29 OTTOBRE 2016

DevOpsHeroes

Sponsors & Organizers

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Windows Server 2016: Docker Revolution

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Inside Technologies
@s_net

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Innoteam Srl
@giulianolatini

About WindowServer.it

- La community dedicata al mondo IT Pro
- Presente da oltre 14 anni
- La più attiva in Italia
- Microsoft Community of the Year 2009, 2012, 2013, 2014
- Powered by Microsoft MVP
- Member of SID / Magazine

About Silvio Di Benedetto

- Consultant and Trainer
- Microsoft Certified Trainer
- Microsoft MVP Cloud Datacenter Management
- Microsoft Azure Insider
- Veeam VanGuard
- 5nine Technical Evangelist
- Community Lead of WindowServer.it, Veeam UGI, Azure Community

About Giuliano Latini

- ITPro > 25 year
- Senior Software Developer at Innoteam s.r.l.
- Linux Foundation Member
- CTS Senior Member at Federation IDEM AAI
- ICT Administrator Senior at Università Politecnica delle Marche

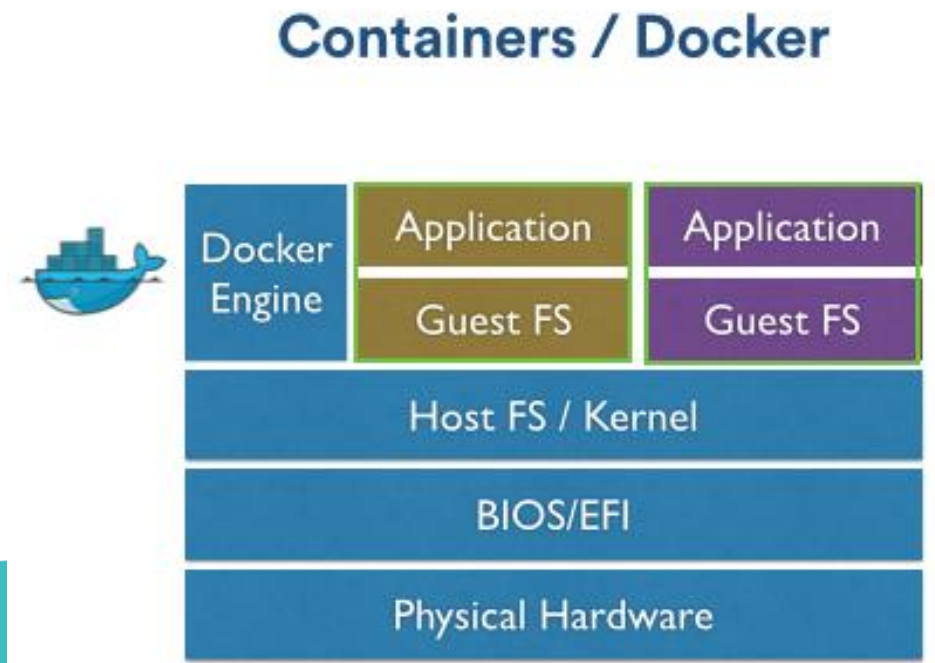
Agenda

- Cos’è Docker
- Docker vs VM
- Demo
- Docker Swarm
- Demo
- Q&A

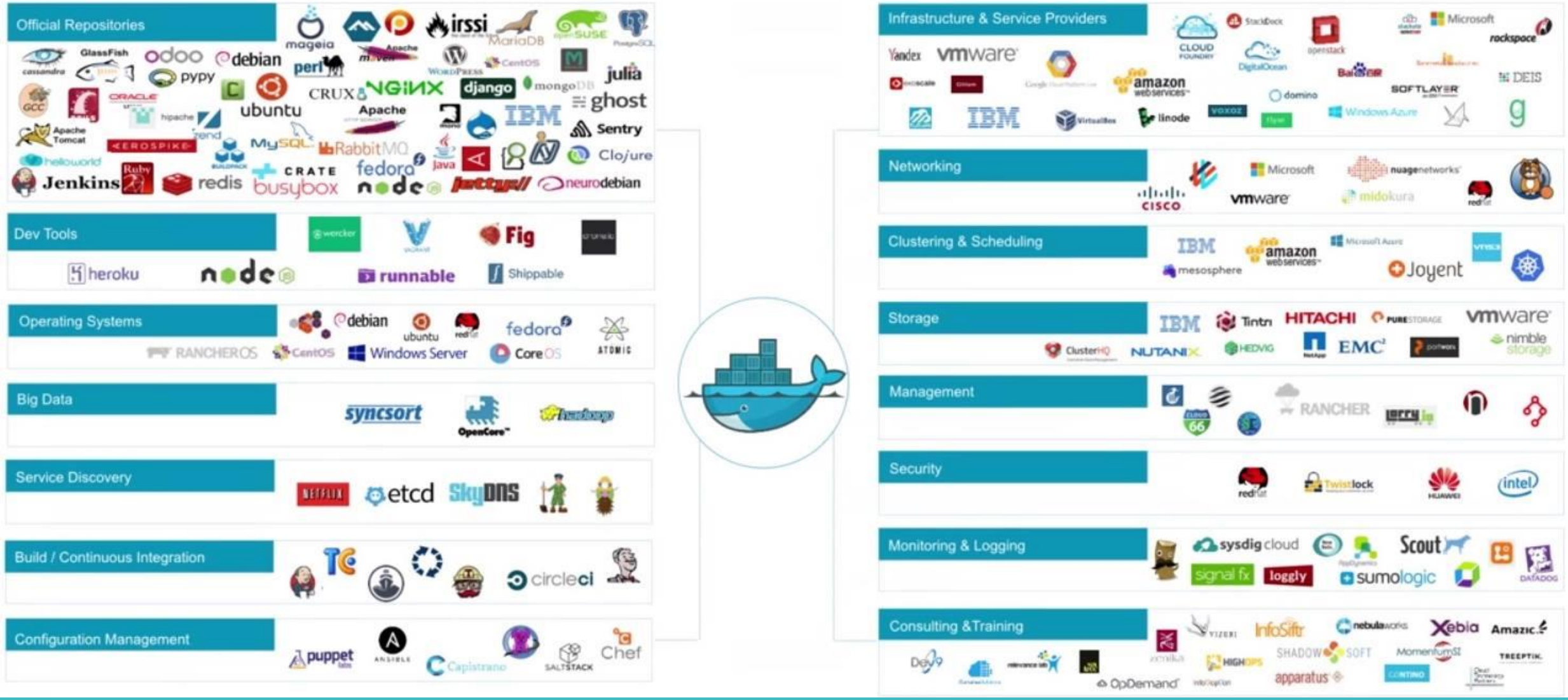
Cos’è Docker

Schema Generico Containers In Docker

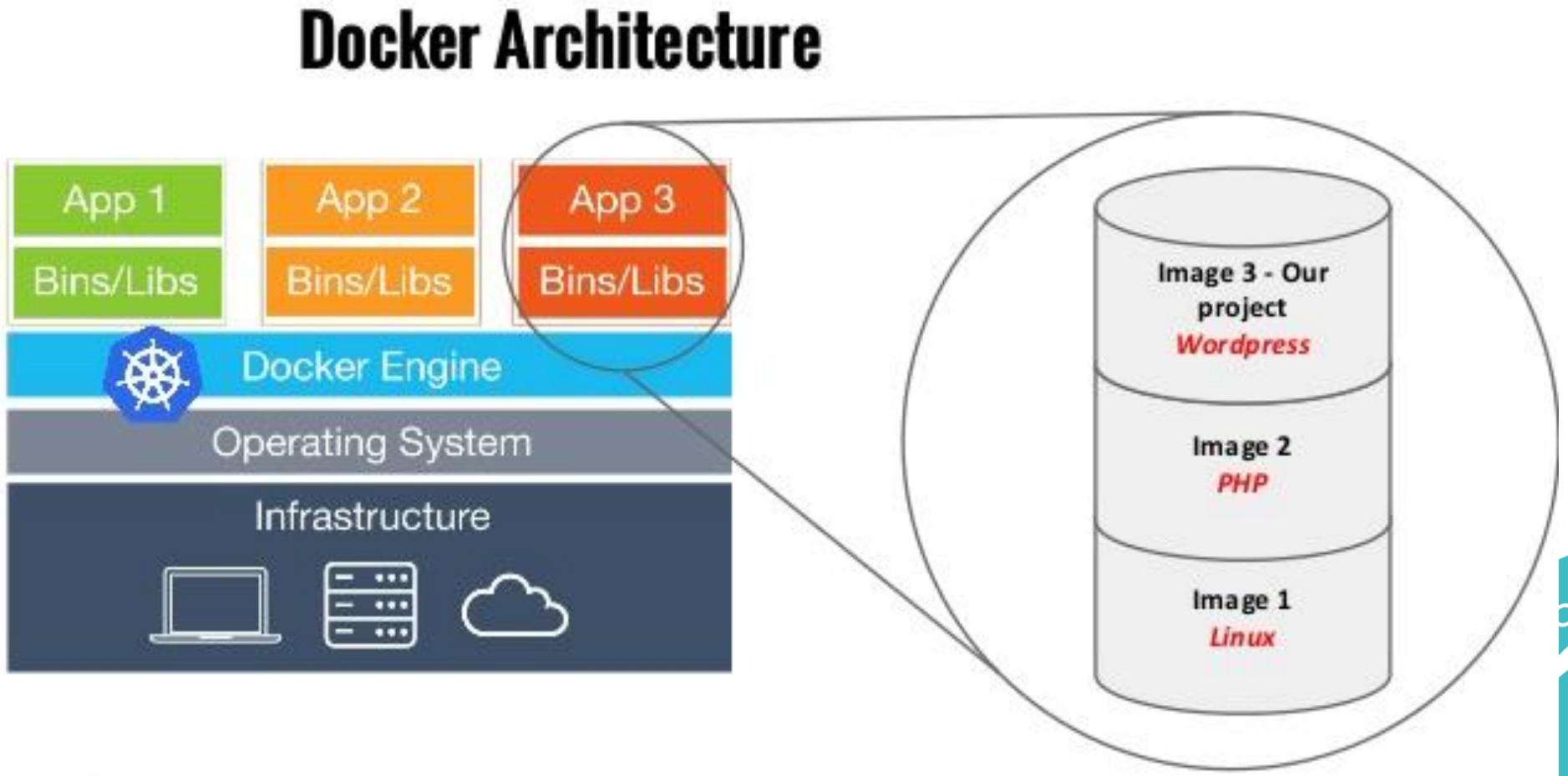
- Applicazioni
- Namespaces
- Control groups
- Union file systems: AUFS, btrfs, vfs, DeviceMapper
- Container format: libcontainer



Ecosystem


Official Repositories
Dev Tools
Operating Systems
Big Data
Service Discovery
Build / Continuous Integration
Configuration Management
Infrastructure & Service Providers
Networking
Clustering & Scheduling
Storage
Management
Security
Monitoring & Logging
Consulting &Training

Schema Implementativo



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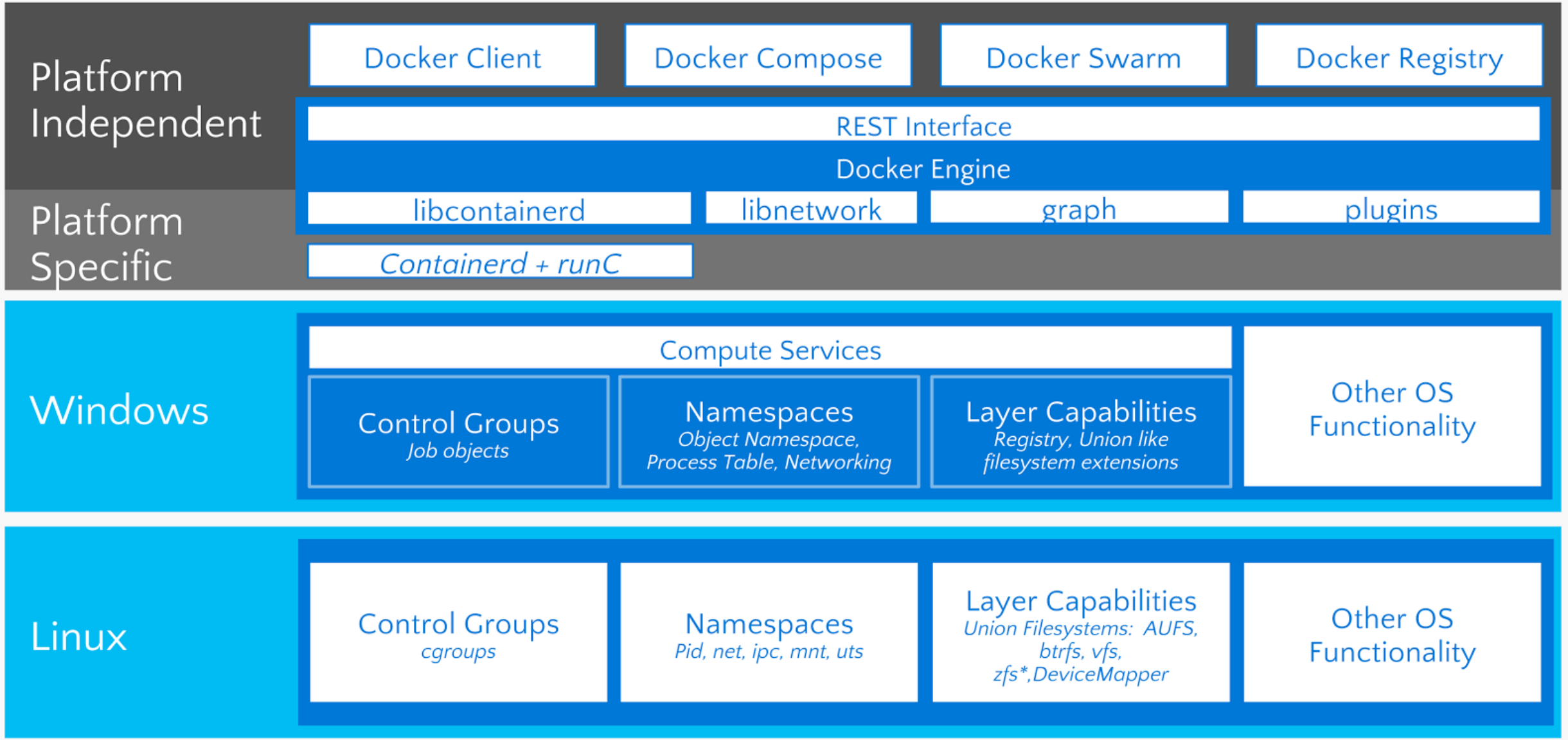
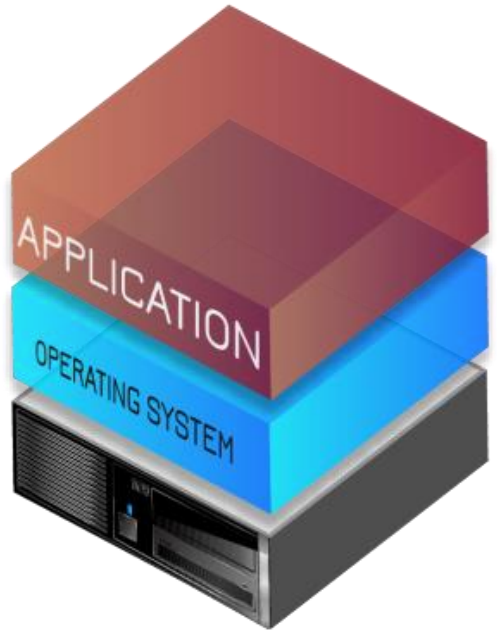
Architettura

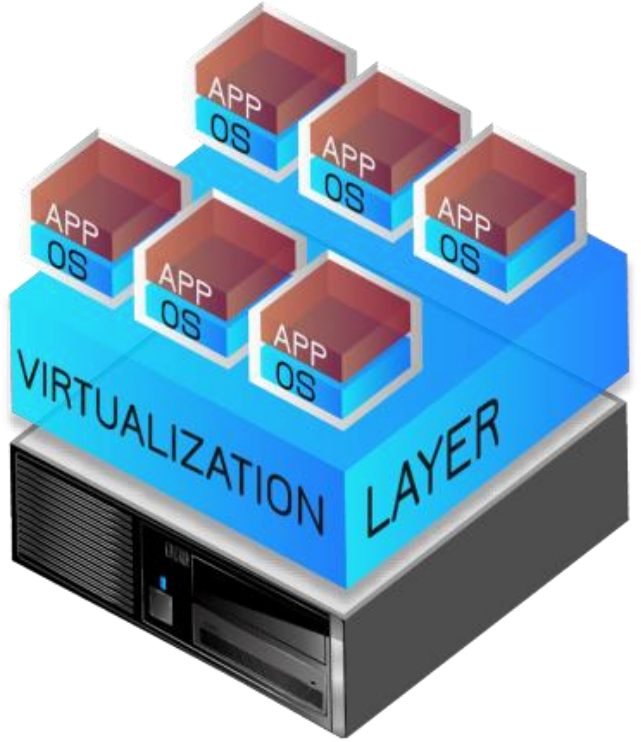


Docker vs VM

Physical vs Virtual



Traditional Architecture



Virtual Architecture

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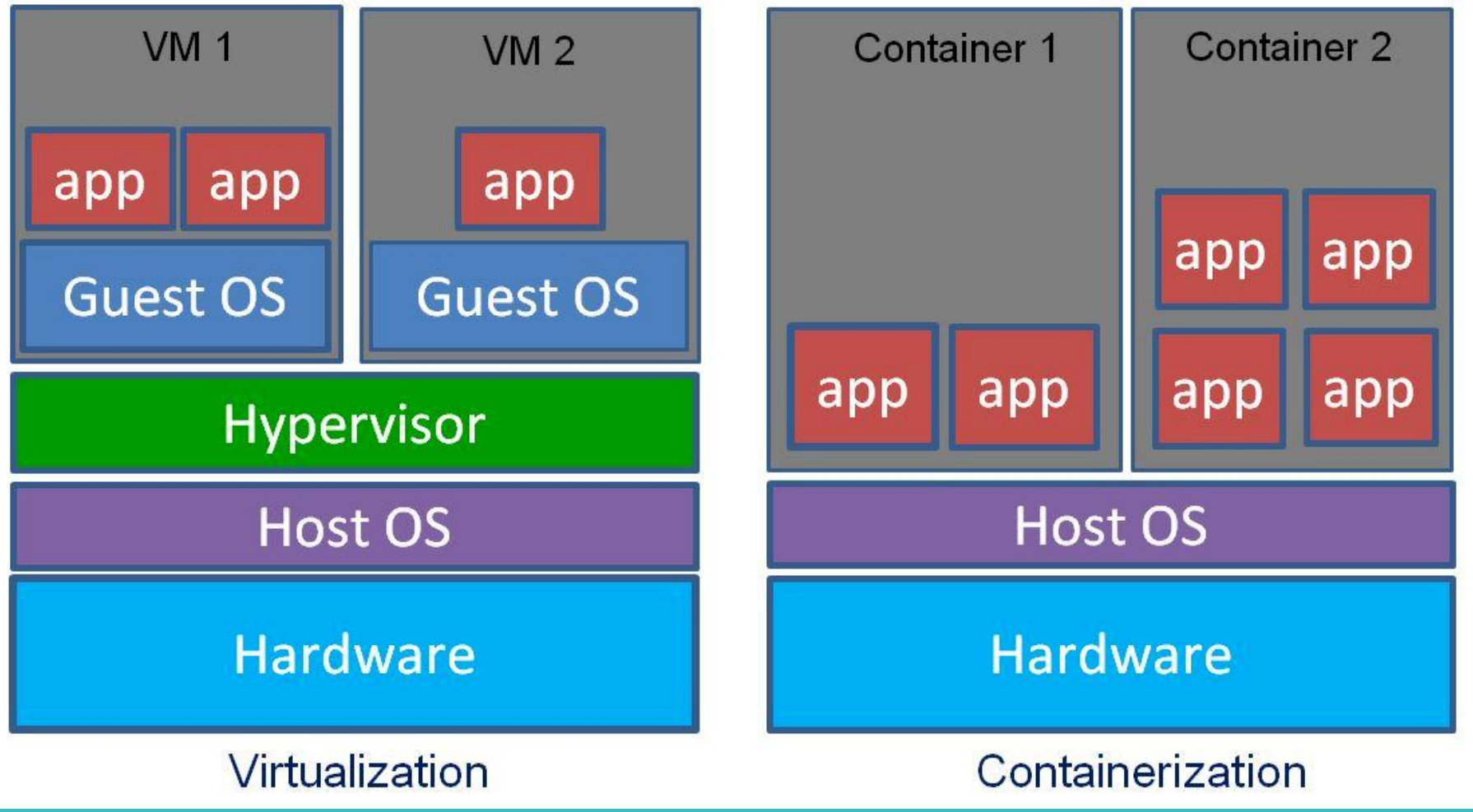
Virtual Machine Model

- Gestione sicurezza guest OS
- Gestione mantainance guest OS
- Gestione applicativi guest OS
- Gestione workload guest OS
- Gestione sicurezza VM

Docker vs Virtual

- D



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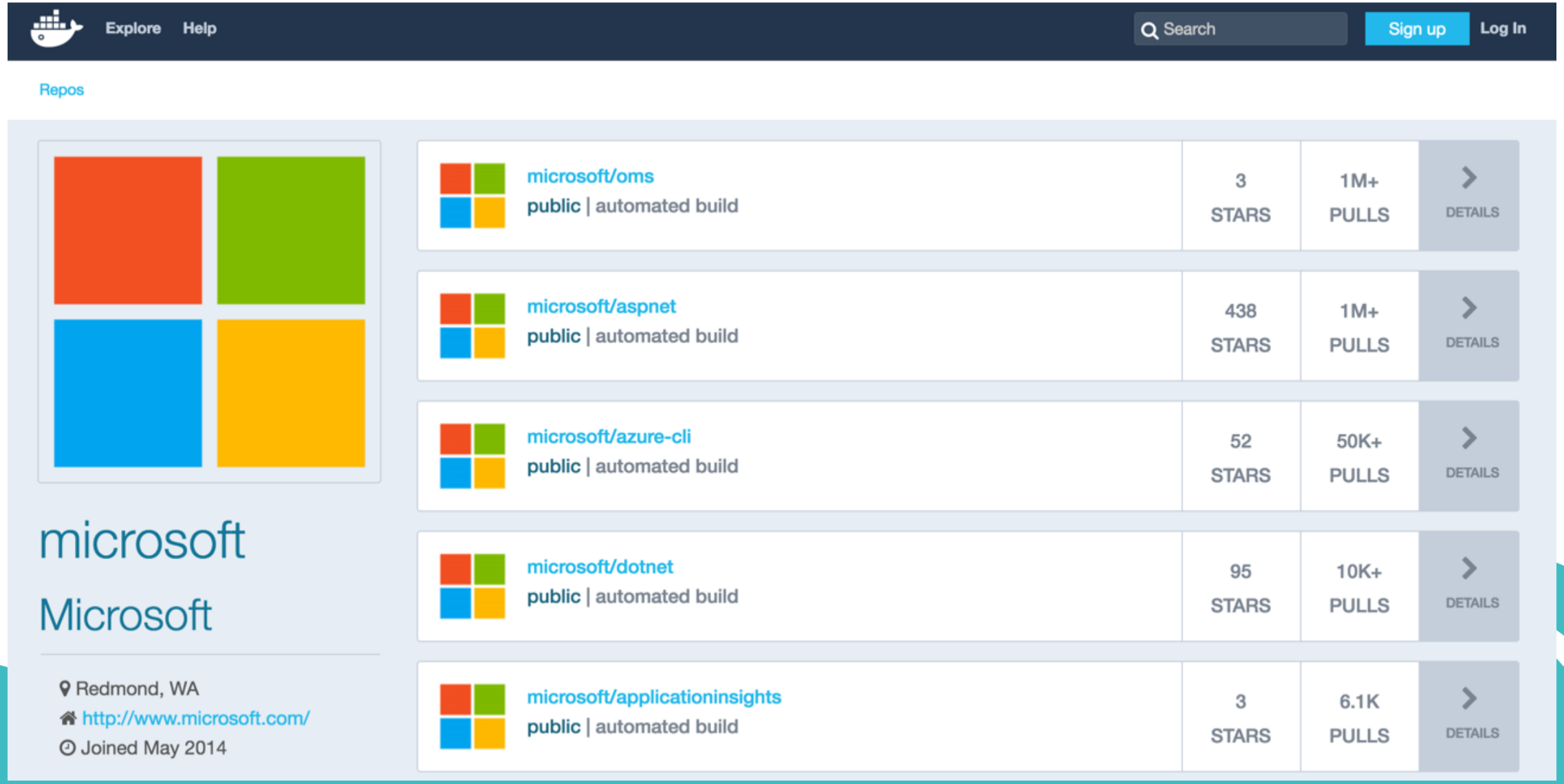
Docker vs Virtual

- Un solo sistema operativo come layer base
- Supporto a tanti sub-sistemi operativi
- Ambienti eterogenei
- Import/export facile
- Possibilità di avere dei modelli di partenza

Docker Hub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DETAILS
microsoft/azure-cli
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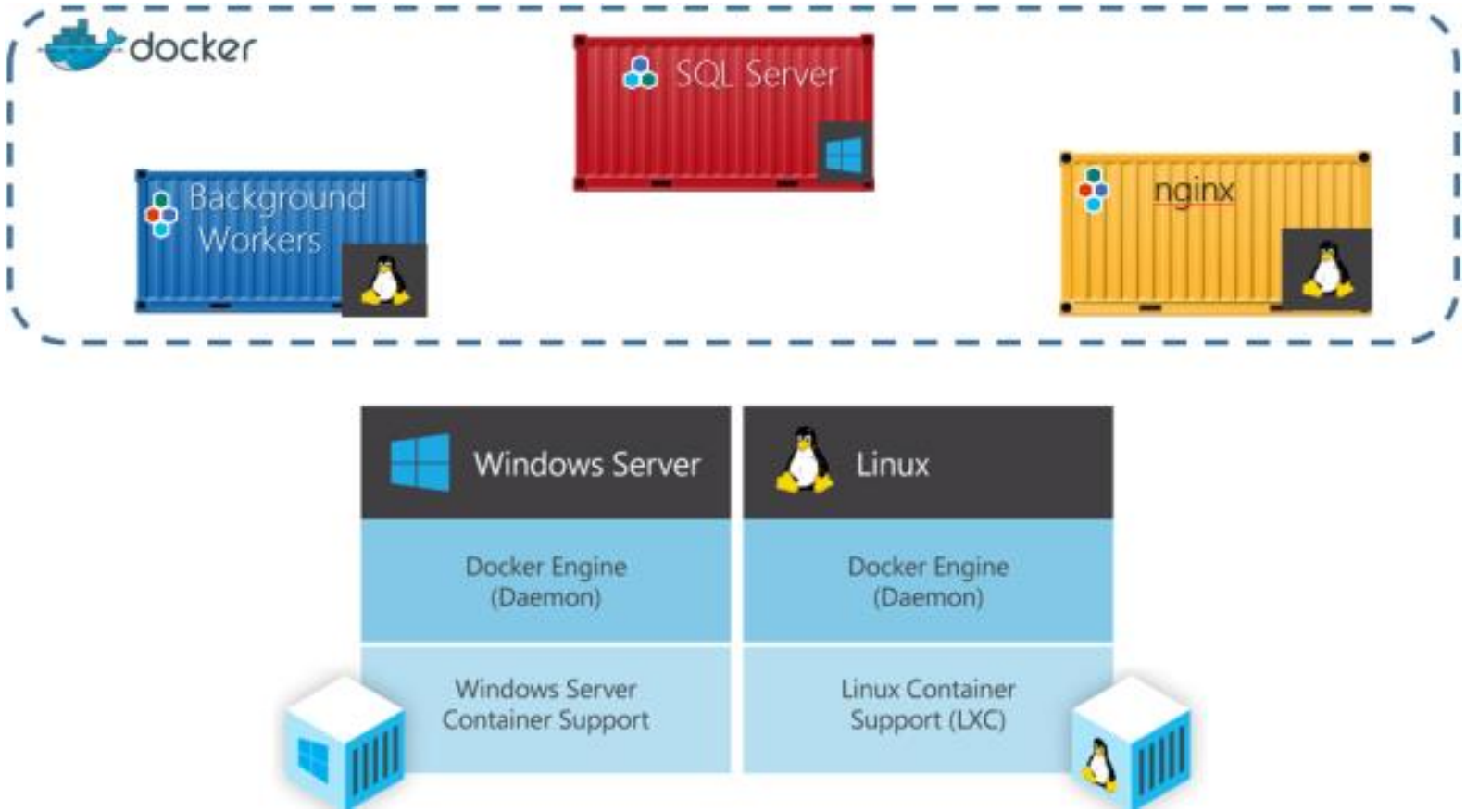
52 STARS
50K+ PULLS
DETAILS
microsoft/dotnet
public | automated build
95 STARS
10K+ PULLS
DETAILS
microsoft/applicationinsights
public | automated build
3 STARS
6.1K PULLS
DETAILS
microsoft
Microsoft
Redmond, WA
http://www.microsoft.com/
Joined May 2014

Ambienti Eterogenei: Difference Is + Not -



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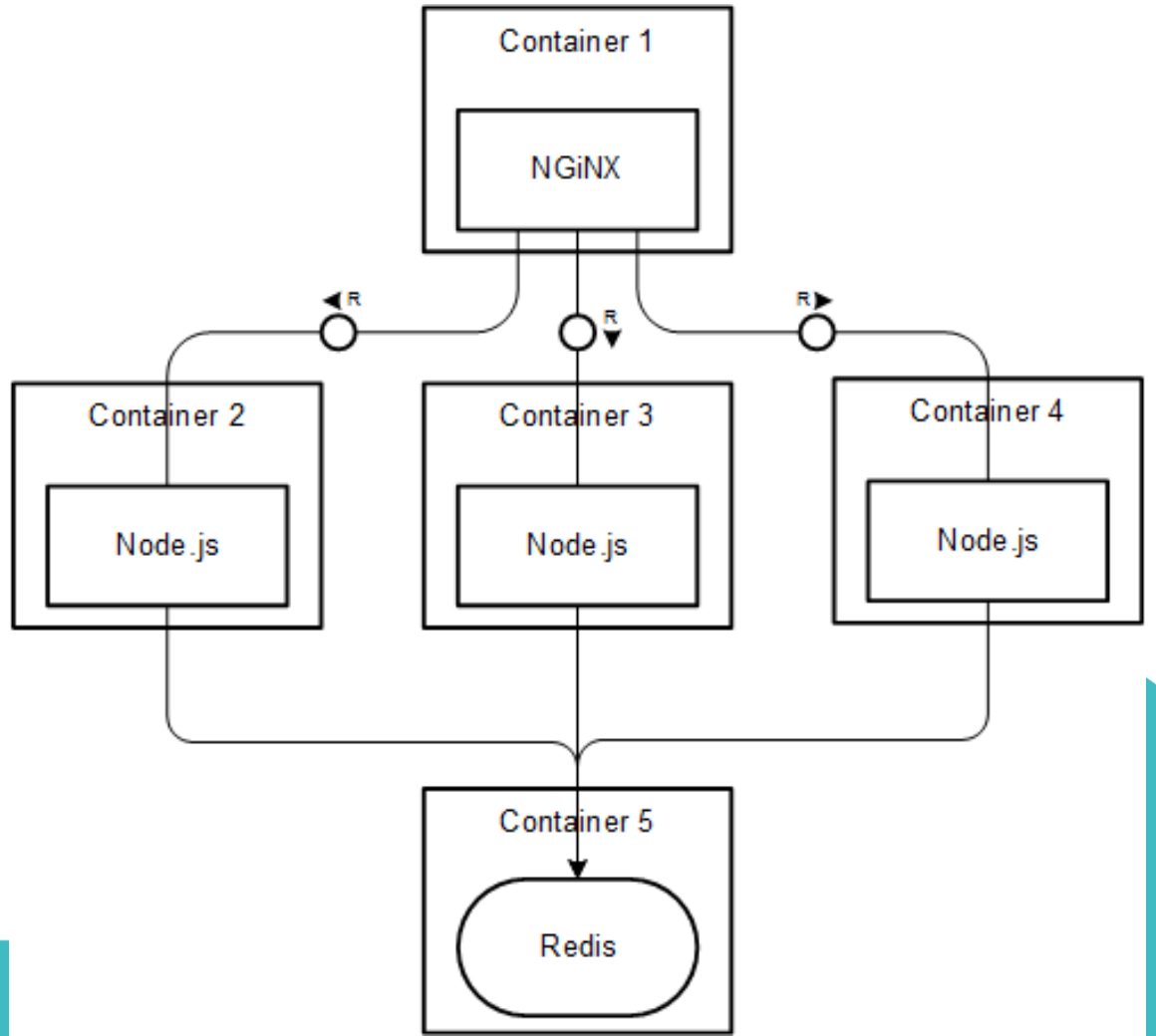
Struttura Multicontainer

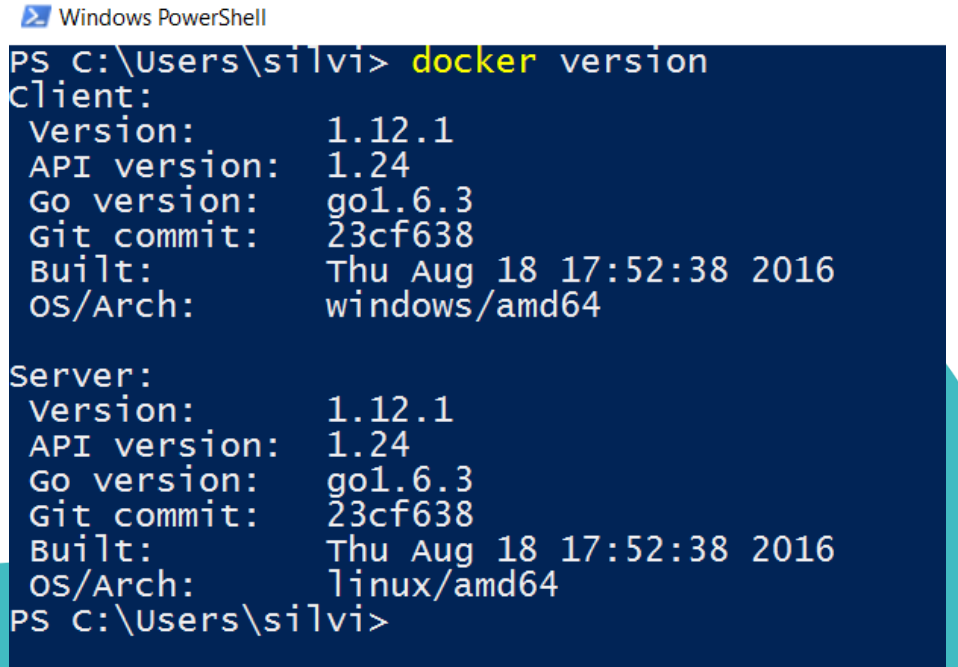
- NGiNX presenta i servizi Node.js
- Tramite la connettività interna al nodo il Container Redis è accessibile come cache Key/Value ai tre container Node.js



Docker in Windows Server 2016

Announcing Docker for Windows Server 2016

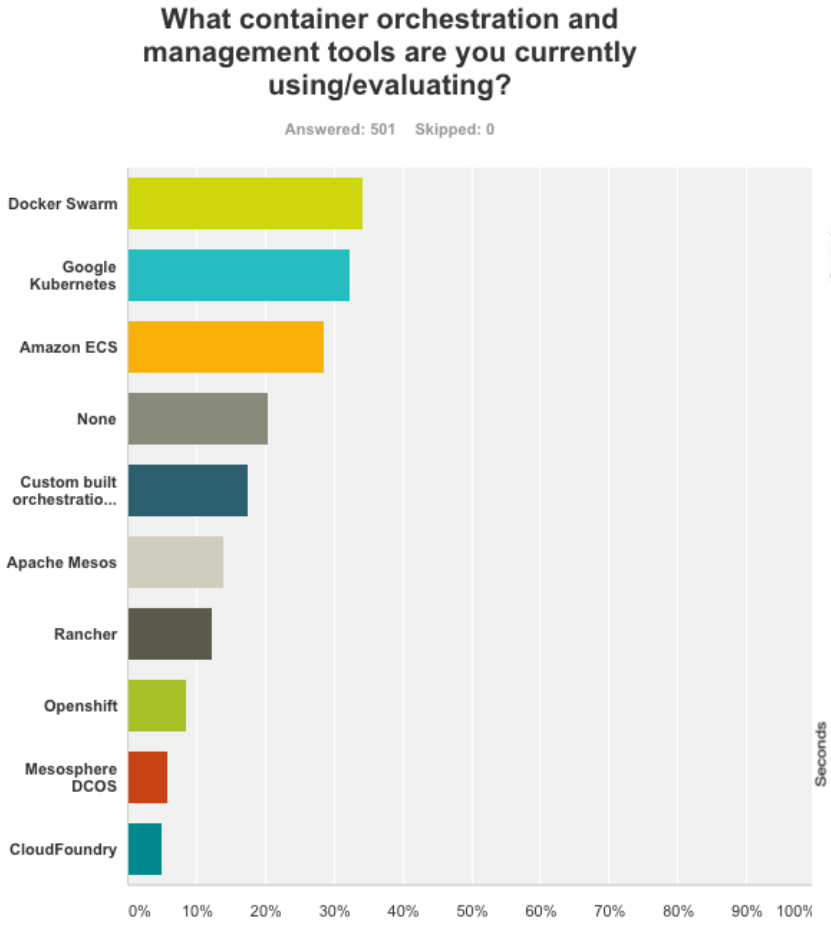
- Docker è presente all'interno come feature in Windows Server 2016
- Docker è disponibile per Windows 10
- Docker è disponibile all'interno di Microsoft Azure
- Identici comandi della versione Linux

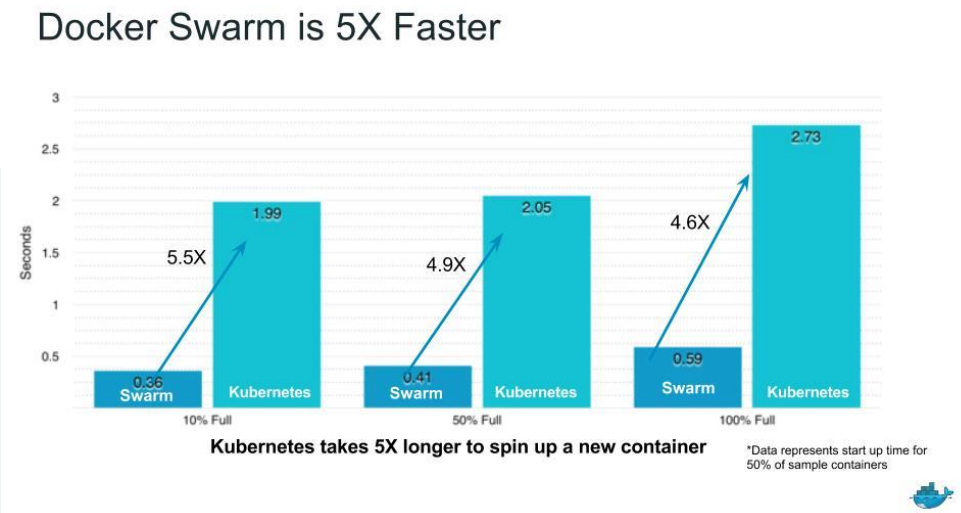


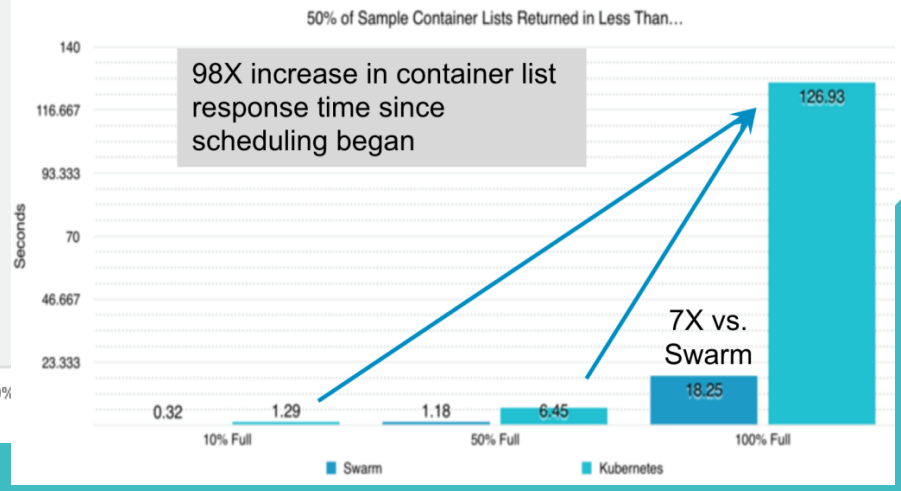
Demo

Security & Performance

Performance







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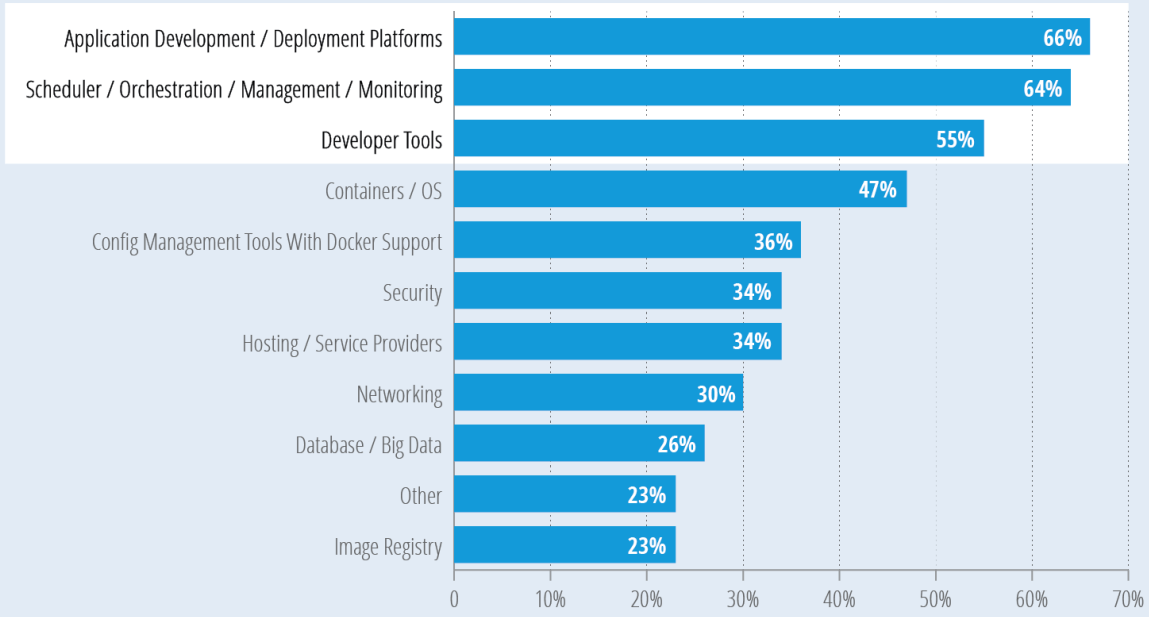
Focus And Capabilities

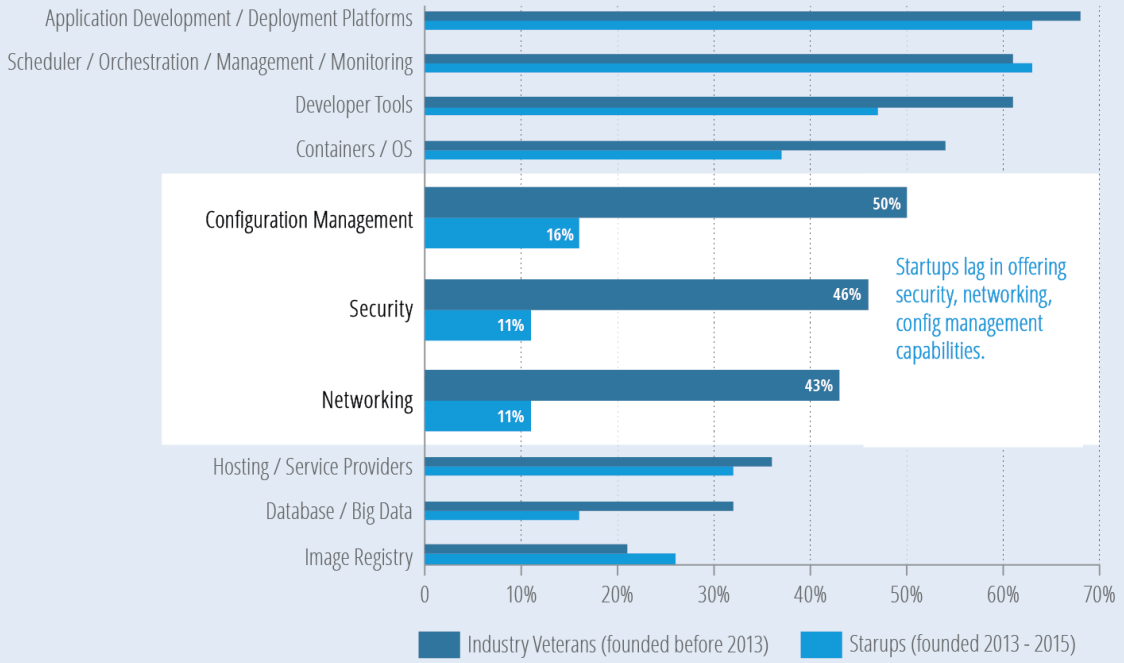
Vendors Focused on Deployment Platforms, Orchestration, Developer Tools



Q: In what categories of the container ecosystem do you CURRENTLY have products or services? n=47.
Source: The New Stack Container Survey, completed May 2015

thenewstack.io

Current Capabilities: Industry Veterans vs. Startups

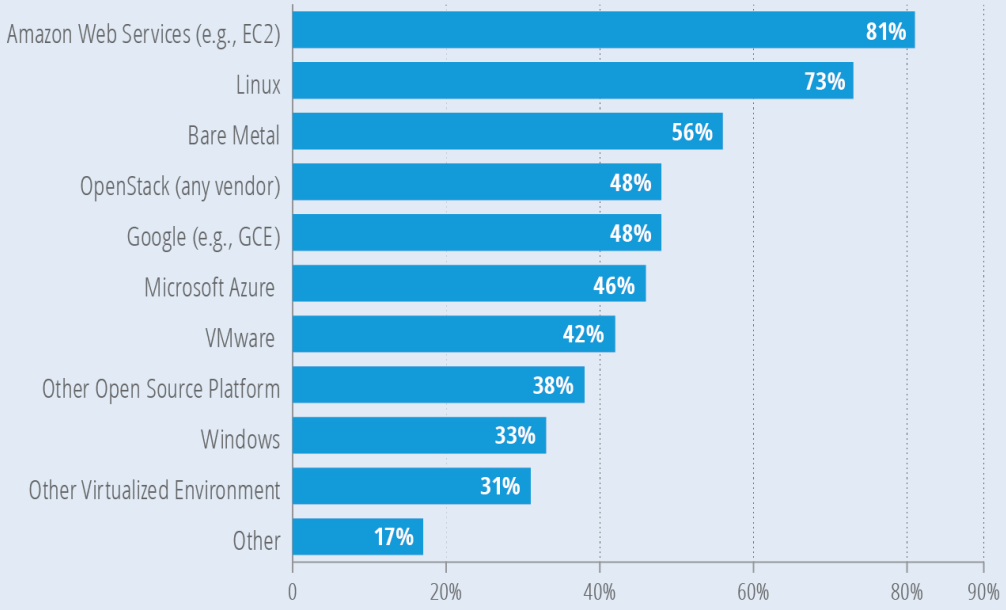


Q: In what categories of the container ecosystem do you CURRENTLY have products or services? Veterans = 28. Startups = 19.
Source: The New Stack Container Survey, completed May 2015

thenewstack.io

Deployed And Invest

Container-Based Solutions Deployed on Variety of Infrastructures



Q. What infrastructure is your solution deployed on? Check all that apply. n=48.
Source: The New Stack Container Survey, completed May 2015

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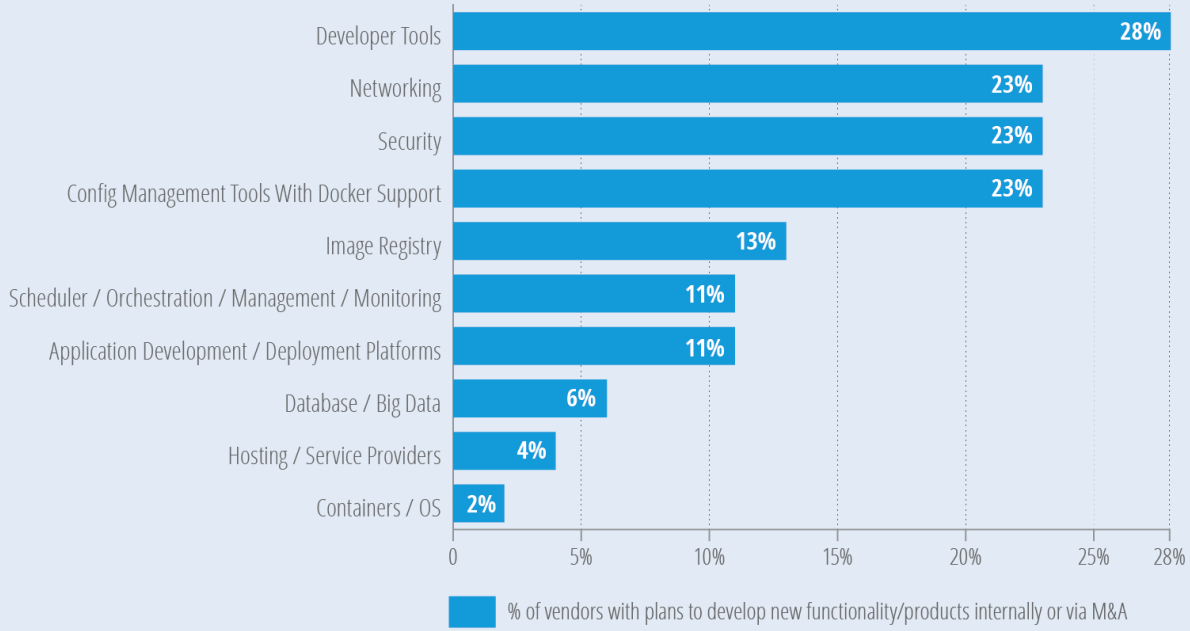
Ecosystem Firms to Invest in Tools, Networking, Security and Config Management



Q: In 2 years, how do you plan to primarily address the functionality and needs within each category of the container ecosystem? n=47.
Source: The New Stack Container Survey, completed May 2015

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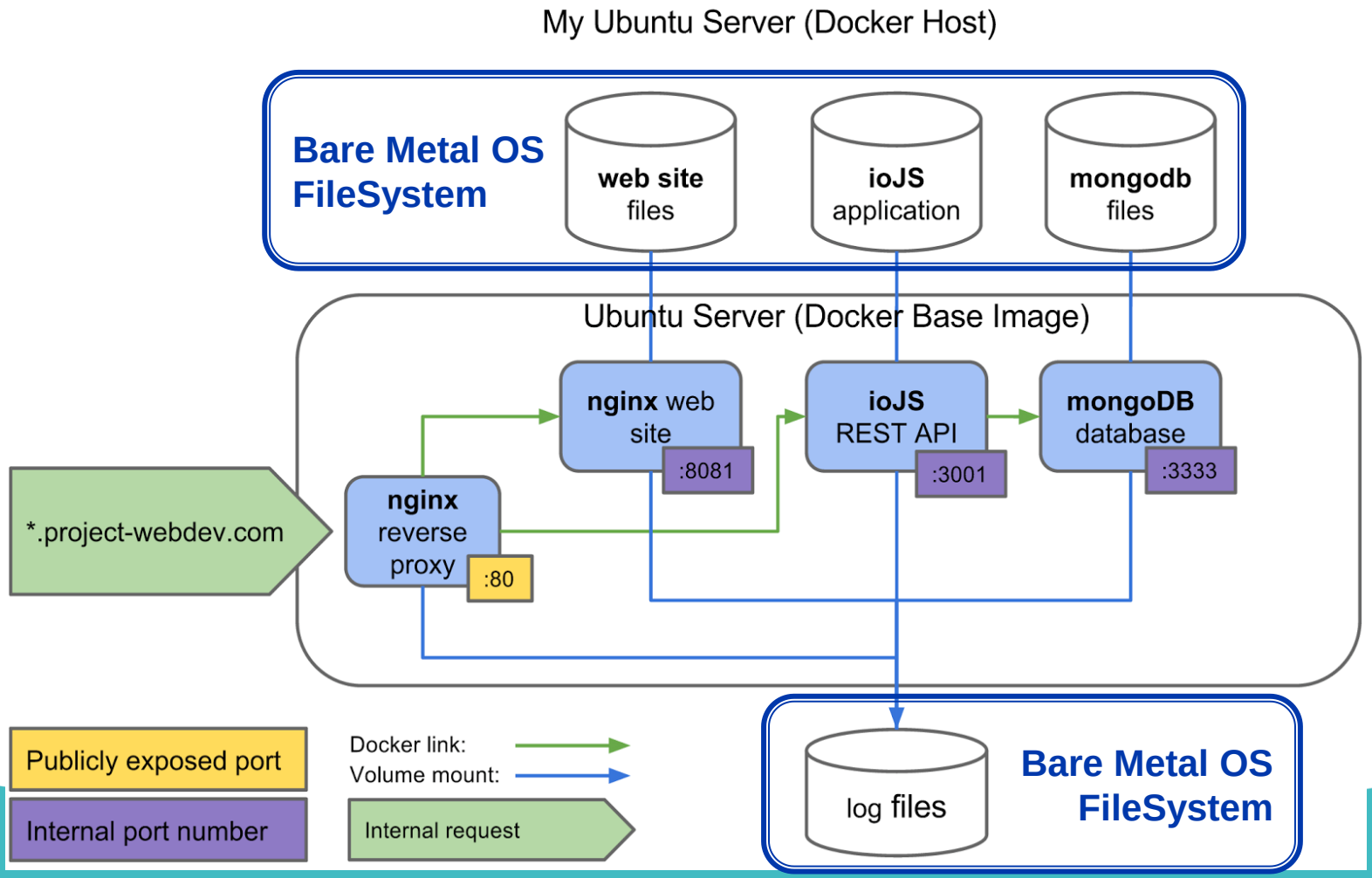
Sicurezza



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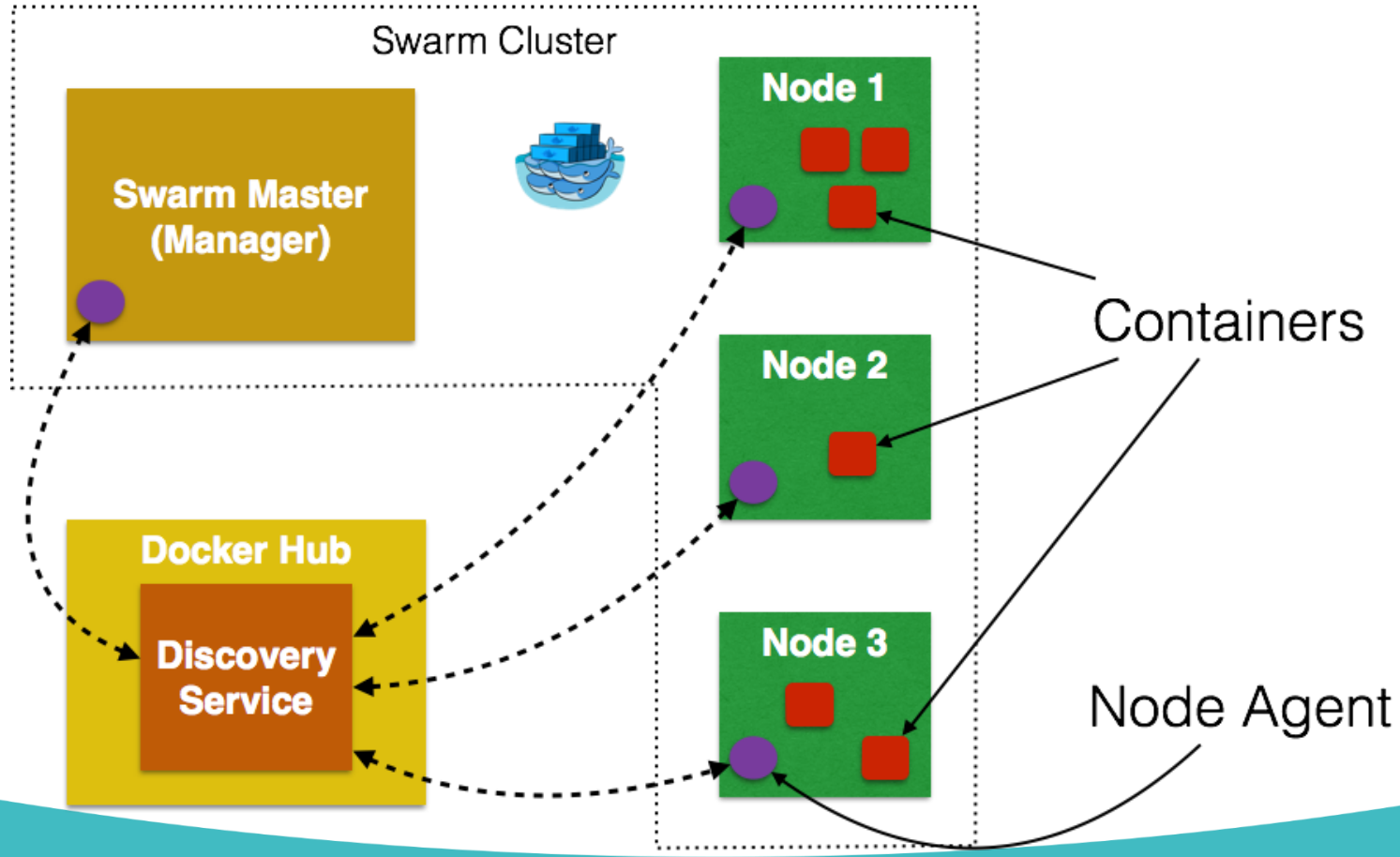
Docker Swarm

Componenti di un Cluster



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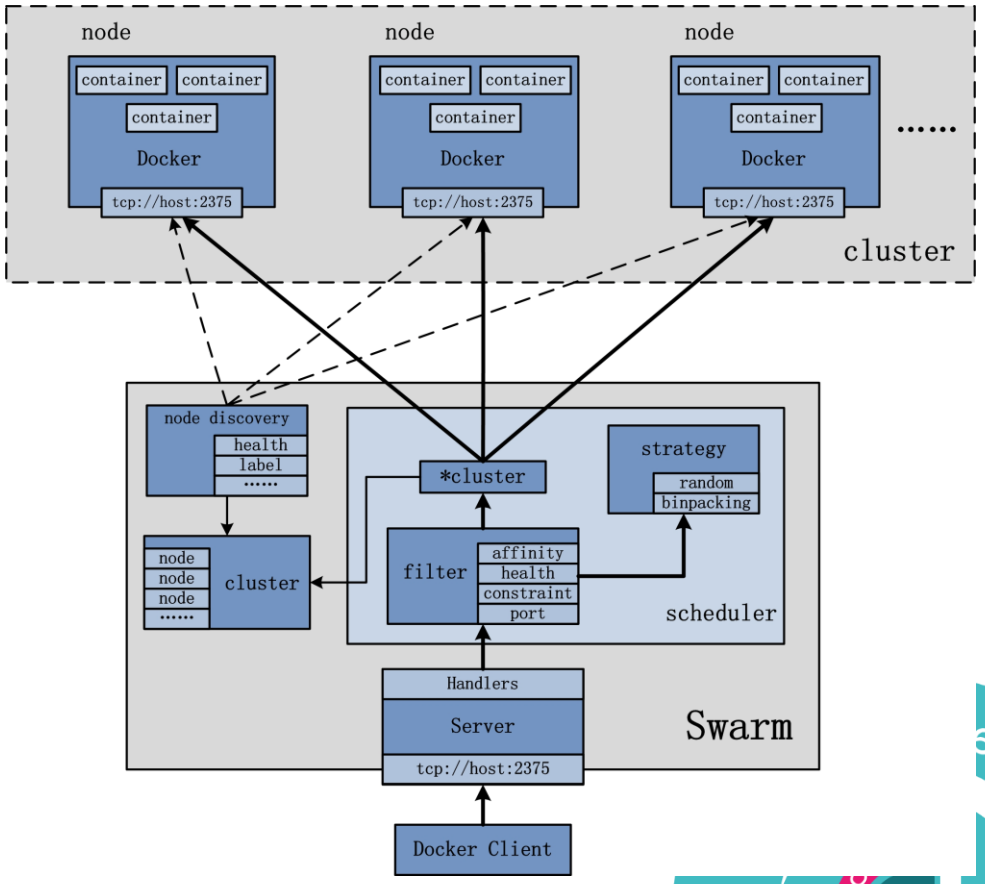
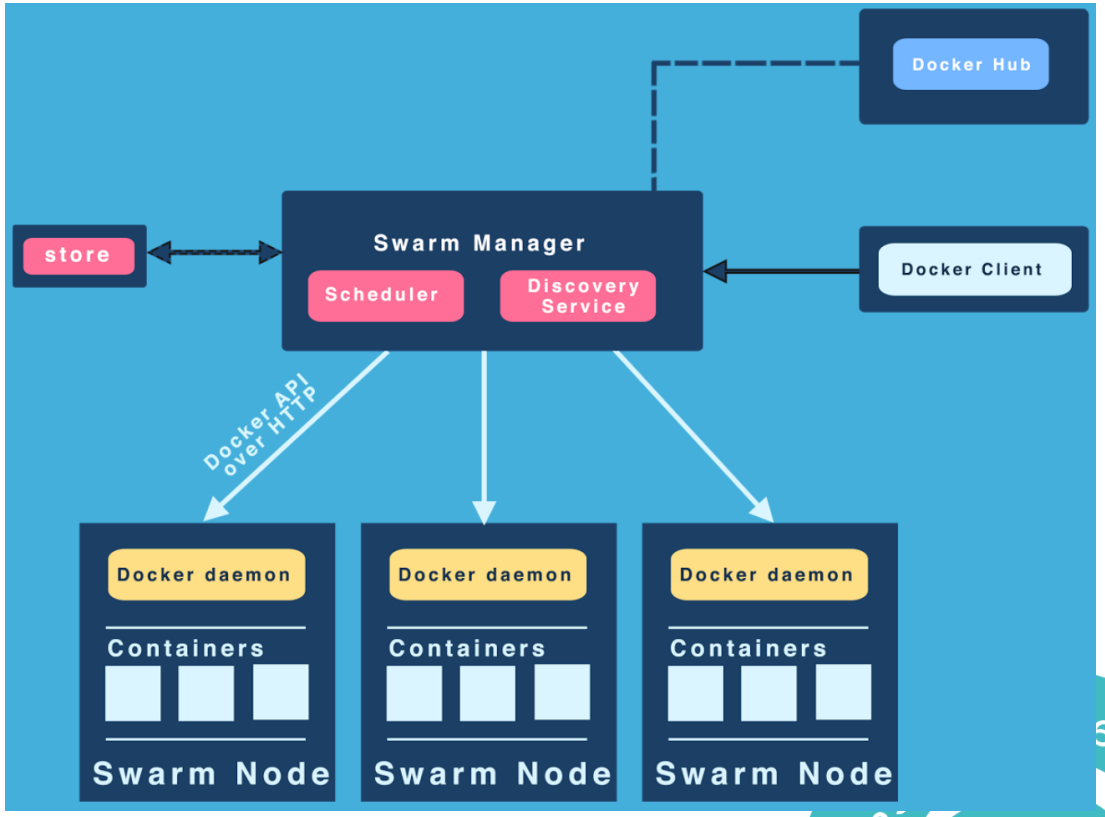
Architettura Fisica Docker Swarm

Swarm master organizza una rete di docker-host garantendo raggiungibilità ed accessibilità così da disporre di un punto di accesso unico a tutte le risorse.



Architettura Funzionale Di Un Cluster

- Docker Client dà l'accesso alle risorse
- Docker Hub è il repository per le immagini da eseguire come contaniers dal Docker Daemon



Demo

Risorse

- http://www.windowserver.it/articoli-open-source/
- https://www.youtube.com/watch?v=YzyzWaxpECI&index=3&list=PLUwM-Ukru4oQ7sEIoZSjieF1HYBs8Fd3O

Grazie!