VITA APPLICATION INTEGRATION SERVICES (AIS)

OVERVIEW

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VIRTUAL SERVICES FAIR

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AGENDA

What is AIS?

Service offerings

New services

Initiatives
WHAT IS VITA AIS?

• AIS are services that enable customers to optimize and integrate digital government applications.

• The enterprise services are based on a powerful compute architecture that is fully implemented at the QTS datacenter.

• Customers include: Departments of Medical Assistance Services, Behavioral Health and Developmental Services, Social Services, Transportation and Motor Vehicles.

• AIS is part of the overall portfolio of services provided by VITA.
• **Enterprise service bus (ESB)** - applications interact and exchange data in a flexible, dynamic and extensible infrastructure. (IBM Integration Business and App Connect Enterprise)

• **Business rules management (BRM)** - comprehensive decision automation solution provides extensive capabilities to analyze, automate and govern rules-based business decisions.

• **Application messaging (AM)** – enterprise messaging solution based on IBM MQ that securely and reliably connects applications, systems, services and files across multiple platforms.
• **AIS - Application server (AIS-APPSVR)** - accelerates application delivery with a highly reliable, secured and flexible Java Enterprise Edition (Java EE)-based runtime environment.

• **Mailing address verification (MAV)** - real-time address verifications utilizing the latest U.S. Postal Service data.

• **AIS Database (AIS-DB)** - provides customers with highly-available and secure database services based on Oracle RAC.
NEW SERVICES – VITA ORACLE PRIVATE CLOUD (VOPC) SERVICE

• The VITA Oracle private cloud (VOPC) service provides a virtualized compute platform for Oracle workloads.

• The service is run on high-performance IBM Power9 systems that are deployed as an on-premise private cloud in the QTS data center.

• Customers can virtualize Oracle workloads into secure environments specifically configured for each customer.
High performance compute for data intensive and mission critical workloads including Oracle RAC

Increased efficiency and lower operations costs due to the superior multi-threading (SMT8) technology of the new Power9 platform

Shared processor pools and vCPUs can be fine-tuned based on customer load. This results in Oracle licenses being deployed efficiently across the customer environment.

Highly secure workloads

- Workloads are secure and isolated in customer dedicated virtual machines
- IBM Power Systems have security built in at all layers. Database layer is secured with data encryption in transit.
- Desktop/laptop Oracle client connectivity to databases is through CMAN (Oracle connection manager proxy)
- The service includes VITA guidance to assist the customer with security compliance
NEW SERVICES – VITA SECURE GATEWAY

• The **VITA Secure Gateway (VSG)** service provides security and integration for Commonwealth of Virginia (COV) websites, applications and services.

• VSG is based on the IBM DataPower multi-channel gateways that deliver security, control, integration and optimized access to a full range of on-premise and cloud workloads.
• VITA AIS is leveraging the platforms at QTS for many cloud focused initiatives.

• OpenShift on Power is in implementation.

• CloudPaks and data analytics services being deployed on the Power9 infrastructure.

• Enhanced service offerings for Oracle workloads and data management

• IBM Cloud Pak for Integration (CP4I) and Automation (CP4A)
Containers and VMs Solve Different Problems

Containers are lightweight and provide better performance:

**Portability:** VM (Gigabytes) vs. Container (Megabytes), VMs are constrained to Hypervisor and hardware-emulation

**Performance:** Containers can boot and restart in seconds, compared to minutes for virtual machines. And no extra overhead of a hypervisor and guest OS makes containers consume less CPU and memory.

**Management cost:** Each VM requires a full functional operating system, and then extra management for them.

**Great advantage to use containers in:**
- DevOps / CI & CD
- Software Upgrades / Platform Refresh
- Batch computing
- App Modernization / Microservices
- Lightweight PaaS
- Infrastructure Optimization

Kubernetes

- Horizontal Scaling
- Intelligent Scheduling
- Service Discovery & Load Balancing
- Automated Rollouts & Rollbacks
- Self-Healing
- Secret & Configuration Management

**Initiatives**

- Container Engine
- Host Operating System
- Host Server
- OS-based virtualization via a Linux process inside of the Kernel
- Full blown Guest OS with virtual access to host resources through the Hypervisor

**Containers**

- App1
- App2
- App3
- Bins/Libs
- OS
- Hypervisor

**Virtual Machines**

- Full blown Guest OS
- Bins/Libs
- OS
- Hypervisor

CONTAINERS AND KUBERNETES
CLOUD PAK FOR APPLICATIONS (CP4A)

Run existing apps
Continue to run your apps, where they are.

Modernize existing apps
When apps need to move, IBM has the most experience, tools, and experts to move them.

Building new apps
New apps are automatically ready for hybrid-cloud deployment, using the best of open source, fully supported.
CLOUD PAK FOR APPLICATIONS (CP4A)

**Run existing apps**
- WebSphere Application Server
  - WebSphere ND | WebSphere Base | Liberty Core
  - Mobile Foundation
- JBoss Enterprise Application Server

**Build new Cloud Native apps**
- Red Hat Runtimes
  - JBoss® EAP
  - JBoss® Web Server
  - Eclipse Vert.x
  - Spring Boot
- IBM Runtimes
  - Open Liberty
  - OpenJDK
  - Node.js
  - WebSphere® (traditional)
  - WebSphere Liberty
  - Mobile Foundation
  - Loopback & Express (Node.js)

**Modernize existing apps**
- IBM Modernization & Developer Tools
  - Included with all components
  - Transformation Advisor
  - WebSphere Migration Toolkit
  - Enterprise Dev tools & extensions for local IDE’s
  - Supported when used with Cloud Pak for Applications, no charge

**Accelerators for Teams**
- Derived from kabanero.io open source
  - Equipping teams with content, tools, architectures and methods so they can focus on business problems from day 1

**Red Hat OpenShift Container Platform**
IBM Cloud Pak for Integration

Modernize integration with a simple, easy, and cost-effective solution that leverages the right mix of integration capabilities and styles to support your digital transformation initiatives.

- Broadest integration capabilities
  - Unified experience, operational efficiency & reuse

- Deploy where needed
  - Container-based architecture with common enterprise services

- Enterprise-grade
  - Secure, scalable

- API Lifecycle – IBM API Connect
- Application & Data Integration – IBM App Connect Enterprise
- Enterprise Messaging – IBM MQ
- Events – IBM Event Streams
- High Speed Transfer – IBM Aspera
- Integration Security – IBM DataPower
CLOUD PAK FOR INTEGRATION (CP4I)

Client and Partner Applications

Unified User Experience

Asset Sharing
API Lifecycle Management
Application & Data Integration
Enterprise Messaging
Events
High Speed Transfer
Governance

Integration Security

Operational Efficiency
Analytics | Management | Deployment

Cloud
Hybrid
On-premises
VITA SERVICE TALKS

Let’s continue the conversation
VITA SERVICE TALKS

LET’S CONTINUE THE CONVERSATION

VITA is offering customers an opportunity to expand upon the discussions that were started today. These service talks will either be one-on-one (agency/supplier) or in open group settings and will provide agencies the opportunity to ask more detailed questions about the services and how they can be applied to their organizations.

PLEASE VISIT THE VITA WEBSITE, VIRTUAL SERVICES FAIR PAGE, FOR INFORMATION ON JOINING THE GROUP SESSIONS AND SIGNING UP FOR 1:1 SESSIONS: HTTPS://WWW.VITA.VIRGINIA.GOV/TECHNOLOGY-SERVICES/SERVICES-FAIR/
The following VITA service talks have a capacity of 500 attendees:

- **Cloud services**
  - Tuesday, Nov. 9: 9 – 10:30 a.m.
  - Tuesday, Nov. 16: 1 – 2:30 p.m.

- **Messaging services**
  - Thursday, Oct. 21: 1 – 2:30 p.m.
  - Thursday, Nov. 4: 9 – 10:30 a.m.

- **Voice and data services update**
  - Monday, Oct. 25: 1 – 2:30 p.m.
  - Monday, Nov. 15: 9 – 10:30 a.m.

One-on-one service talks are available first come, first served. Please coordinate with your team and sign up your agency for one session only.

- **Application integration services (AIS)**
  - Wednesday, Oct. 27: 9 – 10:30 a.m.
  - Wednesday, Nov. 10: 1 – 2:30 p.m.

- **ePen**
  - Thursday, Oct. 28: 9 – 10:30 a.m.
  - Wednesday, Nov. 3: 1 – 2:30 p.m.

- **Box**
  - Monday, Nov. 1: 9 – 10:30 a.m.
  - Friday, Nov. 12: 9 – 10:30 a.m.

- **Robotic process automation (RPA)**
  - Tuesday, Oct. 26: 9 – 10:30 a.m.
  - Monday, Nov. 8: 1 – 2:30 p.m.

Questions can be submitted in advance by emailing businessreadiness@vita.virginia.gov. Please include the topic in the subject line. For example: Question for messaging service talk.