OMES Reference Architecture – High Level

V8.8
01/15/2026

Guiding Principles

Business

- Serve those who serve Oklahomans by providing enterprise architectures that will address a majority of our customers.
- Architecture focused on business capability and reduction of complexity will set the strategy for technology for three to five years into the future.
- Weighted consideration should be given to a vendor architecture that contributes to and strengthens our enterprise strategic goals.
- IT standards will be used; a nonstandard IT will require an exception from agency and OMES leadership.
- Improve citizen and customer experience by implementing supportable solutions through streamlined processes.

Data

- The architecture must be elastic, flexible and resilient.
- All data should be considered for interoperability.

Application

- Solutions must have a planned lifecycle and asset map.
- Solutions must be considered in this order: SaaS, PaaS, IaaS and then On-Prem.
- Every solution should be designed with the expectation to be enterprise-level in scope, scalable and flexible.

Technology

- Must be easy to adopt and consume, supporting the design of security patterns.
- The architecture must address and support multiple levels of protection, including network, operating system and application security needs.
- Information Security services and solutions will be standards-based.

Domain
Category
Solution
*Enterprise Solution
**Roadmap Item

OKLAHOMA Office of Management & Enterprise Services

Chief Information Officer: Dan Cronin
IT Enterprise Governance Director: Greg Lee
Enterprise Architecture Team: Rick Fullerton, Karen Philbin, Danielle Burk, Craig Brooks

Administrative

- Business Administration
- Agency Relations
- Communications/Outreach
- Strategy
- Project Management Office
- Human Resources
- General Counsel

Applications and Data Services

- Web and Citizen Engagement
- HCM Enterprise Apps
- Enterprise Data Driven Services
- Financial Enterprise Apps
- Legacy Apps
- Custom/COTS Apps
- Quality Assurance

IT Operations

- Networks
- Recovery Services
- Servers
- Telecommunications
- Cloud
- IT Operations Command Center
- Mainframe
- Customer Services

Oklahoma Cyber Command

- OK-ISAC
- Compliance
- Cyber Command Operations
- PC Engineering
- Defense

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Domain
Category
Solution | +Recently Added
*Standard Solution | **Roadmap Item

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Office of Management & Enterprise Services

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Administration Services

Business Administration

- Asset Management and Facilities: **ServiceNow ITAM
- Strategic Vendor Management: *ServiceNow
- IT Business Management: *ServiceNow
- Service Delivery: *ServiceNow
- Mission Support: *ServiceNow

Service Catalog: Salesforce	SharePoint – workflows (exemp approv)
M365	PeopleSoft
PowerApps for SOW	Adobe Sign

**Business Management Tool: ServiceNow

IT Portfolio Analyst

- Project Initiation Request: Forms, *ServiceNow
- Statement of Work: Power Apps
- Project Management: *ServiceNow SPM, *Azure DevOps
- Reporting: PowerBI
- Program Management: PowerBI
- **Business Management Tool: ServiceNow

Customer Advocacy

Chief Technology Officers
**Business Repository | **CRM | **Roadmap Tool

Communications/Outreach

- Content Delivery: *External Delivery: GovDelivery; *Internal Delivery: Yammer
- Social Media Management: Sprout, Canva
- Tech Writing/ Content: *Content Design: Canva; Adobe Experience Manager
- Open Meetings: *Webex

Enterprise Architecture

- Research: Google, CoPilot
- Approvals: *ePro PeopleSoft; *ServiceNow
- EA Tool: Visio

Human Resources

PeopleSoft	*Workday
CastleBranch (vendor background check)	BAS(legacy-consume)
PayFactors (vendor-job desc/mkt data repository /salaries)	JobAps (jobs.ok.gov)
Qualtrics (workforce planning/surveys /succession planning)	OPERS Connect (consume)
O365 (SharePoint for comm/docs)	AppXtender
PowerApps for workflow/approvals for positions	E-Verify (Fed right to work Verification)
VLC media player	Gov delivery (for internal comm)
Canva(OEDP owned license)	Articulate Storyline (course authoring)
Learn (consume)(Workday)	FileZilla Pro
Captivate (more obsolete)	Adobe Creative Cloud (specific sub)
*Credly	

Legal

Contracts | Legal Review: Power Apps/Planner | ConvergePoint (DHS)

Application & Data Services

Web and Citizen Experience

- Web: *Content Management: Adobe; *Adobe Forms; *Adobe Sign (digital signature)
- Graphic Design: *Adobe Acrobat DC; *Adobe Creative Suite
- Citizen facing websites / apps: *Adobe Analytics; *Adobe Audience Manager; Magento (ecommerce)
- Occupational Licensing: *Thentia
- Branding: *Adobe Creative Suite; *AEM
- Customer Experience: Digital Marketing: *Adobe Campaign
- *Qualtrics (Survey)
- Operations: *ServiceNow; *DevOps; SiteImprove

HCM Enterprise Applications

- Human Capital Management Solution: *Workday
- HCM Plugins: Time Clocks: *TimeClock Plus
- JobAps (cloud) Testing
- EGID V3locity

Financial Enterprise Apps

- PeopleSoft: *Financials Platform: PeopleSoft; Oracle Cloud Infrastructure; Inventory / Asset Mgmt: *PeopleSoft Inventory
- Financial AdHoc Reporting: Oracle Analytics Cloud
- Travel: iTravelOK
- Supply Chain Mgmt: *Requisition platform: ePro; PeopleSoft FSCM
- Contracts Management: IronClad

Data Services

- Data Sharing: *Cloud Data Platform: Google Cloud; *The DASH
- Data Mgmt and Monitoring: *Database Monitoring: Foglight; Mainframe Data Mgt: *IMS, *DB2, *CICS, *IBM DataStudio; *SQL Platform: Microsoft SQL 2019; +PostgreSQL; *Google Cloud Platform
- *Toad; Microsoft SQL Suite; MYSQL Workbench; *PuTTY; WebFOCUS; *MySQL; *OEM; *MobaXterm; *DBF Viewer 2000; *Oracle Platform: Oracle 19C; Microsoft SQL Management Studio
- Artificial Intelligence: +Azure Foundry Tools; +Azure AI Services; +ChatGPT Enterprise; +Microsoft 365 CoPilot
- Self Service Analytics/Reporting: *Power BI; *Looker; *Google DataStudio
- Data Science / Advanced Analytics / Exploration: *Cloud Data Platform: Google Cloud; +Celonis; +Python 3; SQL; R Studio; Microsoft SQL Server Mgt Studio; Microsoft Visual Studio Code; Angular; Paint.net; *Power BI; *Google Colaboratory
- Data Ingestion & Pipeline: *Data Fusion; PowerQuery; +Python 3; +Powershell; **Cloud Composer; **Cloud Functions
- Master Data Catalog: *DMBOK2; Master Data Dictionary Repository; Metadata Repository; **Enterprise Data Governance Tool; **Data Quality Tool
- Data Engineering: *Google BigQuery; *Data Fusion; *Google Cloud CLI; +Google Data Studio
- Managed File Transfer: *MuleSoft; *MOVEit
- Data Integration: *MuleSoft; *Cloud Data Fusion

Custom/COTS Apps

- Custom Development: *Code Management: DevOps/GitHub; Crystal Reports; Fiddler; Microsoft SQL Mgmt Studio; Microsoft Visual Studio; Microsoft Visual Studio Code; Notepad++; Postman; Slack; ASPRunner; PHP Runner; PHP; Python; PERL; LAMP Stack; XAMPP; MAMPP; JAVA; Veracode; Checkmarx
- Application Management: CMDB; Services for COTS packages
- COTS Admin (Services depending on Agency system)
- Enterprise Records & Content Management: SharePoint; *Document Management: OnBase/AppXtender
- Email Delivery: SendGrid; SMTP Relay
- Healthcare Supply Chain Management: *Juvare
- ESB/Integration Platform: *MuleSoft; *API Manager: MuleSoft; HIS
- Application Mgmt & Monitoring: *Anomali; *Dynatrace
- CRM: *Salesforce; *Thentia
- Secrets Management
- GIS: *ESRI ArcGIS
- Rules Engine/BPA: Pega; InRule
- RPA: UiPath; Power Automate

Service Quality

- Project Testing: *DevOps; **Atlassian Jira; **Atlassian Confluence
- Misc Testing / Support: *Office 365; *Azure DevOps
- Accessibility: JAWS; Dragon Naturally Speaking; Adobe Pro; SiteImprove; Wave; axe; NVDA; Voiceover (Mac); Narrator(Windows)
- Automated Testing
  - User Interface: *Katalon Studio; *Katalon Recorder; *SauceLabs; *Selenium WebDriver; *Selenium IDE
  - REST API: *Katalon Studio; *Postman; *Swagger; *Advanced REST Client by Mulesoft
  - Mobile Device: *Katalon Studio; *Postman
  - Performance Testing: *Apache JMeter; *Azure Load Testing; *BlazeMeter Chrome Extension; *Locust v.2.33.0
  - IDE: *Eclipse; *IntelliJ (JAVA JDK); *Maven; *Python; *Py Test
  - Container Orchestration: *Docker v.2.0; *Kubernetes v.1.28.0
  - Optical Character Recognition: *Tesseract v.5.5.0
  - Cross Platform Tools/ Environments: *Appium v.2.0; Node.js v. 18.17.0; Playright v.1.50.0

Application Modernization Services

- Technical Debt Evaluation: In-house Process
- Application Decommissioning: *ServiceNow
- Application Modernization: C#, Azure, Python, FileZilla Pro, Microsoft Visual Studio Code, Microsoft Visual Studio, PuTTY, Java, Azure Cache for Redis
- Data Archiving: *OnBase; *GCP BigQuery

Legacy Application Support

- Agency Application Support: *MuleSoft; *Azure; Toad
- Microsoft Access

IT Operations

Networks

- IP Address Management: *IPAM
- Switches: *Juniper Space; *Juniper Wired Assurance
- Wi-Fi: *Aruba Airwave; *Juniper Mist Portal
- Firewalls: *Palo Alto

Change Management/Recovery Services

- Problem Mgmt: Problem tracking: *ServiceNow
- Change Mgmt: Change Mgmt: *ServiceNow
- CMDB: *ServiceNow
- Event Mgmt: Event Management: *ServiceNow
- Reporting/Metrics: Reporting: PowerBI; *ServiceNow

Servers

- Infrastructure Management: *DNS
- On-Premise: *VMWARE vCenter
- Cloud: *Infrastructure: Microsoft Azure AWS; *VMWARE
- OS/Container Mgt: *Windows; *SUSE; *RedHat; *Kubernetes

Disaster Recovery/Business Continuity

- *Cybervault (storage of backups)
- *PowerFlex (platform mgt)
- *Avamar (backup/recovery)
- *VMware SRM
- *Power Protect Data Mgr
- *IBM Spectrum Protect
- *Data Domain

Cloud

- Microsoft: Infrastructure: *Microsoft Azure; Interoperability: *Office 365
- Google: *Google Cloud Platform
- AWS: Infrastructure: Cloud Computing Services
- Oracle Cloud Infrastructure: OCI
- *Nerdio
- *ShareGate Apricot

Telecommunications

- Cabling Services: AutoCAD; Adobe Acrobat; Google Earth Pro
- VoIP Services: Desk Phone: *Mitel Hosted Voice - VOIP; Cloud Faxing: *XMedius; *IVR/Service Center: Nice inContact/CXOne; Twilio
- Wireless Device Services: *FirstNet

Mainframe

DHS Operations/Sys Support/DR/: *Ensono (vendor)
*CMOD (DHS)

IT Operation Command Center

- Monitoring Services: PRTG; NetBrain
- Incident Response Services: *Blackberry AtHoc; GovDelivery

Identity Management

Microsoft Entra ID | VerifyOK | ASP.NET Identity | B2C | Windows LAPS

Customer Services

- Service Desk: Service Desk Tool: *ServiceNow; *IVR
- Technical Account Management: Reporting: *ServiceNow
- PC Support: *OMES End User Support
- Executive Support

Cyber Command

OK-ISAC

*Cybersecurity.ok.gov
*Anomali

Auth

SSO (Azure AD) | OPENID Connect2.0 | Kerberos | SAML2.0 | OAuth2

Compliance

- Background Checks: *IdentoGO-iTouch; *CastleBranch
- Privacy: E-Discovery: *Relativity & *iCONECT via Managed Service Provider
- SEAT Training: *KnowBe4
- Third Party Risk Mgt: *BitSight; *OneTrust

Cyber Command Operations

- Security Provisioning: Authentication, Access:; *Peoplesoft (provisioning); +AD LAPS (provisioning); *Delinea (Secret Server); +ASP .NET Identity
- Mainframe Sec: *RACF; *ACF2
- Security Operations Command: *Access Data FTK
- *SIEM Platform:

Defense

- *Virtual Desktop Infrastructure: Azure Virtual Desktop
- *Endpoint Security (CrowdStrike)
- *PC Encryption: Bitlocker
- *PC/Patch Management Platform Microsoft Endpoint Mgr Patch My PC
- VPN *Zscaler ZPA Internet Proxy *Zscaler ZIA
- Defense Operations: Mobile Device Management: *Intune; Microsoft Endpoint Manager: *Intune
- Network Security: *Firewall: Palo Alto; *Intrusion Prevention; DNS Security *InfoBlox, MS-ISAC MDBR, *Palo Alto, *Zscaler ZIA
- Privileged Access Management: *Delinea PAM

Vulnerability Management

*Tenable
*Microsoft Endpoint Mgr
**Code Scanning Tool

*O365 DLP | *Zscaler CASB | *Mimecast