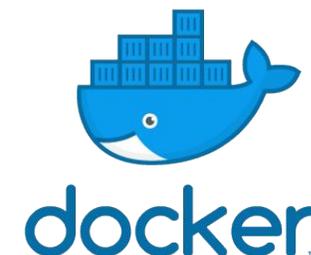
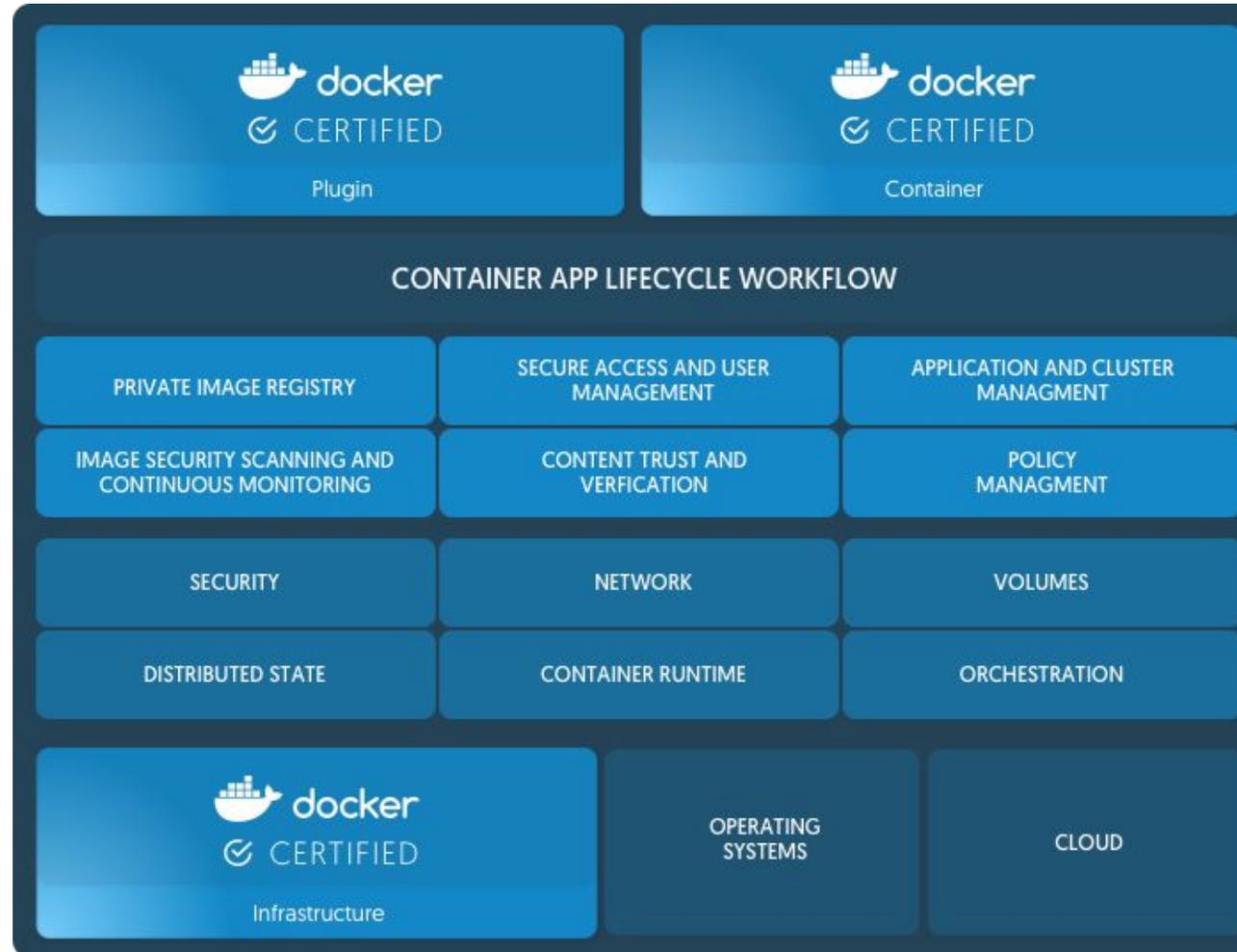


Kubernetes made easy with Docker EE

Patrick van der Bleek
Sr. Solutions Engineer NEMEA



Docker Enterprise Edition is More than Containers + Orchestration...



Kubernetes integration in Docker EE

What the community and our customers asked for:

- Provide choice of orchestrators
- Make Kubernetes easier to manage
- Docker Dev to Ops user experience with Kubernetes
- Docker EE advanced capabilities on Kubernetes
- Kubernetes management on multiple Linux distributions, multiple clouds and Windows

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OR



Kubernetes integration in Docker EE

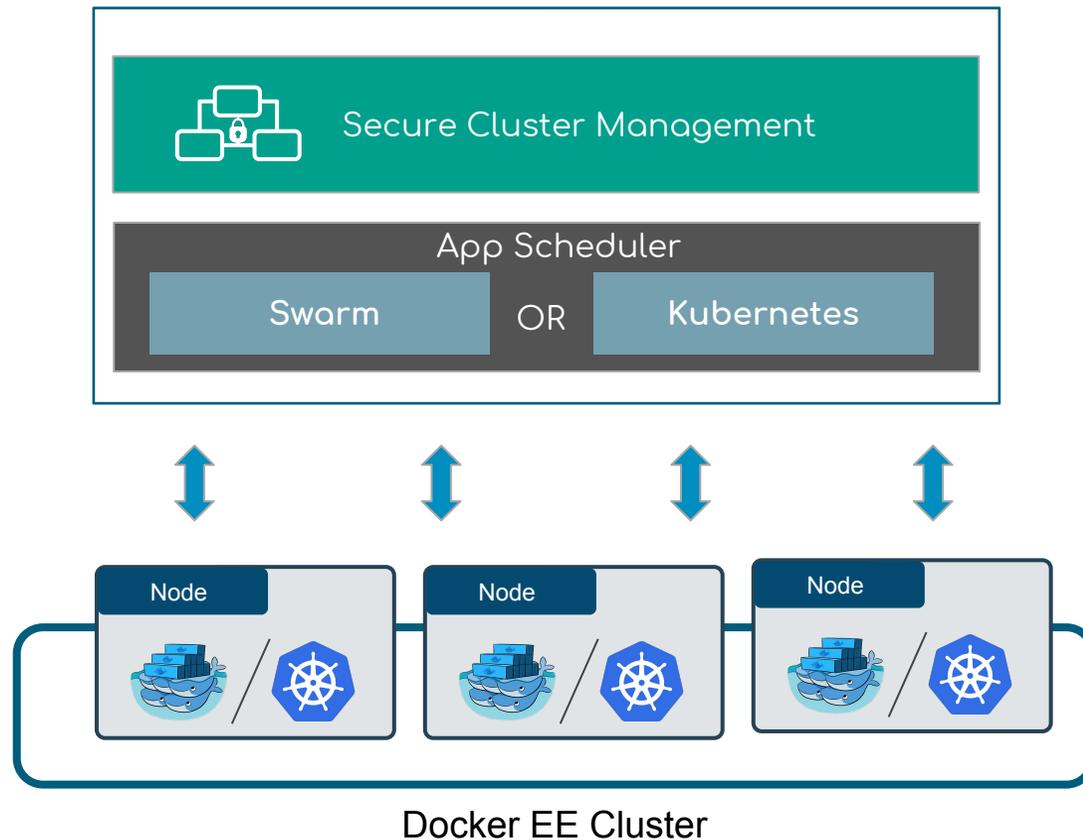
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CHOICE

Choice of Swarm and Kubernetes: Only Solution That Lets You Run Swarm Today, Kubernetes Tomorrow and Vice Versa

Docker EE Orchestration



Docker EE is the only platform that allows you to run both Swarm and Kubernetes in the same cluster:

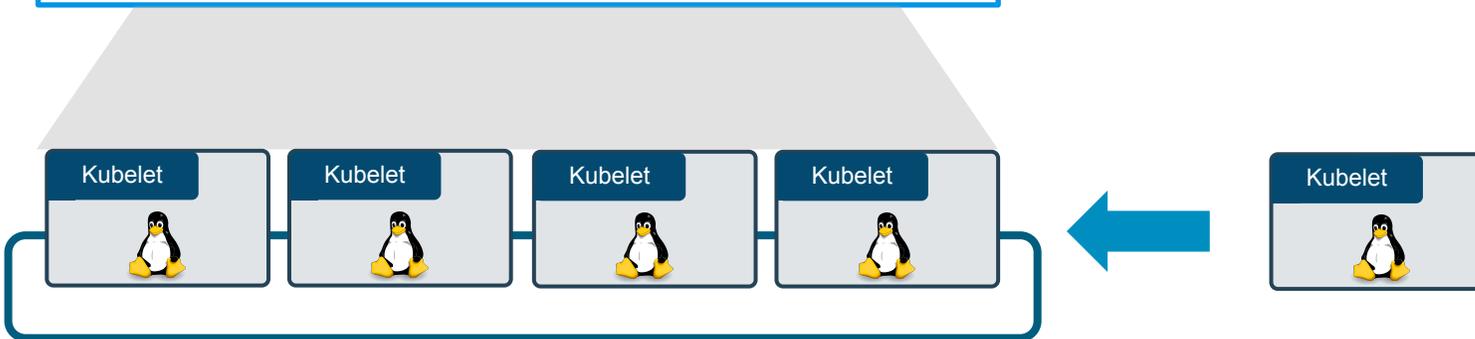
- Developers do not need to select orchestrators
- Freedom to change orchestrators as needs arise
- EE Manager Nodes are both Swarm and Kubernetes enabled
- Every worker node is both Kubernetes API- and Swarm API-ready

Simplified Workflows for Operators: Adding a New Kubernetes Node

```
docker swarm join [OPTIONS] HOST:PORT
```

Docker EE Management Console

Docker EE Control Plane and
Cluster Management

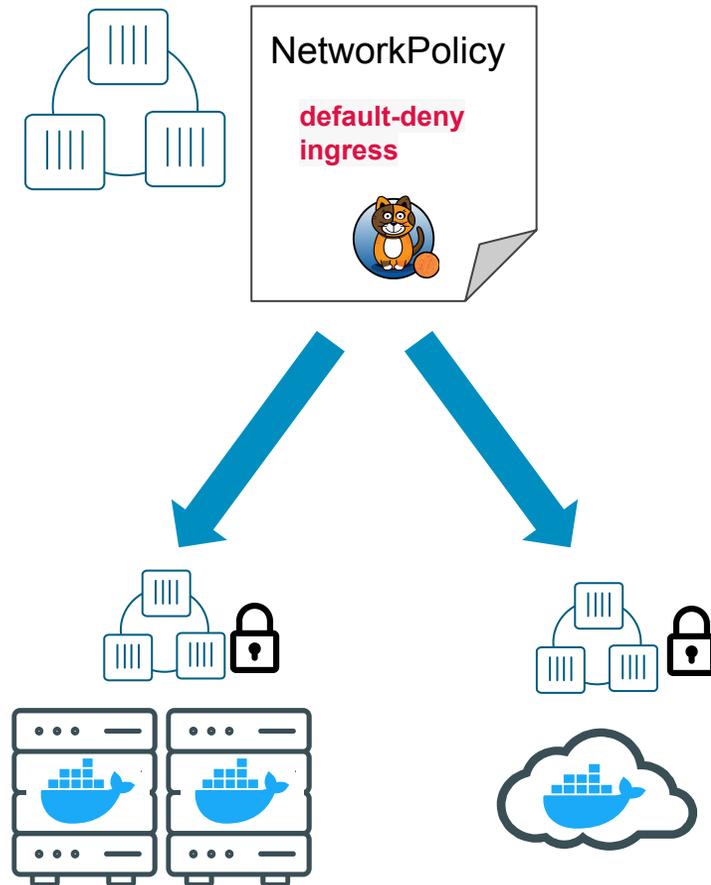


Swarm-mode cluster with Kubernetes-ready Linux nodes

KEY BENEFITS

- Single command to join new Kubernetes nodes into a secure cluster
- Automatically integrate new nodes into existing access controls and policies
- No need to install separate services; all nodes come pre-installed with necessary services

Secure Networking with Project Calico Built-in But Swappable



FEATURE / CAPABILITY

- **Pre-integrated with Project Calico:**
 - Highly scalable distributed networking model integrates well with various infrastructure platforms (inc. cloud and on-prem)
 - Integration with Kubernetes Network Policies
- **“Batteries included, but swappable”:** CNI plug-in is swappable for other solutions

KEY BENEFITS

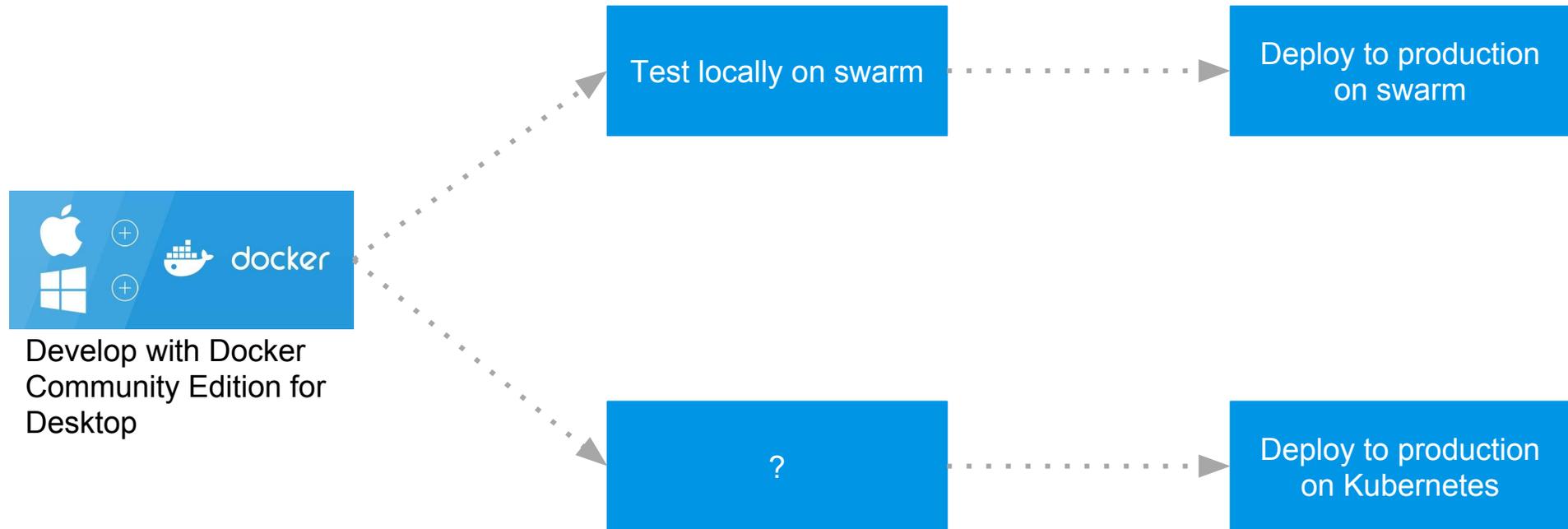
- Get a highly scalable networking solution out-of-the-box with the option to swap with your preferred solution
- Define networking policies once and apply them consistently across different infrastructure platforms

Kubernetes integration in Docker EE

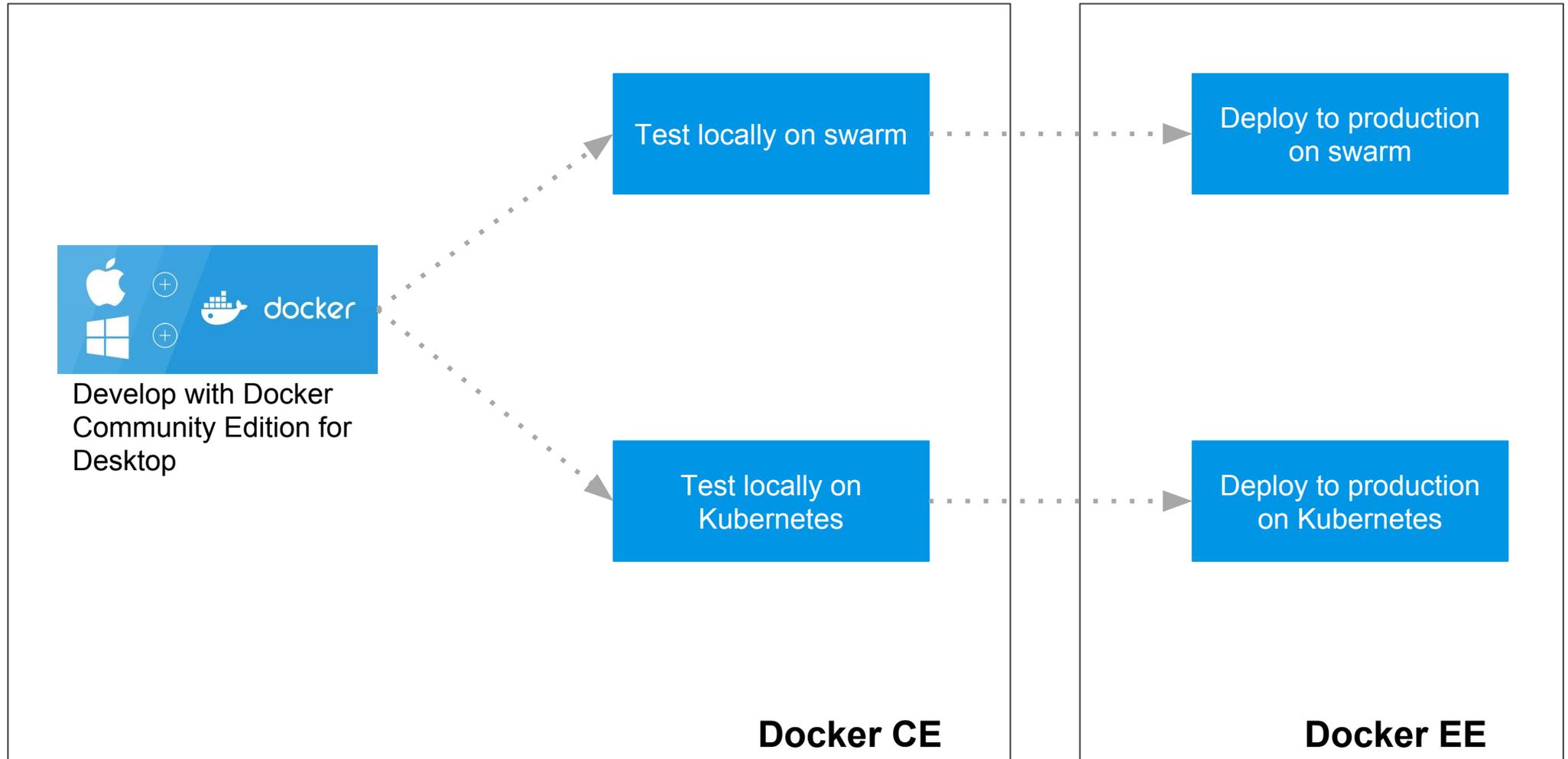
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Dev to Ops experience

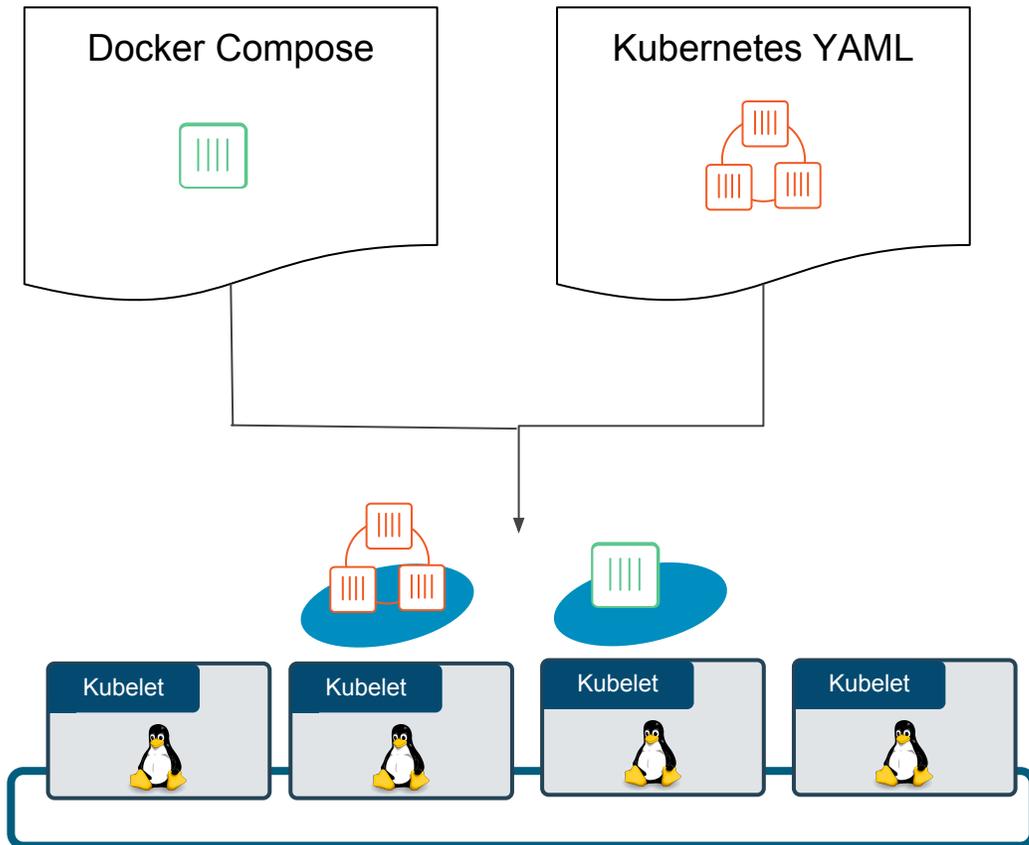


Dev to Ops experience



CHOICE

Deploy Applications with Either Compose or Kubernetes YAML



FEATURE / CAPABILITY

- Use existing Docker Compose YAML and map service definitions to Kubernetes' replication controller

KEY BENEFITS

- Simple Compose spec for developers, IT ops have multiple options for deployment
- Migrate existing Docker apps to Kubernetes at your own pace

CHOICE

Deploy Kubernetes Apps via UI or CLI

Create Kubernetes Object

Namespace

default

[Click to upload a .yaml file](#)

Object YAML

```
1 apiVersion: v1
2 kind: ReplicationController
3 metadata:
4   labels:
5     name: cassandra
6   name: cassandra
7 spec:
8   replicas: 1
9   selector:
10    name: cassandra
11  template:
12    metadata:
13      labels:
14        name: cassandra
15    spec:
16      containers:
```

- Docker EE uses standard Kube API and CLI
- Use UCP UI to upload yaml files for deploying Kube workloads
- Download client bundle to connect local client to UCP controller with user certs and run kubectl CLI commands (or Swarm CLI, or docker run, etc.)

```
C02QM0ERFVH6s-MacBook-Pro:ucp-bundle-admin viveksaraswat$ kubectl get nodes
NAME                                STATUS    ROLES    AGE    VERSION
cjr4887944p7vd31bhldqbqau          Ready    <none>   25d    v1.7.6
rnq4s71h3bjynllvyxcxky28s         Ready    master   25d    v1.7.6
z5nu8yblru86lwjk94thhyg2a         Ready    <none>   25d    v1.7.6
C02QM0ERFVH6s-MacBook-Pro:ucp-bundle-admin viveksaraswat$ kubectl get pods
NAME          READY    STATUS    RESTARTS  AGE
cassandra-2kv16  1/1     Running   0          3m
```

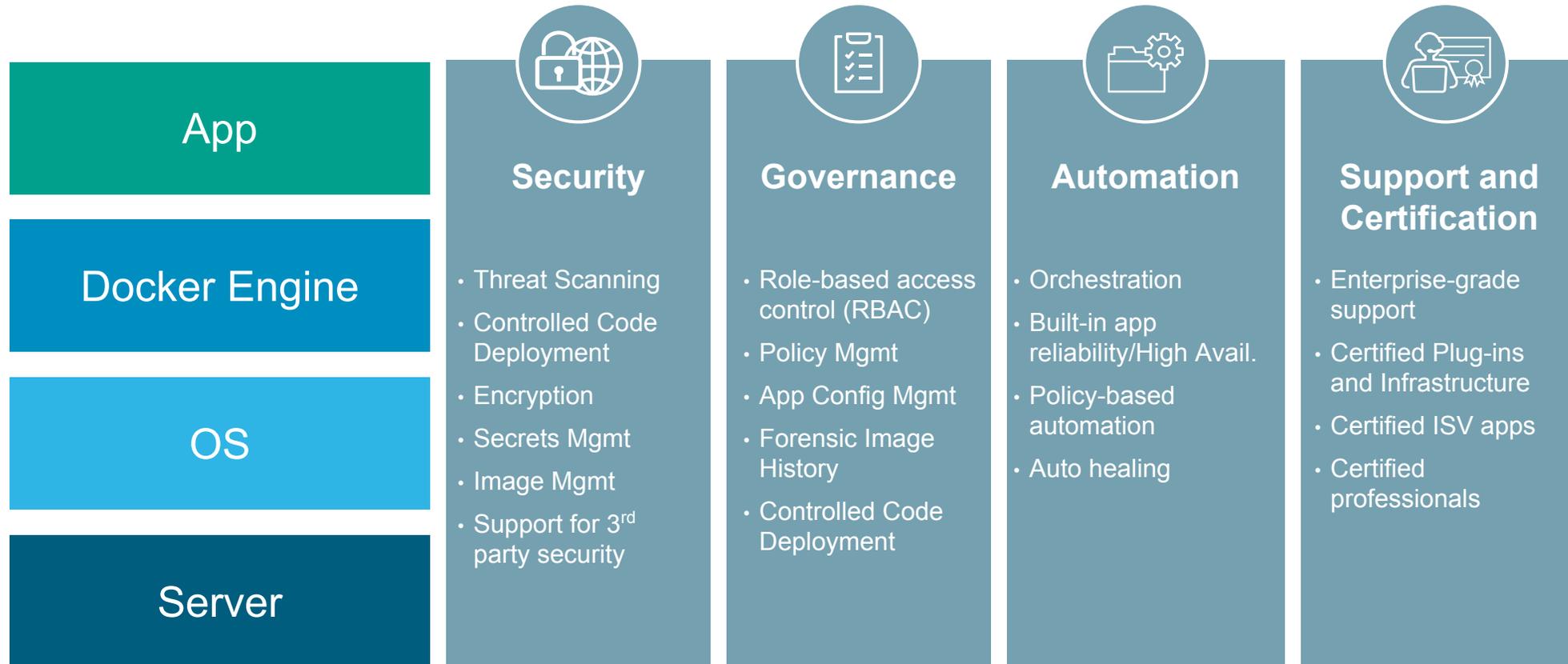


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Docker EE Advanced Capabilities



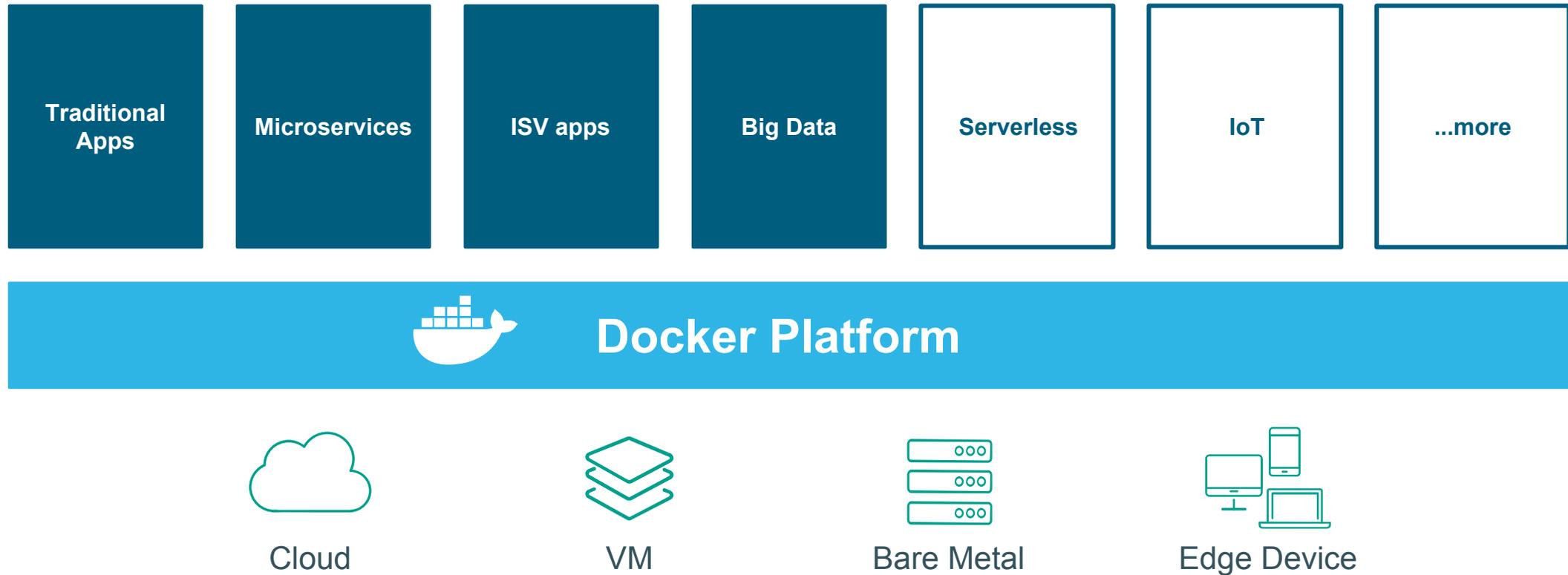
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Build, Ship & Run. Any app, anywhere...

Enable a uniform management and security model for any app across an infrastructure



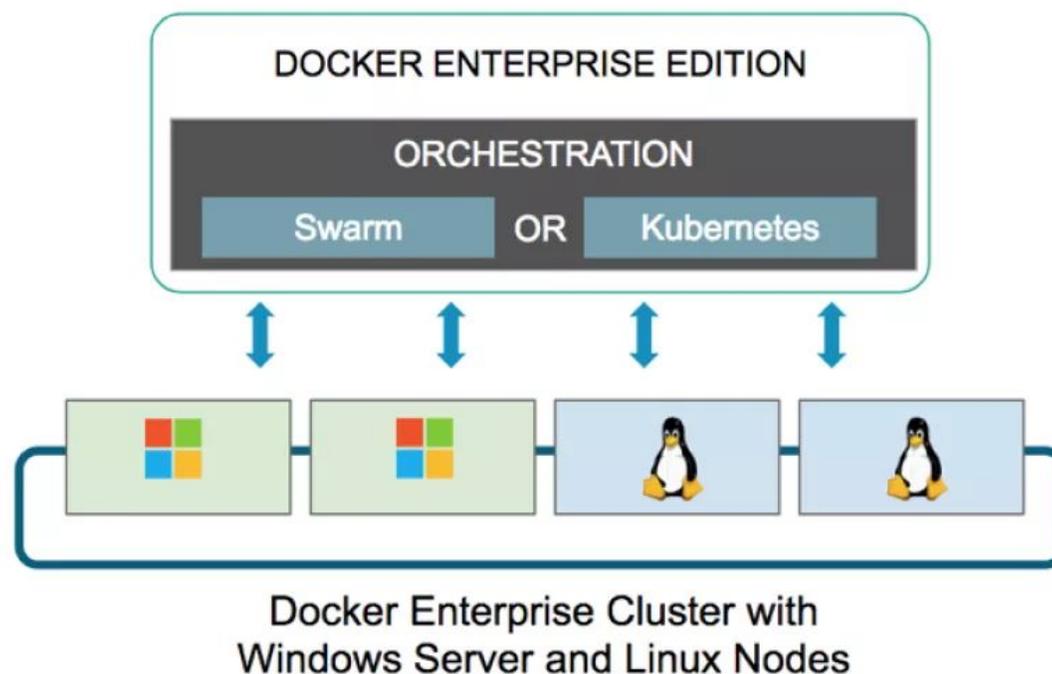
What's next?



Kubernetes on Windows



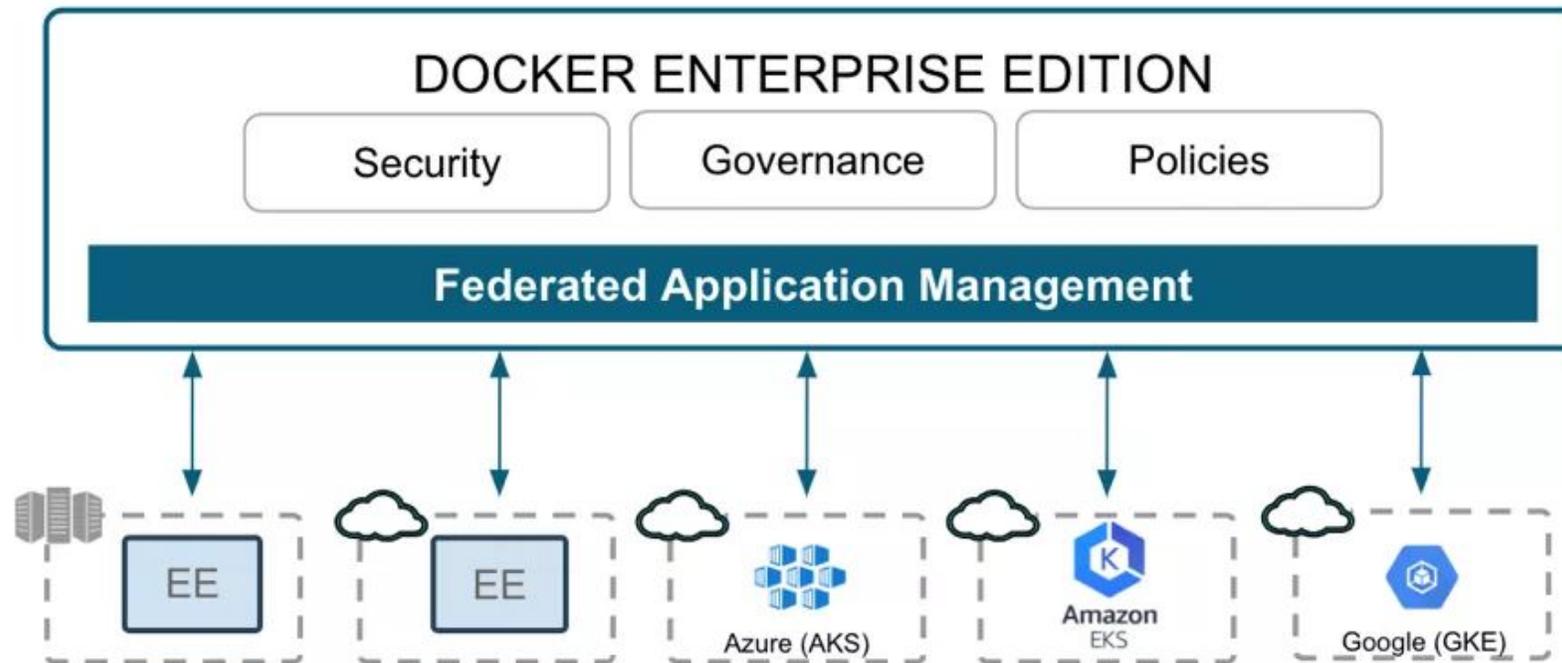
Docker EE will extend Kubernetes support to Windows Server

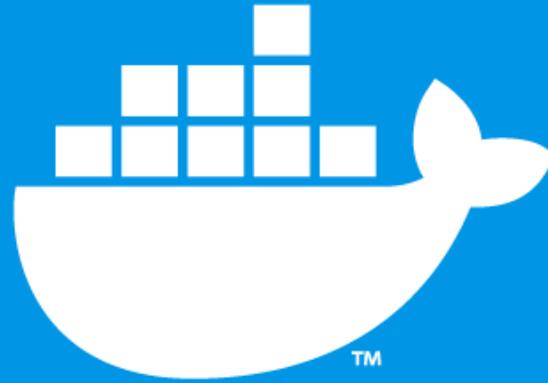


Multi-Cloud



Docker EE Federated Application Management





THANK YOU :)