Docker & Microsoft in the enterprise

Microsoft

docker

Virtual Machine (VM) vs. Container

Microsoft

Docker & Microsoft address 98% of Enterprise App Requirements

FROM DEV	< >		TO OPS
ANY OS	LINUX	WINDOWS	
ANYWHERE	PHYSICAL	VIRTUAL	AZURE CLOUD
ANY APP	TRADITIONAL	MICRO SERVICES	
ANY LANGUAGE	Microsoft ASP.NET .NET Java JS MORE docker		

Microsoft

Customer benefits: speed, flexibility, and savings

AVAILABILITY

62%

Report reduction in MTTR

10X

Cost reduction in maintaining existing applications

PORTABILITY

41%

Move workloads across private/public clouds

Eliminate

“Works on my machine” issues

AGILITY

13X

More software releases

65%

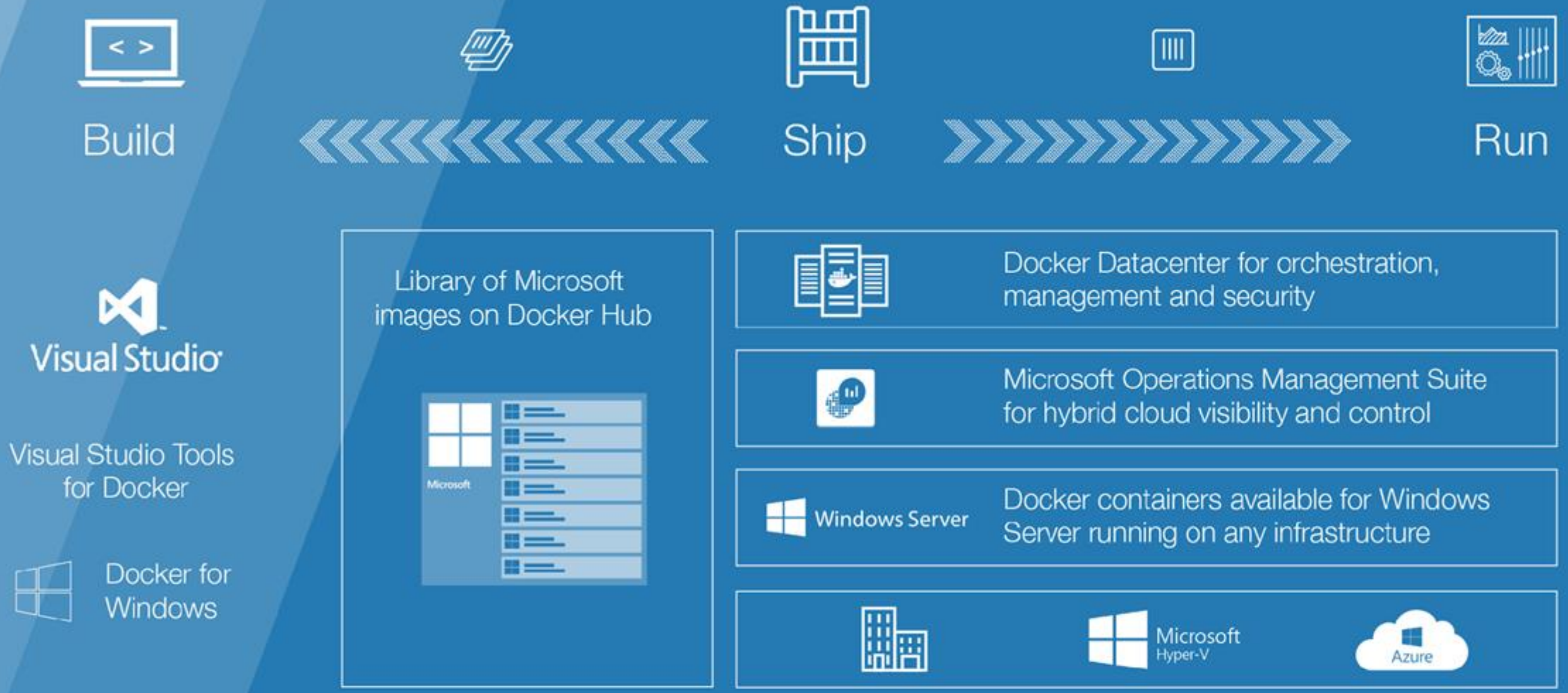
Reduction in developer onboarding time

Secure Software Supply Chain

State of App development Survey: Q1 2016, Cornell University case study.

Microsoft

Docker and Microsoft delivers integrated tooling across the application lifecycle



Build

Ship

Run

Visual Studio Tools for Docker

Docker for Windows

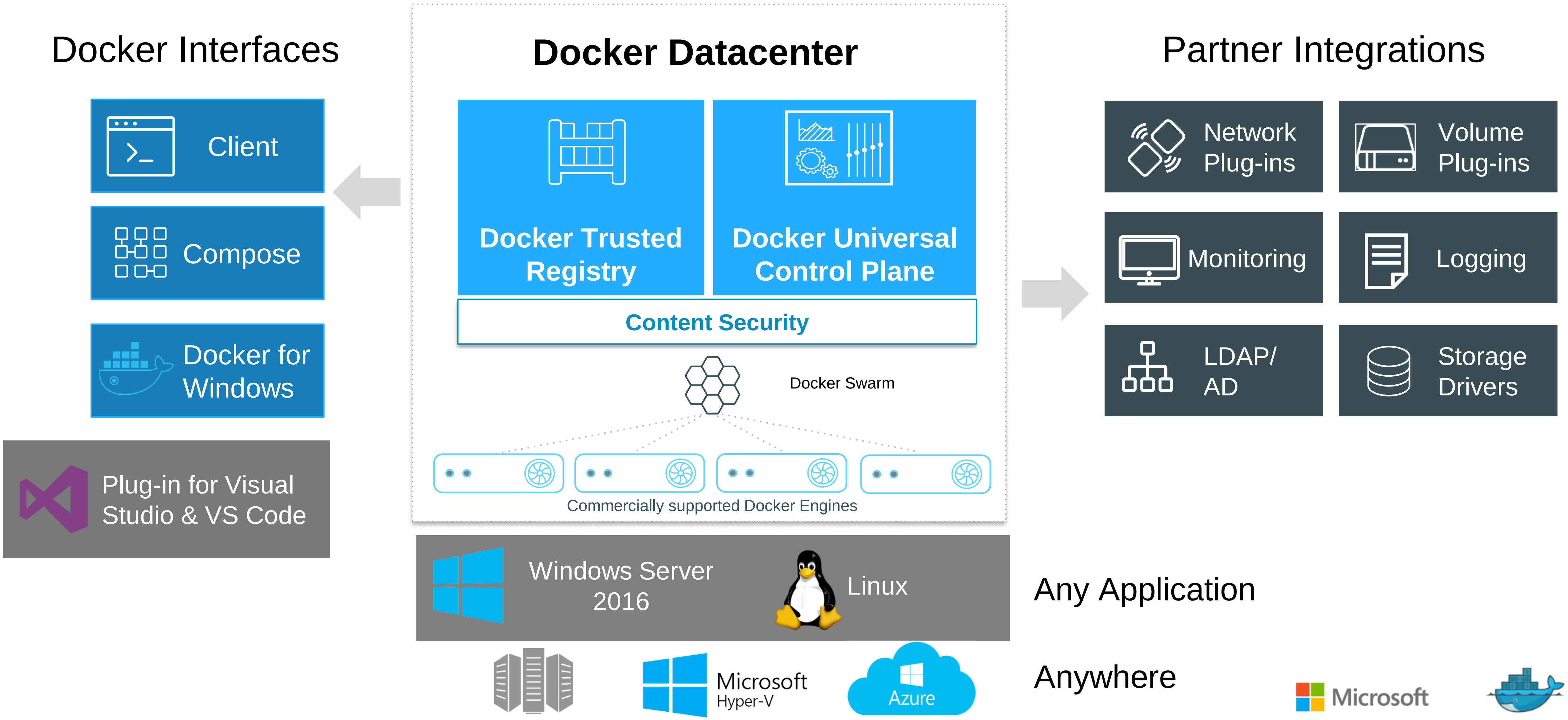
Library of Microsoft images on Docker Hub

Docker Datacenter for orchestration, management and security

Microsoft Operations Management Suite for hybrid cloud visibility and control

Docker containers available for Windows Server running on any infrastructure

Docker Enterprise Edition for Windows



Docker Interfaces

- Client
- Compose
- Docker for Windows
- Plug-in for Visual Studio & VS Code

Docker Datacenter

- Docker Trusted Registry
- Docker Universal Control Plane
- Content Security

Docker Swarm

Commercially supported Docker Engines

Partner Integrations

- Network Plug-ins
- Volume Plug-ins
- Monitoring
- Logging
- LDAP/ AD
- Storage Drivers

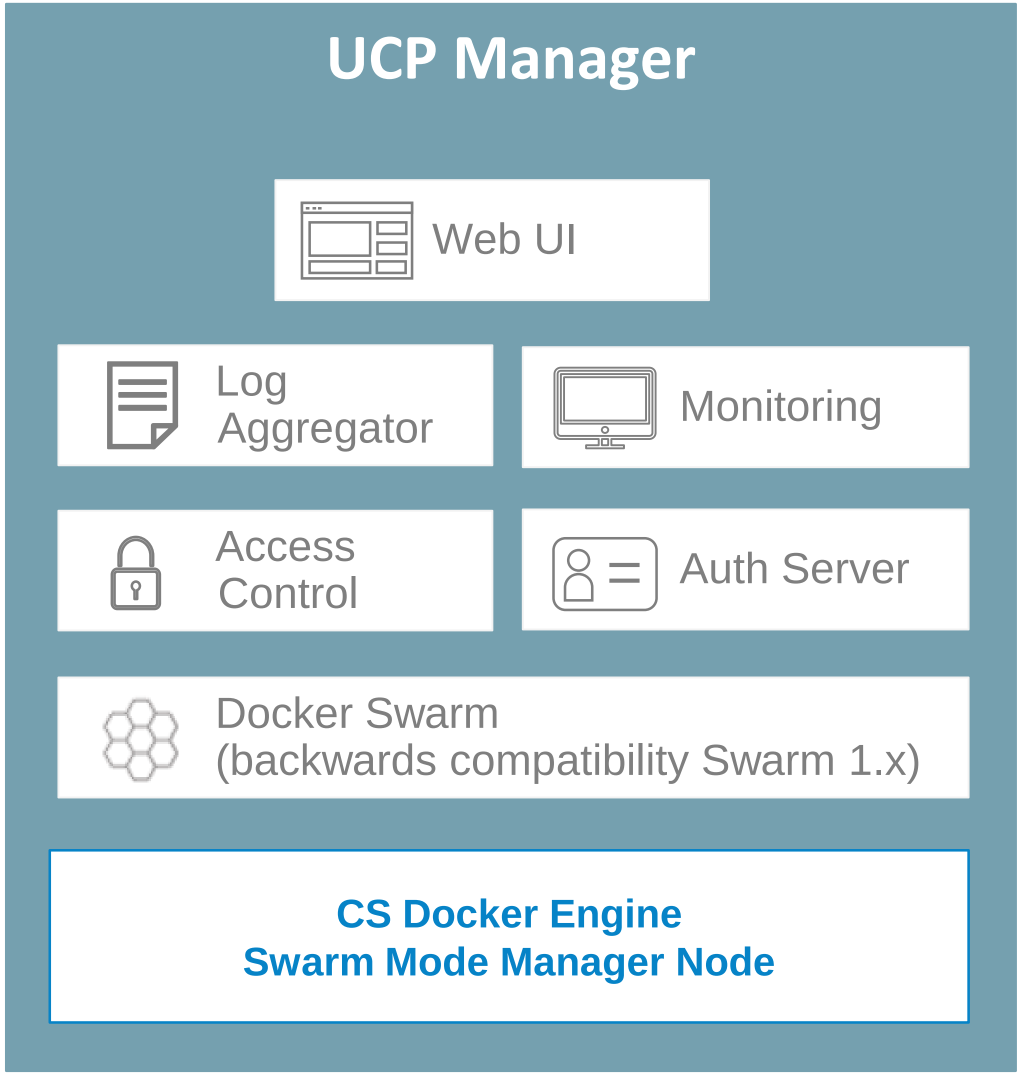
Windows Server 2016

Linux

Any Application

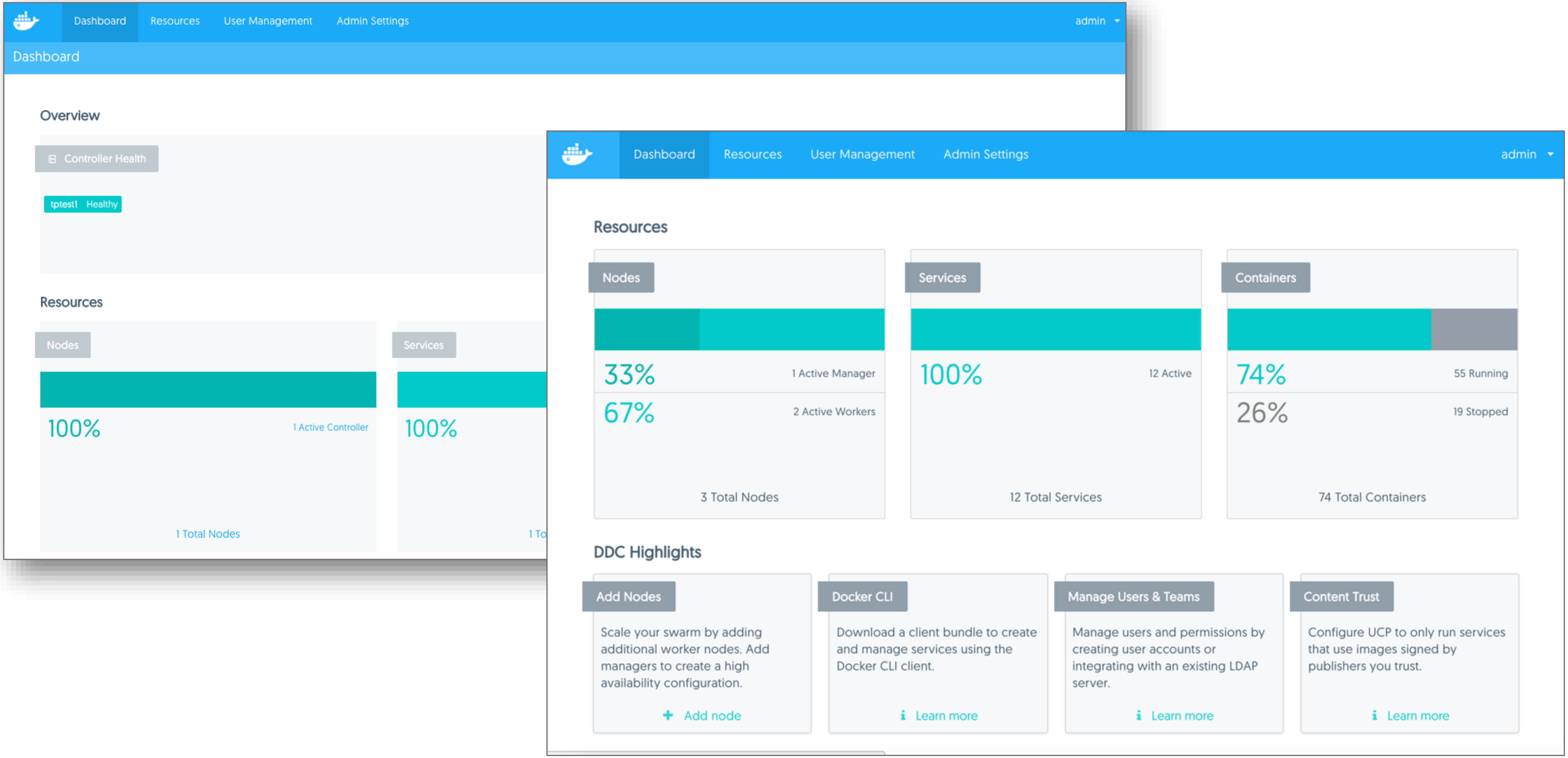
Anywhere

Deep Dive: UCP Manager Nodes



- Backwards compatibility for Swarm 1.x and simultaneous support for swarm mode
- Point and click UI to manage nodes, services, containers and networks
- CLI and API support
- Secure access control with LDAP/AD support and granular RBAC
- Content security policy

Intuitive UI to orchestrate and manage at scale



Dashboard

Overview

Controller Health

tptest1 Healthy

Resources

Nodes

100% 1 Active Controller

1 Total Nodes

Services

100%

1 To

Resources

Nodes

33% 1 Active Manager

67% 2 Active Workers

3 Total Nodes

Services

100% 12 Active

12 Total Services

Containers

74% 55 Running

26% 19 Stopped

74 Total Containers

DDC Highlights

Add Nodes

Scale your swarm by adding additional worker nodes. Add managers to create a high availability configuration.

+ Add node

Docker CLI

Download a client bundle to create and manage services using the Docker CLI client.

ℹ Learn more

Manage Users & Teams

Manage users and permissions by creating user accounts or integrating with an existing LDAP server.

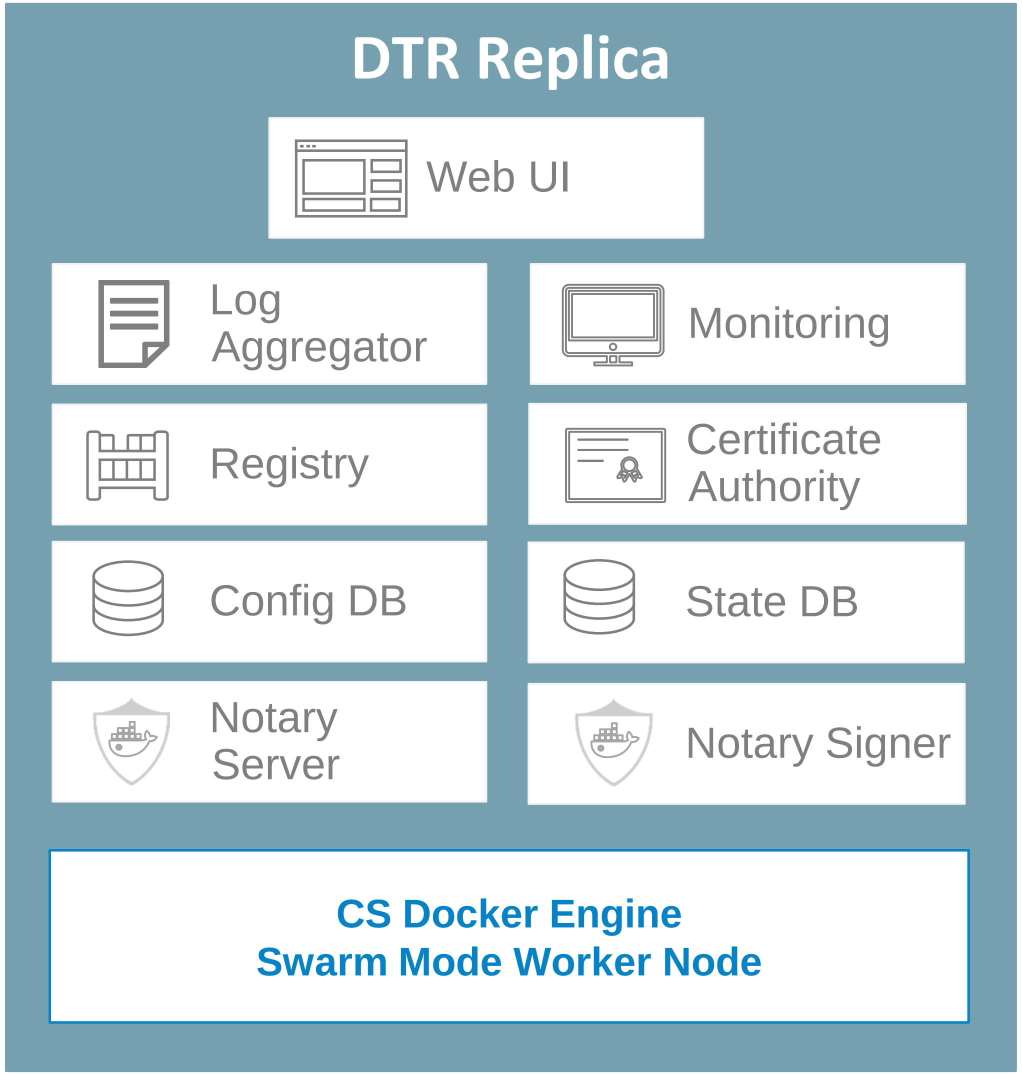
ℹ Learn more

Content Trust

Configure UCP to only run services that use images signed by publishers you trust.

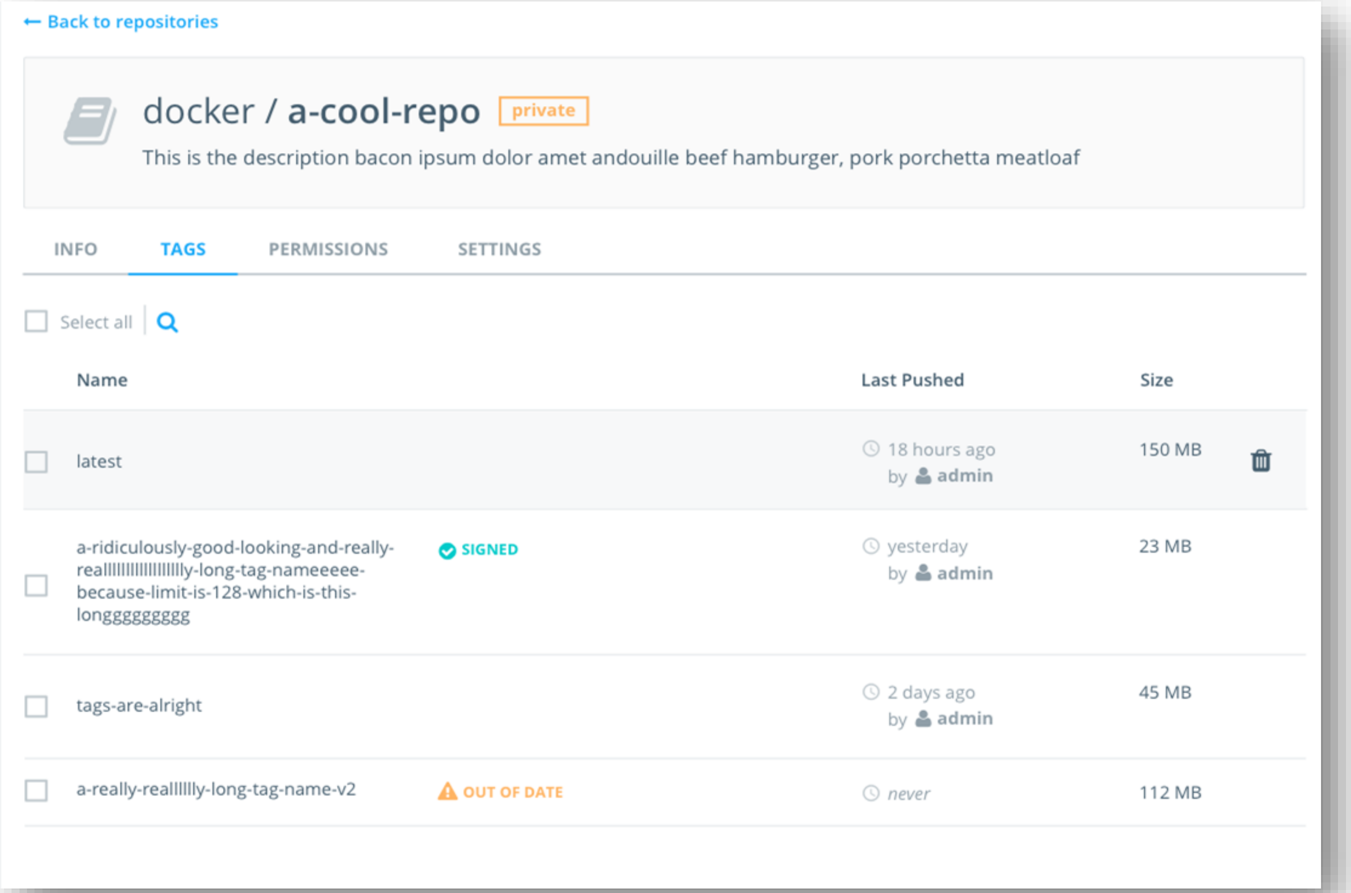
ℹ Learn more

Deep Dive: DTR Replica Worker Nodes



- Point and click UI to manage repos, images and team collaboration
- Image management with labels, tag store and garbage collection
- HA and redundant system
- Content security with built in image signing and verification
- Wide variety of storage driver support for image store

Central image management



← Back to repositories

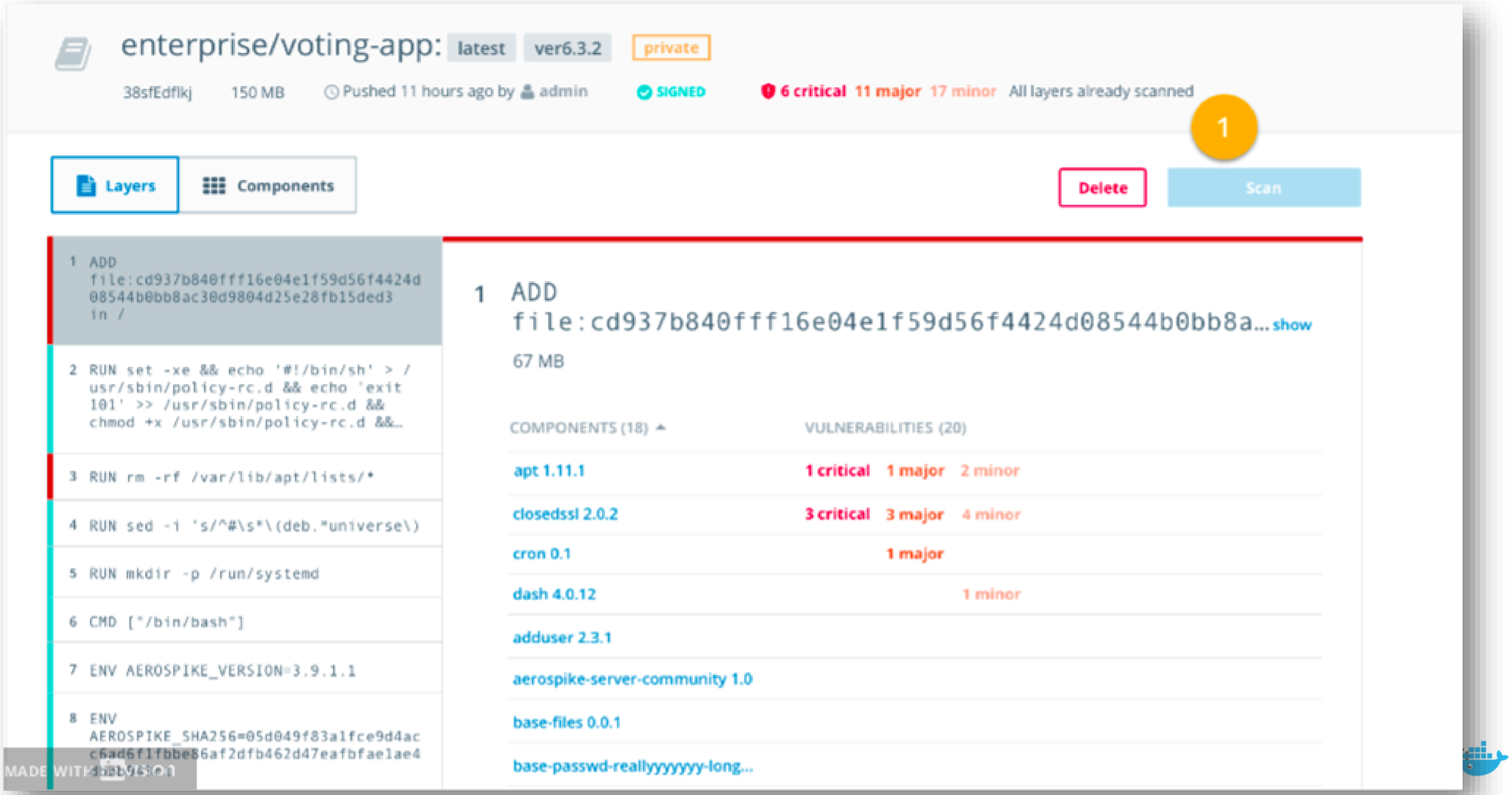
docker / a-cool-repo private

This is the description bacon ipsum dolor amet andouille beef hamburger, pork porchetta meatloaf

	Name		Last Pushed	Size	
□	latest		18 hours ago by admin	150 MB	🗑
□	a-ridiculously-good-looking-and-really-reallllllllllllllllly-long-tag-nameeeee-because-limit-is-128-which-is-this-longgggggggg	✓ SIGNED	yesterday by admin	23 MB	
□	tags-are-alright		2 days ago by admin	45 MB	
□	a-really-reallllly-long-tag-name-v2	⚠ OUT OF DATE	*never*	112 MB	

- Search and browse repos
- RBAC by repo
  - Users, Teams, Orgs
  - Read, Read-Write, Admin
- Garbage collection
- Image tag metadata
- Integrated Content Trust

Security Scanning:
Get a full BOM for a Docker Image



enterprise/voting-app: latest ver6.3.2 private

38sfEdflkj 150 MB Pushed 11 hours ago by admin ✓ SIGNED 6 critical 11 major 17 minor All layers already scanned

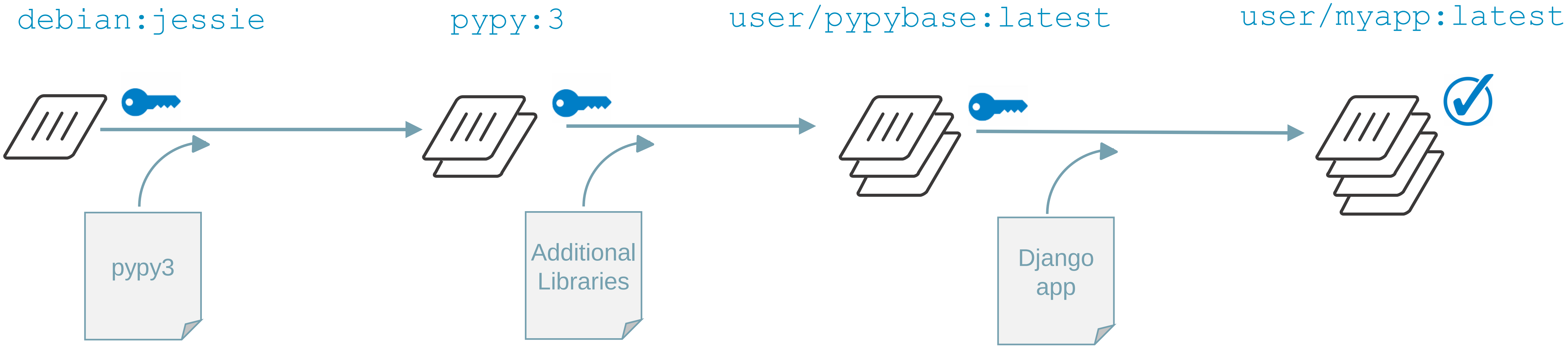
```
1 ADD
  file:cd937b840fff16e04e1f59d56f4424d
  08544b0bb8ac30d9804d25e28fb15ded3
  in /

2 RUN set -xe && echo '#!/bin/sh' > /
  usr/sbin/policy-rc.d && echo 'exit
  101' >> /usr/sbin/policy-rc.d &&
  chmod +x /usr/sbin/policy-rc.d &&…

3 RUN rm -rf /var/lib/apt/lists/*

4 RUN sed -i 's/^#\s*\(deb.*universe\)

5 RUN mkdir -p /run/systemd

6 CMD ["/bin/bash"]

7 ENV AEROSPIKE_VERSION=3.9.1.1

8 ENV
  AEROSPIKE_SHA256=05d049f83a1fce9d4ac
  c6ad6f1fbbe86af2dfb462d47eafbfae1ae4
  [illegible]
```

1 ADD
file:cd937b840fff16e04e1f59d56f4424d08544b0bb8a... show

67 MB

COMPONENTS (18) ▲	VULNERABILITIES (20)		
apt 1.11.1	1 critical	1 major	2 minor
closedssl 2.0.2	3 critical	3 major	4 minor
cron 0.1		1 major	
dash 4.0.12			1 minor
adduser 2.3.1			
aerospike-server-community 1.0			
base-files 0.0.1			
base-passwd-reallyyyyyyy-long...			

Security: Trusted image chaining



✓ Add image layer, sign then push image to private registry
Continue until complete for a trusted chain of image layers

Next steps

MICROSOFT & CONTAINERS
http://Microsoft.com/containers

DOCKER & MICROSOFT
http://docker.com/microsoft

CONTAINERS DOCUMENTATION
http://aka.ms/containers

CONTAINERS INFOGRAPHIC
https://info.microsoft.com/rs/157-GQE-382/images/Container%20infographic%201.4.17.pdf

IMAGE2DOCKER TOOL
Blog: https://blog.docker.com/2016/09/image2docker-prototyping-windows-vm-conversions/
Tool: https://github.com/docker/communitytools-image2docker-win

Microsoft

docker