World's First Financial Services-ready Public Cloud

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IBM

Market forces driving disruption in the financial services industry

Increasing cybersecurity breaches

$700B

financial services losses due to cybercrime, over next five years[1]

Increasing regulation and data complexity

$321B

fines paid by banks for not meeting regulations, 2009 - 2017[2]

Rapidly-expanding ecosystem of capabilities New Digital-native entrants

$39B

VC funding for FinTechs in 2018[3]

Key considerations for Financial Services institutions on their journey to public cloud

Banks faced with

- Demanding business stakeholders.
- A need to:
  - Improve customer experience.
  - Modernize core apps.
  - Accommodate partners and integrate with 3rd party providers.
- Pressure to be agile, innovate faster.
- Need for elasticity and on-demand provisioning.

Both require

- Security and trust across your environment.
- Regulatory compliance.
- Complete control of data, encryption and security.
- Control of intellectual property.
- Control of mission critical systems.
- Portability and consistency across private and public environments.
- Industry expertise.

ISVs faced with

- High cost to meet different banks' unique security, compliance and audit requirements.
- High cost of financial services market entry due to slow time to market, delays in revenue recognition related to banks' on-boarding overhead.
- Complicated procurement and contracting processes.
- High cost of on-boarding solutions to public clouds.

IBM Cloud: The most open and secure public cloud for business

Open Innovation

- API Services that are cloud delivered
- Kubernetes on IBM Cloud: 1k+ clients, 19k+ clusters in production
- Major contributor to cloud native open source work: Istio, Knative, Razee, etc.

Security Leadership

- Highest compliance for data encryption
- Configurable so that even IBM cannot see your data
- Edge-to-cloud threat management with IBM security integration

Enterprise Grade

- #1 VMware public cloud 2,000 clients
- Cloud migration for Power AIX, IBM i, Z, SAP and mission critical
- Broadest portfolio of compute instances, including Power & X86

World's First Financial Services-Ready Public Cloud

Highest level of encryption
FIPS 140-2 Level 4

Isolation for cloud native
ROKS and containers on bare metal

No data egress charges with Cloud Databases
No vendor lock in and lower TCO

No-cost bandwidth between regions
Significantly lower TCO

Enhanced availability SLAs
HA: 99.99%, Non-HA: 99.9%

Higher SLA payouts versus market
25% of monthly at 60 minutes

Audit transparency to bare metal
Traceable serial number compliance

Full control to bare-metal level
Full admin control of compute

2019 IBM Winners

GOOD DESIGN AWARD® WINNER
Good Design Award for **VPC**

iF DESIGN AWARD 2019
Good Design Award for **API Connect**

Gartner peerinsights customers' choice 2020™
Customer Choice Award for **Cloud IaaS**

STRATUS 2019 AWARD

Journey to Cloud for Financial Services

Harness cloud innovation while addressing regulatory compliance, security and resiliency requirements.

Leverage Cloud for initial workloads.

- Kubernetes, OpenShift® private clouds
- Virtualized environments (VMware)
- Public cloud:
  - Mission-critical workloads with sensitive data in dedicated environment
  - Public cloud API use for non-sensitive data

Adopt IBM's Public Cloud for mission-critical workloads.

- Protect data with the highest-level encryption, with exclusive control of keys.
- Benefit from transparency and certified compliance.
- Modernize and build cloud native apps at enterprise scale and resiliency.
  - Workload refactoring for cloud-native HA
  - VMware lift-and-shift on public cloud
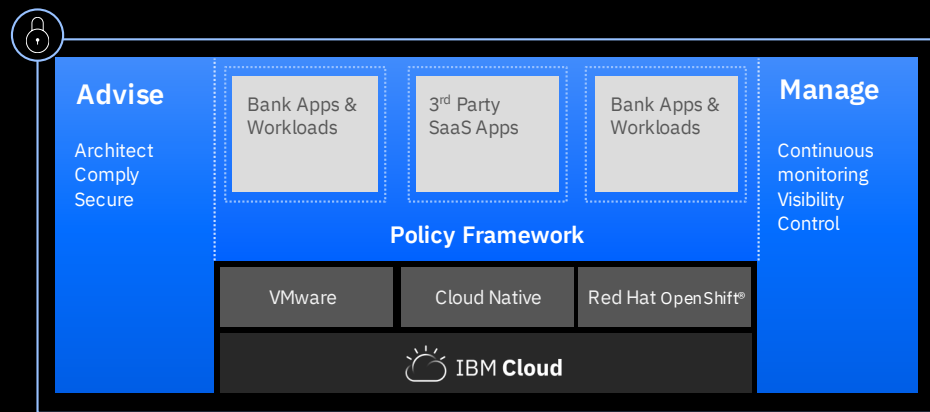 - Red Hat OpenShift® as-a-service on public cloud

Next, enable financial services-ready public cloud for sensitive workloads and bring your ISVs when you on-board.

- Realize the full potential of public cloud for even your most sensitive FSS workloads and ISVs/partner ecosystem, to help you enable rapid, continuous compliance and demonstrable controls.
- Protect data with prescriptive and proactive security architecture.
- Designed for the most stringent of data protection and compliance needed for FSS.
- Modernize and build cloud native apps; compose and integrate with rich catalog of trusted FSS ISVs and SaaS solutions.
- VMware, Kubernetes / Red Hat OpenShift® as-a-service, and cloud-native services

World's First Financial Services-Ready Public Cloud

IBM has designed the **world's first financial services-ready public cloud** to help address FSS institutions' requirements for regulatory compliance, security and resiliency. IBM will welcome financial services institutions, and their suppliers, to join the financial services-ready public cloud. As its first collaborator, Bank of America will use the platform built on IBM's public cloud to host key apps and workloads.

- Rich catalog of trusted ISV and SaaS solutions

- Robust Financial Services Policy Framework

- Extensive infrastructure services – VMware, cloud-native, Red Hat OpenShift® as-a-service

- Secure and enterprise grade, built on IBM's public cloud

- Promontory risk analysis and security regulation consulting and expertise on-demand.

Advise

Architect
Comply
Secure

Bank Apps & Workloads

3rd Party SaaS Apps

Bank Apps & Workloads

Manage

Continuous monitoring
Visibility
Control

Policy Framework

| VMware | Cloud Native | Red Hat OpenShift® |

IBM Cloud

Financial Services-Ready Public Cloud

IBM Cloud today offers unique technologies for trusted computing:

- Monitoring and security to the microchip level
- Highest level of encryption certification
- Robust isolation options and data protection

- Data immutability with Hyper Protect Services
- Risk analysis, security consulting, and IBM Promontory industry expertise.

Financial Services-ready
Public Cloud Ecosystem

assima · Broadridge® · C3.ai · Caveonix · CLOUDERA

Finxact CORE AS A SERVICE · fiserv. · geva GROUP · HYTRUST Cloud Under Control · Infosys® | Finacle

intellect® Design for Digital · Karantis 360 · knowis · MOVIUS · SAP®

SunTec® · TEMENOS THE BANKING SOFTWARE COMPANY · Thought Machine · veeAM · vmware®

workday® · ZAFIN

IBM Cloud: supporting regulated workloads today

Description / Examples

IBM Cloud Approach / Examples
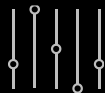
Maintain acceptable level of control

- Isolation
- Visibility & Audibility
- Data Location
- Customer key management

- Provisionable bare metal
- Isolation with dedicated variations on responsibility based on workload
- Geo location verification
- BYOK & KYOK

Ensure security of high value transactions

- Encryption and Keys
- Detection, prevention and remediation
- Notification

- Monitoring and security to microchip level (TXT)
- Trusted boot every time
- Visibility and auditable evidence that critical workloads run on trusted servers
- Z14 (FIPS 140-2, Level 4, EAL 5) on IBM Cloud

Provide documented compliance with all applicable regulatory regimes

- Understand the regulations
- Comply with the regulations
- Adapt to regulatory changes

- Promontory
- Visibility into client's end-to-end risk posture
- IBM Security immune system
- Obligations library and controls update process

Adopt IBM's public cloud for mission-critical workloads

Pervasive security to protect data, workloads and processes

- End-to-end Data Protection

- Workload-centric Security

- Enables Continuous Compliance

- Comprehensive, Deep Expertise

Security & Compliance Certifications

Cloud Native APIs & Developer Experience

Identity & Access	Data Security	Workload Protection	Security Posture
Platform IAM	Encryption & Key Mgmt.	Vulnerability mgmt.	Security Insights
Application IAM	Certificates & Secrets	Signed, encrypted images	Notification & Remediation
API Security	Data Runtime Protection	Container security	Threat & Compliance

As-a-Service | Security Automation & Orchestration | App Dev framework

Open Hybrid Multicloud Platform

Network Security	Storage Security	Compute Security	Security Logs
VPC, Segmentation	Encrypted Storage	Secure enclaves	Audit Logs
Threat Protection	Secure isolation	Secure boot	Flow logs & events

Secure Infrastructure

IBM **Cloud**

IBM's public cloud - the most open and secure public cloud for business

Available Today

End-to-end Data Protection
with Exclusive Control

- Only with IBM Cloud KYOK, get the industry's highest-level encryption certification and exclusive control, even IBM operators can not access the keys

- Monitoring and security down to the microchip level with IBM Cloud Secure Virtualization

- Data encryption for cloud-native apps with IBM Cloud Kubernetes Service

- End-to-end security for virtual servers with IBM Cloud Virtual Servers

Workload-Centric Security
by Default

- Integrated container security and DevSecOps for Cloud Native Apps with IBM Cloud Kubernetes Service

- Data-in-use protection for containerized apps with IBM Cloud Data Shield

- Manage access across your resources and your apps with Identity and Access Management and App ID

- Application-centric network segmentation and protection with VPC

Continuous Compliance
with Demonstrable Controls

- Only with IBM, get unrivaled regulatory expertise of Promontory® to help meet your ongoing compliance needs

- Single pane of glass for security posture and compliance with Security Advisor

- View, manage and audit cloud activity with Activity Tracker with LogDNA

- Secure repository for the certificates with Certificate Manager

- Geo location verification and data protection with HyTrust DataControl and Cloud Control

Comprehensive and Deep Enterprise Security Expertise

Get started today with IBM's public cloud for mission-critical workloads

Journey to Cloud

Advise

Move

Build

Manage

Life Cycle
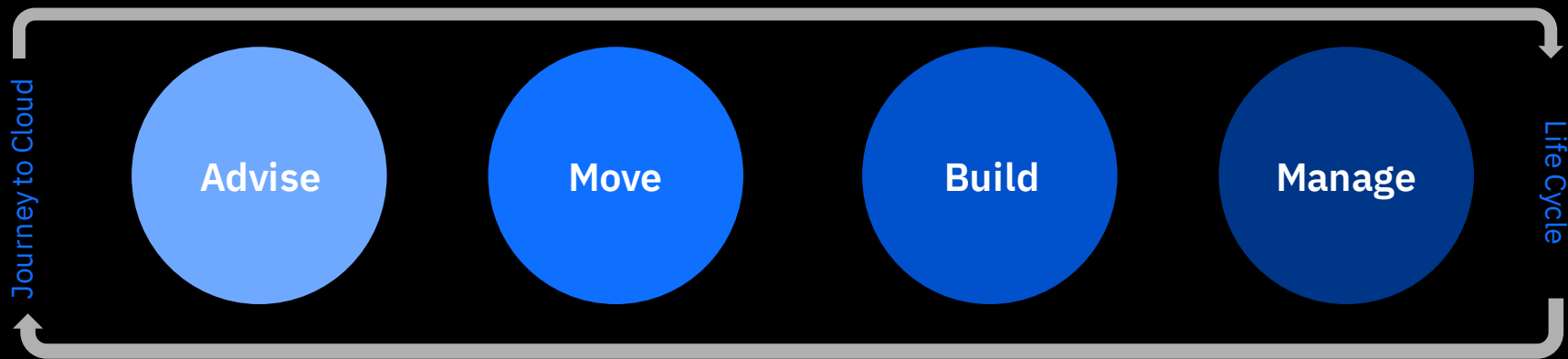
– Develop a cloud strategy and deliver a cloud MVP with **IBM Garage** and engage **IBM Cloud Security Services** to achieve security in cloud.	**Migrate** – Migrate **VMware, Skytap, IBM® Power Systems, IBM® i, IBM® Z & SAP** workloads to **IBM Cloud™** **Modernize** – Accelerate Modernization of Applications with **IBM Cloud Pak™** running on the **Red Hat OpenShift® on IBM Cloud™ env**	– Innovate and build cloud native applications with your choice of technologies – **Native Kubernetes, Cloud Databases, or Hyper Protect DBaaS** – **Red Hat OpenShift® on IBM Cloud™** and Red Hat and IBM middleware	– Improve uptime, resilience and business continuity – Infrastructure **(MZR, COS, VMware, Zerto, Veeam, Hyper Protect Crypto Services)** – Data Services **(ICD, Hyper Protect DBaaS)**

How do I get started?

Read the paper *World's First Financial Services-ready Public Cloud*
https://www.ibm.com/cloud/banking

Join the IBM Public Cloud Community:
http://ibm.com/community/public-cloud

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