



**SANGFOR**

## What's New with HCI 5.8.3

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2018.1



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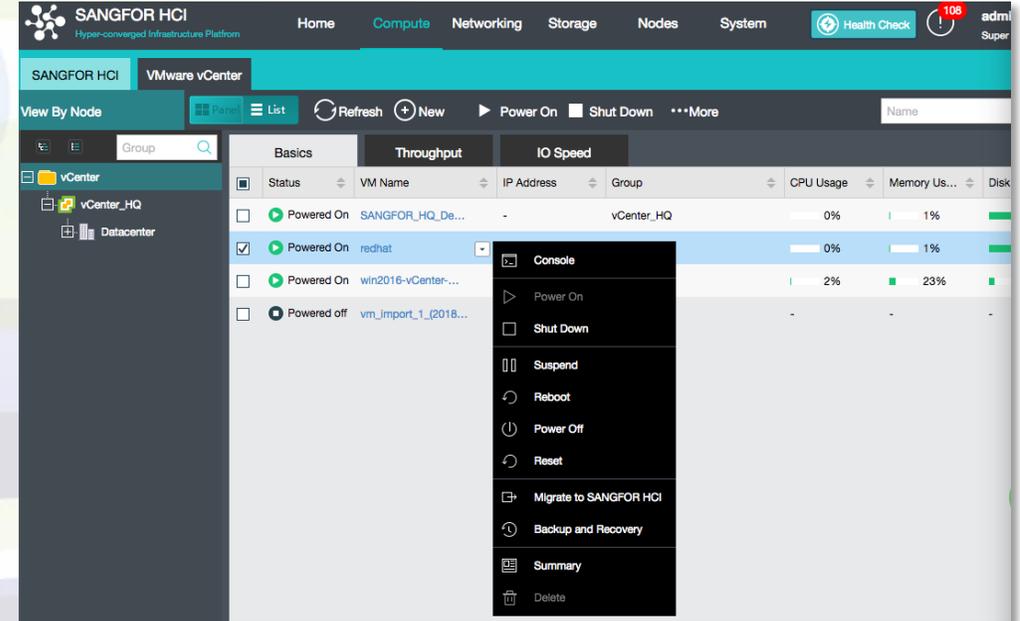
# Overview

- 01 VMware management
- 02 VMware backup
- 03 CDP
- 04 Instant recovery
- 05 iSCSI server enhancement
- 06 vSSL VPN integration
- 07 Virtual volumes on aSAN
- 08 Licensing

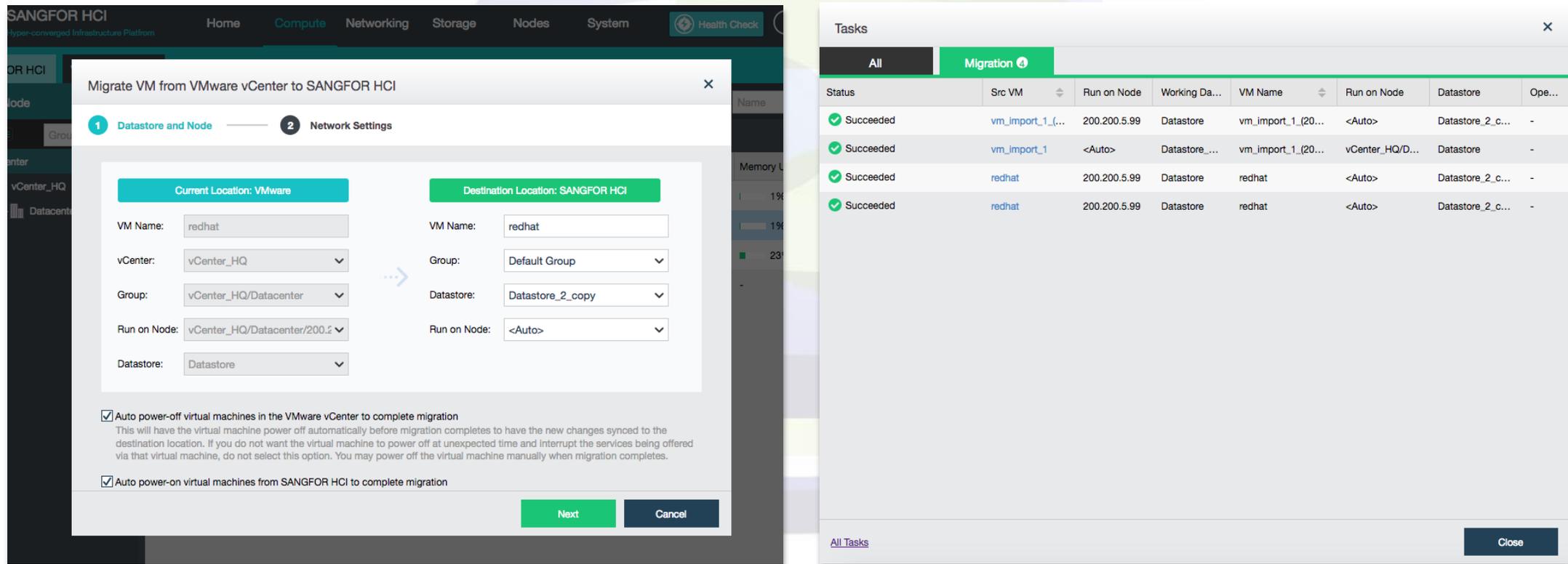
# VMware Management



- Unified management
  - ✓ vCenter can be added to Sangfor management platform to achieve unified management
  - ✓ Basic VM administrations can be operated on Sangfor management platform directly like open console, power on/off, deploy template VMs, view summary, etc.



- Bi-directional migration
  - ✓ VMs can be migrated between Sangfor and VMware in a near-live fashion
  - ✓ VMs need to be rebooted to complete migration, this reboot process can be set automatically



The screenshot displays the SANGFOR HCI management console. The main window is titled "Migrate VM from VMware vCenter to SANGFOR HCI" and is divided into two steps: "1 Datastore and Node" and "2 Network Settings".

**Current Location: VMware**

- VM Name: redhat
- vCenter: vCenter\_HQ
- Group: vCenter\_HQ/Datacenter
- Run on Node: vCenter\_HQ/Datacenter/200.2
- Datastore: Datastore

**Destination Location: SANGFOR HCI**

- VM Name: redhat
- Group: Default Group
- Datastore: Datastore\_2\_copy
- Run on Node: <Auto>

Options at the bottom:

- Auto power-off virtual machines in the VMware vCenter to complete migration. This will have the virtual machine power off automatically before migration completes to have the new changes synced to the destination location. If you do not want the virtual machine to power off at unexpected time and interrupt the services being offered via that virtual machine, do not select this option. You may power off the virtual machine manually when migration completes.
- Auto power-on virtual machines from SANGFOR HCI to complete migration

Buttons: Next, Cancel

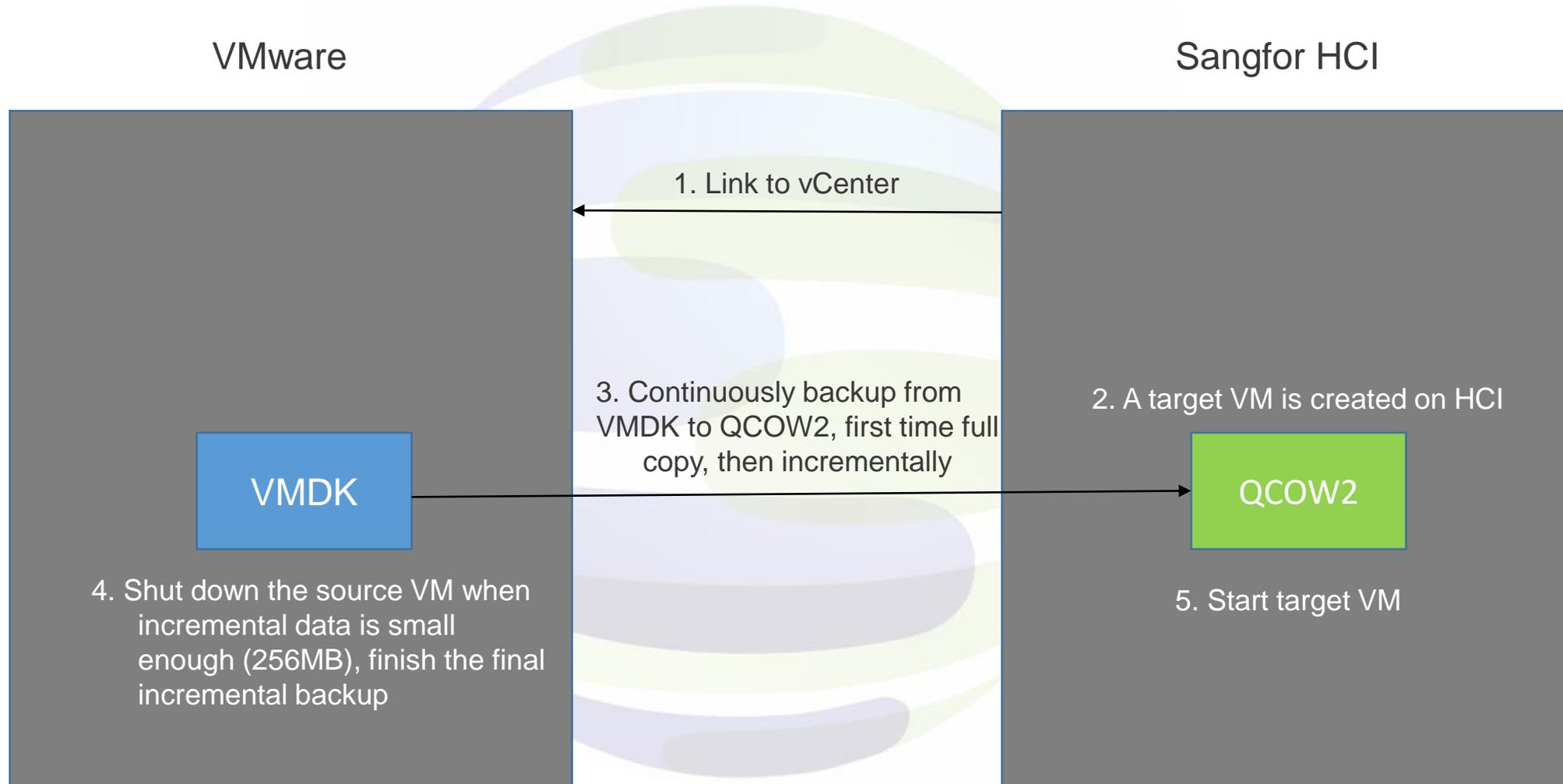
**Tasks Panel:**

Status	Src VM	Run on Node	Working Da...	VM Name	Run on Node	Datastore	Ope...
✓ Succeeded	vm_import_1_(...	200.200.5.99	Datastore	vm_import_1_(20...	<Auto>	Datastore_2_c...	-
✓ Succeeded	vm_import_1	<Auto>	Datastore_...	vm_import_1_(20...	vCenter_HQ/D...	Datastore	-
✓ Succeeded	redhat	200.200.5.99	Datastore	redhat	<Auto>	Datastore_2_c...	-
✓ Succeeded	redhat	200.200.5.99	Datastore	redhat	<Auto>	Datastore_2_c...	-

Buttons: All Tasks, Close

# Bi-directional Migration

VMware to HCI



The same process in reverse applies to HCI to VMware migration

# VMware Backup and Restore



- Built-in backup and restore
  - ✓ VMs in VMware environment can be backed up to Sangfor HCI with no requirement for 3<sup>rd</sup> party backup software
  - ✓ Manual backup and scheduled backup policy are both supported, minimum interval for scheduled backup is 10 mins

SANGFOR HCI Hyper-converged Infrastructure Platform

System > VM Backup and Recovery

Policy Name	Description	VM(s)	Backup Repository	Periodic	Status	Operation
CDP_hourly_backup_...		1	Datastore_2_copy	Continuous backup (CDP)	✓	Edit Delete
Default backup policy	New virtual machine will be associat...	1	Auto-selected	Every Friday, start at 23:00	✗	Edit

SANGFOR HCI Hyper-converged Infrastructure Platform

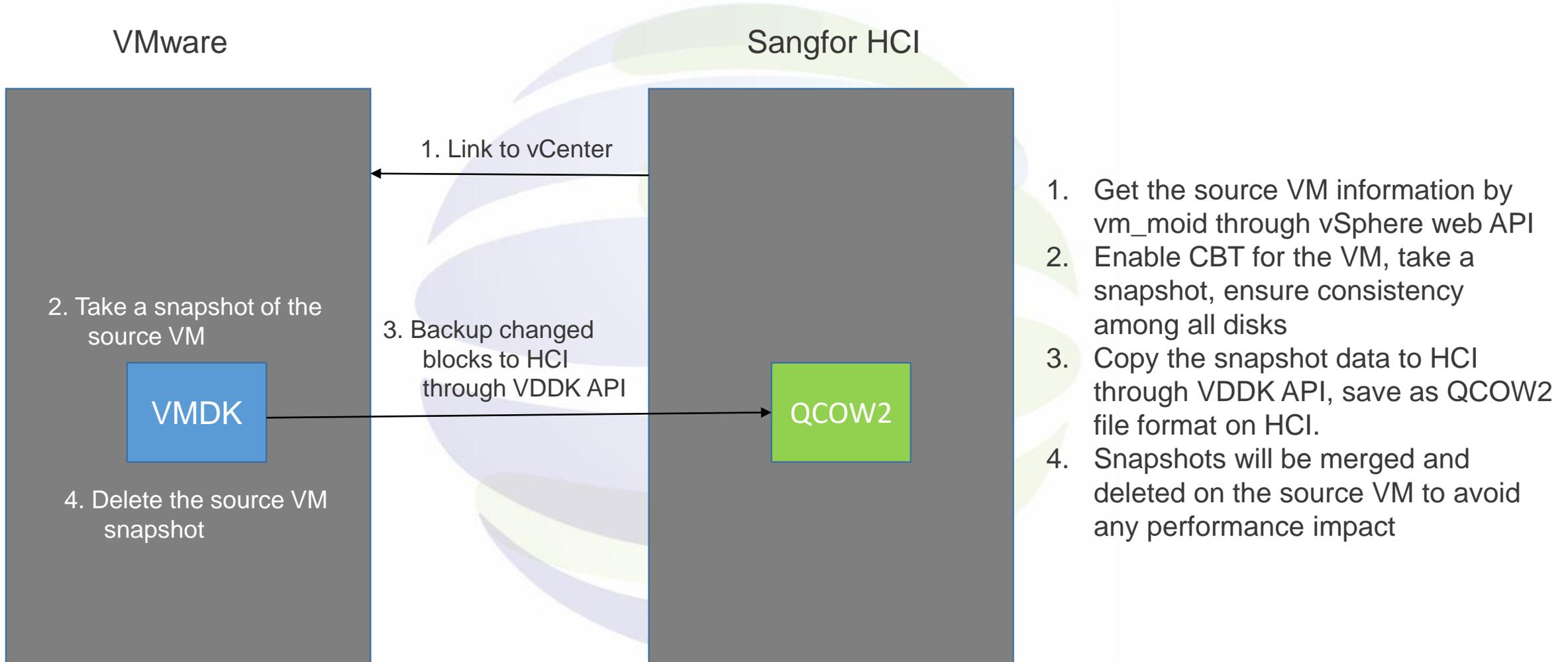
Compute > VMware vCenter > (win2016-vCenter-勿动)

Backup Scheduled Backup

2018-01-09\_19-31-27

# VMware Backup and Restore

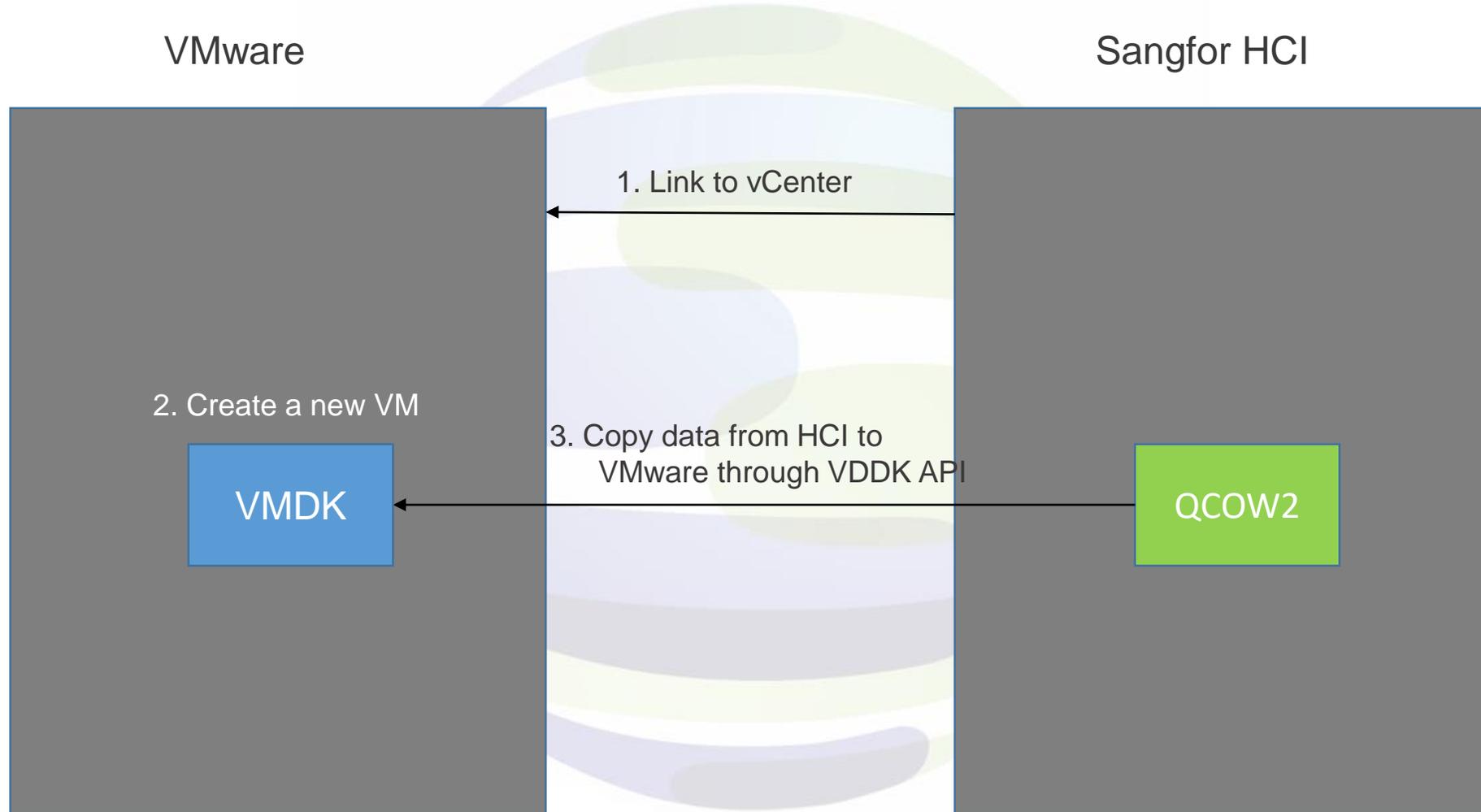
## Backup



First time full copy, subsequent copies are incremental. Minimum backup interval is 10 mins, however due to merge and deletion of snapshot data on source VM, pragmatic RPO is around 15 mins.

# VMware Backup and Restore

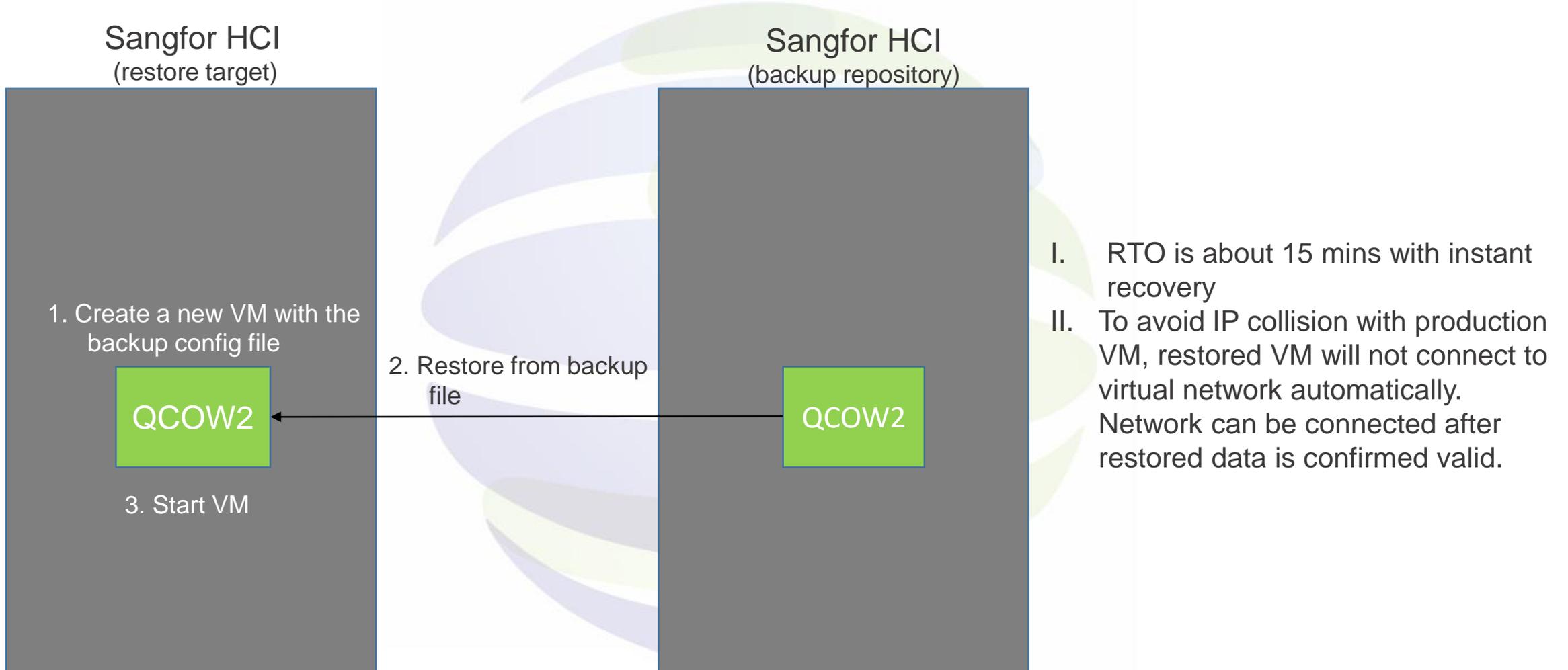
Restore to VMware



No instant recovery for restoration on VMware

# VMware Backup and Restore

## Restore to HCI



Note: Backup VMs can only be restored to VMware if NFS or Windows shared folder is used as backup repository.

# New scenarios and value propositions

## VMware replacement

- ✓ Unified management for transition period
- ✓ Start with less priority applications to build up customer's confidence
- ✓ Easy to migrate workloads with almost live migration

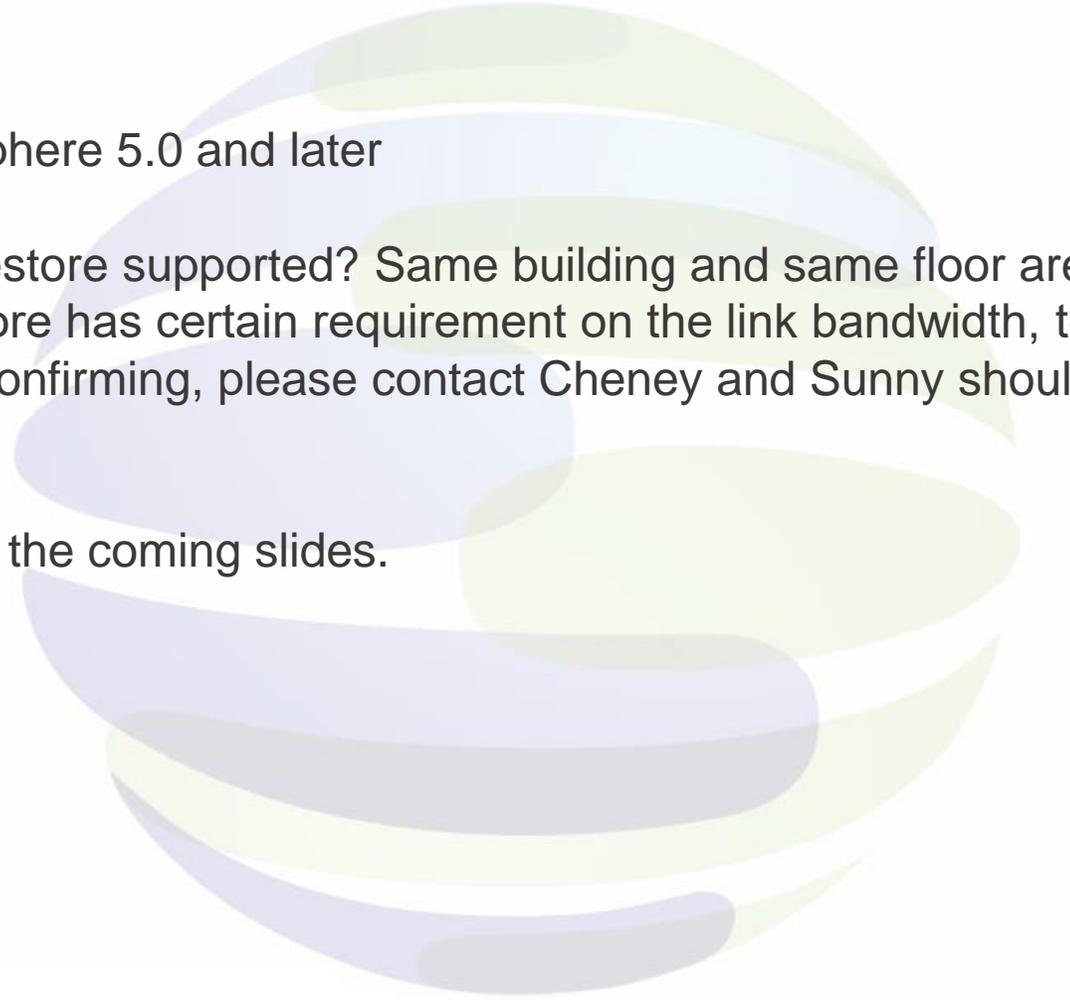
## VMware backup

- ✓ Agentless backup eliminating 3<sup>rd</sup> party backup software
- ✓ Fine-grained backup frequency
- ✓ Scheduled backup policy
- ✓ Instant recovery

## VMware expansion

- ✓ Effortless management
- ✓ Shared storage to improve reliability
- ✓ Linear expansion of performance and capacity
- ✓ Future-proof evolution

1. Supported versions: vSphere 5.0 and later
2. Is remote backup and restore supported? Same building and same floor are definitely supported, off-site backup and restore has certain requirement on the link bandwidth, technically, it's supported. R&D is still confirming, please contact Cheney and Sunny should you have this type of project requirement
3. Licensing? Check out in the coming slides.



# CDP (Continuous Data Protection)



## Overview

- Just another feature on HCI, no need for any plugin or 3<sup>rd</sup> party software, all-in-one VM-level CDP solution
- Every write IO is recorded, VM can be recovered at any IO recording points, RPO= 5 seconds
- Instant file browsing and download

## Values

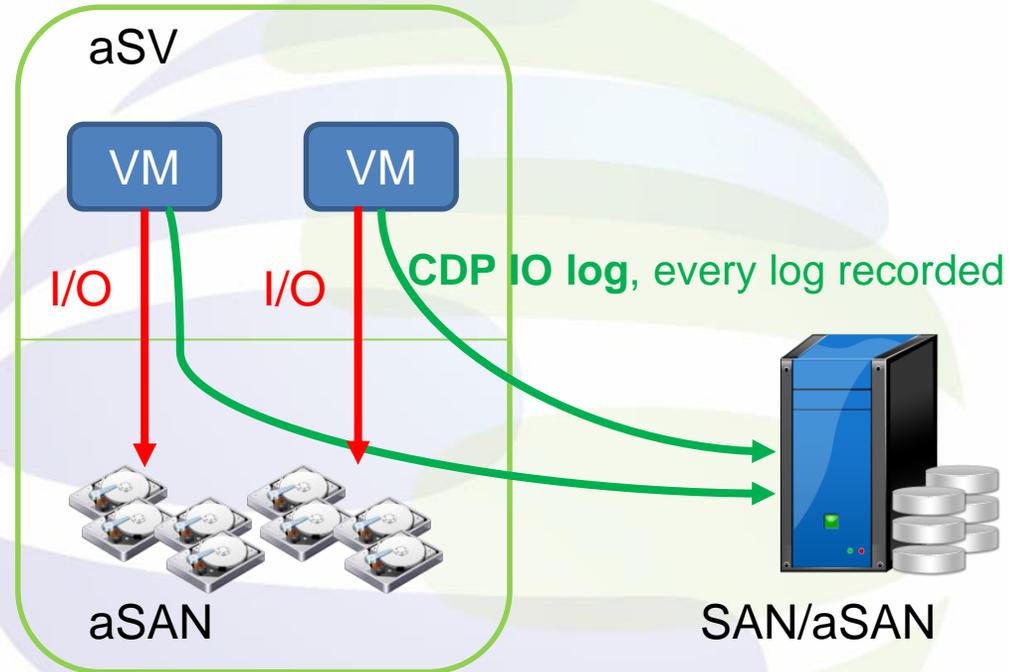
Near-zero RPO, CDP is only a license away, easy to use

## Target Customer

Customers with business-critical applications such as database, ERP, etc.

# CDP: How it works

IO record



- ✓ After CDP is enabled, IO logs will be written into dedicated memory and then written to backup storage asynchronously. No impact on VM performance.
- ✓ CDP will consume very little CPU resource and 2GB dedicated memory. After CDP is enabled for a VM, HCI platform will add extra 2GB to this VM from available host memory resource.

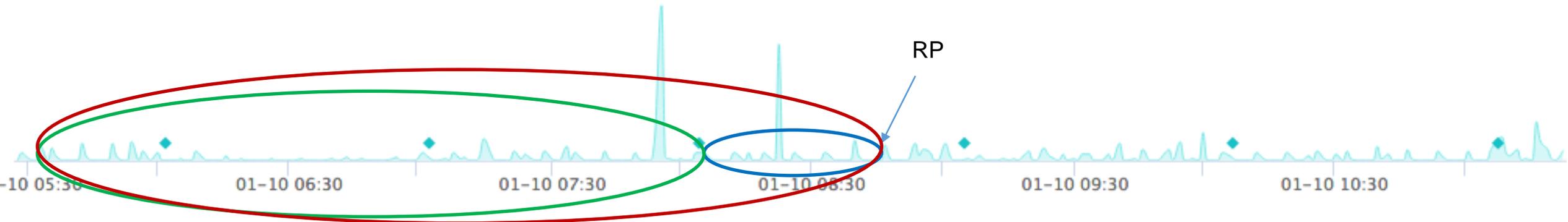
# CDP: How it works



## Recovery point

1. A full backup will be executed when CDP is enabled for the first time, all the recovery points will be based on this full backup
2. A recovery point will be created every 5 seconds
3. An incremental backup will be implemented every 1 hour or so (backup interval can be adjusted)
4. When recovering based on a certain recovery point, all the IO records between this recovery point and the latest backup point as well as all the prior backup versions will be merged.

Time Range:  2018-01-10 05 : 27 to 2018-01-10 11 : 27  ◆ Backup 📄 IO Activities



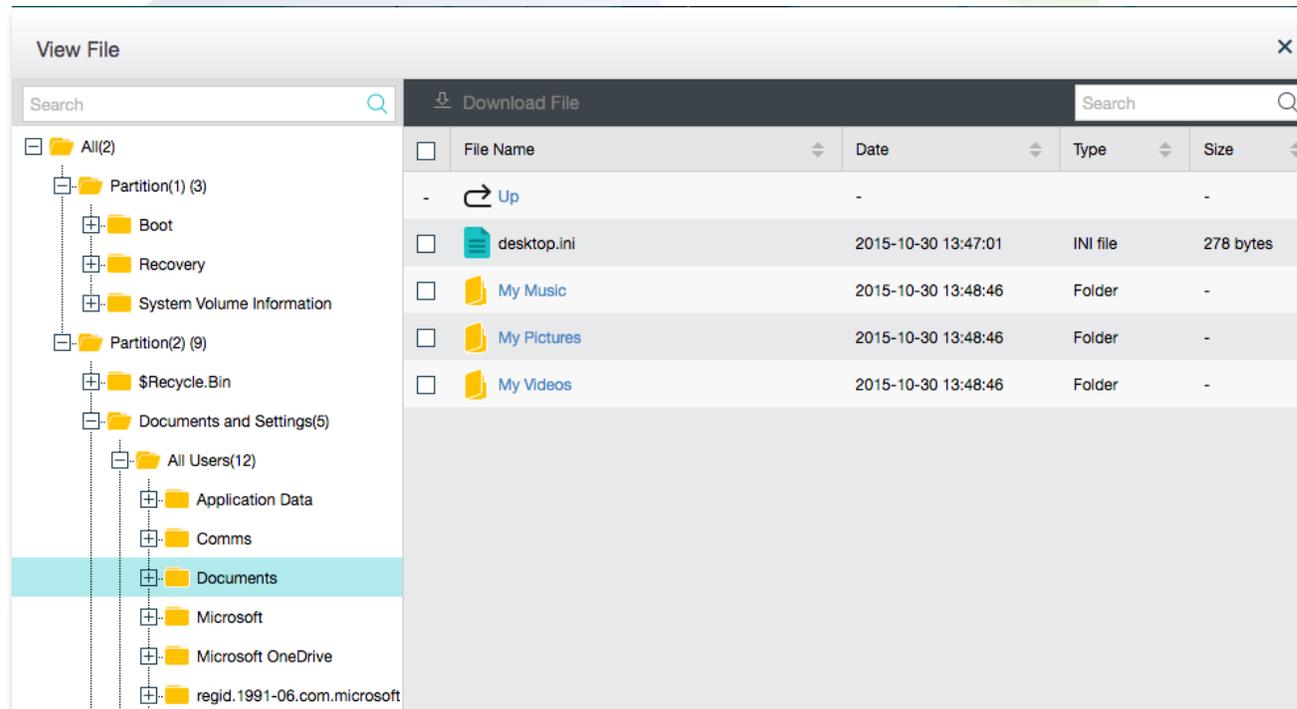
# CDP: How it works

Instant file recovery



- ✓ BPs (backup point) and RPs (recovery point) are merged and packaged as a file, the file is displayed by being mounted to HCI's catalog
- ✓ Choose the file that needs to be recovered and you can download it right away.

**Note: this feature is only supported by NTFS and FAT32 on Windows**



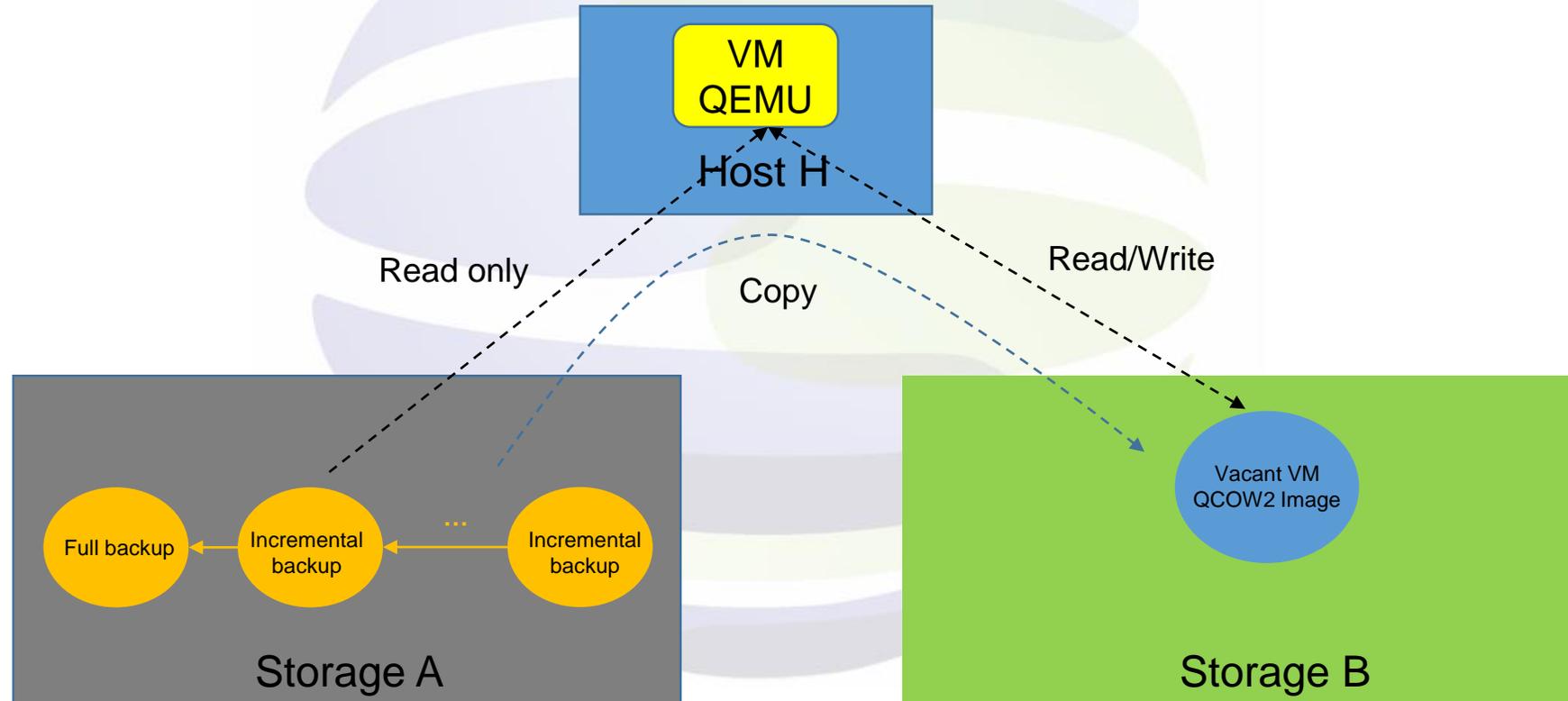
# CDP: How to calculate capacity



- ✓ The average number of VMs protected by CDP should not exceed 3 on each server node, and each server should have more than 128GB memory
- ✓ CDP target storage can be set on iSCSI/FC SAN or another aSAN
- ✓ How to calculate CDP storage capacity
  - Business data capacity + average hourly data increments \* 96 (latest 3 months, hourly ) + IO log maximum capacity
- ✓ How to calculate IO log maximum capacity
  - Average data increment per second (MB/s) \* 3600 (1 hour) \* retention period (hours) (if this data can't be acquired, take 800GB as the default IO log capacity )
- ✓ Backup storage approach
  - It's recommended to store CDP IO Log and backup data separately, put backup data on external storage and IO logs on aSAN or external storage

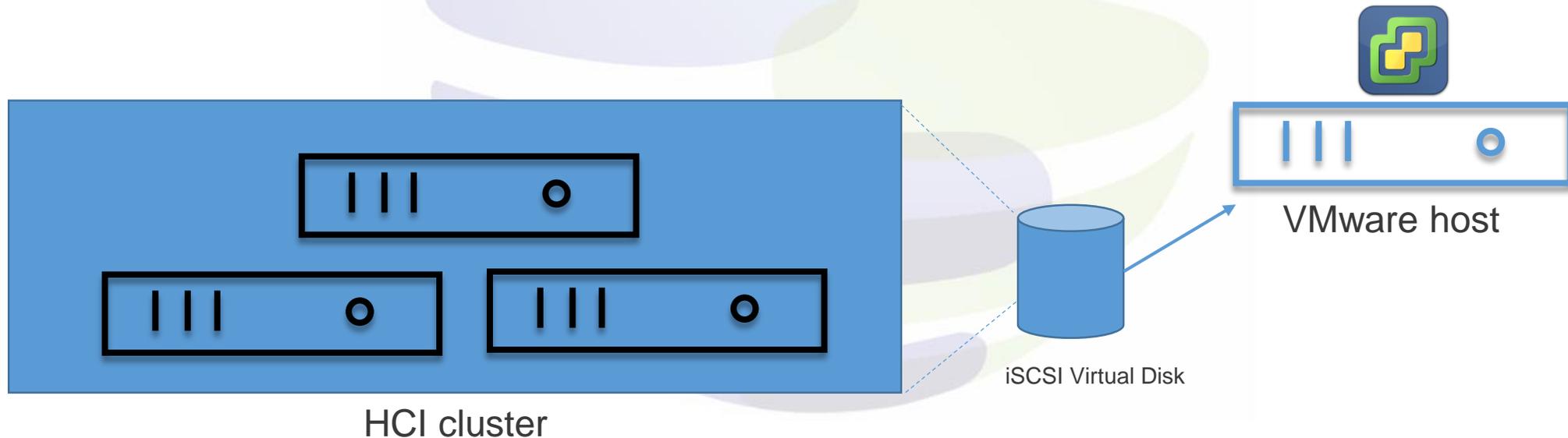
# Instant Recovery

- ✓ Applies to all backups on HCI, be it VMware backup, HCI backup or CDP
- ✓ When recovering, VMs can be booted up within 3 minutes and climb to normal performance within 15 minutes.
- ✓ Significant RTO reduction compared to previous backup recovery



# iSCSI Server Enhancements

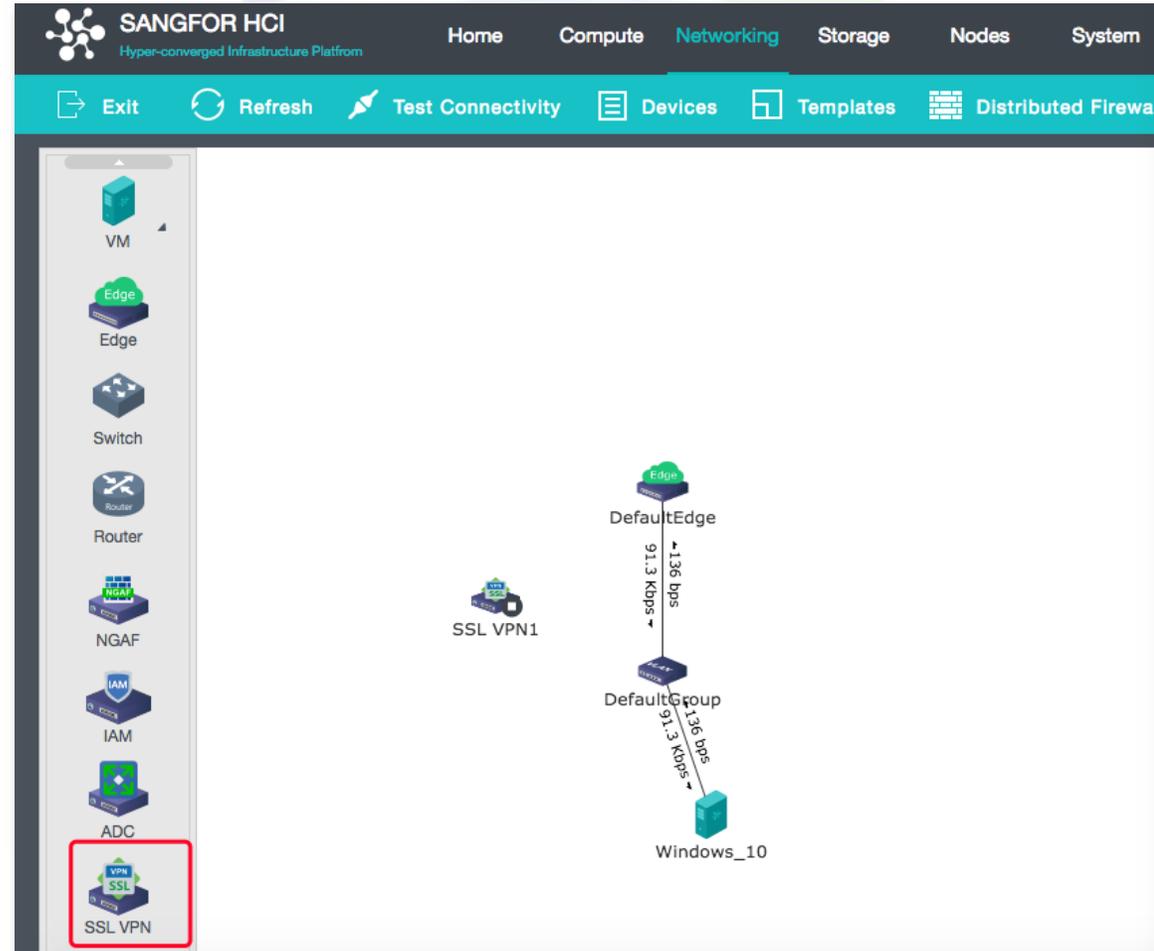
- ✓ aSAN iSCSI virtual disks can be mounted to VMware hosts, faster and more reliably
- ✓ Support high availability and load balancing for VMware host iSCSI connection, no more SPOF and performance bottleneck
- ✓ iSCSI Server now can be presented through storage network instead of management network for higher bandwidth (3 nodes at least)



# vSSL VPN Integration



vSSL VPN now is fully optimized on HCI, it can be configured on “what you draw is what you get” page. With this update, NFV on HCI now expands to vAF, vIAM, vAD and vSSL VPN.



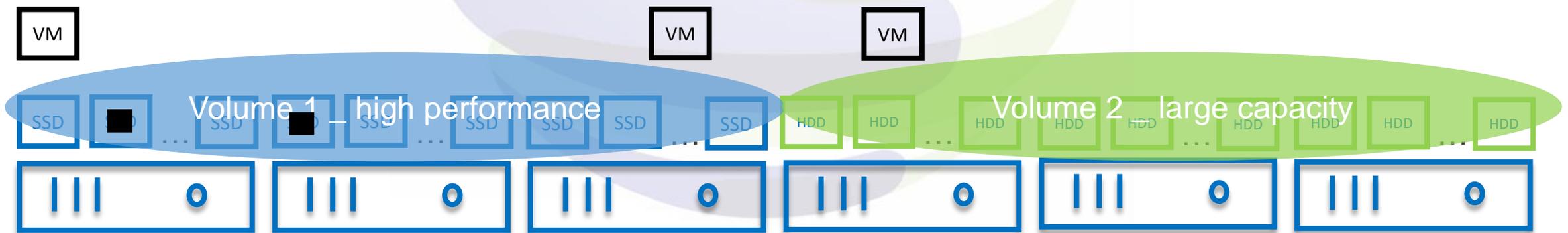
# Creating Virtual Storage Volumes on aSAN



Virtual storage volumes can be created based on hosts with different disk performance and capacity.

- Each volume is a physically isolated storage pool
- Users can choose which volume to run VMs on according to performance and capacity requirements
- At least 3 physical nodes are needed to support a virtual volume, that said, cluster under 6 nodes can only create one single volume which is the same as before

VM running priority: host with the data copy -> host within the volume -> cross-volume host



## 3 new licenses

1. **aHM (VMware heterogeneous and backup license):** per VMware VM, the aSV equivalent number of VMs are licensed for free, say customer purchased 4 aSV licenses, then they can get 4 aHM licenses for free
2. **CDP (base software license):** one per cluster (one license is enough for multiple clusters after aCMP is released), mandatory for CDP function, it includes a quota of 5 VMs to be protected by CDP
3. **CDP VM License:** per VM to be protected by CDP, CDP base software is a prerequisite for this license

Software			
aSV	aSV (Compute Virtualization License per Physical CPU)	Server virtualization, HA, DRS, Automated Hot Add, Backup, Clone, ...	\$1,562
aNET	aNet (Network Virtualization License per Physical CPU)	Network virtualization, Distributed Firewall, Drawable topology, Visualized network, aSwitch, aRouter...	\$750
aSAN	aSAN (Storage Virtualization License per Physical CPU)	Storage Virtualization, 2-3 copies, SSD read and write acceleration, Data locality,...	\$3,156
aHM	VMware Heterogeneous Management & Backup (Per VMware VM)	Based on how many VMware VMs to be backed up, one license per VM. A number of VMs (equivalent to the aSV quantity) are licensed for free	\$70
CDP	Continuous Data Protection Base Software (Per Cluster)	CDP main software engine, mandatory for CDP function, one per cluster ( <b>Please be noted that once aCMP with multi-cluster management is released, one CDP base software license can be used by multiple clusters</b> ), CDP can be enabled for 5 VMs by default with this license activated	\$7,800
CDP VM License	CDP VM License (Per VM)	CDP base software license must be purchased before this license, license is purchased per VM to be protected by CDP	\$447

# UI Changes

**SANGFOR HCI**  
Hyper-converged Infrastructure Platform

Home Compute Networking Storage Nodes **System** Health Check 109 admin Super Admin

System > Licensing

Edition: **Pro Enterprise Edition**

Basic Components: Update Service Expiration Date: 2018-07-08

aSV (Compute Virtualization)	aNET (Network Virtualization)	aSAN (Storage Virtualization)
Version: V5.8.2	Version: V5.8.2	Version: V2.7.0
Expiration Date: 2018-07-09	Expiration Date: 2018-07-08	Used/Licensed CPUs: 2 / 8
Host CPUs: 2 / 8	Distributed Firewalls: Enabled	

Virtual Network Function License:

NGAF	ADC	SSL VPN
 Not licensed	 Not licensed	 Not licensed

**You may**

- Edit License Key
- Export License Ke...

**With this edition, you can:**

- ✓ Add up to 64 nodes in a single cluster
- ✓ 10-6 PST customer service
- ✓ Simplify software update

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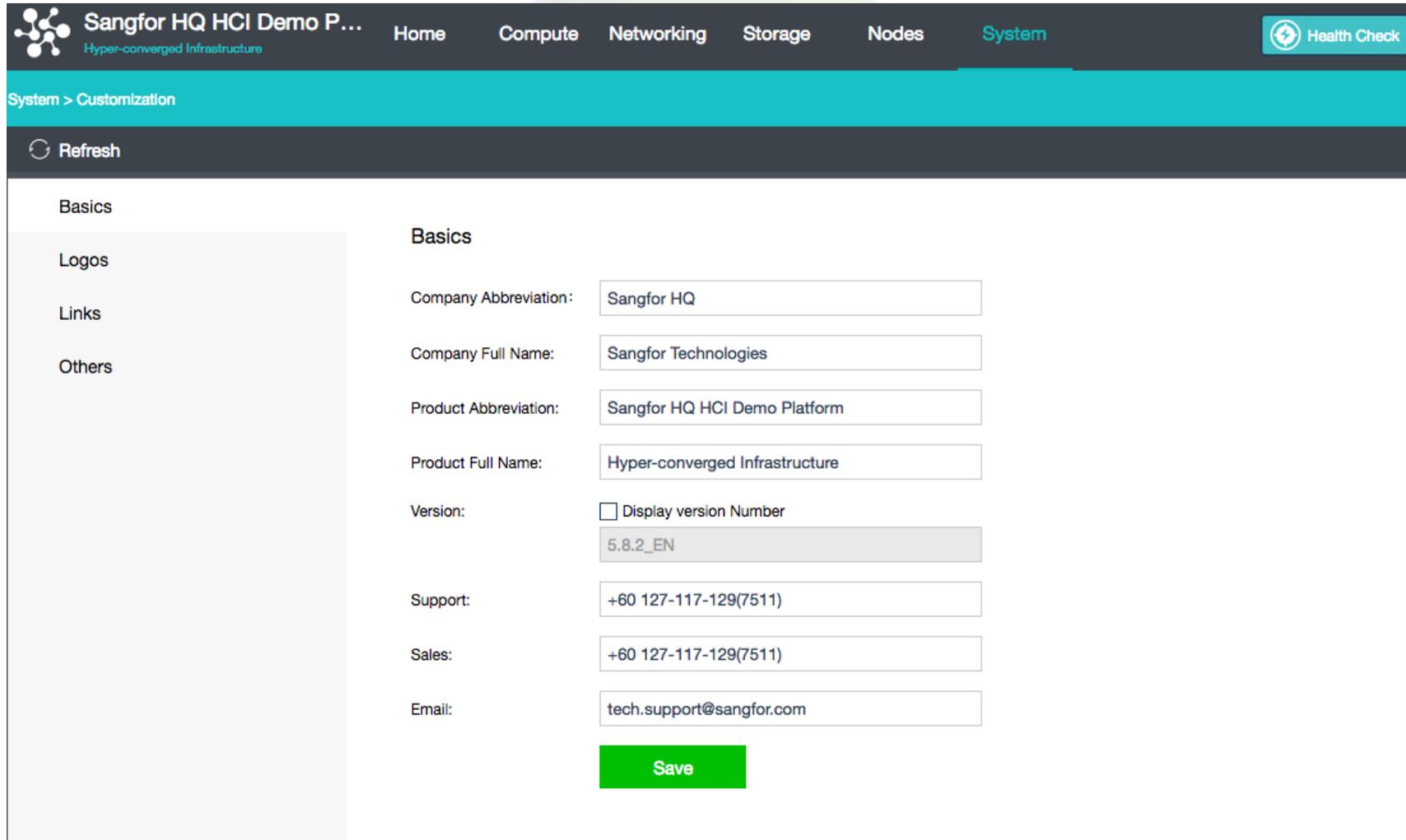
Sangfor (P.R.C)  
Tel: 0755-86627874

Virtiant (U.S.A)

# One More Thing...



## Customization



The screenshot shows the 'System > Customization' page in the Sangfor HQ HCI Demo Platform. The page has a dark header with navigation links: Home, Compute, Networking, Storage, Nodes, and System. A 'Health Check' button is in the top right. Below the header is a teal bar with 'System > Customization' and a 'Refresh' button. The main content area is divided into a left sidebar and a main form. The sidebar has a 'Basics' section selected, with other options: Logos, Links, and Others. The main form is titled 'Basics' and contains the following fields:

- Company Abbreviation: Sangfor HQ
- Company Full Name: Sangfor Technologies
- Product Abbreviation: Sangfor HQ HCI Demo Platform
- Product Full Name: Hyper-converged Infrastructure
- Version:  Display version Number, 5.8.2\_EN
- Support: +60 127-117-129(7511)
- Sales: +60 127-117-129(7511)
- Email: tech.support@sangfor.com

A green 'Save' button is located at the bottom of the form.

# One Last Thing...



Intel Xeon Scalable Processors will be supported on HCI 5.8.3, and our HCI appliance hardware platform will also shift to SP CPU platform starting Feb., 2018.



**SANGFOR**



# Thank you !

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## SANGFOR

*Your Future-Proof IT Enabler*

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