
- Smooth evolution to hybrid cloud and multi-cloud
- Cloud-native workload support

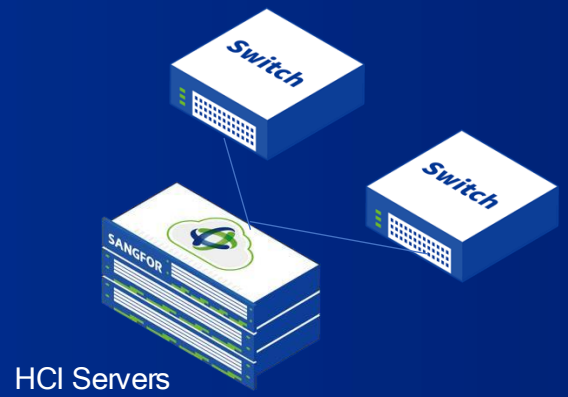
Sangfor HCI v.s. Traditional 3-tier Infrastructure

Traditional 3-tier infrastructure



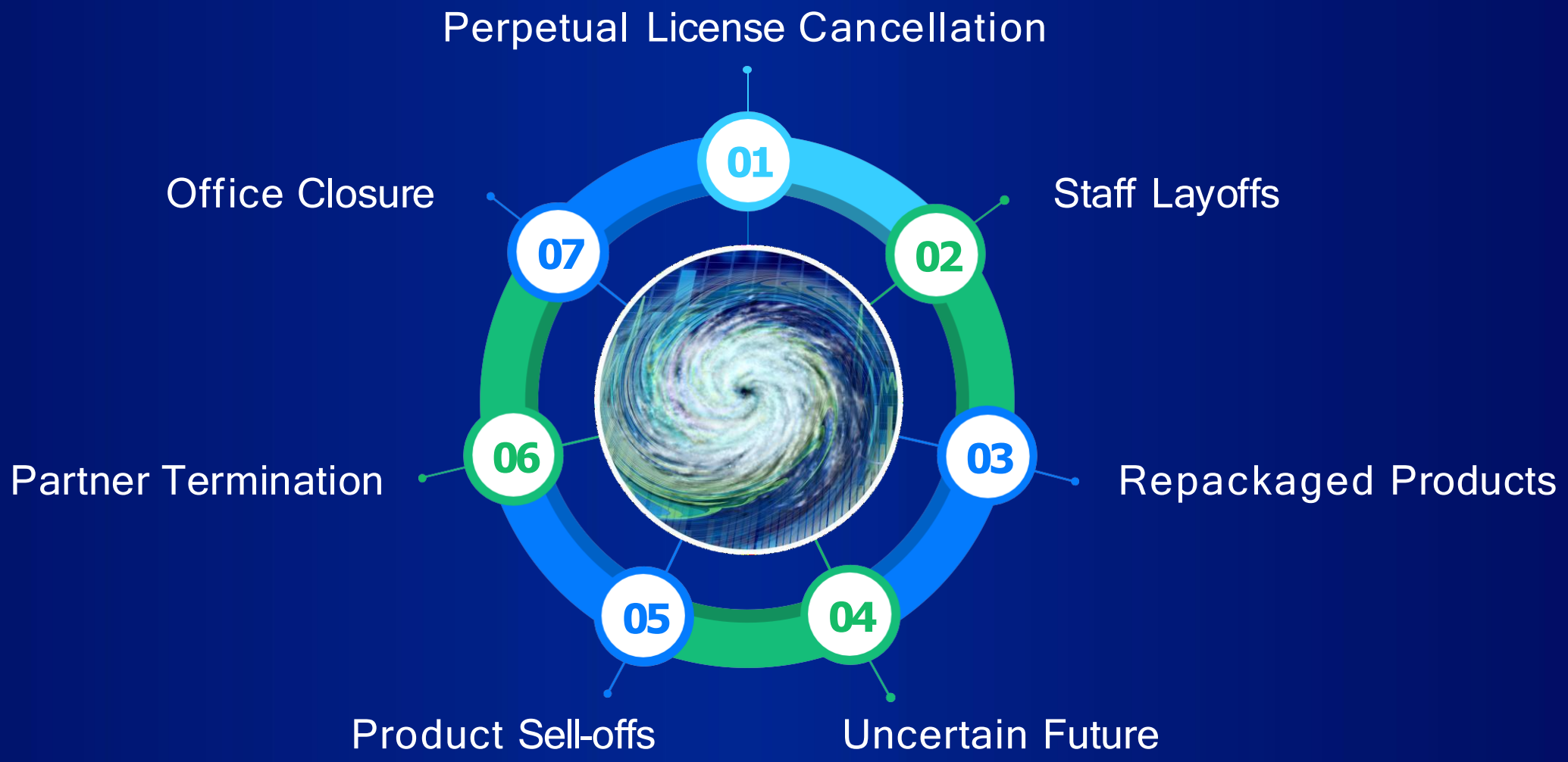
- Rigid architecture, not built to scale out
- Resource silos, multiple vendors' products and support
- Complex O&M with multiple management planes
- Requires IT professional
- High TCO

Sangfor HCI



- Distributed architecture, built to scale out
- Unified resource pool, single vendor solution and support
- Single-pane-of-glass management with intuitive GUI
- Only requires IT generalist for O&M
- Low TCO

VMware Turbulence Caused by Broadcom Acquisition



Sangfor's Solutions to VMware Changes

Impact on Customers	Sangfor Solution
More expensive full subscription (3yrs: x1.5 / 5yrs: x2)	Perpetual & subscription licenses at better prices
Subscription model unacceptable to public sector buyers due to ownership concerns	
Uncertainties surrounding the acquisition are causing panic among buyers regarding continuous and localized innovation and support	Strategic market expansion in APAC and EMEA, ensuring robust local vendor presence and ongoing innovation and support
Users of vSphere Enterprise+ are forced to either downgrade to the Standard version with fewer features or upgrade to the more expensive vSphere Foundation	Cost-effective, on-demand software subscription with no upfront investment

Sangfor vs VMware

	VMware	Sangfor
Architecture	vSphere, vSAN, NSX, vCenter, vRealize, SRM, etc Too many moving parts	aSV, aSAN and aNET are integrated
Management	Additional installation and license	Included
L4-L7 Virtual Firewall	Rely on 3rd party	√
Scheduled snapshots **Consistency group snapshots**	×	√
Linked full clone	×	√
Backup	Rely on 3rd party	√
CDP	Rely on 3rd party	√
WYDIWYG	×	√
Data Tiering	×	√
Data Locality	×	√
vGPU	Not supported by standard edition	√
Min. cluster size with 3 data copies	5	3

Sangfor vs Nutanix

	Nutanix	Sangfor
Architecture	Virtualization, server and storage convergence	Virtualization, server, storage, network and security convergence
Network virtualization	Partial	√
Security virtualization	Rely on 3rd party	√
Linked full clone	×	√
Data tiering	×	√
CDP	Rely on 3rd party	√
WYDIWYG	×	√
Hardware platform	SuperMicro, Dell EMC, Lenovo, Cisco, HPE	All mainstream x86 servers
Heterogeneous deployment of diff. vendors' hardware	×	√
Stretched cluster	Not support for AHV (Nutanix's own KVM-based hypervisor)	√
Min. stretched cluster size	6	4
Min. cluster size with 3 data copies	5	3

Business Benefits Brought By Sangfor HCI

Up to **70%** TCO Reduction

50% TTM Reduction

30% Higher Performance

Licensing Structure

SANGFOR

Basic License Suite

aSV	aSAN	aNET	aSEC
HA	Virtual storage	aNI	Cloud security center
DRS	caching	DFW	Micro-segmentation
DRX	Data Locality	Router	vAF
Clone		Switch	IPS
Backup			

Advanced License Suite

SCP	aDR	hDR	CDP
aSC stretched cluster	aHM (VMware backup)	SKE	DMP

HCI Roadmap

SANGFOR

1

SCC deployment on-premises (CSP scenario) (2024Q3)

- SCC supports deployment on-premises and manages multiple SCP+HCI
- Operational capabilities: Metering and billing, payment gateway, tenant self-registration, resource expiration reminder.
- O&M capabilities: Operations delegation, SkyOps deployment on-premises.
- DR scenario: On-premises DC DR to off-premises managed cloud.

SANGFOR CLOUD

2

HCI & SCP 6.11.0 pre-release (2024Q4)

- Unified physical network configuration on HCI & SCP to improve management efficiency.
- The platform administrator can be assigned the same permissions as the super admin.

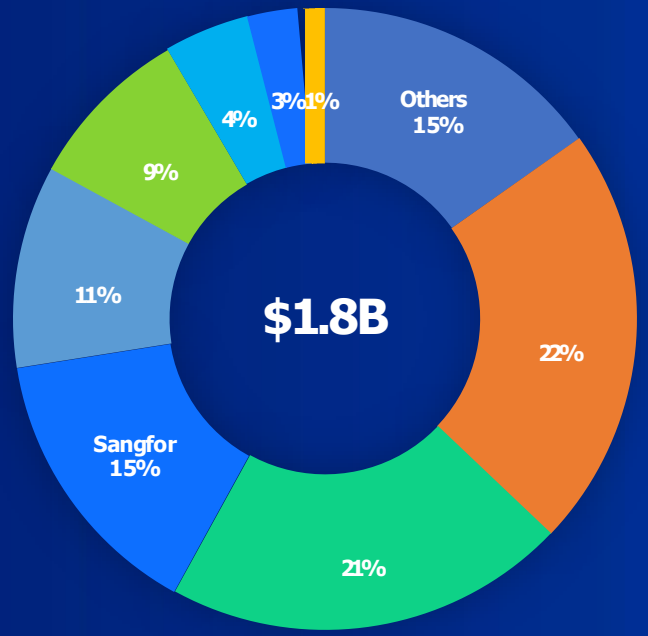
3

SkyOps 3.0 (2024Q4)

- Database Monitoring and Performance Diagnosis: Supports Oracle standalone and cluster version monitoring. Indicators include: configuration parameters, TPM/TPS, table space, index structure, and other 100+ indicators. Provides SQL optimization suggestions according to slow database and failure points.
- VDC Alert Management: Improve the accuracy of VDC alerts, with a false alert rate lower than 20%.
- aStor Monitoring: Supports monitoring of performance trends, capacity, slow disk, etc.

Gaining Momentum With Global Expansion

China HCI Market Overview, 2021



Top 3 HCI software provider in China according to IDC for 6 years

Sangfor Service Advantage

SANGFOR Full Lifecycle Service

- Security consulting
- Cloud transformation consulting
- Security risk assessment
- Solution design
- Best practices for use cases and industries

- Migration and replacement
- Managed cloud services
- Managed security D&R
- On-site principal support

- Policy or performance optimization
- Incident response and fast recovery
- Fast troubleshooting and upgrading
- Cloud monitoring & fault prediction
- Automated response and workflows

Dedicated Support

- Tailored service plan across lifecycle
- Technical account manager
- Local warehouse with rapid delivery

Local Support

- Local technical team
- Local certified partner ecosystem
- Global support center from EMEA to APAC
- English or local language communication

Signature Case Study - MOHR

6 unit HCI Appliance

>500K IOPS

>60% Efficiency

- Too many servers to be maintenanced
- One server, one application, resources is not optimized
- Space become limited with too many legacy servers in occupation
- Electricity cost increases dramatically

Case Sharing

Customer overview

- Art Serina Piston & DYNA Metal are both factories under SERI-WATHANA ENTERPRISE. The provide pistons, bearings and other component to major automobile companies. As joint venture company with Japan, many of the customers are Japanese companies.

Challenges

- Constant and stable supply
- Traditional server + SAN architecture lack local redundancy and HA
- Suffered flood disaster in the past which caused significant product line downtime

Solutions

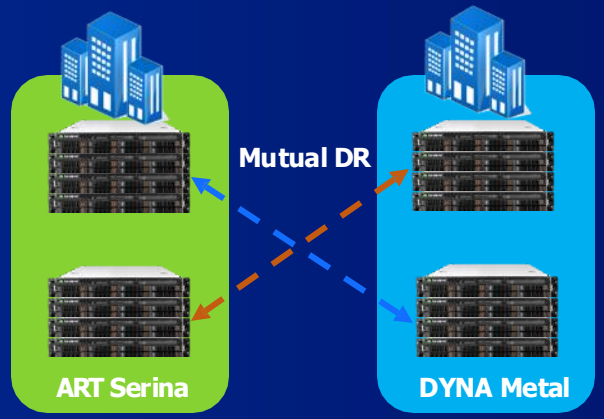
Phase 1 2017 Q3

- Art Serina purchased 3* aServer 2000 for data center consolidation

Phase 2 2018 Q4

- Art Serina got additional 2* aServer 2005 for DR
- DYNA Metal deployed aCloud software on existing servers and enabled DR
- Mutual DR between Art Serina site and DYNA Metal site

Simplified, reliable, one-stop and cost-effective



Customers Who Chose Sangfor HCI

Sangfor HCI Success Customer Videos

- Jakarta Eye Center: https://www.youtube.com/watch?v=RM0KEtKPKeY
- Ramsay Sime Darby Healthcare: https://youtu.be/VvOdx1ZGEzA
- The Medical City South Luzon: https://youtu.be/TblkxQSTqmc
- J&T Express Indonesia: https://youtu.be/2GF9U6pGy6Y
- fastERA (Italy): https://youtu.be/SoItf1LVC8c

SANGFOR | SANGFOR HCI

THANK YOU!

www.sangfor.com

Sangfor Technologies

Département Commercial

WCA

HAFS

Distributeur à valeur ajoutée WCA

Vous accompagne

www.hafs-networks.com
Visitez notre site web

sales-ci@hafs-networks.com
Envoyez-nous un e-mail

(+225) 07 69 32 13 55
Contact commercial 1

(+225) 07 59 05 85 82
Contact commercial 2

Distributeur à Valeur Ajoutée de Solutions de Cybersécurité | Réseaux | Wi-Fi | HCI/Sauvegarde

Hillstone NETWORKS | Synology | SANGFOR | SECPOINT | Axidian | NEOWAVE | HORNETSECURITY FORMERLY Vade | CyberShield

RUCKUS NETWORKS | Ruijie Reyee | RAY | Wiflyx | SEARCHINFORM | MOBOTIX | EXTRAVIS | HAFS MediVision