GIS Migration to ArcGIS Enterprise

ArcGIS Enterprise

ArcGIS Server | Portal for ArcGIS | ArcGIS Data Store | ArcGIS Web Adaptor
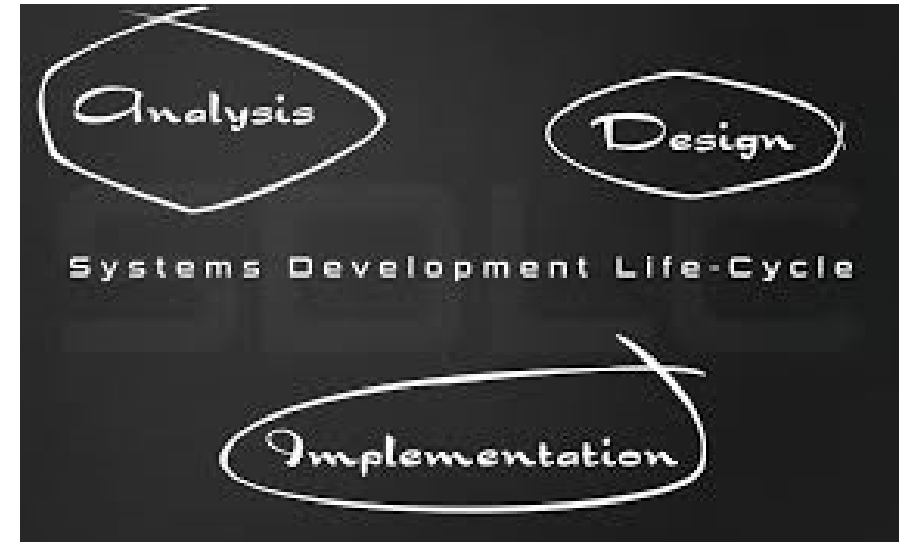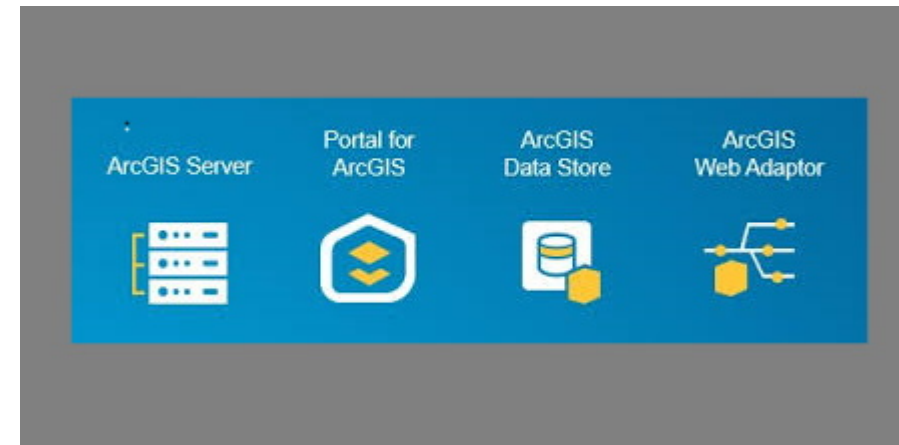
DLCD

Analysis

Design

Systems Development Life-Cycle

Implementation

August 11, 2020

Rachel L. Smith, Information Resources Coordinator

Project Prep & Initiation

Project Prep

- Document overall project plan, timelines, budget, staff needs

- Staff Training / Leader Prep

- Procure Consultant Help

- Set Up Core Team; weekly meetings

Procurements

- Esri Professional Services Credits
  - System Architecture Plan

- Hired Timmons Group via Oregon BaseCamp
  - Attend esri meetings/Workshop
  - Kick-Off
  - Review Plan; Suggest Edits/Best Practices Advice
  - Implementation Assistance
  - Transition to Maintenance
  - (provide Project Mgmt Assistance)

Staff Training

- ArcGIS Enterprise Configuring a Base Deployment
  - Network Analyst (IT)

- Deploying & Maintaining a Multiuser Geodatabase
  - Database Administrator
  - GIS Librarian

- Managing Geospatial Data in ArcGIS
  - GIS Analyst

Staff Training

- Helpful Videos from Esri
  - [ArcGIS Enterprise Introduction (UC 2019 Technical Workshop)](#)

  - [ArcGIS Enterprise Architecting Your Deployment (Dev Summit 2019)](#)

  - [ArcGIS Enterprise Functionality Matrix (10.8.1)](#)

  - DLCD ArcGIS Enterprise Overview
    - Created by Rachel Smith for core project team as intro to Enterprise.

Project Initiation

- **System Architecture Plan**
  - Used 37.38 credits = $20,933

- **3-day Workshop with Staff**

- **Draft Plan**
  - Reviewed by DLCD
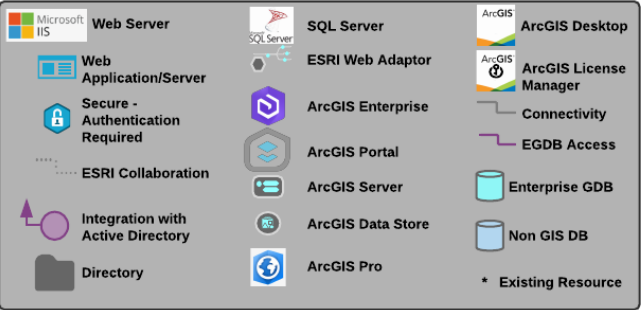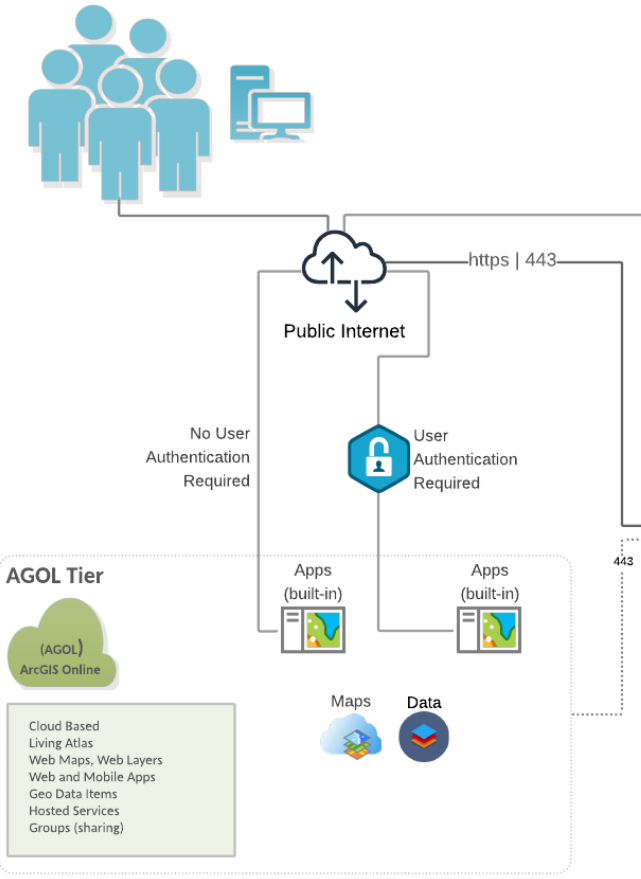 - Reviewed by Timmons Group

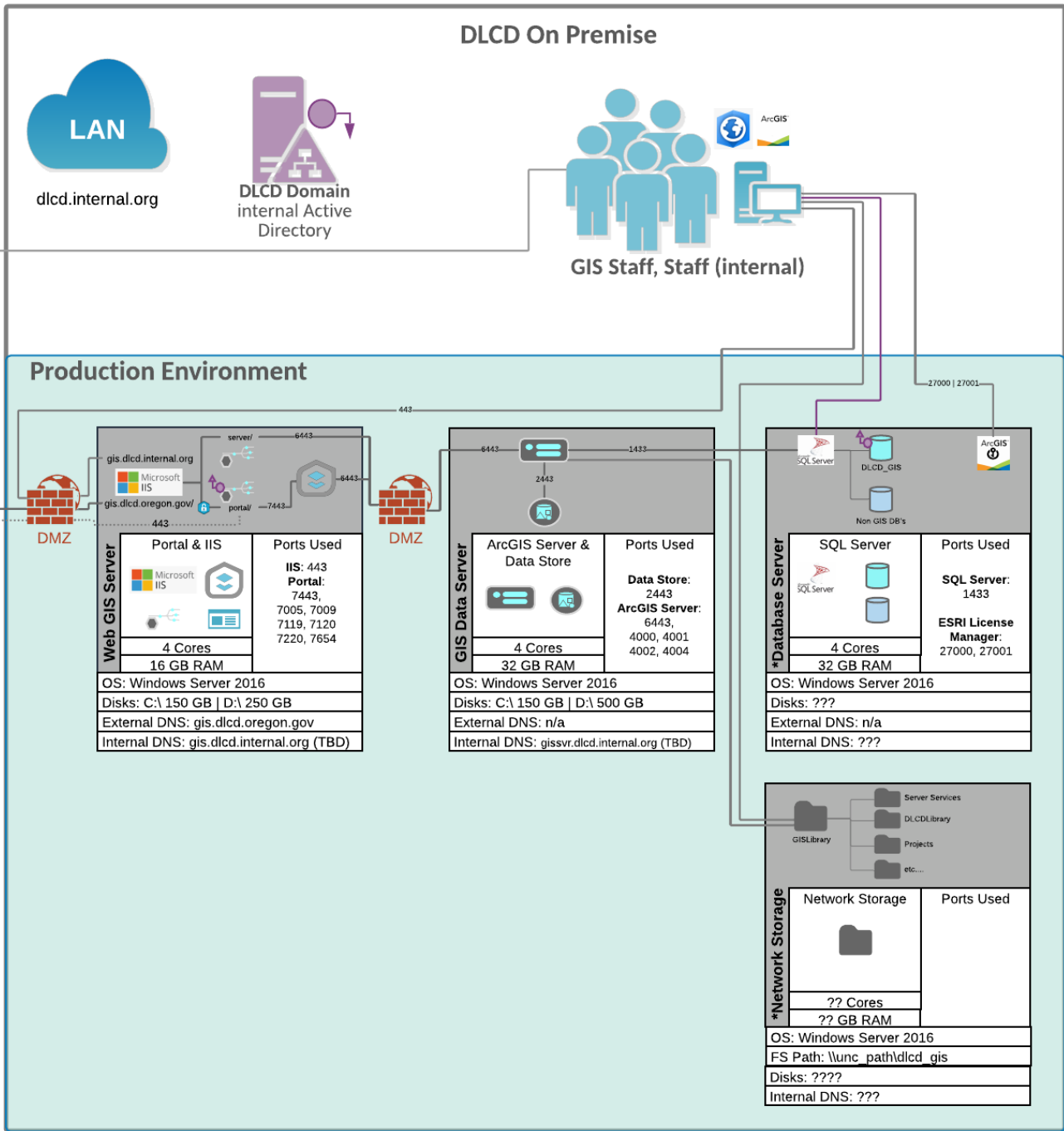- **Final Plan**

Planning

Planning Prep Overview

- *Perfect* Project Timeline
  - May – July

- Finalize the System Design

- Current State Documentation

- Future State Documentation

- Implementation Checklist/Plan

External Access: Public or Contractor Users

DLCD On Premise

LAN

dlcd.internal.org

DLCD Domain internal Active Directory

GIS Staff, Staff (internal)

ArcGIS

—https | 443—

Public Internet

Production Environment

27000 | 27001

443

No User Authentication Required

User Authentication Required

6443

443

AGOL Tier

(AGOL) ArcGIS Online

Cloud Based
Living Atlas
Web Maps, Web Layers
Web and Mobile Apps
Geo Data Items
Hosted Services
Groups (sharing)

Apps (built-in)

Apps (built-in)

443

Maps

Data

DMZ

gis.dlcd.internal.org

Microsoft IIS

gis.dlcd.oregon.gov/

server/

portal/

6443

7443

6443

443

DMZ

6443

1433

2443

SQL Server

DLCD_GIS

Non GIS DB's

ArcGIS

Web GIS Server

Portal & IIS	Ports Used
Microsoft IIS	**IIS**: 443
	Portal: 7443, 7005, 7009 7119, 7120 7220, 7654
4 Cores	
16 GB RAM	

OS: Windows Server 2016
Disks: C:\ 150 GB | D:\ 250 GB
External DNS: gis.dlcd.oregon.gov
Internal DNS: gis.dlcd.internal.org (TBD)

GIS Data Server

ArcGIS Server & Data Store	Ports Used
	Data Store: 2443
	ArcGIS Server: 6443, 4000, 4001 4002, 4004
4 Cores	
32 GB RAM	

OS: Windows Server 2016
Disks: C:\ 150 GB | D:\ 500 GB
External DNS: n/a
Internal DNS: gissvr.dlcd.internal.org (TBD)

*Database Server

SQL Server	Ports Used
	SQL Server: 1433
	ESRI License Manager: 27000, 27001
4 Cores	
32 GB RAM	

OS: Windows Server 2016
Disks: ???
External DNS: n/a
Internal DNS: ???

GISLibrary

Server Services
DLCDLibrary
Projects
etc....

*Network Storage

Network Storage	Ports Used
?? Cores	
?? GB RAM	

OS: Windows Server 2016
FS_Path: \\unc_path\dlcd_gis
Disks: ????
Internal DNS: ???

Legend

Microsoft IIS — Web Server

Web Application/Server

Secure - Authentication Required

ESRI Collaboration

Integration with Active Directory

Directory

SQL Server — SQL Server

ESRI Web Adaptor

ArcGIS Enterprise

ArcGIS Portal

ArcGIS Server

ArcGIS Data Store

ArcGIS Pro

ArcGIS — ArcGIS Desktop

ArcGIS License Manager

Connectivity

EGDB Access

Enterprise GDB

Non GIS DB

* Existing Resource

Current and Future State Documentation

- **Inventories and Stats**
  - Data Library
  - Project/User Files
  - mxd's and Pro projects
  - Applications
  - Data Services
  - External Apps

- **Staff Planning**
  - Licenses
  - Roles

- **Library Structure / File Organization / Naming Conventions**

Implementation Checklist

Oregon Department of Land Conservation & Development (DLCD)
GIS Administration Assistance

Oregon DLCD ArcGIS Enterprise Implementation Checklist

The goal of the following is to serve as a checklist of technical items that need to happen for the implementation of the of ArcGIS Enterprise in the DLCD environment.

ArcGIS Enterprise Configuration and Deployment

ID	Task	Resource(s)	Due Date	Status
1	Document and signoff on System Design	DLCD | TG	Tue 6/30/20	Complete
2	Planning ODA Enterprise Geodatabase from ODA migration method(s)	Randy | Tanya | ODA | TG	Fri 7/24/20	Complete
3	Planning and preparation for migration of file-based project data	Randy | Jon | TG	Fri 7/24/20	Complete
4	Prepare Test Plan – need a list of tests we want to do (test categories)	DLCD | TG	Fri 7/24/20	Complete
5	Develop a short & long-term Portal rollout and training plan	DLCD | TG	Fri 7/24/20	Pending
6	Inventory DLCD applications (spreadsheet) along with adding map services and layers identify public data/applications sources for update to new source	Tanya | Rachel	Fri 7/24/20	Complete
7	Procure new hardware for the solution (if required) – Additional storage space.	Jon	Tue 7/14/20	Complete
8	Install configure new storage space	Jon	Tue 7/14/20	Complete
9	Create VM for the "Web Tier". This server will host IIS, Portal, and ESRI Web Adaptors.	Jon	Mon 7/6/20	Complete
10	Create VM for the "Application Tier". This server will host Server for ArcGIS and ArcGIS Data Store.	Jon	Mon 7/6/20	Complete
11	Install and configure IIS: • Install IIS • Configure server bindings • Deploy SSL certificate • Configure external DNS	Jon	Mon 7/6/20	Complete
12	Test traffic to web server (internal and external)	Jon	Mon 7/7/20	Complete
13	Install Portal for ArcGIS	Jon | TG	Fri 7/17/20	Complete
	Configure Portal for ArcGIS			

Implementation

Implementation

- Implementation Checklist
  - Adjustments along the way
    - Adding new items to list
    - Adjusting due dates

- Testing
  - Test Plan
  - Examples provided by Timmons

- Coordination with Others
  - OR Dept. of Agriculture
  - GEO – Licensing & Portal Collaboration Setup
  - Folks who host apps for us ex. Oregon Explorer

Implementation

- Prepare documents for GIS Users
  - Provide guidance on Set-Up
    - Network connections
    - How do I find the new GIS Library?
    - Where's the Project files? My data?
  - Provide guidance on new workflows
    - Publishing to Portal
    - Use of Collaboration with AGOL
- Prepare documents for Agency
  - Portal roll-out
  - How will the agency as a whole use and benefit from Portal?
- Governance

Questions?

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