

# ArcGIS Enterprise Administrative Workflows

October 26, 2023

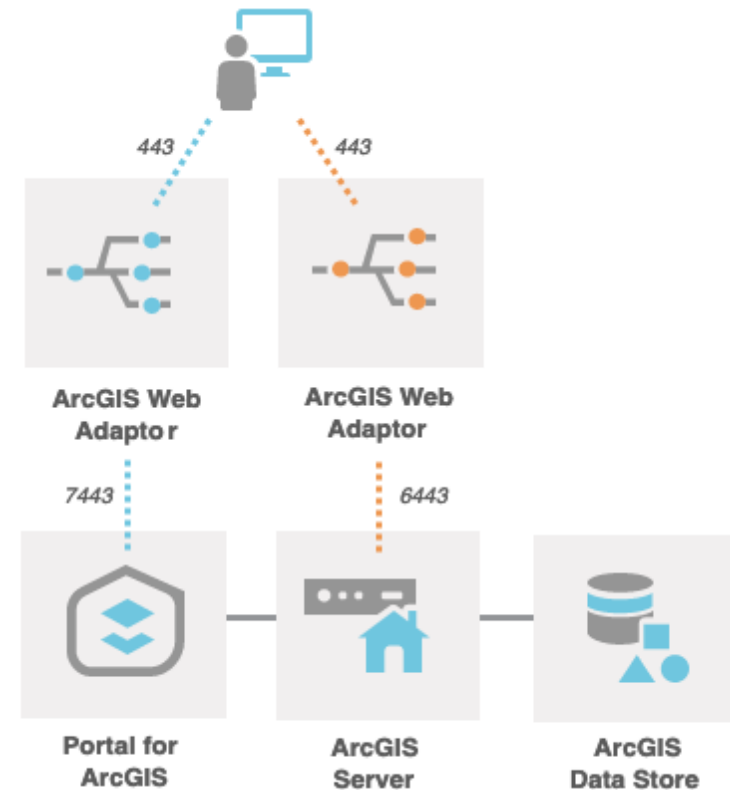
# Agenda

- Deployment Patterns
- Servers and Roles
- ArcGIS Data Store
- Portal Capabilities – Webhooks & Collaborations
- Scripts and Automations



# ArcGIS Enterprise Base Deployment

- Portal for ArcGIS – Content sharing platform
- ArcGIS Server – Hosting server that supports Web GIS infrastructure
- ArcGIS Data Store – Manages data storage within Hosting Server
- ArcGIS Web Adaptor – Allows for proxied access to GIS content



*Credit: Esri*

# Deployments

Single-machine vs Multi-machine

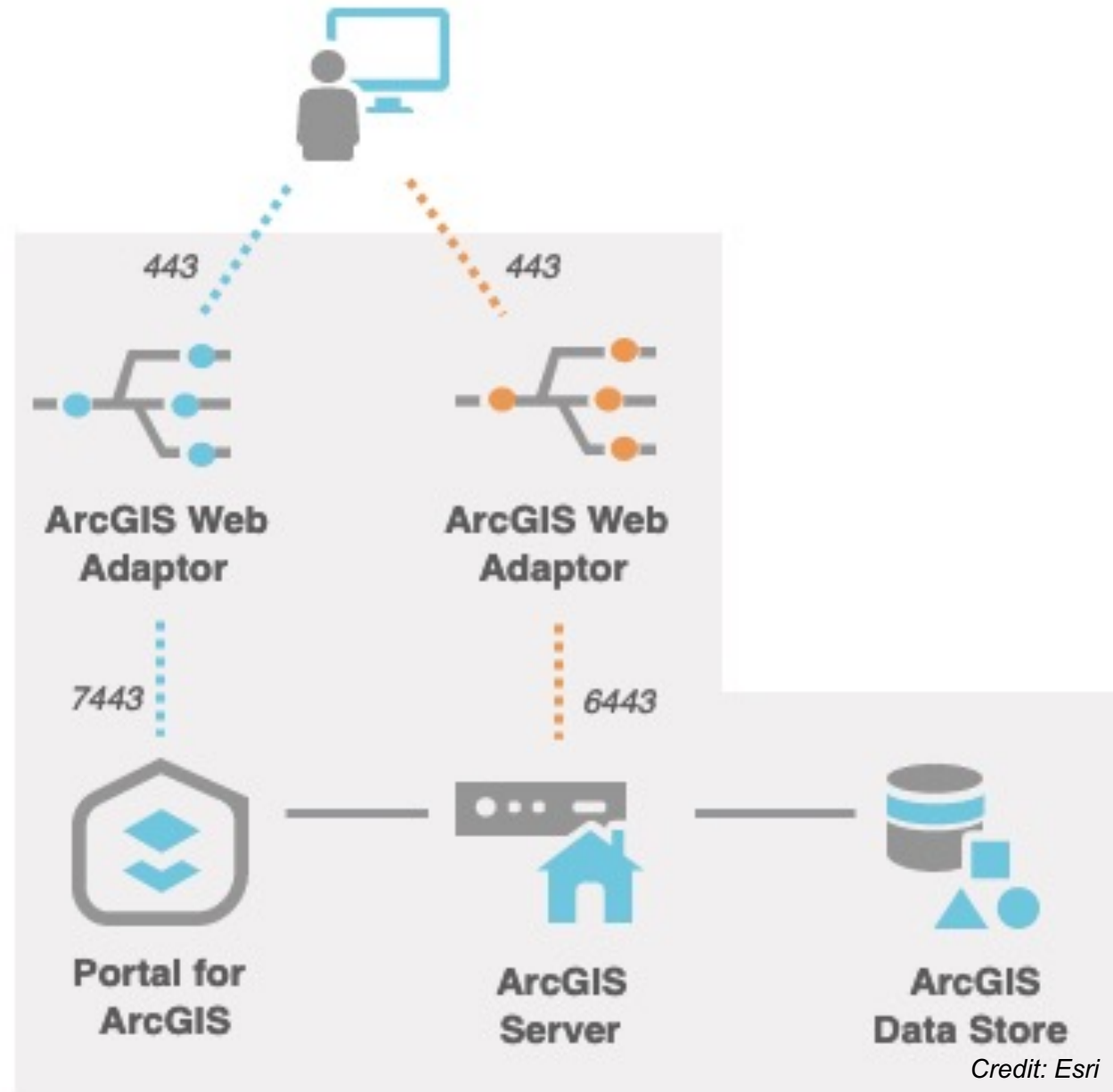
Considerations:

- Scalability
- Patterns of Use
- Users
- Availability



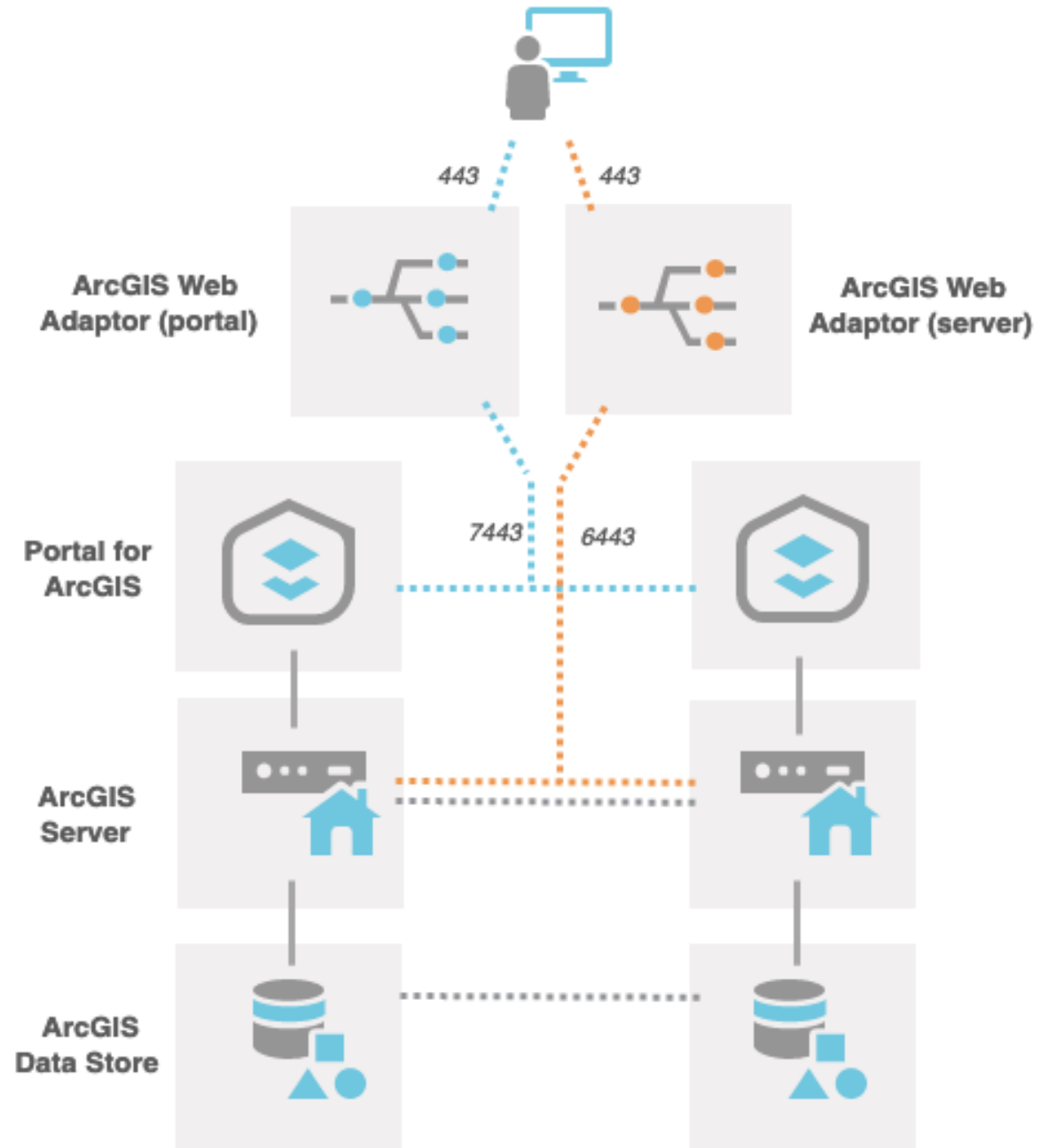
# Single-machine Deployment

- Easy to install, maintain, and upgrade
- Performance – resources are available on the same machine
- Single point of failure
- Can outgrow resources
- Difficult to expand later



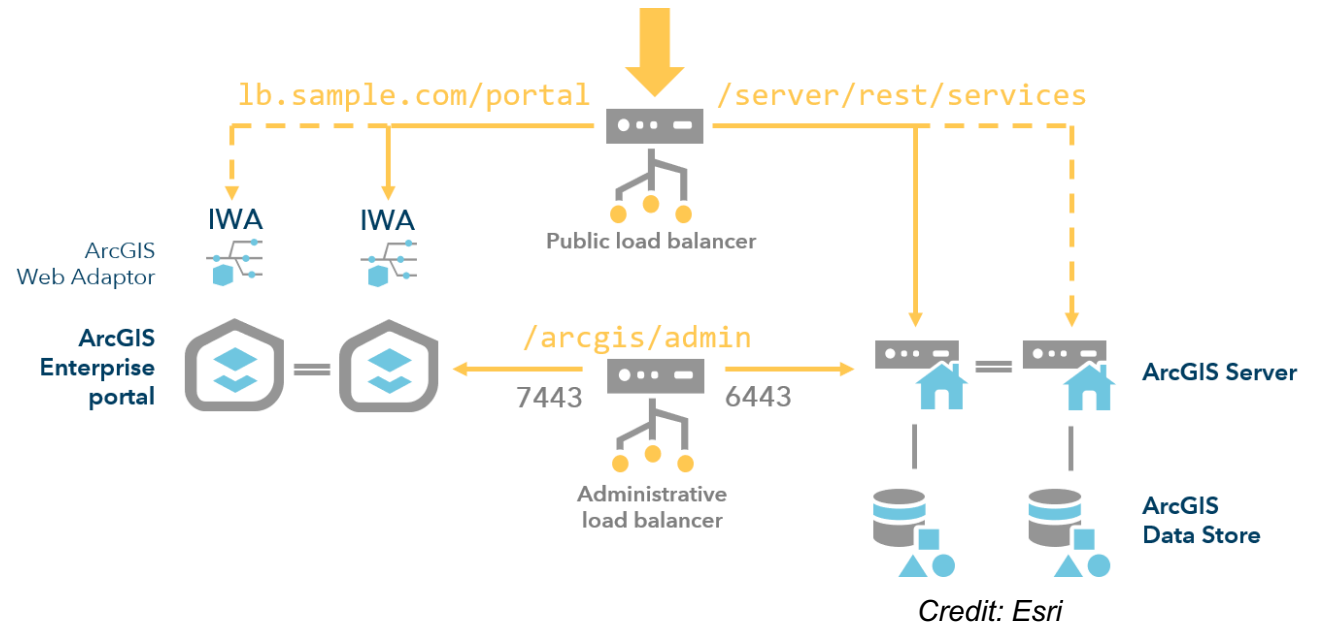
# Multi-machine Deployment

- High availability available
- Better scalability options
- System isolation
- More difficult to install, maintain, upgrade



# High Availability

- Expand resources onto multiple machines
- Limits downtime
- Utilizing a load balancer
- Primary and stand-by resources
  - Portal, Data Store
- Multi-machine ArcGIS Server site



## Cloud vs On-Premises

- AWS and Azure
- Costs
- Taking advantage of native Cloud Functionality
- More options for disaster recovery and backups
- Typically more responsibility falls on GIS staff more management







# ArcGIS Enterprise and ArcGIS Server Licensing

- ArcGIS Enterprise licensed per user and by system capacity
- ArcGIS Server can be licensed in a variety of roles
  - ArcGIS Image Server – manages dynamic image services, can be federated
  - ArcGIS GeoAnalytics Server – big data processing and analysis
  - ArcGIS GeoEvent Server – enables real-time data streams to be utilized
  - ArcGIS Notebook Server – enables the use of ArcGIS Notebooks

# Configure Servers and Federation

Federating an ArcGIS Server site allows portal to manage security and sharing models of the ArcGIS Server site

Benefits:

- Enhanced security
- Easier to manage
- Publishing of Hosted Feature Layers

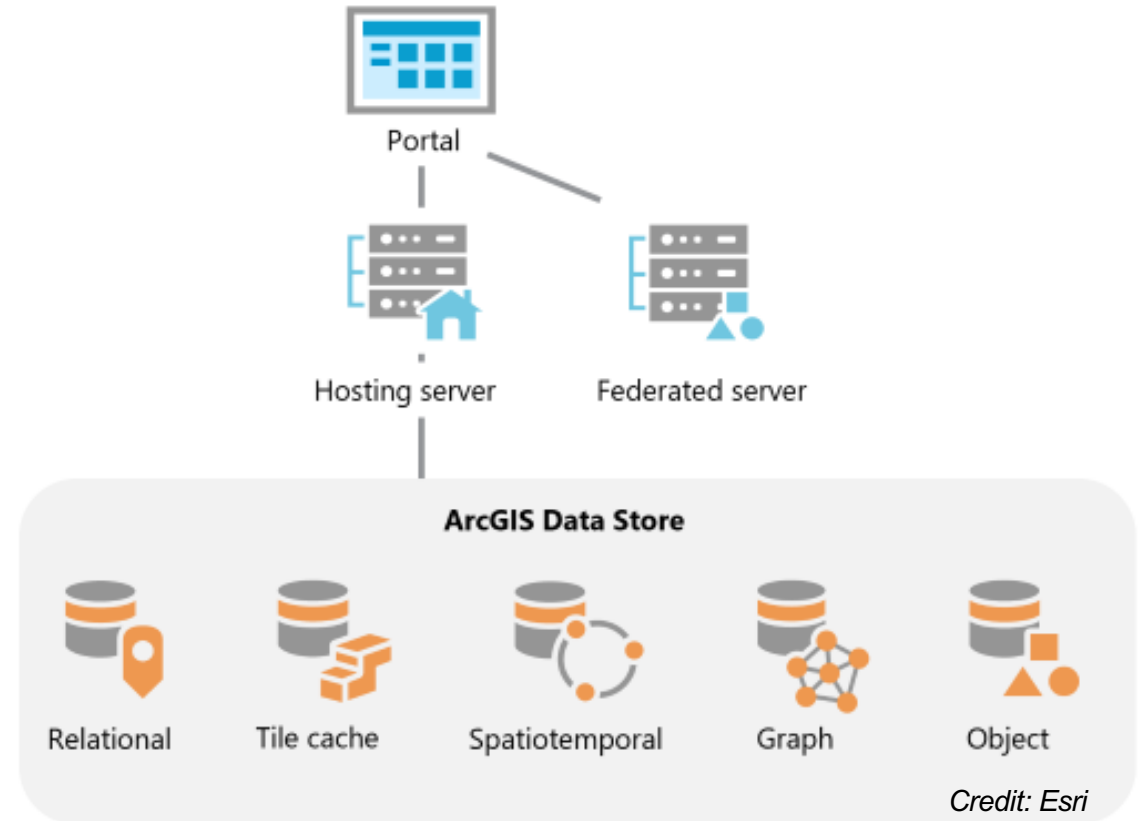
Disadvantages:

- Difficult to federate existing ArcGIS Server sites
- Authentication – Web-tier, token-based, anonymous access



# ArcGIS Data Store

- Manages data storage for the Hosting Server
- Relation data store – stores hosted feature layer data
- Tile cache data store – stores hosted scene layer
- Spatiotemporal big data store – stores real time data





# ArcGIS Data Store - Utilities

- Management of ArcGIS Data Store conducted through utilities on server
- Ran through CMD line or Windows Powershell

## Common tools:

- Describe Data Store
- Back Up Data Store
- Change Data Store Mode

```

General information of ArcGIS data stores on 10.0.0.86
=====
Data store release.....10.7.0.10450
Staging location...../gisdata/arcgisdatastore/staging
Log location...../gisdata/arcgisdatastore/logs
Free disk space.....71.00GB
Threshold for READONLY mode.....1024MB

Information for relational data store ds_4hdlh7he
=====
Backup location...../gisdata/arcgisdatastore/backup/
Is backup folder shared.....true
Backup schedule.....{"schedule-starttime":"00:00:00","schedule-frequency":"Every 4 DAYS"}
Days backup retained.....7
Data store status.....Started
Member machines.....10.0.0.86
Maximum connections.....150
Owning system URL.....https://[redacted]/server
Portal for ArcGIS URL.....https://[redacted]/portal
Number of connections.....0 connection(s) to managed database
Data Store mode.....READWRITE
Is Point-in-time recovery enabled...No
Query optimizer enabled.....Yes

Information for tile cache data store tcs_forzq1p5
=====
Data location...../gisdata/arcgisdatastore/nosqldata
Data store status.....Started
Backup location...../gisdata/arcgisdatastore/backup/tilecache
Is backup folder shared.....false
Member machines.....10.0.0.86
Owning system URL.....https://10.0.0.86:6443/arcgis/admin
Portal for ArcGIS URL.....https://[redacted]/portal

Operation completed successfully

arcgis@ip-10-0-0-86:/arcgis/datastore/tools$

```





# Securing ArcGIS Enterprise

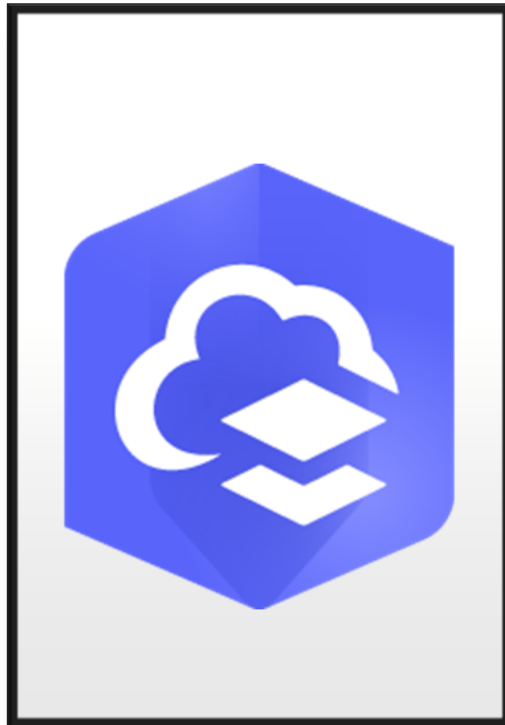
- Restrict Portal's proxy capability
  - Only allow access to specific sites
  - Minimizes risk of Denial of Service (DoS) attacks
- Disable anonymous access
- Utilize Certificate Authority (CA) server certificates
- Only allow specific ports to work for your firewall

## Collaborations

Extend GIS content across different platforms and organizations

Collaborations can be done:

- Portal to Portal
- Portal to ArcGIS Online





# Collaborations – Key Concepts

- Host – where collaboration is initiated
  - If using ArcGIS Online, ArcGIS Online is always the host
- Guests – invited by the Host
- Workspaces & Groups – where data is shared and accessed
- Access
  - Send Only – Host sends data to Guest
  - Receive Only – Host receives data from Guest
  - Send and Receive – Host and Guest can both send/receive data



# ArcGIS Enterprise Webhooks

- New to ArcGIS Enterprise 11
- Can be utilized for notifications or automated emails
- Key Concepts:
  - Event triggers – triggers operations that invoke webhook
  - Payload – event information
  - Payload URL – payload sends information to specific URL
  - Receivers – retrieve payload information





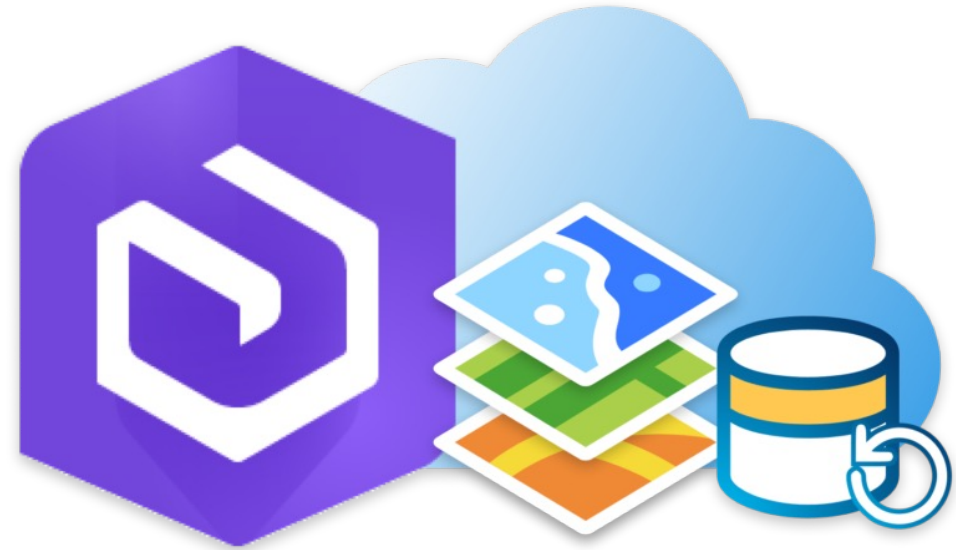


# Scripts and Automation

- Command line utilities built into Portal
  - Add members
  - Recover administrator account
  - Scan portal for security
- Other options for automation solutions
  - Chef cookbooks
  - PowerShell
  - ArcGIS API for Python

## Other Administrative Tasks

- Change portal content directory
- Change the Portal for ArcGIS Service Account
- Check and Install patches
- Stop and start portal
- Backup and Disaster Recovery tools





## Other Enterprise 11.1 Highlights

- Map Viewer Updates
- Custom Data Feeds – Create feature services from any data source
- Experience Builder and Dashboard App Updates
  - Print Widget
  - Data Download
- Enhanced User Management Tools
- New and Improved Instant Apps



THANK YOU

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