



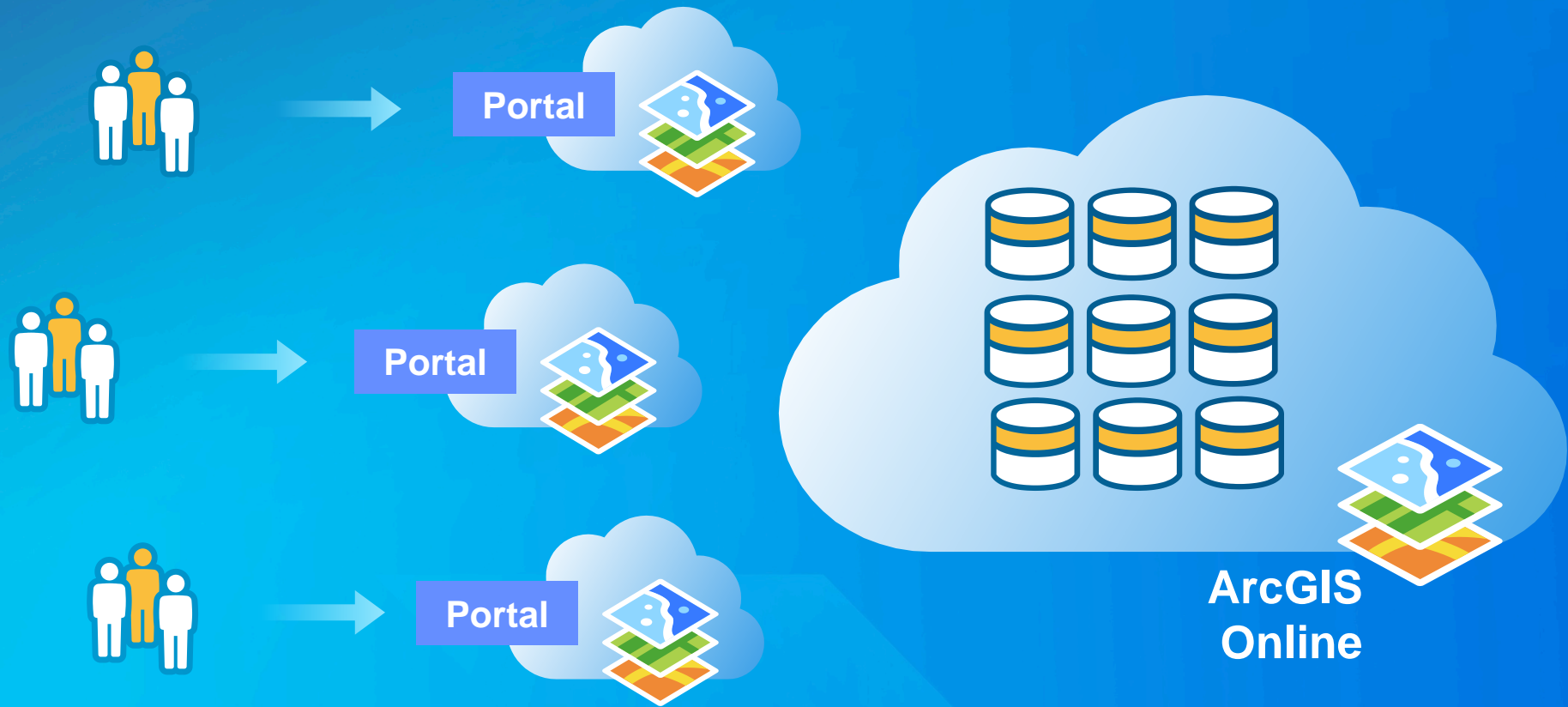
ArcGIS Online

A Security, Privacy, and Compliance Overview

Andrea Rosso

Michael Young

ArcGIS Online – A Multi-Tenant System



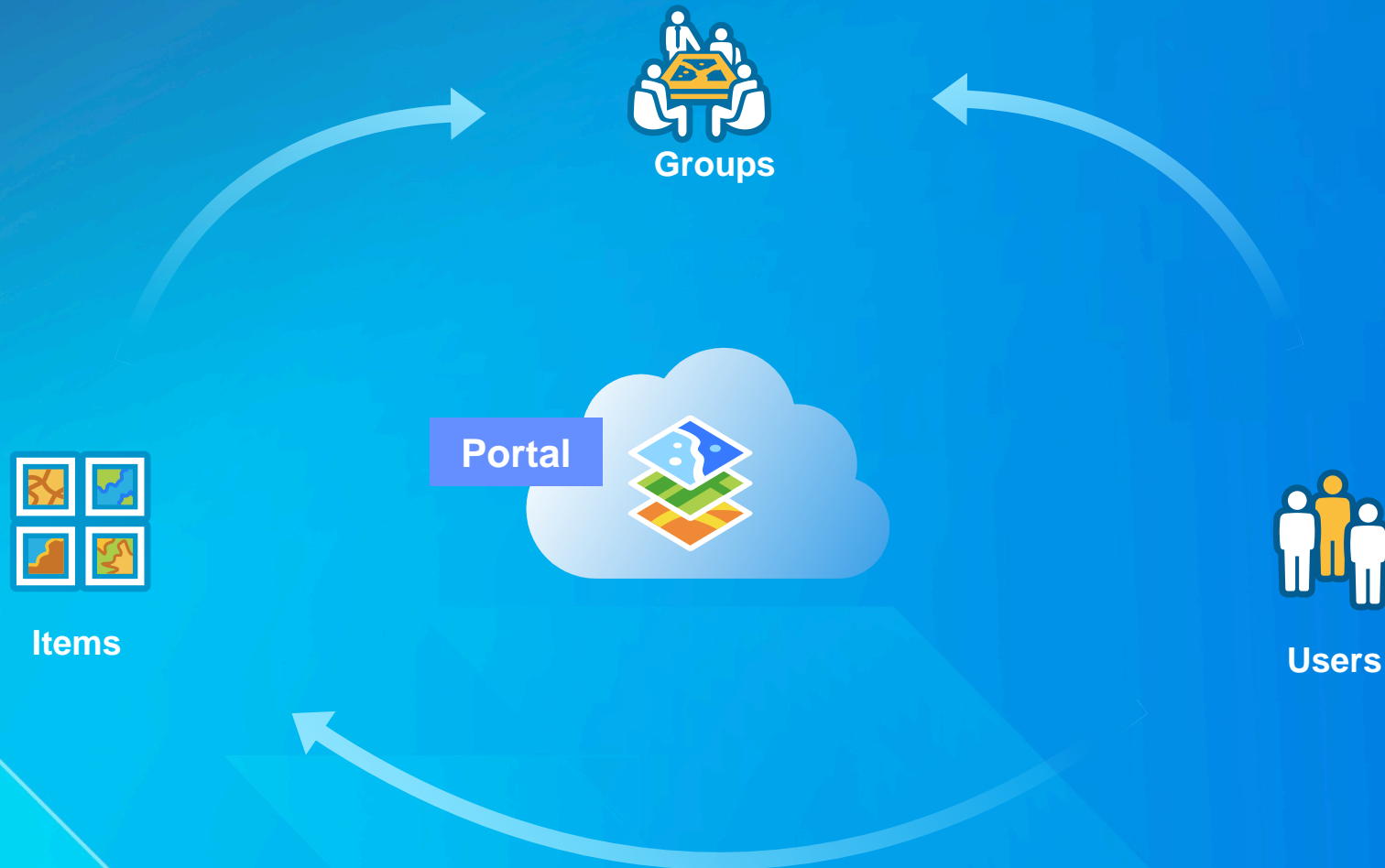
Agenda

- **Online Platform Security**
- **Deployment Architecture**
- **Infrastructure and Compliance**

The background features a complex geometric pattern. On the left side, there are overlapping shapes in shades of purple, blue, and yellow. The yellow shapes contain a faint grid pattern. The rest of the background is a solid, vibrant blue.

Platform Security

Portal Information Model



Items

<input type="checkbox"/>	Title	Type	Modified	Shared
<input type="checkbox"/>	Fire Surveys	Feature Layer	Jul 17, 2015	Not Shared
<input type="checkbox"/>	Restaurant Finder	Web Mapping Application	Jul 16, 2015	Not Shared
<input type="checkbox"/>	Store Closures	CSV	Jul 17, 2015	Not Shared
<input type="checkbox"/>	Store Closures	Feature Layer	Jul 17, 2015	Not Shared
<input type="checkbox"/>	USA Congressional Districts	Layer Package	Jul 16, 2015	Not Shared
<input type="checkbox"/>	Wildfires	Web Map	Jul 16, 2015	Not Shared
<input type="checkbox"/>	Yellowstone	Map Document	Jul 16, 2015	Not Shared

1 - 7 of 7 results

- **Typed**
 - Web Map
 - Services
 - Data
 - ...
- **Private by default**
- **Can Share to**
 - Groups
 - Organization
 - Everyone/Public

Users

Members

Viewing:

Name	Username	Last Login	Role	Action
Alice Smyth	alice_rossouc2015	Jul 17, 2015	Administrator	
Andrea Rosso	rossouc2015	Jul 17, 2015	Administrator	
Bob Smith	bsmith_rossouc2015	Jul 15, 2015	User	
Frank Desmedt	frank_rossouc2015	Jul 17, 2015	Publisher	
Jim Schmidt	jim_rossouc2015	Jul 17, 2015	User	

- Users own items and groups
- Users have a profile
- Discoverable
 - No one
 - Organization
 - Everyone
- Users have a Role

User Roles

- **Built-in Roles**

- Administrator
- Publisher
- User

- **Custom Roles**

- Templates
- Fine Grained Privileges

- **Use Cases**

Restrict Access

- Restrict Credits

Roles

Role Name:

Description:

Select a role or template on which to base the new role:

TOGGLE ALL ON **COLLAPSE ALL**

General Privileges

Groups Content Sharing

Create, update, and delete
 Join organizational groups
 Join external groups

Create, update, and delete
 Publish hosted features
 Publish hosted tiles

Share with groups
 Share with organization
 Share with public
 Make groups visible to organization
 Make groups visible to public

GeoServices Features

Geocoding
 Network Analysis
 Spatial Analysis
 GeoEnrichment
 Demographics

Edit

Administrative Privileges

Members Groups Content

View all
 Update
 Delete
 Invite
 Disable
 Change roles

View all
 Update
 Delete
 Reassign ownership
 Assign members

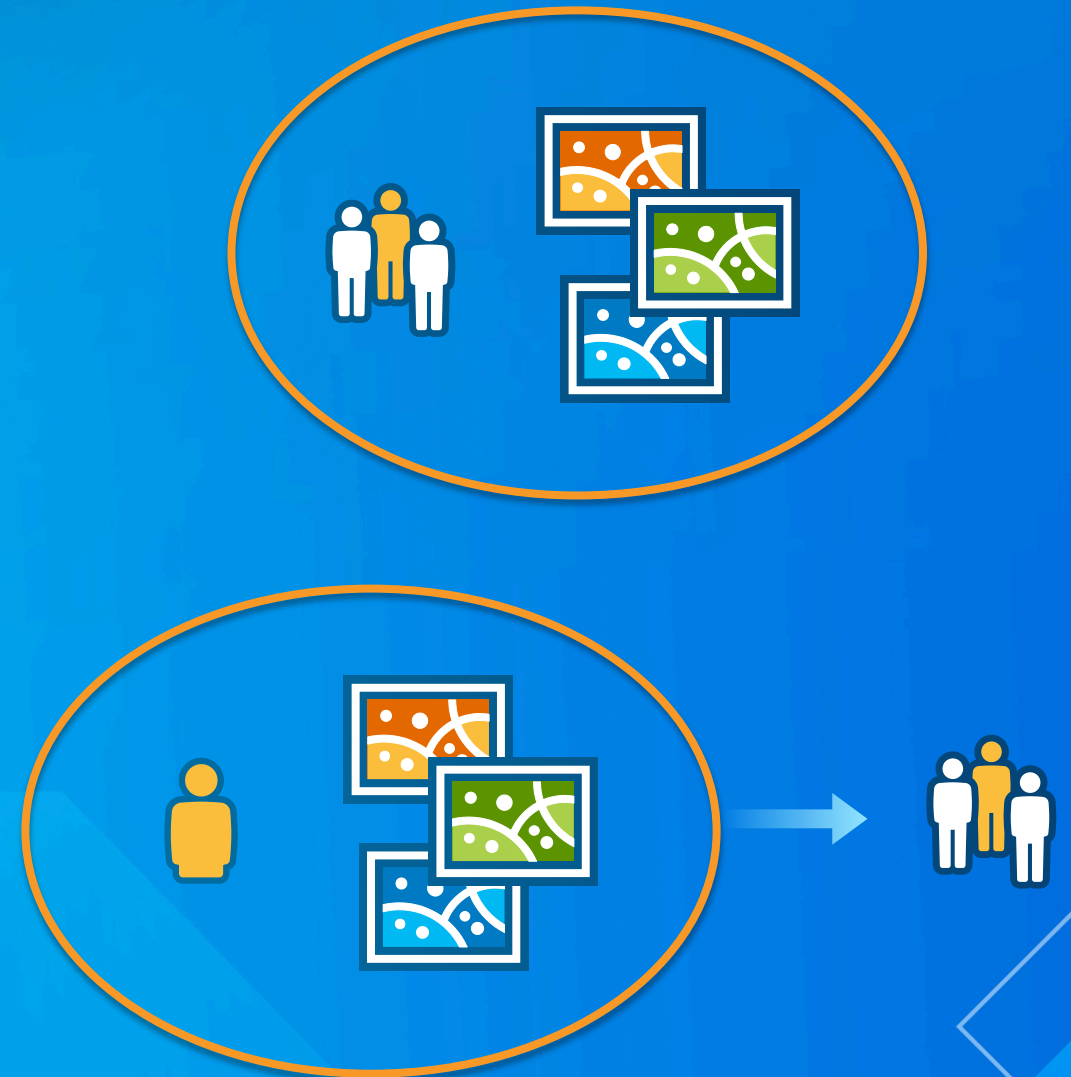
View all
 Update
 Delete
 Reassign ownership

ArcGIS Marketplace Subscriptions

Request purchase
 Start trials

Groups

- **Contain Items and Users**
- **Users have access to items in group**
- **Group owners can share items to their own groups**
- **Groups can be visible to:**
 - No one (private)
 - Organization
 - Everyone
 - Items do not inherit visibility
- **Use cases**
 - Access
 - Collections



Groups with Update Capability

- **Specialized Groups**
 - All members can update included items
- **Restrictions**
 - Can only be created by Admins
 - Items and Users must be within Org
 - Capability cannot be toggled
- **Use Cases**
 - Shift Operators
 - Collaborative Editing

Status:

- Private (Users cannot find this group and can join by invitation only.)
- Organization (Users within your organization can search for and find this group.)
- Public (Users can search for and find this group.)
- Members can update all items in this group
- Users can apply to join group

Feature Service Editing

- **Users who always can edit**
 - Owner
 - Admins
 - Members of Groups w/ Update
- **Enable Editing**
 - Options
 - Add, update and delete features
 - Update feature attributes only
 - Add features only
 - Anyone who can access the service
- **Custom Roles can have Edit or Edit with full control privileges**

Editing

Enable editing and allow editors to:

- Add, update, and delete features
- Update feature attributes only
- Add features only


Admin Organization Controls

- Sharing to Public
- Use all SSL/TLS
- Anonymous Access
- Standardized Queries

Security


Configure the security settings for your organization.

Policies




- Allow access to the organization through [HTTPS](#) only.
- Allow [anonymous access](#) to your organization's website. (arossouc2015.maps.arcgis.com)
[What does this mean?](#)
- Allow only standard SQL queries.

Sharing and Searching



- Members can share content outside the organization.
- Members can search for content outside the organization.

Password Policy

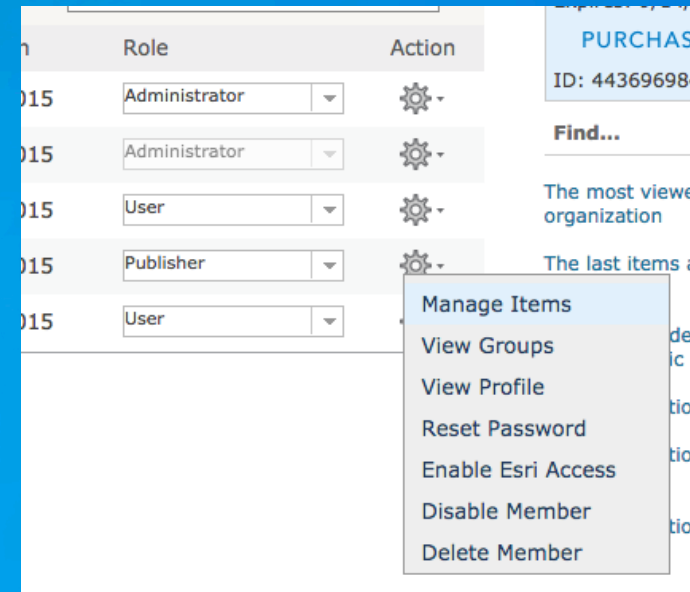


You can set the password policy for all members with ArcGIS accounts in your organization to establish rules that determine the format of passwords members may provide. In addition, you may set the duration of passwords as well as set how many previously entered passwords to retain to which to compare for redundancy when a new password is supplied.

[UPDATE PASSWORD POLICY](#)

Administrator Controls on Users

- Admins can
 - Manage Items, Groups, Profile
 - Disable Users
 - Delete Users
 - Reset User's Password
 - Change Role
 - Enable Esri Access



Trust Boundaries



Authentication Options

Sign in to UC 2015 esri

Username

Password

Keep me signed in

SIGN IN

[Forgot password?](#) [Forgot username?](#)

Password

Sign in to UC 2015 esri

Use your authentication app to generate a six-digit code in order to complete the sign in process.

Enter the code your app provided:

VERIFY

[Having trouble signing in with your code?](#)

Multi-Factor

Password Policy ×

Set the password policy for all members with ArcGIS accounts in your organization. Each member's password must satisfy the following rules:

Is at least characters long

- Contains at least one letter (A-Za-z)
- Contains at least one upper case letter (A-Z)
- Contains at least one lower case letter (a-z)
- Contains at least one number (0-9)
- Contains at least one special (non-alphanumeric) character

Password will expire after days

Members may not reuse their last passwords

UPDATE PASSWORD POLICY **CANCEL**

Password Policies

Set Identity Provider ×

Specify the properties to establish your organization's Enterprise Identity Provider.

Name:

Your users will be able to join:

- Automatically
- Upon invitation from an administrator

Metadata for the Enterprise Identity Provider will be supplied using:

- A URL
- A File
- Parameters specified here

URL:


Show advanced settings


SET IDENTITY PROVIDER **CANCEL**

Enterprise Logins

Multi-Factor Authentication

- Additional security with second factor at login
- Support for Google Authenticator or MS Authenticator
- Admin needs to enable for Organization
- Must have 2 admins
- Users setup their own Multi-factor

Multifactor Authentication 



Multifactor authentication provides all members with ArcGIS accounts in your organization with an extra level of security by requesting an additional verification code at the time of login.

Allow members to choose whether to set up multifactor authentication for their individual accounts.

Add at least two administrators from the list at left to the Designated Administrators list at the right to enable multifactor authentication. Designated Administrators receive requests to troubleshoot members' multifactor authentication issues. Click Save on this page to confirm this action.

Click a name to add.

Administrators
Alice Smyth (alice_rossouc2015)
Andrea Rosso (arossouc2015)

Click a name to remove.

Designated Administrators
Alice Smyth (alice_rossouc2015)
Andrea Rosso (arossouc2015)

Password Policies

- **Default Password Policy**
 - 8 characters with at least 1 number
- **Can Customize**
 - Complexity
 - History
 - Expiration

Password Policy ✕

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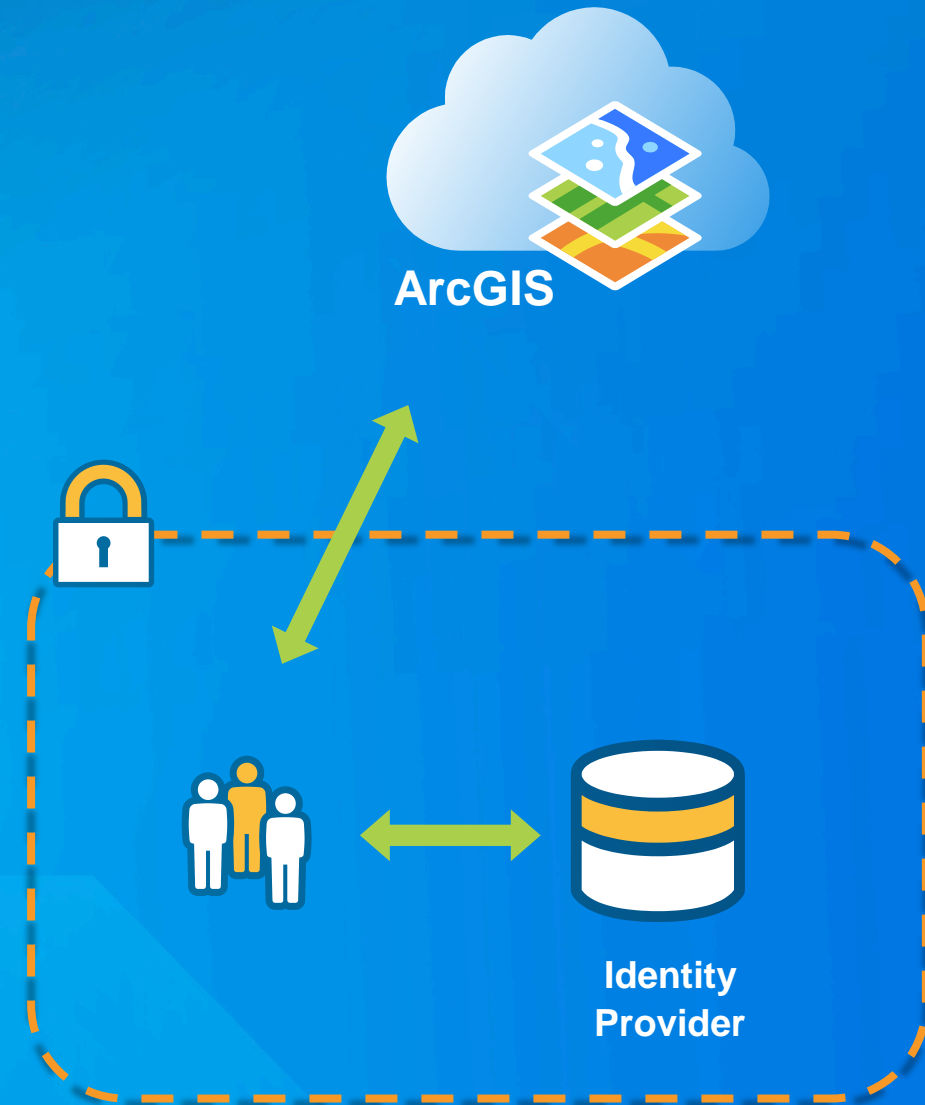
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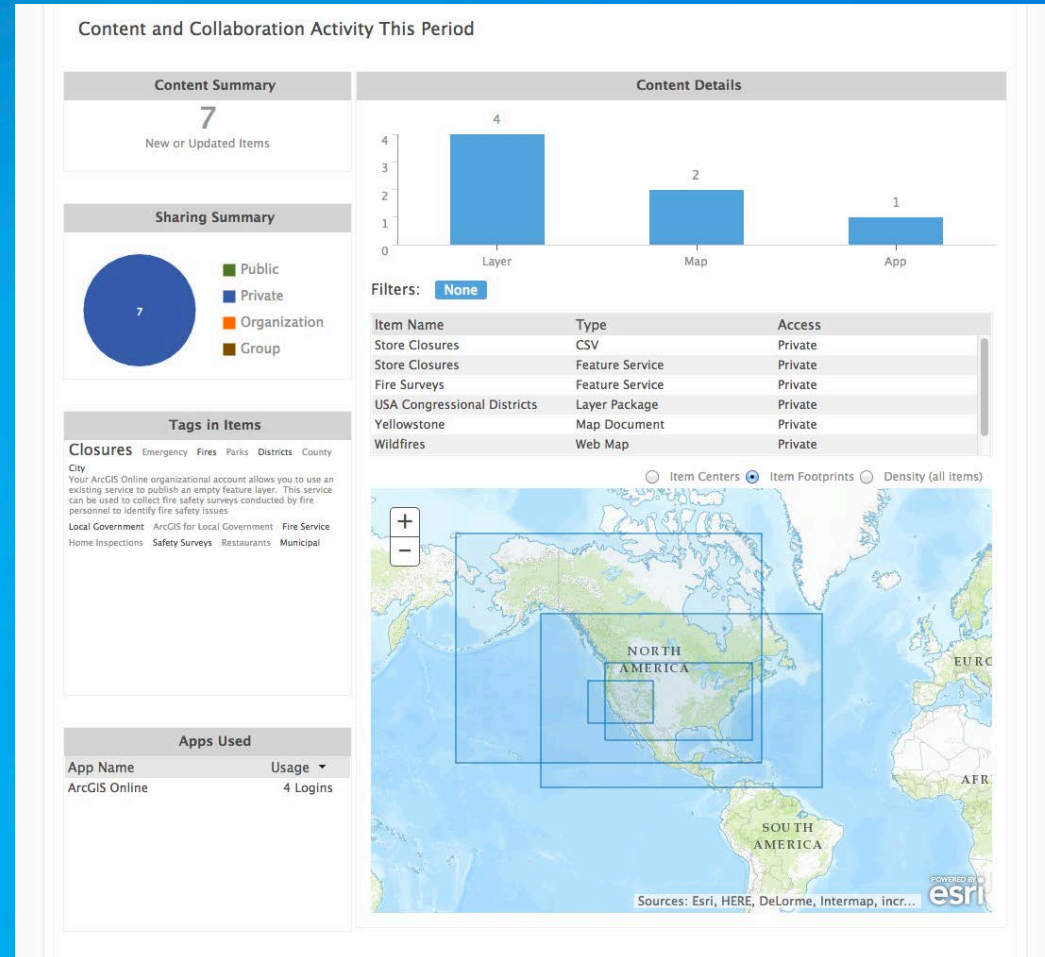
Enterprise Identities

- Use your own identity provider
 - SAML 2.0
 - ADFS
 - NetIQ Access Manager
 - Shibboleth
 -
- Can add users:
 - Automatically upon login
 - With an Invitation
- Can use ArcGIS Online identities with Enterprise Identities



Keeping Track of Usage

- Status Reports
 - Credits
 - Content
 - Members
 - Groups





Deployment Architecture

Michael Young

Deployment Architecture

Common Questions

1. Where is my data?

- All ArcGIS Online customer data resides within US Data centers on US soil

2. Is my information encrypted?

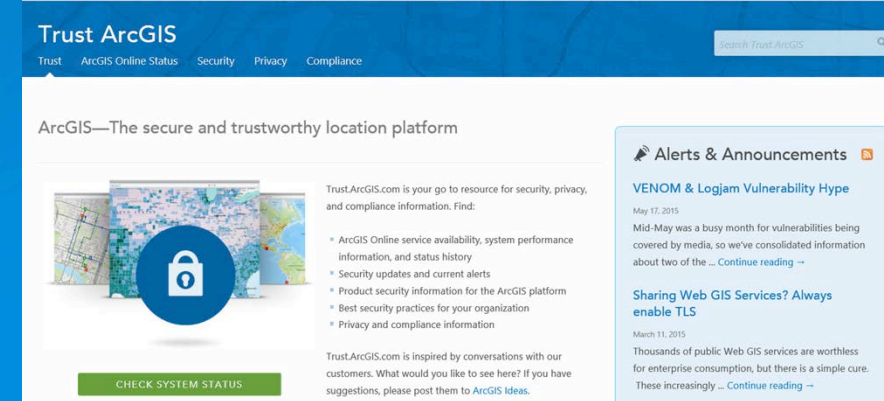
- Organization administrator can force TLS encryption for all communications
- ArcGIS Online does not encrypt customer data at rest

3. Is my data locked into ArcGIS Online?

- No, customer can download data back to their organization via shapefiles, CSVs, or original publication package

4. How do I know if ArcGIS Online was affected by the latest major Internet vulnerability?

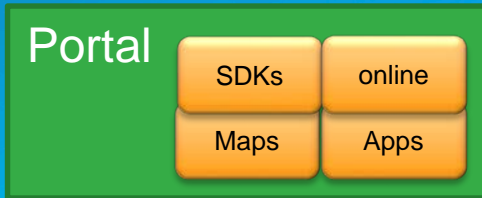
- [Trust.ArcGIS.com](https://trust.arcgis.com) announcements
- Answers to all of the above questions and more available



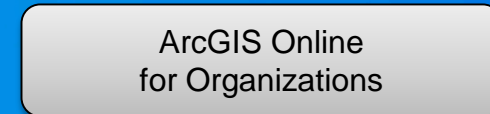
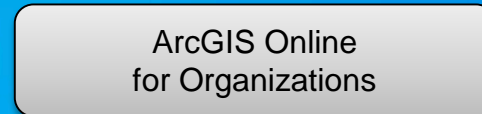
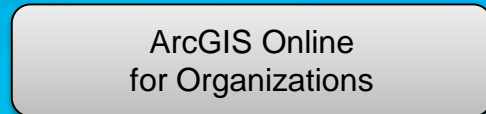
The screenshot shows the Trust ArcGIS website. At the top, there is a navigation bar with links for 'Trust', 'ArcGIS Online Status', 'Security', 'Privacy', and 'Compliance'. A search bar is located in the top right corner. The main heading reads 'ArcGIS—The secure and trustworthy location platform'. Below this, there is a central graphic featuring a padlock icon over a map, with a 'CHECK SYSTEM STATUS' button underneath. To the right of the graphic, there is a list of links: 'ArcGIS Online service availability, system performance information, and status history', 'Security updates and current alerts', 'Product security information for the ArcGIS platform', 'Best security practices for your organization', and 'Privacy and compliance information'. A paragraph of text follows, stating 'TrustArcGIS.com is inspired by conversations with our customers. What would you like to see here? If you have suggestions, please post them to ArcGIS Ideas.' On the far right, there is a sidebar titled 'Alerts & Announcements' with a notification icon. It contains two entries: 'VENOM & Logjam Vulnerability Hype' dated May 17, 2015, and 'Sharing Web GIS Services? Always enable TLS' dated March 11, 2015.

ArcGIS Platform Components

Capability



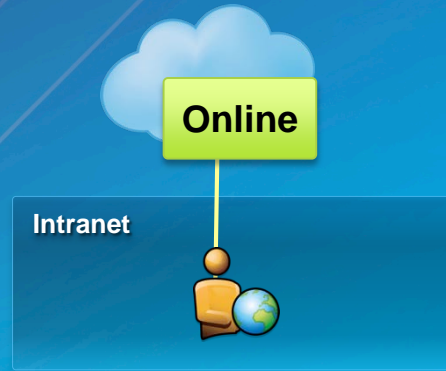
SaaS
In the Cloud



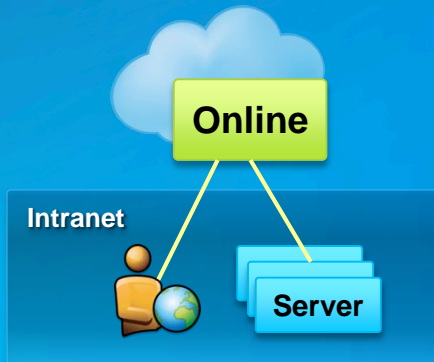
Software
In your Infrastructure



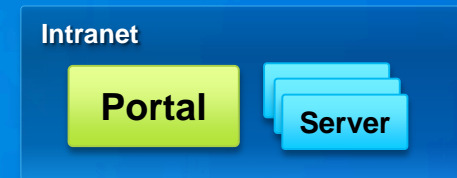
Deployment Scenarios



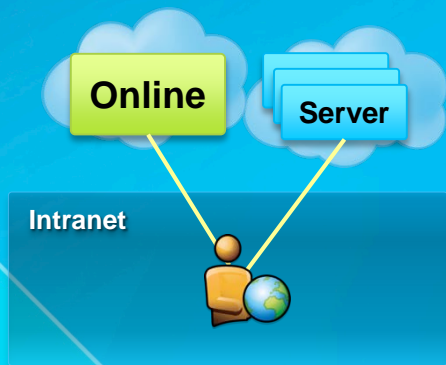
Public



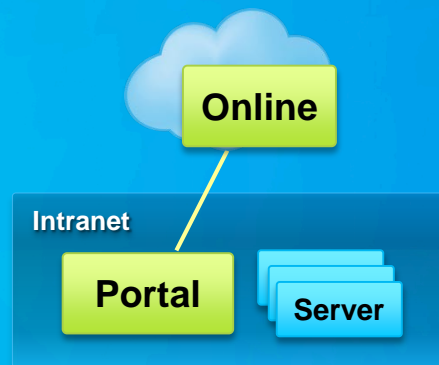
Hybrid 1



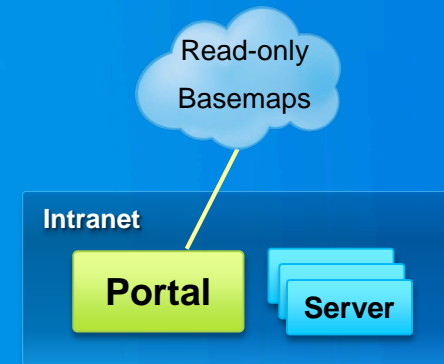
In Your Infrastructure



Hybrid 2



Hybrid 3



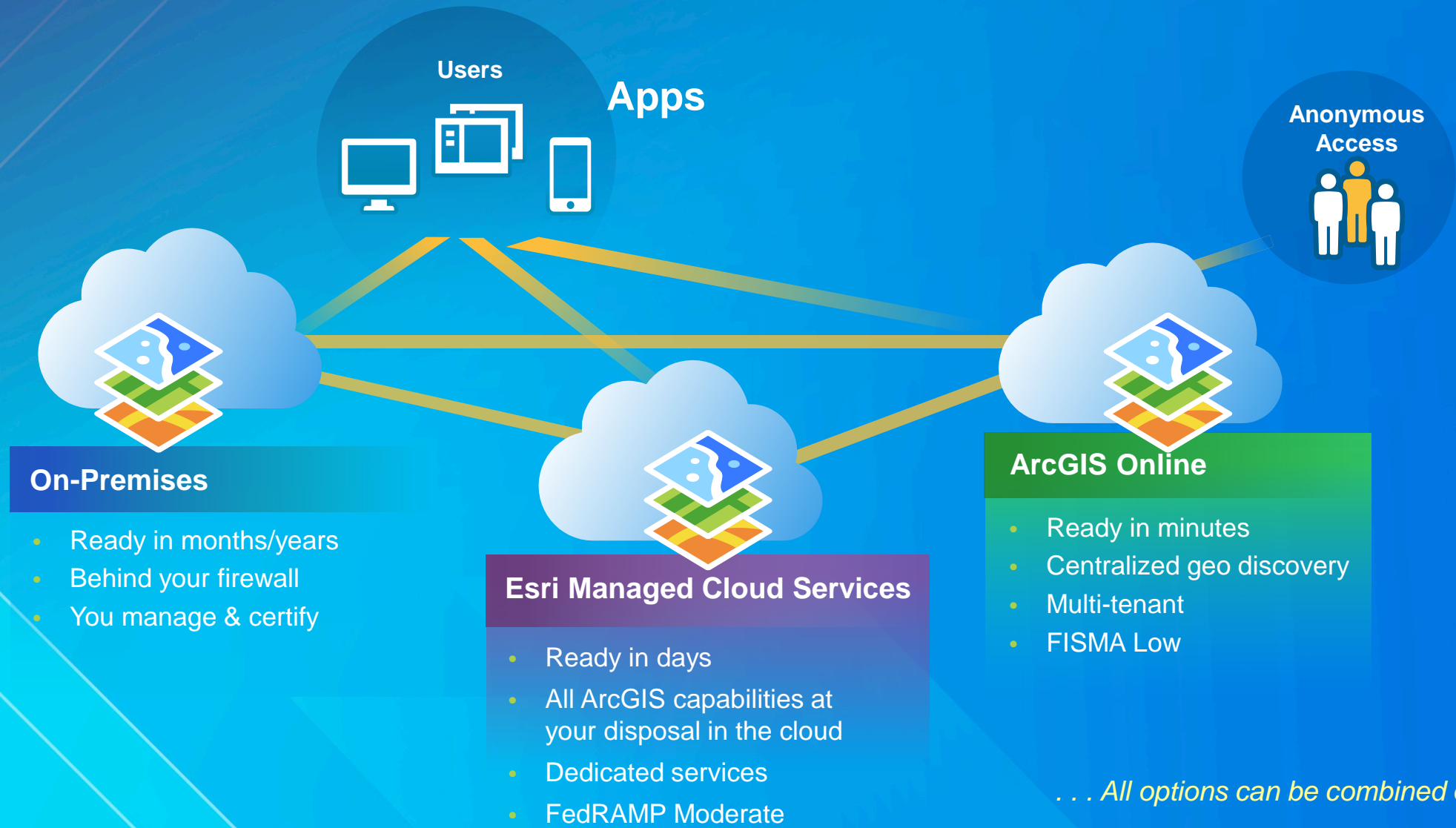
In Your Infrastructure +

Cloud



On-premise

Hosting Options

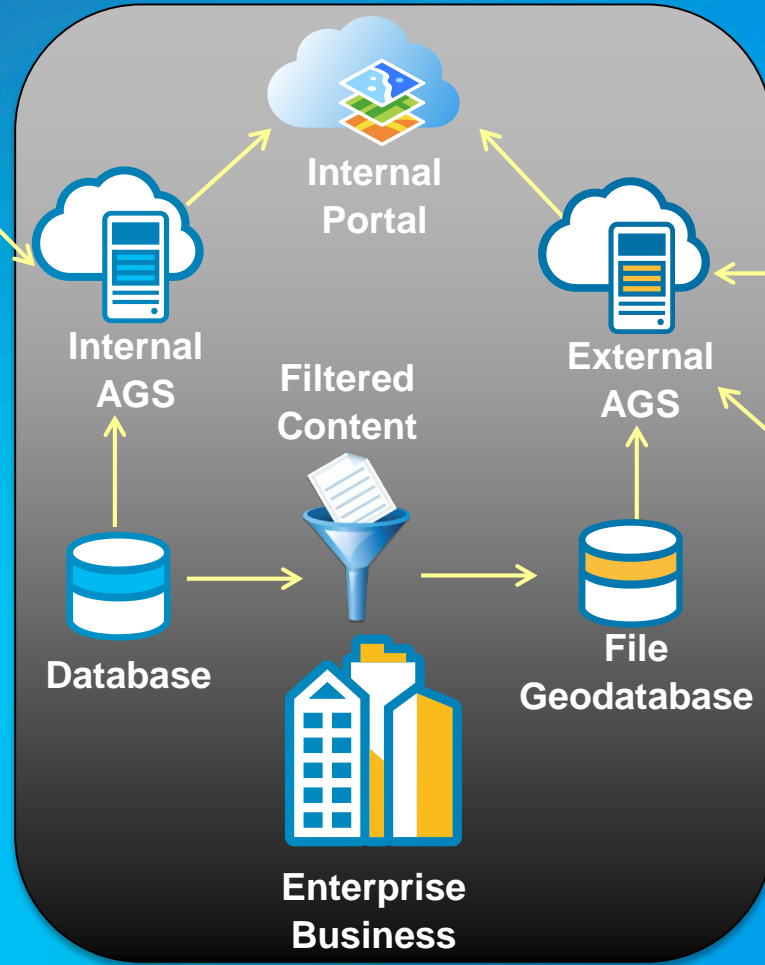


... All options can be combined or separate

Deployment Scenarios



Esri Managed
Cloud Services



Public



Business
Partner 1



Business
Partner 2

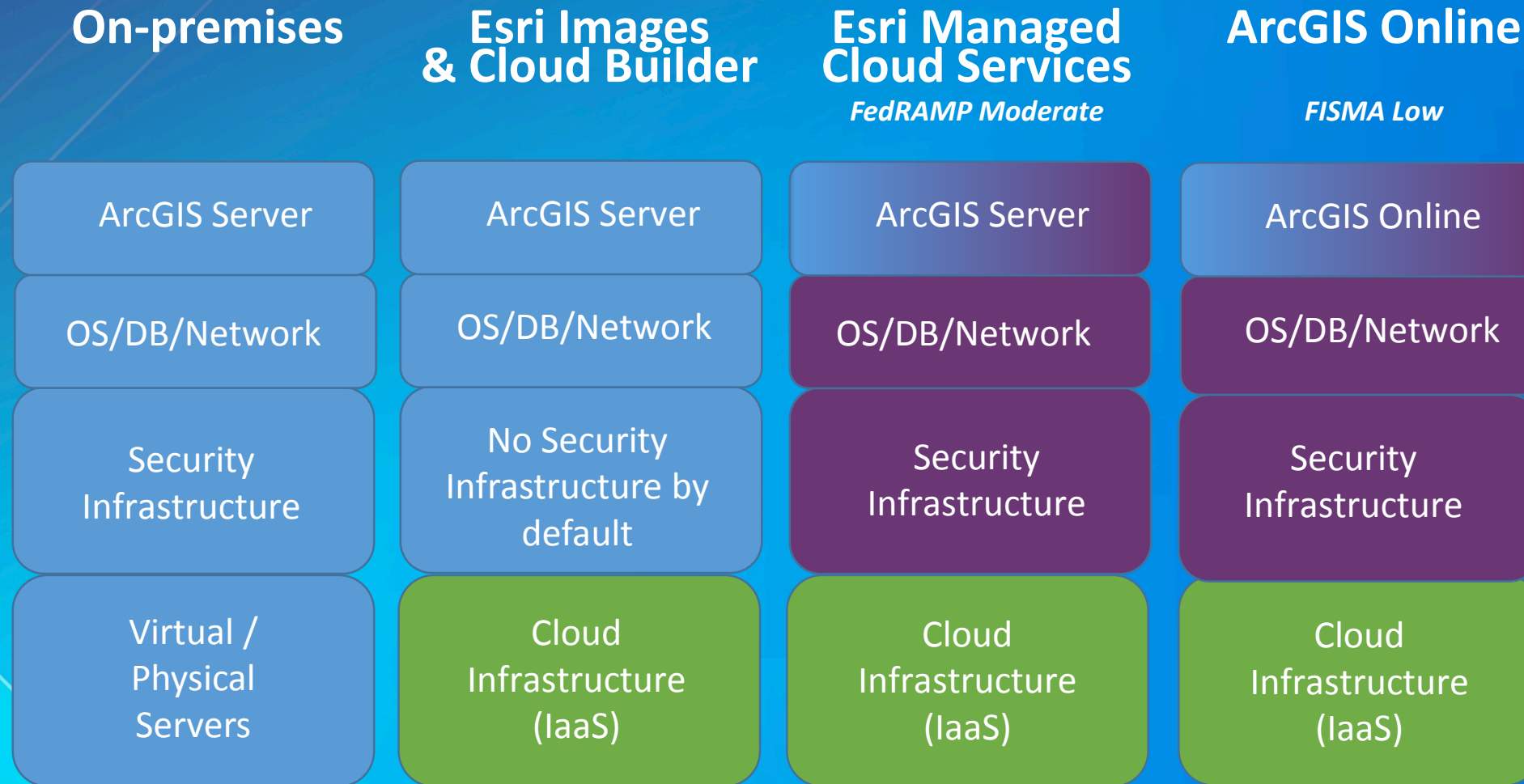


ArcGIS Online



Field
Worker

Responsibility Across Hosting Options

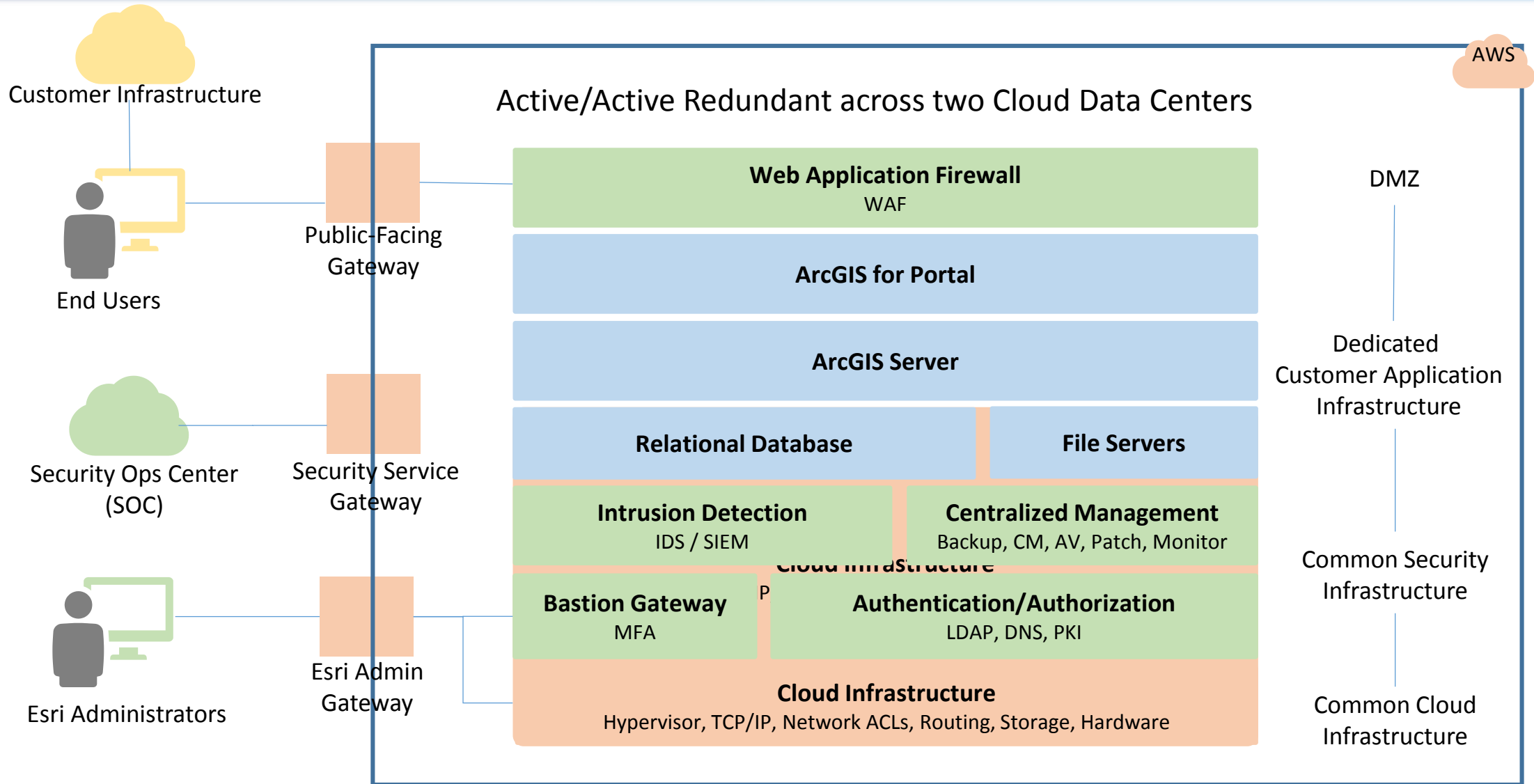


Customer Responsibility 

Esri Responsibility 

CSP Responsibility 

EMCS Security Infrastructure



Legend

Customer

Application

Cloud Provider

Security

ArcGIS Online FISMA Use Cases

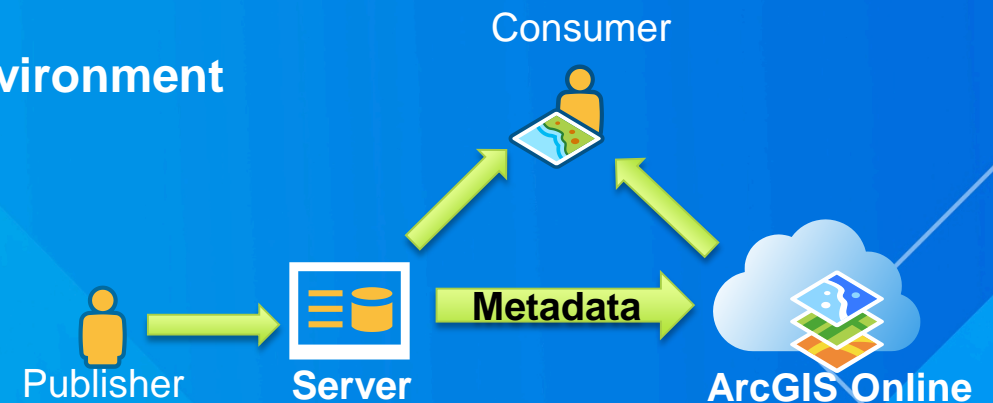
- **Use Case 1 – Public Dissemination**

- Publish tiles for fast, scalable visualizations
- Share information with the public
- Can be used for mashing up services with external non-SSL sites



- **Use Case 2 – Share operational data within or between businesses**

- Register ArcGIS Server Services in ArcGIS Online
- Sensitive data stored on premises or other authorized environment
- ArcGIS Online operates as a discovery portal
- Utilize Enterprise Logins



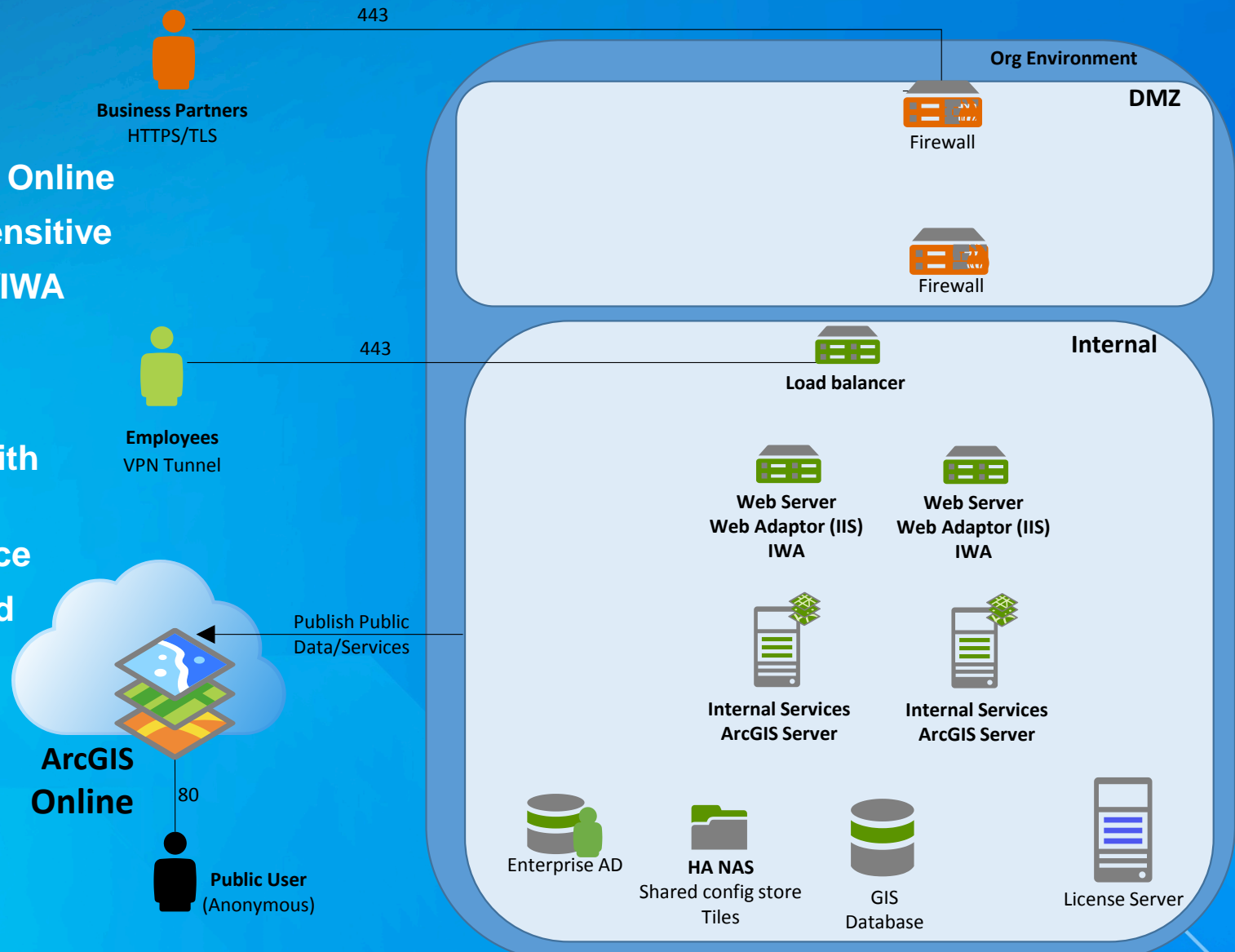
Using ArcGIS Online for Public Dissemination

- **Pros**

- Variable user loads handled by ArcGIS Online
- Public information Segmented from Sensitive
- Internal users have SSO experience w/IWA

- **Cons**

- Internal users access ArcGIS Online with separate logins
- Partners do not have an SSO experience
- External publishing workflow is needed



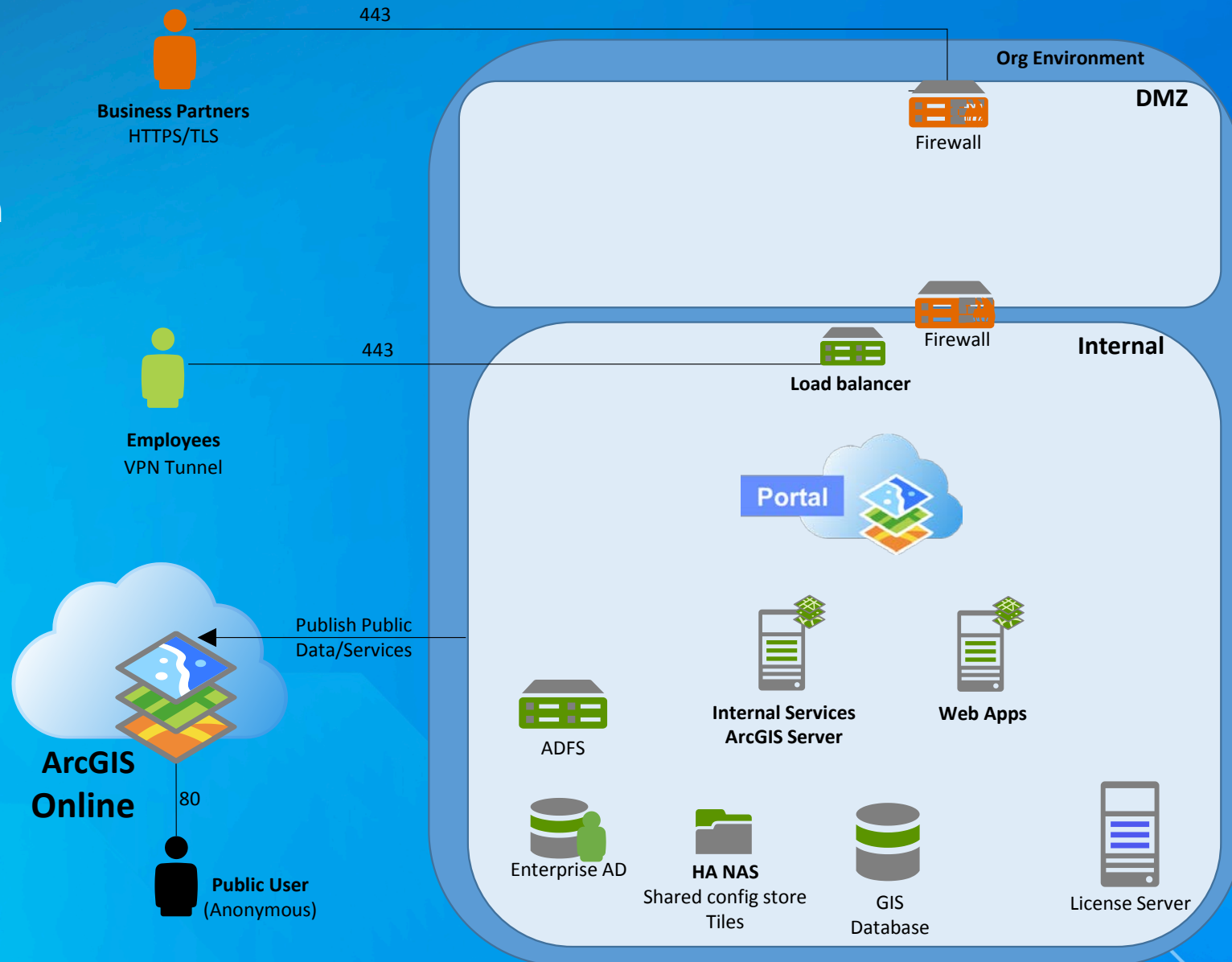
Using ArcGIS Online and Portal for ArcGIS On-Premises

- **Pros**

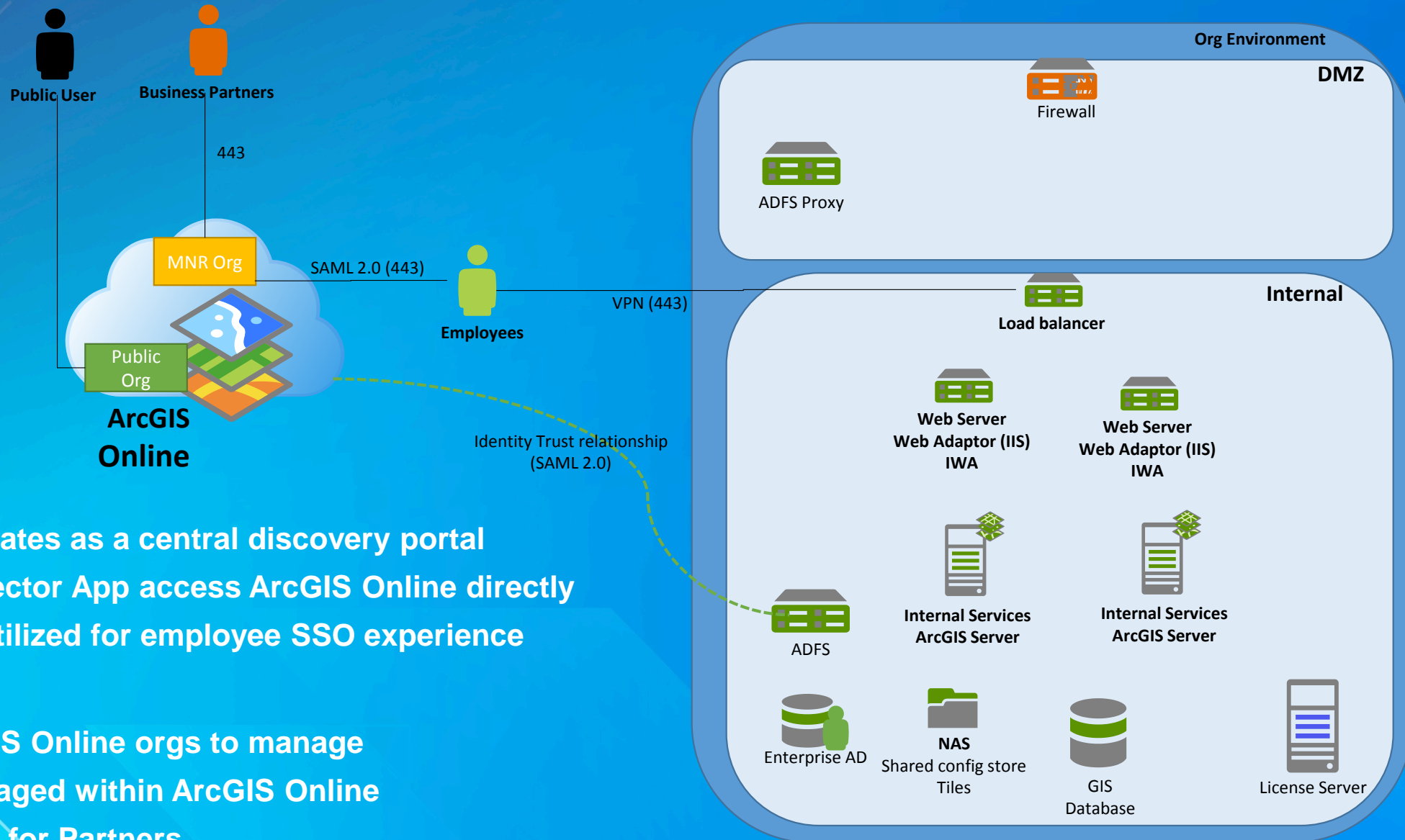
- Same scalability and segmentation benefits for public services
- Portal & Server Federation provide employee SSO

- **Cons**

- Overhead of internal Portal management / hardware
- Separate workflows for Portal and ArcGIS Online



Using Public and Private ArcGIS Online Organizations



- **Pros**

- ArcGIS Online operates as a central discovery portal
- Mobile users / Collector App access ArcGIS Online directly
- Enterprise logins utilized for employee SSO experience

- **Cons**

- Two separate ArcGIS Online orgs to manage
- Partner logins managed within ArcGIS Online
- No SSO experience for Partners

Deployment Scenario

Registering ArcGIS Server Services in ArcGIS Online

- **Common for large enterprises**
 - **Primary reason**
 - **Data Segmentation / Prevent storing sensitive data in the cloud**
- **What is stored in AGOL? – Service Metadata**
 - **Username & password** - Default, not saved
 - **Initial extent** - Adjust to a less specific area
 - **Name & tags** - Address with organization naming convention
 - **IP Address** - Utilize DNS names within URL's
 - **Thumbnail image** – Replace with any image as appropriate

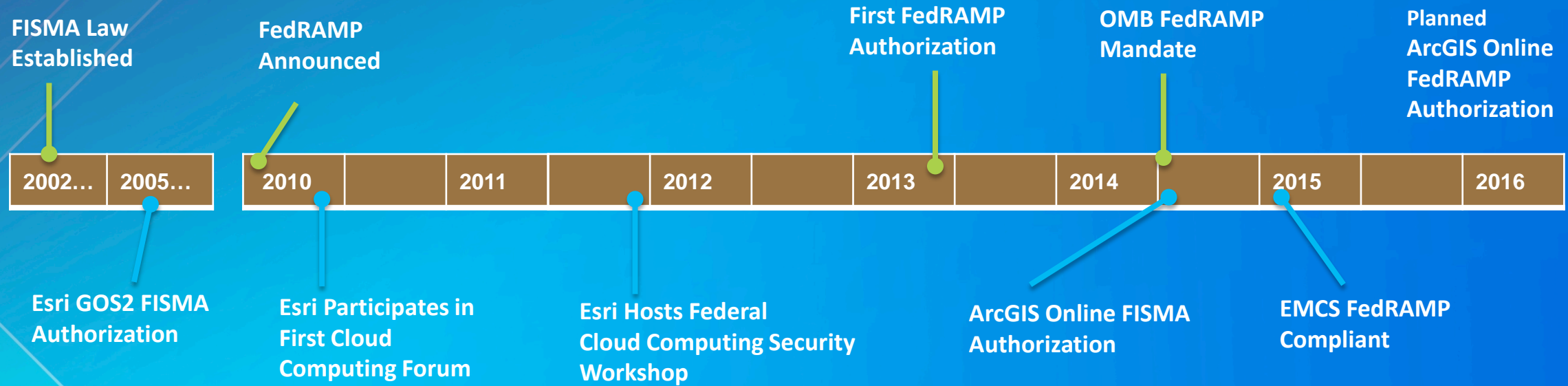
The background features a complex geometric pattern of overlapping triangles and polygons in shades of blue, purple, and yellow. The text is centered in the upper half of the image.

Infrastructure & Compliance

Esri Security Compliance

- **Esri Corporate**
- **Cloud Infrastructure Providers**
- **Products and Services**
- **Solution Guidance**

Esri Security Compliance Milestones



Esri has actively participated in hosting and advancing secure compliant solutions for over a decade

Esri Corporate Compliance

- **ISO 27001**
 - Esri's Corporate Security Charter

- **Privacy Assurance**
 - US EU/Swiss SafeHarbor self-certified
 - TRUSTed cloud certified



Cloud Infrastructure Provider Compliance

- ArcGIS Online Utilizes World-Class Cloud Infrastructure Providers
 - Microsoft Azure
 - Amazon Web Services

Cloud Infrastructure Security Compliance



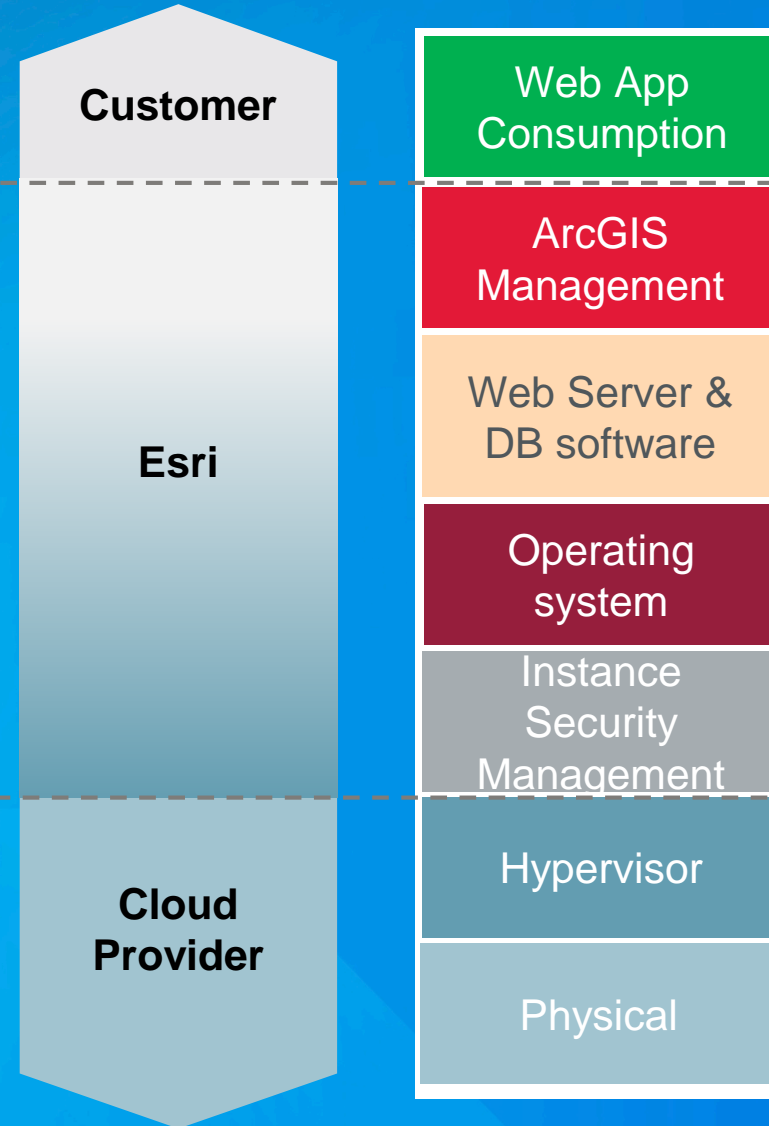
Product, Services, and Solution Compliance

- **Product Based Initiatives**
 - ArcGIS Server - DISA STIG
 - ArcGIS Desktop – USGCB
- **Service Based Initiatives**
 - ArcGIS Online – FISMA Low
 - Esri Managed Cloud Services – FedRAMP Moderate
- **Solution Based Guidance**
 - CJIS- Law enforcement - Started
 - HIPAA – Healthcare - Future

Layers of ArcGIS Online Security Responsibilities

AGOL SaaS
FISMA Low (USDA)
SafeHarbor (TRUSTe)

Cloud Provider
ISO 27001
SSAE16
FedRAMP Mod



Summary

- **Significant security advancements in the last year**
 - Password complexity control, Multi-factor Auth, Elimination of SSL v3
- **Utilizes World-Class Cloud Infrastructure Providers**
- **Extensive security, privacy, compliance, and status info available**
 - Trust.ArcGIS.com
- **Upcoming ArcGIS Online FedRAMP Agency Authorization**
 - Cross-cloud provider authorization Azure/AWS

Thank you...

- Please fill out the session survey in your mobile app
- In the agenda, click on the title of this session
 - ArcGIS Online: A Security, Privacy, and Compliance Overview
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments

Want to Learn More?

- **Enterprise GIS: Security Strategy**
 - Tues 10:15am Room 6E, Thurs 3:15pm Room 6E
- **ArcGIS Server & Portal for ArcGIS: An Introduction to Security**
 - Tues 3:15pm Room 4, Thurs 1:30pm Room 4
- **ArcGIS Server: Advanced Security**
 - Wed 3:15pm Room 3, Thurs Room 4
- **Best Practices in Setting up Secured Services in ArcGIS for Server**
 - Tues 5:30pm Demo Theater 14
- **Building Security into your System**
 - Tues 4:30pm Implementation Center
- **OAuth 2 and Authentication in ArcGIS Online Demystified**
 - Tues 2:30pm Demo Theater 11
- **Using Enterprise Logins for Portal in ArcGIS via SAML**
 - Tues 5:30pm, Wed 2:30pm Demo Theater 7

The screenshot shows the 'Trust ArcGIS' website. The main navigation bar includes 'Trust', 'ArcGIS Online Status', 'Security', 'Privacy', and 'Compliance'. A search bar is located in the top right corner. The page title is 'ArcGIS Online Product Capabilities'. The left sidebar contains a navigation menu with 'Overview', 'Cloud', 'Product capabilities' (highlighted), 'Implementation guidance', 'Esri Managed Cloud Services', 'Server', 'Desktop', and 'Mobile'. The main content area features a paragraph about ArcGIS Online's security and a 'REPORT A SECURITY CONCERN' button. Below this is a table of reference documents.

Reference documents	Description
ArcGIS Online Security Flyer	General overview of security in ArcGIS Online (.pdf)
ArcGIS Online Cloud Security Alliance Matrix	Detailed security answers for information security professionals (.pdf)
ArcGIS Online Service Level Agreement	ArcGIS Online Service Level Agreement (.pdf)
ArcGIS Online Terms of Service	ArcGIS Online Terms of Service



Understanding our world.