

Data Center Services Forecast

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Joint Legislative Committee on Information and Technology

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Agenda

- Data Center Services (DCS)
- Cloud Brokering
- ▶ Co-Location
- Managed Services
- Agency Managed Equipment Outside of the State Date Center
- Mainframe
- Resilient Site





Data Center Services

FLEXIBLE ADAPTABLE

SCALABLE

EFFICIENT

We have committed our long-term future to ensuring that our customers' data and systems are:

- In a secure, stable and flexible data center
- Supported by a robust statewide network
- Reliable and ensure high performance
- Maintained in a cost-effective manner



Data Center Services

Disaster Recovery for Shared IT Infrastructure

Network Services

Data and Back-Up Services

Cloud Brokering

Co-Location Service

Managed Services





DCS Cloud Brokering

- Flexibility and choices to meet varying needs
- ▶ DCS is the service provider enabling agency IT divisions, developers, and agency IT professionals to quickly access and deploy cloud environments with minimal friction and IT overhead while maintaining effective guardrails in terms of centralized policies and procedures
- Tiered approach accommodates varying levels of support needs:
 - Prebuilt template
 - Network connectivity into and within the cloud
 - Security
 - Identity and access
 - Consulting
 - Managed services





DCS Cloud Brokering Customers - Current

Dept of Administration Services

Dept of Human Services Dept of State Lands

Dept of Revenue

Oregon State
Police

Dept of Corrections

Dept of Environmental Quality

Oregon Youth Authority Dept of Consumer & Business Services

Oregon Health
Authority

Public Employees Retirement System

Employment Dept

Higher Education Coordinating Commission

Dept of Education

Dept of Forestry

Dept of Transportation

State Board of Nursing

Public Utility Commission





DCS Cloud Brokering Customers – Planned

Dept of Justice

Dept of Agriculture





DCS Co-Location

- Available to Oregon public sector organizations
- Opens the door for agencies to host their valuable IT equipment in a tier 3 data center without the additional costs of maintaining their own facility
- Co-Location Service includes:
 - 24/7 access to their equipment
 - Robust HVAC system for environmental controls
 - Flat-rate monthly billing inclusive of power consumption
 - Redundant and conditioned power





DCS Co-Location Service Customers – Current

Oregon Health Authority Public Employees
Retirement System
(moving to
managed services)

Dept of Education

Oregon State Library

Parks & Recreation Dept

Oregon State Lottery



Dept of Energy

Oregon State University



DCS Co-Location Service Customers – Planned

Dept of Energy

Dept Consumer & Business Services



Dept Environmental Quality



DCS Managed Services

- ➤ X86 Server (Window Operating System / Linux Operating System), Midrange, Mainframe
- ▶ DCS provides performance and reliability to our customers
- Our capabilities can be compared to Cloud offerings known as Platform-as-a-Service (PaaS)
- Our platforms are designed in alignment with state security standards, built using industry best practices, and maintained and monitored to ensure a reliable computing experience
- Services include backup, storage, and network
- ▶ 24/7 monitoring



Agency Managed Equipment Outside of the State Data Center

Board

Dept of Land Bureau of Labor **Oregon State** Dept of **Dept of Aviation** Conservation & & Industries Police Agriculture Development Columbia River Dept of Fish & **Public Utility** State Marine Dept of Justice Gorge Wildlife Board Commission Commission Dept of Public Dept of Land Use Board Parks & Safety **Emergency** Medical Board Standards & of Appeals **Recreation Dept** Management Training Dept of State Board of Real Estate Consumer & Commission for Dept of Parole & Post the Blind Education Agency Business Supervision Services Liauor & **Psychiatric** Long Term Care Dept of State Dept of Cannabis Security Review Lands Ombudsman **Transportation** Commission





Mainframe Current State

- Z15 Mainframes leased October 2021
- Replaced end of life Enterprise Class with Business Class downsized based on reduced usage
- ▶ 60-month lease term ending September 2026
- Hardware purchase option at end of lease
- ► Lease extension option available
- ► End of useful life estimated 2030







Mainframe Support Structure

Vendor

Hardware

Data Center Services

- Operating System
- Software
- Utilities

Agencies

Applications





Mainframe Usage

Agency	Mainframe usage
Oregon Department of Human Services	58.91%
Oregon Department of Transportation	29.91%
Department of Administrative Services	7.40%
Oregon Health Authority	1.39%
Oregon Employment Department	1.14%
Oregon Legislative Information System	0.66%
Other (40 agencies)	0.59%
	100.00%



Gartner Mainframe Benchmark Study

- Study concluded July 2020
- ► The objectives of the Mainframe Benchmark Study included:
 - An analysis of the current DCS Mainframe service
 - Mainframe Market Price Assessment
 - Market research of potential alternatives
 - Strategic roadmap for service evolution





Mainframe Service Over time

Conceptual evolution of state mainframe service delivery



- Most states began with separate mainframe platforms within a given agency datacenter with dedicated staff.
- This model allowed agencies to develop and control custom COBOL applications to meet specific agency needs.



- Over time, datacenter consolidation resulted in a move to centralized mainframe infrastructure – typically within an IT shared services org.
- Efforts to reduce infrastructure staffing were included in these consolidation initiatives.



- Agencies, particularly those with less complex applications, began modernization efforts to migrate off the state mainframe.
- Many initial efforts failed or were delayed due to legacy complexities.
- Given the complexity of modernization, many agencies choose to build front-end web applications to access back-end mainframe data.
- Although this helped improve the user interface, mainframe workloads did not significantly decrease.



- A primary concern for maintaining service stability is addressing retirements of mainframe internal staff over the next 5yrs.
- As customers migrate off the mainframe, state service providers require flexibility in managing infrastructure costs.



- As state mainframe customers modernize there will be a 'tipping point' whereby internal delivery of state mainframe services are no longer viable.
- Each state will follow a distinct path to managed services.

DESTRICTED



Gartner



Gartner Mainframe Benchmark Study

Market Research Highlights

Executive Summary

- Gartner's Market Research and Analysis consisted of the following components:
 - Market Assessment Benchmark
 - Mainframe Market Research
 - Peer State Interviews
- Market research validated current state findings and assumptions, as well as preliminary go-forward options for DCS service evolution given similar trends in the market and across peer states.
- Gartner validated the use of vendor managed services can offer states greater flexibility given the uncertainties in customer modernization initiatives and upcoming staff retirements.

Key Findings

- The Gartner Market Assessment Benchmark concluded that outsourcing the current DCS Mainframe service would likely cost more than the current cost structure.
 - DCS 5yr cost: \$62.1M (annual costs of \$12.4M times five years)
 - Outsource 5yr cost: Market Low of \$61.9M Market High of \$91.5M
- Mainframe Market Research and Peer Interviews illustrated a transition to managed services given customer modernization efforts and an impending wave of retirements over the next 5yrs.
- The transition to managed services for each state is driven by a specific 'tipping point' including significant customer workload transitions, staff related challenges or by executive mandate.



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Fully Managed Service

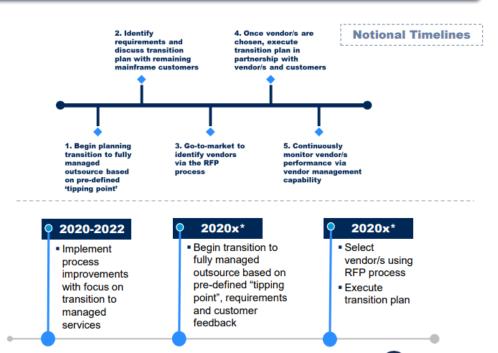
Fully Managed Outsource of Mainframe Service





Workforce Plan: Alternative #3

- DCS, in conjunction with state leadership, should define criteria for the 'tipping point' in transitioning the delivery of mainframe services to a fully managed outsource model.
- Given the significant transformation required to transition services, DCS will need to develop a comprehensive transition plan, including resourcing and customer relationship management, to ensure service stability.
- Once the transition to a fully managed outsource is complete DCS vendor management capabilities will be key to maintaining sustained mainframe service support.





* Likely post 2025



Approach Roadmap

Recommended Approach – Steps for transitioning to managed services

Step 4

Mature Vendor Management Capabilities

- · Expand Vendor mgmt. capabilities
- Conduct market research of potential mainframe managed service vendors

Step 5

Evaluate Transition to Managed Services Assess revised cost structure for use of

- managed services using RFI/RFP processes
- Evaluate impact on customers and required service delivery processes

Decision Point:

Backfills not replaced with

new full time staff

Step 8

Transition to Fully Managed
Outsource of Mainframe
Service (5+ Years)

Service (5+ Years)

Step 3

Conduct Scenario Planning

 Define criteria for shift in approach (e.g., internal hiring vs use of managed services)



Execute RFP/RFI Processes for full Outsource

- Define requirements with customers
 - Select vendors using RFI/RFP processes

Step 7

Current Step



'Tipping Point': Criteria met for Full

Outsource of Mainframe Service





Step 2

Conduct Workforce Planning

- Inventory resource skills and functions (e.g., RACI)
- Prioritize capabilities

Step 6

Develop and Engage Transition Plan

- Identify risks and dependencies for transition to managed services
- Engage managed services as retirements proceed

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Initiate Process Improvements
Improve documentation,
standardization of processes,
metrics, etc..



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Managed Services Request for Proposal Status

Jan. 2024

Specialized Request for Proposal (RFP) Writer Onboarded Oct. 2024

Managed
Services
Strategy and
Future
Operating
Model
Completed



Apr.-June 2025

RFP Release and Evaluation

Jan-Mar. 2026 MSP Services Implementation

















Managed
Services
Current
State
Assessment
Completed



RFP Package Development and Review



Managed Services Provider (MSP) Contract Negotiations





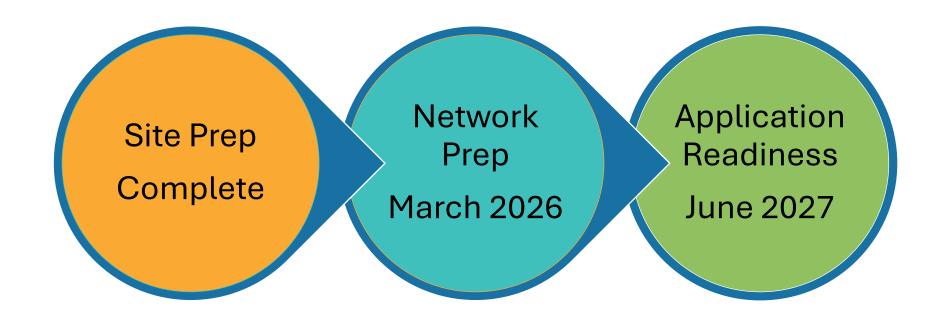
Resilient Site: Key Benefits

- ▶ Companies often have two data centers to ensure business continuity and prevent data loss by providing redundancy; if one data center experiences an outage due to a disaster or technical failure, the other can seamlessly take over operations, minimizing downtime and maintaining access to critical data
- Disaster recovery
- Increased availability
- Scalability
- Load balancing





Resilient Site: Estimated Timeframe





Thank you

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