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Agenda

- Background
- Motivation
- OpenShift and Ansible
- z/OS Cloud Broker and demo
- z/TPF Automation
- **Self service provisioning of unit test environment**
- **Enterprise wide move to production process management**
- **Enterprise wide system monitoring**



Disclaimer

Any reference to future plans are for planning purposes only. IBM reserves the right to change those plans at its discretion. Any reliance on such a disclosure is solely at your own risk. IBM makes no commitment to provide additional information in the future.

Background

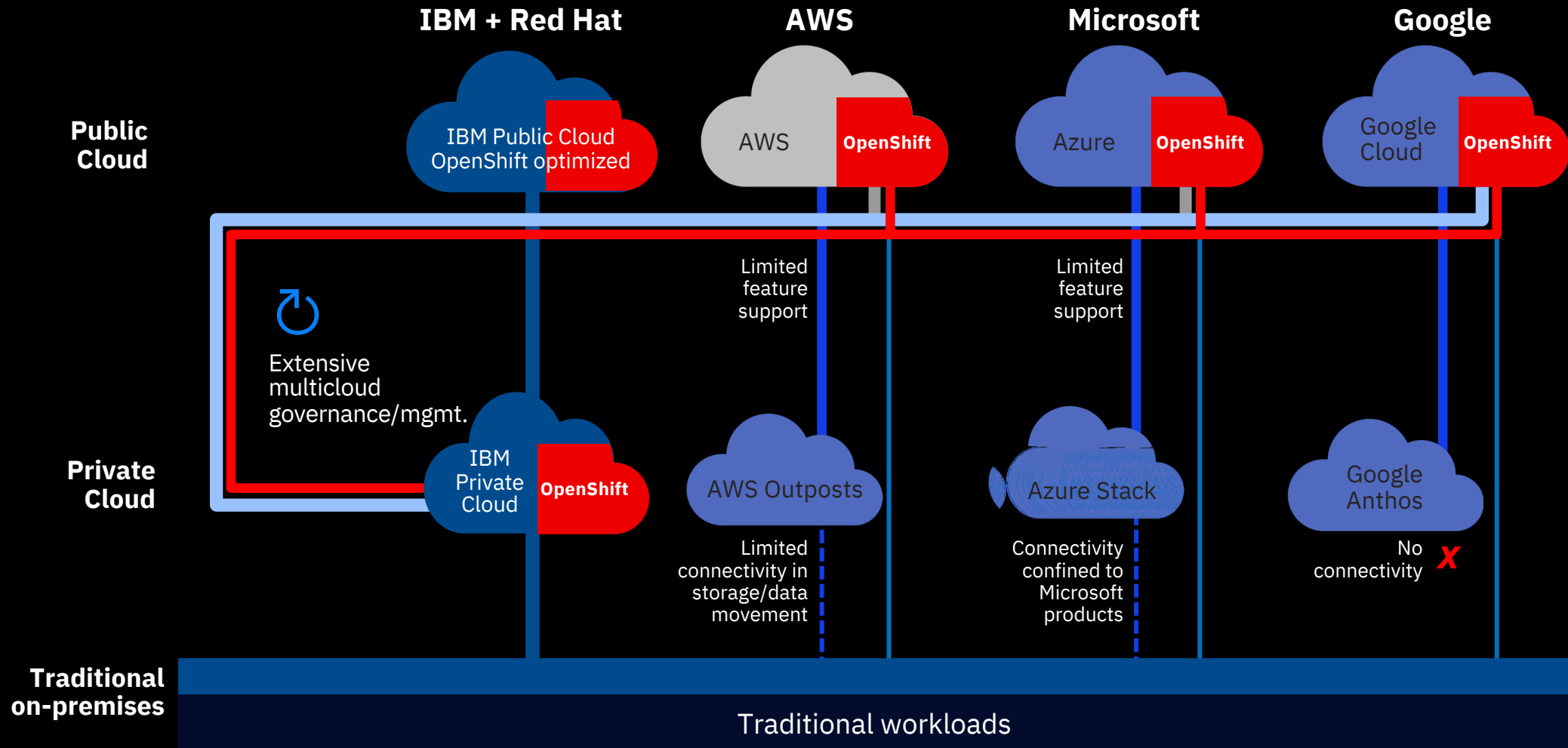
Kavita Sehgal:

IBM Integrated Supply Chain to IBM CHQ Assignment to work with IBM Corporate Technology Team
Offering Manager, IBM Cloud Private on z → OpenShift and Cloud Native on Linux on Z
Program Director, Hybrid Cloud on IBM Z & LinuxONE Lead

Elton de Souza:

IBM Java on z (Garbage Collector, Virtual Machine and just-in-time compiler) →
Chief Architect, z Ecosystem Innovation Lab →
Chief Architect, ZaaS innovation Lab →
Chief Architect, Cloud Native Client Success on z

IBM Hybrid multicloud Strategy



Hybrid Multicloud with IBM Z

THE VISION

For IBM Z to be a widely available and vibrant choice of platform in your hybrid multi-cloud world

THE MISSION

To provide a cloud native developer experience for IBM Z that is consistent and familiar to all developers

THE Motivation

Optimize investment and create repeatable, streamlined processes leveraging hybrid cloud on IBM Z

PaaS cloud native experience via Red Hat OpenShift

Enterprise DevOps

Shift-left operations

Containerization



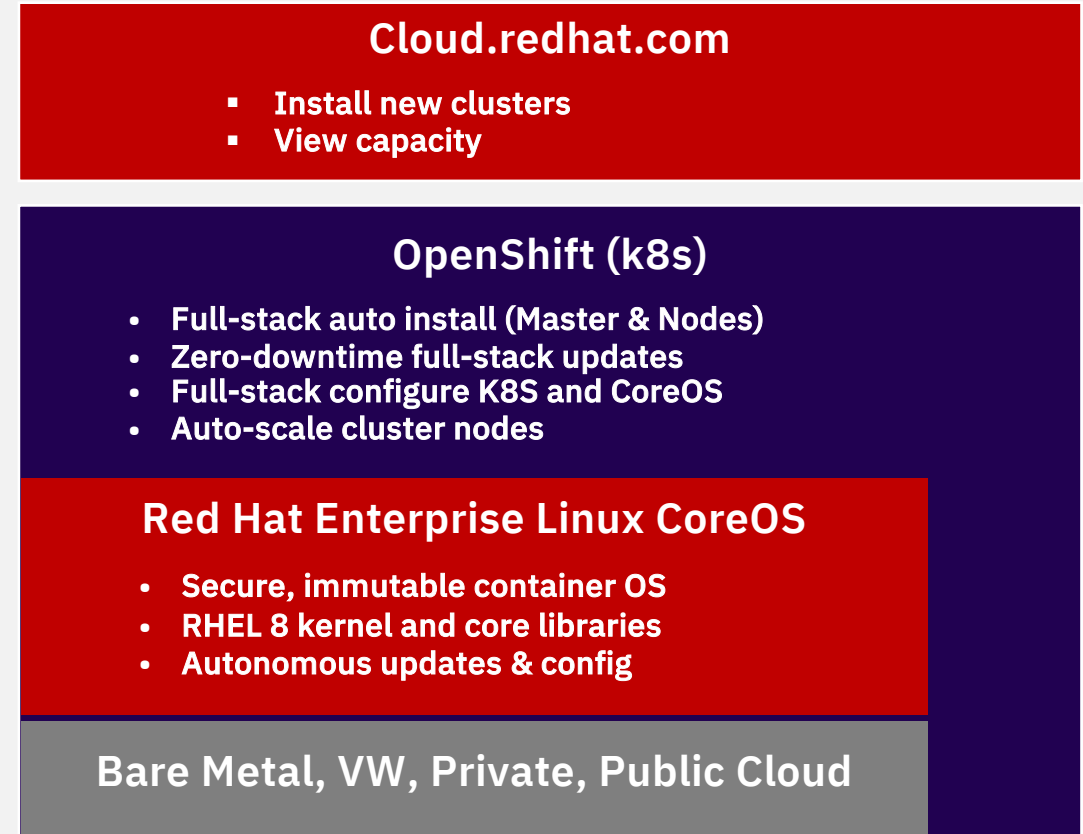
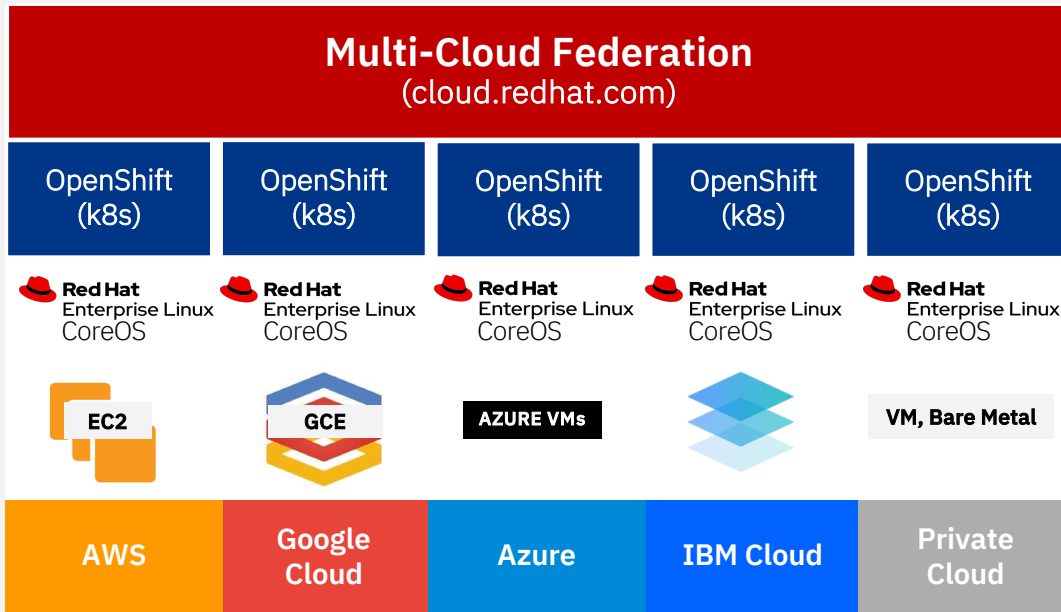
Evolution of containers -> k8s -> OpenShift

- Containers have been around for 20+ years the Linux/BSD kernel
- Docker popularized containers in 2013
- Google deploys 2B containers per week across its work wide data centers
- Google used Borg (2003) -> Omega (2013) -> introduced Kubernetes (2014)
- OpenShift (2011) -> OpenShift + Docker (2013) -> OpenShift v3 +k8s (2014) -> OCP v4 (2019)
- OpenShift on IBM Z (2020)

OpenShift 4.5
now available
on IBM Z

pen hif

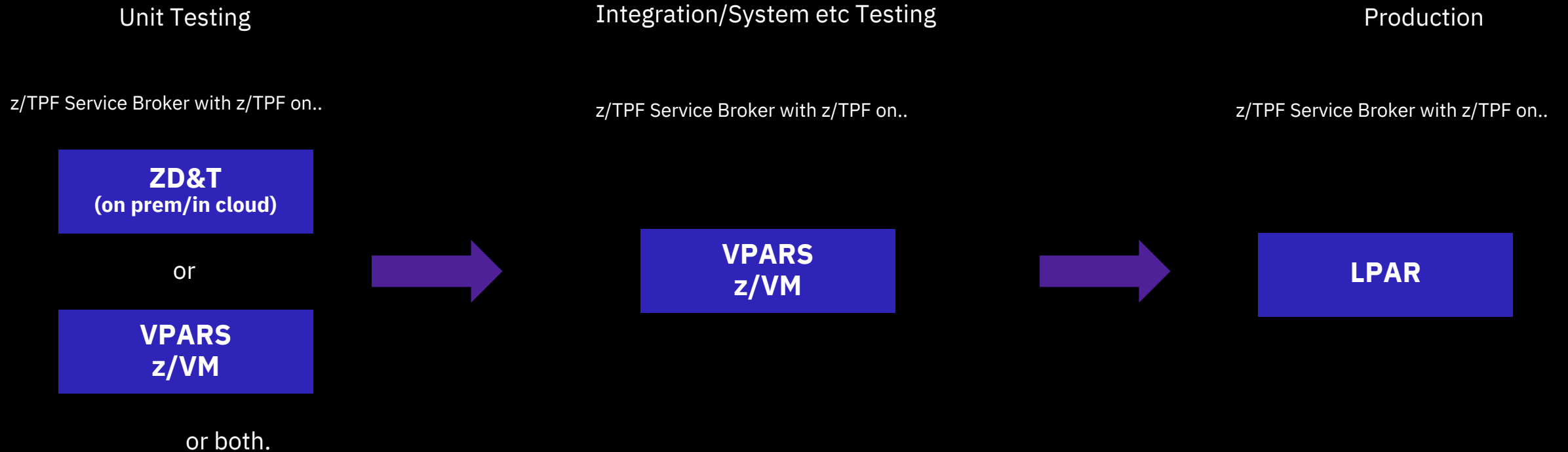
Multi-Cluster, Full Stack, Autonomous, Secure



Red Hat is supporting OpenShift 4.5 on Z



Our vision for enterprise wide move to production



What's changing:

- On-demand test systems using OpenShift + ZD&T
- Automation of ZD&T/VPARS via cloud native tooling

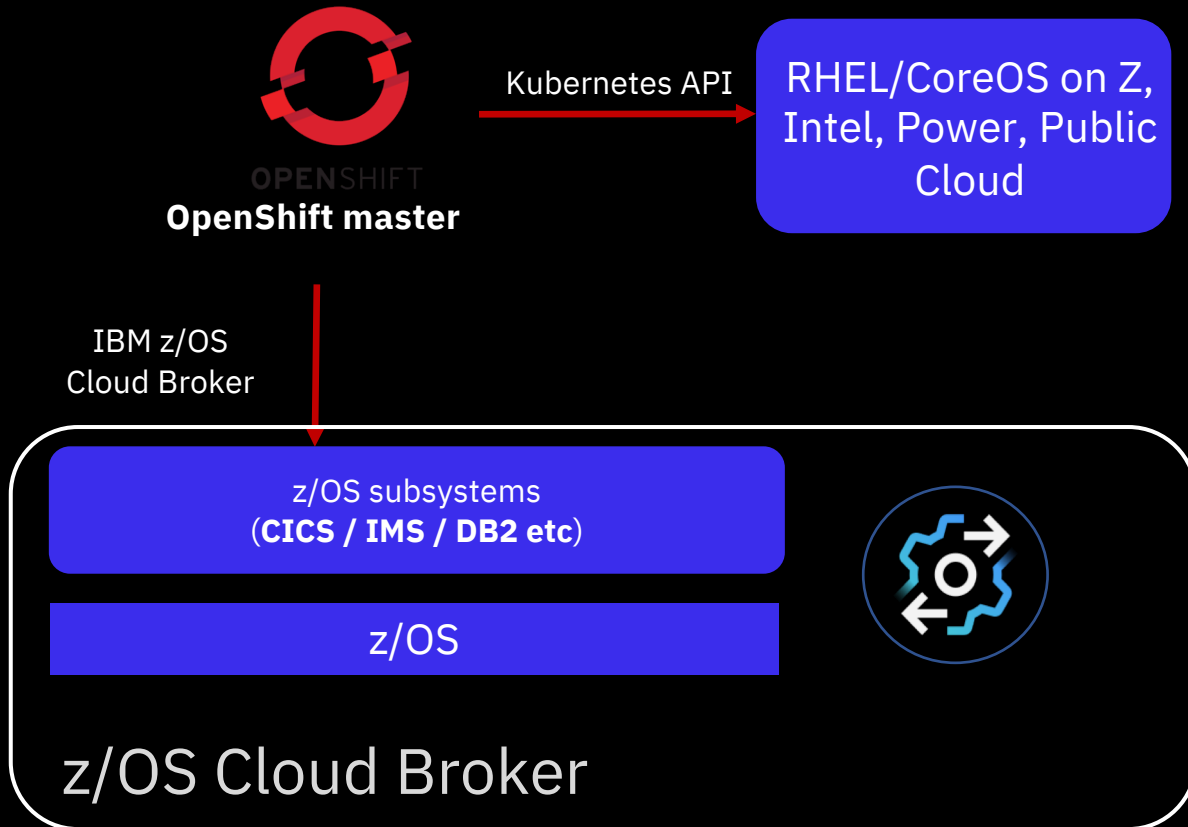
Ansible

- Part of OpenShift
- Configuration management tool
- Agentless → SSH + Python
- Customize using “playbooks”
- De facto standard for software deployment automation on Linux
- Re-use z/TPF REST APIs for automation to load applications



z/OS Cloud Broker

Self Service Catalog



z/OS Cloud Broker provides a self-service catalog for developers and sysprogs based on OpenShift

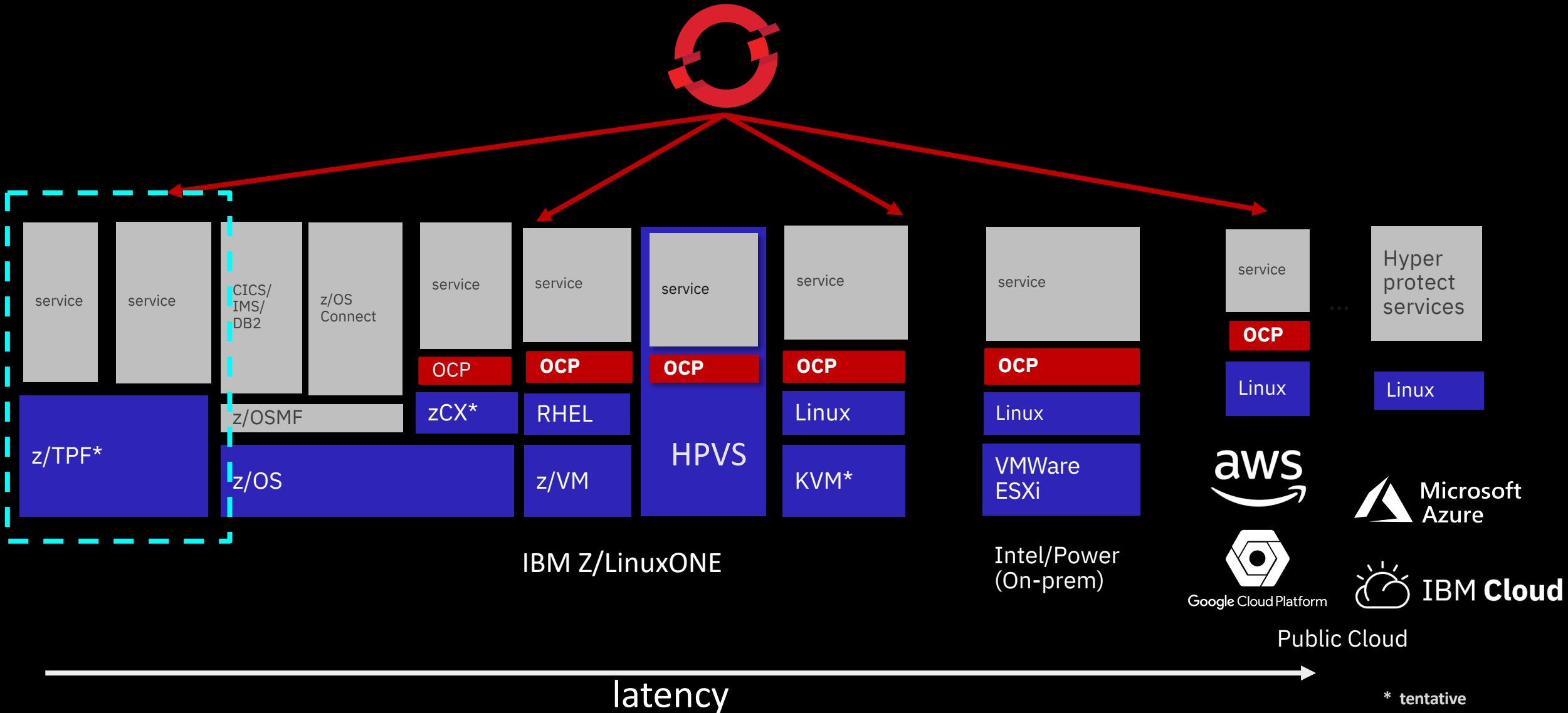
DevOps Providing access to IBM Z resources to all flavors of application developers leveraging open standards and tools. i.e. common cloud marketplace.

Service Provider Centralization and automation of IBM Z operations to provide Z resources to agencies or clients in a self-service model.

Multi-Cloud Service Integration Providing a unified experience for IBM Z cloud services across private cloud and public cloud.

Hybrid Multicloud with OpenShift and Cloud Pak for MCM

Open Shift master + Cloud Pak for Multicloud Management



Demo:

<https://www.youtube.com/watch?v=8uZZz8686Kg>

Self service provisioning of a unit test environment

Vision : z/TPF environment for dev/test

ZD&T based

Pros:

- Flexibility (runs on commodity h/w)

Cons:

- Performance
- Scale

VPARS based

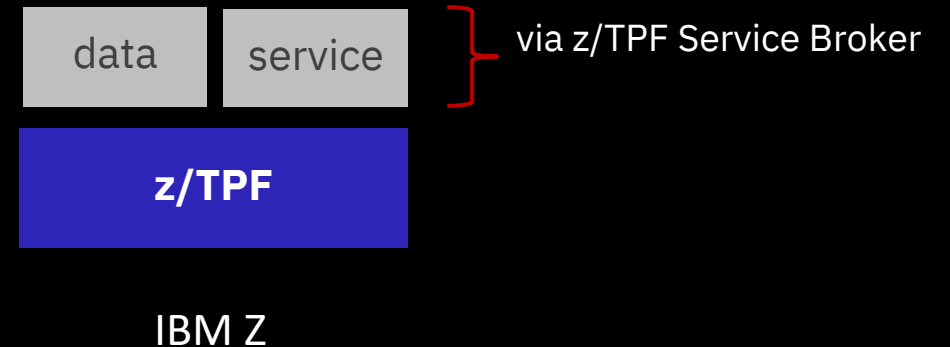
Pros:

- Performance
- Clustered Testing

Cons:

- Requires native Z H/W

Use case “As a developer, how can I allocate and bring up a test system and build, load, and run automated tests for my project”



Vision : z/TPF Automation

- Deploys applications over existing environment (C++/Java/HLASM)
- Allows automation of common tasks/services
- Provisioning/de-provisioning business logic and data schema
- Integrates with security model
- Open Standards Compliant (Open Service Broker Specification)
- REST/JSON communication model
- Implementation:
 - z/TPF specific Ansible Playbook
 - Kubernetes Operator for controlling the playbook

e.g. bring z/TPF to a specific state. Load and activate Aug 14th loadsets.



Kubernetes Operator

REST API



z/TPF

*This is only a visual representation

Enterprise wide system monitoring

Vision : Cloud Native Monitoring

Use case “As a Sys Prog, how do I integrate management of my z/TPF system into my cloud management system.”

Use case “As a coverage programmer/help desk, how do I get end to end latency metrics”

- Logging → ELK/Splunk
- Monitoring → Grafana
- Metering → integrate with OCP
- Push based mechanism

splunk® >



elasticsearch



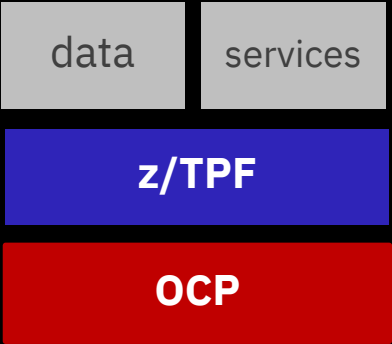
OpenShift Metering

Vision : z/TPF Unit Testing in the public cloud

z/TPF unit testing in the public cloud
via ZD&T on OpenShift



Option to run on Hyper Protect Services* for sensitive workloads
Out of box compliance with PCI-DSS, SOC2, HIPAA etc.



What's so special with Hyper Protect Services?



Google Cloud Platform



IBM Cloud
Hyper Protect Services

“We **will not** access your data”

“We **cannot** access your data”

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IBM And Bank Of America Are Developing A Financial Services-Ready Public Cloud



Patrick Moorhead Contributor

Cloud

I write about disruptive companies, technologies and usage models.



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Launch

IBM, Bank of America team up to launch financial services-specific cloud

READ



Imani Moise

3 MIN

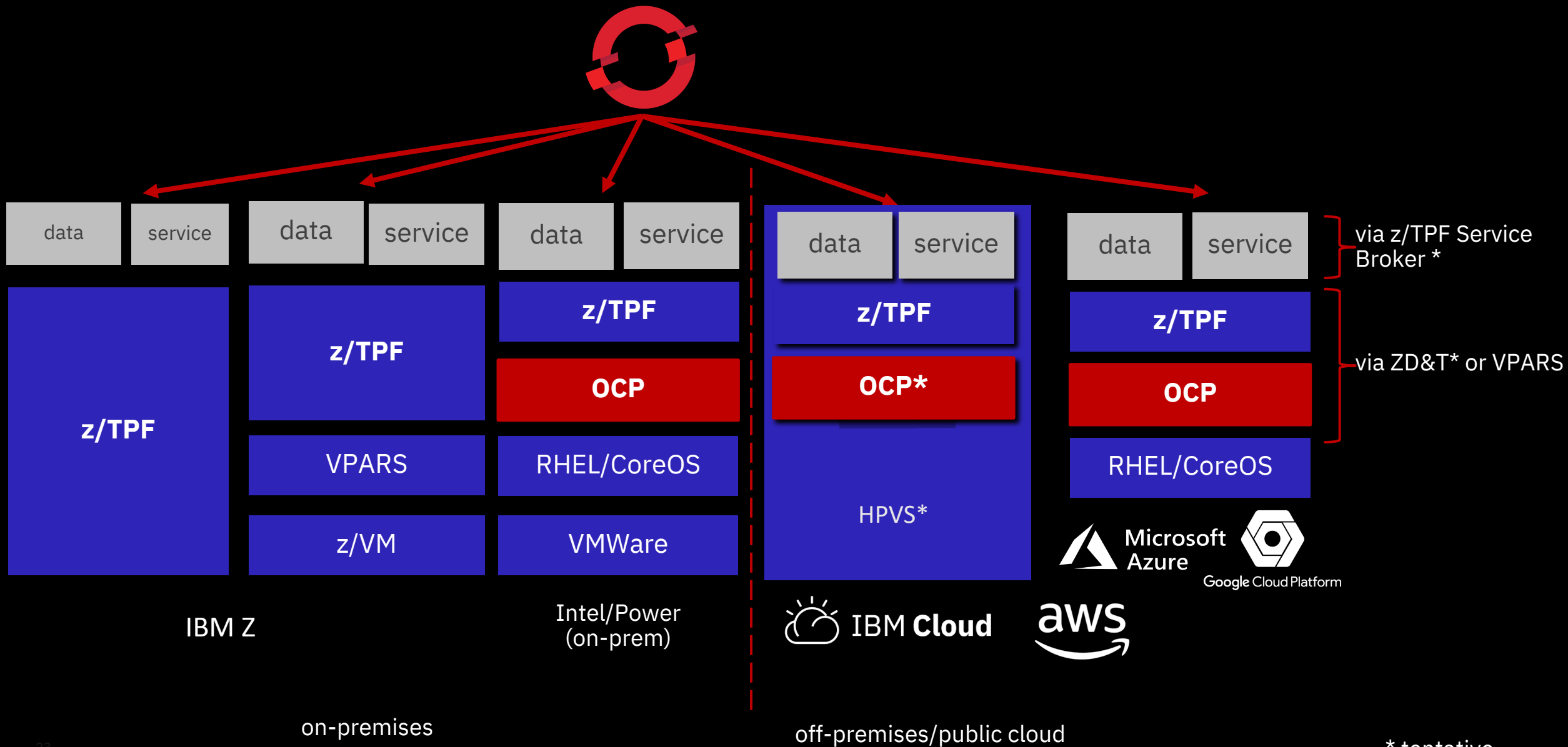
Wednesday that it
with Bank of

(Reuters) - International Business Machines Corp (IBM.N) said on Wednesday that it has built financial services-specific cloud technology in collaboration with Bank of America.

Putting it all together..

Vision : z/TPF “Everywhere”

Open Shift +
Cloud Pak for Multi-Cloud Management



Call for Sponsor Users

- Will be looking for Sponsor Users to assist in detailing use cases around the developer experience as well as operations for z/TPF
- For more information or to get involved as a sponsor user, contact
 - Colette Manoni – cmast@us.ibm.com
 - Danielle Tavella – Danielle.Tavella@ibm.com

Thank You

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