Safe harbor statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.
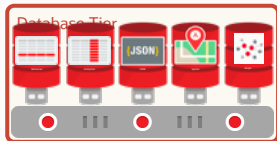
Introduction of WebLogic on OCI

The WebLogic Product Roadmap

- **Embrace Cloud Native**
  - Key trend in Application Development
  - Modernize your existing applications without code changes
  - Large toolset to embrace modern development automation (CI/CD)
  - Enable Modern Monitoring and Logging tooling

WebLogic, Coherence 14.1.1
Java EE 8, Jakarta EE 8
Java SE 8, Java SE 11
cri-o docker

- **Ongoing evolution in 14.1.x**
  - WebLogic Java EE 8 and Jakarta EE 8 Support
  - Coherence, Tracing, GraalVM polyglot
  - Java SE 8 and Java SE 11 Support
  - Generic, slim and quick installers

helidon.io   Coherence
Database Tier

- **Micro Service Ready**
  - Easy adoption of Java Microservices with Helidon
  - Hybrid applications: WebLogic + Helidon combined
  - Coherence: interaction between microservices
- **Converged Database**
  - Relational, Columnar, JSON, Spatial, …

- **Extensive (long-term) Support Roadmap**
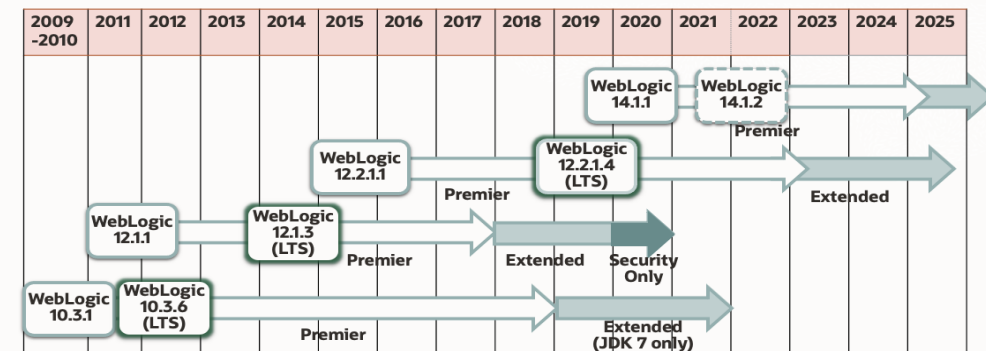
Oracle WebLogic Server for Oracle Cloud Infrastructure

Deployment Models:

- WLS on Virtual Machines (Classic)
- WLS on Kubernetes (Cloud Native)

Commercial Models:

- Bring Your Own License (BYOL)
- Universal Credit (UC)

Supports

- WebLogic Server **11g** and **12c**
- Supports JRF and Non-JRF domains
- Supports ATP DB and OCI DB as infra DB

Available on

ORACLE
Cloud Marketplace

Marketplace

BYOL	UC	BYOL	UC
WL for OCI (managed) VM Edition		WL for OCI (managed) K8S Edition	

License

WL

On-premise

Oracle OCI
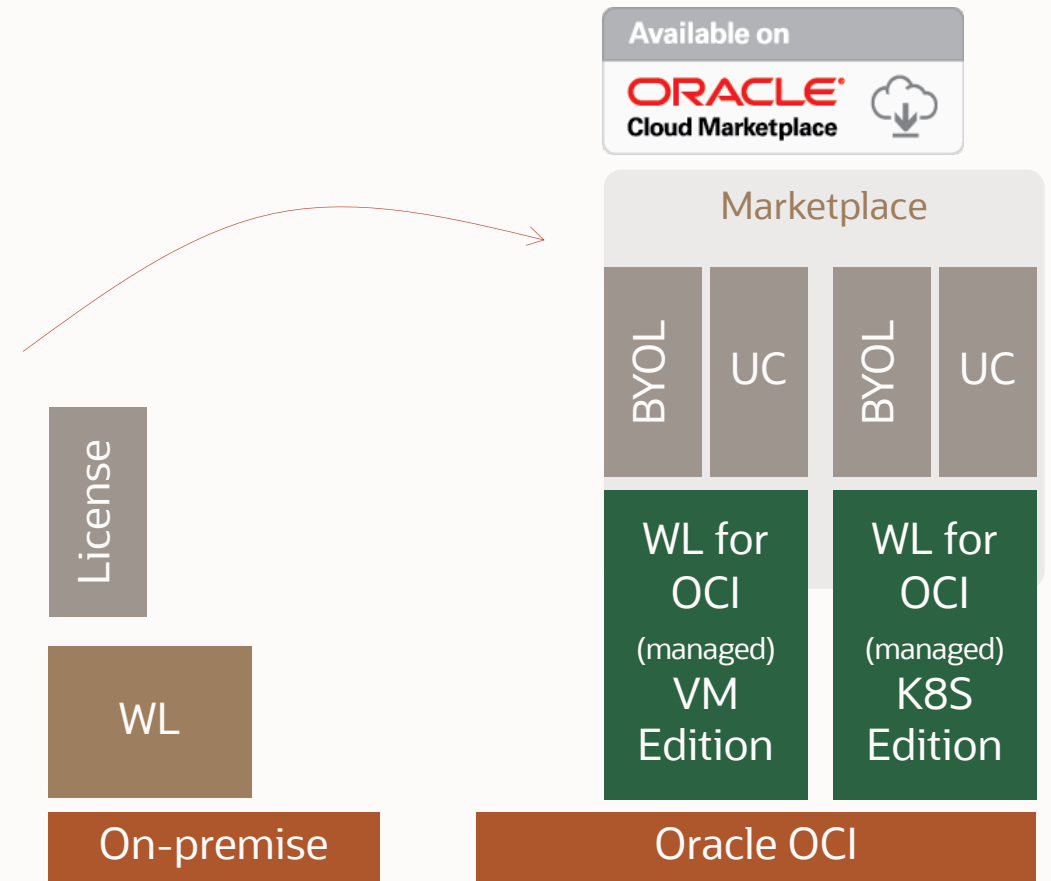
WebLogic Use-Cases

Lift & Shift

- Move on-premise Applications to OCI
- DB and WLS platform services
- Use the WLS on OCI VM flavor
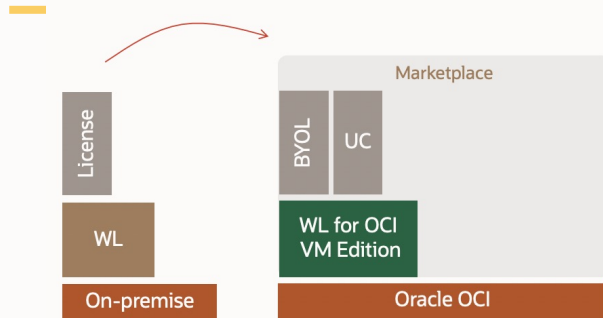- Same architecture as on-premise
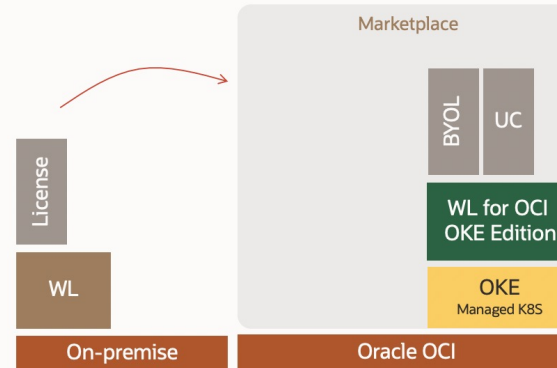
Modernize with Containers

- Containerize Application Landscape
- Use DB as a PaaS service
- Run WLS for OKE flavor
- Incorporate modern DevOps
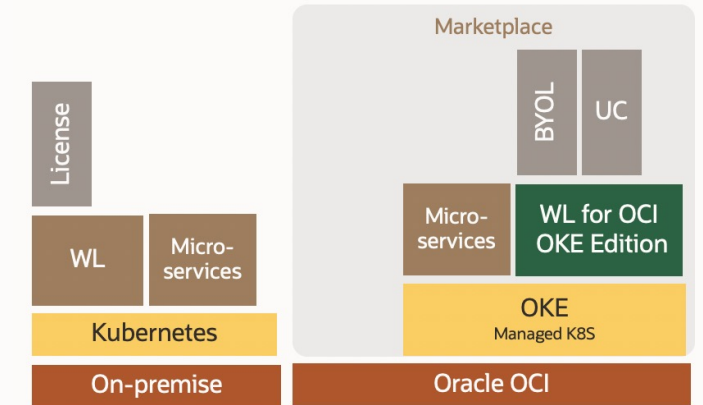
Hybrid Architectures

- Combine on-premise and Cloud
- Combine classic Java EE and Microservices
- Test & Dev / DR topologies

Running WebLogic Securely

Major Points of Vulnerability

500,000,000 records
EU GDPR fine $123 million

MARRIOTT
BONVOY™

Poor Access Control
Privilege escalation

Unencrypted data

Misconfigurations

Access Misconfiguration for Customer Support Database
MSRC / By MSRC Team / January 22, 2020 / Misconfiguration, Privacy

Weak cloud security posture

info security
STRATEGY | INSIGHT | TECHNOLOGY
6 FEB 2020 NEWS
90% of UK Data Breaches Due to Human Error in 2019

Human error

Vulnerable web applications

Unpatched systems

EQUIFAX

Malicious insider abuse

Identity and access management

Data security

Users & devices

YOUR DATA

Apps

Infrastructure

Automated response and remediation

Application security and resilience

Visibility and monitoring

Shared Responsibility Model

On-Premises	IaaS	PaaS	SaaS
Identity | Security	Identity | Security	Identity | Security	Identity | Security
GRC | Configurations	GRC | Configurations	GRC | Configurations	GRC | Configurations
Data	Data	Data	Data
Application	Application	Application	Application
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
Database	Database	Database	Database
OS	OS	OS	OS
Virtualization	Virtualization	Virtualization	Virtualization
Server	Server	Server	Server
Storage	Storage	Storage	Storage
Network	Network	Network	Network
Datacenter	Datacenter	Datacenter	Datacenter
Physical	Physical	Physical	Physical

Responsibility

Customer	(gray)
Shared	(orange)
Cloud Provider	(green)

1. How is Oracle approaching security in OCI?

Always-on, Architected in, Automated

VM/Guest OS
Container (Optional) Hypervisor
Host OS/Kernel
Isolated Network Virtualization

Prevents Lateral Movement

Hardware-Based Root of Trust
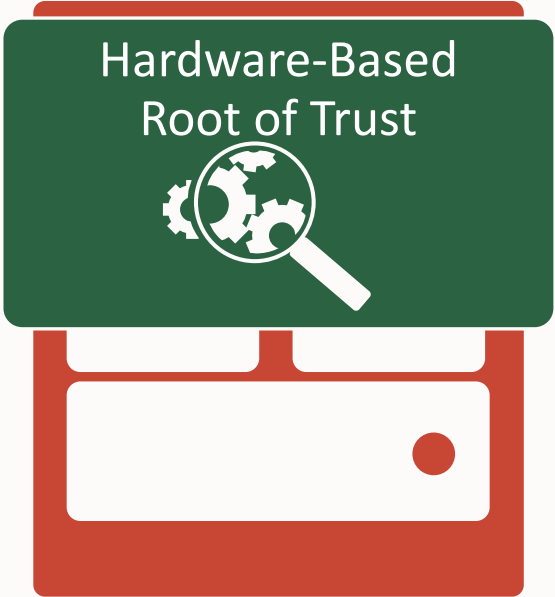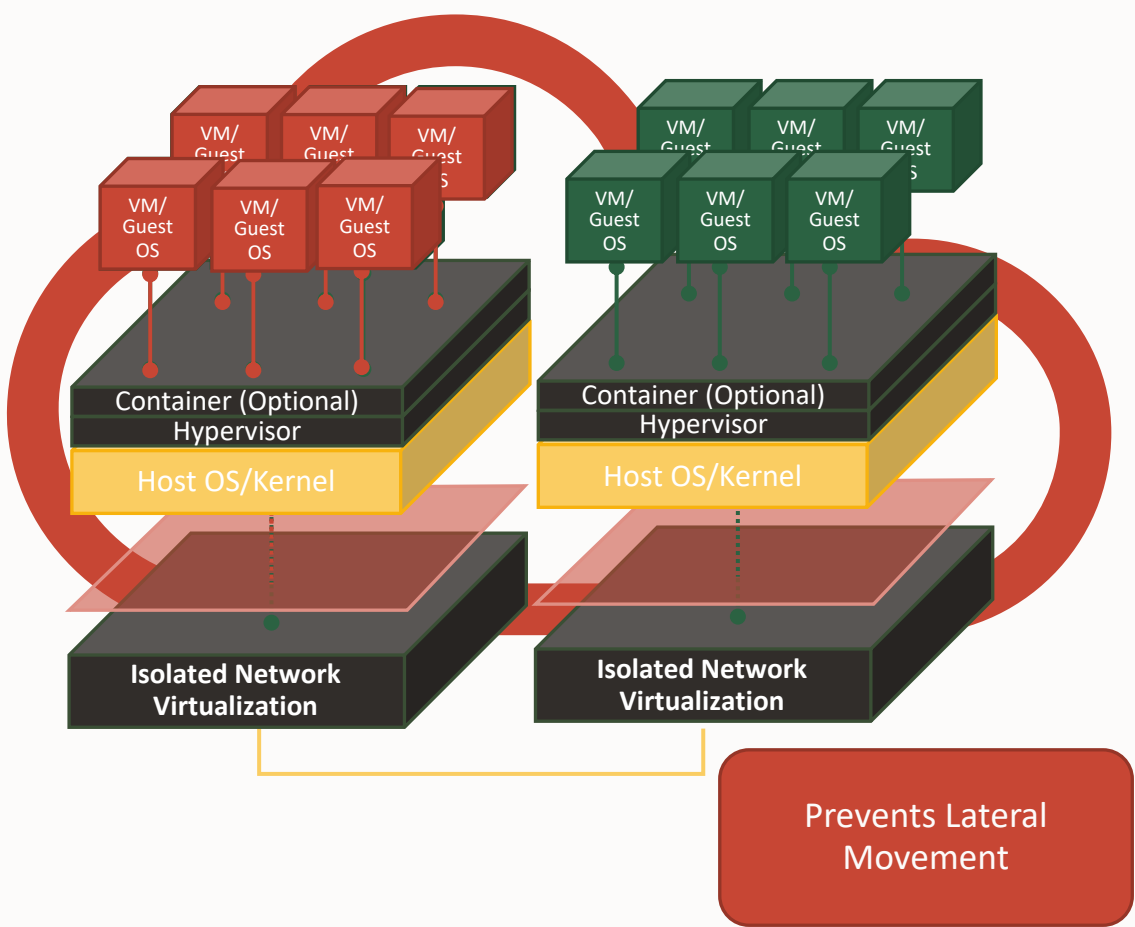
Protects from firmware-based attacks

2. Is data encrypted in OCI?

Data Encryption at rest and in-transit

Oracle endpoints
TLS 1.2

CUSTOMER REGION 1

AD1
AD2

MACSec
Encryption

AD3

MACSec Encryption

Data crosses regional
boundary only on
explicit Customer
authorization

CUSTOMER REGION 2

AD1
AD2
AD3

All Data is Encrypted at Rest
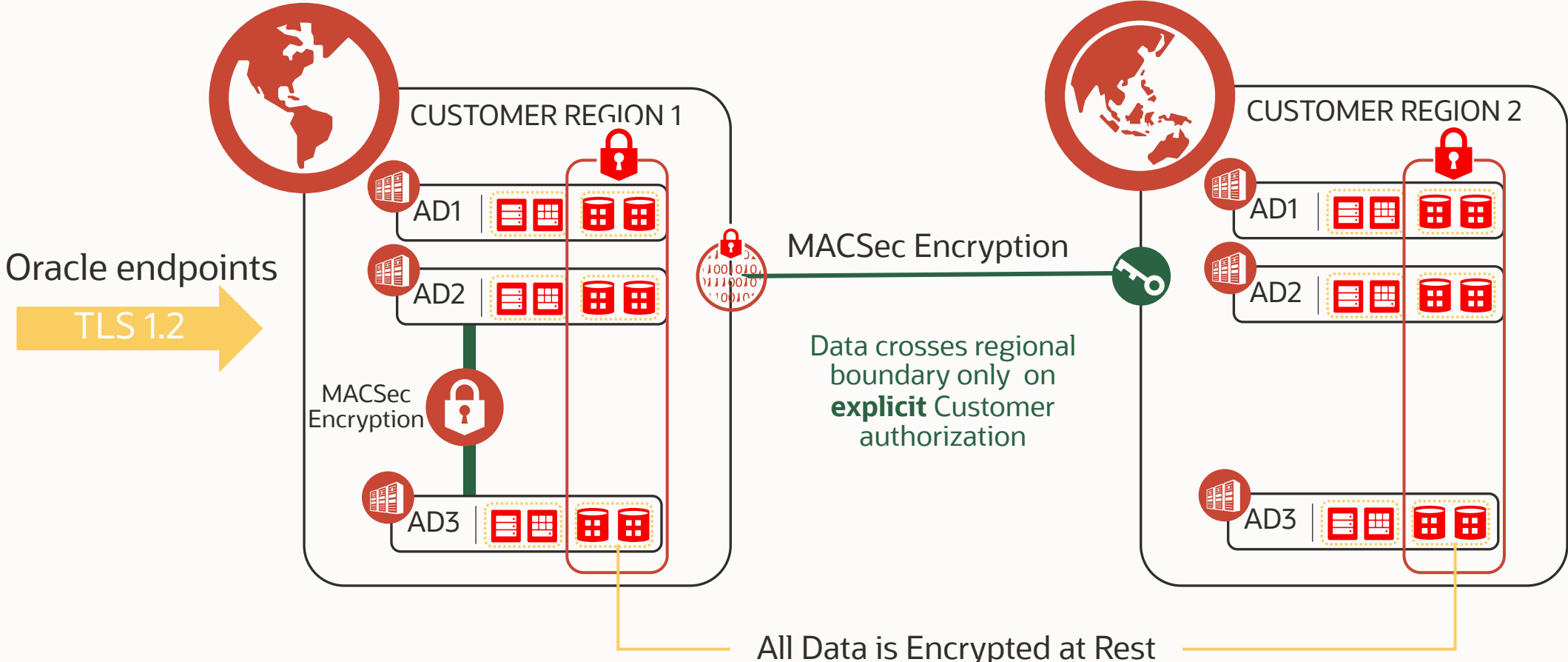
3. Can I manage my own encryption keys?

Controlling your keys and secrets with OCI Vault

- Customer-controlled Master Encryption Keys (MEKs) in FIPS 140-2 Level 3 certified HSMs.
- MEKs cannot be exported from HSM. Oracle has no access to plain-text material
- Resilient
- Supports BYOK
- Shared or Private Vault
- Supports Keys and Secrets lifecycle management

| ExaData CS | ADB-D | Streaming | Kubernetes | Object | File | Block | Boot |
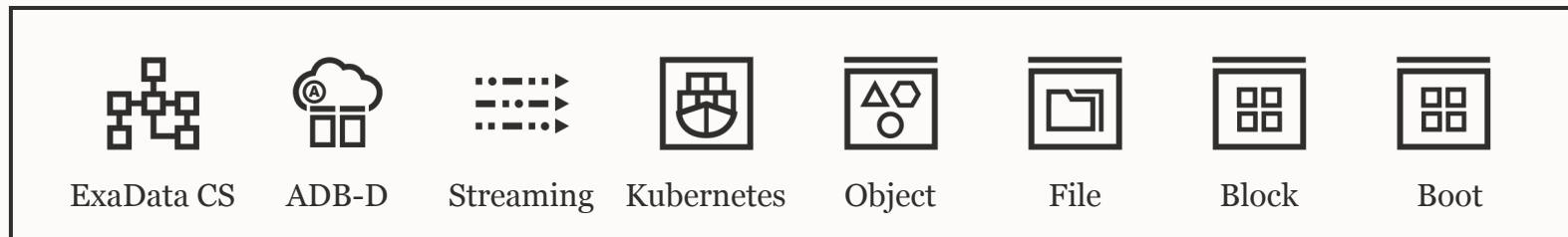
4. How can Oracle help me to deploy and maintain a secure WLS deployment in OCI?

Secure deployment and posture management

WLS for OCI – WLS on private subnet, Bastion and LB on public subnet

Admin Server
Managed Server
AD1
AD2
AD3
Bastion
Managed Server
Managed Server
Public Subnet
Private Subnet
VCN
TENANCY

Maximum Security Zone
ORACLE Cloud Infrastructure

+

Cloud Guard
Pervasive Watch
Hunt & Detect
Kill Threats
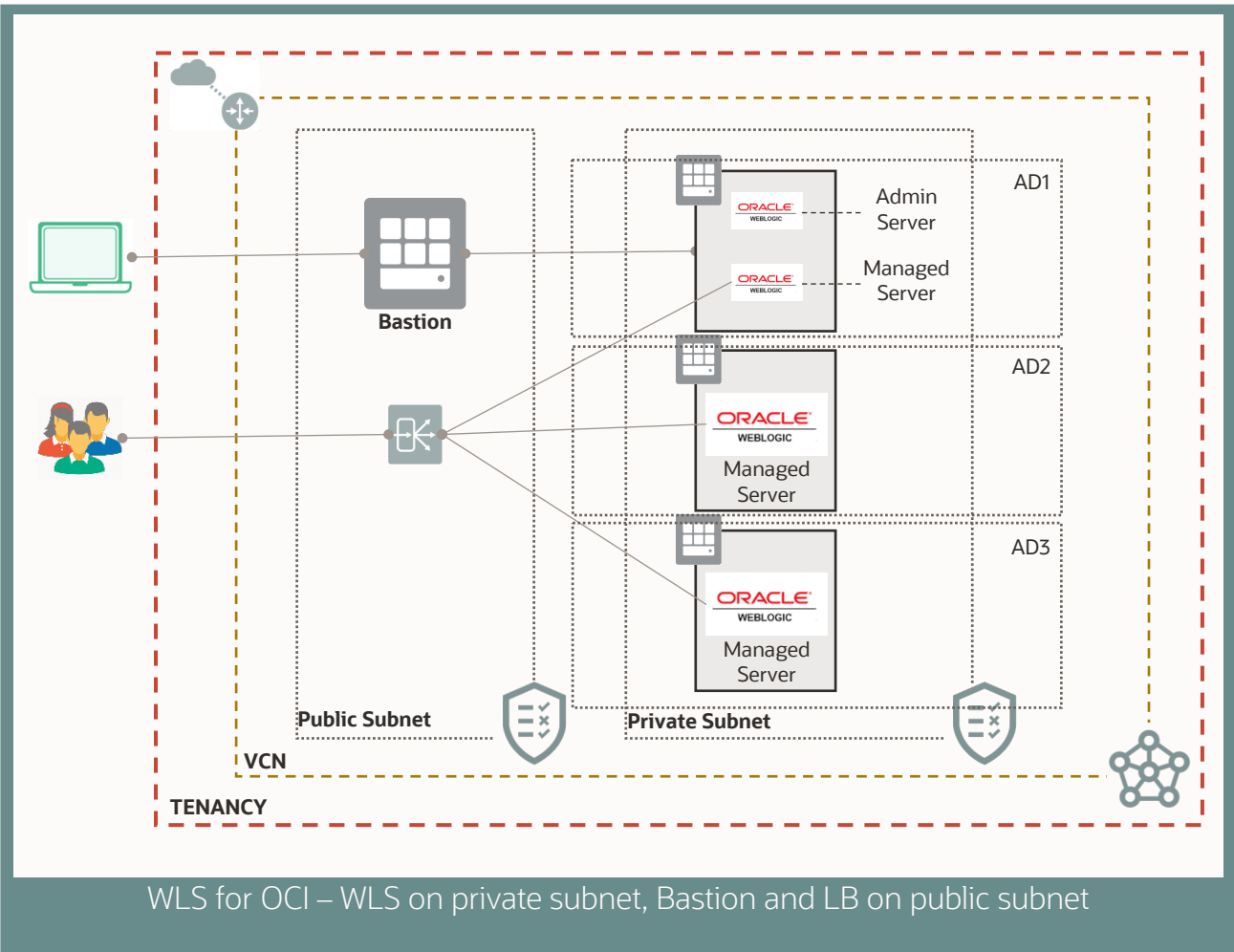
5. Can I implement **strong authentication** (MFA) for my WLS-deployed apps, and **SSO** with other applications?

Oracle Identity Cloud Service
Unified Identity experience across Cloud and On-Premise

Enterprise

Self Service

Cloud Directory

Strong Auth

Single Sign On

Synch

Identity Cloud Service

WLS

Cloud

Employees   Partners   Consumers

Cloud
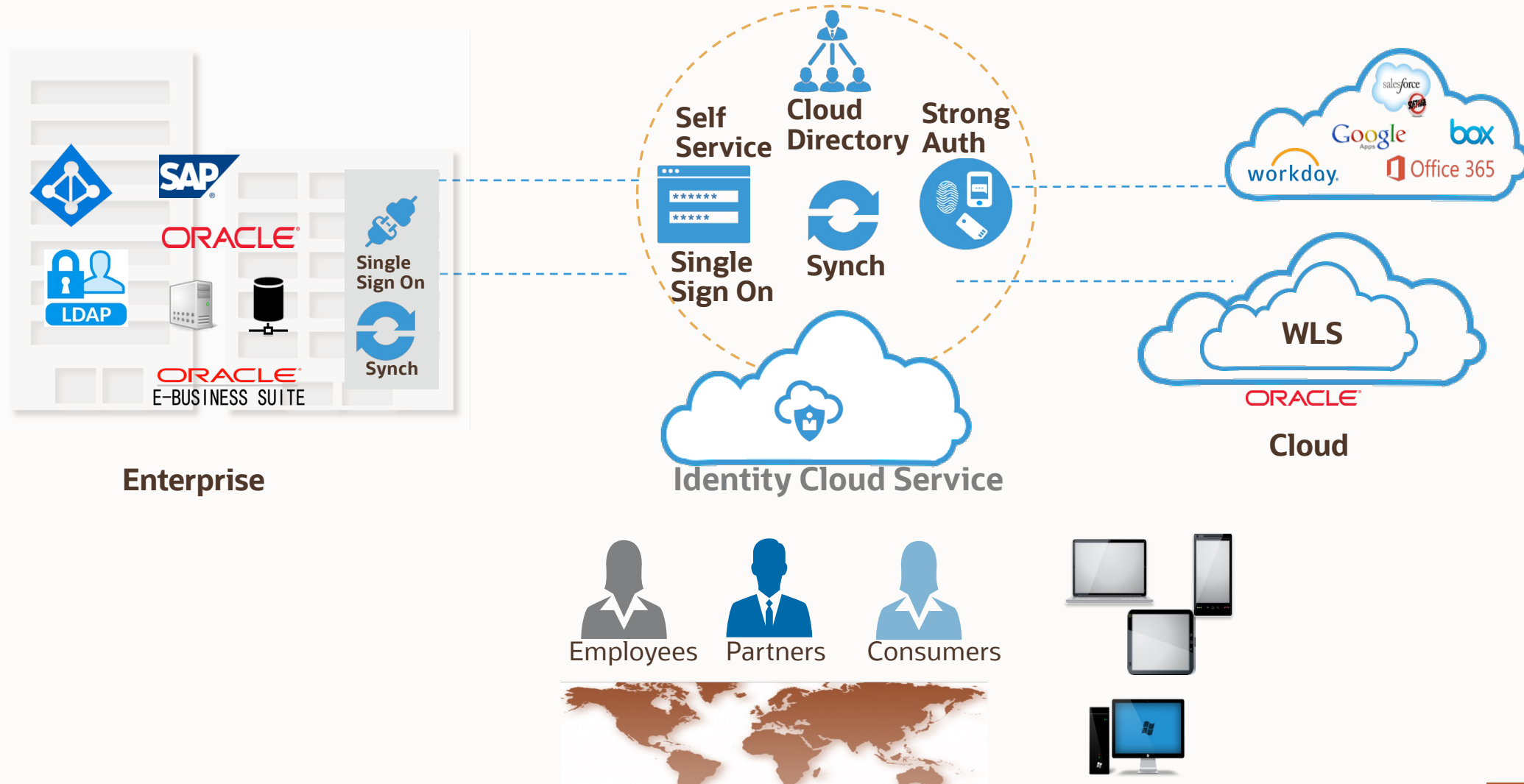
6. What about DDoS attacks if I deploy my solution on OCI?

DDoS Protection

DNS

Too much bandwidth
Too many packets

How can OCI help?

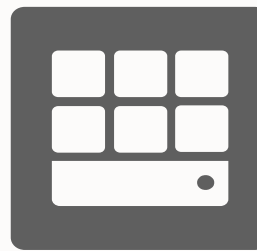***OCI DNS** Service as your primary or secondary DNS services*

Application

Attack on server itself
Too many requests
Too many connections

***OCI WAF** to provide threat protection, access controls, and bot management*

Network

Too many packets
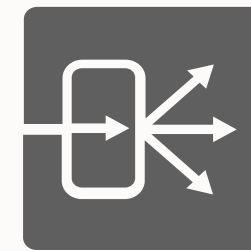
*OCI provided DDoS protection, **as standard**, for all OCI customers*

7. What about all my logs across the solution? How can I collect and analyse them?

Oracle Observability and Management Platform
More complete, more open, more value

- Integrated platform
- Cross-tier visibility
- Monitor and manage any technology, anywhere
- Standards-based data exchange and collection
- Built-in intelligence

Logging

Service Connector Hub

Logging Analytics

ORACLE

aws

Microsoft Azure

Operations Insights

Application Performance Monitoring

Database Management

+

Monitoring

Notifications

Events

Functions

Streaming

OS Management
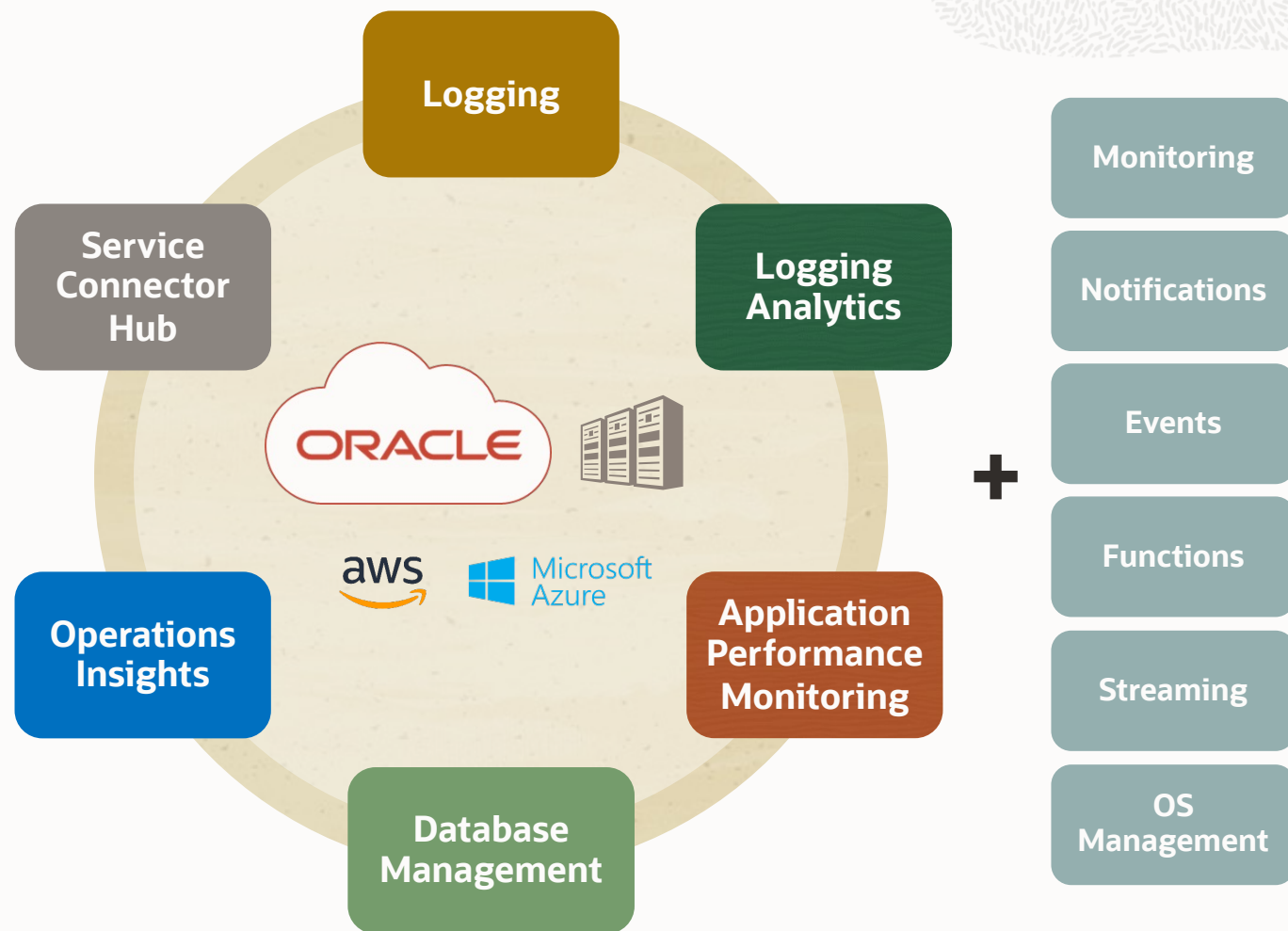
8. My application talks to an Oracle Database. Can OCI help me to secure that?

Oncie Data Safe

Oracle Data Safe

Unified Database Security Control Center

- Security Assessment
- User Assessment
- User Activity Auditing
- Sensitive Data Discovery
- Sensitive Data Masking

Saves time and mitigates security risks

No special security expertise needed

No additional cost for Cloud databases

| Assess | Users | Audit | Discover | Mask | … |

9. Can Oracle help with the patching and maintenance of my environment?

A range of patching capabilities

WLS Patching

patch-utils

- Built-in utility
- Simple tooling

OS Patching

OS Management Service

- Vulnerability Visibility
- Automated Patch Mgmt

Automated Patching

Autonomous Database

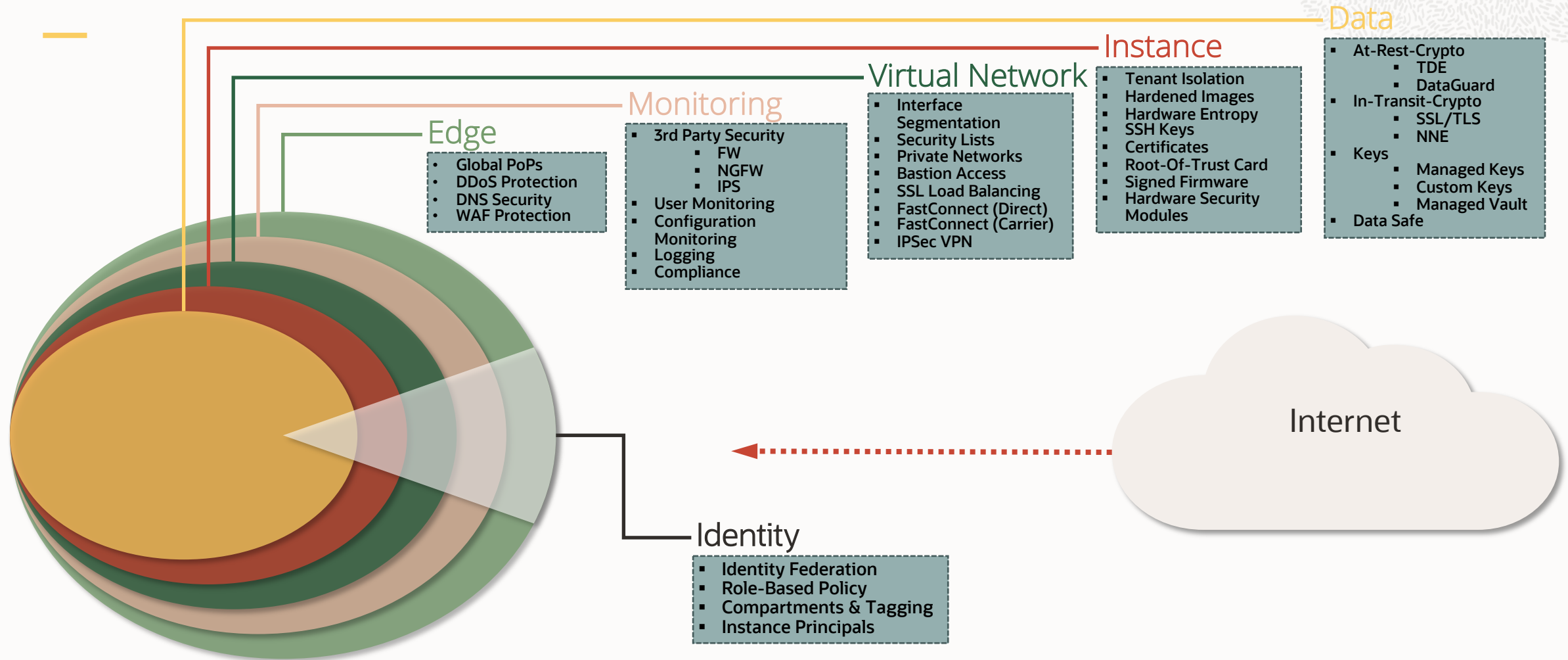- Known exploit detection
- Zero downtime patching

10. I have regulatory compliance to meet. Does OCI hold the necessary certifications?

OCI Compliance: Current Audit Programme

Global	AICPA SOC aicpa.org/soc4so SOC for Service Organizations / Service Organizations **SOC 1 : SOC 2 : SOC 3**	ISO **27001 : 27017 : 27018**	CSA cloud security alliance **Self-Assessment**	Privacy Shield Framework **US Privacy Shield**	
Government	DEPARTMENT OF DEFENSE UNITED STATES OF AMERICA **DoD DISA SRG IL2**	FR FedRAMP **Moderate – Agency ATO**	**VPAT – Section 508**	HM Government G-Cloud 11 Supplier **G-Cloud 11 - UK**	European Commission **Model Clauses - EU**
Industry	HIPAA **HIPAA**	PCi DSS COMPLIANT **Level 1** **PCI DSS**	FISC **FISC - Japan**	NHS **IG Toolkit - UK**	
Regional	General Data Protection Regulation **GDPR - EU**	Federal Office for Information Security C5 **BSI C5 - Germany**	TISAX ENX ASSOCIATION **TISAX - Germany**	**PIPEDA – Canada**	CYBER ESSENTIALS PLUS **Cyber Essentials Plus - UK**
				My Number - Japan **My Number - Japan**	National Cyber Security Centre **Cloud Security Principles - UK**

Defense in Depth

Data
- At-Rest-Crypto
  - TDE
  - DataGuard
- In-Transit-Crypto
  - SSL/TLS
  - NNE
- Keys
  - Managed Keys
  - Custom Keys
  - Managed Vault
- Data Safe

Instance
- Tenant Isolation
- Hardened Images
- Hardware Entropy
- SSH Keys
- Certificates
- Root-Of-Trust Card
- Signed Firmware
- Hardware Security Modules

Virtual Network
- Interface Segmentation
- Security Lists
- Private Networks
- Bastion Access
- SSL Load Balancing
- FastConnect (Direct)
- FastConnect (Carrier)
- IPSec VPN

Monitoring
- 3rd Party Security
  - FW
  - NGFW
  - IPS
- User Monitoring
- Configuration Monitoring
- Logging
- Compliance

Edge
- Global PoPs
- DDoS Protection
- DNS Security
- WAF Protection

Internet

Identity
- Identity Federation
- Role-Based Policy
- Compartments & Tagging
- Instance Principals

Thank you

Q&A

—

The Oracle Team

Learn More OCI Security White Paper