DATERA

Data orchestration for Kubernetes
Stateful tier-1 primary workloads

FLASH MEMORY SUMMIT

Marc Fleischmann | August 8, 2019

Why containers and K8s?

Make applications portable and scalable

Standardize distribution model (DevOps)

Automatically manage applications and resources

Enterprise K8s ⇨ Long-running apps ⇨ Stateful K8s

Longer app life means dynamic requirements on underlying resources

Infrastructure flux challenges resource uniformity across app lifecycle

This is increasingly recognized as a big problem

K8s automates resource management

One size fits none!
Resources are not equal, and won't evolve equally

So K8s needs to be aware of underlying infrastructure
⇨ Dependencies + lock-in

⇨ Need a resource provider that can keep promises ("SLOs") across lifecycle

Datera – Tier-1 Primary Storage Provider

Composability + Simplicity

App-driven live composability

Full app+data lifecycle automation

Continuous tech adoption –
Driven by policy + telemetry

+

Enterprise Performance

Predictable tier-1 primary performance

Continuous availability, 24x7 lights-out

Full enterprise storage features

Datera is built from ground up to let apps drive their data requirements

Policy/template driven

Consistent contracts for dynamically scaling apps (pods)

Constantly brokering change

app consumers vs. resource providers

Extremely resilient, auto-scaling, self-balancing, zero-touch
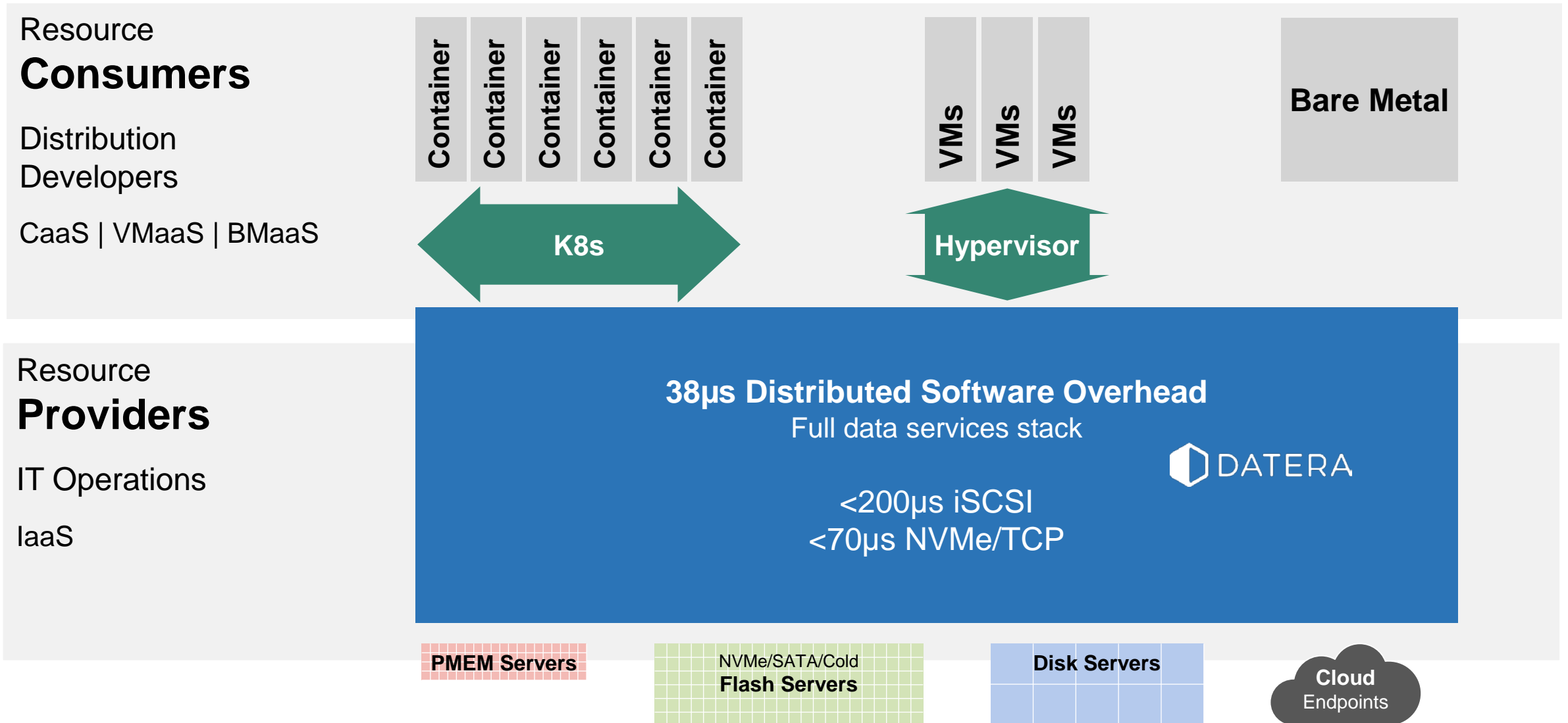
Datera lets K8s keep its promises

Live data mobility
⇨ **Lifecycle management + Infrastructure flux immunization**

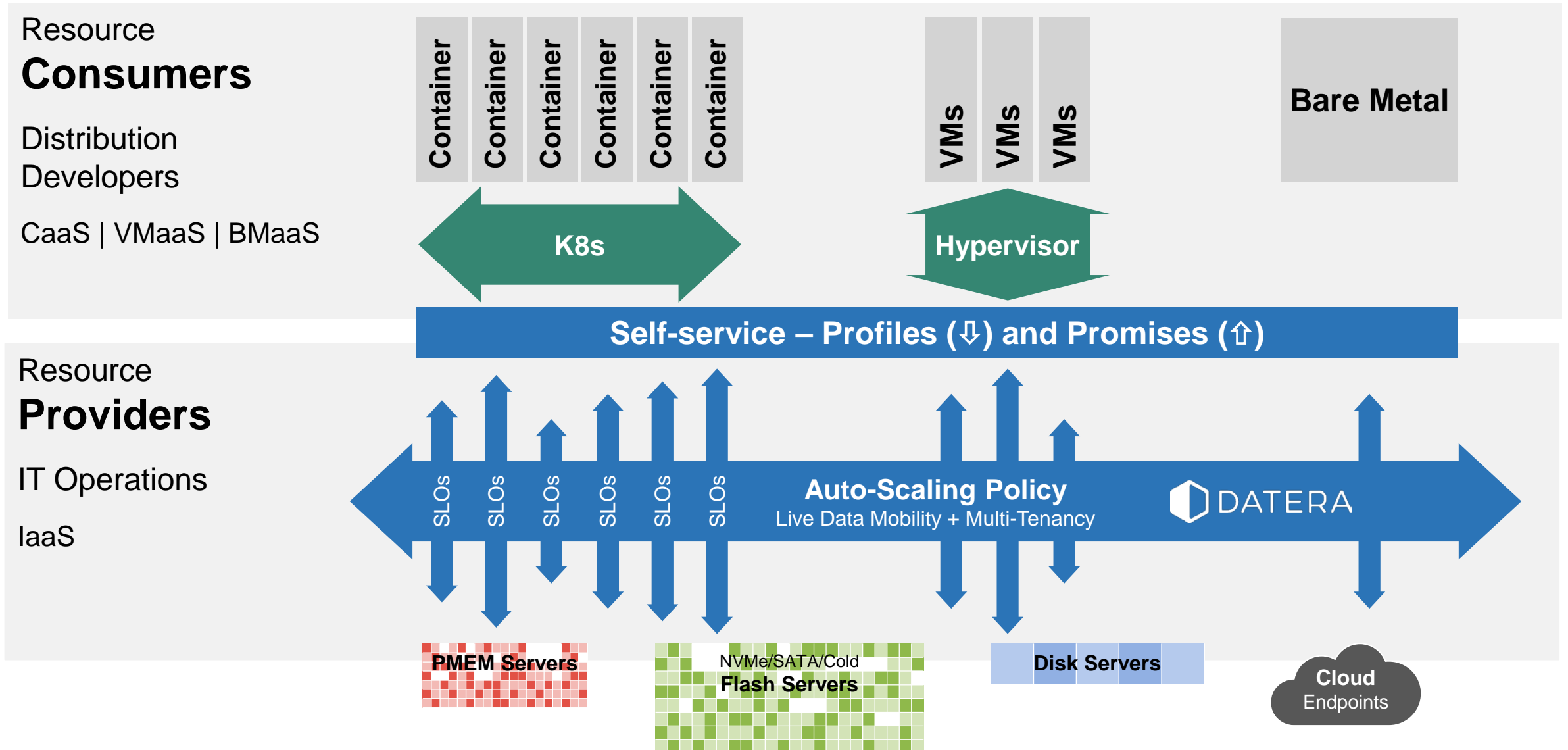K8s namespaces drive Datera multi-tenancy
⇨ **App isolation and QoS**

Deliver data infrastructure aaS

Enterprise Performance

Resource
Consumers

Distribution
Developers

CaaS | VMaaS | BMaaS

Container | Container | Container | Container | Container | Container

VMs | VMs | VMs

Bare Metal

K8s

Hypervisor

Resource
Providers

IT Operations

IaaS

38µs Distributed Software Overhead
Full data services stack

◇ DATERA

<200µs iSCSI
<70µs NVMe/TCP

PMEM Servers

NVMe/SATA/Cold
Flash Servers

Disk Servers

Cloud
Endpoints

Composability / Flexibility

Game-Changing Operational Simplicity

	Traditional Model	**DATERA + kubernetes**
Planning	3–5 year system planning	Just-in-time service definition
Procurement	Point-in-time technology risk	Continuous technology adoption
Operations	High-touch manual config	Application-driven composability
Scaling	Rigid silos with trapped data	Data infrastructure continuum
Service	Emergency incident responses	Continuous availability
Obsolescence	3–5 year tech forklift treadmill	"Eternal" clusters on rolling hardware

■ Customer manages   ■ DATERA automates

Datera fulfills the promise of stateful K8s

By enabling developers to build rich solutions

Without worrying about the underlying infrastructure!

DATERA

Thank you!

For more information, visit **www.datera.io**