vmworld 2019

HBI1576BU

A Year in the Life of an HCI Admin

Nigel Hickey, VMware, Inc.
John Nicholson, VMware, Inc.

#vmworld #HBI1576BU

make
your
mark

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This overview of new technology represents no commitment from VMware to deliver these features in any generally available product.

Features are subject to change, and must not be included in contracts, purchase orders, or sales agreements of any kind.

Technical feasibility and market demand will affect final delivery.

Pricing and packaging for any new features/functionality/technology discussed or presented, have not been determined.

The information in this presentation is for informational purposes only and may not be incorporated into any contract. There is no commitment or obligation to deliver any items presented herein.

Agenda

Introductions

Day 0 through Day 365

Demo Time!

Resources

Q& A

Speaker Introduction

Nigel Hickey

Technical Marketing Architect | vCenter Server

Personal Blog: www.nigelhickey.com

vSphere Blog: blogs.vmware.com/vsphere

Twitter: @vCenterNerd

Speaker Introduction

John Nicholson

Senior Technical Marketing Architect | vSAN

Personal Blog: thenicholson.com

vSAN Blog: blogs.vmware.com/virtualblocks

Twitter: @Lost_Signal

HCI Admin Life

Day 0 Setup

Excitement of a new cluster gives way to tedium

Design decisions

Multiple teams

200+ clicks per host

Chicken/Egg storage dependencies

Scale and consistency concerns

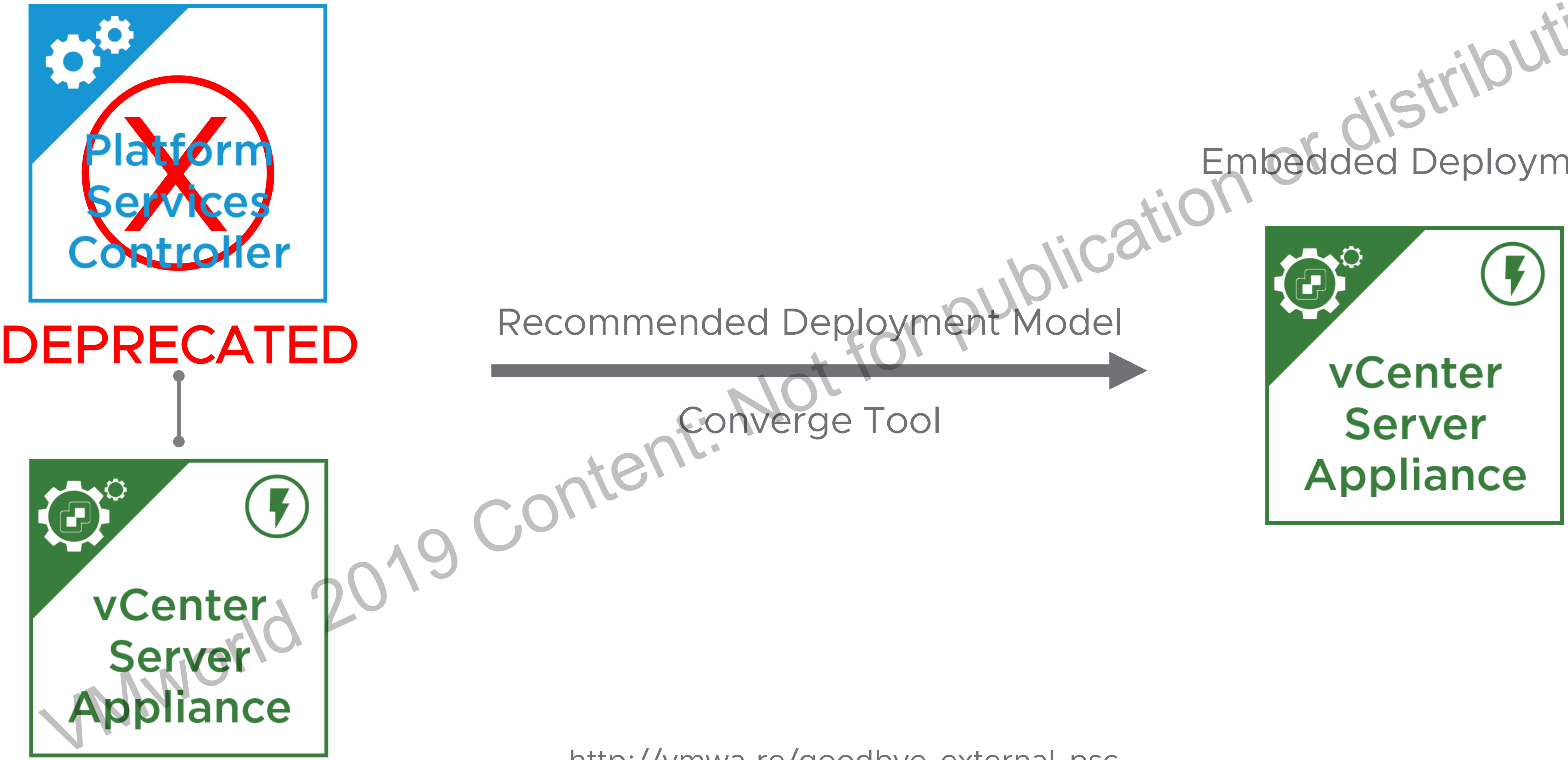
These people are bored/tired

vCenter Server “HCI Install”

Creating a VSAN datastore during VCSA Deployment

vSphere 6.7 Update 1

External PSC Deprecation



Platform Services Controller

DEPRECATED

vCenter Server Appliance

Recommended Deployment Model

Converge Tool

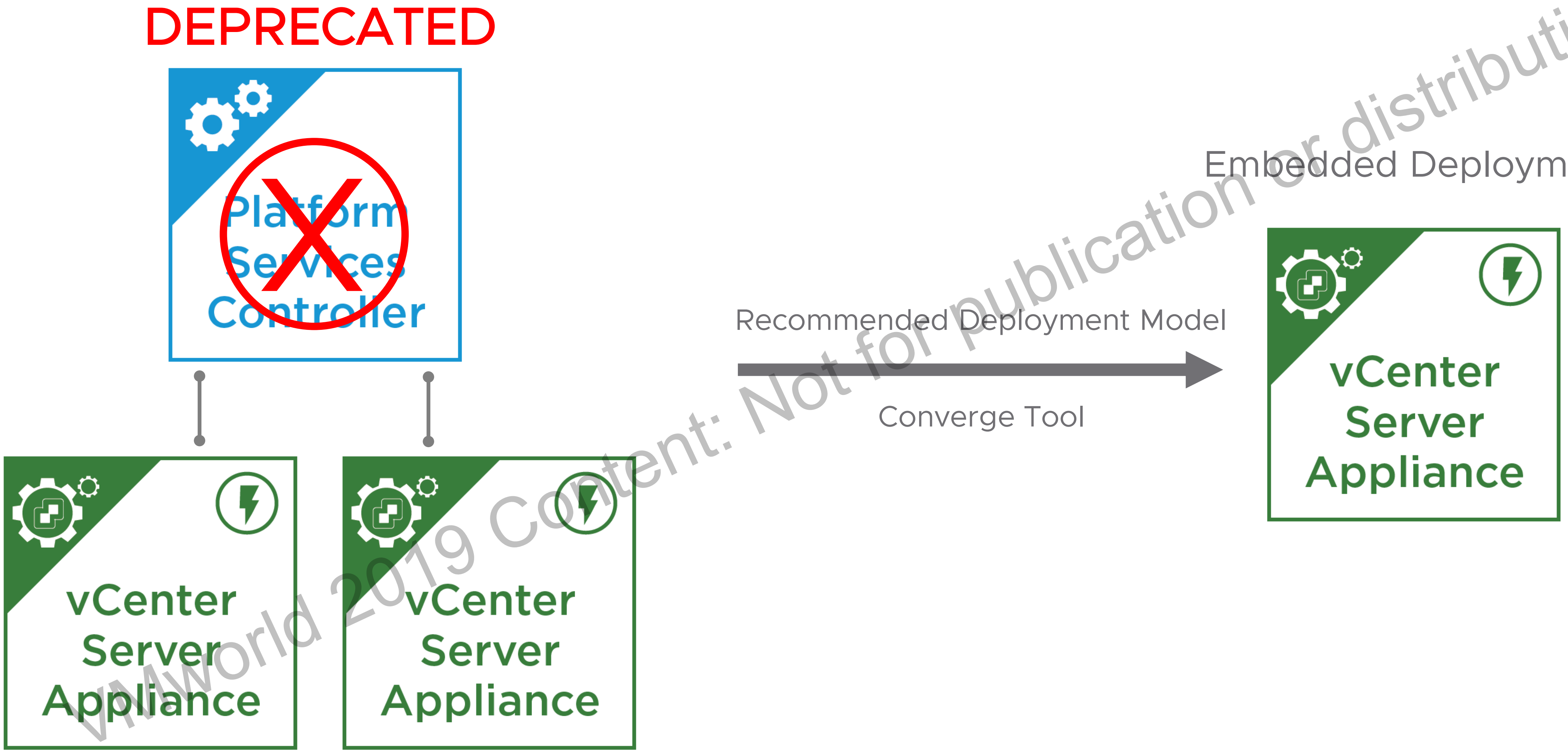
Embedded Deployment

vCenter Server Appliance

http://vmwa.re/goodbye-external-psc

vSphere 6.7 Update 1

External PSC Deprecation



DEPRECATED

Platform Services Controller

vCenter Server Appliance

vCenter Server Appliance

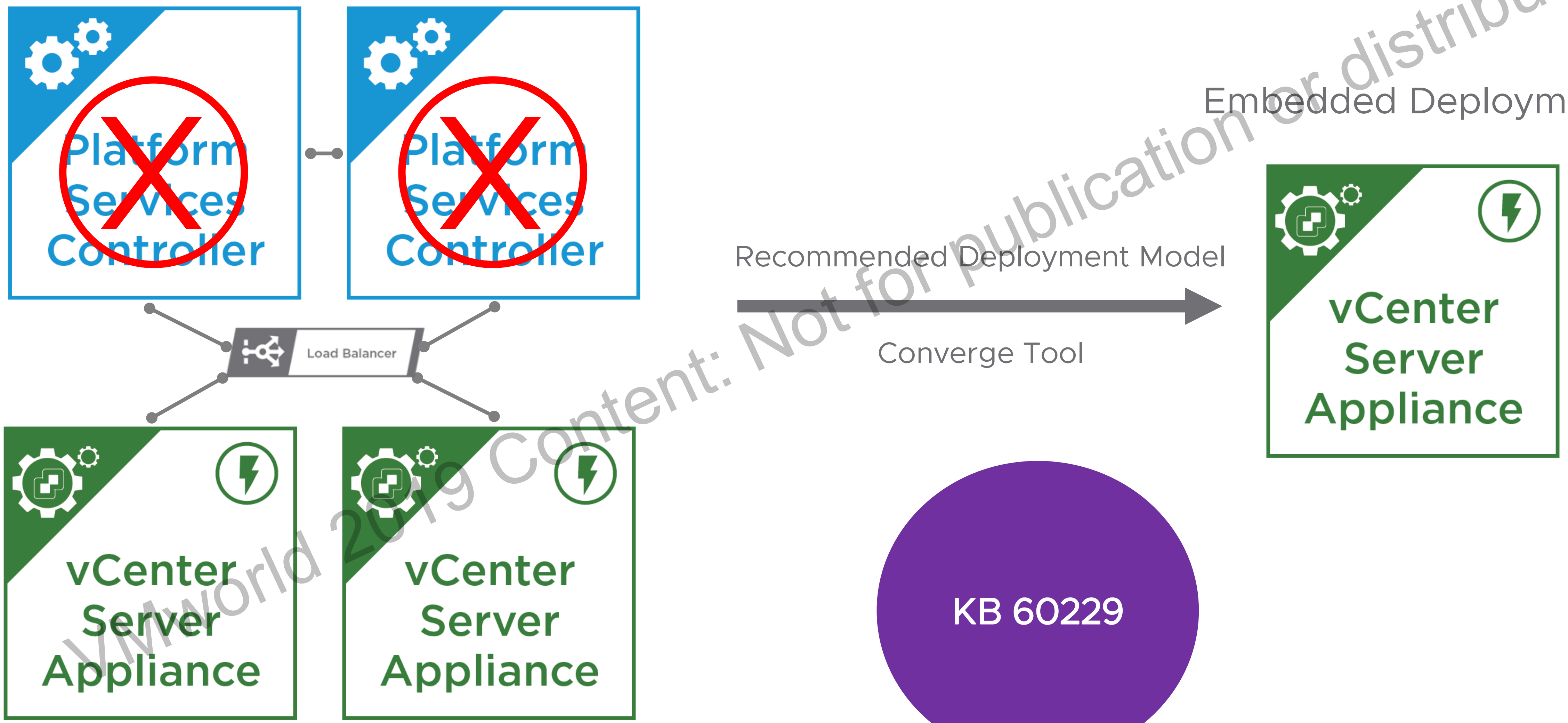
Recommended Deployment Model

Converge Tool

Embedded Deployment

vCenter Server Appliance

External PSC Deprecation



DEPRECATED

Platform Services Controller
Platform Services Controller
Load Balancer
vCenter Server Appliance
vCenter Server Appliance

Recommended Deployment Model

Converge Tool

Embedded Deployment

vCenter Server Appliance

KB 60229

External Platform Services Controller

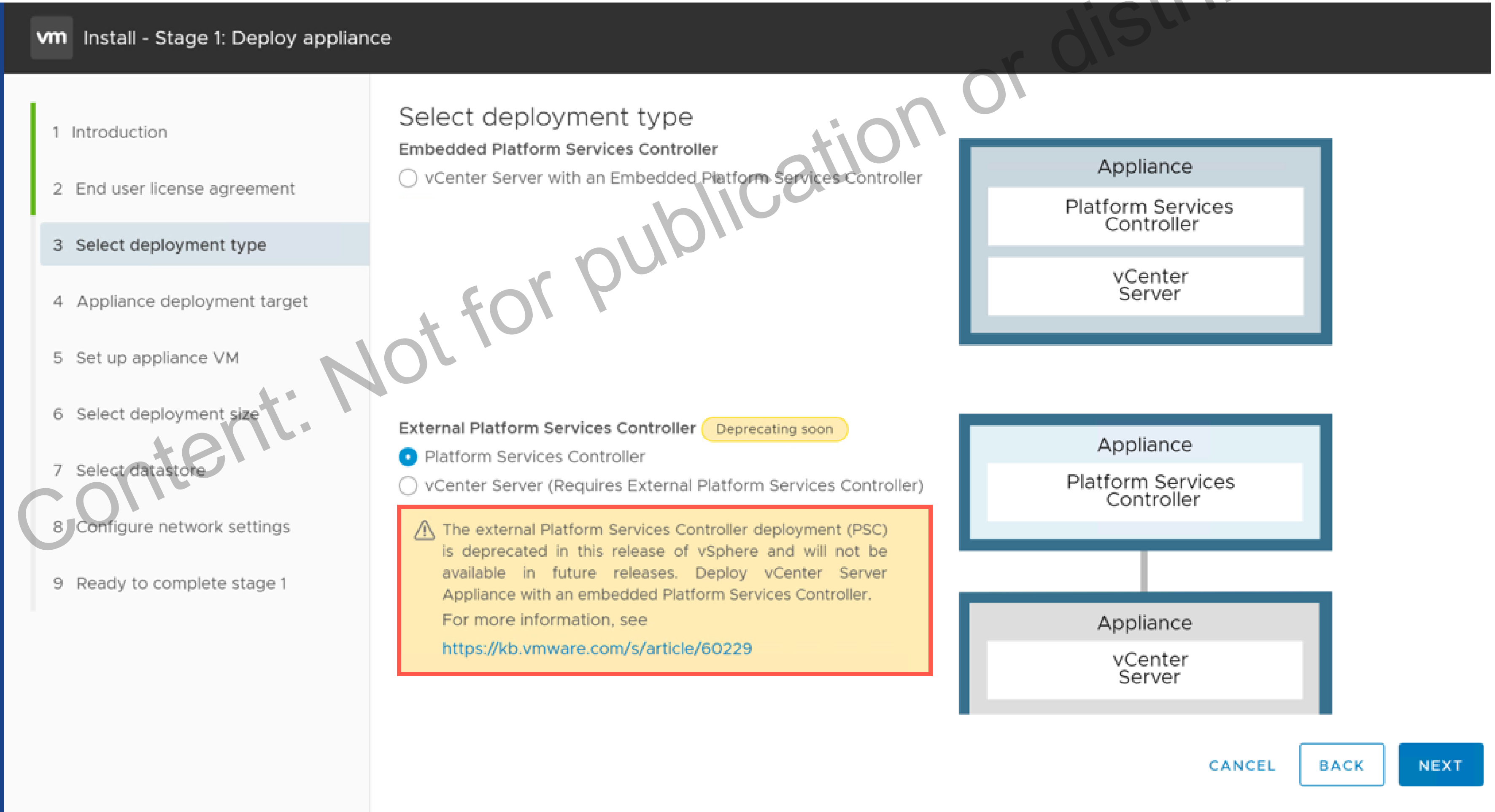
Deprecated PSC Warnings (Installer UI)

External PSC Deployments

- Deprecated as of vSphere 6.7GA
- KB 60229
- Not available in a future vSphere Release (not update release)

Deprecation Warning

- Within UI & CLI



Install - Stage 1: Deploy appliance

1 Introduction
2 End user license agreement
3 Select deployment type
4 Appliance deployment target
5 Set up appliance VM
6 Select deployment size
7 Select datastore
8 Configure network settings
9 Ready to complete stage 1

Select deployment type

Embedded Platform Services Controller

○ vCenter Server with an Embedded Platform Services Controller

External Platform Services Controller Deprecating soon

● Platform Services Controller

○ vCenter Server (Requires External Platform Services Controller)

⚠ The external Platform Services Controller deployment (PSC) is deprecated in this release of vSphere and will not be available in future releases. Deploy vCenter Server Appliance with an embedded Platform Services Controller.

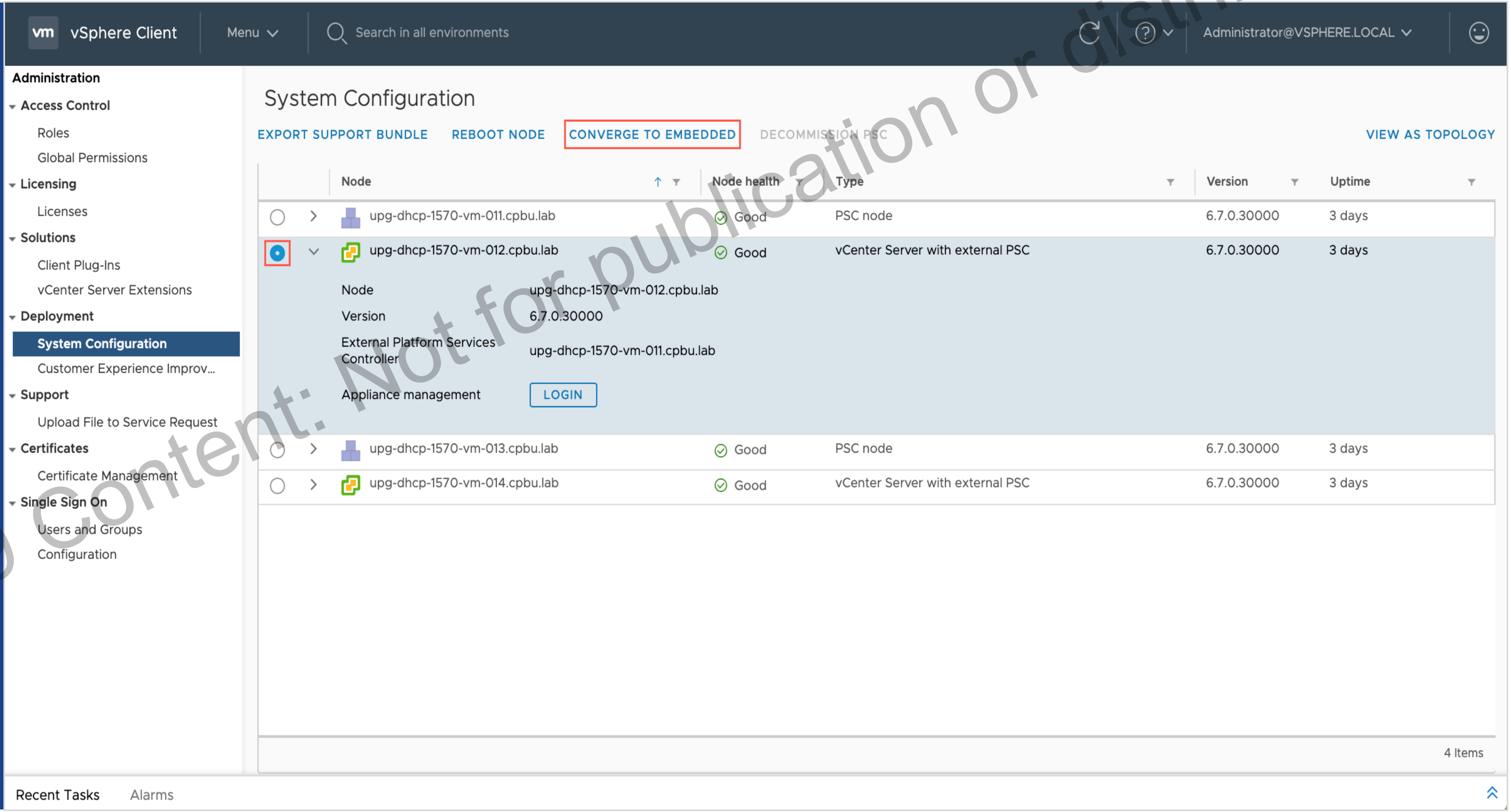
For more information, see https://kb.vmware.com/s/article/60229

Appliance
Platform Services Controller
vCenter Server
Appliance
Platform Services Controller
Appliance
vCenter Server
CANCEL
BACK
NEXT

System Configuration Enhancements

System Configuration
- Table View
- Topology View
- VAMI Login

Converge in vSphere Client
- View Replication Partners
- Converge To Embedded
- Decommission PSC


vm vSphere Client
Menu
Search in all environments
Administrator@VSPHERE.LOCAL
Administration
Access Control
Roles
Global Permissions
Licensing
Licenses
Solutions
Client Plug-Ins
vCenter Server Extensions
Deployment
System Configuration
Customer Experience Improv...
Support
Upload File to Service Request
Certificates
Certificate Management
Single Sign On
Users and Groups
Configuration
EXPORT SUPPORT BUNDLE
REBOOT NODE
CONVERGE TO EMBEDDED
DECOMMISSION PSC
VIEW AS TOPOLOGY
LOGIN
Recent Tasks
Alarms

System Configuration

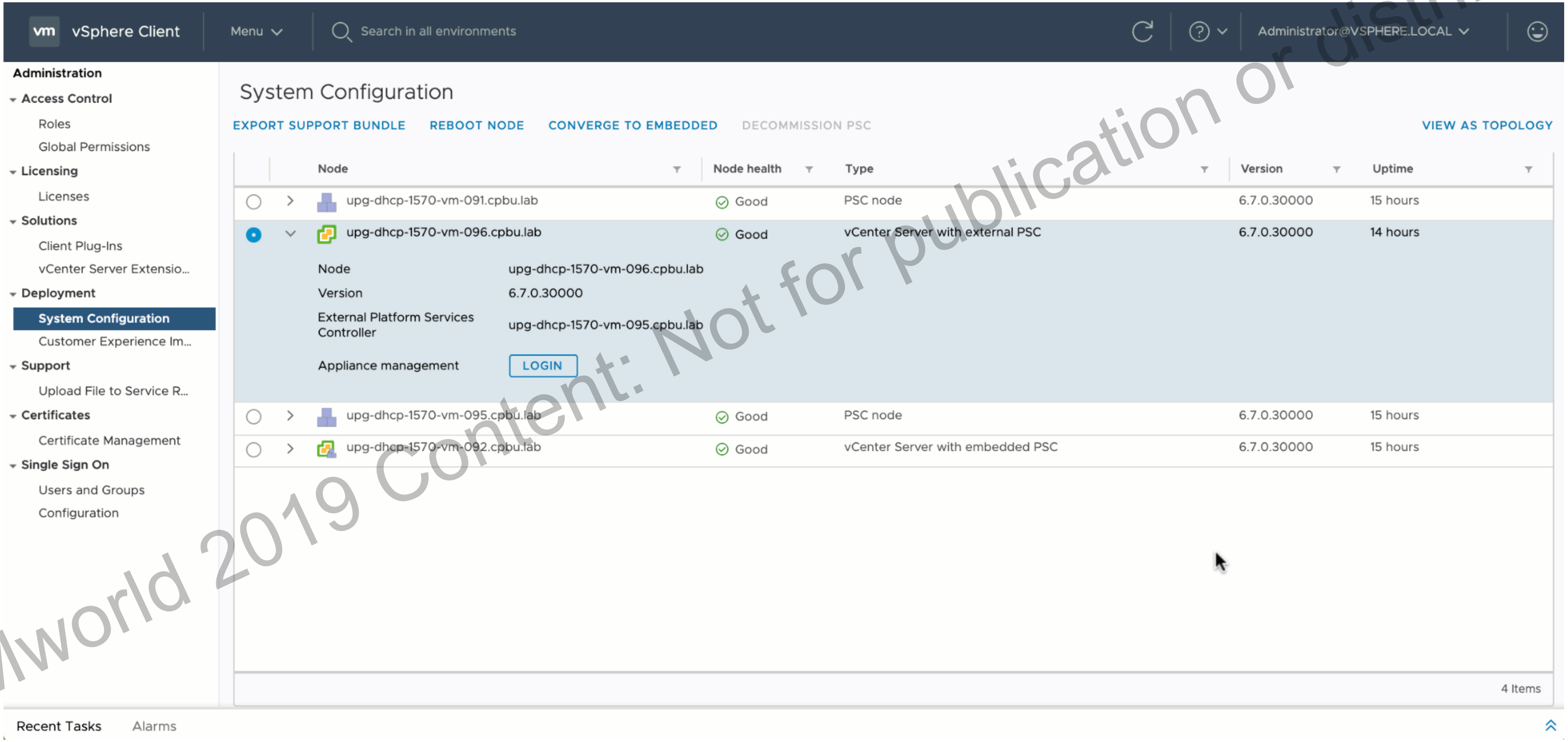
	Node	Node health	Type	Version	Uptime
○	upg-dhcp-1570-vm-011.cpbu.lab	✓ Good	PSC node	6.7.0.30000	3 days
●	upg-dhcp-1570-vm-012.cpbu.lab	✓ Good	vCenter Server with external PSC	6.7.0.30000	3 days
○	upg-dhcp-1570-vm-013.cpbu.lab	✓ Good	PSC node	6.7.0.30000	3 days
○	upg-dhcp-1570-vm-014.cpbu.lab	✓ Good	vCenter Server with external PSC	6.7.0.30000	3 days

Node	upg-dhcp-1570-vm-012.cpbu.lab
Version	6.7.0.30000
External Platform Services Controller	upg-dhcp-1570-vm-011.cpbu.lab
Appliance management	LOGIN

4 items

Converge Tool UI

Animated Demo


vm vSphere Client
Menu
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Administration
Access Control
Roles
Global Permissions
Licensing
Licenses
Solutions
Client Plug-Ins
vCenter Server Extensio...
Deployment
System Configuration
Customer Experience Im...
Support
Upload File to Service R...
Certificates
Certificate Management
Single Sign On
Users and Groups
Configuration
EXPORT SUPPORT BUNDLE
REBOOT NODE
CONVERGE TO EMBEDDED
DECOMMISSION PSC
VIEW AS TOPOLOGY
LOGIN
Recent Tasks
Alarms

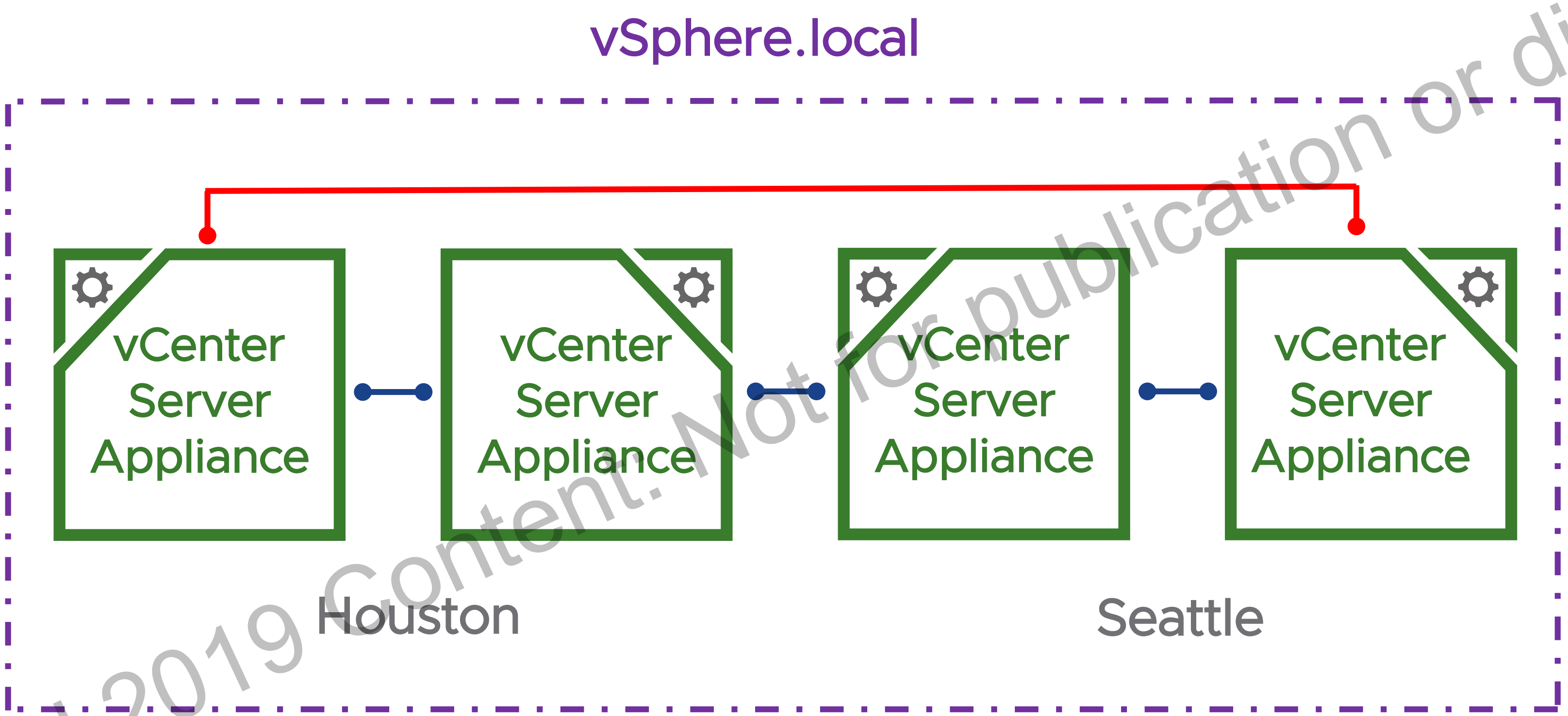
System Configuration

	Node	Node health	Type	Version	Uptime
○	upg-dhcp-1570-vm-091.cpbu.lab	✓ Good	PSC node	6.7.0.30000	15 hours
●	upg-dhcp-1570-vm-096.cpbu.lab	✓ Good	vCenter Server with external PSC	6.7.0.30000	14 hours
○	upg-dhcp-1570-vm-095.cpbu.lab	✓ Good	PSC node	6.7.0.30000	15 hours
○	upg-dhcp-1570-vm-092.cpbu.lab	✓ Good	vCenter Server with embedded PSC	6.7.0.30000	15 hours

Node upg-dhcp-1570-vm-096.cpbu.lab
Version 6.7.0.30000
External Platform Services Controller upg-dhcp-1570-vm-095.cpbu.lab
Appliance management LOGIN

4 Items

Simplified SSO Architecture



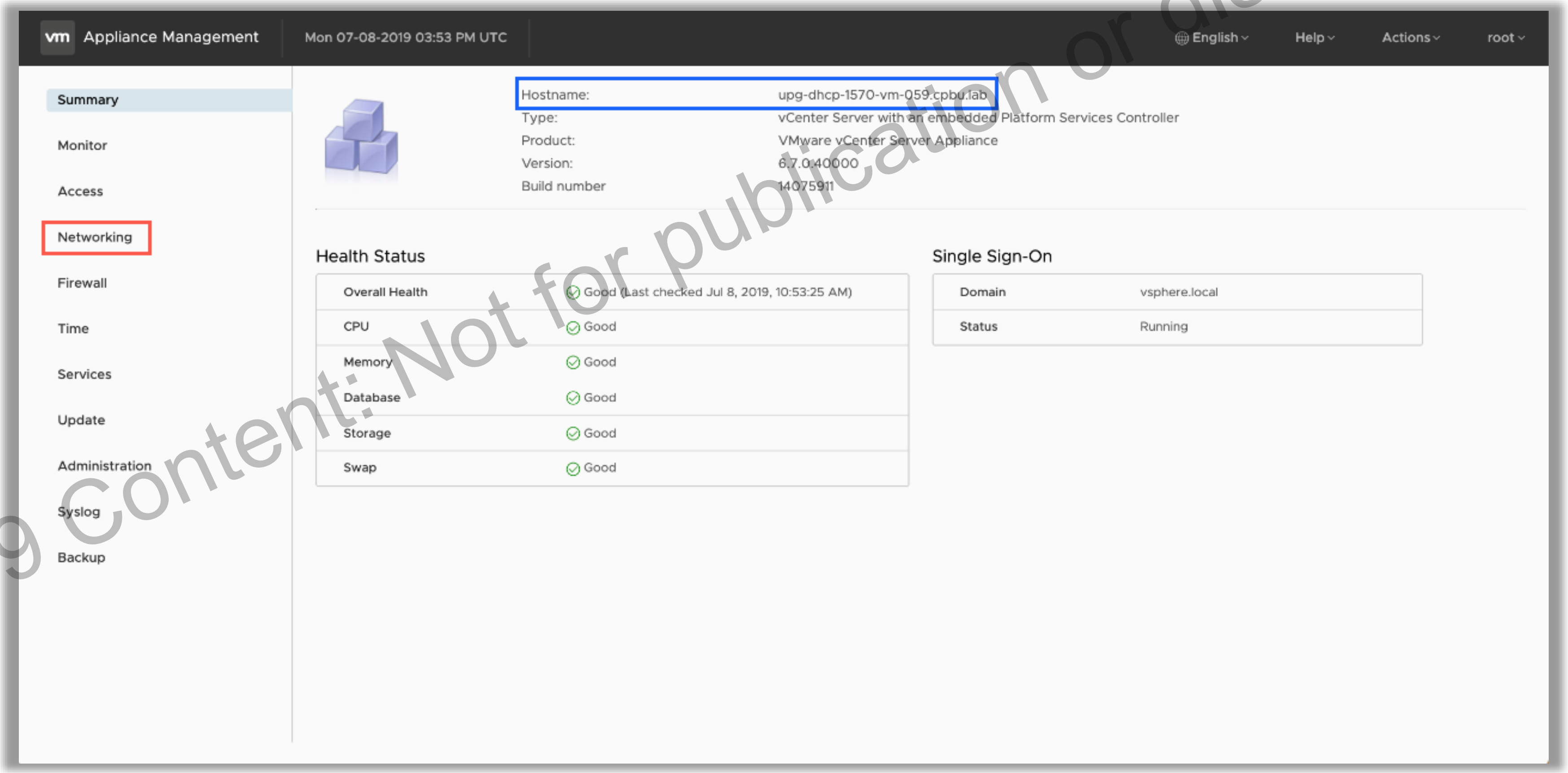
vSphere.local
vCenter Server Appliance
vCenter Server Appliance
vCenter Server Appliance
vCenter Server Appliance
Houston
Seattle

* SSO Sites will be going away and will no longer be required in the future

Change the FQDN of vCenter Server appliance (VCSA)

New in vSphere 6.7 Update 3

- Edit the FQDN/IP of vCenter Server
- Use Cases
  - Mergers & Acquisitions
  - Migrations from Windows to the Appliance
  - Naming mistakes during deployment
- vCenter Server appliance ONLY
  - Embedded Deployments


vm Appliance Management
Mon 07-08-2019 03:53 PM UTC
English
Help
Actions
root
Summary
Monitor
Access
Networking
Firewall
Time
Services
Update
Administration
Syslog
Backup

Hostname: upg-dhcp-1570-vm-059.cpbu.lab
Type: vCenter Server with an embedded Platform Services Controller
Product: VMware vCenter Server Appliance
Version: 6.7.0.40000
Build number 14075911

Health Status

Overall Health	Good (Last checked Jul 8, 2019, 10:53:25 AM)
CPU	Good
Memory	Good
Database	Good
Storage	Good
Swap	Good

Single Sign-On

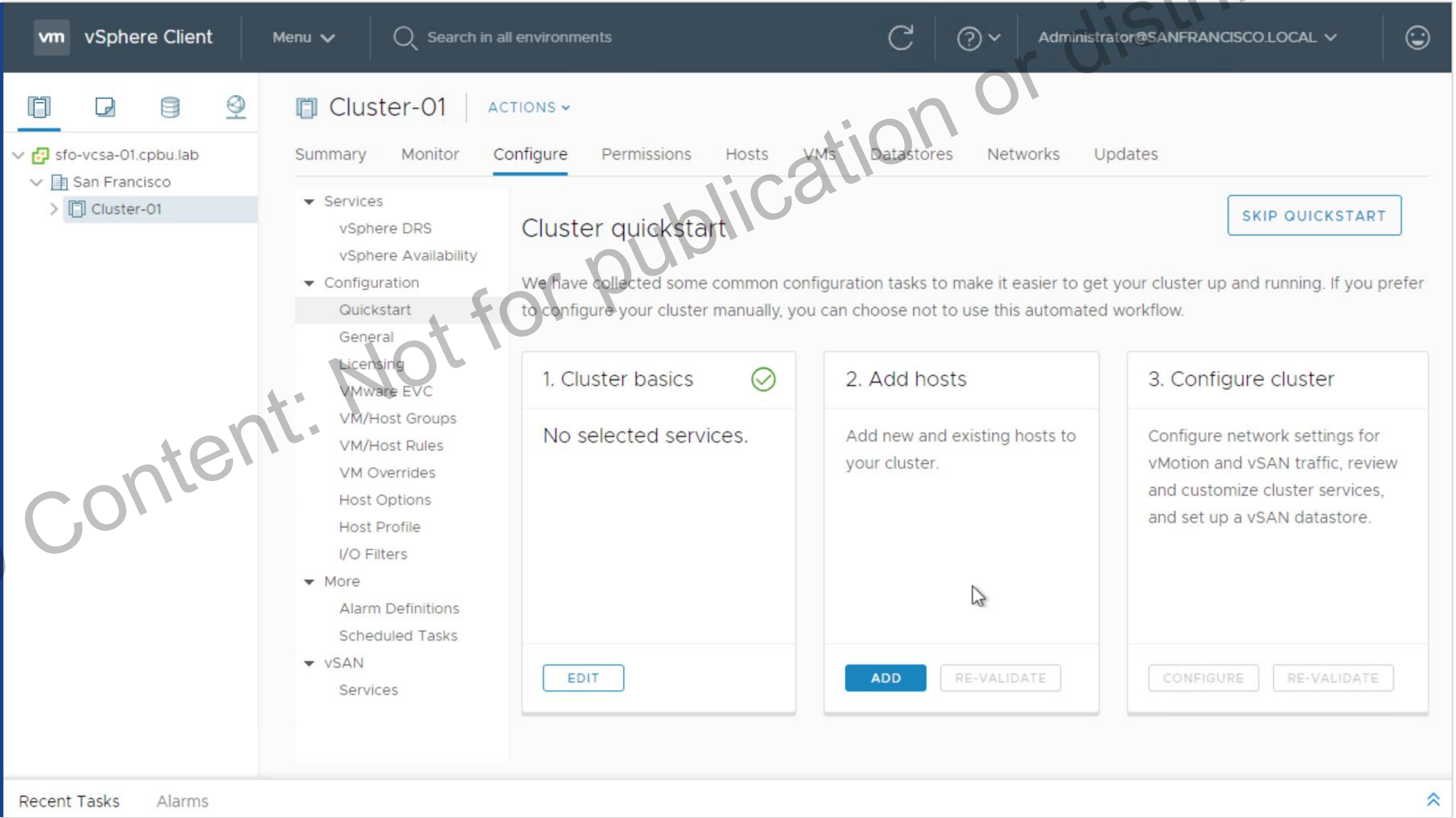
Domain	vsphere.local
Status	Running

vSphere 6.7 Update 1

Cluster Quickstart

Hyperconverged Cluster Configuration

- Available in vSphere Client during new install or upgrade
- Multi host add
  - Validation
- Create & extend clusters
- Cluster and Network configuration
  - vSAN datastore
  - HA / DRS / EVC
  - VDS
  - NTP



Cluster quickstart

We have collected some common configuration tasks to make it easier to get your cluster up and running. If you prefer to configure your cluster manually, you can choose not to use this automated workflow.

1. Cluster basics

No selected services.

2. Add hosts

Add new and existing hosts to your cluster.

3. Configure cluster

Configure network settings for vMotion and vSAN traffic, review and customize cluster services, and set up a vSAN datastore.

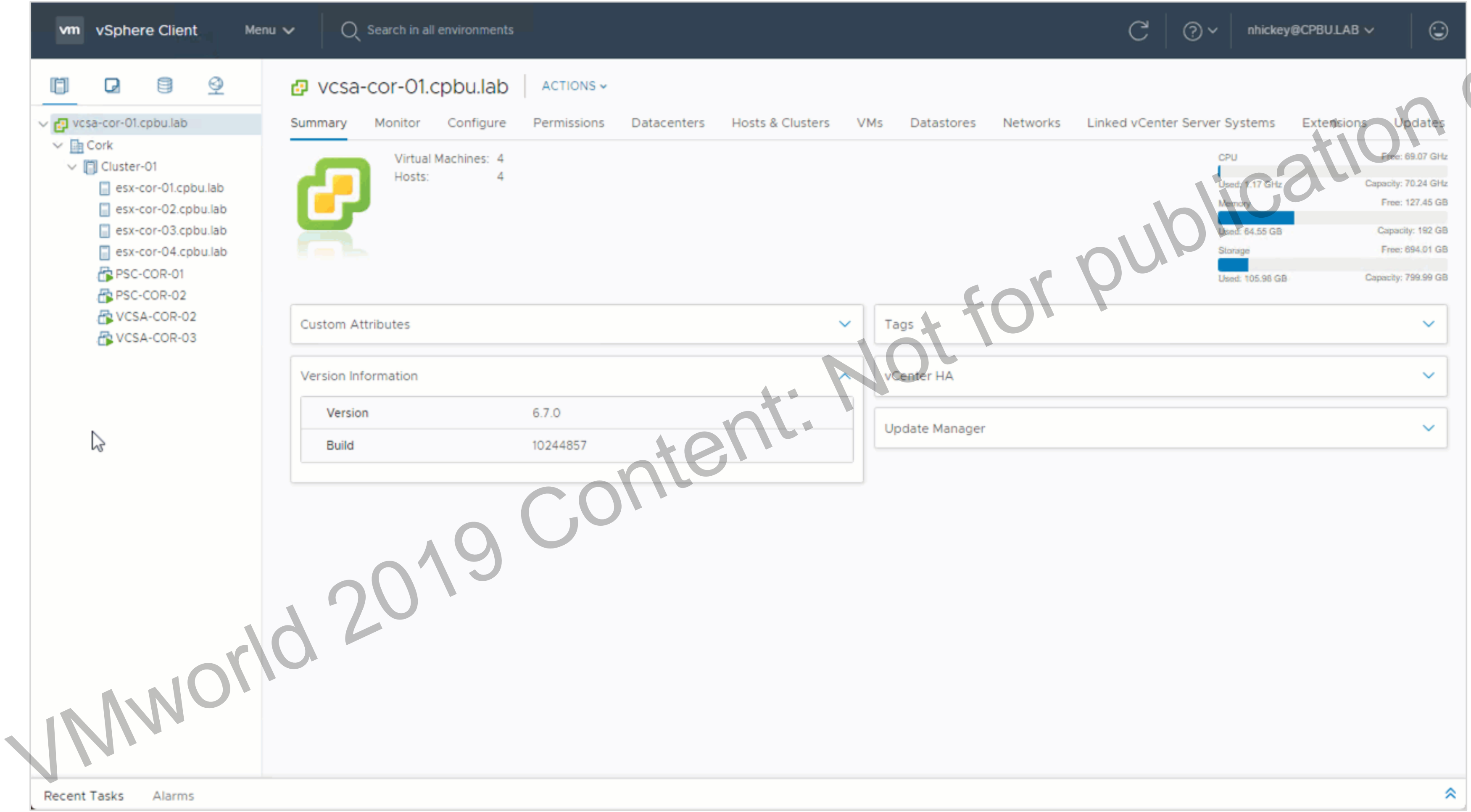
vm vSphere Client
Menu
Search in all environments
Administrator@SANFRANCISCO.LOCAL
sfo-vcsa-01.cpbu.lab
San Francisco
Cluster-01
Cluster-01
ACTIONS
Summary
Monitor
Configure
Permissions
Hosts
VMs
Datastores
Networks
Updates
Services
vSphere DRS
vSphere Availability
Configuration
Quickstart
General
Licensing
VMware EVC
VM/Host Groups
VM/Host Rules
VM Overrides
Host Options
Host Profile
I/O Filters
More
Alarm Definitions
Scheduled Tasks
vSAN
Services
SKIP QUICKSTART
EDIT
ADD
RE-VALIDATE
CONFIGURE
RE-VALIDATE
Recent Tasks
Alarms

Day 30

Are we running at our best?

Day 30

Are We Still Healthy?


vm vSphere Client
Menu
Search in all environments
nhickey@CPBU.LAB
vcsa-cor-01.cpbu.lab
Cork
Cluster-01
esx-cor-01.cpbu.lab
esx-cor-02.cpbu.lab
esx-cor-03.cpbu.lab
esx-cor-04.cpbu.lab
PSC-COR-01
PSC-COR-02
VCSA-COR-02
VCSA-COR-03
vcsa-cor-01.cpbu.lab
ACTIONS
Summary
Monitor
Configure
Permissions
Datacenters
Hosts & Clusters
VMs
Datastores
Networks
Linked vCenter Server Systems
Extensions
Updates
Custom Attributes
Tags
Version Information
vCenter HA
Update Manager
Recent Tasks
Alarms

Virtual Machines: 4
Hosts: 4

CPU
Free: 69.07 GHz
Used: 1.17 GHz
Capacity: 70.24 GHz

Memory
Free: 127.45 GB
Used: 64.55 GB
Capacity: 192 GB

Storage
Free: 694.01 GB
Used: 105.98 GB
Capacity: 799.99 GB

Version	6.7.0
Build	10244857

Configuration Drift

Outdated Drivers/Firmware

Finding issues can be difficult

vSphere & vSAN Health

vSAN and vSphere Update Manager Integration

Update software and firmware in a single maintenance cycle

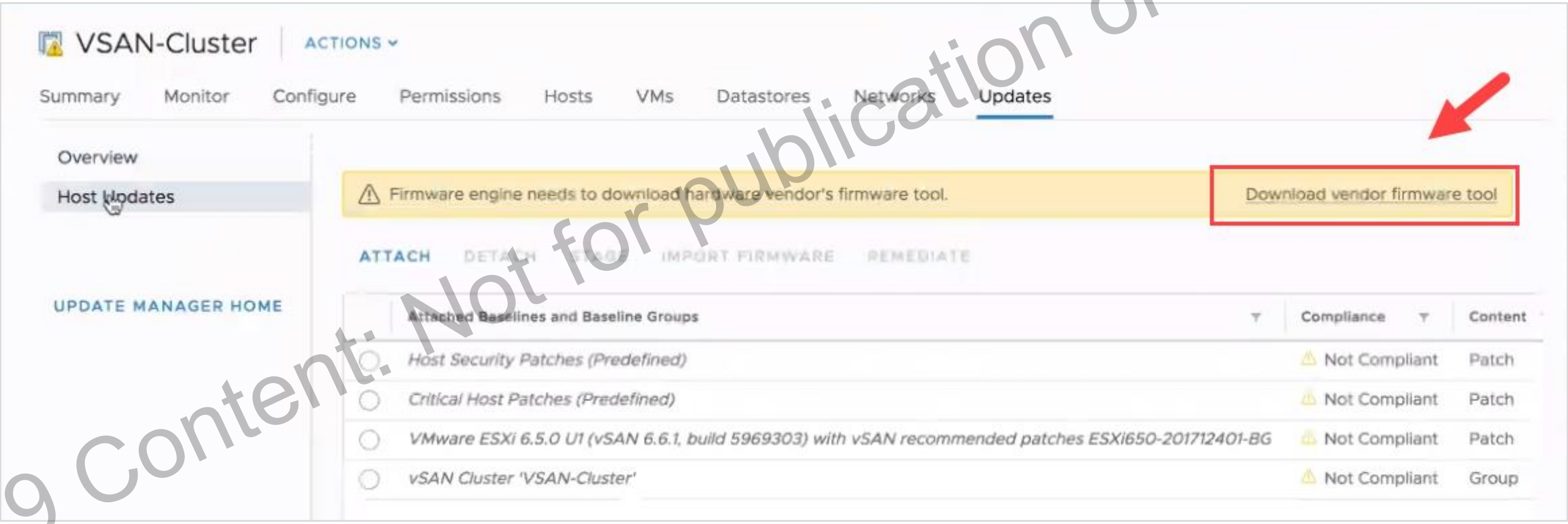
MANAGEMENT

vSAN IO Controller Firmware Tool now integrated into VUM

Retrieves and updates firmware for the vSAN Cluster

Can use vendor or local repositories

Included in system-managed baselines

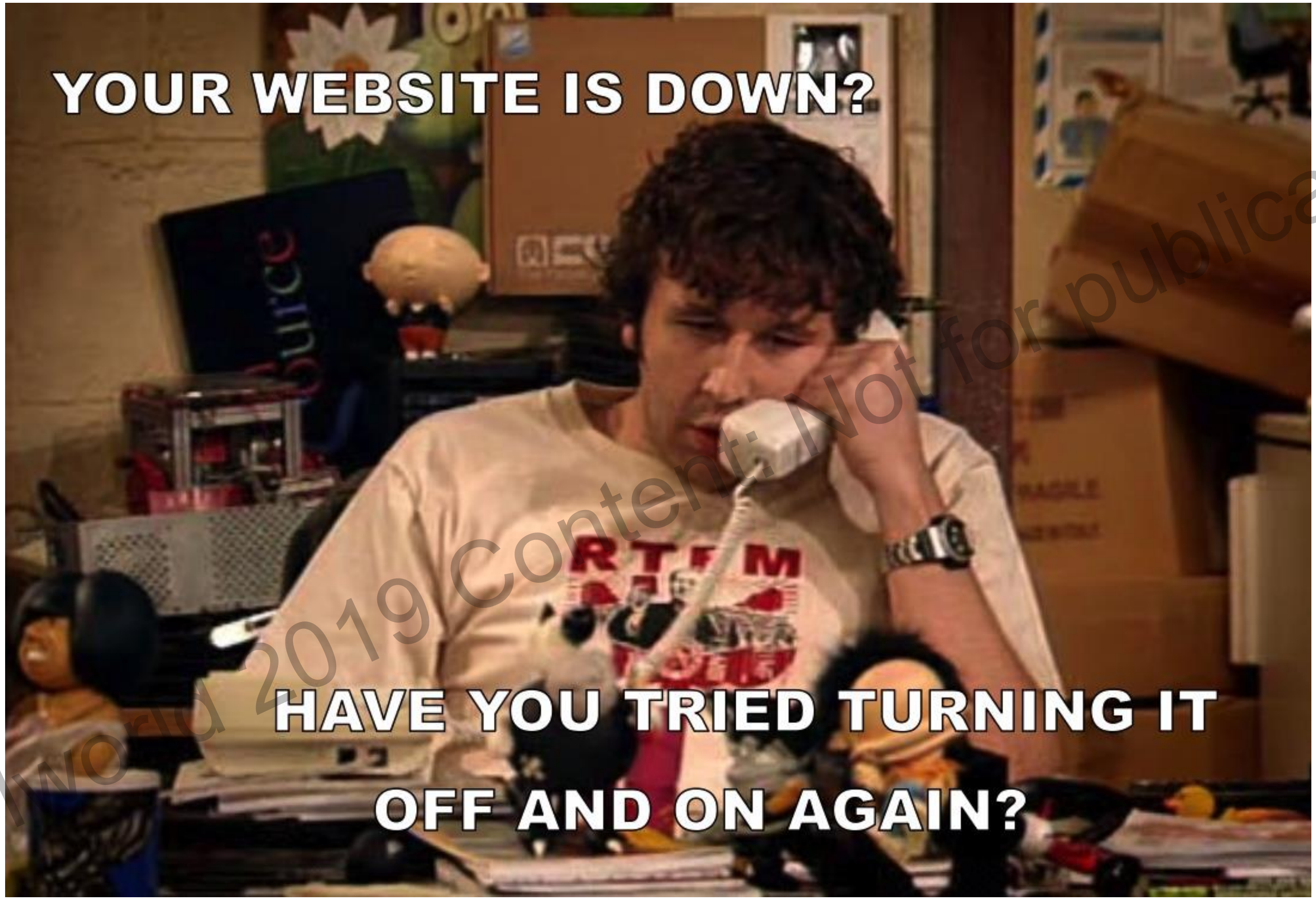

VSAN-Cluster
ACTIONS
Summary
Monitor
Configure
Permissions
Hosts
VMs
Datastores
Networks
Updates
Overview
Host Updates
UPDATE MANAGER HOME
ATTACH
DETACH
STAGE
IMPORT FIRMWARE
REMEDIATE

⚠ Firmware engine needs to download hardware vendor's firmware tool. Download vendor firmware tool

	Attached Baselines and Baseline Groups	Compliance	Content
○	*Host Security Patches (Predefined)*	⚠ Not Compliant	Patch
○	*Critical Host Patches (Predefined)*	⚠ Not Compliant	Patch
○	*VMware ESXi 6.5.0 U1 (vSAN 6.6.1, build 5969303) with vSAN recommended patches ESXi650-201712401-BG*	⚠ Not Compliant	Patch
○	*vSAN Cluster 'VSAN-Cluster'*	⚠ Not Compliant	Group

Day 180

EVERYTHING IS ON FIRE!


YOUR WEBSITE IS DOWN?
HAVE YOU TRIED TURNING IT
OFF AND ON AGAIN?

- Status Quo
- Logs
- Configuration
- Health
- History

Things That Can Impact the Support Experience

Lost Logs

Embedded ESXi Installs

Log Rollover/age out

Communication

A customer in an outage may be stressed and not communicate correctly.

Human memory of when something happened may be poor

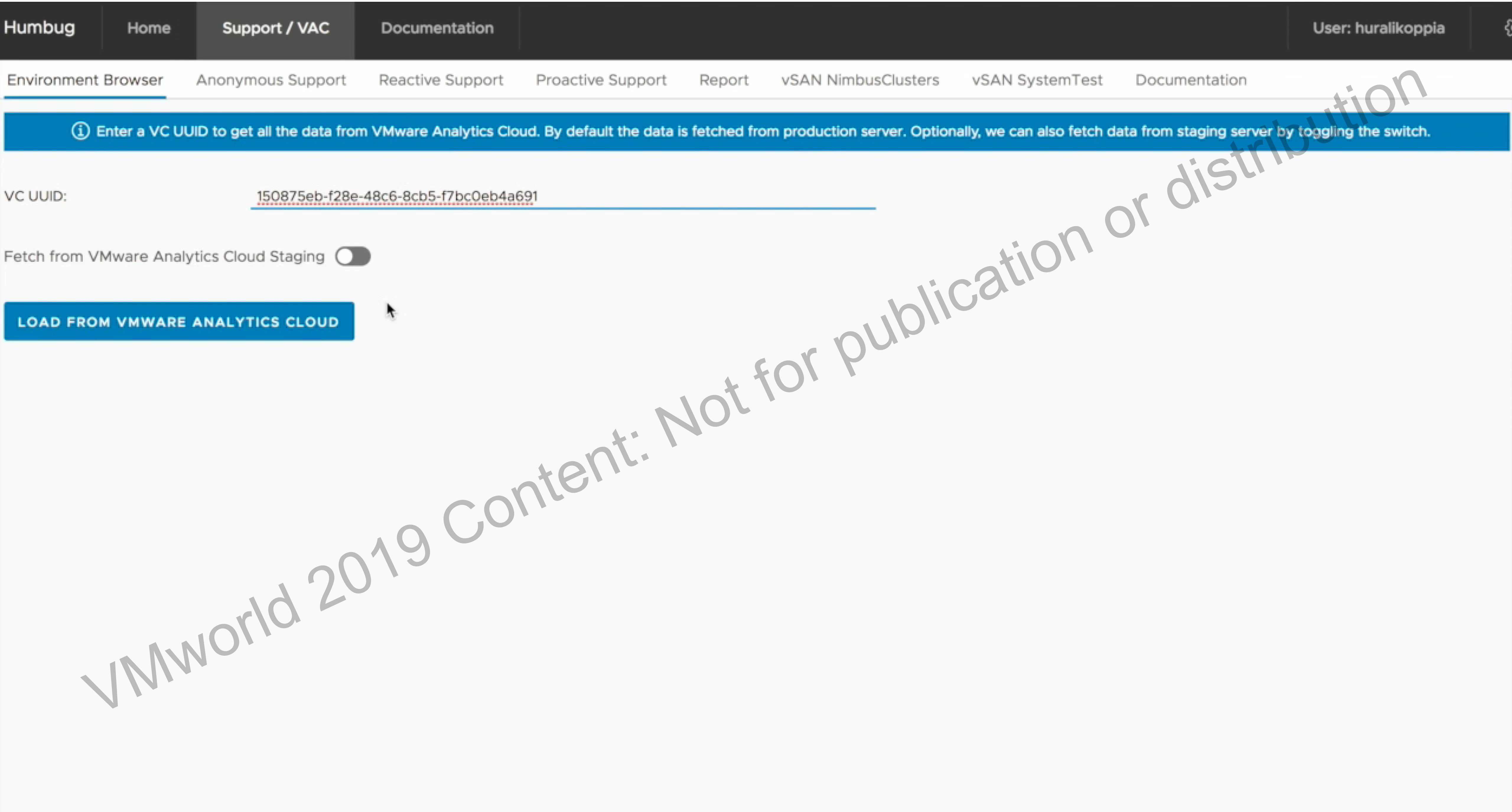
Blame games

Context and Completeness

Storage, Networking, Compute fault domains

Did this ever work? History matters

Have to wait for issue to happen to troubleshoot


Humbug
Home
Support / VAC
Documentation
User: huralikoppia
Environment Browser
Anonymous Support
Reactive Support
Proactive Support
Report
vSAN NimbusClusters
vSAN SystemTest
Documentation
LOAD FROM VMWARE ANALYTICS CLOUD

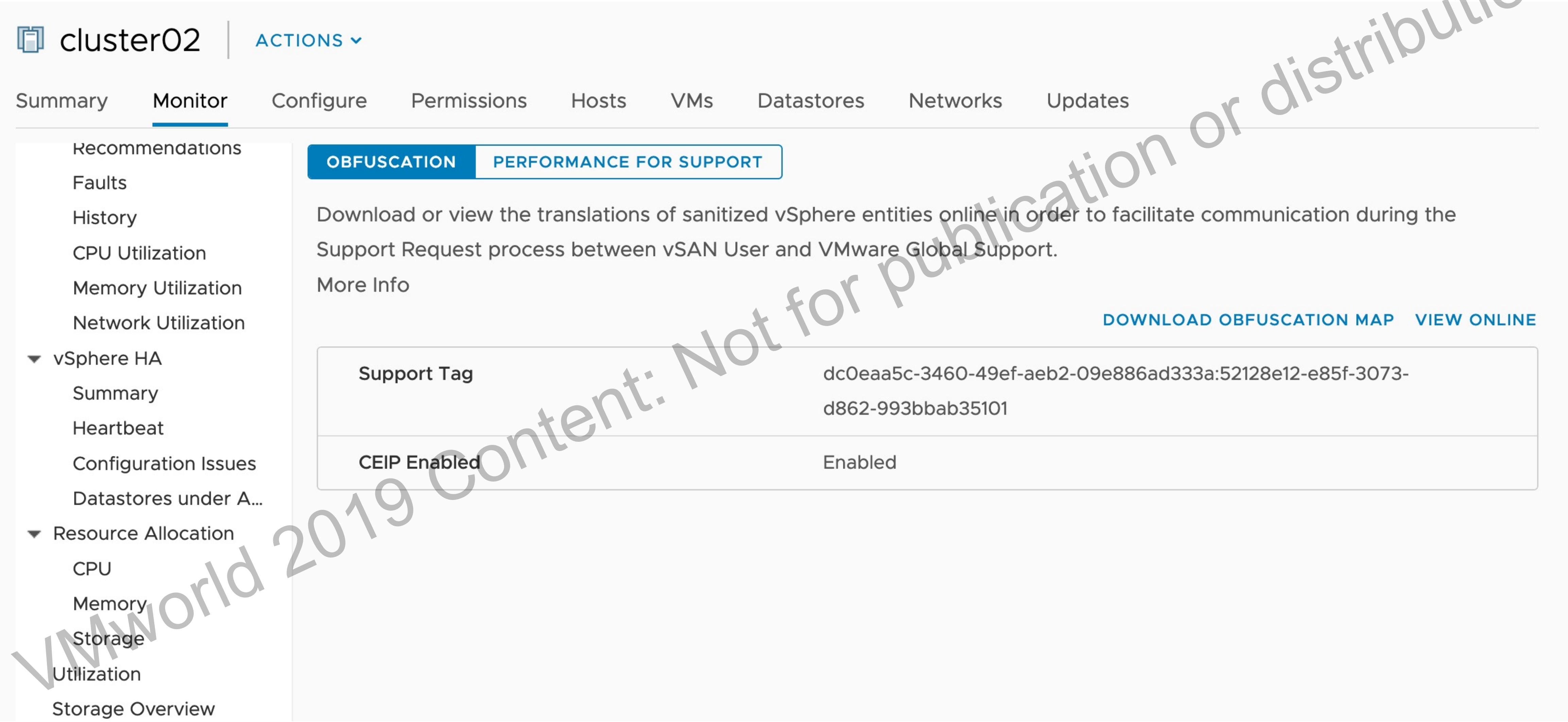
ⓘ Enter a VC UUID to get all the data from VMware Analytics Cloud. By default the data is fetched from production server. Optionally, we can also fetch data from staging server by toggling the switch.

VC UUID: 150875eb-f28e-48c6-8cb5-f7bc0eb4a691

Fetch from VMware Analytics Cloud Staging ○

Download Obfuscation Map

Cluster→ Monitor → vSAN → Support



cluster02
ACTIONS
Summary
Monitor
Configure
Permissions
Hosts
VMs
Datastores
Networks
Updates
Recommendations
Faults
History
CPU Utilization
Memory Utilization
Network Utilization
vSphere HA
Summary
Heartbeat
Configuration Issues
Datastores under A...
Resource Allocation
CPU
Memory
Storage
Utilization
Storage Overview
OBFUSCATION
PERFORMANCE FOR SUPPORT
DOWNLOAD OBFUSCATION MAP
VIEW ONLINE

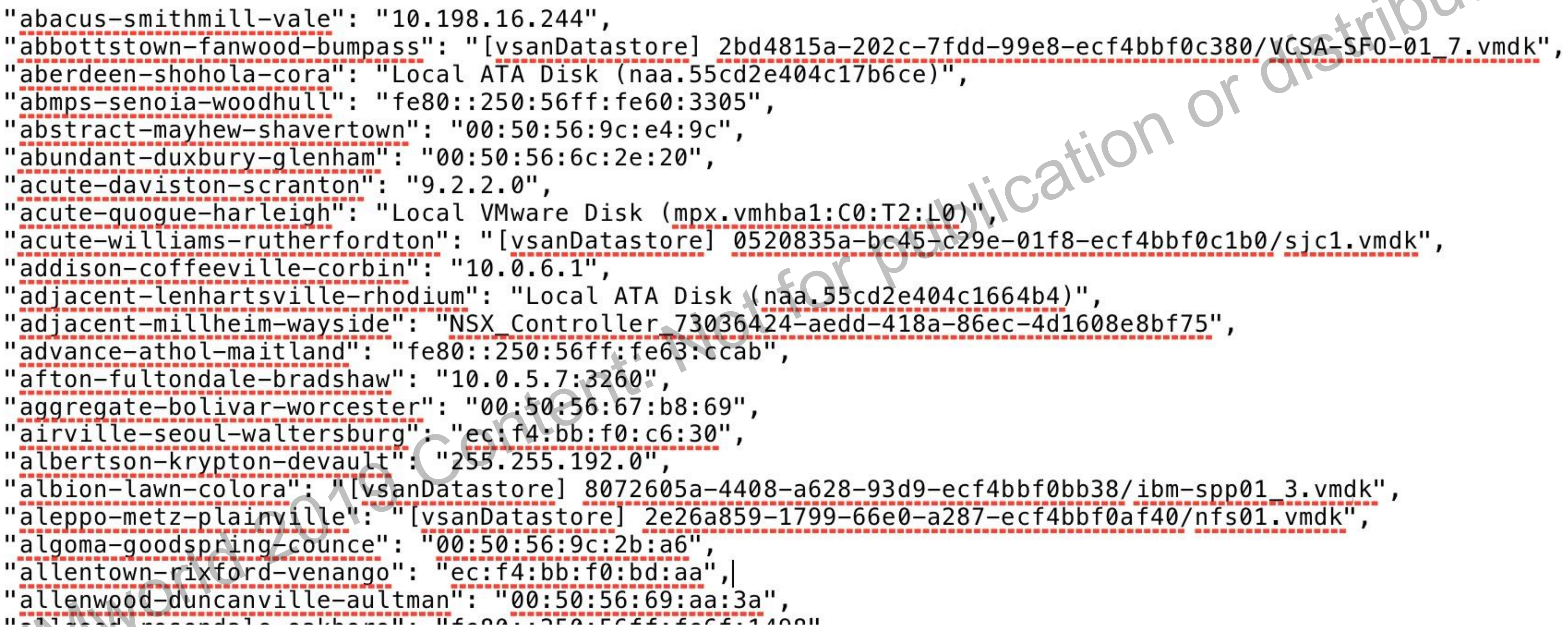
Download or view the translations of sanitized vSphere entities online in order to facilitate communication during the Support Request process between vSAN User and VMware Global Support.

More Info

Support Tag	dc0eaa5c-3460-49ef-aeb2-09e886ad333a:52128e12-e85f-3073-d862-993bbab35101
CEIP Enabled	Enabled

Obfuscation Map

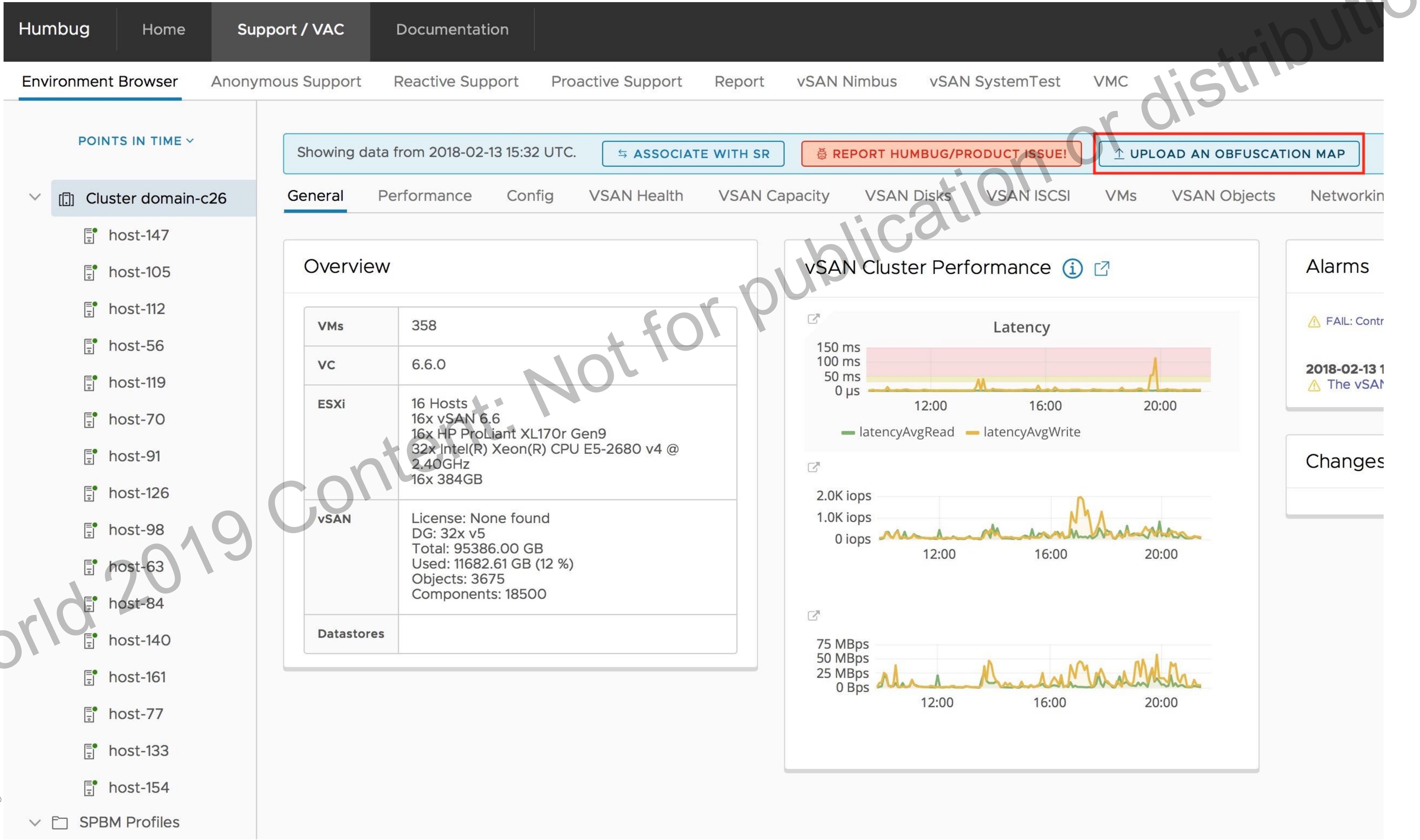
Txt file easy to read



```
"abacus-smithmill-vale": "10.198.16.244",
"abbottstown-fanwood-bumpass": "[vsanDatastore] 2bd4815a-202c-7fdd-99e8-ecf4bbf0c380/VCSA-SFO-01_7.vmdk",
"aberdeen-shohola-cora": "Local ATA Disk (naa.55cd2e404c17b6ce)",
"abmps-senoia-woodhull": "fe80::250:56ff:fe60:3305",
"abstract-mayhew-shavertown": "00:50:56:9c:e4:9c",
"abundant-duxbury-glenham": "00:50:56:6c:2e:20",
"acute-daviston-scranton": "9.2.2.0",
"acute-quogue-harleigh": "Local VMware Disk (mpx.vmhba1:C0:T2:L0)",
"acute-williams-rutherfordton": "[vsanDatastore] 0520835a-bc45-c29e-01f8-ecf4bbf0c1b0/sjc1.vmdk",
"addison-coffeeville-corbin": "10.0.6.1",
"adjacent-lenhartsville-rhodium": "Local ATA Disk (naa.55cd2e404c1664b4)",
"adjacent-millheim-wayside": "NSX_Controller_73036424-aedd-418a-86ec-4d1608e8bf75",
"advance-athol-maitland": "fe80::250:56ff:fe63:ccab",
"afton-fultondale-bradshaw": "10.0.5.7:3260",
"aggregate-bolivar-worcester": "00:50:56:67:b8:69",
"airville-seoul-waltersburg": "ec:f4:bb:f0:c6:30",
"albertson-krypton-devault": "255.255.192.0",
"albion-lawn-colora": "[vsanDatastore] 8072605a-4408-a628-93d9-ecf4bbf0bb38/ibm-spp01_3.vmdk",
"aleppo-metz-plainville": "[vsanDatastore] 2e26a859-1799-66e0-a287-ecf4bbf0af40/nfs01.vmdk",
"algoma-goodspring-counce": "00:50:56:9c:2b:a6",
"allentown-rixford-venango": "ec:f4:bb:f0:bd:aa",|
"allenwood-duncanville-aultman": "00:50:56:69:aa:3a",
```

Obfuscation Map

Upload file to Humbug to match



Humbug
Home
Support / VAC
Documentation
Environment Browser
Anonymous Support
Reactive Support
Proactive Support
Report
vSAN Nimbus
vSAN SystemTest
VMC
POINTS IN TIME
ASSOCIATE WITH SR
REPORT HUMBUG/PRODUCT ISSUE!
UPLOAD AN OBFUSCATION MAP
Cluster domain-c26
host-147
host-105
host-112
host-56
host-119
host-70
host-91
host-126
host-98
host-63
host-84
host-140
host-161
host-77
host-133
host-154
SPBM Profiles
General
Performance
Config
VSAN Health
VSAN Capacity
VSAN Disks
VSAN ISCSI
VMs
VSAN Objects
Networkin
vSAN Cluster Performance
Latency
150 ms
100 ms
50 ms
0 µs
12:00
16:00
20:00
latencyAvgRead
latencyAvgWrite
2.0K iops
1.0K iops
0 iops
12:00
16:00
20:00
75 MBps
50 MBps
25 MBps
0 Bps
12:00
16:00
20:00
Alarms
FAIL: Contr
2018-02-13 1
The vSAN
Changes

Showing data from 2018-02-13 15:32 UTC.

Overview

VMs	358
VC	6.6.0
ESXi	16 Hosts 16x vSAN 6.6 16x HP ProLiant XL170r Gen9 32x Intel(R) Xeon(R) CPU E5-2680 v4 @ 2.40GHz 16x 384GB
vSAN	License: None found DG: 32x v5 Total: 95386.00 GB Used: 11682.61 GB (12 %) Objects: 3675 Components: 18500
Datastores	

Day 365: Time to Scale

How did we configure this?

It's been a year

When do we need to add capacity?

Does anyone remember how they configured this?

Demo

Additional Resources

HCI1894PU

Virtually Speaking Podcast

The future of IT: How do you fit in?

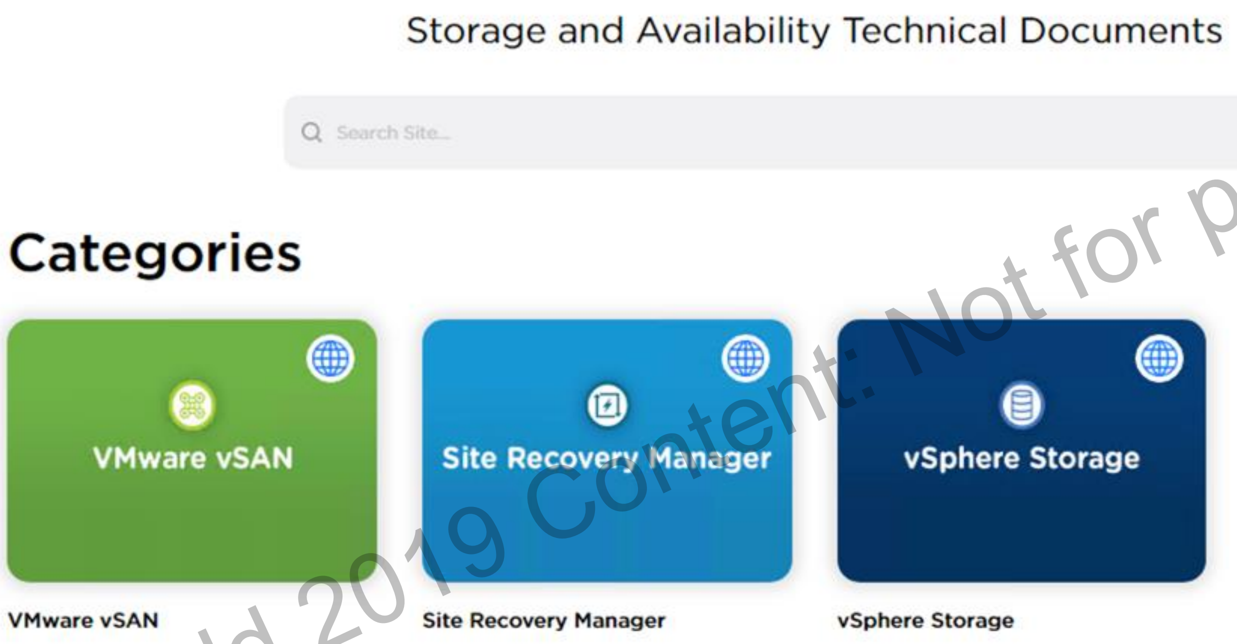
Virtually
Speaking Podcast

Pete Flecha
@pedroarrow

John Nicholson
@lost_signal

Storage Hub

https://storagehub.vmware.com



Storage and Availability Technical Documents

Search Site...

Categories

VMware vSAN
Site Recovery Manager
vSphere Storage

VMware vSAN

Site Recovery Manager

vSphere Storage

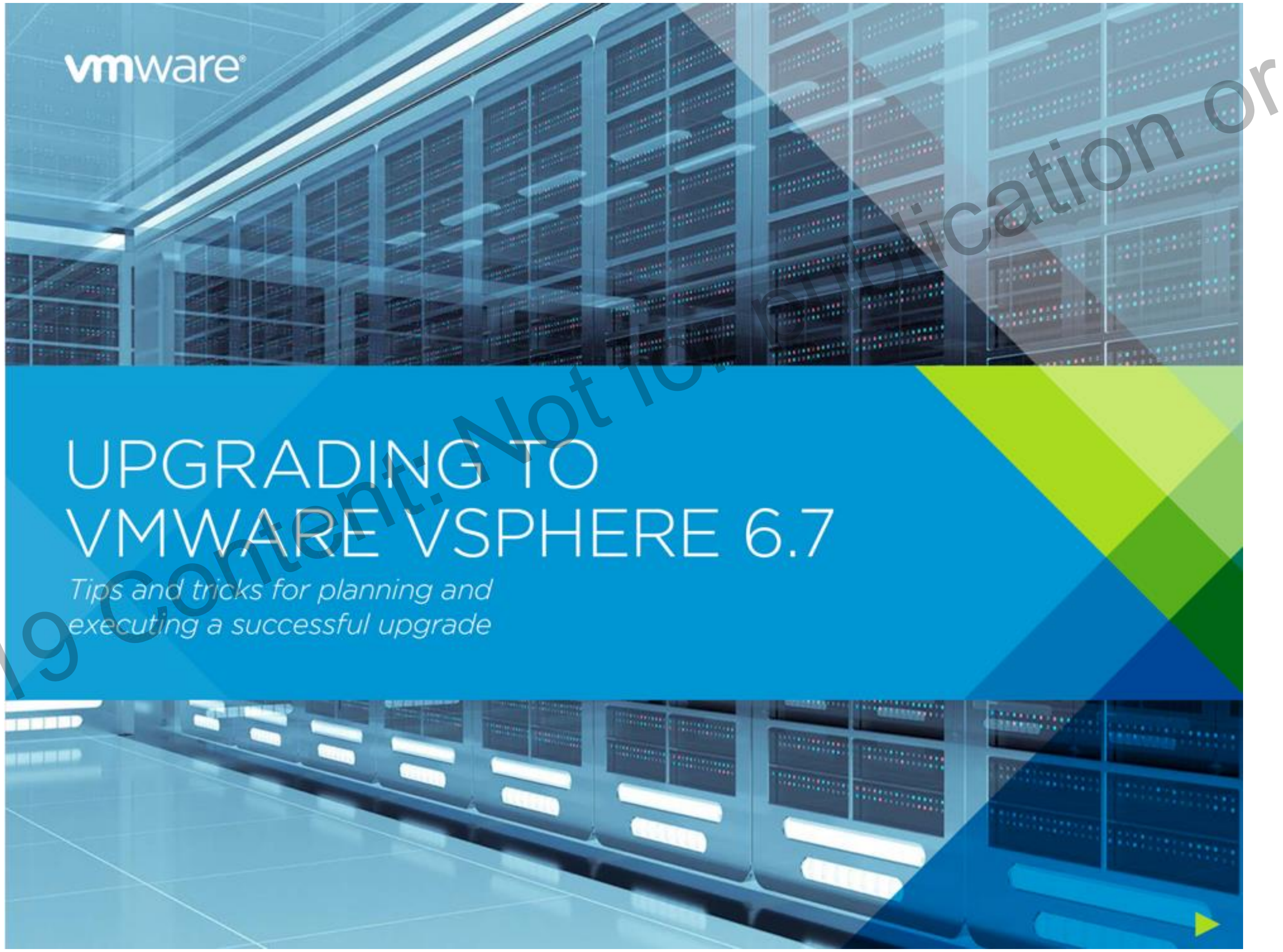
Repository of vSAN, SRM, and Storage resources including blogs, KBs, videos, and walkthroughs

Simple to access and a single URL to remember

Conveniently export resources to PDF for offline viewing

vSphere 6.7 Upgrade eBook! (Nigel Hickey & David Stamen)

http://www.vmware.com/go/vsphere67-upgrade-ebook



vmware

UPGRADING TO
VMWARE VSPHERE 6.7

Tips and tricks for planning and executing a successful upgrade

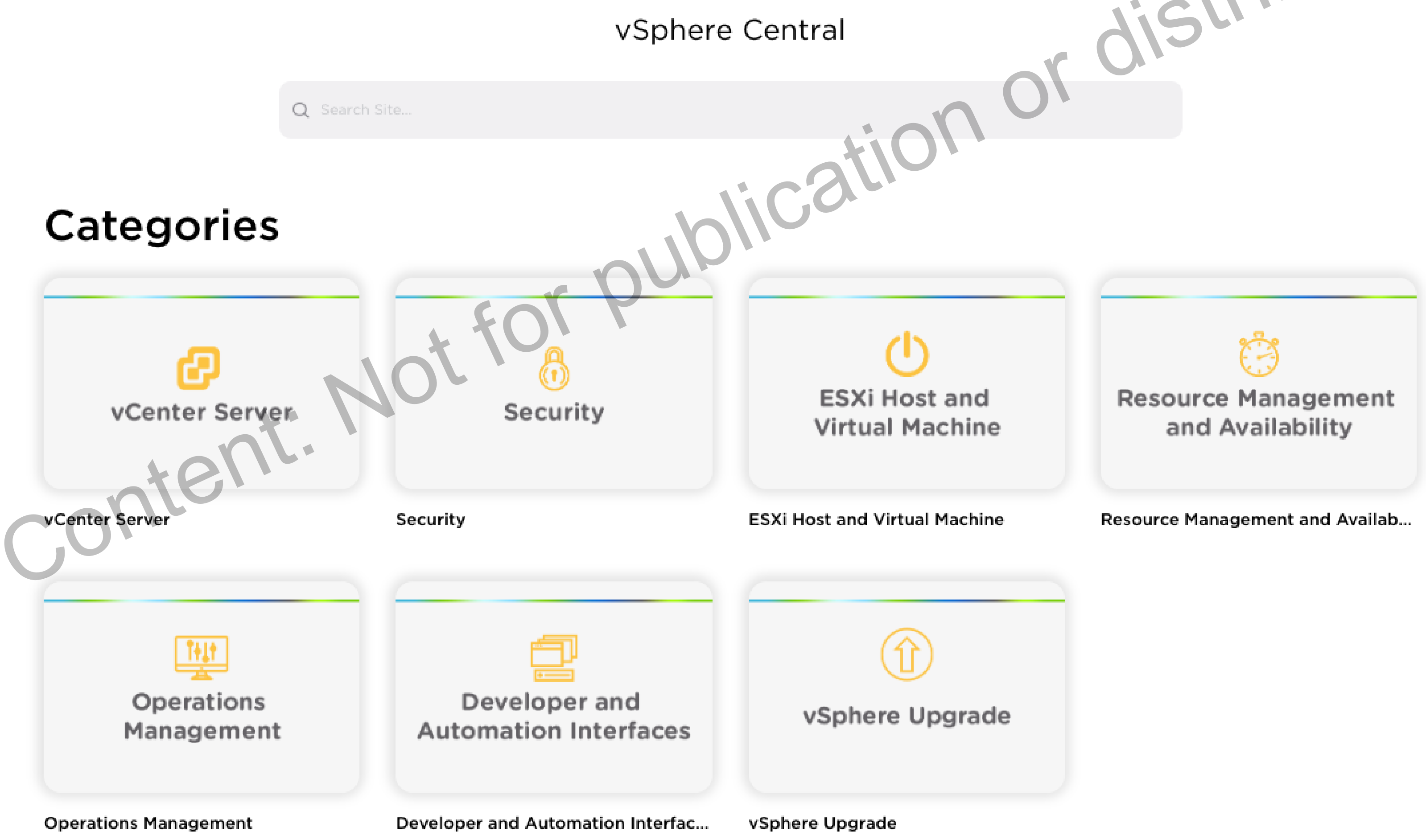
vSphere Central

http://vspherecentral.vmware.com

Curated repository of vSphere resources including blogs, KBs, videos, and walkthroughs

Simple to access and a single URL to remember

Conveniently export resources to PDF for offline viewing


vSphere Central
Search Site...
Categories
vCenter Server
Security
ESXi Host and Virtual Machine
Resource Management and Availability
vCenter Server
Security
ESXi Host and Virtual Machine
Resource Management and Availab...
Operations Management
Developer and Automation Interfaces
vSphere Upgrade
Operations Management
Developer and Automation Interfac...
vSphere Upgrade

vmworld 2019

VMware Assessment Lounge

vmware

ASSESSMENT LOUNGE

Moscone West
Level 3 Lobby

HOURS

Sunday,	Aug. 25	8:00 AM – 6:00 PM
Monday,	Aug. 26	10:30 AM – 6:30 PM *
Tuesday,	Aug. 27	10:30 AM – 6:30 PM *
Wednesday,	Aug. 29	8:00 AM – 5:00 PM
Thursday,	Aug. 30	9:00 AM – 3:00 PM

* Closed for keynote 9:00 AM -10:30 AM

- vSphere Assessment Tool (vSAT)
- Hyper-converged Infrastructure (HCI)
- Virtual Network Assessment (VNA)
- vSphere Optimization Assessment (VOA)

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Take a survey and enter a drawing for a VMware store gift card.

Make
Your
Mark

vmworld 2019

Thank you!

Make
Your
Mark

vmware