



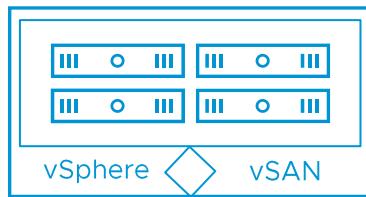
# VMware Cloud Foundation

Automation Build In

# The Foundational Elements of Private and Public Clouds

## Core HCI

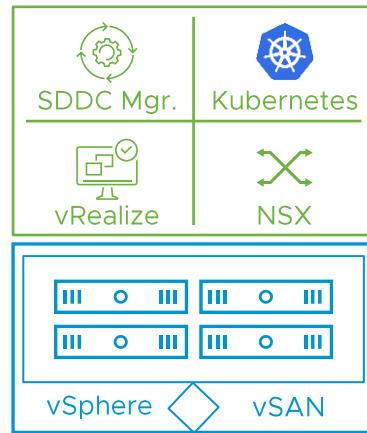
vSAN + vSphere



Core Cloud  
Capabilities

## Full Stack HCI

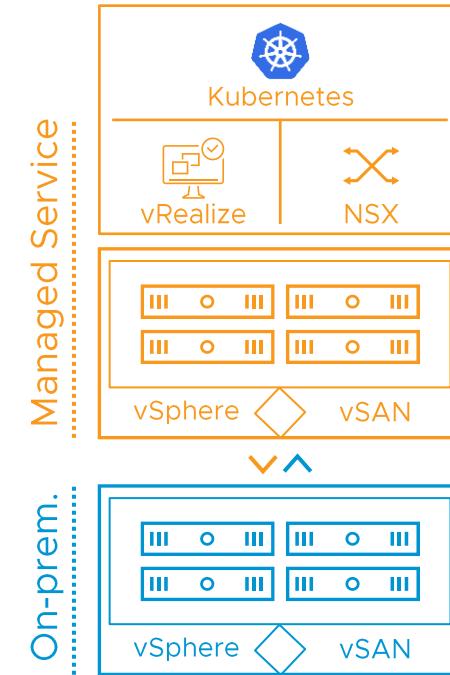
VMware Cloud Foundation



Comprehensive  
Private Cloud

## Hybrid Cloud

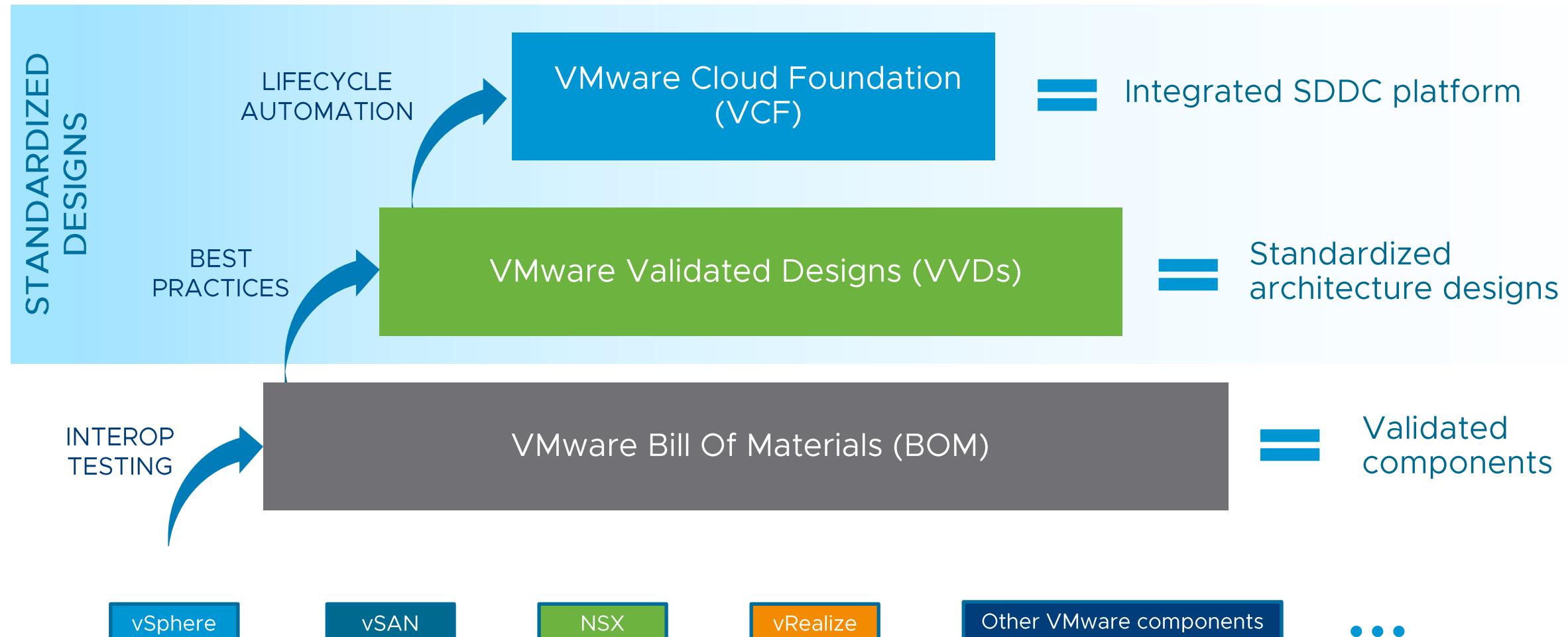
VMware Cloud on AWS



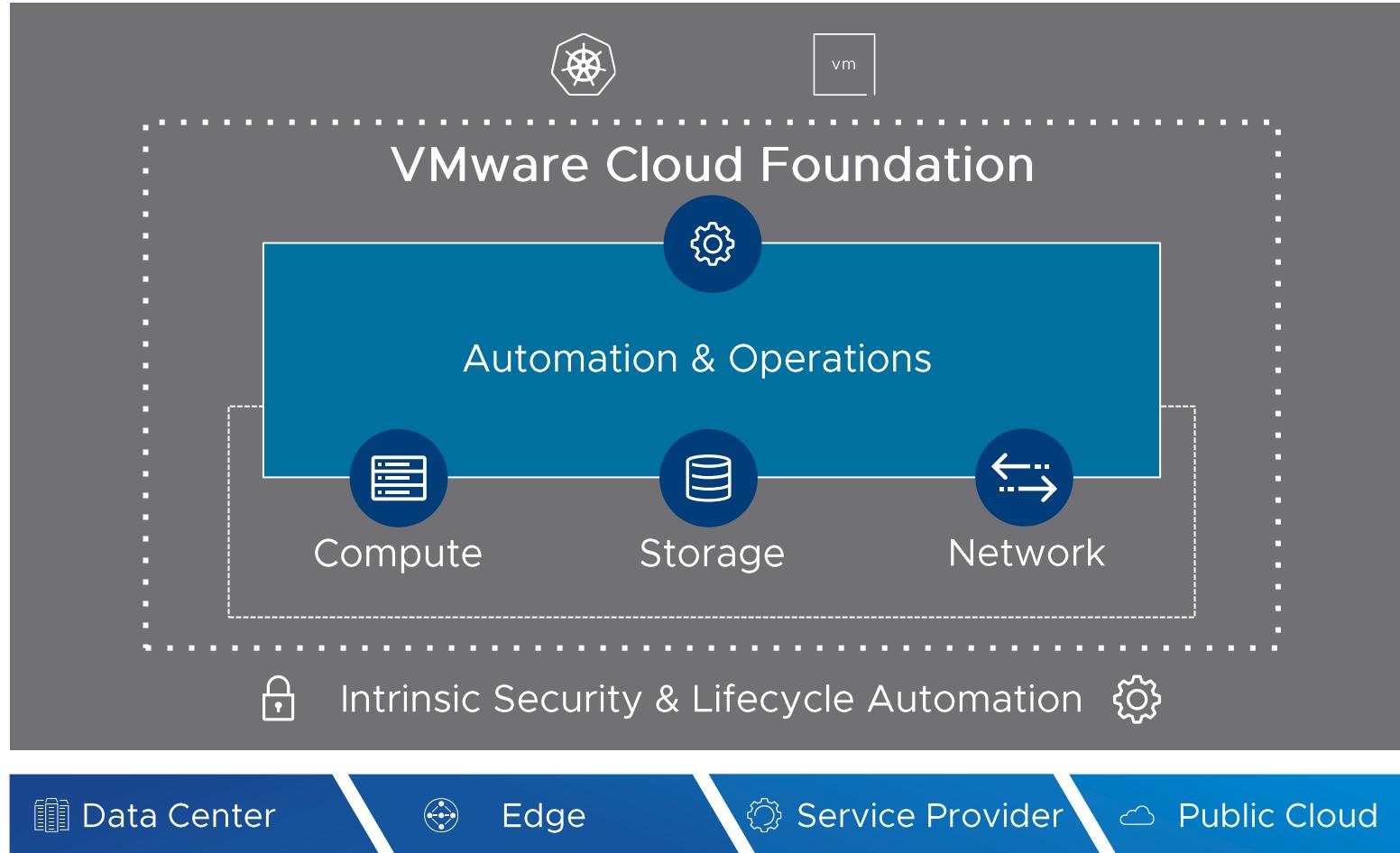
Scale Infrastructure  
on Demand

# VMware's approach to VMware Cloud Foundation

## The Standardized Software defined Data Center

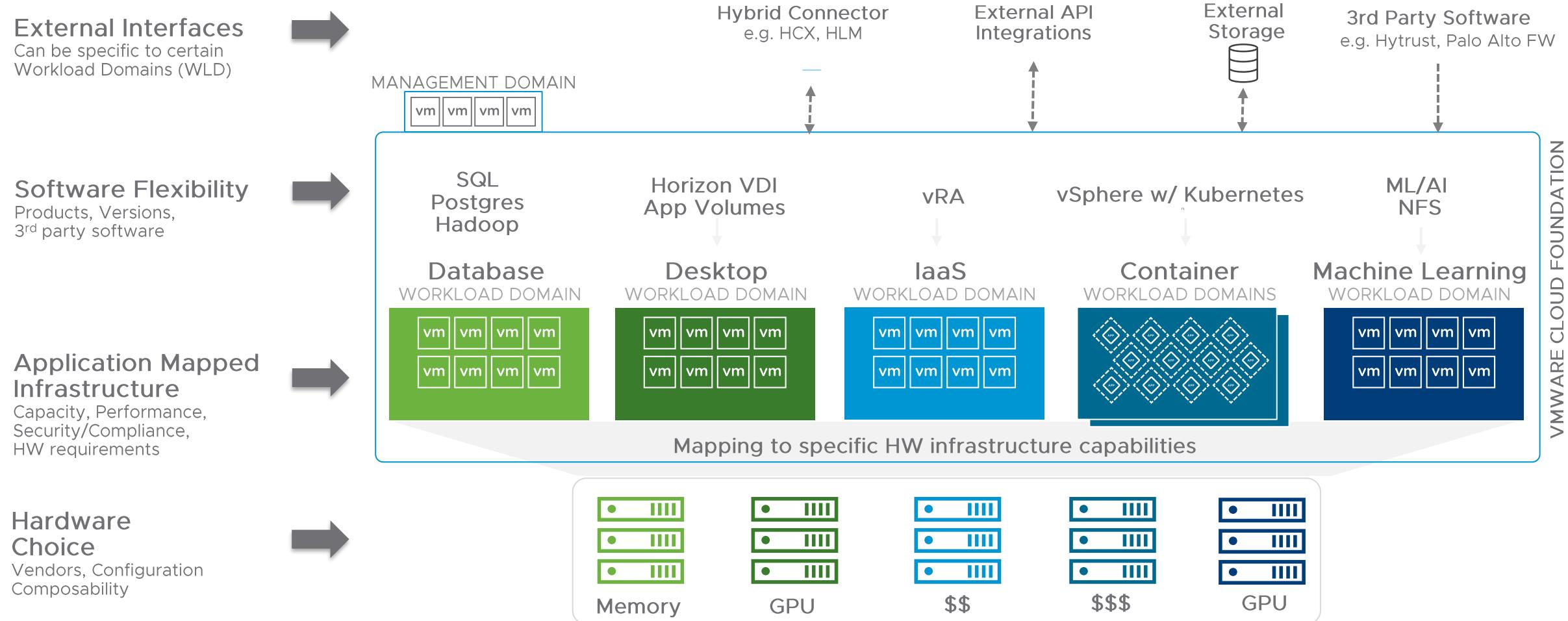


# VMware Cloud Foundation: Automating the Components



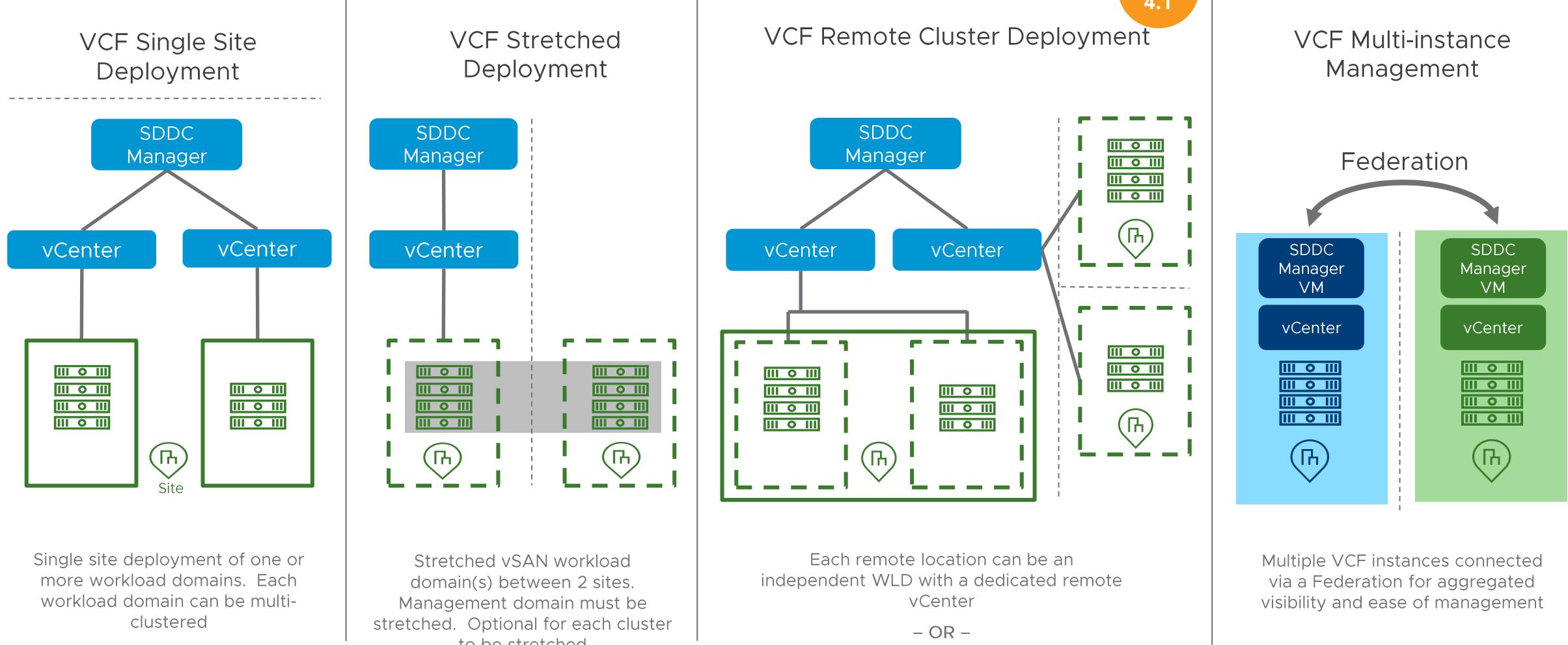
# VMware Cloud Foundation: Workload Domains

On-demand, policy managed infrastructure for workloads



# Cloud Foundation Deployment Options

Multiple deployment models support various use cases



Single site deployment of one or more workload domains. Each workload domain can be multi-clustered

Stretched vSAN workload domain(s) between 2 sites. Management domain must be stretched. Optional for each cluster to be stretched

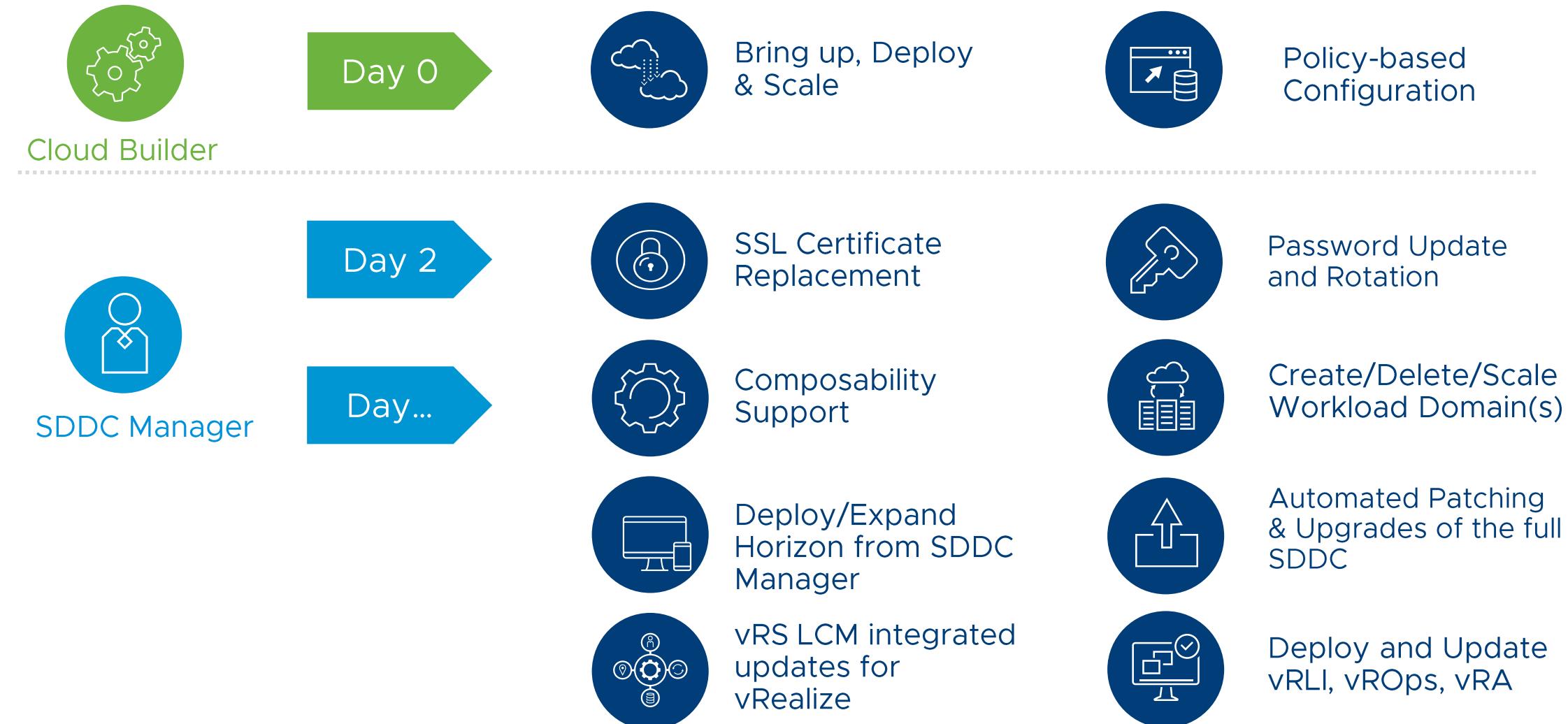
Each remote location can be an independent WLD with a dedicated remote vCenter  
– OR –

One or more clusters sharing a common vCenter

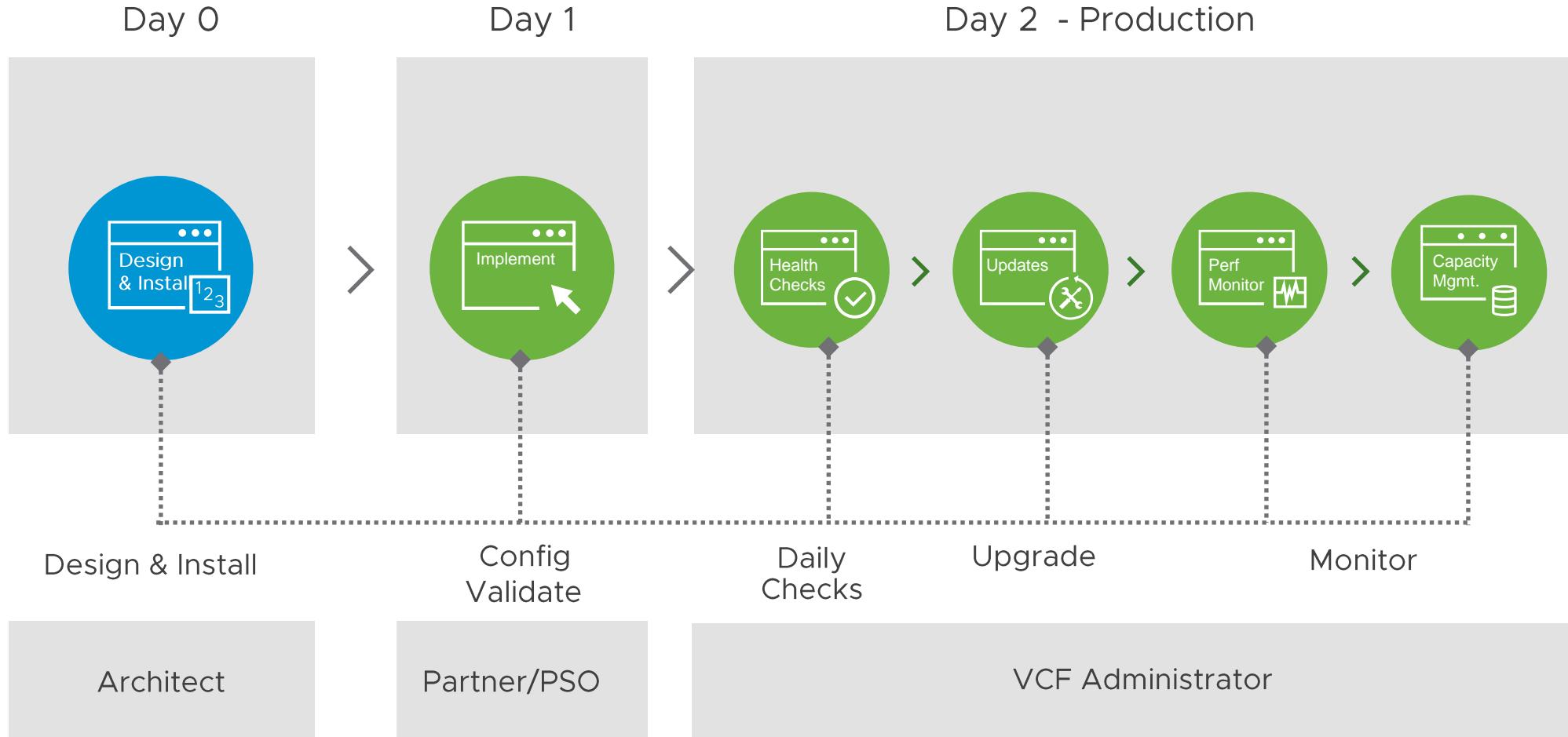
Multiple VCF instances connected via a Federation for aggregated visibility and ease of management

# VCF Data Center Automation

Automate day 0 to day 2 operations of the entire cloud infrastructure



# The Life of a VCF Admin



# VCF – The Alignment of all VMware SDDC Products

## Software Bill of Materials

2.1.x

VCF Release <sub>1,2</sub>	GA Date	Depends On	VMware Cloud Foundation Software Components											
			VIA	SDDC Manager	VC/PSC	ESXi	Tools <sub>3</sub>	VSAN	NSX-V	vRLI <sub>4,7</sub>	vROps <sub>4,5,7</sub>	Horizon <sub>8,9</sub>	App Volumes <sub>8,9</sub>	
<b>Version: 2.1.3c</b> Build: N/A	11 JAN 2018	2.1.3b			V: 6.0 P11 B: 6765062	V: 6.0 U3d B: 7464101	V1: 10.1.10 V2: 10282	V: 6.2 P11 B: 6765062						
<b>Version: 2.1.3b</b> Build: N/A	12 OCT 2017	2.1.3a	V: 2.1.3 B: 5578536	V: 2.1.3 B: 5577884	V: 6.0 P05 B: 5572656	V: 6.0 P05 B: 5572656	V1: 10.1.5 V2: 10277							
<b>Version: 2.1.3a</b> Build: N/A	20 JUN 2017	2.1.3			V: 6.0 P05 B: 5572656	V: 6.0 U3b B: 5326177		V: 6.2 P05 B: 5572656	V: 6.2.6 B: 4977495					
<b>Version: 2.1.3</b> Build: 5600653	25 MAY 2017				V: 6.0 U3 B: 5050593			V: 6.0 U3b B: 5050593	V: 3.3.1 B: 3644329	V: 6.2.1 B: 3774215	V: 6.2 B: 3005627	V: 2.10		
<b>Version: 2.1.2</b> Build: N/A	06 APR 2017	2.1.1	V: 2.1.1 B: 5022920	V: 2.1.2 B: 5022920		V1: 10.0.0.9 V2: 10249		V: 6.2 P04 B: 4600944	V: 6.2.4 B: 4292526					
<b>Version: 2.1.1</b> Build: 5022920	09 FEB 2017		B: 5017961	V: 2.1.1 B: 5022495	V: 6.0 U2 VC B: 3634788 PSC B: 3634791	V: 6.0 U2 B: 4600944								
<b>Version: 2.1</b> Build: 4732657	08 DEC 2016		V: 2.1 B: 4724413	V: 2.1 B: 4724414										

# VCF – The Alignment of all VMware SDDC Products

## Software Bill of Materials

4.0

VCF Release <sub>1,2</sub>	GA Date	Depends On	VMware Cloud Foundation Software Components							
			Cloud Builder	SDDC Manager	VC/PSC	ESXi	Tools <sub>3</sub>	VSAN	NSX-T <sub>10</sub>	vRSLCM <sub>7,8</sub>
Version 4.0.1 Build: 16428904	25 June 2020		v: 4.0.1.0 B:16428904	v: 4.0.1.0 B:16428904	v: 7.0.0b B:16386292	v: 7.0b B:16324942	V1: 11.0.5 B: 14320388	v: 7.0b B:16324942	V: 3.0.1 B: 16404613	V: 8.1 P1 B: 16256499
Version 4.0 Build: 16008466	14 APR 2020		v: 4.0.0.0 B:16008466	v: 4.0 B:16008466	v: 7.0.0 B:15952498	v: 7.0.0 B:15843807	V1: 11.0.5 B: 14320388	V: 7.0.0 B:15843807	V: 3.0 B: 15946738	V: 8.1 B: 15995660

3.10.x

VCF Release <sub>1,2</sub>	GA Date	Depends On	VMware Cloud Foundation Software Components												PKS	
			Cloud Builder	SDDC Manager	VC/PSC	ESXi	Tools <sub>3</sub>	VSAN	NSX-V	NSX-T <sub>10</sub>	vRLI <sub>4,8</sub>	vROps <sub>4,5,8</sub>	vRA <sub>6,8</sub>	vRSLCM <sub>7,8</sub>	Horizon <sub>8,9</sub>	
Version 3.10 Build: 16223257	26 May 2020		v: 2.2.2.0 B:16223257	v: 3.10 B:16223257	v: 6.7 P02 / U3g B:16046470	V: 6.7 P02 / U3g B:16075168	V1: 11.0.5 B:16075168	V: 6.7 P02 / U3g B:15985001	V: 6.4.6 B:14819921	V: 2.5.1 B: 15314288	V: 4.8 B: 13036238	V: 7.5 B: 13165949	V: 7.6 B: 13027280	V: 2.1 P2 B: 14062628	V: 7.10.0 B:14584133	V: 1.7 B: 16116522

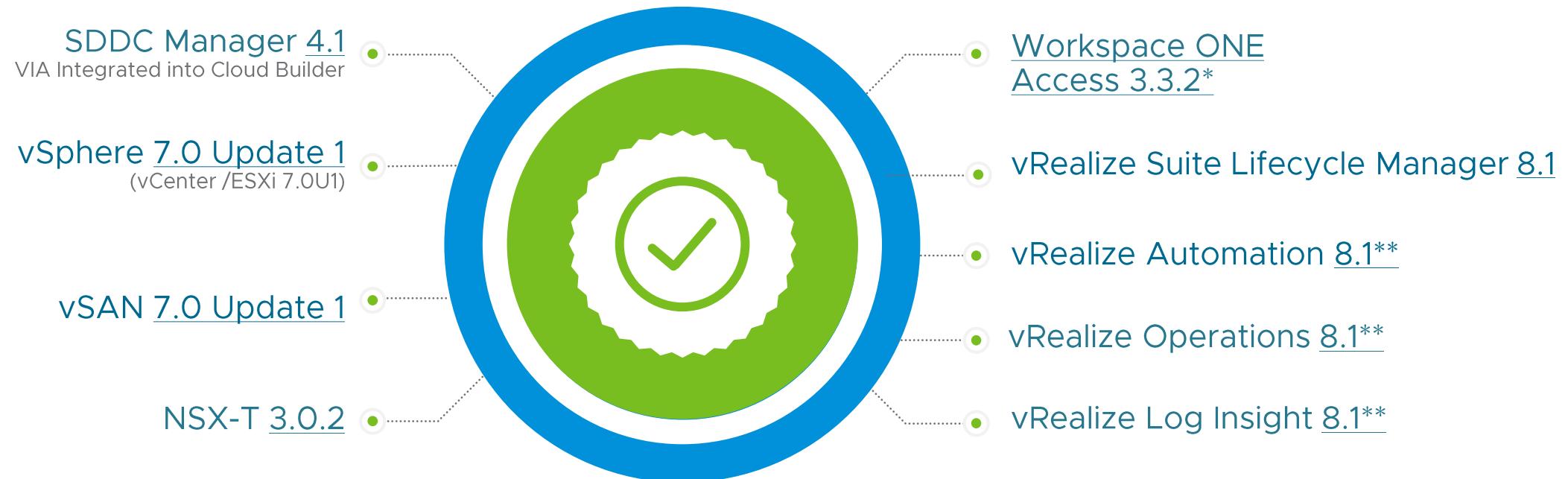
3.9.x

VCF Release <sub>1,2</sub>	GA Date	Depends On	VMware Cloud Foundation Software Components												PKS	
			Cloud Builder	SDDC Manager	VC/PSC	ESXi	Tools <sub>3</sub>	VSAN	NSX-V	NSX-T <sub>10</sub>	vRLI <sub>4,8</sub>	vROps <sub>4,5,8</sub>	vRA <sub>6,8</sub>	vRSLCM <sub>7,8</sub>	Horizon <sub>8,9</sub>	
Version 3.9.1 Build: 15345960	14 JAN 2020		v: 2.2.1.0 B:15345960	v: 3.9.1 B:15345960	v: 6.7 U3b B:15132721	V: 6.7 U3b B:15160138	V1: 10.3.10 B:14320388	V: 6.7 U3b B:14840357	V: 6.4.6 B:14819921	V: 2.5 B: 14663974	V: 4.8 B: 13036238	V: 7.5 B: 13165949	V: 7.6 B: 13027280	V: 2.1 P2 B: 14062628	V: 7.10.0 B:14584133	V: 1.5 B: 14878150
Version 3.9.0 Build: 14866160	24 OCT 2019		v: 2.2.0.0 B:14866160	v: 3.9 B:14866160	v: 6.7 U3 B:14367737	V: 6.7 U3 B:14320388	V1: 10.3.10 B:14320388	V: 6.7 U3 B:14263135	V: 6.4.5 B:13282012	V: 2.5 B: 14663974	V: 4.8 B: 13036238	V: 7.5 B: 13165949	V: 7.6 B: 13027280	V: 2.1 P2 B: 14062628	V: 7.9.0 B: 13956742	V: 1.5 B: 14878150

# Software Bill of Materials

VMware Cloud Foundation 4.1 integrates the following VMware SDDC Products.

## Software Building Blocks



# Bring Up – Day 0

Cloud Builder

# Cloud Builder & The Bring Up Process

Cloud Builder is a deployment VM

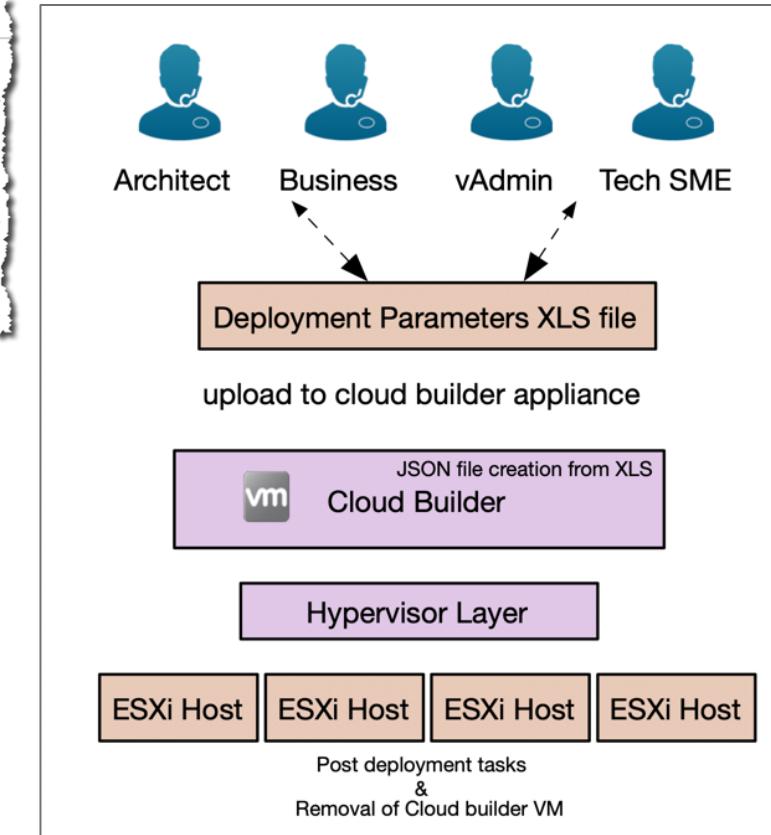
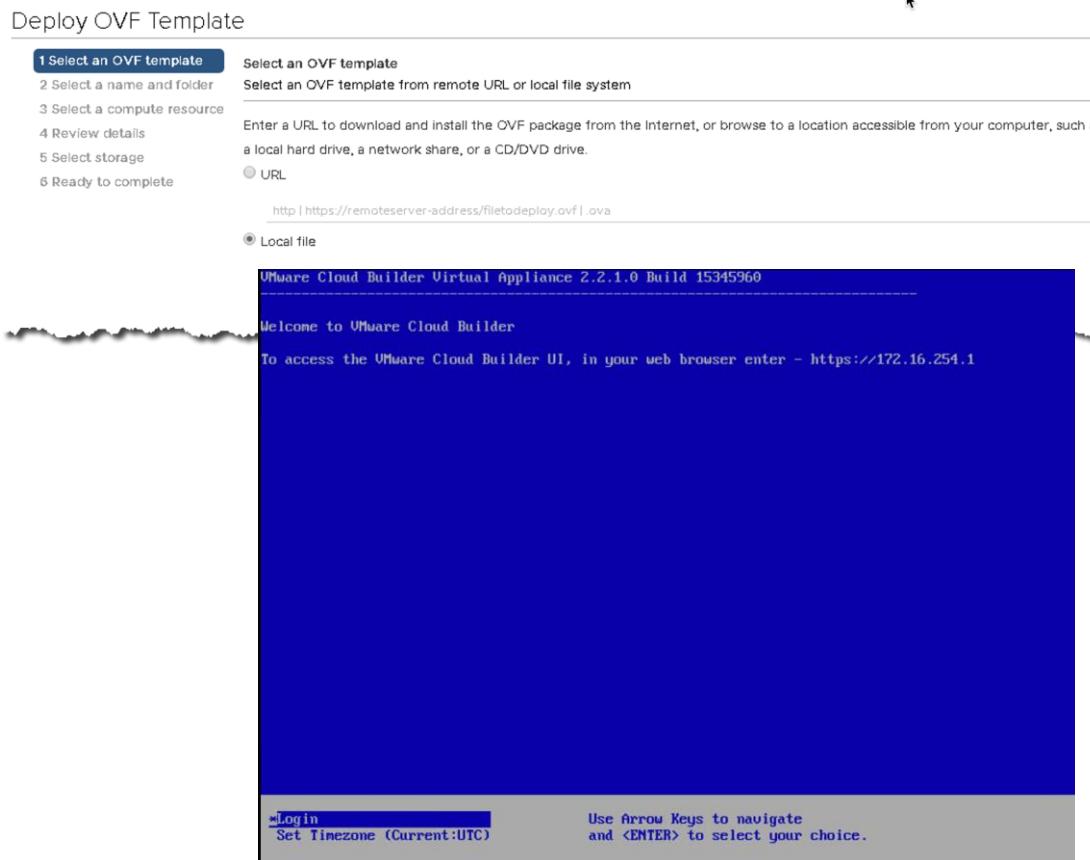
IP, DNS, NTP, Passwords

Downloaded from VMware Portal

Virtual appliance

Web driven

Starts the VCF deployment Journey



# Bring-up - Deployment Parameter Sheet

## Deployment Parameters Tab

**Deployment Parameters**

**Instructions:** Use this tab to capture the configuration parameters required in order to deploy an SDDC platform. Supply information against each yellow box during the planning phase of the engagement in order for the platform to be built. If a value is not required enter 'n/a' (Existing values are just examples). If a cell turns red then the property is a required value or the data entered has failed some basic Excel validation and it should be fixed before proceeding. Grey cells are populated automatically, the values can be over-written but you will lose the original formula in such scenarios.

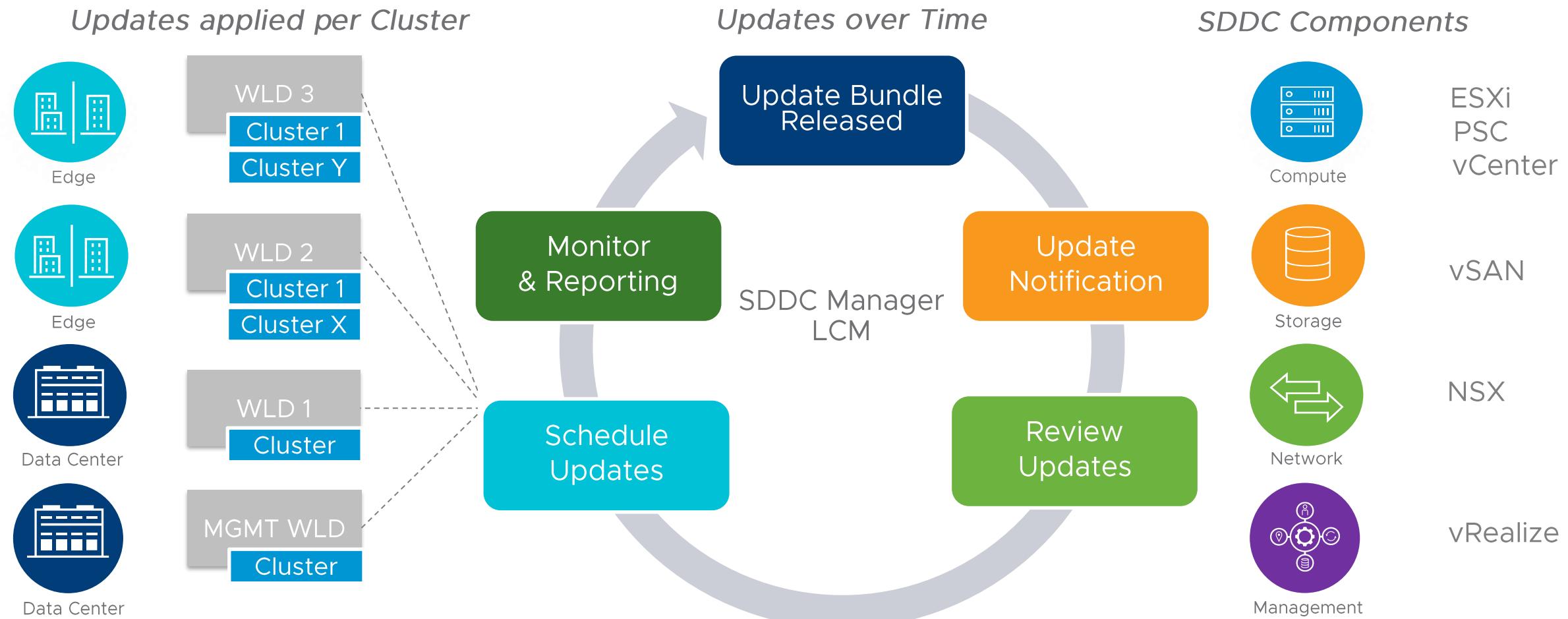
<b>Existing Infrastructure Details</b>		<b>Infrastructure</b>	<b>Hostname</b>	<b>IP Address</b>	<b>DNS Zones</b>	<b>Value</b>	
<input checked="" type="checkbox"/> DNS Servers <input checked="" type="checkbox"/> DNS Zone Defined <input checked="" type="checkbox"/> NTP Servers <input type="checkbox"/> Default password for ESXi Hosts <input checked="" type="checkbox"/> Datastores Defined <input type="checkbox"/> Physical Servers Racked with Cabling <input type="checkbox"/> ESXi Hosts Ready for Deployment		DNS Server #1		172.16.11.4	DNS Zone Name	sfo01.rainpole.local	
		DNS Server #2		n/a			
		NTP Server #1		172.16.11.253			
		NTP Server #2		n/a			
		<b>Single-Sign-On Site Name</b>	sfo01				
<b>vSphere Infrastructure</b>		<b>Management Cluster</b>	<b>Hostname</b>	<b>IP Address</b>	<b>vCenter Objects</b>	<b>Value</b>	
<input checked="" type="checkbox"/> vCenter & PSC - Hostnames Defined <input checked="" type="checkbox"/> vCenter & PSC - Static IPs Defined <input type="checkbox"/> vSphere components resolvable in DNS <input checked="" type="checkbox"/> Datacenter Name Defined <input checked="" type="checkbox"/> Cluster Name Defined <input checked="" type="checkbox"/> Single-Sign-On Site Name Defined <input checked="" type="checkbox"/> Distributed Virtual Switch Name Defined		vCenter Server	sfo01m01vc01	172.16.11.62	Datacenter Name - Management	sfo01-m01-dc	
		Platform Service Controller #1	sfo01m01psc01	172.16.11.61	Cluster Name - Management	sfo01-m01-mgmt01	
		Platform Service Controller #2	sfo01w01psc01	172.16.11.63	vSphere Networking	Value	
		<b>vCenter Server Appliance Size (Default Small)</b>	small		vSphere Distributed Switch Name	sfo01-m01-vds	
		<b>Virtual Networking - ESXi Hosts</b>		<b>Value</b>	vSphere Distributed Switch MTU Size	9000	
		Physical NIC to Assign to vDS - Management	vmnic1		Default vSS Portgroup Name	VM Network	
		VMKernel Adaptor for Management	vmk0				
		vSphere Standard Switch - Management	vSwitch0				
		vmnic Allocated to vSS - Management	vmnic0				
<b>NSX</b>		<b>Management Cluster</b>	<b>Hostname</b>	<b>IP Address</b>	<b>vSphere Resource Pools</b>	<b>Value</b>	
<input checked="" type="checkbox"/> NSX Manager - Hostnames Defined <input checked="" type="checkbox"/> NSX Manager - Static IPs Defined <input type="checkbox"/> NSX components resolvable in DNS <input type="checkbox"/> IP Pool for NSX Controllers		NSX Manager	sfo01m01nsx01	172.16.11.65	Resource Pool SDDC Mgmt	sfo01-w01-sddc-mgmt	
		NSX Controller IP Pool Start Address		172.16.11.18	Resource Pool SDDC Edge	sfo01-w01-sddc-edge	
		NSX Controller IP Pool End Address		172.16.11.120	Resource Pool User Edge	sfo01-w01-user-edge	
					Resource Pool User VM	sfo01-w01-user-vm	
<b>vRealize Log Insight</b>		<b>vRealize Log Insight Servers</b>	<b>Hostname</b>	<b>IP Address</b>	<b>Management Domain - Segment IDs</b>	<b>Start</b>	<b>End</b>
<input checked="" type="checkbox"/> Hostnames Defined for all components <input checked="" type="checkbox"/> Static IP Addresses Defined for all components <input checked="" type="checkbox"/> Static IP Address for Load Balancer <input type="checkbox"/> vRealize Log Insight components resolvable in DNS		vRealize Log Insight Node Load Balancer	sfo01vrl01	172.16.11.10	NSX Segment ID Range	5000	5200
		vRealize Log Insight Node #1 (Master)	sfo01vrl01a	172.16.11.11			
		vRealize Log Insight Node #2 (Worker)	sfo01vrl01b	172.16.11.12			
		vRealize Log Insight Node #3 (Worker)	sfo01vrl01c	172.16.11.13			
		<b>vRealize Log Insight Node Size ( Default Medium)</b>	medium				
<b>SDDC Manager</b>		<b>SDDC Manager</b>		<b>Value</b>			
<input checked="" type="checkbox"/> SDDC Manager - Hostnames Defined <input checked="" type="checkbox"/> SDDC Manager - Static IPs Defined <input type="checkbox"/> SDDC components resolvable in DNS		SDDC Manager Hostname	sddc-manager				
		SDDC Manager IP Address	172.16.11.60				
		SDDC Manager Subnet Mask	255.255.255.0				
		Host Pool Name	sfo01-networkpool				

# Operational tasks – Day 2

SDDC Manager

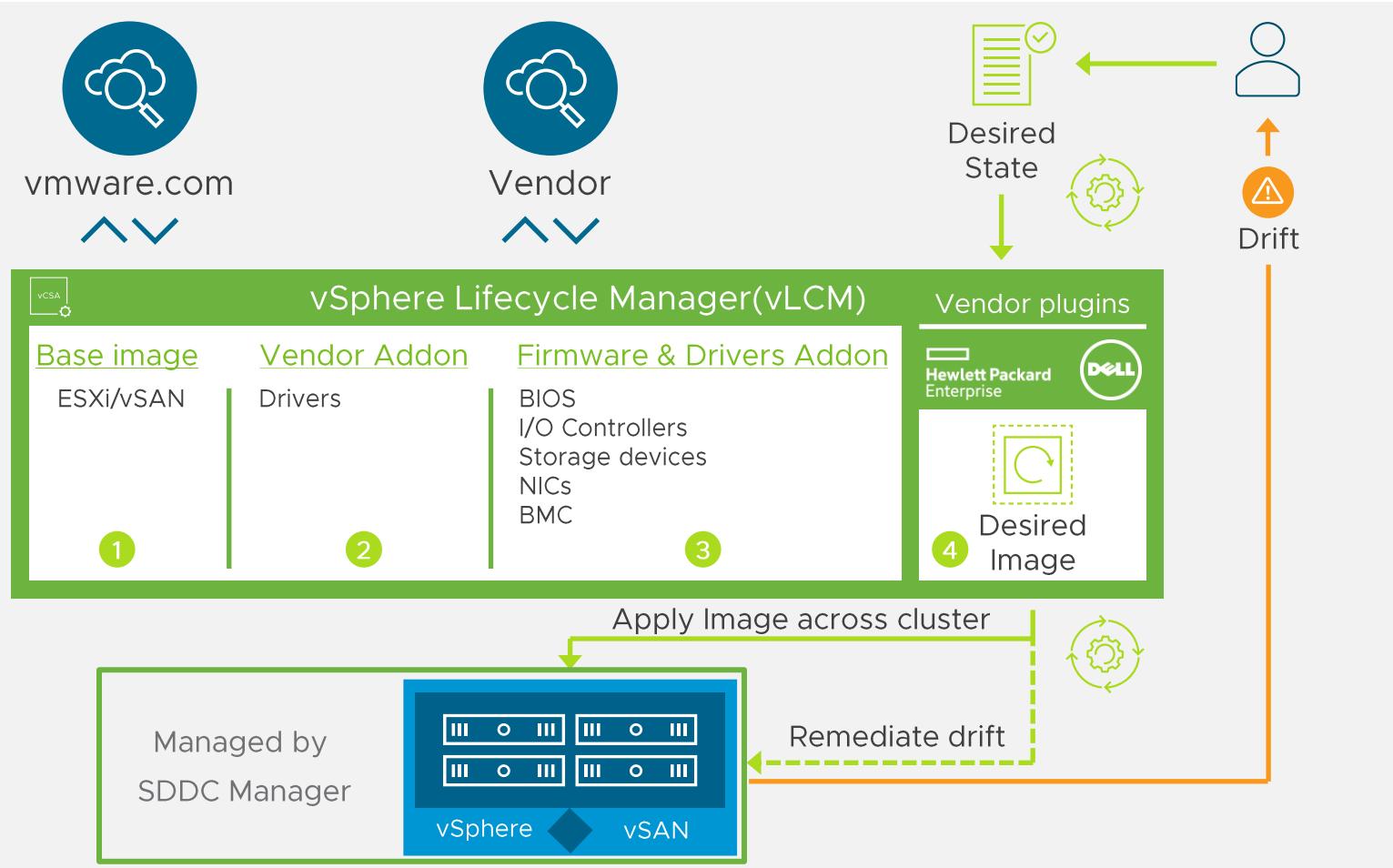
# Lifecycle Management - Ease of Upgrades and Patching

A new way to manage multi-site infrastructure, not individual components



# vSphere Lifecycle Manager (vLCM)

## On Supported Hardware in a vLCM Workload Domain



Uses **desired-state model** for all lifecycle operations

- Monitors compliance “drift”
- Remediates back to desired state

Built to **manage hosts** at cluster level

- Hypervisor
- Drivers
- Firmware

Modular framework supports vendor **firmware plugins**

- Dell
- HPE

# Lifecycle Management

## VMware Cloud Foundation

Connects using your My VMware Credentials

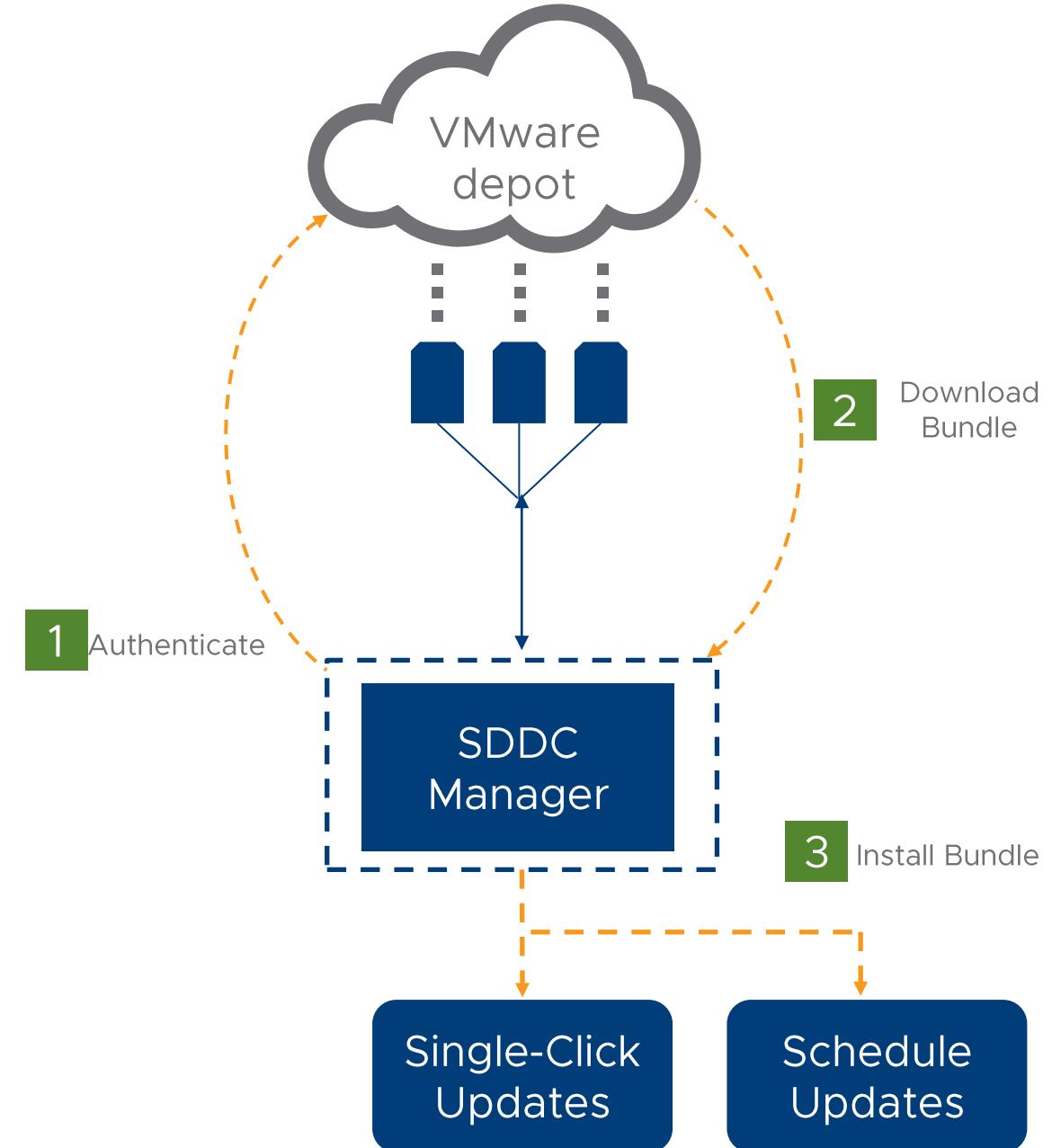
Determines applicable bundles based upon  
your software versions

Download additional Install Bundle like  
vRealize Suite Lifecycle Manager

Step 1: Authenticate to the VMware depot

Step 2: Download applicable bundles

Step 3: Install the bundle, or Schedule for Install



# Offline Lifecycle Management

## VMware Cloud Foundation

Used when SDDC Manager does not have access to the VMware depot

Manually download update bundles and transfer them to SDDC manager

Command line tool, shipped with SDDC Manager  
(/home/vmware/vcf/lcm/lcm-tools)

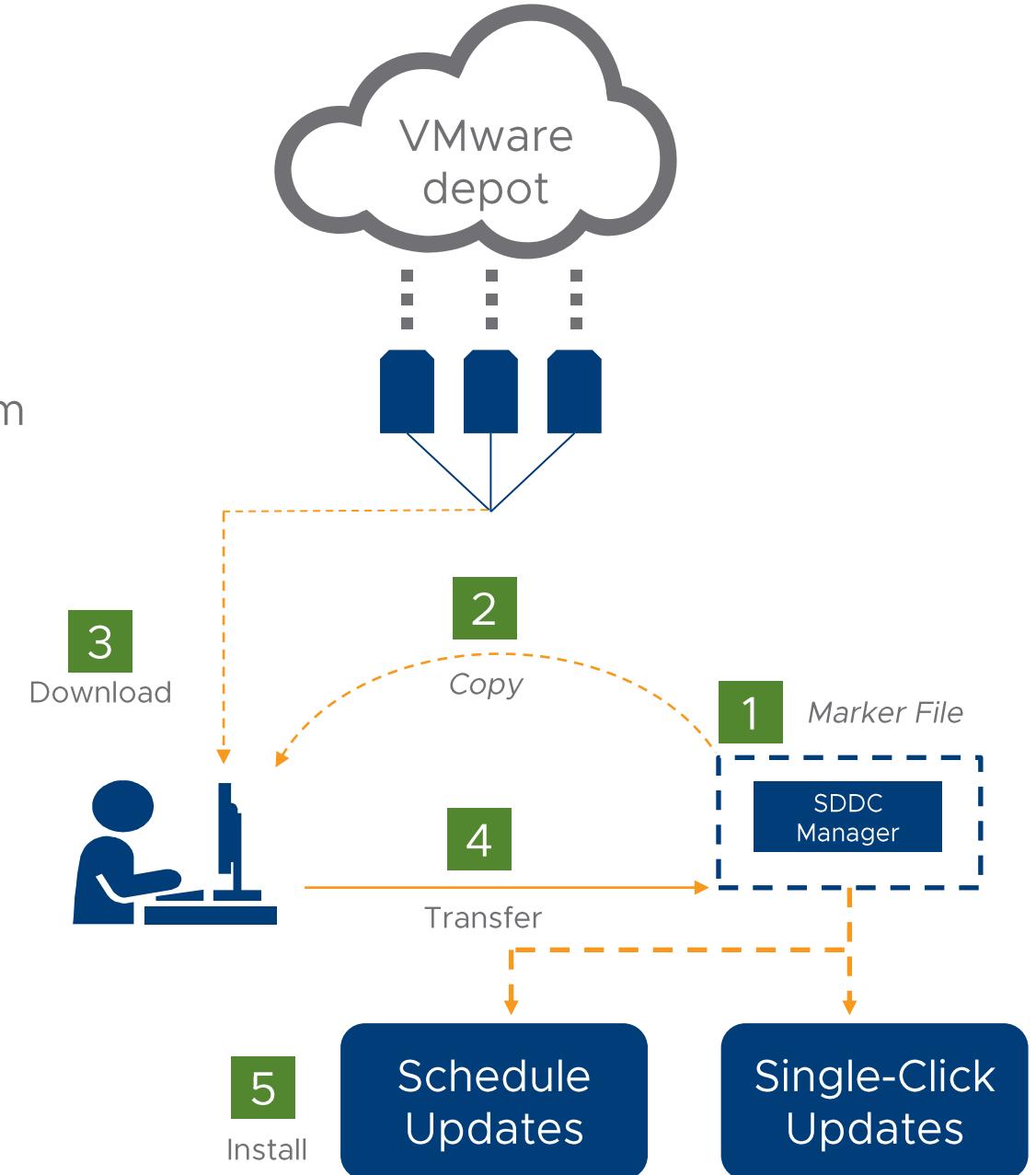
Step 1: Generate marker file on SDDC Manager

Step 2: Copy tool and marker file to computer with internet access

Step 3: Execute tool to download applicable update bundles

Step 4: Transfer bundle(s) to SDDC Manager repository

Step 5: Install the bundle , or Schedule for install



# Walkthrough

Lifecycle Automation, Upgrades and Patching

# VCF upgrade: pre-check/sequence

The screenshot shows the VMware Cloud Foundation Management interface. The left sidebar includes options for Dashboard, Inventory (selected), Workload Domains, Hosts, Repository, and Administration. The main area displays resource usage statistics: CPU (76.61 GHz Total, 16.19 GHz Used, 60.42 GHz Free), Memory (468.75 GB Total, 135.85 GB Used, 332.9 GB Free), and vSAN Storage (4.47 TB Total, 0.6 TB Used, 3.87 TB Free). Below these stats, a navigation bar has tabs for Summary, Services, Update/Patches (1), Update History, Hosts, Clusters, and Security. The Update/Patches tab is active. Under the Precheck section, it says "There is no recent precheck status available" and "It is recommended that you precheck your domain prior to update to prevent an error in an update". A blue "PRECHECK" button is visible.

Cloud Foundation

MGMT

ACTIONS

MANAGEMENT ACTIVE

Resource	Total	Used	Free
CPU	76.61 GHz	16.19 GHz	60.42 GHz
Memory	468.75 GB	135.85 GB	332.9 GB
vSAN Storage	4.47 TB	0.6 TB	3.87 TB

Summary Services Update/Patches 1 Update History Hosts Clusters Security

Precheck

There is no recent precheck status available

It is recommended that you precheck your domain prior to update to prevent an error in an update

PRECHECK

# VCF upgrade: pre-check/sequence

▼ Precheck

i Precheck started at 1:40:08 PM, 06/19/2019 and is in progress. [View Status](#)

You're currently prechecking your workload domain. It will take a while before it's done. PRECHECK

# VCF upgrade: pre-check/sequence

It is recommended that you precheck your domain prior to update to prevent an error in an update

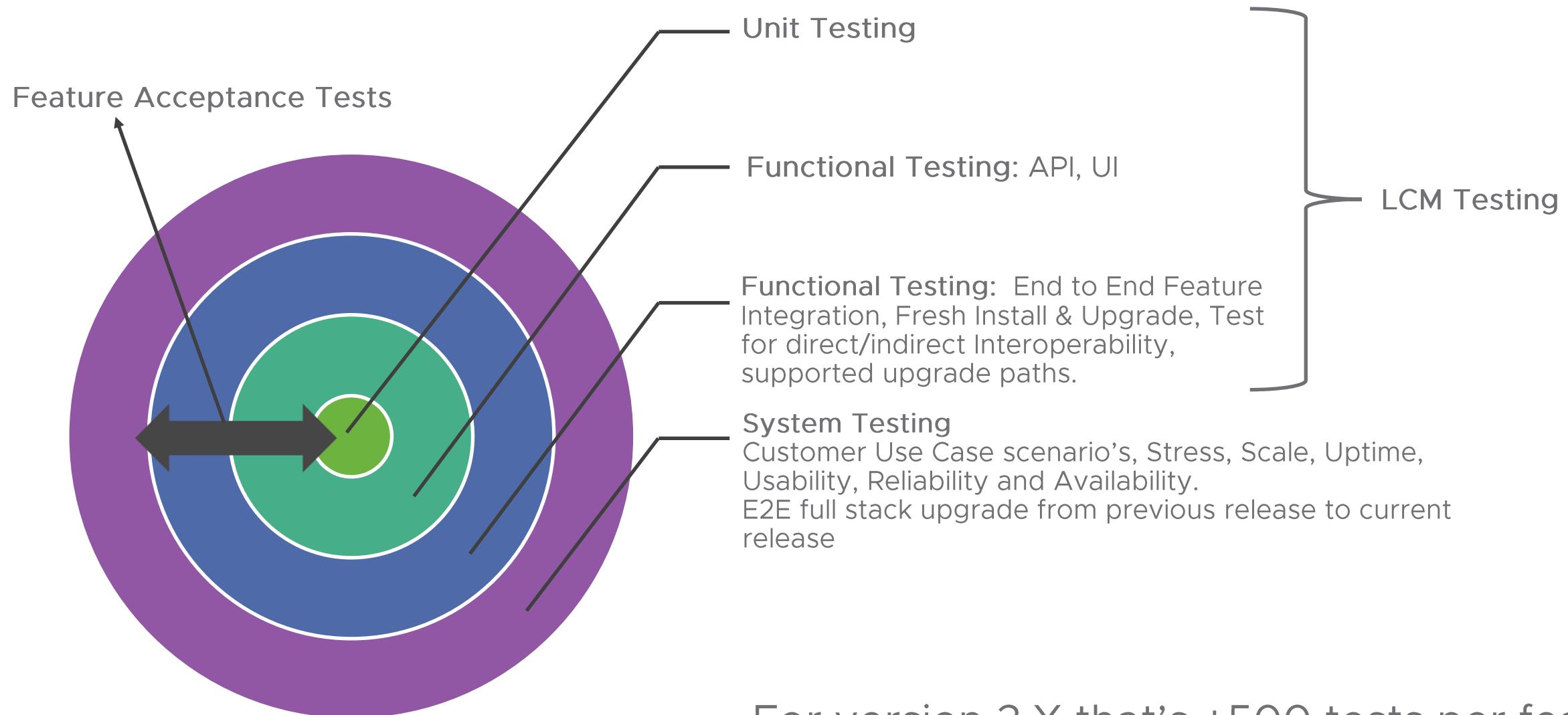
**PRECHECK**

**PRECHECK FAILED RESOURCES**

Category	Resource	Status	Action
SDDC Manager	DOMAIN_MANAGER	Succeeded	
	LCM	Succeeded	
	MULTI_SITE_SERVICE	Succeeded	
	SDDC_MANAGER_UI	Succeeded	
	OPERATIONS_MANAGER	Succeeded	
	COMMON_SERVICES	Succeeded	
	SOLUTIONS_MANAGER	Succeeded	
	vcenter-1.vrak.vsphere.local	Succeeded	
	psc-1.vrak.vsphere.local	Succeeded	
	Bundle Precheck - VMWARE_SOFTWARE 362.2.14-119481	Succeeded	
SDDC-Cluster1 ESX VUM VALIDATE IMAGE AND SCAN			
nsxManager.vrak.vsphere.local	Succeeded		
psc-2.vrak.vsphere.local	Succeeded		
VSAN - SDDC-Cluster1	Failed	<a href="#">Retry Precheck</a>	
4 ESXi Host			
SDDC-Cluster1			
esxi-4	Succeeded		
esxi-3	Succeeded		
esxi-2	Succeeded		
esxi-1	Succeeded		

Ensure that the precheck results are green before proceeding

# VCF Testing internally – Circle Of Confidence



For version 3.X that's +500 tests per feature!

# VCF upgrade: pre-check/sequence/

## VMware Cloud Foundation Update Status

VMware Cloud Foundation Update 4.0.1.0

 0 / 8 Resources Updated [CANCEL](#)

Released 06/23/2020 11 GB

This VMware Cloud Foundation Upgrade 4.0.0.1 to 4.0.1.0 contains features, critical bugs and security fixes. For more information, see

<https://docs.vmware.com/en/VMware-Cloud-Foundation/4.01/rn/VMware-Cloud-Foundation-401-Release-Notes.html>

Updating COMMON SERVICES

[VIEW UPDATE ACTIVITY](#)

➤ SDDC MANAGER

 In Progress      4.0.0.1-16221345 → 4.0.1.0-16308622

# VCF upgrade: pre-check/sequence/

## VMware Cloud Foundation Update Status

VMware Cloud Foundation Update 4.0.1.0

1 / 8 Resources Updated CANCEL

Released 06/23/2020 11 GB

This VMware Cloud Foundation Upgrade 4.0.0.1 to 4.0.1.0 contains features, critical bugs and security fixes. For more information, see <https://docs.vmware.com/en/VMware-Cloud-Foundation/4.01/rn/VMware-Cloud-Foundation-401-Release-Notes.html>

Updating OPERATIONS MANAGER

[VIEW UPDATE ACTIVITY](#)

SDDC MANAGER

In Progress 4.0.0.1-16221345 → 4.0.1.0-16308622

COMMON SERVICES

Updated

OPERATIONS MANAGER

In Progress

DOMAIN MANAGER

Queued

SOLUTIONS MANAGER

Queued

SDDC MANAGER UI

Queued

LCM

Queued

MULTI SITE SERVICE

Queued

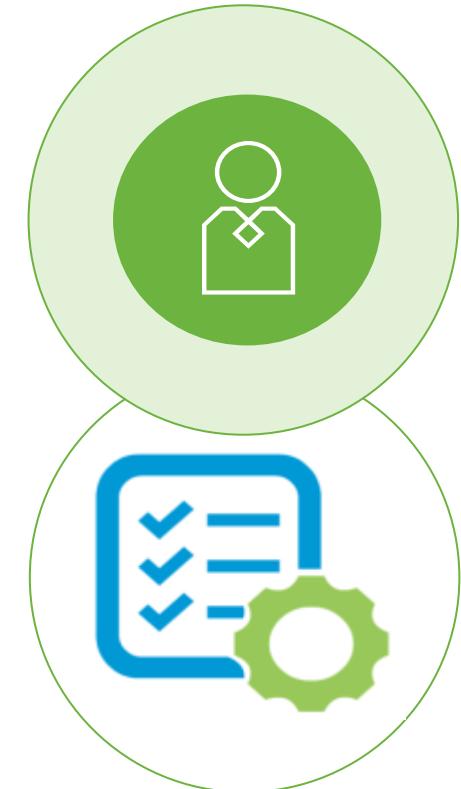
# VCF upgrade: pre-check/sequence

The screenshot shows the VMware Software Update interface. The top navigation bar includes tabs for Summary, Services, Update/Patches (which is selected and highlighted in blue), Update History, Hosts, Clusters, and Security. A blue link labeled "Exit Status" is located in the top right corner. Below the tabs, the software version is listed as "VMware Software Update 3.10.0.0" and the release date as "Released 05/26/2020 474 MB". A descriptive text block states: "This VMware Software Upgrade ESXi from 6.7 P01 to 6.7 P02. For more information, see <https://docs.vmware.com/en/VMware-vSphere/>". Under the "Update/Patches" tab, there is a section titled "Cumulative Bundle" with an information icon (i). A red error message box contains the text: "(!) Update failed at 3:31 PM, 05/15/2020 - Elapsed Time : 01 minute 21 seconds". Below this, a blue info message box provides troubleshooting steps: "(!) esxi-7 - Upgrade failed. Auto-recovery attempt failed as well. Manual intervention needed. Check for errors in the lcm log files located on SDDC Manager under /var/log/vmware/vcf/lcm. Check for VSAN Health warnings/errors in the vSphere Client. Resolve the issues and make sure that VSAN health is green in vSphere Client.".

# vRealize Suite Lifecycle Manager - Integrated into SDDC Manager

## VMware Cloud Foundation

- Cloud Foundation now utilizes the SDDC Manager UI to update and patch vRealize Components deployed from the SDDC Manager driven by vRealize Suite Lifecycle Manager to update:
  - vRealize Suite Lifecycle Manager
  - vRealize Log Insight
  - vRealize Operations
  - vRealize Automation
- vRealize update/upgrade bundles downloaded by SDDC Manager
- vRealize component state is maintained for a non-disruptive upgrade
- Automated post-upgrade validation checks
- Upgrade process automates configuration and snapshot removal



# Daily consumption

Automating VCF usage

# VMware Cloud Foundation Developer Center

## API Integration Center for SDDC Manager Functions

The screenshot shows the 'Developer Center' section of the VMware Cloud Foundation Developer Center. On the left, a sidebar lists various management categories like Dashboard, Inventory, Hosts, Repository, Administration, and Network Settings. The 'Developer Center' option is highlighted with an orange box. The main panel displays the 'Available APIs' for 'VMware Cloud Foundation'. It includes a 'Service Information' section with the base URL `sddc-manager.vtack.sphere.local/v1/api`. Below this, a tree view shows API endpoints categorized by service: 'vSphere Cloud Provisioning' (e.g., APIs for managing Backups and Restores, Bundles, CDP status, Certificates, Clusters, Credentials, Deposit Settings, Domains, Horizon V1 Controller, Hosts), 'vSphere Data Protection' (e.g., APIs for managing hosts, including GET, POST, DELETE, PATCH, and VALIDATE methods for hosts and host validations), and 'vSphere Security' (e.g., Member Host Controller, Member Token Host Controller).

In-built API Reference Guide

API Explorer is an index of API calls

API code samples for easy integration

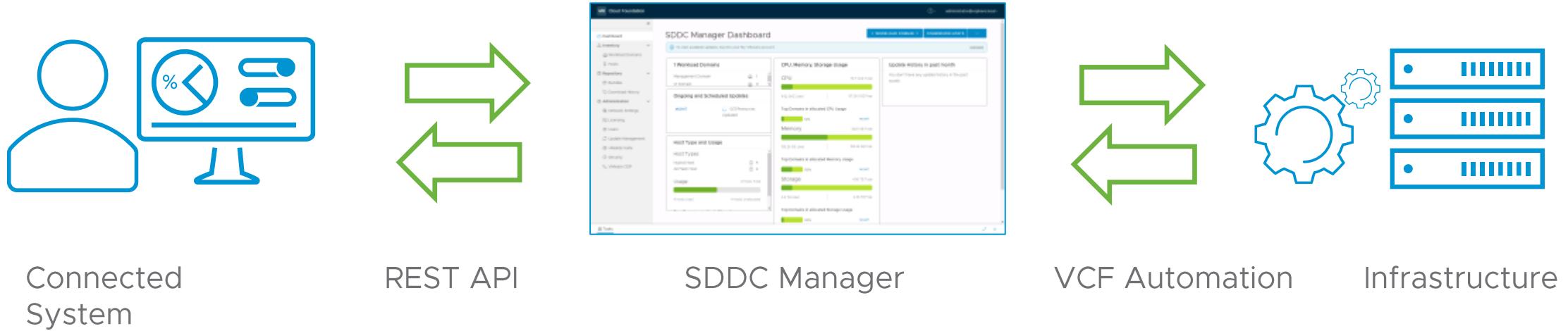
The screenshot shows the 'Code Samples' section of the VMware Cloud Foundation Developer Center. It displays a grid of sample scripts for managing the VCF service. Each sample includes a title, a brief description, and a 'DOWNLOAD' button. The samples are:

- VCF expand cluster
- VCF get Clusters
- VCF Create Cluster
- VCF Compact cluster
- VCF Get domains
- VCF Delete domain
- VCF Create domain
- VCF Host Decommission

Each sample also includes a 'readme.txt' link for more details.

# Referenceable Full API Coverage

## SDDC Manager Operations with RESTful API



- Standardised RESTful APIs for SDDC Manager easily referenced from the Developer Center
- Accelerates adoption and eases integration of SDDC Manager with extensible 3<sup>rd</sup> party systems
- Includes policies for versioning, backwards compatibility and deprecation
- Comprehensive API Reference Guide <https://code.vmware.com/apis/1002/vmware-cloud-foundation>

SDDC Manager Dashboard

Not secure | sddc-manager.vcf.sddc.lab/ui/sddc-manager/dashboard(monitoring-panel:monitoring/tasks)

Cloud Foundation

administrator@vsphere.local

NSX Manager backups are configured using the SFTP server built into SDDC Manager. This configuration is not recommended. Please register an external SFTP server.

BACKUP SETTINGS

# SDDC Manager Dashboard

To view available updates, Authorize My VMware Account.

### 0 Solutions

Workload Management

CPU, Memory, Storage Usage

CPU: 147.01 GHz Total (52.81 GHz Used, 94.2 GHz Free)

Top Domains in allocated CPU Usage:

- mgmt-domain (63%)
- wld01 (8%)

Memory: 512 GB Total (214.17 GB Used, 297.83 GB Free)

Top Domains in allocated Memory Usage:

- mgmt-domain (66%)
- wld01 (17%)

Storage: 3.3 TB Total (0.36 TB Used, 2.94 TB Free)

Recent tasks

- 9/3/20, 6:00 PM ✓ Succeeded Decommissioning host(s) esxi-11.vcf.sddc.lab,esxi-9.vcf.sddc.lab,esxi-10.vcf.sddc.lab,esxi-12.vcf.sddc.lab from VMware Cloud Foundation
- 9/2/20, 11:42 AM ✓ Succeeded Commissioning host(s) esxi-9.vcf.sddc.lab,esxi-10.vcf.sddc.lab,esxi-11.vcf.sddc.lab,esxi-12.vcf.sddc.lab to VMware Cloud Foundation
- 8/31/20, 7:05 PM ✓ Succeeded Creating domain wld01
- 8/31/20, 6:58 PM ✓ Succeeded Commissioning host(s) esxi-5.vcf.sddc.lab,esxi-6.vcf.sddc.lab,esxi-7.vcf.sddc.lab,esxi-8.vcf.sddc.lab to VMware Cloud Foundation

### 2 Workload Domains

Management Domain (1 Host)

VI Domain (1 Host)

### Host Type and Usage

Host Types

- Hybrid Host (0 hosts)
- All Flash Host (8 hosts)

Usage: 8 Hosts Total (8 Hosts Used, 0 Hosts Unallocated)

Top Domains in Host Allocation

Dashboard

Solutions

Inventory

- Workload Domains
- Hosts

Repository

Administration

- Network Settings
- Licensing
- Users
- Repository Settings
- Composable Infrastructure
- vRealize Suite
- Security
- Backup Configuration
- VMware CEIP

Developer Center

Tasks

# VCF Workload Domain Creation Workflow

Agility and simplicity thanks to automation

Over 50 manual tasks combined into single workflow

1	VRM: Import Input Parameters	18	Network: Configure MLAG on TOR Switches	35	NSX: Create Controller
2	ESX: Initial Backup of the ESXi Servers	19	vCenter: Wait Until All ESXi Hosts Available	36	VRM: Save Controllers Information to Database
3	Network: Configure VLAN Tags on Switches	20	Log Hosts vSAN Network Config 3	37	NSX: Create VXLAN IP Pool
4	VRM: Configure DNS Host Name	21	ESX: Configure Power Management	38	NSX: Configure VXLAN
5	vCenter: Deploy vCenter	22	Log Hosts vSAN Network Config 4	39	NSX: Create Segment Range
6	Give vSphere Permissions to SSO Admini Group	23	vCenter: Enable vSAN	40	NSX: Create Transport Zone
7	vCenter: Apply vCenter License	24	vSAN: Claim Hosts Disks	41	NSX: Create Virtual Wire
8	vCenter: Install RPM Agents	25	Log hosts vSAN network config 5	42	NSX: Configure Anti-Affinity Rule for NSX controllers
9	vCenter: Create Cluster	26	vCenter: Wait vSAN to Come Up Completely	43	NSX: Configure Backup and Restore Settings for NSX
10	VRM: Update vCenter Status	27	Wait vCenter Ready After vSAN Enabled	44	vCenter: Wait vCenter Ready After VIBs Installed
11	vCenter: Create Distributed Virtual Switch	28	vSAN: Update Default Policy	45	Wait Hosts Ready Before Enabling Cluster Features
12	vCenter: Tag VLAN ID	29	Wait vCenter Ready After vSAN Policy Applied	46	vCenter: Enable Cluster Features
13	vCenter: Check Host Network Configuration	30	vSAN: Post Check After vSAN Enabled	47	Wait vCenter Ready After Enabling Cluster Features
14	vCenter: Configure Host	31	NSX: Deploy NSX Manager	48	vCenter: Clear Red Alarms on Hosts
15	Log Hosts vSAN Network Config 1	32	NSX: Register vCenter	49	VRM: SOS Logs Backup Task
16	vCenter: Configure LACP on VDS	33	NSX: Apply License	50	ESX: Final Backup of the ESXi Servers
17	Log Hosts vSAN Network Config 2	34	NSX: Create Controller IP Pool		



Note: Illustration does not depict all components deployed on management domain

# APIs to Integrate the Business to the SDDC

Use the APIs to accelerate



Business System / Line of Business

 Integration	Hosts	Domains	Clusters	Network Pools	Credentials	Tasks	License Keys
	<b>Hosts</b> Commission the Hosts Get the Hosts Get a Host Decommission the Hosts	<b>Domains</b> Create a Domain Get the Domains Get a Domain Delete a Domain	<b>Clusters</b> Create a Cluster Get the Clusters Get a Cluster Expand a Cluster Compact a Cluster Delete a Cluster	<b>Network Pools</b> Create a Network Pool Get the Network Pools Get a Network Pool Get a Network of a Network Pool Delete a Network Pool Add an IP Pool to a Network of a Network Pool Delete an IP Pool from a Network of a Network Pool	<b>Credentials</b> Get the Credentials Get a Credential Update the Passwords Rotate the Passwords Retry the Update Passwords Task Retry the Rotate Passwords Task Cancel the Update/Rotate Passwords Task Get the Credentials Task Get a Credentials Task Get the Resource Credentials for Credentials Task	<b>Tasks</b> Get the Tasks Get a Task Retry a Task	<b>License Keys</b> Add a License Key Get the License keys Get a License Key Delete a License Key



SDDC Infrastructure

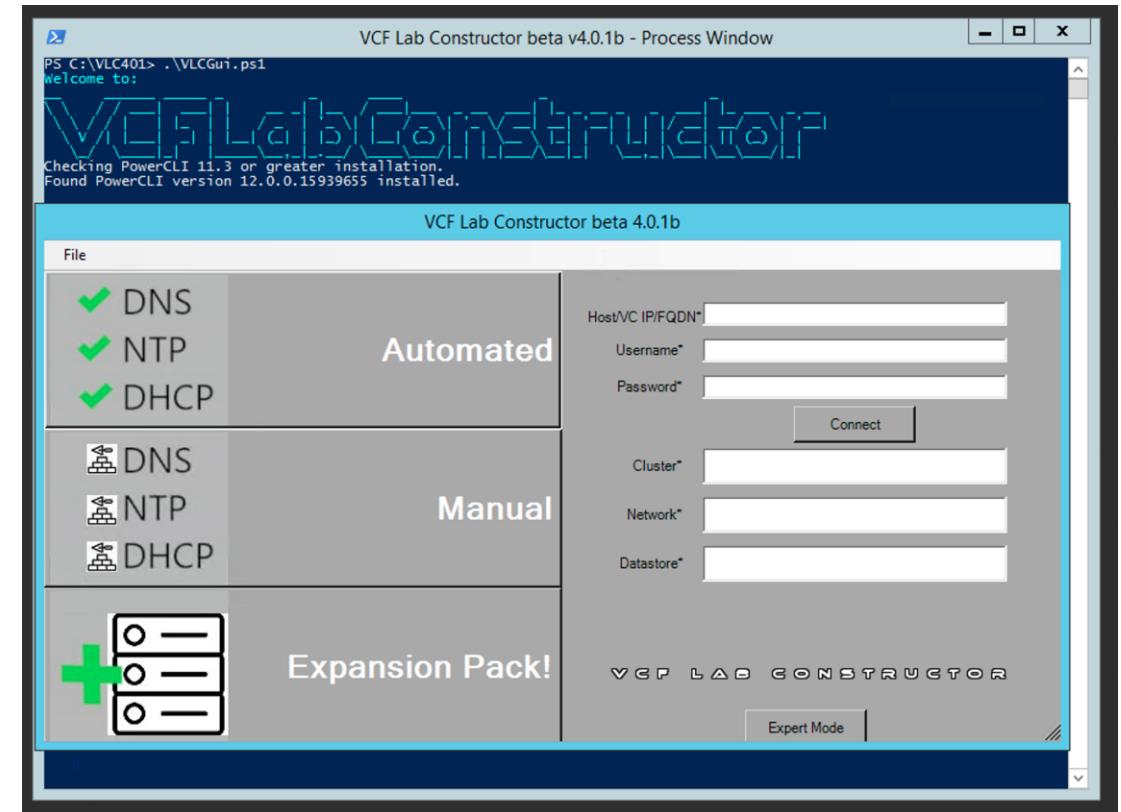
# VCF Lab Constructor (VLC)

Deploy Nested VMware Cloud Foundation into your home lab

PowerShell script to automate  
VMware Cloud Foundation  
deployments into a nested lab  
environment.

Provides all required external  
services (DHCP, NTP, DHCP, BGP)

Join the VLC Support Slack  
<http://tiny.cc/getVLCSlack>



Download VLC today @  
<http://tiny.cc/getVLC>

# vRealize AI Cloud: Continuous vSAN Optimization

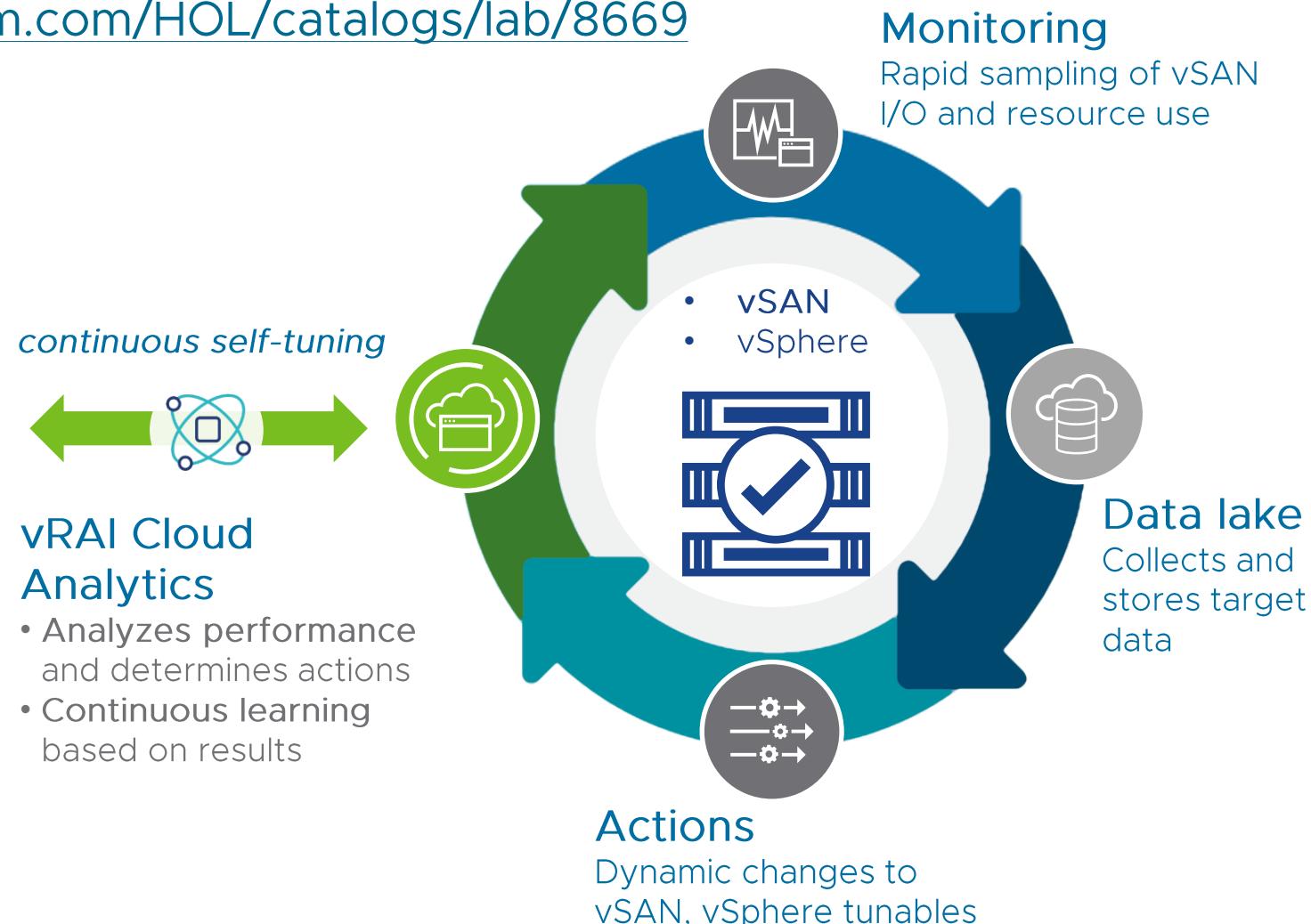
HOL-2101-93-ISM - Continuously Optimize vSAN Performance with vRealize AI

<https://www.vmwarelearningplatform.com/HOL/catalogs/lab/8669>



## vRealize Operations Cloud

- Enable vRealize AI service
- Set Optimization goals
- View performance improvements





# Thank You