

Migration Assessment Report

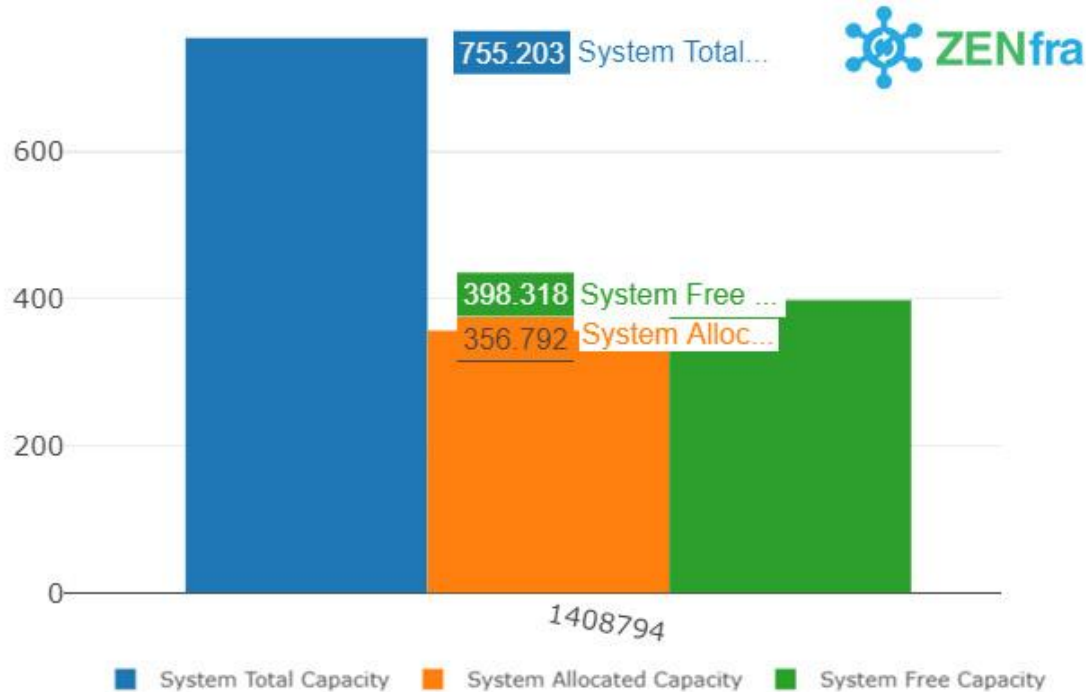
Customer-Name



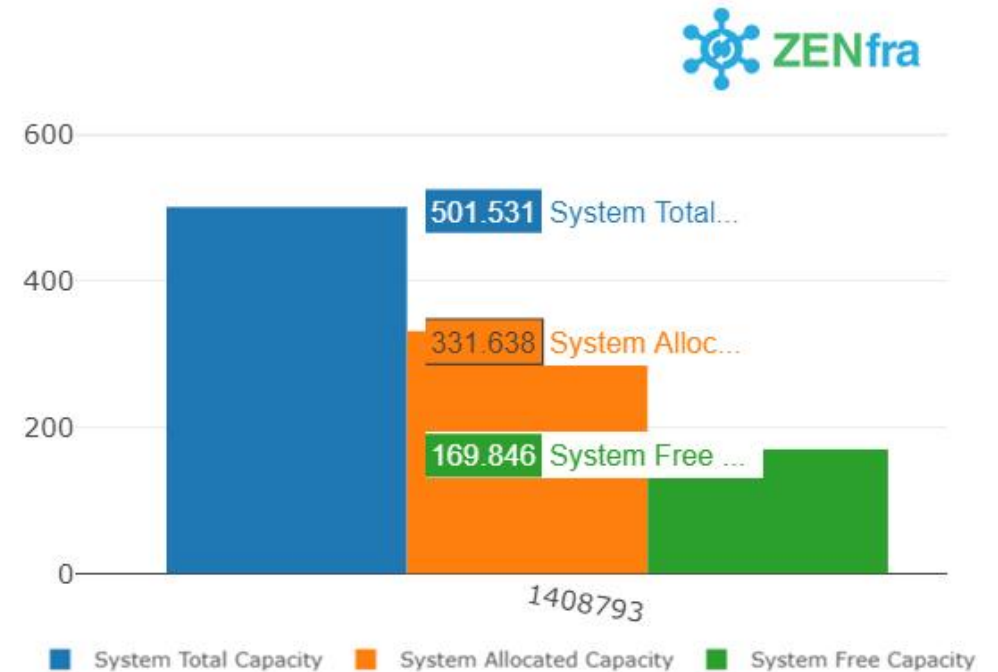
Array Summary

Account Name	Customer Name	
Data Center Location	LOCATION	
Source Storage Array(s)	2 x HP 3PAR 10800	(DC-1 - Serial, DC-2 - Serial)
Target Storage Array(s)	2 x FA-X70R3-2A	(Serial, Serial)

Source Array Summary (TB)



DC-1



DC-2

Host Summary

Host Type		Total Count
Total Physical Hosts		145
Linux	(Physicals)	6
Hyper- V	(Hosts)	27
Hyper- V	(Virtual Machines)	137
VMware	(Hosts)	43
VMware	(BootLUNs)	15
VMware	(Virtual Machines)	685
Windows	(Physicals)	50
Solaris	(Physicals)	4

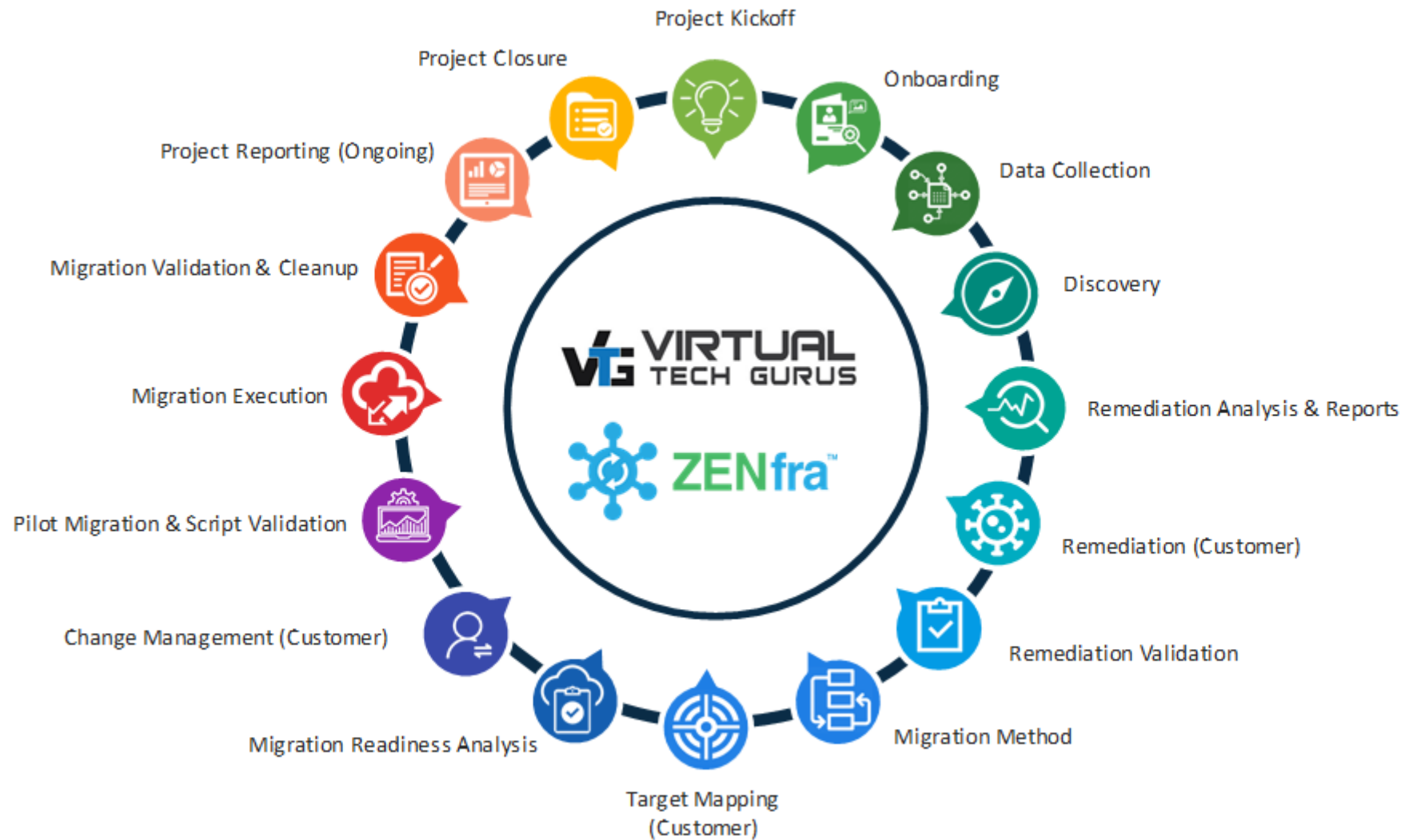
SAN Switch Summary

Account Name	Customer Name			
SAN Switches	4 SAN Switches in DC-1 2 SAN Switches in DC-2			
SAN Switch Names	Fabric A		Fabric B	
	DC-1	DC-2	DC-1	DC-2
	Switch1a Switch1b	Switch2a	Switch1c Switch1d	Switch2b
SAN Fabric OS version	v7.4.2d			
SAN Kernel version	2.6.14.2			

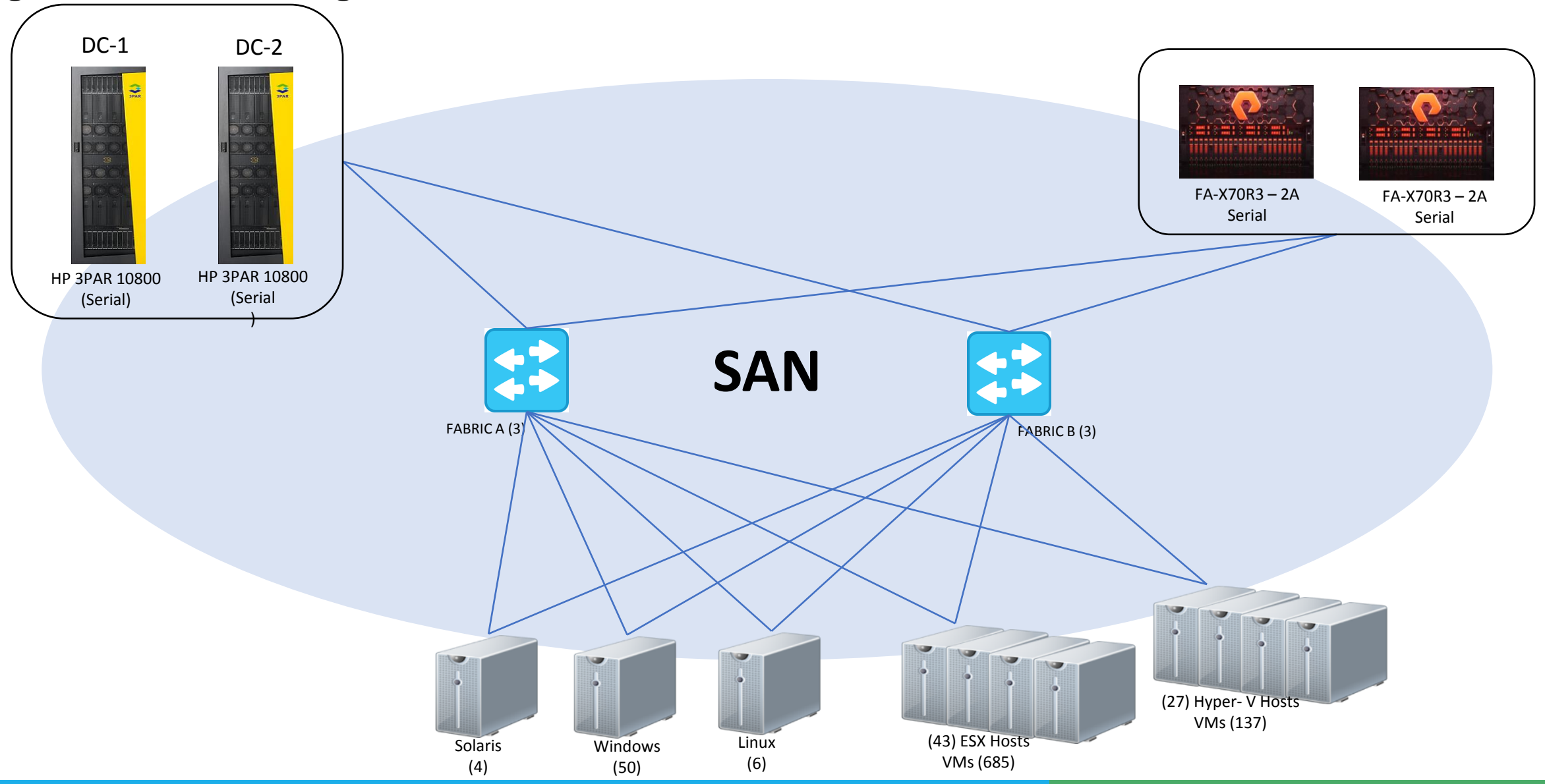
Port Summary

Switch Name	Total # of Ports	Total # of Online Ports	Total # of Unused Ports
xxxx	224	86	138
xxxx	224	94	130
xxxx	224	57	167
xxxx	224	59	165
xxxx	224	99	125
xxxx	224	102	122
Grand Total	1344	497	847

Migration Project Flow



High Level SAN Diagram



VMware Discovery

Environment	Storage Statistics
Number of vCenters	4
Number of ESX Clusters	9
Number of ESX Hosts	43
Number of ESX BOOTLUNs	15
Number of VMs	685
Number of Powered On VMs	637
Number of Powered Off VMs	48
Storage Provisioned in TB	~272 TB
Average hosts per ESX cluster	4
Consolidated Ratio VM to Physical Host	17:1
ESX Version(s)	38 * VMware ESXi 6.0.0 2 * VMware ESXi 6.5.0 2 * VMware ESXi 5.1 1 * VMware ESXi 5.5

Compatibility

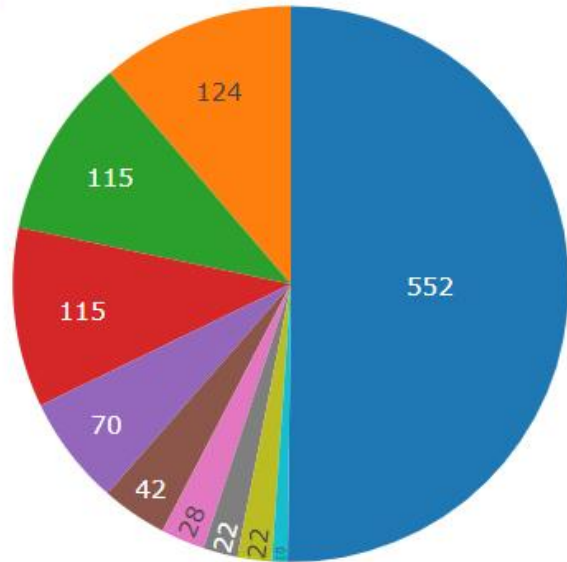
- Supported ESX Versions are 5.5, 6.0 and above

Remediation Required

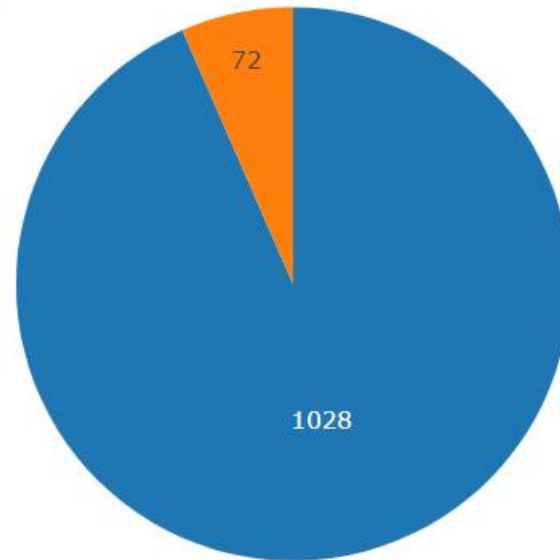
- 3 ESX Hosts were not in VTG Scope since it has no 3Par Array Connected Host Names are attached here
- No Host Remediation Required
- No HBA Remediation Required

VMware Discovery Summary

Clusters

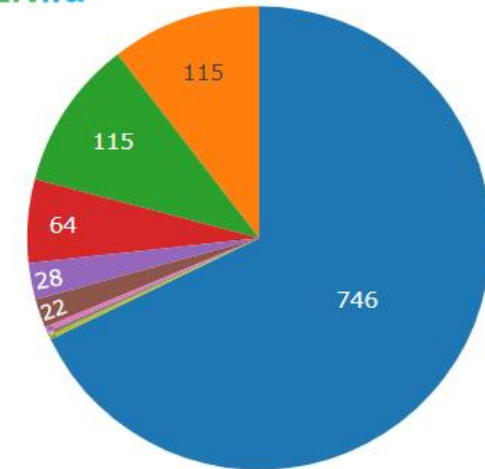


Power State of VMs



■ poweredOn ■ poweredOff

ESX Host Versions



- VMware ESXi 6.0.0 build-6921384
- VMware ESXi 6.0.0 build-7967664
- VMware ESXi 5.1.0 build-1612806
- VMware ESXi 6.0.0 build-13003896
- VMware ESXi 6.5.0 build-14320405
- VMware ESXi 6.0.0 build-10719132
- VMware ESXi 5.5.0 build-2456374
- VMware ESXi 6.0.0 build-3620759
- VMware ESXi 5.1.0 build-1483097

Migration Method(s)

Migration Method	VM counts	Service Impact	Description
Storage vMotion	650	Non-Intrusive	A component of VMware vSphere that allows the live migration of a running virtual machine's (VM) file system from one storage system to another, with no downtime for the VM or service disruption for end users. This migration occurs while maintaining data integrity
Offline Storage Migration (RDM Migration)	35	Intrusive	The Raw LUN can be migrated or converted to VMDK if the account accepted the conversion approach. We can also use host-based migration methods to migrate Raw-Raw LUN Migration. The migration method vary based on host/VM Guest operating system

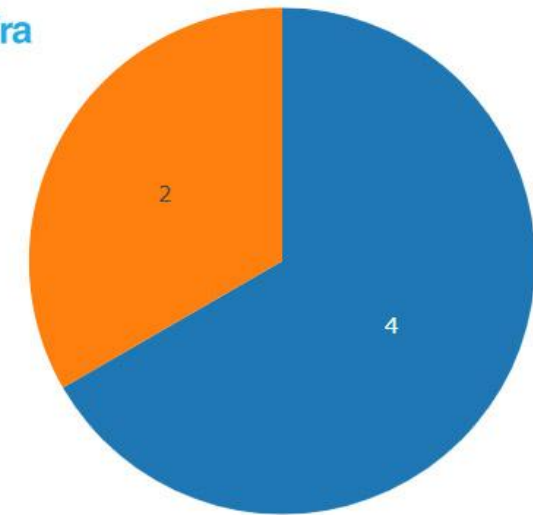
Environment	Overall Statistics	Summary Charts
Windows	<p>989</p> <p>Windows</p> <ul style="list-style-type: none"> 456 Microsoft Windows Server 2012 (64-bit) 261 Microsoft Windows Server 2008 R2 (64-bit) 219 Microsoft Windows Server 2016 (64-bit) 22 Microsoft Windows Server 2003 Standard (64-bit) 10 Microsoft Windows 7 (64-bit) 8 Microsoft Windows Server 2003 Standard (32-bit) 8 Microsoft Windows Server 2008 (32-bit) 2 Microsoft Windows 2000 Server 2 Microsoft Windows Server 2003 Web Edition (32-bit) 1 Microsoft Windows Server 2008 (64-bit) 	
Linux	<p>74</p> <p>Linux</p> <ul style="list-style-type: none"> 21 Red Hat Enterprise Linux 6 (64-bit) 21 Red Hat Enterprise Linux 7 (64-bit) 8 Other Linux (64-bit) 6 Red Hat Enterprise Linux 5 (64-bit) 5 SUSE Linux Enterprise 11 (64-bit) 3 Other 3.x or later Linux (64-bit) 3 Ubuntu Linux (64-bit) 2 Red Hat Enterprise Linux 5 (32-bit) 2 Debian GNU/Linux 6 (64-bit) 2 Other 2.6.x Linux (64-bit) 1 Other Linux (32-bit) 	
Raw disk attached server	<p>35 Total Windows Servers - 78 TB</p> <ul style="list-style-type: none"> 27 Microsoft Windows Server 2012 (64-bit) 6 Microsoft Windows Server 2008 R2 (64-bit) 2 Microsoft Windows Server 2016 (64-bit) 	

Physical Linux Discovery

Environment	Storage Statistics	
Host Count	6	
OS Version	4	Red Hat Enterprise Linux Server 5.11
	2	Oracle VM server 3.4.6
Total Assigned Capacity	~55 TB	

Compatibility

- Supported Linux Version Oracle Enterprise Linux 5.6, 5.8, 5.11, 6.5, 6.7, 6.8,6.9,7.1, 7.2, 7.3 ,7.4
- Debian 7.5.0(With Linux Kernel3.2)
- RHEL 5.5 x64, RHEL 5.6 x64, RHEL 5.7 x64, RHEL 5.8 x64, RHEL 5.9 x64, RHEL 5.10 x64, RHEL 5.11 x64, RHEL 6.xx X64, RHEL 7.xx X64
- Ubuntu 16.04
- SLES 10 SP3, SLES 11 SP3 x64, SLES 11 SP4 x64 / ppc, SLES 12, 12.1, 12.2, 12.3



■ Red Hat Enterprise Linux Server ■ Oracle VM server

Remediation Required

- 4 RHEL 5.11 Servers is beyond OEM Support, but the OEM extended Support option is available
- No OS Remediation Required
- No HBA Remediation Required

Migration Method(s)

Migration Method	Host Count	Service Impact	Description
LV Mirroring	6	Non-Intrusive	Logical volume manager (LVM) mirroring provides the ability to allocate more than one copy of a physical partition to increase the availability of the data. When a disk fails and its physical partitions become unavailable, you still have access to mirrored data on an available disk. The LVM performs mirroring within the logical volume

Physical Windows Discovery

Environment	Overall Statistics	
Total Host Count	77	
Number of Windows Servers	50	
Number of Windows Hyper- V Servers	27	
Windows Hyper- V OS Versions	24 3	Microsoft Windows Server 2012 Standard 6.2.9200 N/A Build 9200 Microsoft Windows Server 2012 R2 Standard 6.3.9600 N/A Build 9600
Windows Servers OS Versions	12 18 9 7 4	Microsoft Windows Server 2012 Standard 6.2.9200 N/A Build 9200 Microsoft Windows Server 2008 R2 Enterprise 6.1.7601 Service Pack 1 Build 7601 Microsoft Windows Server 2012 R2 Standard 6.3.9600 N/A Build 9600 Microsoft Windows Server 2016 Standard 10.0.14393 N/A Build 14393 Microsoft Windows Server 2008 R2 Standard 6.1.7601 Service Pack 1 Build 7601
Total Assigned Capacity	~473 TB	

Notes : 2 Windows Hosts is connected to 3Par, But provisioned size is zero

Compatibility

- Supported Windows Versions are Windows server 2012, Windows Server 2012 R2, Windows Server 2016 x64



Remediation Required

- 22 Hosts Require OS Remediation
- 48 Windows 2012 and 2012 R2 Servers is beyond OEM Support, but the OEM extended Support option is available
- 2 Windows 2016 and 2012 server has 4GB HBA Speed is outside of GMO requirement for 8GB HBA

Physical Windows Discovery (Contd.)

Migration Method(s)

Migration Method	Host Count	Service Impact	Description
Robocopy(Non-SQL Servers)	28	Intrusive	A powerful and flexible tool to migrate files extremely fast.
Carbonite Migrate/ DB Migration	22	Intrusive	Carbonite Migrate is a comprehensive migration solution. It allows you to move an entire server, known as a source, by mirroring an image of that source to another server, known as the target. The source and target servers can be physical or virtual
Hyper - V	27	Non-Intrusive	Hyper-V live migration moves running virtual machines from one physical server to another with no. impact on virtual machine availability to users. By pre-copying the memory of the migrating virtual. machine to the destination server, live migration minimizes the transfer time of the virtual machine.

Remediation Summary

Types	Green	Purple	Yellow	Red	Grand Total
Physical	63	53		22	138
ESX-Host	40				40
Linux	2	4			6
Windows	6	22		22	50
Hyper - V		27			27
ESX BootLUNs	15				15
Virtual – VMs	637		48		685
Powered Off			48		48
Powered On	637				637
Grand Total	700	53	48	22	823

Green	Software and hardware are at OEM supportable versions.
Purple	Software (OS, multipathing) and hardware (HBA, firmware) is beyond OEM support but the OEM extended support option is available.
Yellow	Software and hardware are still under support, but firmware or OS version updates are needed (I.e. OS going end-of-life soon)
Red	Software (OS, multipathing) and hardware (HBA, firmware) is beyond OEM support and the OEM extended support option is not available.

Overall Summary

Data Center	Source Storage Array Serial #	OS Type	Total Host/VM Count	Migration Methods	Host Remediation Required	Beyond OEM Support	HBA Remediation Required	Size (in TB)
DC-1 DC-2	Serial Serial	ESX	43	----	----	----	----	----
		ESX-VM	650	Storage vMotion	----	----	----	~194
			35	Offline Storage Migration (RDM Migration)	----	----	~78	
		Hyper- V (Hosts)	27	----	----	27	1	~11.23
		Hyper- V VMs	137	Hyper – V	----	----	----	~6.75
		LINUX	6	LVMirroring	----	4	----	~55
		WINDOWS	28	RoboCopy	4	19	1	~461
			22	Carbonite Migrate / Others	18	2	----	
Solaris	4	Host Mirror	----	----	----	----		

Next Step(s)

- Perform Host Remediation
- Perform Host Remediation Validation
- Migration Planning
- Pilot Migration.
- Migration Execution

Thank You