

# Microsoft Containers in a Citrix World



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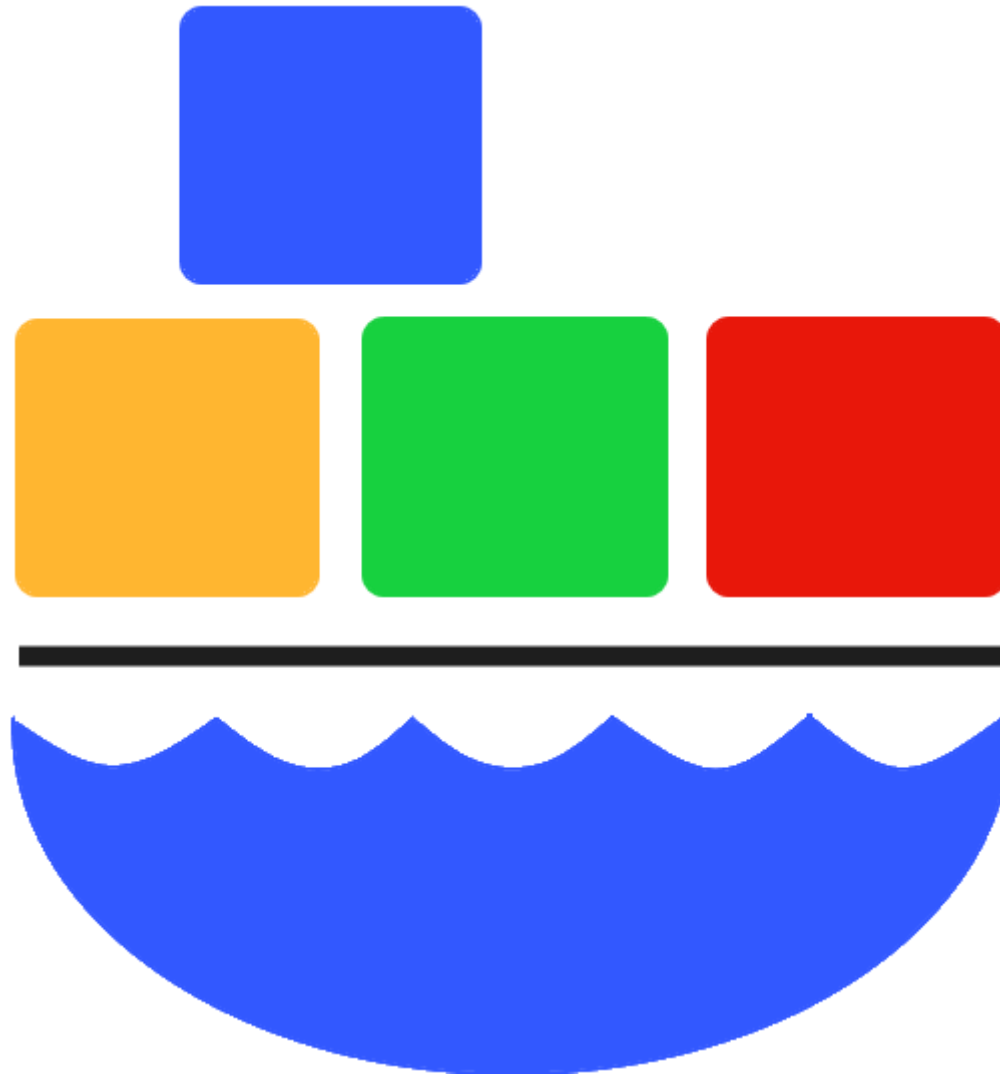
@andymwood

[www.gilwood-cs.co.uk](http://www.gilwood-cs.co.uk)



# Topics

Windows and Docker  
Containers and Citrix  
Some Alternatives



# Why Are YOU Here?

## DevOps or ITPro?

"As a system Administrator, one of the scariest things I ever encounter is a server that has been running for ages. If you absolutely know a system has been created via automation and never changed since the moment of creation, most of the problems disappear."

- Chad Fowler, *Trash Your Servers and Burn Your Code*, 2013

# VMs and Containers



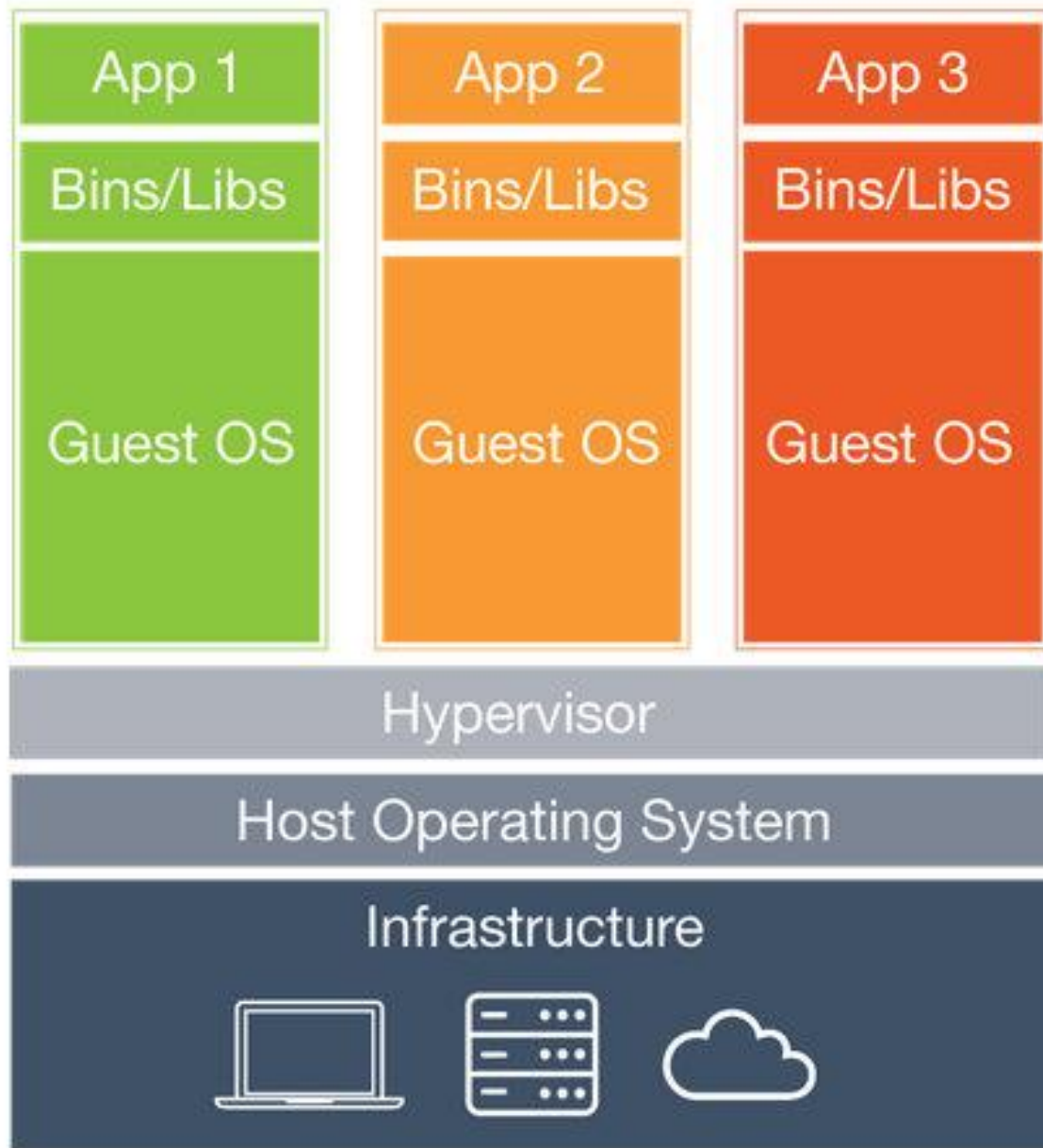
VM's



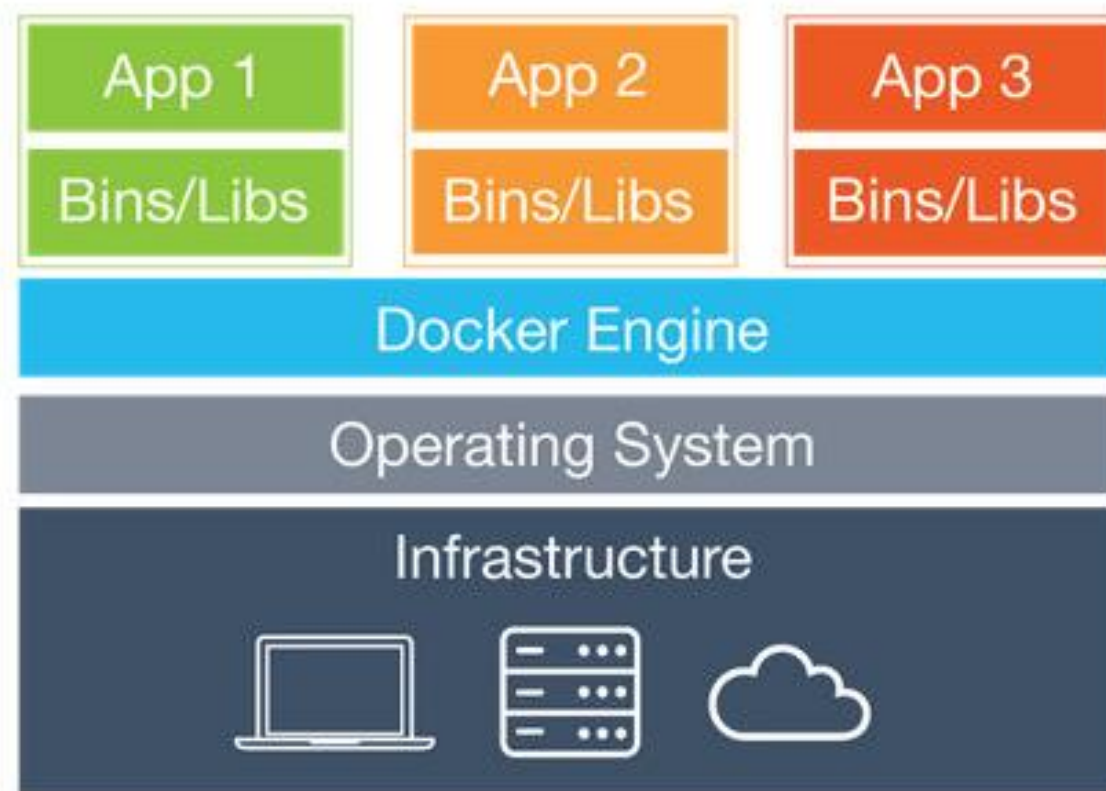
Containers

"Will containers replace VM's?" No.

Containers are not a virtualization technology.  
Containers are an application deployment & delivery technology.



**Virtualization**

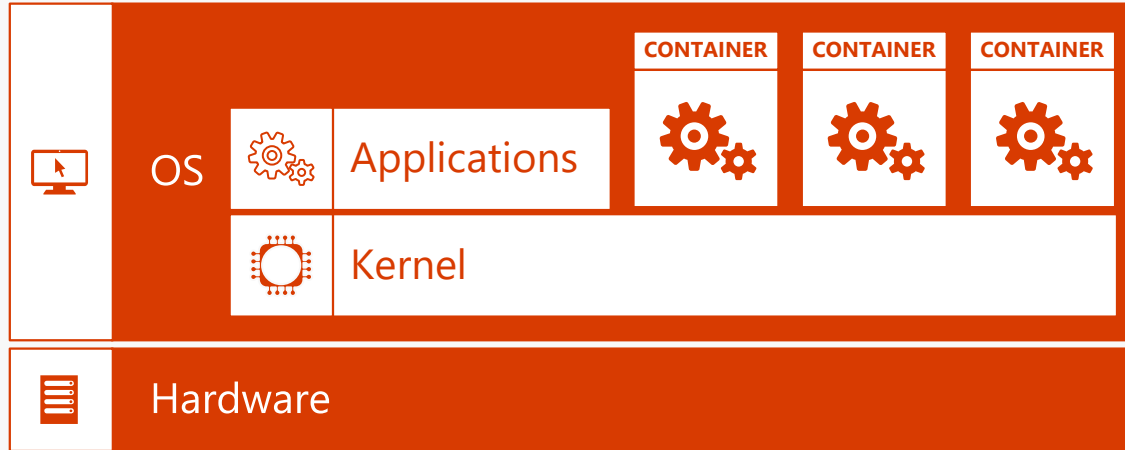


**Containers**

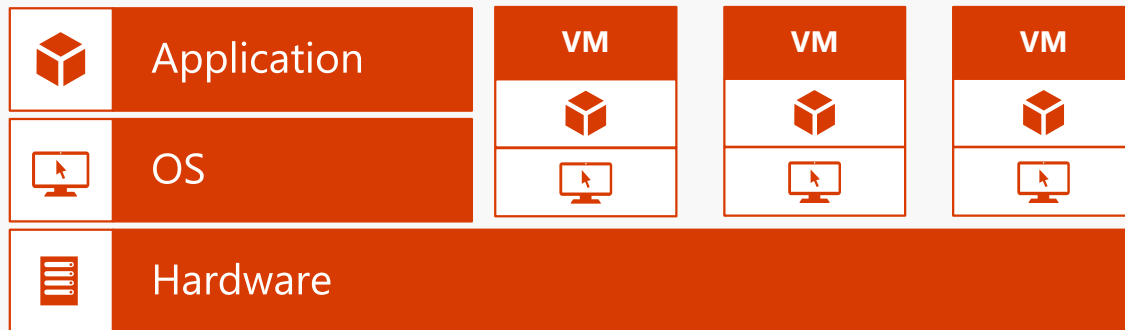


# A Microsoft View of Containers

**Containers** = Operating system virtualization

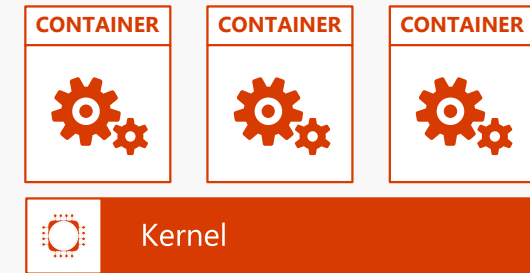


**Traditional virtual machines** = hardware virtualization



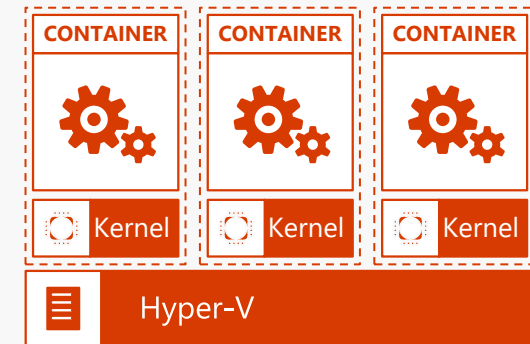
## Windows Server Containers

Maximum speed and density

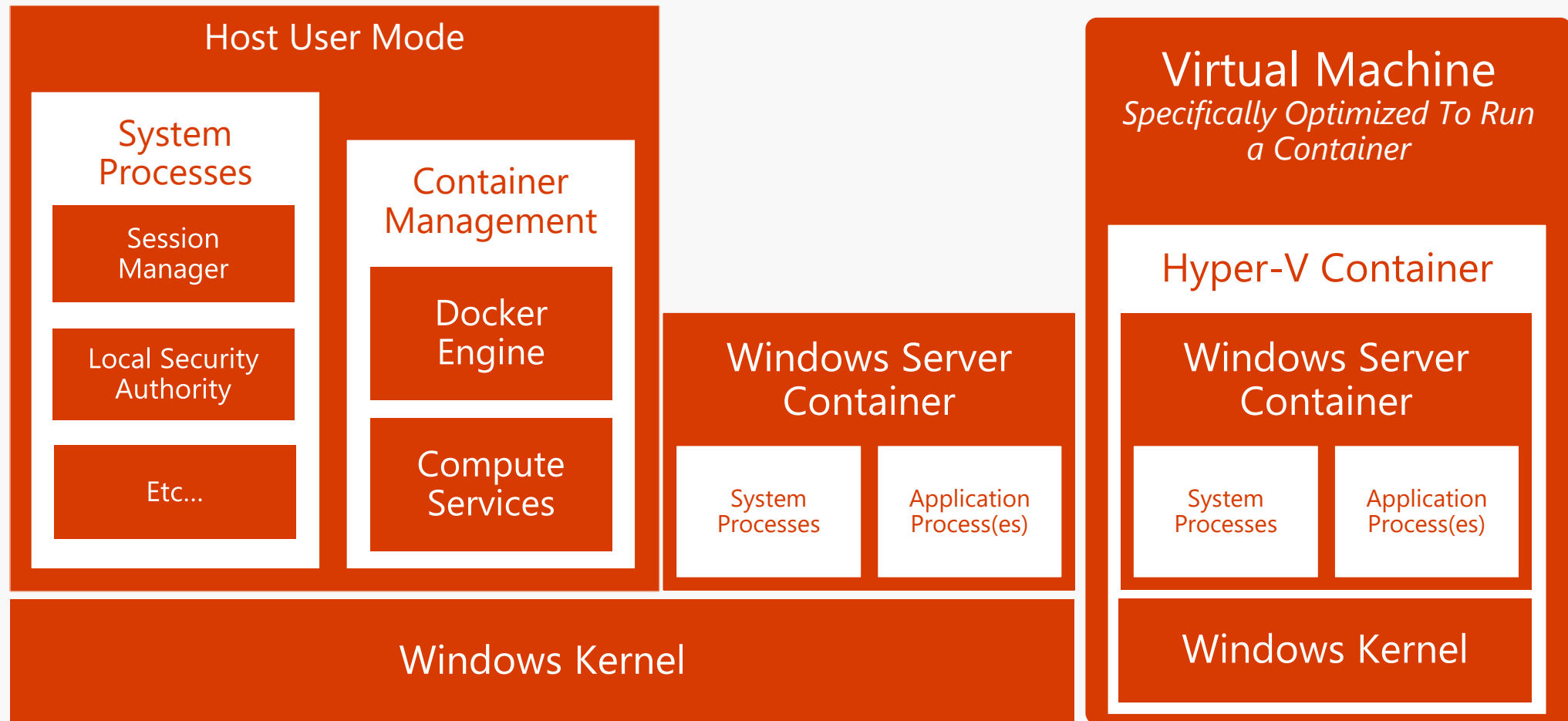


## Hyper-V Containers

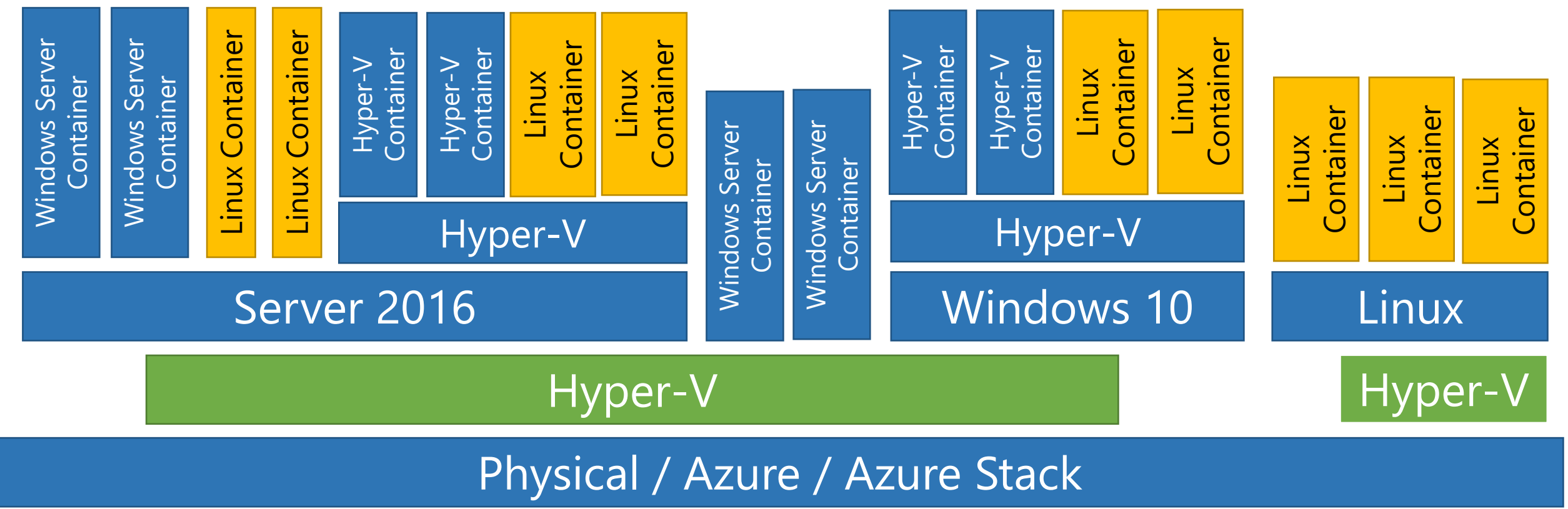
Isolation plus performance



# Windows Containers – It's All About User Mode



# Windows Server & Hyper-V Containers Mix



Hyper-V = Different OS Releases and Builds  
Server OS = Release version must be the same, while Build version can be different

[Admin] PowerShell v5.1 (FileSystem) C:\

[Admin] C:\>

# Dockercon 2017



**CITRIX<sup>®</sup>** +  **Microsoft** + **docker**

 **Windows  
Server Core**

 **NanoServer**

 **Windows 10**

# Docker on Windows

Server Core & Nanoserver only (for now...)

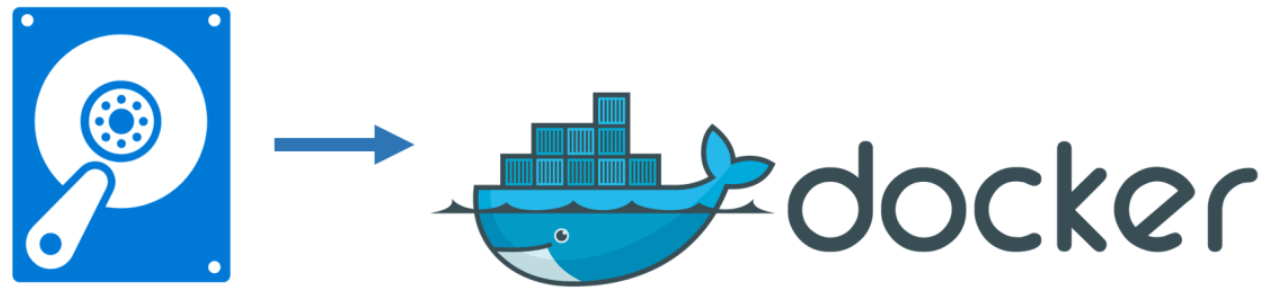
Windows 10 for DEV/Test

Management

- Built-In Docker CLI & PowerShell
- Kitematic, Portainer, Panamax, Simple Docker UI, Shipyard (Linux)

Public or Private Hubs & Registries

# Image2Docker



PoSH module that ports existing Windows app artifacts from VM's to Docker images

Artifacts currently supported –

- IIS
- ASP.NET
- MySQL, SQL
- Windows Features
- Apache
- DHCP
- DNS
- MSMQ

Discover -> Extraction -> Provisioning -> Generation

# Install Demo

## Docker for Windows 10 & Server 2016





# Using Containers

Can I run the “Control Plane” in Containers?

How about Desktops?

And then there are the apps.

# Windows Containers & GUI Apps



# Containers Running XenDesktop & XenApp

## Control Plane



## Optional



<http://lnk.glwdcs.tv/E2EVC-NSContainers>





*"... Docker containers does encapsulate all the code and libraries necessary to run a service. But those services are fundamentally different than the applications that are delivered via traditional application virtualization technologies.*

*In the end Docker is not a direct replacement for application virtualization. It's a way to take many of the applications deployed using app virt technologies and recreate them in a manner that offers higher levels of agility, portability, and control."* – Mike Coleman, Technical Evangelist @ Docker



<https://msandbu.wordpress.com/2016/02/05/application-virtualization-vs-application-layering/>



Spoon.net

“Docker for Windows”

- Rory Monaghan 2014

[www.xenappblog.com](http://www.xenappblog.com)

<http://ohmag.net/?p=1800>

“Containers” similar to Docker

- Pre-made or custom images

- CLI, Turbo Studio, Turbo Server

- Updating & Layering

- Importing from other formats

- Container “skinning” & streaming

- Desktop & server apps – XP to 2016 & beyond

Turbo Studio

- Virtualize app into EXE & publish - manual or via Register utility

- Register utility allows for app to be placed on machine or share & in 7.x it will appear in Citrix Studio Wizard

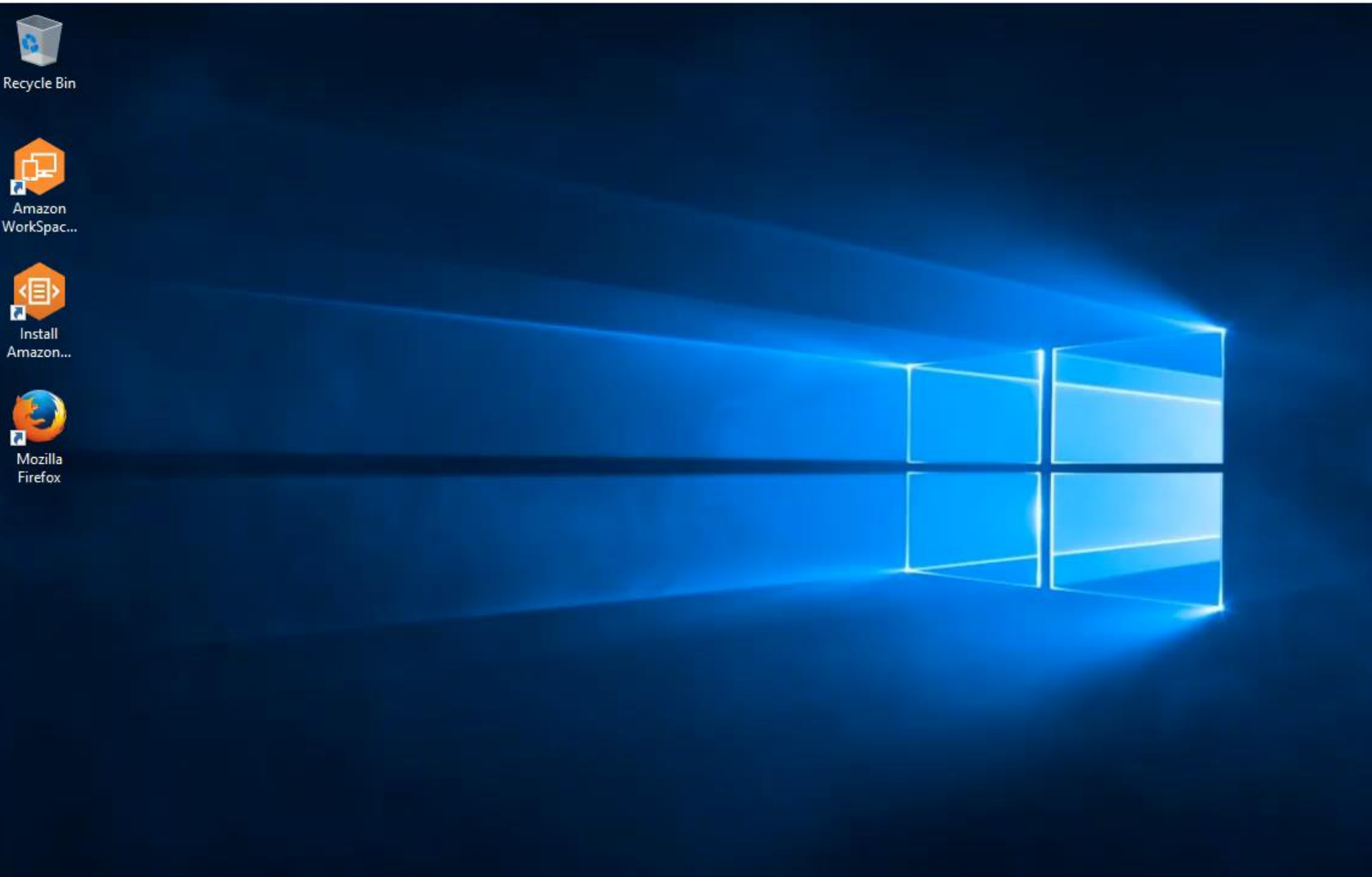
“XenApp Subscription”

- Channel -> Subscribe -> Publish

- XenApp Tools to automate setup are provided

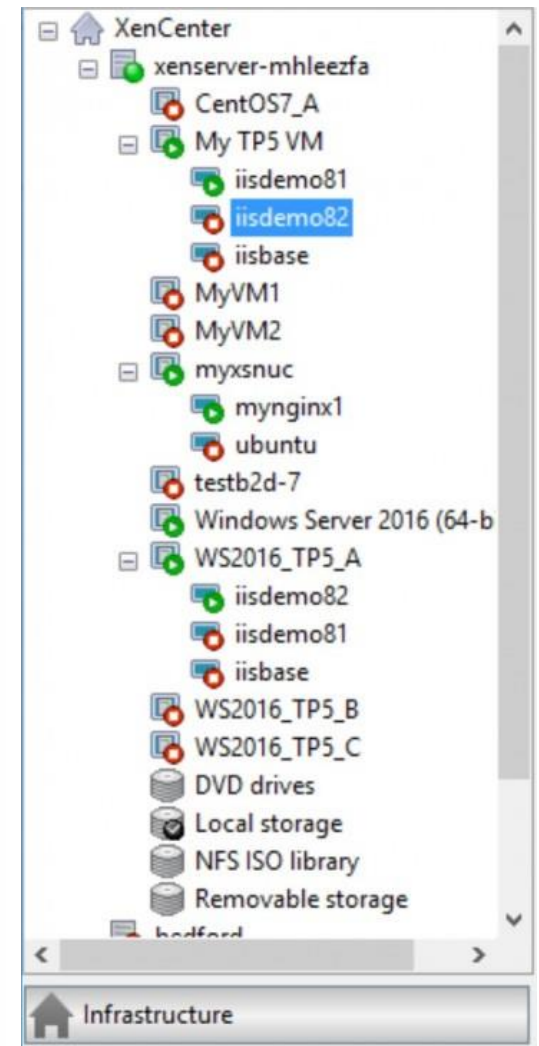
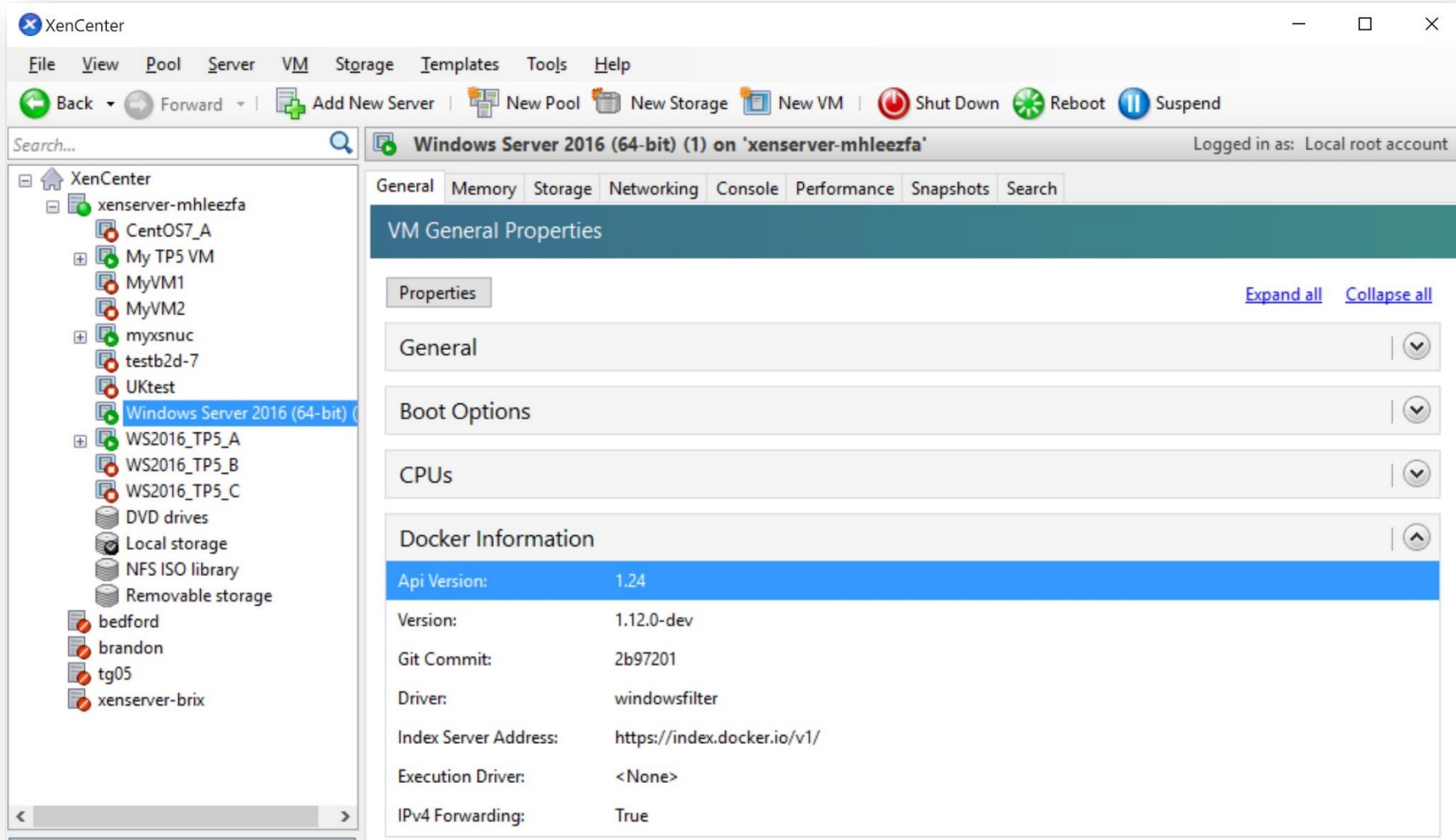
- <https://github.com/turboapps/citrix>

<https://turbo.net/mycugc> - get a free pro account





# Container Support in XenServer 7



<https://www.citrix.com/blogs/2016/05/26/using-windows-server-containers-with-xenserver-7-0/>

Containers are  
not VM's (and  
never will be)

Containers are  
about User  
Mode

Windows +  
LinuxKit = Multi-  
Platform

OS & GUI  
Limitations

Hyper-V for  
secure container  
isolation

Use Win 10  
Docker for  
Dev/Test

There are  
alternatives for  
delivering apps

Citrix needs to  
support Core

# Thank You!