Kubernetes Master Class
Up and Running with Windows Server Containers

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JvB

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Agenda

- Demonstrate the current capabilities of Windows Container Support in Rancher.

- Review Docker Architecture in Windows

- Discuss the limitations of Windows Container Support in Rancher.

- Pathway to GA

- Terraform Provider

First Things First

- Rancher

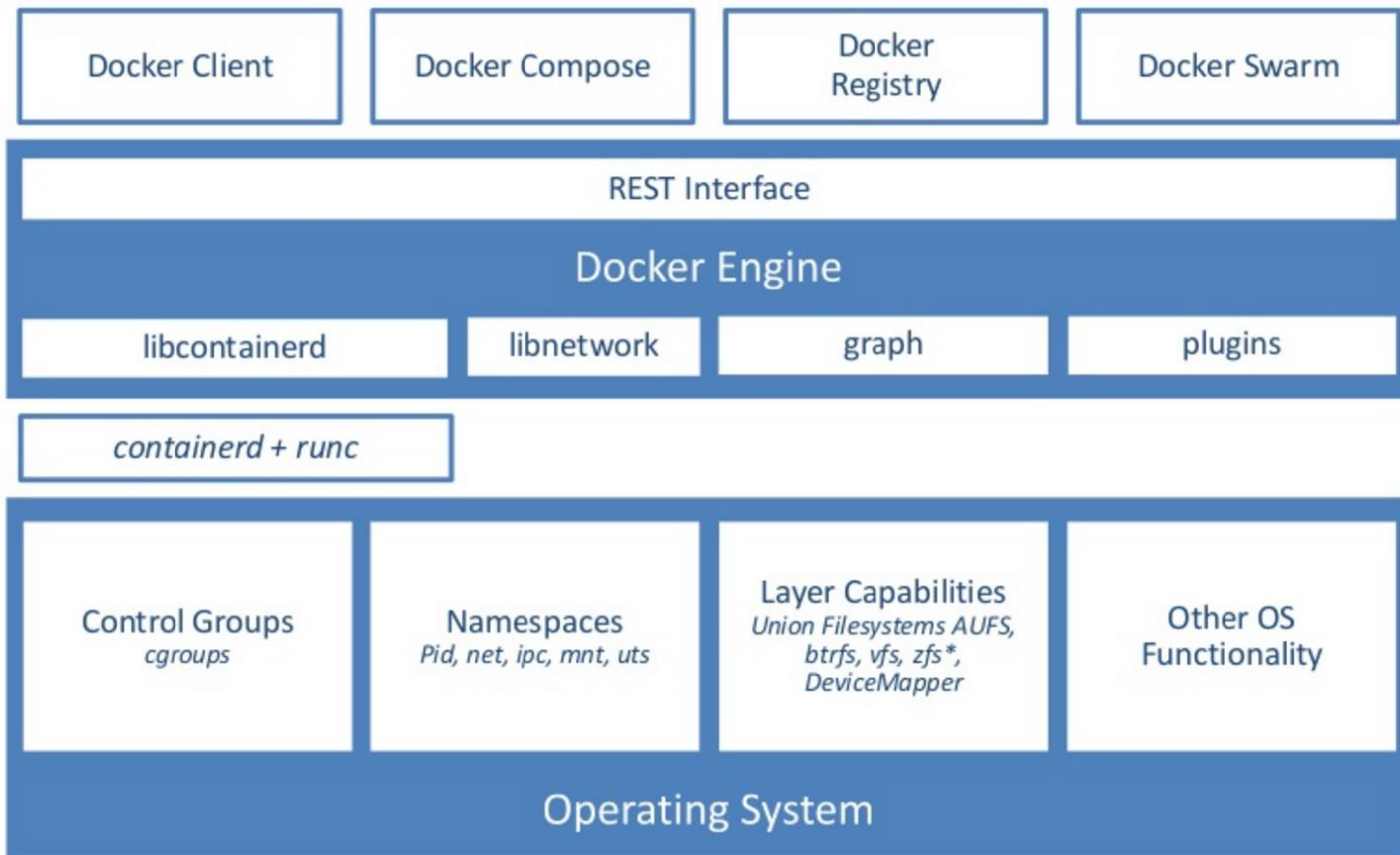- Terraform

- Some Server – Linux and Windows

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Source Material

DockerCon 16: Windows Server & Docker - The Internals Behind
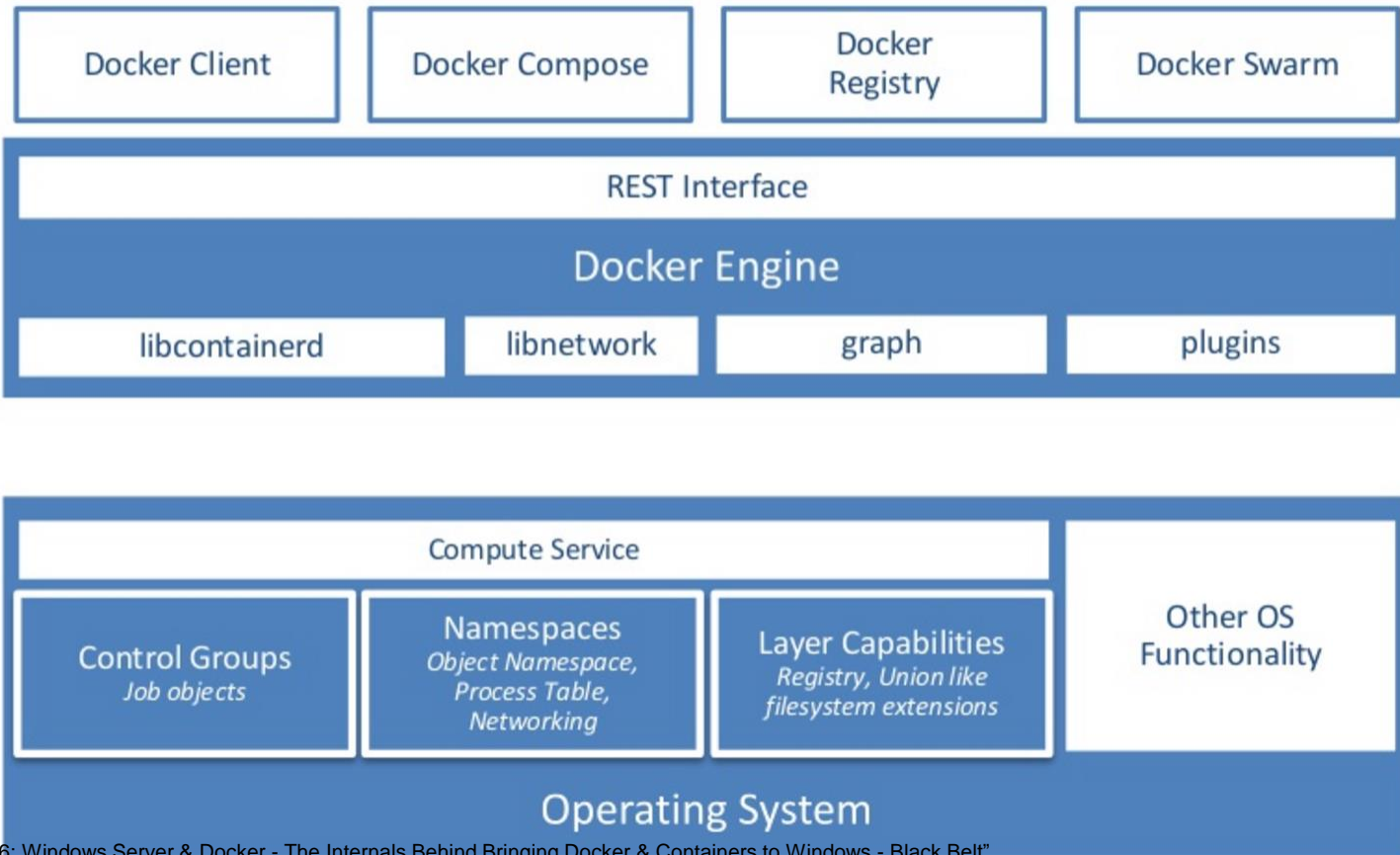Bringing Docker & Containers to Windows - Black Belt
https://channel9.msdn.com/Blogs/containers/DockerCon-16-
Windows-Server-Docker-The-Internals-Behind-Bringing-Docker-
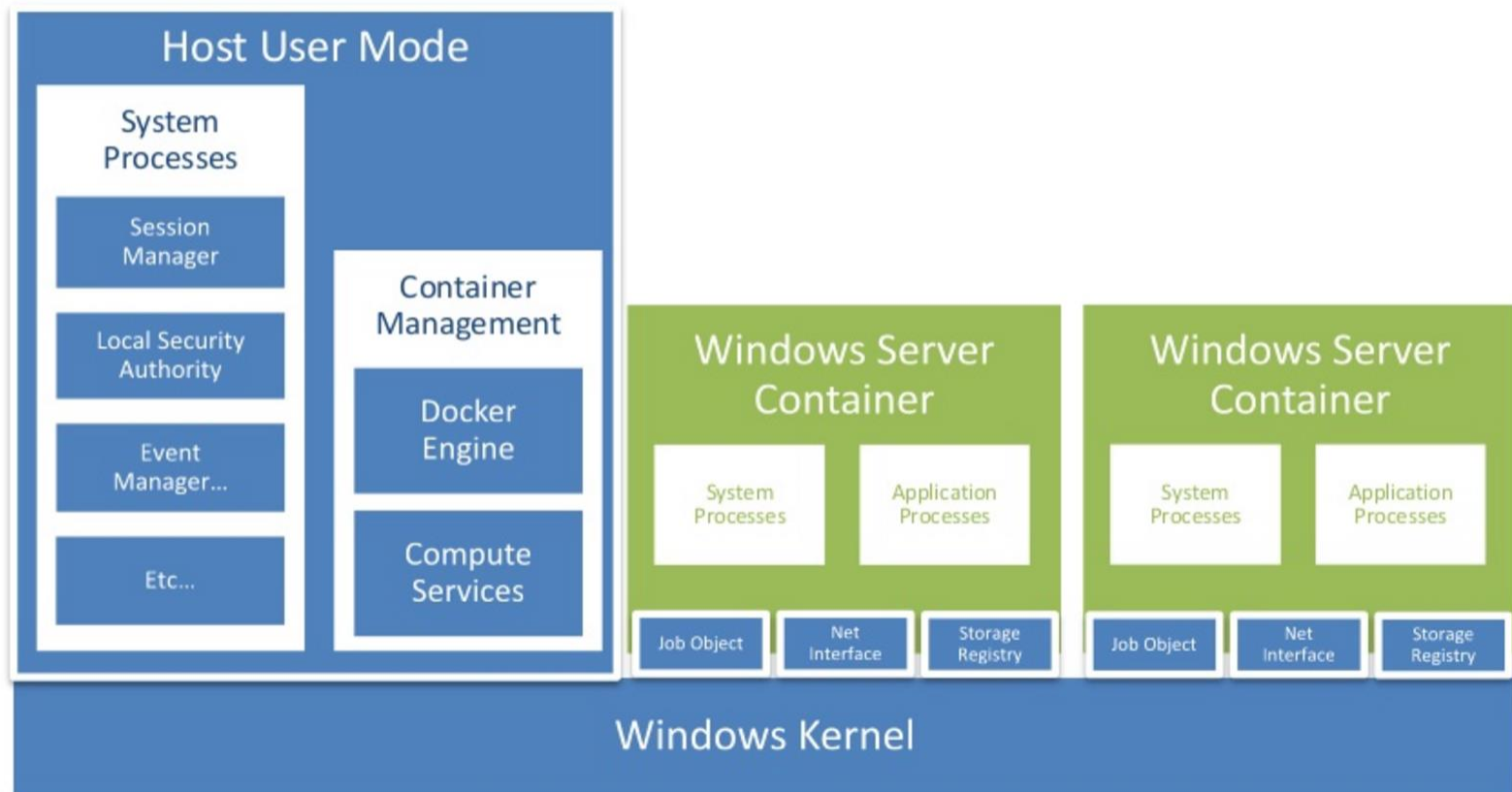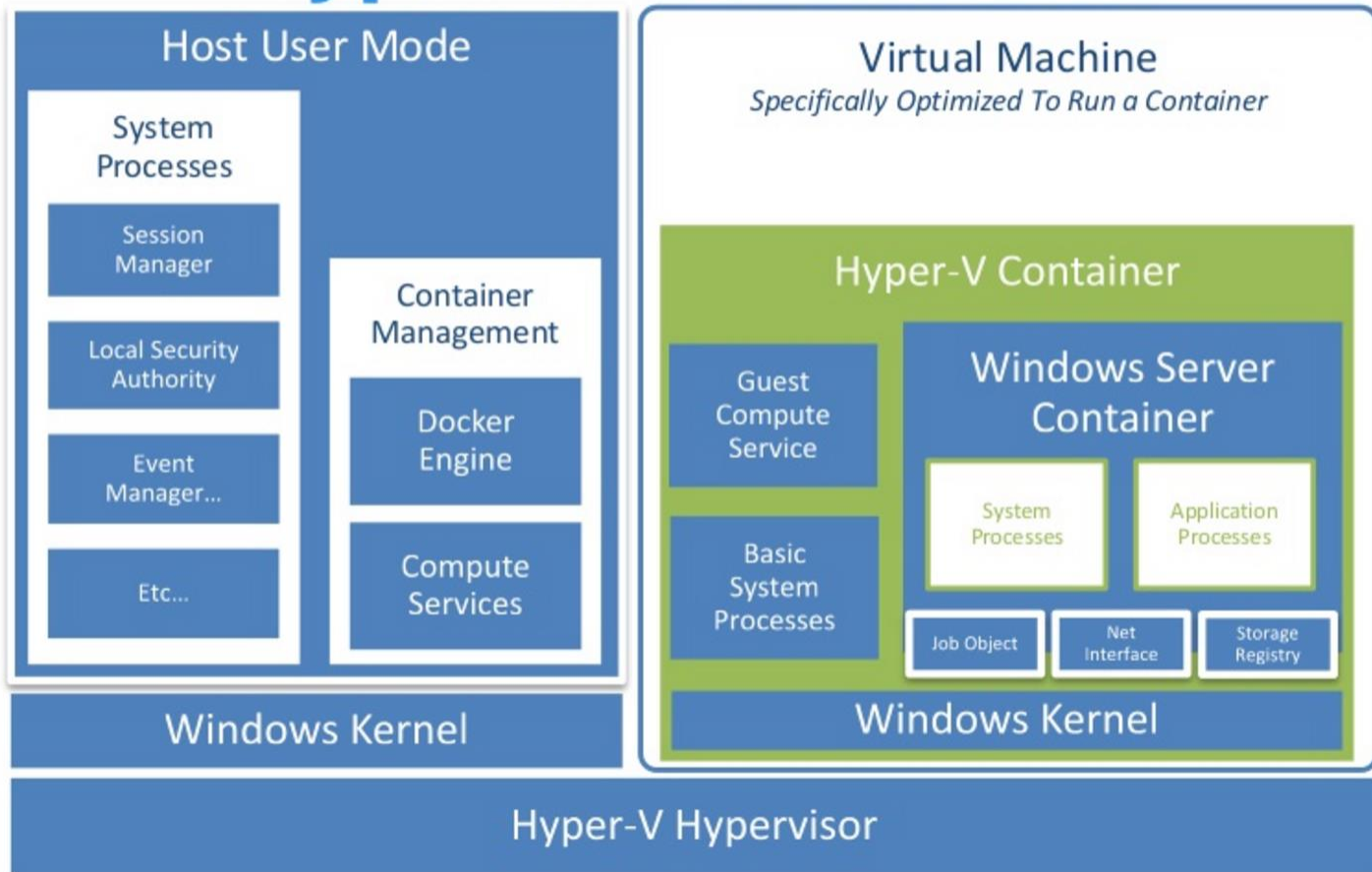Containers-to-Windows

Source: "DockerCon 16: Windows Server & Docker - The Internals Behind Bringing Docker & Containers to Windows - Black Belt"

Architecture In Windows

Docker Client	Docker Compose	Docker Registry	Docker Swarm

REST Interface

Docker Engine

libcontainerd	libnetwork	graph	plugins

Compute Service

Control Groups *Job objects*	Namespaces *Object Namespace, Process Table, Networking*	Layer Capabilities *Registry, Union like filesystem extensions*	Other OS Functionality

Operating System

Source: "DockerCon 16: Windows Server & Docker - The Internals Behind Bringing Docker & Containers to Windows - Black Belt"

Source: "DockerCon 16: Windows Server & Docker - The Internals Behind Bringing Docker & Containers to Windows - Black Belt"

Gotchas

Version Compatibility
https://docs.microsoft.com/en-us/virtualization/windowscontainers/deploy-containers/version-compatibility

Networking

Documentation
https://github.com/kubernetes/community/tree/master/sig-windows

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Experimental Support

Custom Workflow Only*

Flannel

    vxlan on Linux

    host-gw on Windows

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Road To GA

sig-windows
https://github.com/kubernetes/community/tree/master/sig-windows
https://kubernetes.slack.com/messages/C0SJ4AFB7

Windows Support KEPs
https://github.com/kubernetes/enhancements/tree/master/keps/sig-windows

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Resources

Microsoft Documentation
https://docs.microsoft.com/en-us/virtualization/windowscontainers/index

GitHub
https://github.com/jasonvanbrackel/kubernetes-windows-server-container-master-class

DockerCon 16: Windows Server & Docker - The Internals Behind Bringing
Docker & Containers to Windows - Black Belt
https://channel9.msdn.com/Blogs/containers/DockerCon-16-Windows-Server-Docker-The-Internals-Behind-Bringing-Docker-Containers-to-Windows

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Thank You!

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