

Leveraging Web GIS: An Introduction to the ArcGIS portal

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2016 ESRI
PETROLEUM
GIS CONFERENCE



Agenda

- **Web GIS pattern**
- **Product overview**
- **Installation and deployment**
- **Configuration options**
- **Security options and groups**
- **Portal for ArcGIS + ArcGIS Server**
- **Implementation suggestions**
- **Summary**

ArcGIS Is a Platform

Enabling GIS Everywhere

Simple
Integrated
Open



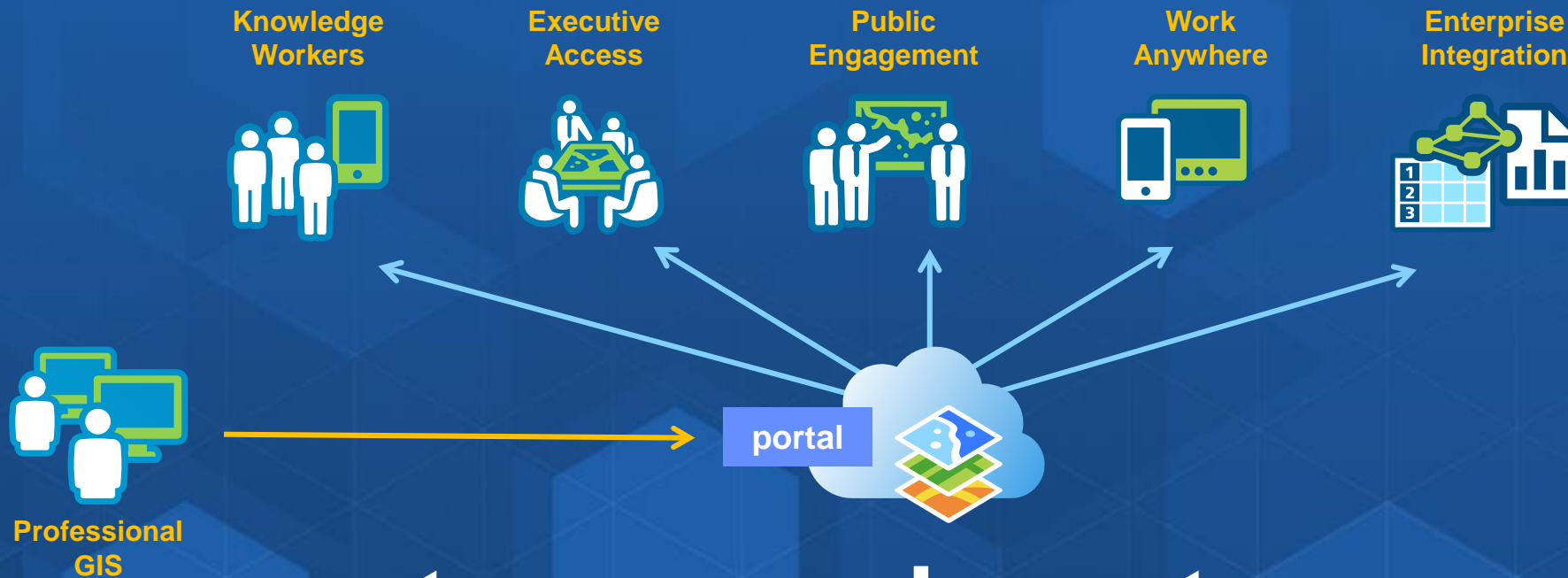
*Available in the Cloud . . .
. . . and On-Premises*

Organize your maps and apps



enable discovery

Empower people

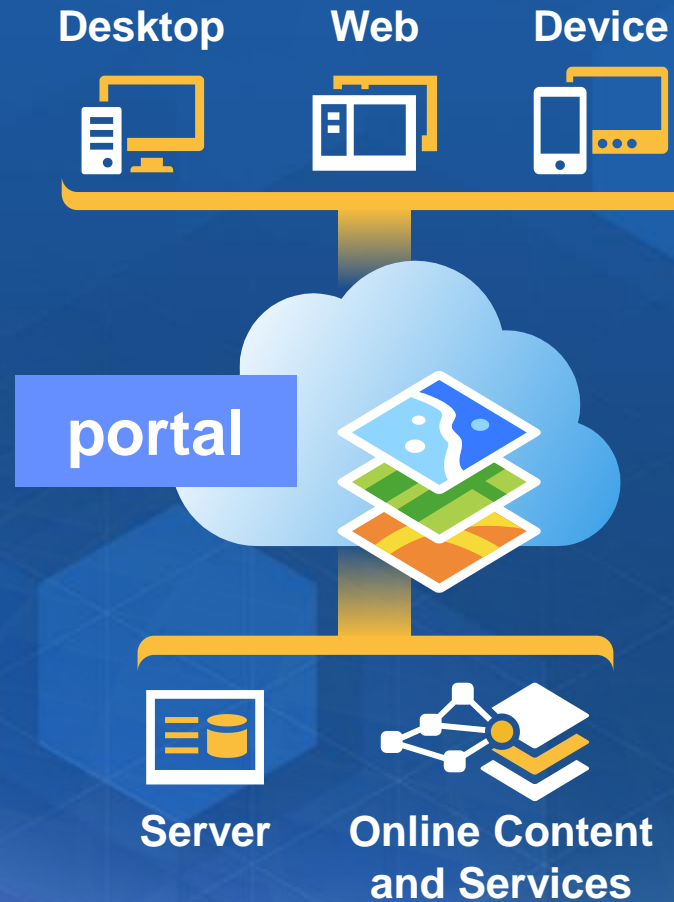


to use and create maps

The ArcGIS Platform enables Web GIS

Enabling GIS Everywhere

Simple
Integrated
Open



*Available in the Cloud . . .
. . . and On-Premises*

Key ArcGIS components for Web GIS



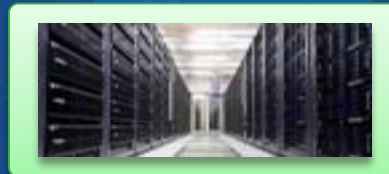
Apps

- Information Products
- Access Control



portal

- Web Services
- Data



GIS Servers
Authoring tools



Ready to use
Content

Web GIS Deployment Patterns



Apps



portal



GIS Servers



Ready to use
Content

SaaS

Software

ArcGIS Online
(portal)

ArcGIS Online
(Hosted Servers)

ArcGIS Online
Services

Portal
for ArcGIS

ArcGIS
Server

ArcGIS Data
Appliance

Web GIS Deployment Patterns



portal



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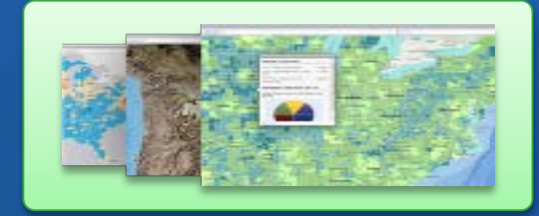
Web GIS Deployment Patterns



portal



GIS Servers



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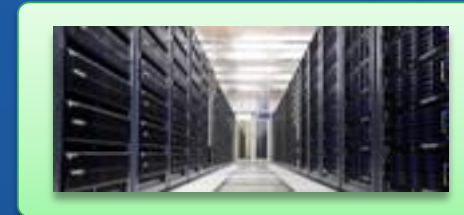
ArcGIS
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Web GIS Deployment Patterns



portal



GIS Servers



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Portal for ArcGIS

Web GIS in your infrastructure option

- **Central hub for your GIS assets**
- **Solution when**
 - Additional security requirements
 - No public cloud option
- **Allows for**
 - Enterprise integration (e.g., security)
- **COTS product since 10.2**
- **Extension to ArcGIS for Server**
 - Since 10.3 included with Standard & Advanced



Portal for ArcGIS

Is it right for me?

- Typical reasons for choosing **Portal for ArcGIS**
 - Have no Internet/www connection
 - Have strict SLAs and governance
 - Not ready/interested in the cloud
 - You are responsible for maintenance
- Typical reasons for choosing **ArcGIS Online**
 - Lower overall cost (faster start, less admin costs)
 - Elasticity
 - Continuous updates and improvements from Esri



Portal for ArcGIS – Some User Success Stories





Portal for ArcGIS Tour

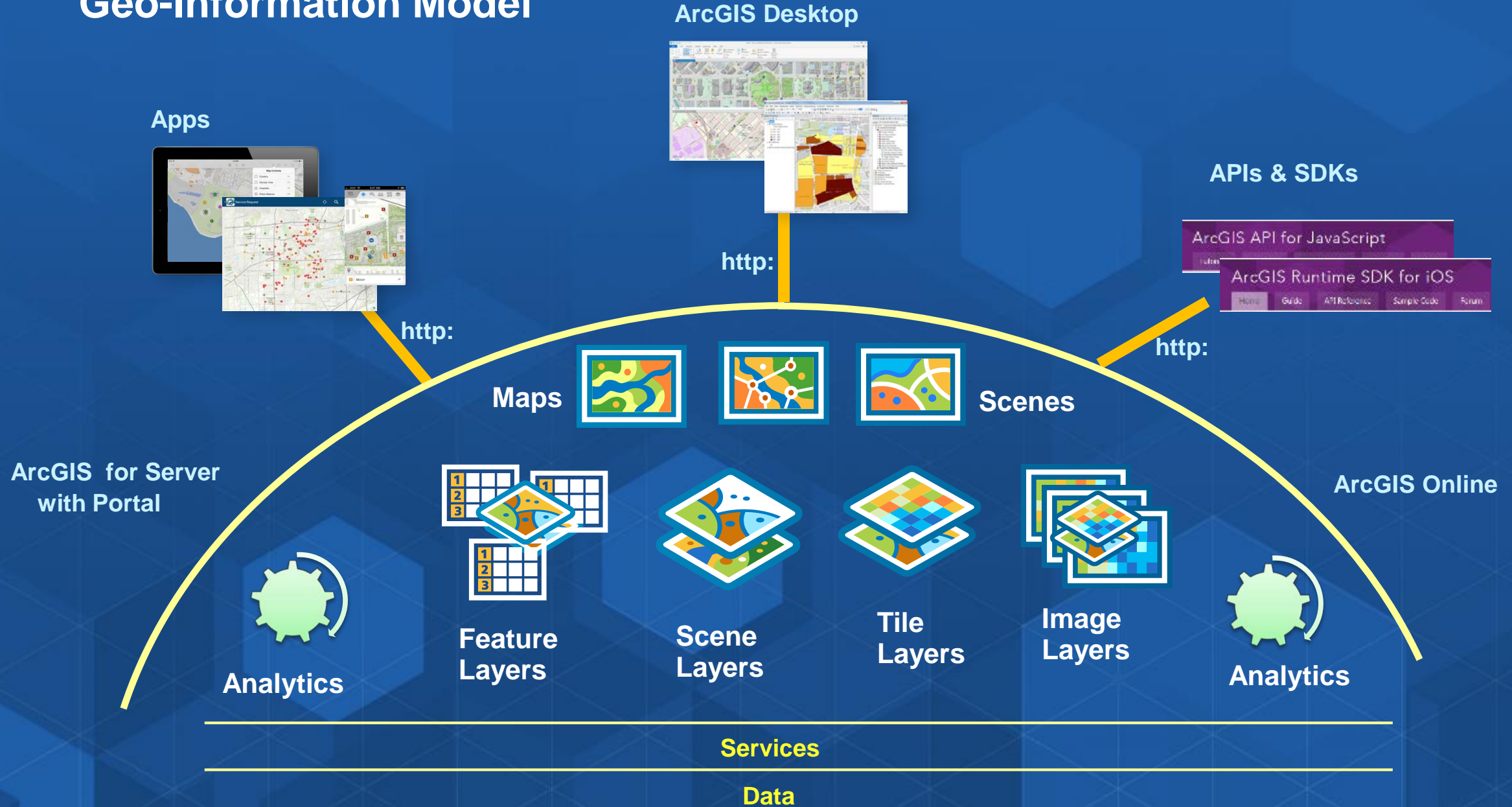
Demo

Portal for ArcGIS Capabilities

- Browse, search, and discover your GIS assets
- Self-service mapping
- Content creation and management
- Sharing and collaboration
- Data hosting and mapping
- Visualization, collection, and analysis
- Ready to use maps and layers
- Supports 2D and 3D content



Geo-Information Model



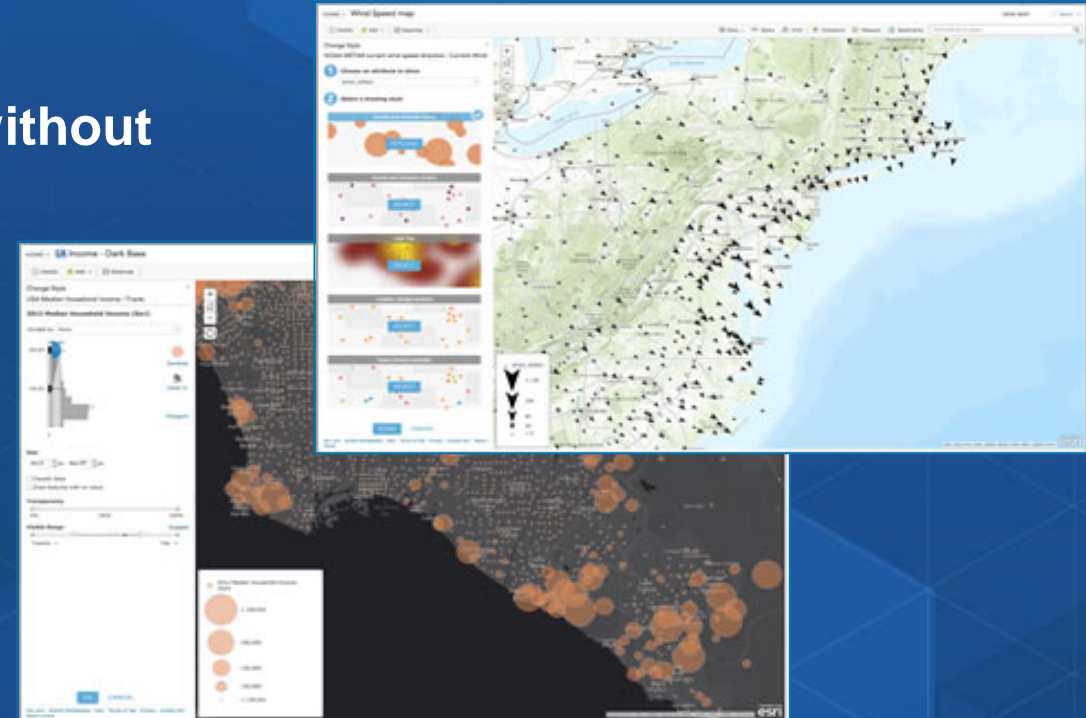
What is a Web Map?

- Foundation for your maps and apps
- Enables “intelligent maps” → Web Map stores references to web services and data, display and behavior settings
- Supports: smart mapping, pop-ups, editing, analysis, time, etc.
- Create in Portal for ArcGIS map viewer
- **Can be leveraged by all other Esri Apps**



Smart Mapping User Experience

- Quickly make useful, visually stunning maps
- “smart” default symbolization
- Data driven workflows
- Automatically applied to feature layers without styling
- Live on screen styling



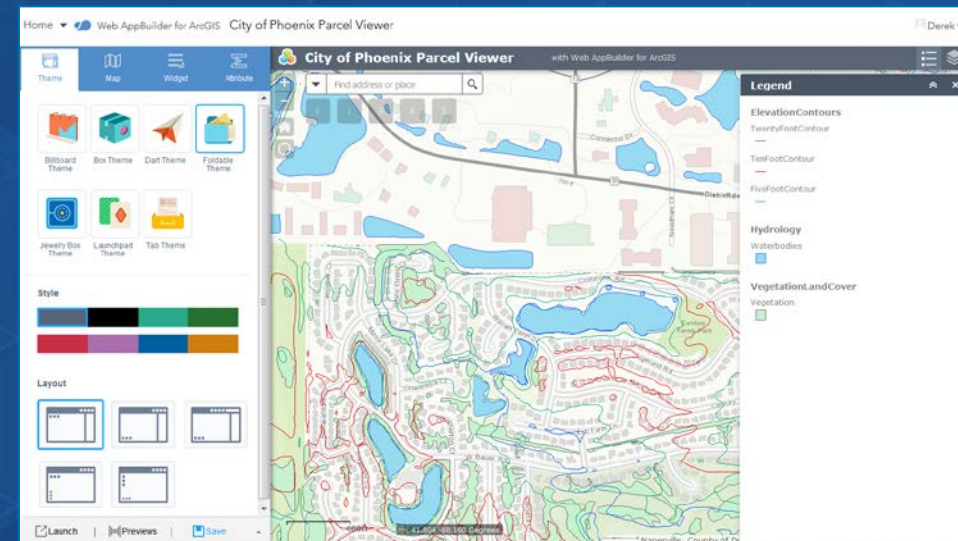
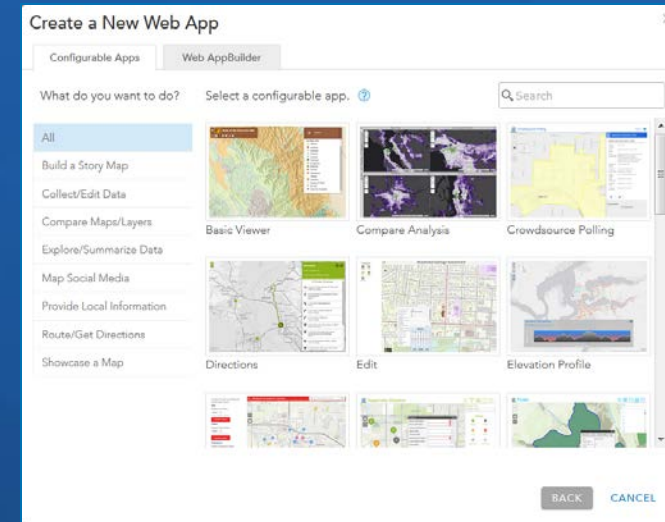
Create New Web Apps

- **Configurable Application Templates**

- Workflow focused apps
- Categorized by themes/use cases

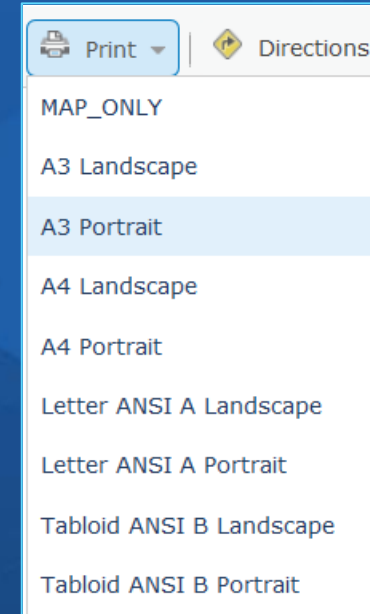
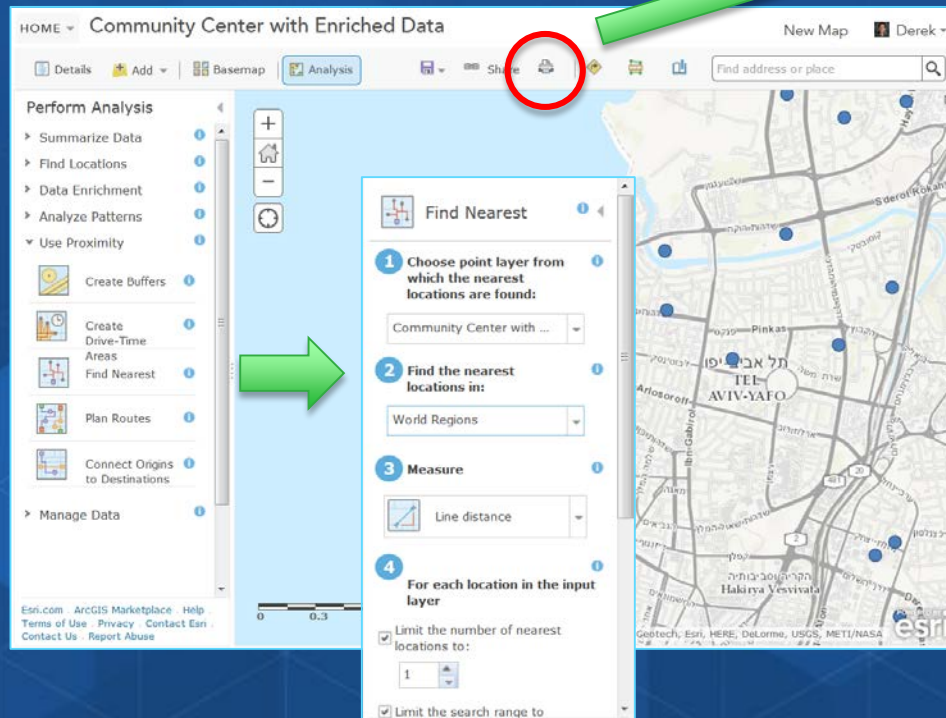
- **Web AppBuilder for ArcGIS**

- Create and deploy new apps without programming
- WYSIWYG user experience
- Widget framework



Portal for ArcGIS 10.4 Map Viewer

- New functionality includes
 - Spatial analysis tools
 - Support for custom print layouts



Analysis Capabilities in Portal

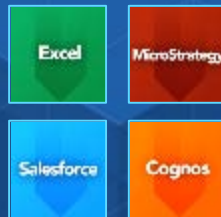
Demo

Apps included with Portal for ArcGIS

- Configurable application templates
- Collector for ArcGIS
- Operations Dashboard for ArcGIS
- Explorer for ArcGIS
- ArcGIS Maps for Office
- Esri Maps for ... Apps (4 different apps)
- 10.3.x: Web App Builder for ArcGIS



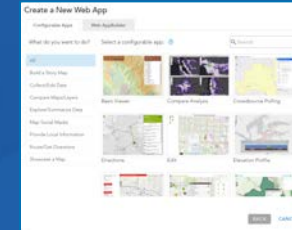
Explorer for ArcGIS



Esri Maps for ... Apps



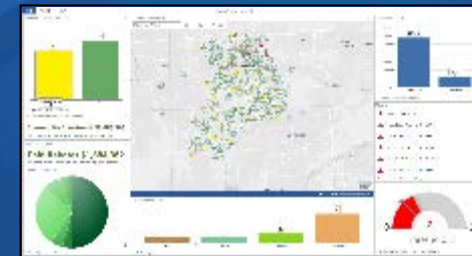
ArcGIS Maps for Office



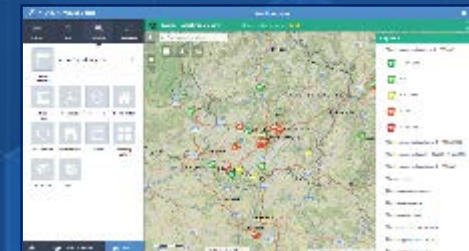
Configurable App Templates



Collector for ArcGIS



Operations Dashboard for ArcGIS



10.3.x Web App Builder for ArcGIS

Portal for ArcGIS – System Requirements

Same Supported Operating Systems as ArcGIS Server

Windows

Operating system	Minimum OS version	Maximum OS version
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP2	SP2
Windows 10 Pro and Enterprise (64 bit [EM64T])		
Windows 8.1 Pro and Enterprise (64 bit [EM64T])	Update: April 2014	
Windows 8 Pro and Enterprise (64 bit [EM64T])		
Windows 7 Ultimate, Professional, and Enterprise (64 bit [EM64T])	SP1	

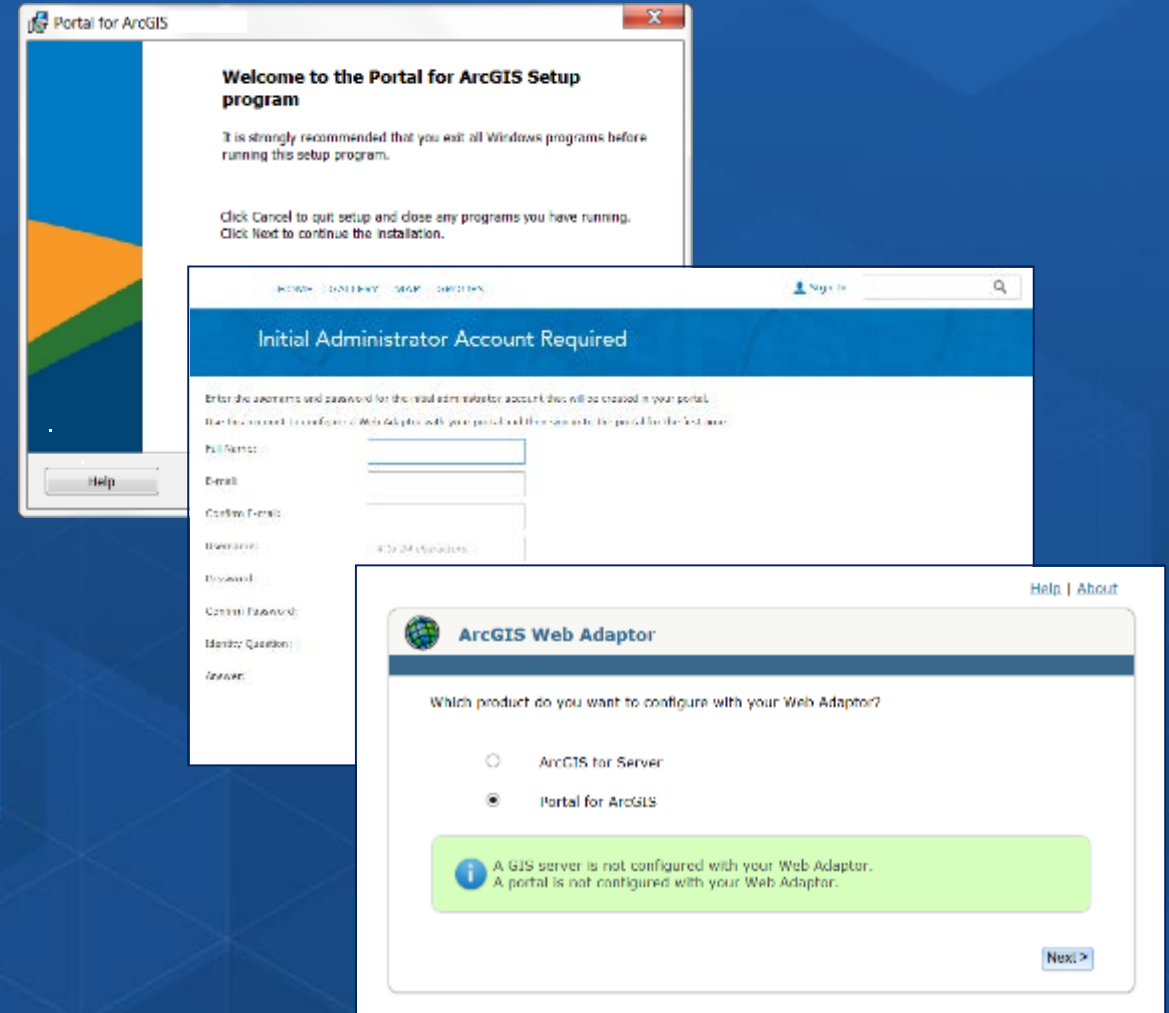
Linux

Operating system	Minimum OS version	Maximum OS version
Red Hat Enterprise Linux Server 7 (support begins at 10.3.1)		Update 1 and 2 not supported
Red Hat Enterprise Linux Server 6		
Red Hat Enterprise Linux Server 5	Update 7 with libX11 patch	
SUSE Linux Enterprise Server 12 (support begins at 10.3.1)		
SUSE Linux Enterprise Server 11	Service Pack 1	

Installing Portal for ArcGIS

Can be scripted for silent installs

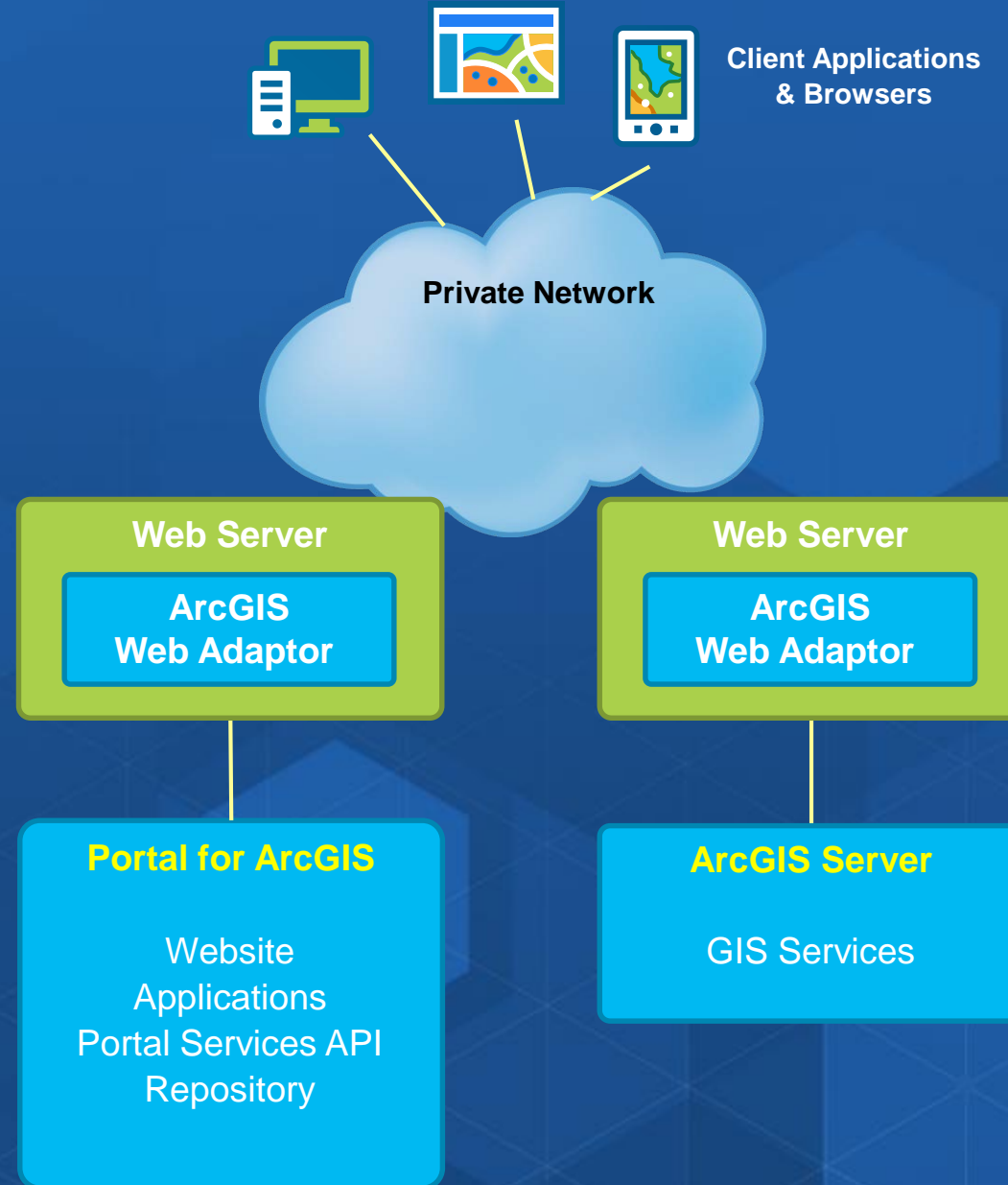
- 5 step workflow
 1. Run installer
 2. Authorize software
 3. Create initial admin account
 4. Enable SSL on web server
 5. Configure ArcGIS Web Adaptor
- Review help documentation
- Helpful to have
 - IT knowledge
 - Understand security, SSL, etc.



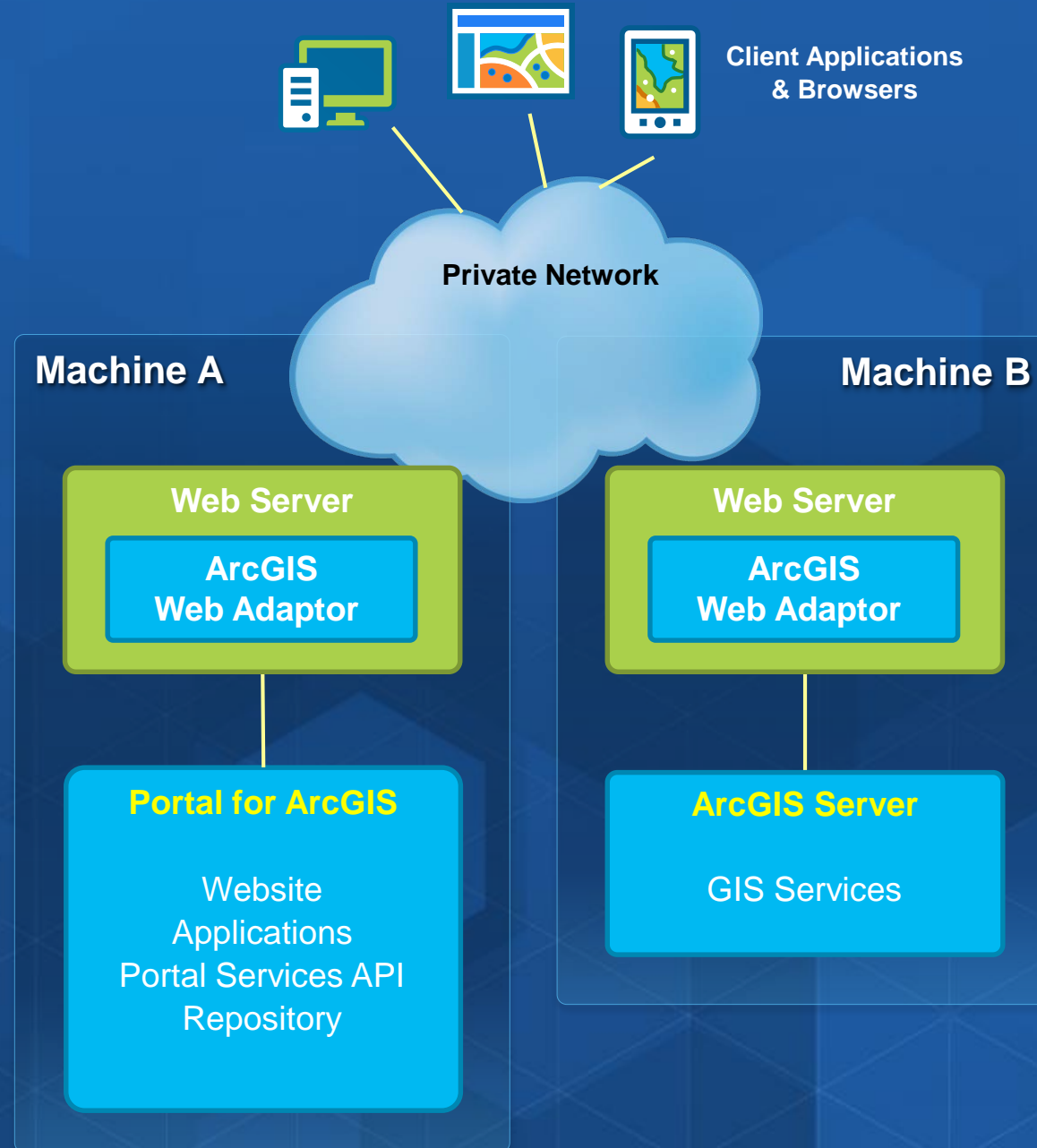
Deployment



Deployment

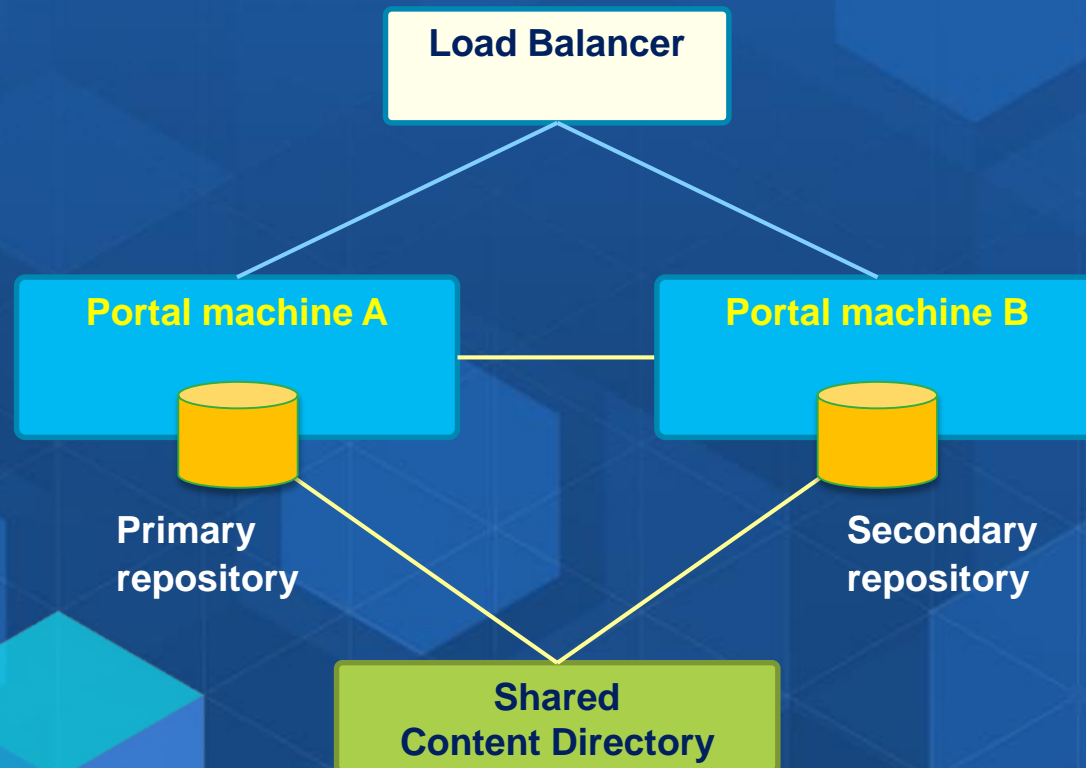


Deployment



Portal for ArcGIS – High Availability

- High availability deployments supported



Portal for ArcGIS Security

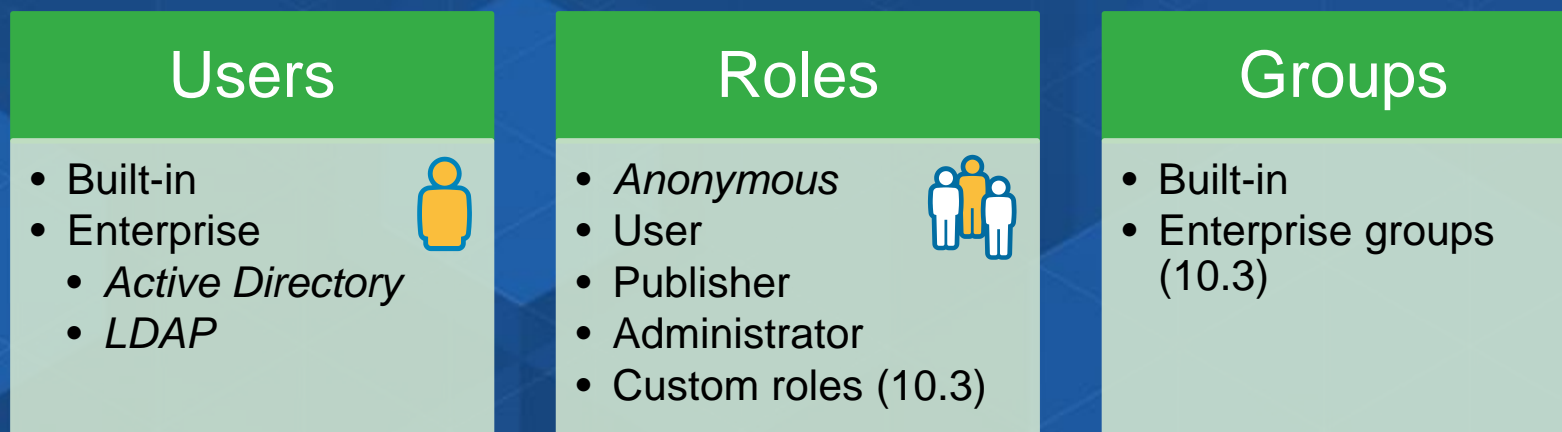
Integrates with Your Enterprise Security Infrastructure



- **Authentication**

- Web tier authentication, including Windows Authentication & PKI
- Web single sign-on (SSO) with SAML as of 10.3
- Portal tier authentication combining both built-in and enterprise users as of 10.3.1

- **Users, Roles, and Groups**



Portal for ArcGIS: Named Users and Roles

	With an ArcGIS organizational account			Without account
	User role	Publisher role	Administrator role	
Search and use public items	✓	✓	✓	✓
Search and use private items	✓	✓	✓	
Create and share items	✓	✓	✓	
Publish new content as tiled or feature services		✓	✓	
Administer the ArcGIS organization			✓	
Manage users and their privileges			✓	
Manage items created by others			✓	
Use Collector, Explorer, Operations Dashboard, Esri Maps for ... Apps, Templates, Web AppBuilder	✓	✓	✓	

Portal for ArcGIS: Custom Roles

- Provide more flexibility to enable fine grained control on what members can do
- My Organization page > Edit Settings > Roles > Create Role

The screenshot shows the 'Create Role' interface in the Portal for ArcGIS. The top navigation bar includes links for HOME, GALLERY, MAP, SCENE, GROUPS, MY CONTENT, and MY ORGANIZATION. The user is logged in as 'Administr...'. The main heading is 'My Organization'. On the left, a sidebar contains a list of settings categories: General, Home Page, Gallery, Map, Item Details, Groups, Utility Services, Servers, Roles (selected), and Security. The 'Roles' section is titled 'Roles ?'. It includes a 'Role Name' field with the value 'Viewer', a 'Description' field with the value 'Collection of viewer members', and a dropdown menu for 'Select a role or template on which to base the new role' with the value 'Viewer Template'. Below these fields are 'TOGGLE ALL ON' and 'COLLAPSE ALL' buttons. On the right side of the form are 'SAVE ROLE' and 'DISCARD CHANGES' buttons. The 'General Privileges' section is divided into three columns: Groups, Content, and Sharing. The 'Groups' column has checkboxes for 'Create, update, and delete' (unchecked) and 'Join organizational groups' (checked). The 'Content' column has checkboxes for 'Create, update, and delete' (checked), 'Publish hosted feature layers' (checked), 'Publish hosted tile layers' (unchecked), and 'Publish hosted scene layers' (unchecked). The 'Sharing' column has checkboxes for 'Share with groups' (unchecked), 'Share with portal' (checked), 'Share with public' (checked), 'Make groups visible to portal' (unchecked), and 'Make groups visible to public' (unchecked). The 'Administrative Privileges' section is also divided into three columns: Members, Groups, and Content. The 'Members' column has checkboxes for 'View all' (unchecked), 'Update' (unchecked), 'Delete' (unchecked), 'Disable' (unchecked), 'Change roles' (unchecked), and 'Manage licenses' (unchecked). The 'Groups' column has checkboxes for 'Reassign ownership' (unchecked), 'Assign members' (unchecked), and 'Link to enterprise group' (unchecked). The 'Content' column has checkboxes for 'View all' (unchecked), 'Update' (unchecked), 'Delete' (unchecked), and 'Reassign ownership' (unchecked). A tooltip is visible over the 'Update' checkbox in the 'Members' column, stating: 'This privilege grants the ability to update member account information within your portal.'

Leverage Groups in Portal

- Groups have membership
- Organize by:
 - **Theme or initiative**
 - Common and supportive content
 - **Functional department/structure**
 - Based on organization's business units
 - **Projects**
 - Specific projects or tasks
 - **Ad-hoc**
 - Prototyping, non-permanent/temp projects, staging
- 10.3.x supports Enterprise Groups
 - When Portal is enabled with enterprise identity store (Windows AD or LDAP)

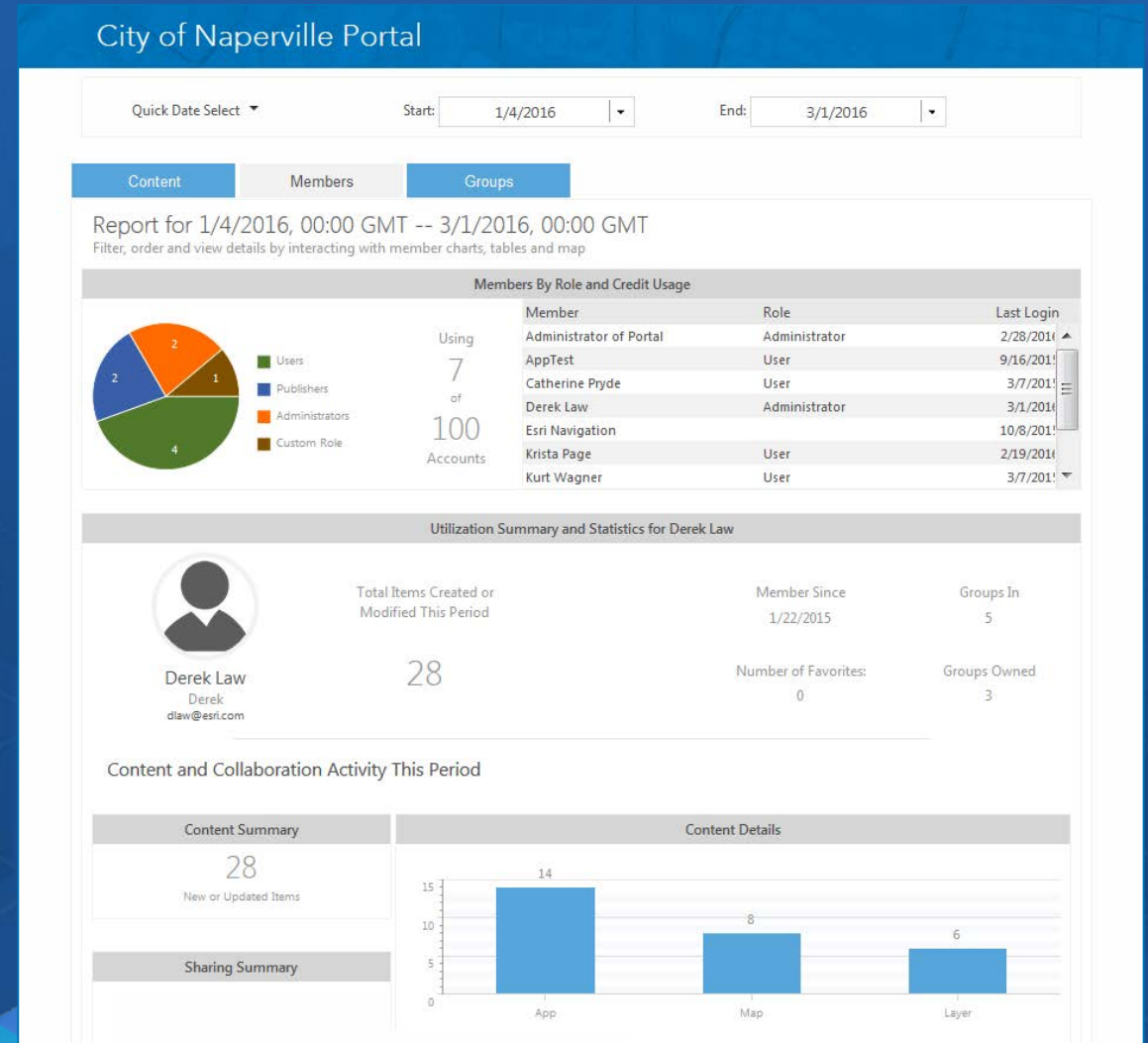


Foundation
data



Activity Dashboard

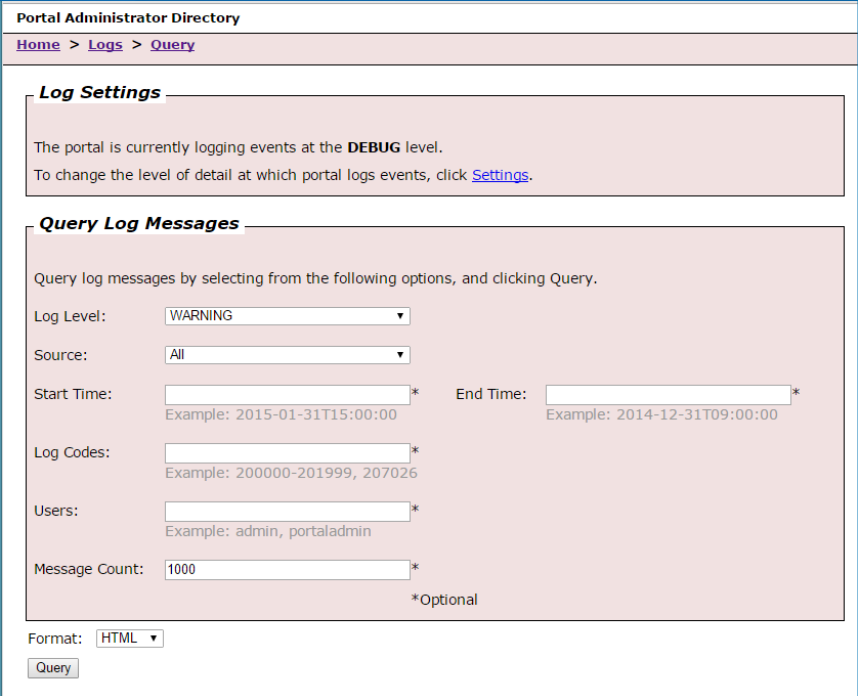
- Activity-based metrics and real-time reports about your Portal
 - Content
 - Members
 - Groups



Portal for ArcGIS – Logging

<http://myportal.esri.com/webadaptor/portaladmin/logs>

- Provides auditing and troubleshooting tools designed for Portal administrators
- Provides the ability to monitor and query detailed events that occur within Portal
- Filter by:
 - Log level, source, start and end time, log code range, and by users



The screenshot shows the 'Portal Administrator Directory' interface. At the top, there is a breadcrumb trail: 'Home > Logs > Query'. Below this, the 'Log Settings' section indicates that the portal is currently logging events at the 'DEBUG' level and provides a link to 'Settings' to change the log level. The 'Query Log Messages' section contains a form for filtering log messages. The form includes fields for 'Log Level' (set to 'WARNING'), 'Source' (set to 'All'), 'Start Time' (with an example '2015-01-31T15:00:00'), 'End Time' (with an example '2014-12-31T09:00:00'), 'Log Codes' (with an example '200000-201999, 207026'), 'Users' (with an example 'admin, portaladmin'), and 'Message Count' (set to '1000'). A 'Format' dropdown is set to 'HTML', and a 'Query' button is at the bottom. Asterisks (*) next to the Start Time, End Time, Log Codes, Users, and Message Count fields indicate they are optional.

Portal Administrator Directory

[Home](#) > [Logs](#) > [Query](#)

Log Settings

The portal is currently logging events at the **DEBUG** level.
To change the level of detail at which portal logs events, click [Settings](#).

Query Log Messages

Query log messages by selecting from the following options, and clicking Query.

Log Level:

Source:

Start Time: * Example: 2015-01-31T15:00:00 End Time: * Example: 2014-12-31T09:00:00

Log Codes: * Example: 200000-201999, 207026

Users: * Example: admin, portaladmin

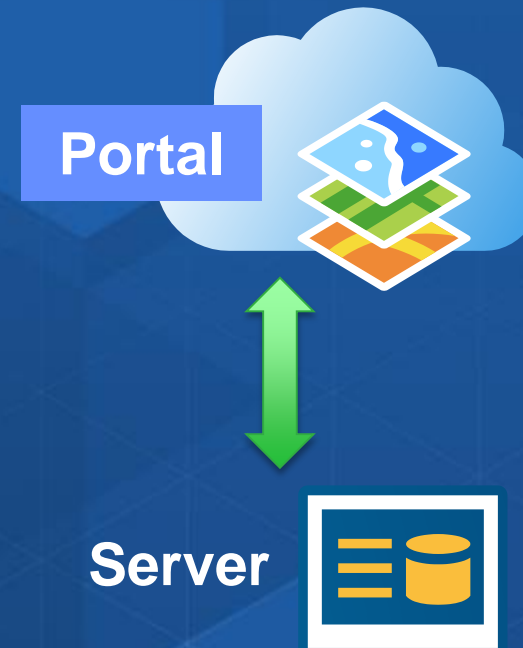
Message Count: * *Optional

Format:

Using Portal with ArcGIS Server

Three Integration Approaches

1. **Registering services**
2. **Federating a Server**
3. **Designating a hosting Server**



Implementation Patterns

Portal for ArcGIS + ArcGIS Server

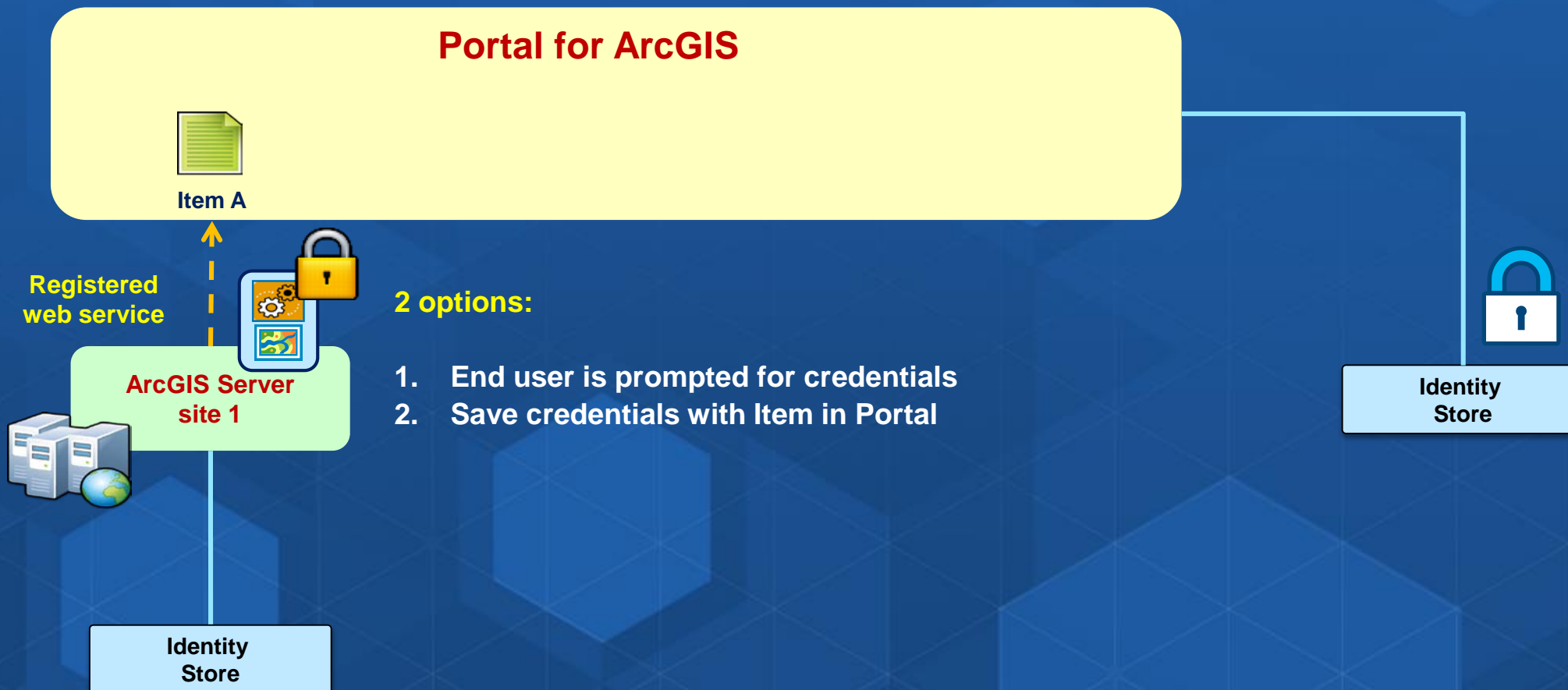


Register a Web Service with Portal

Demo

Implementation Patterns

Portal for ArcGIS + ArcGIS Server



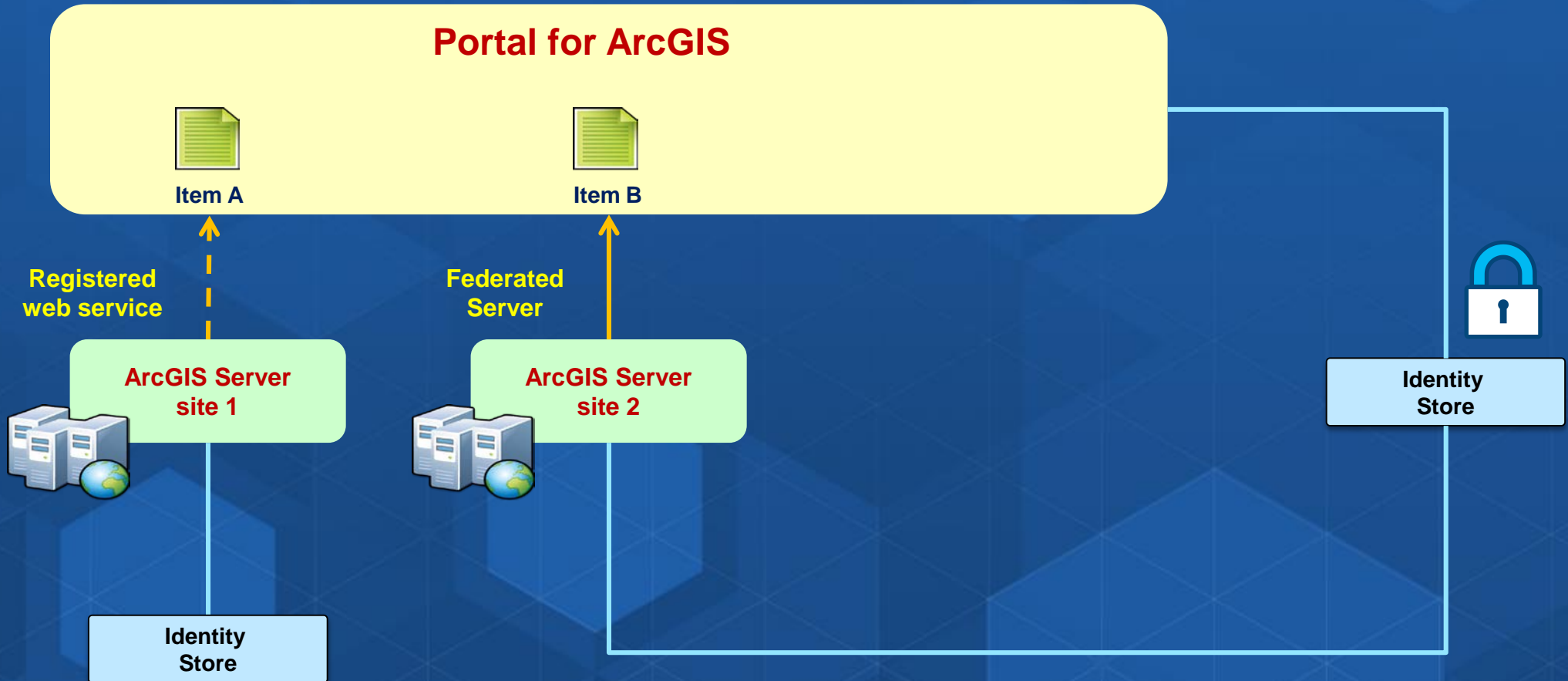
Implementation Patterns

Portal for ArcGIS + ArcGIS Server



Implementation Patterns

Portal for ArcGIS + ArcGIS Server

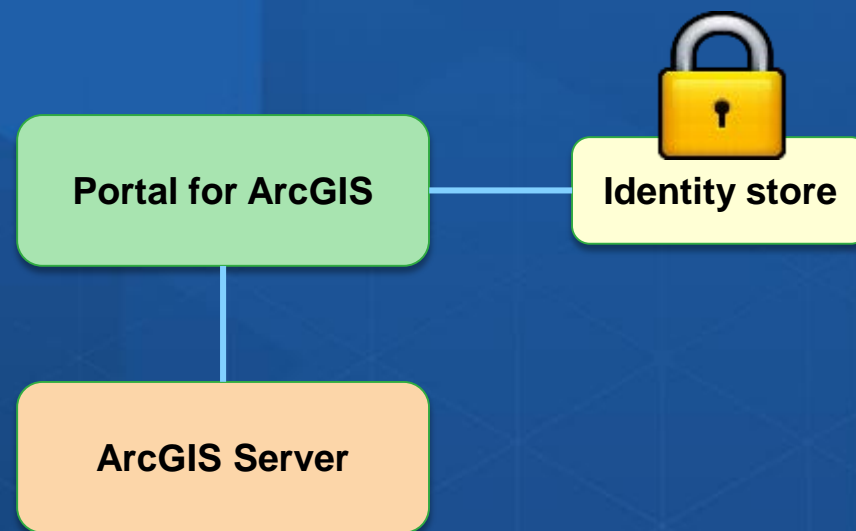


Portal – Server Federation

- Allows a single sign-on (SSO) experience between Portal and Server
- Permissions are all managed in Portal
- ArcGIS Server site must be HTTPS enabled

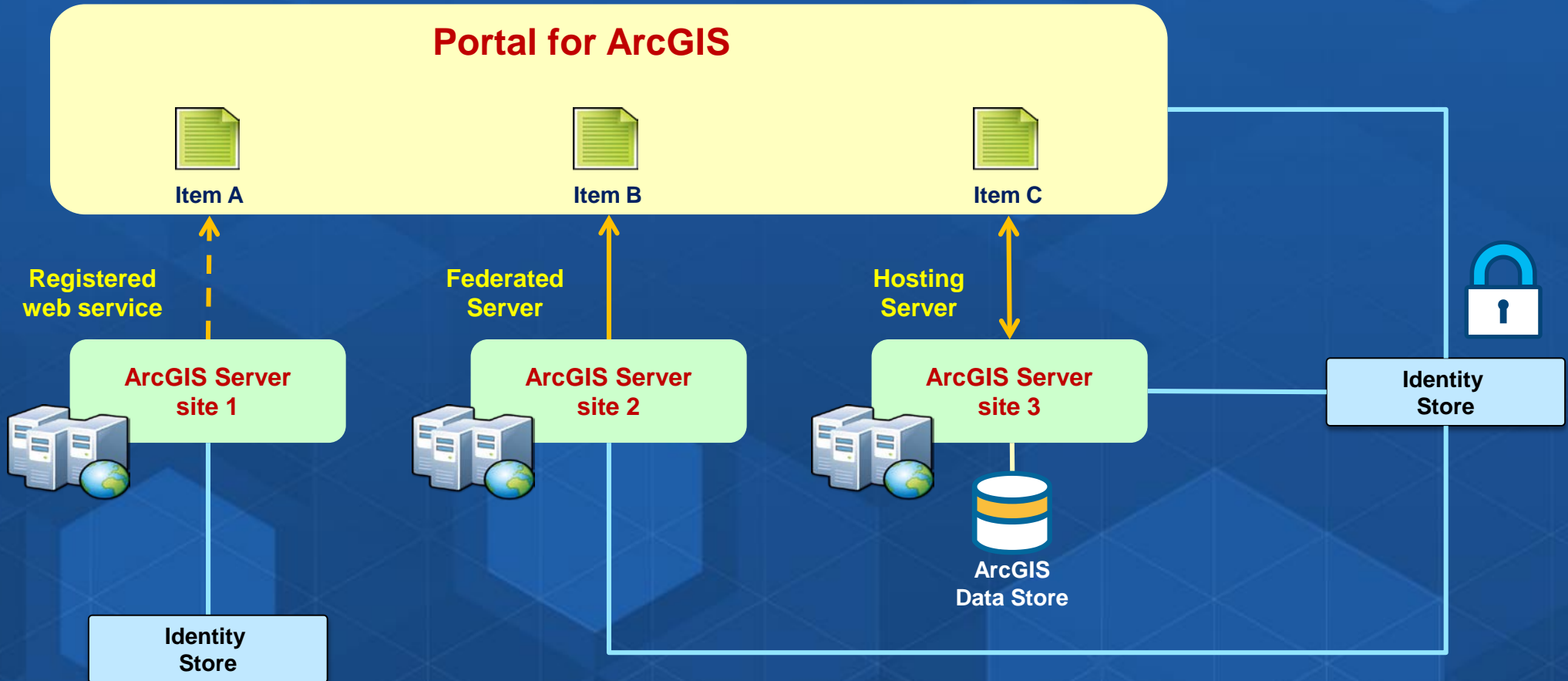
When to use:

- Desire for SSO user experience
- When NOT to use
 - When Portal/Server are in different physical locations
 - Portal and Server are different releases



Implementation Patterns

Portal for ArcGIS + ArcGIS Server



Portal for ArcGIS + Hosting Server

- Required when you want to enable hosted services in Portal
 - Feature services
 - Tiled services
 - 3D scene services (10.3.1)
 - Analysis tools in Portal map viewer
- Example workflows
 - Publish content to Portal
 - Share content from Esri Maps for ... Apps
- Uses ArcGIS Server with ArcGIS Data Store

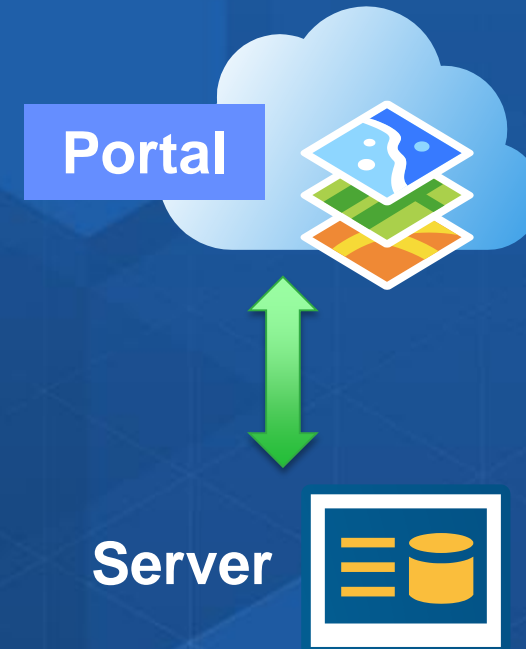


Review: Portal with ArcGIS Server

Three Integration Approaches

1. **Registering services**
2. **Federating a Server**
3. **Designating a hosting Server**

You can use one, all three, or any combination



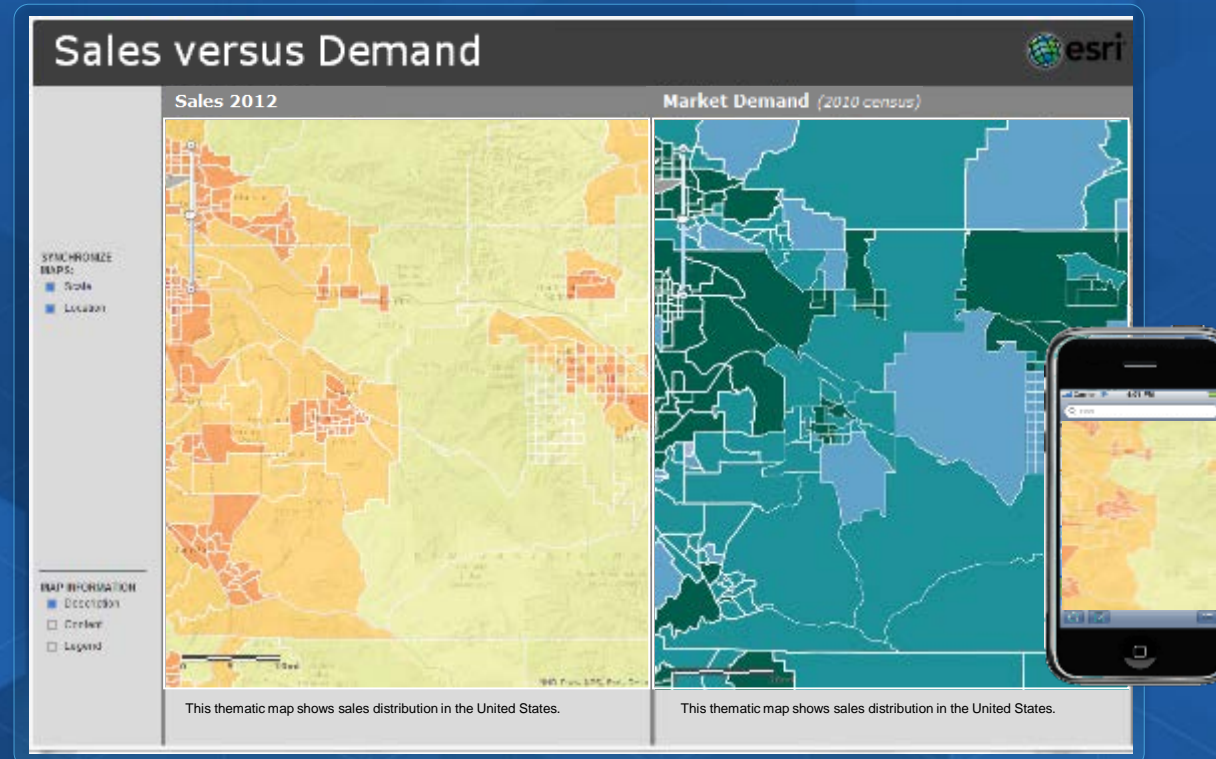
Implementing Web GIS

Typical activities

- **Assessment & planning**
- **Installation & configuration**
- **Security integration**
- **Deployment** (*staging, production*)
- **End user engagement, socialization**
- **IT training & support planning**
- **Operations, maintenance, and support**
- **Designing & building information products**

Keys to Success

- Stay focused on the information products

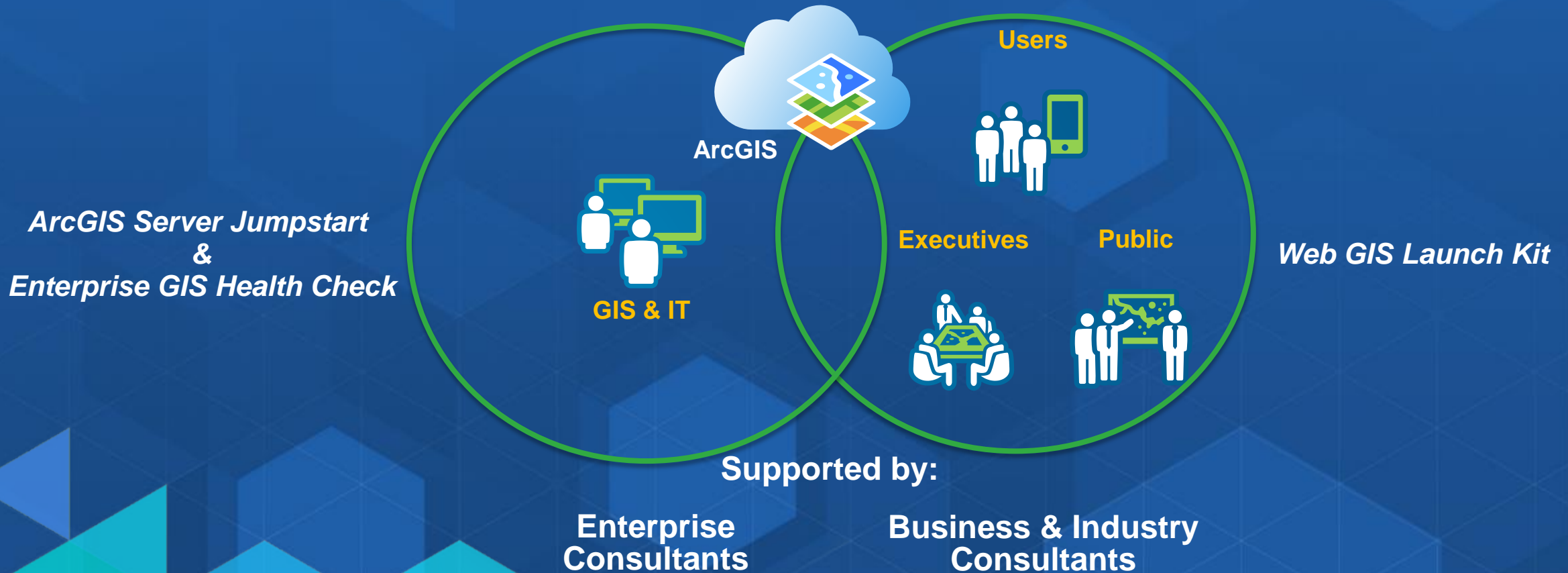


Keys to Success

- Stay focused on the information products
- Embrace the idea of maps everywhere
- Model Portal for ArcGIS after your organization's structure & workflows
- Consider the Web GIS Launch Kits



Jumpstart Your Technology & Launch Your Organization



Resources

- **Online help documentation** <http://server.arcgis.com/en/portal/>
- **Extending Access to GIS Maps and Apps with Portal for ArcGIS**
60 min training seminar - Free
- **Portal for ArcGIS 101** ArcUser Technical article

The image displays two screenshots from the Esri website. The left screenshot shows the 'Training' section of the Esri portal, specifically the 'Extending Access to GIS Maps and Apps with Portal for ArcGIS' seminar. The right screenshot is a thumbnail of the 'Portal for ArcGIS 101' article, which includes a diagram of the Web GIS concept.

Esri Training Catalog

Extending Access to GIS Maps and Apps with Portal for ArcGIS

Format: **Training Seminar**
Duration: 60 minutes
Price: Free
ArcGIS Version: 10.2
Authored by Esri

You can now create, manage, access, and share geographic content using Portal for ArcGIS by using your on- or private cloud infrastructure. In this seminar, the presenters demonstrate how to configure and deploy Portal for ArcGIS to provide a full web GIS behind a firewall. They will also show you how to offer self-service mapping to in your organization.

Audience | [Learn How To](#) | [Software](#)

GIS managers and professionals who use web GIS in their organization but have special requirements for the highly secure systems that may not have complete Internet access.

Portal for ArcGIS 101

By Derek Law, Esri Product Manager

The diagram illustrates the Web GIS concept, showing the flow of data and services between various components. At the top, 'Desktop', 'Web', and 'Device' are connected to a central 'Portal' cloud. The 'Portal' cloud is also connected to 'GIS Servers' and 'Ready-to-Use Content'. Below the 'Portal' cloud, 'Server' and 'Online Content and Services' are shown. The diagram is labeled 'Figure 1: Web GIS concept diagram'.

This article provides GIS managers and analysts with an understanding of the fundamental concepts of Portal for ArcGIS and its capabilities. It presents a general overview of Portal for ArcGIS, discusses its key features, architecture, and implementation, and highlights the ArcGIS platform, cloud applications that are available in the organization with little or no GIS knowledge can also benefit from and contribute to the organization's GIS platform. Web GIS leverages existing GIS investments and makes them discoverable and more accessible. It provides a platform for integrating GIS with other business systems and promotes cross-organizational collaboration. Consequently, web GIS extends the reach of GIS to everyone in an organization, resulting in better decision making.

Portal for ArcGIS - Summary

- Central hub for your GIS assets
- **Implements “Web GIS” in your infrastructure**
- Solution when
 - Additional security demands
 - Prefer no public cloud option
- Extension of ArcGIS for Server
 - 10.3.x Included with Standard and Advanced





Thank you

Please remember to fill out a survey