Deploying ArcGIS for Server Using Managed Services

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Agenda

• Introduction
• Program Overview
  - Overview
  - Methodology
  - Tools
• Customer Deployments
  - Architecture and Workflows
• What’s Next?
• Questions
Esri Managed Services
Cloud based GIS infrastructure support

- High Availability
- Archive
- Network
- Disaster Recovery
- AGOL Integration
- Change Management
- Hardware
- Caching
- Server Software
- System Design
- Infrastructure Monitoring
- Reporting
- Performance Testing
- Redundancy
- Deployment
- Scalability
- Bandwidth
- Backup
- Data Management
- Security
- Backup
- Scalability
- Storage
- Change Management

• Access to Enterprise GIS Expertise
• Rapid Deployment
• Scalable Resources
• Reduced cost of ownership

Experienced, Secure, Reliable, Scalable,
Extending the ArcGIS platform…
Deployment Patterns

Flexible offerings to support a variety of needs
Esri Managed Services

Program Themes and Patterns

Growing State & Local government interest

Managing large Imagery datasets

Sandbox offering for prototyping and development

Cloud security

Other cloud platforms
ArcGIS Online and Managed Services

Users
- Desktop
- Web
- Mobile

Esri Managed Services
- Custom Web Apps
- GP, Reporting Services
- Imagery, Large Datasets
- Dynamic Map Services
- RDBMS (Oracle, SQL Server)

ArcGIS Online
- Online Basemaps
- Geocoding, Routing
- Hosted Feature & Tile Map Services
- App Templates

ArcGIS Online front-end, Managed Services back-end
Basic Packages “Sandbox”

- Ready to use cloud instance of ArcGIS for Server
- Remote access provided to user

Ideal for development, prototyping...
Standard, Advanced, Advanced + Plus

Availability

- Esri loads, publishes and deploys on behalf of customer
- 24/7 system monitoring and support
- Ideal for **production** systems (internal or public facing)
Esri Managed Services

Cloud based GIS infrastructure support

Diagram showing process flow:
- Questionnaire → On Call → Requirements → Sizing / Arch. Design → Proposal / ROM → Contract
- Staging → Verification → Prod. Images
- Production → Verification → Monitoring → Alerts / Notifications
Esri Managed Services

Cloud based GIS infrastructure support

- Questionnaire
- On Call
- Requirements (Sizing / Arch. Design)
- Proposal / ROM
- Contract

- User Load: Users Count; Peak (Yes / No)
- Application: GIS Services (Dynamic, Image, GP, Feature, Cached)
- Security: SSL / AGS Tokens / Data at Rest / Encryption
- Availability: SLA – 95%, 99% or 99.9%; Monitoring (24/7)
- Infrastructure: Public Cloud or Private Cloud; DB/Web/App Servers
- Updates: Data Updates; Application Updates; S/W Updates
Esri Managed Services

Cloud based GIS infrastructure support

- [http://www.arcgis.com](http://www.arcgis.com)
- owner: Enterpriselmp
Esri Managed Services

Cloud based GIS infrastructure support

- Staging
- Verification
- Prod. Images
- Deployment
- Create Snapshot
- Test
- MXD’s (MXDPerfStat); GIS Services (System Test)
- Update
Esri Managed Services

Cloud based GIS infrastructure support

Production ➔ Verification ➔ Monitoring ➔ Alerts / Notifications

Snapshot ➔ Email ➔ System ➔ Emails

Prod. Servers ➔ Application (URL) ➔ DB ➔ Process ➔ GIS Services

24/7 Support
Customer Deployments
Cook County Municipal Cloud

- Portal improves G2G collaboration
- Disaster recovery & Imagery data download
- 10 web apps, 8 TB data
- ArcGIS Server, SharePoint Server, Web Applications
- SLA - 95%
Cook County Municipal Cloud - Architecture and Workflow

- County Staff & Municipalities
- General Public
- County Servers

- Microsoft SharePoint
- ArcGIS Server
- SQL Server Database
- Web Apps

- Municipal Village App
U.S. Geological Survey Historical Maps

- Historical Topographic Maps
- 178,000 images from 1884-2006
- 22 TB data
- Image Services
- ArcGIS Online + Managed Services Hybrid
- ArcGIS Server, AGOL, Web Application
- SLA – 99%
USGS Historical Maps - Architecture and Workflow

Amazon S3 "Bucket"

ArcGIS Server

ArcGIS Online

24 x 1 TB Drives
City of Minneapolis Snow Emergency

- Scalable environment available during snow emergencies
- Dev and Prod environments
- ArcGIS Online + Managed Services
  - Hybrid
- ArcGIS Server, AGOL
City of Minneapolis Snow Emergency - Architecture and Workflow
State of Vermont 511

- Road closures and traffic conditions available to the public
- Auto-scaling enabled
- SLA – 99%
- ArcGIS Server, Live Feeds, Web Applications
State of Vermont 511 - Architecture and Workflow

End Users → Load Balancer

Load Balancer → Primary

Load Balancer → Auto-Scaled Instances
National Grid IMAP

- Sandbox used for prototyping
- Quick, easy access to GIS
- Mobile capabilities

- Hybrid ArcGIS Online + Managed Services
- Secure VPN access
National Grid IMAP - Architecture and Workflow

External End Users → ArcGIS Online → Public Facing

National Grid Network → VPN Connection → Internal Content → Virtual Private Cloud

GIS Administrators & National Grid End Users
Iberdrola USA Outage Viewer

- Server Auto-Scaling
- Data Update Automation
- SLA – 99.9%

- High Availability
- Geographic Redundancy
- ArcGIS Server, Web Applications
Iberdrola USA - Hurricane Sandy

• 14 additional servers (17 total)
• Central Maine Power - 34 million hits over 3 days
• New York State Electric & Gas – 76 million hits over 3 days

2/10/2014 -11:30 am
Heat Map - Maine – October 29
Maine – October 30
Maine – October 31
Maine – November 1
Many successful deployments…
What’s Next?
Federal Cloud Accredited Solution Overview

- Centralized Authentication (2-factor)
- Hardware Key Management
- Network Address Translation
- Virtual Private Cloud (Segmentation)
- Redundancy (multiple data centers)
- IDS/SIEM
- Logging

Customer Databases

End Users

ArcGIS for Server

Portal for ArcGIS

Esri Cloud GIS

Administrator

FedRAMP and FISMA Moderate

ArcGIS Online
ArcGIS for Desktop in the Cloud

- Virtual ArcGIS desktops in the cloud
- Supports geodatabase editing workflows
Questions
Thank you…

• Please fill out the session survey:

   Session ID: 1032

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   Paper – pick up and put in drop box
Understanding our world.