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1. INTRO

In this whitepaper we take you through a customer story. A customer who provides hosted BCX VDI exchanges (BCX) as a service. BCX is a software-based private branch exchange (PBX) based on the SIP (Session Initiation Protocol) standard. It enables extensions to make calls via the public switched telephone network (PSTN) or via Voice over Internet Protocol (VoIP) services. In this story we will tell you about the migration from Citrix XenServer to VMware vSphere and why the customer did this.

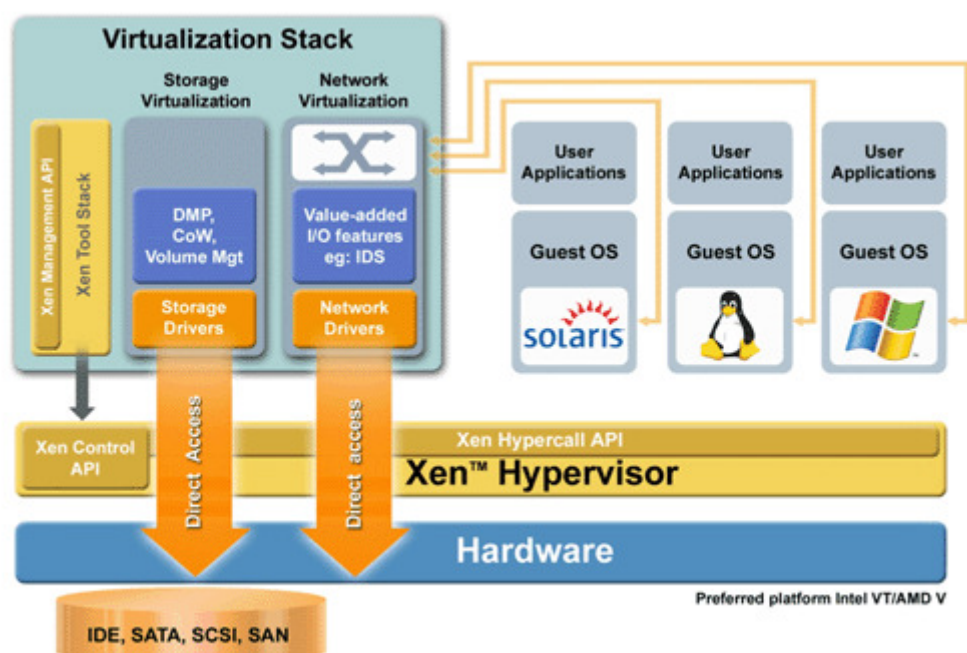
2. SO, WHAT IS XENSERVER OR VSPHERE?

First we will explain in short what these products do. Both are type-1 type virtualization virtual machines (Type-1, native or bare-metal) hypervisors run directly on the hosts hardware to control the hardware and to manage guest operating systems. For this reason, they are sometimes called bare-metal hypervisors. As you can guess, however, they both work similar but each with their own set of unique features.

2.1 CITRIX XENSERVER / CITRIX HYPERVISOR

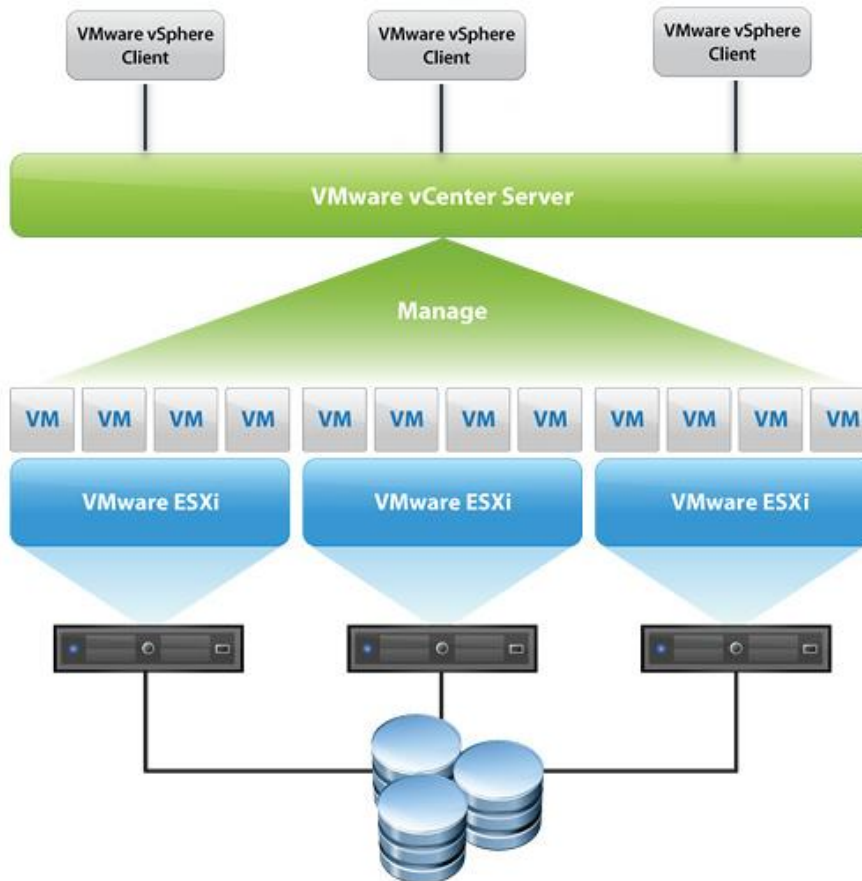
XenServer is an open-source product from Citrix, based on Xen Project type virtualization bare-metal virtualization platform with enterprise-grade features that can easily handle workloads, combined OS, and networking configurations. XenServer delivers application performance for x86 workloads in Intel and AMD environments.

It can cater to Virtual Apps and Desktops deployments and offer customers the enhanced virtualized graphics with XvDA and AMV. XenServer services allow multiple computer operating systems to execute on some computer hardware.



2.2 VMWARE VSPHERE

VMware vSphere is a set of server virtualization products that includes virtualization management and interface layers. It comprises following core components- infrastructure services, including VMware vCenter, Storage and Network application services, vCenter Server – single point control across all services, end clients who can access the data center via a web browser.



2.3 XENSERVR VS VSPHERE

In the table below you can see a quick compare between Hyper-V, vSphere, XenServer and KVM. Note that these versions are already superseded but in our case the customer went from XenServer 7.0 to vSphere 6.0 for support reasons with SCC software. One of the other reasons to move away from XenServer was the 2 TB disk limit.

Feature	Windows Hyper-V 2019	vSphere 6.7	XenServer 7.6	KVM
RAM/Host	24TB	12 TB	5TB	12TB
RAM/VM	12 TB for generation 2;	6 TB	1.5TB	6 TB
1 TB for generation 1				
CPUs/VM	240 for generation 2;	128	32	240
64 for generation 1;				
VM Disk	64 TB for VHDX format;	62TB	2TB	10TB
2040 GB for VHD format				
VM Live Migration	Yes	Yes	Yes	Yes
VM Replication supports	Yes	Yes	Yes	Yes
Overcommit resources	No	No	No	Yes
Disk I/O Throttling	Yes	Yes	Yes	Yes
Hot plug of virtual resources	Yes	Yes	Yes	Yes

3. WHY MIGRATE TO VSPHERE?

This specific customer was running Citrix XenServer for a long time. Everything worked out but the availability of the platform with the current way of working was not satisfactory anymore. Due to the high demand of high available products, XenServer was not able to keep up in case of a disaster. Recovery of a running VM could take a long time and would take manual actions. Also centralised management of XenServer was not up to par for the customer. The time came for a license renewal and after weighing in the pros and cons the customer decided to move away from XenServer to vSphere.

4. THE VMWARE DATACENTER

The first task was to determine the required licenses vs functionality. We did this during our site visit that is included on our OneSite vice proposition. After a comparison between XenServer and vSphere we came to the conclusion that VMware vSphere standard was offering more functionality than XenServer did. There was no reason to implement vSphere Enterprise or its successor. The main

reasons to go for a remote are the following functionality below. So, they need those features than Enterprise X when you need and for Standard.

- **Distributed Switch**
Centralizes provisioning, administration, and monitoring by using cluster-level network aggregation.
- **Host Profiles and Auto Deploy**
Captures host-level configuration settings and saves them as a template to configure other vSphere hosts. Monitor hosts for configuration changes and automatically alerts vSphere administrators if a host falls out of compliance.
- **Virtual Machine Encryption**
Data-at-rest encryption for virtual machine disks and disks.

Since the customer did not require distributed Switches, Host Profiles, Auto Deploy or VM encryption, the choice was made to use VMware vSphere Standard.

We built two new and separated vSphere environments on two different datacenters. Both fully secured from each other with no 2 stretched networking. All HA functionality of vSphere is within each site and high availability over sites is taken care of within the BCC P3X software. Since BCC software had an uptime goal it was also required that DRS was not enabled so the appliances would always run on the same hosts. Further, backup of all BCC appliances would be recovered by HA within vSphere when needed.

5. THE MIGRATION

A direct migration is not supported directly. However, there are ways to migrate a XenServer VM to vSphere. The easier way is:

1. [Uninstall the CHX VM Tools \(Guest Agent, VSS Provider, Tools Provider, VADriver\)](#)
2. Export VM from XenServer to an OVA template
3. Import OVA template in vSphere
4. Set the correct network adapter (VMXNET3)
5. Install VMware tools
6. Phase migration successful.

Another way is to use the VMware Converter. Just be sure to zero the same mac addresses when migrating. Also do not change disks, CPU, or RAM during migration. Do this when the migration is successful.

6. UNFORSEEN BENEFITS

What we found out after migration was considered for the appliances we are using for more efficiency on vSphere than on the XenServer hypervisor. Although BCC supported XenServer running the same

appearance on vSphere was more efficient on CPU and RAM usage. Also the real-time VM memory decreased, and active disks were transferred faster than before. To quantify this into a metric, we estimate a 15% improvement of the whole platform running on VMware vSphere vs. running on Xen Server.

7. ONESERVICE

With the addition of our professional 24/7 line support on VMware, OneService, we help the customer to reduce the time to resolve issues on their new VMware platform. Also, our skilled engineering help and reduce the contact with VMware support to the most optimized way of working.

7.1 WHAT DO YOU GET WITH ONESERVICE?

- Inventory physical environment at start our SiteScan
- Own personal Wiki for centrally sharing of company information
- Direct contact with one of our highly skilled RowWorks consultants
- Highly certified on VMware, Citrix and Microsoft
- Pay as you go
- Contract can be cancelled per month

8. DO YOU WANT ONESERVICE?

Do not hesitate to contact us via the [website](#) or via Bjorn de Baatlyn, we are happy to hear more of RowWorks or of our services.