

Sangfor Solution for Education

Sangfor Education industry solutions boost students' success by improving learning efficiency, increasing reliability, enhancing network security, and reducing overall management complexity with low initial investment.

1. Business Trends and Key Challenges



Facing Unknown WEB Security Risks
Demand Higher Reliability



Data Concentration, Resource Sharing
Secure & Simple Access

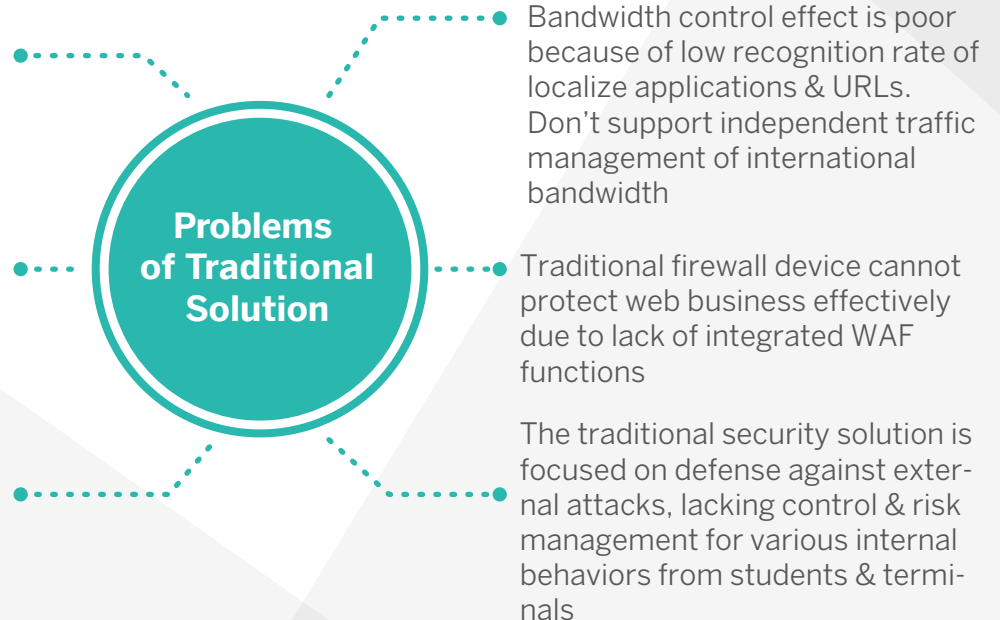


Need Higher Management Efficiency
Need Professional IT Skills

Traditional 3-tier architecture solution is expensive to build, complex to manage and has low reliability

Traditional PC teaching is extremely difficult for data protection, resource shearing, and some traditional VDI solutions lack E2E solution. Different components are delivered by various vendors with no integration

Higher management cost due to complex traditional IT architecture, technology, deployment & dispersive PC terminals

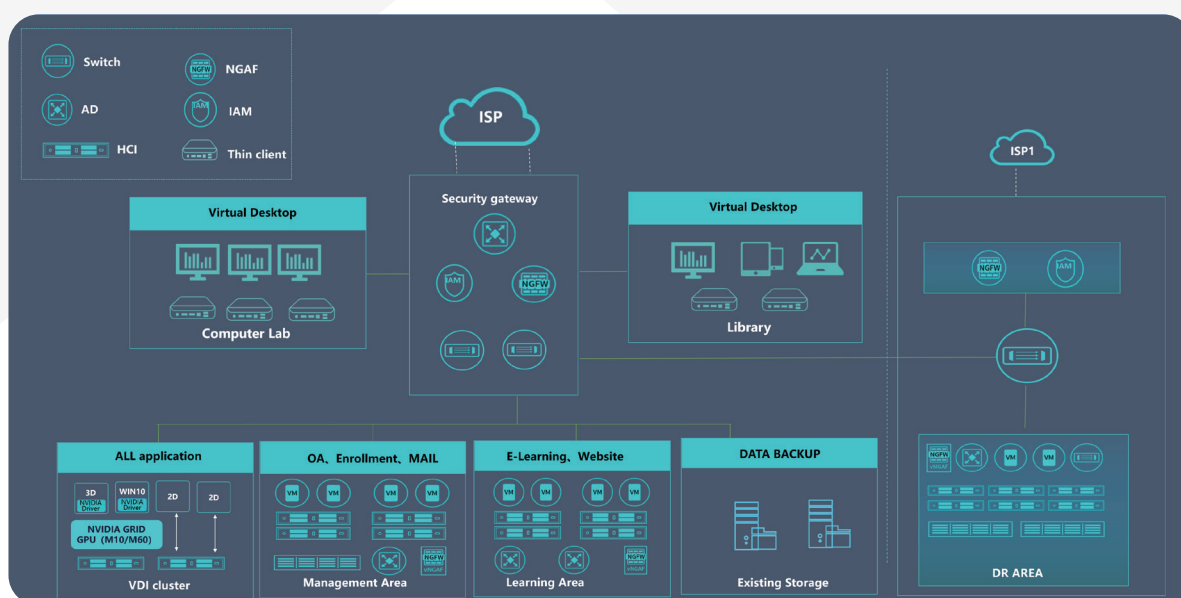


Therefore, a cost-effective & one-stop solution that provide continuous protection, effective management, improved reliability & reduced platform complexity is the best option for education.

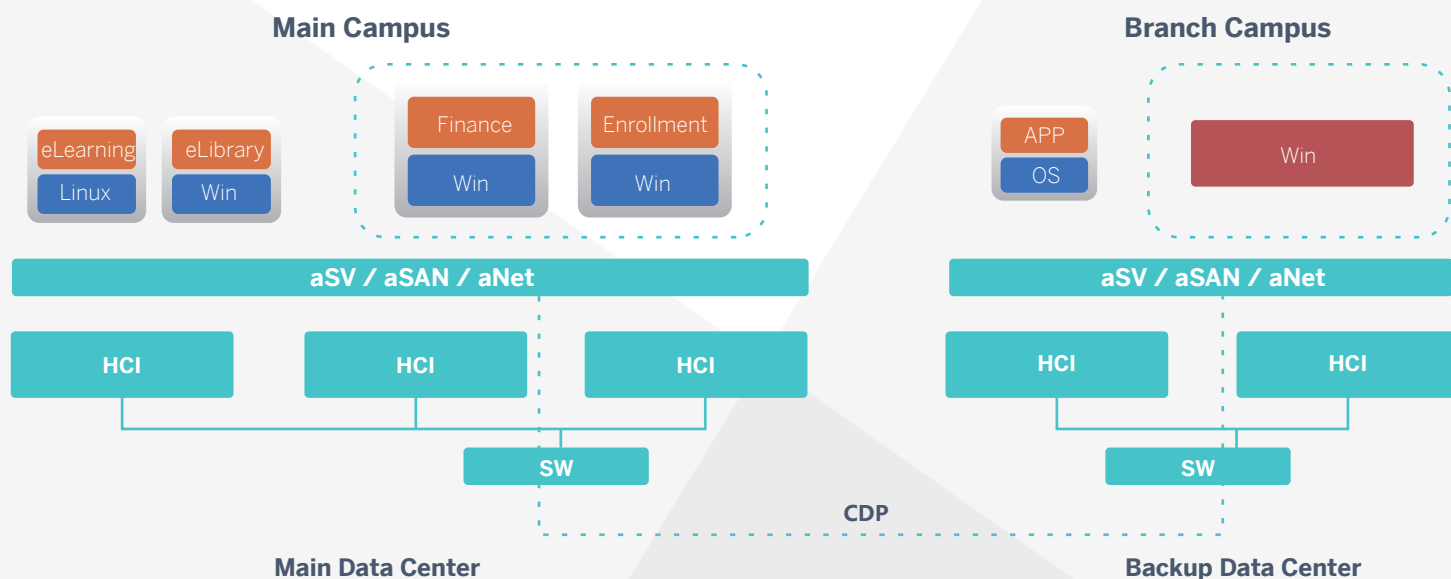
2. Main Solution Scenarios for Education Industry

Sangfor Education Solution is customized based on different scenario requirements and business features. These new solutions utilize advanced cloud computing technology and a concept of converged architecture in order to better meet future business needs. The solution consists of sub-scenarios solution that users can do one-time deployment or implement in stages.

- Sangfor SDDC Solution for Education Based on HCI
- Full Network Security & Management Solution
- Virtual Desktop Solution for Library & Computer Lab



Sangfor SDDC Solution for Education





Solution Benefits

The solution is 100% software-based and built on hyper converged infrastructure (HCI) technology, delivering a full infrastructure stack that integrates compute, storage, network and security to power any application with any workload. Sangfor SDDC solution will reduce hardware cost by 30% and simplify M&O workload by 60%. It can improve business reliability and is easy to extend without any system downtime.



Technology Advantages

- ▶ Support pure software deployment on existing third party servers
- ▶ Built-in CDP & DR function
- ▶ Integrated NGAF & AD components to ensure security & reliability for web business
- ▶ Super visibility & intuitive network topology

Best Practise of Sangfor SDDC Solution for Education

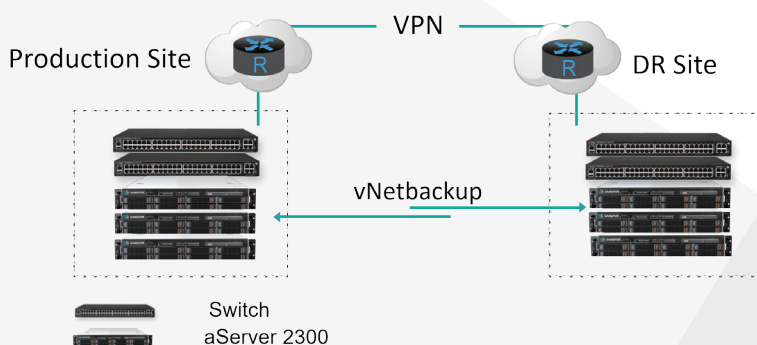


Customer Background

Universiti Sultan Zainal Abidin (abbreviated as UniSZA) is considered the biggest "comprehensive university" in the east coast of Peninsular Malaysia and to be one of the most respected Islamic-based institution of higher learning in Malaysia.

Requirement of Customer

- Reduce the number of racks
- Release the pressure of the cooling system
- DR and Backup solution should be integrated
- Open source systems should be supported
- Operation and maintenance need to be simplified



Sangfor SDDC Solution for Education

Sangfor HCI was provided with 6 nodes deployment. 3 nodes each were deployed at production site and DR site. Compute, storage, network, security and DR are all integrated. VMs and storage can be backed up locally or remotely. If production server was down, DR server would resume operation within an hour. Software defined architecture transforms existing facilities into more location-independent, flexible and collaborative learning environments with low TCO.



Customer Benefits

- 13 racks have been reduced to 3 racks, **saving 80% of electricity cost**
- Operation and management is easier, and more than **60% maintenance workload is released**
- **More than 100 applications are supported**
- IT infrastructure becomes much **more reliable**, because DR and backup solution is integrated.
- System becomes **more secure**, because vNGAF is provided for internal and external protection
- Comprehensive features and functions provided with **low TCO**

Best Practices for Configuration

Suitable for 5k-8k Students

Solution components	Product model	Specification description	Quantity
Hardware	aServer-2100	CPU E5-2630v4*2 (10C20T, 2.2GHZ), 128G (16G*8) Memory, 8*SATA/SAS disk slots, 128G OS disk, 6*GE Recommended configuration: 2*240 SSD, 2*4TB SATA	4
	Tor Switch	24*GE Switch, 2 nodes are used for computer network and other 2 for storage network	4
HCI Software	aSV	Compute virtualization, HA, DRS, Automated hot add, backup, clone...	8
	aNet	Network virtualization, Distributed firewall, Drawable topology, visualized network, aSwitch, aRouter	8
	aSAN	Storage virtualization, 2-3copies, SSD read & write acceleration	8
	CDP main engine	Continuous Data Protection, software-based (per cluster), CDP can be enabled for 5 VMS by default	1
	CDP VM license	Software-based CDP license per VM	---
NFV	VAF-200L	FW, BM, IPS, URL&APP, anti-virus, anti-malware, email security, sandboxing, risk assessment, security visibility, basic security reporter included	1
	VAD-100	Load balance, reverse proxy, application performance monitor, report	1

Suitable for 9k-12k Students

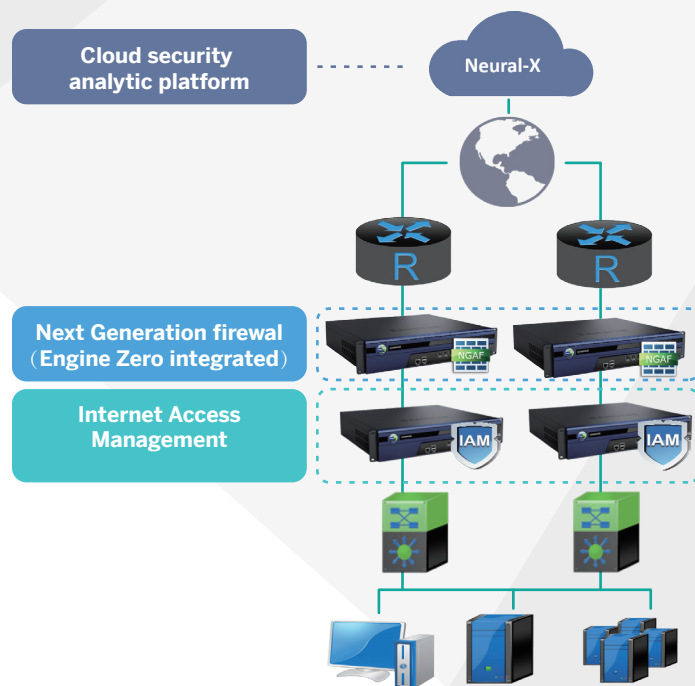
Solution components	Product model	Specification description	Quantity
Hardware	aServer-2100	CPU E5-2630v4*2 (10C20T, 2.2GHZ), 128G (16G*8) Memory, 8*SATA/SAS disk slots, 128G OS disk, 6*GE Recommended configuration: 2*240 SSD, 2*4TB SATA	6
	Tor Switch	24*GE Switch, 2 nodes are used for Vxlan network & 2 for business network	4
	Storage Switch	24*GE Switch are used for Storage network	2
HCI Software	aSV	Compute virtualization, HA, DRS, Automated hot add, backup, clone...	12
	aNet	Network virtualization, Distributed firewall, Drawable topology, visualized network, aSwitch, aRouter	12
	aSAN	Storage virtualization, 2-3copies, SSD read & write acceleration	12
	CDP main engine	Continuous Data Protection, software-based (per cluster), CDP can be enabled for 5 VMS by default	1
	CDP VM license	Software-based CDP license per VM	---
NFV	VAF-200L	FW, BM, IPS, URL&APP, anti-virus, anti-malware, email security, sandboxing, risk assessment, security visibility, basic security reporter included	2
	VAD-100	Load balance, reverse proxy, application performance monitor, report	1



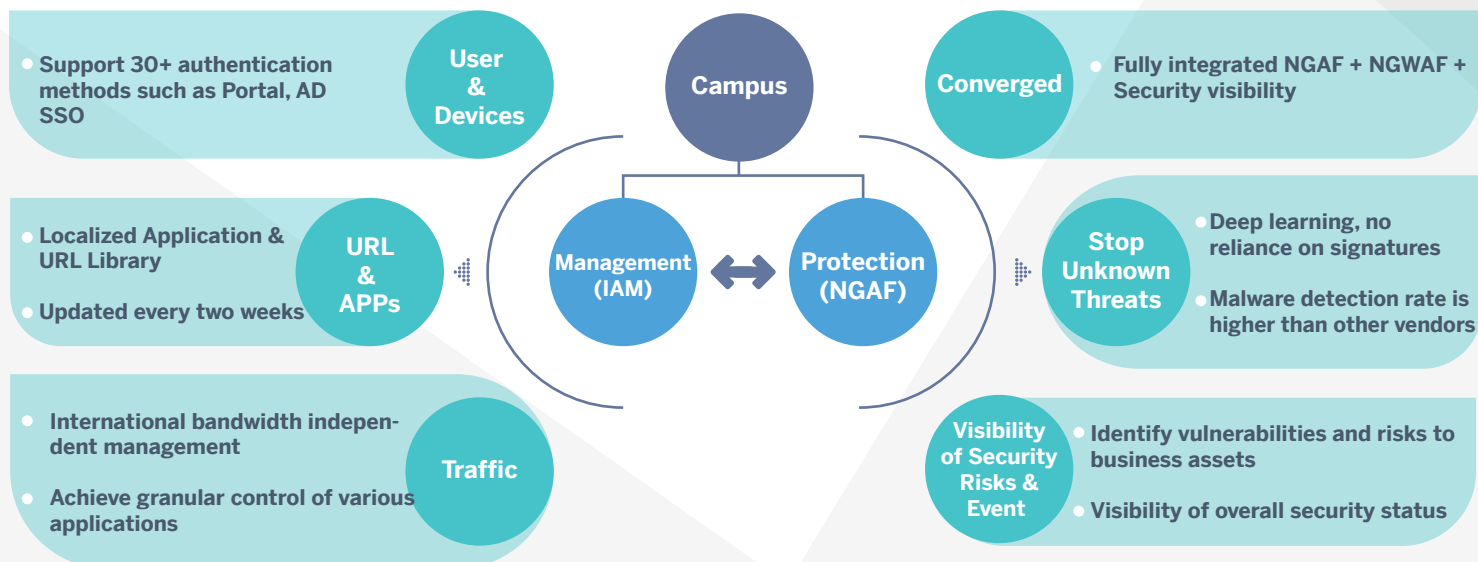
Sangfor Education Network Security and Management Solution

Solution Benefits

- One device protects network and web business security at the same time by converged WAF module
- Effectively identify and defend unknown threats with Engine Zero module based on AI and Big Data technology
- A cloud-based intelligence and analytic platform offers powerful security detection capabilities
- Improve network management efficiency and reduce internal security risk by deploying IAM that offers user authentication, behaviors control and bandwidth management



Technology Advantages



Best Practise of Sangfor Education Network Security Solution



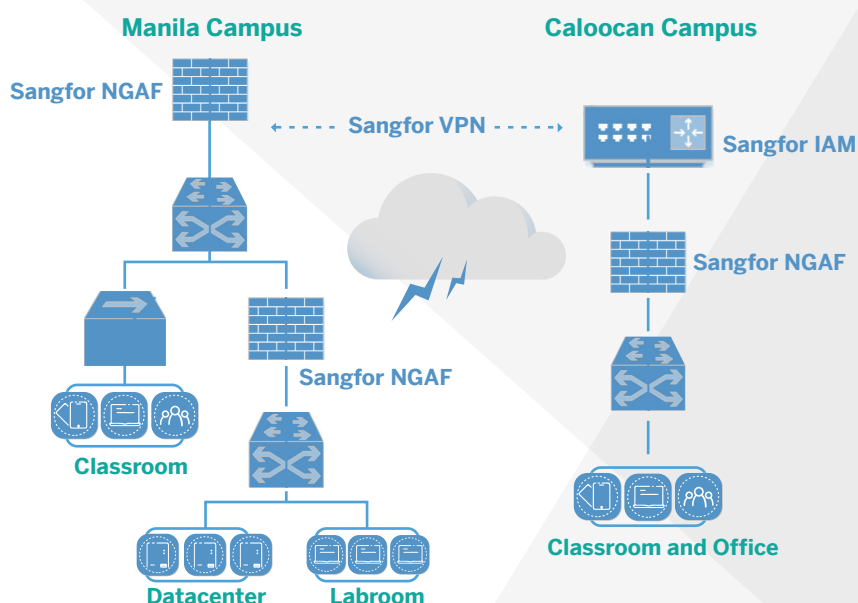
University of the East in Manila Philippines

UE has several campus in Manila and Caloocan, only Manila campus could have server (main webpage system, portal system, enrollment system, library system, etc.). Other campus must access to Manila campus datacenter.

Sangfor provided two NGAFs in Manila campus for campus security, one NGAF and one IAM in Caloocan campus for campus security and Internet proxy.

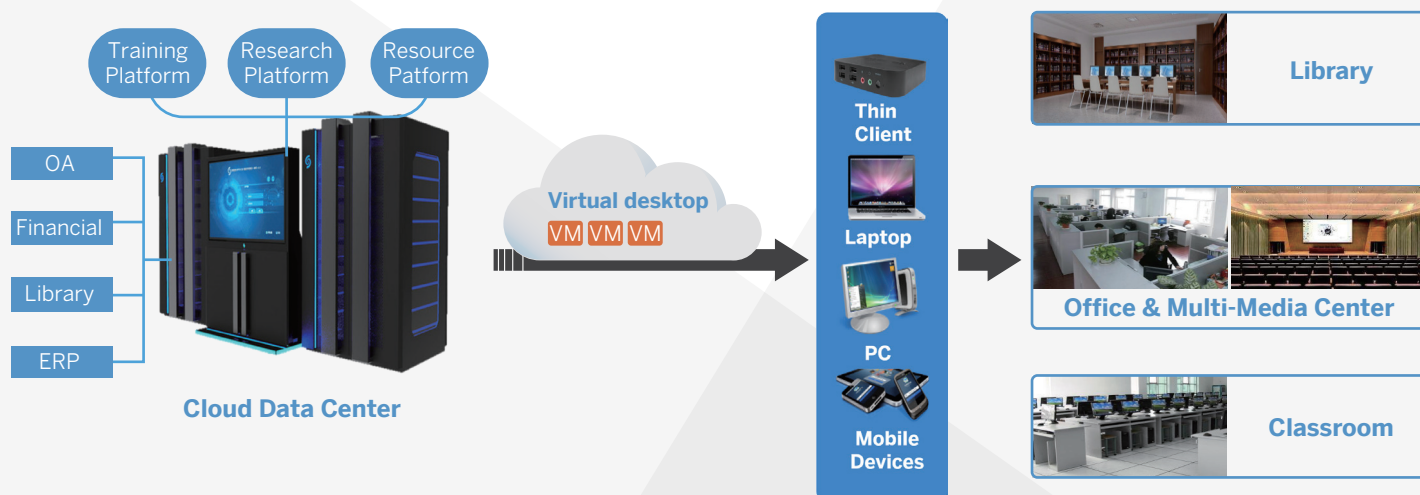
Key Advantages

- Holistic and real-time protection, clear and easy-to-understand report help UE effortlessly tackle with their security issues.
- With application control and proxy of IAM, UE can granularly control use behavior and the comprehensive report feature is an effective tool for understanding network status.



Sangfor VDI Solution for Education

All resources are deployed in cloud, teachers and students can get consistent experience when using different terminals to access. Desktop quick recover and batch management help save effort & time.





Solution Benefits



Resources Sharing Enables Agile Teaching

Simply get course resources without carrying laptop or copying



Improve Management Efficiency

Failure rate dropped by 80%. Minute-level recovery. Template deployment. Centralized management.



Enhanced Data Security

Centralized storage. Terminal without data storage. Risks of data loss and being attacked are reduced.

Technology Advantages

- ① One-Stop VDI Solution Based on Sangfor HCI
- ② Great HD Video Experience
- ③ Excellent Peripheral Compatibility
- ④ End-to-End Security Mechanism
- ⑤ Advanced 3D Features by NVIDIA

Best Practise of Sangfor Virtual Desktop Infrastructure Solution



Macau City University

Customer Background

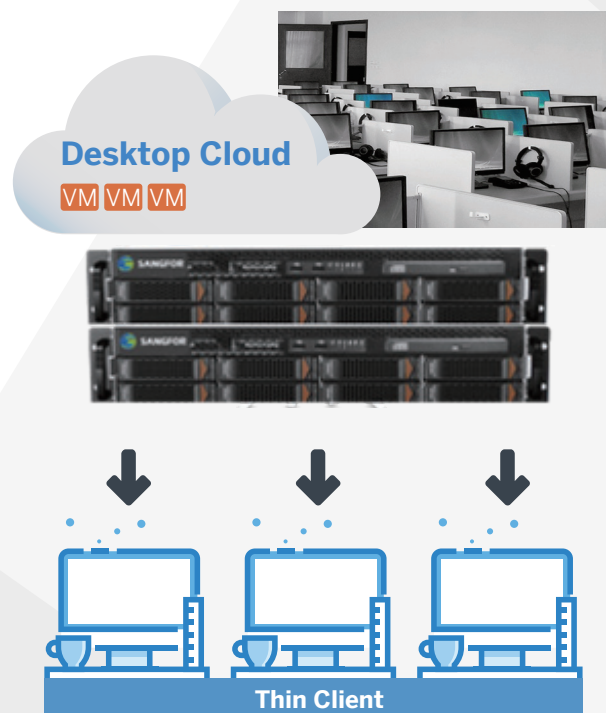
City University of Macau (CityU) is a private university in Macau. Formerly named as Asia International Open University(Macau)

Challenges

- Spend lot of time to power on/power off the PCs
- High failure rate and hard to upgrade PC performance
- No Authentication to connect to Internet

Benefits

- Schedule to power on/power off the PC every day, auto recover windows system disk after reboot.
- Easily adjust the PCs specs if needed
- Integrate with SANGFOR IAM for SSO authentication



Best Practices for Configuration

- Scenario: Library, Win10, 150 Thin clients
- Main applications: Unlimited internet surfing, video watching and document download

Module	Type	Quantity	Specification
Thin client	STD-200H-VGA/HDMI	150	
Server	VDS-6550	6	About 25 VM for per server
Software License	VS-6550	6	Virtual storage module
	VDI standard version license	150	Charge by concurrent users (including Private desktop /shared desktop/remote application)


- Scenario: Teaching office and multi-media, win10, 200 Thin clients
- Main applications: Microsoft office/CAD/upload & download/surfing internet & watch video/file encryption


Module	Type	Quantity	Specification
Thin client	STD-200H-VGA/HDMI	200	
Server	VDS-6550	8	About 25 VM for per server
Software License	VS-6550	8	Virtual storage module
	VDI standard version license	200	Charge by concurrent users (including Private desk/shared desk/remote application)

- Scenario: Students room, win10, 250 Thin clients
- Main applications: Microsoft office /CAD/Courseware/video streaming


Module	Type	Quantity	Specification
Thin client	STD-200H-VGA/HDMI	250	
Server	VDS-6550	12	About 20 VM for per server
Software License	VS-6550	12	Virtual storage module
	VDI standard version license	250	Charge by concurrent users (including Private desk/shared desk/remote application)

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