Key Takeaways

• How to Identify Organizational Strategy & Priorities
• Esri’s Cloud Offerings – There’s more than ArcGIS Online
• A Few Words on Esri Managed Cloud Services
• Successfully Executing Your Strategy
The Cloud
IT’s Fastest Growing Segment
83% of Enterprise Workloads Will be in the Cloud by 2020
The public cloud will be half of the cloud market

Where Will Workloads Run (Today versus 2020)

What percent of workloads run/will run from the following?

<table>
<thead>
<tr>
<th>Type</th>
<th>Today</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-premises</td>
<td>37%</td>
<td>27%</td>
</tr>
<tr>
<td>Public cloud</td>
<td>31%</td>
<td>41%</td>
</tr>
<tr>
<td>Private cloud</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>Hybrid cloud</td>
<td>18%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Growth will come across cloud types
More organizations will be adopting IaaS & leveraging PaaS

Figure 2: Cloud investment by type
(Significant IT budgets > US$250m)

Cloud adoption is still in progress
1/3 of the market considers itself “cloud-focused”

The picture changes when the organization’s size is considered. Enterprise customers are adopting more slowly.

[Cloud Maturity by Company Size chart]

<table>
<thead>
<tr>
<th>Company Size</th>
<th>No plans</th>
<th>Cloud Watchers</th>
<th>Cloud Beginners</th>
<th>Cloud Explorers</th>
<th>Cloud Focused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise</td>
<td>4%</td>
<td>14%</td>
<td>24%</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>SMB</td>
<td>7%</td>
<td>14%</td>
<td>20%</td>
<td>21%</td>
<td>38%</td>
</tr>
</tbody>
</table>

Source: RightScale 2017 State of the Cloud Report

[Link to report]

Cloud Vendor Adoption Y^Y
Azure making big gains

What about you?
A look at your peers

<table>
<thead>
<tr>
<th>Cloud Maturity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Plans</td>
<td>1</td>
</tr>
<tr>
<td>Cloud Watcher (Planning)</td>
<td>23</td>
</tr>
<tr>
<td>Cloud Beginner (First Project)</td>
<td>16</td>
</tr>
<tr>
<td>Cloud Explorer (Apps Running)</td>
<td>18</td>
</tr>
<tr>
<td>Cloud-Focused (Heavy Use)</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cloud Vendor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon Web Services</td>
<td>16</td>
</tr>
<tr>
<td>Microsoft Azure</td>
<td>25</td>
</tr>
<tr>
<td>IBM</td>
<td>4</td>
</tr>
<tr>
<td>Oracle</td>
<td>2</td>
</tr>
<tr>
<td>Other (small vendor in Chicago, Netherlands, private cloud)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Data combined from attendee responses at both sessions presented during UC 2018*
Identifying Your Cloud Strategy
Priorities and Considerations
Consider the Scope & Alignment
Enterprise or Initiative-driven

Enterprise
- Multiple business units affected by move
- Stakeholders typically include executive leadership
- Funding from multiple groups or central fund

Initiative
- Individual business unit affected by move
- Stakeholders do not typically include executive leadership
- Funding from single budget

A Business Strategy
B Location Strategy
C IT Strategy
ArcGIS
Common Patterns of Use

Mapping & Visualization
Understand locations & relationships with maps & visual representations

Data Management
Collect, organize, & maintain accurate locations & details about assets & resources

Field Mobility
Manage & enable a mobile workforce to collect & access information in the field

Monitoring
Track, manage, & monitor assets & resources in real-time

Analytics
Discover, quantify, & predict trends & patterns to improve outcomes

Design & Planning
Evaluate alternative solutions & create optimal designs

Decision Support
Gain situational awareness, & enable information-driven decision making

Constituent Engagement
Communicate & collaborate with citizens & external communities of interest

Sharing & Collaboration
Empower everyone to easily discover, use, make, & share geographic information
Esri Deployment Options

Full spectrum of options
Esri Cloud Deployment Options

ArcGIS Enterprise
Self-Managed

ArcGIS Enterprise
Managed Services
Partner- or Esri-Managed

ArcGIS Online
SaaS

Hybrid deployments most common
ArcGIS in the Cloud
A full-spectrum of options

CloudFormation & Cloud Builder Templates -> Managed GIS Infrastructure -> Managed GIS Environment -> ArcGIS Online

Do-it-yourself <-> SaaS
CloudFormation & Cloud Builder Templates
DIY Cloud

What is it?
Esri-maintained ArcGIS Enterprise images available through Microsoft Azure & Amazon Web Services marketplaces. Customers procure, provision, & install all cloud infrastructure & licensing.

Who uses it?
Single-tenant environments.

Where is it available?
Worldwide. Installed across multiple cloud providers & regions worldwide.

Who is the customer’s relationship with?
The customer has a relationship the cloud provider for infrastructure. Customer also maintains a relationship with Esri for licensing.
CloudFormation & Cloud Builder Templates

DIY Cloud

Security

Customer responsibility

Learn More

• Designing a Web GIS Security Strategy – Wed 8:30-9:30am, Room 09

• ArcGIS Enterprise: Architecting Your Deployment - Wed 2:30-3:30pm, Room 02

• ArcGIS Enterprise: Cloud Operations Using Microsoft Azure – Thu 8:30-9:30am, Room 31A

• ArcGIS Enterprise: Cloud Operations Using Amazon Web Services – Thu 10:00-11:00am, Room 31A

• Expo Floor Tues, Wed, Thur
Customer-Managed Environment
Development & Prototyping in the Cloud

What is it?
GIS-ready infrastructure procured, provisioned, installed with Esri software, & backed-up by Esri Managed Cloud Services

Who uses it?
Single-tenant environments. Customers manage their users & access to content & apps through identity.

Where is it available?
In the US. Can be installed across multiple cloud providers & regions (domestic & international).

Who is the customer’s relationship with?
The customer’s relationship is with Esri. Esri maintains a relationship with the cloud provider.
Managed GIS Infrastructure
Development & Prototyping in the Cloud

Security Standard

Learn More
• Expo Floor Tues, Wed, Thur
Esri-Managed Environments
An Esri Managed Cloud Service

What is it?
Esri experts managing GIS content, apps, & systems on market-leading cloud platforms on behalf of customers.

Who uses it?
Single-tenant environments. Customers manage their users & access to content & apps through Portal or SAML.

Where is it available?
In the US. Can be installed across multiple cloud providers & regions (domestic & international).

Who is the customer’s relationship with?
The customer’s relationship is with Esri. Esri maintains a relationship with the cloud provider.
Esri-Managed Environments
An Esri Managed Cloud Service

Learn More

• How to be Successful in FedRAMP with Esri Managed Cloud Services – Thur 8:30-9:30, Room 29D
• Expo Floor Tues, Wed, Thur
ArcGIS Online
Esri's SaaS Offering

What is it?
Esri's SaaS offering. An online collaborative web GIS that allows customers to use, create, & share maps, apps, layers, analytics & data.

Who uses it?
ArcGIS Online is a multi-tenanted solution. Customers manage their users, content, & apps through ArcGIS Online Identity & organizations.

Where is it available?
Available for use worldwide. ArcGIS online is installed across multiple cloud providers & US regions.

Who is the customer’s relationship with?
The customer’s relationship is with Esri. The customer uses the system & billed based on consumption.
ArcGIS Online
More Information

Security
FISMA Low
FedRAMP (in progress)

Learn More

• Expo Floor Wed 10:30am-5:15pm
ArcGIS Workloads in the Cloud

Common Usages
Common Patterns of Cloud Usage

From simple to complex systems

- **Content**
  - Hosting & publication of GIS content

- **Application(s)**
  - Hosting & management of web applications & content

- **System of Engagement**
  - Hosting & management of an organization’s GIS systems including content, applications, & portal

- **System of Record**
  - Hosting & management of an organization’s GIS systems including content, applications, portal, & desktop
Standard Service | Content Service

Hosting & publication of GIS content as a service

Content & web services publication, hosting & management. Web endpoints can be consumed by a variety of clients (mobile, apps, ArcGIS Online/Portal, &/or on-premises). Compatible with ArcGIS Online for hosting tiled map & feature services.

Standard Configuration(s):

Standard Content Service
Optimized for use in many common scenarios of GIS service publishing
Optional product(s) that can be added to the Content Service.
Decreasing cost of hosting imagery

Expert guidance for cloud options
Standard Service | Application Service

Hosting & management of web applications & content

Hosted custom web application developed by the customer, 3rd party, or Esri Professional Services. This can be a secured, internal-facing or external, public-facing application. Content hosting included, although also suitable as web front end for content published from other infrastructure.

Standard Configuration(s):

**Standard Application Service**
Suitable for the majority of GIS applications, this configuration comes with a 95% uptime SLA & will support up to 150 concurrent users.

**Advanced Application Service**
For those applications which may experience extreme variances in usage or are critical to a customer’s mission, this configuration includes auto-scaling & a 99.9% uptime SLA.
Standard Application Service | Architecture

*Optional product(s) that can be added to the Standard Application Service.
Advanced Application Service | Architecture

* Optional product(s) that can be added to the Advanced Application Service.
Outage Viewer supports variable usage

Bringing critical outage information to the general public

Highly available, scalable systems

Supports day-to-day usage & major events

Frequent, automated data updates
Hosting & management of your organization’s GIS including content, applications, & Portal

Supports self-service GIS utilizing the WebGIS pattern. Used for publishing content, hosting applications, & web services consumed by many clients. Includes portal for self-service mapping, application publishing, & identity management. Suited to web-based editing workflows.

Standard Service | WebGIS Service

Standard Configuration(s):

WebGIS Standard
Designed for System of Engagement, ArcGIS Enterprise with Portal optimized for organization wide participation in GIS via standard & custom Esri Apps, managed by portal & including basic, web-based editing workflows.
Hosting & management of your organization’s GIS including content, applications, & Portal

Supports self-service GIS utilizing the WebGIS pattern. Used for publishing content, hosting applications, & web services consumed by many clients. Includes portal for self-service mapping, application publishing, & identity management. Enables a variety of data editing workflows.

Standard Configuration(s):

Platform Standard
Designed to support System of Engagement patterns in addition to a System of Record with multi-user versioned editing workflows. Suited to organization-wide participation in GIS via standard & custom Esri Apps, managed by Portal.
Optional product(s) that can be added to the WebGIS Service.
Optional product(s) that can be added to the Platform Service – Enterprise Geodatabase.
Outsourced GIS Operations

GIS Platform managed in the cloud

Virtual Desktops ArcGIS Enterprise Extensions

Esri ArcGIS Online Basemaps
GIS & cloud expertise
100% cloud-based GIS practice
Anywhere, anytime on any device

On-Premises
3rd Party Systems

Esri Managed Cloud Services
ArcGIS Desktops
ArcGIS Enterprise
Data Services

Desktop
Web
Device
Managed Cloud | Production Services Included

**Content Service**

**Application Service**

**WebGIS Service**

**Platform Service**

Services Included:

- **Setup service**
  - Cloud infrastructure procured & provisioned
  - Software installation & configuration
  - Customer data & application loaded & configured

- **On-going services**
  - Infrastructure & system monitoring
  - Infrastructure & system maintenance
  - Technical Support
  - Software updates
  - Security updates
  - Uptime guarantees

Architected according to Esri best-practices to provide secure, reliable, fully managed cloud service

Options available to customize elements of the standard configurations
Managed Cloud | **Services Included (Prototype)**

**Services Included:**

**Setup service**
- Cloud infrastructure procured & provisioned
- Software installation & configuration
- Customer data & application loaded & configured

**On-going services**
- Infrastructure & system monitoring
- Infrastructure & system maintenance
- Technical Support
- Software updates
- Security updates
- Uptime guarantees

**GIS Environment**

Architected according to Esri best-practices to provide secure, reliable, fully-managed cloud service

Sized according to common use patterns, setup & provided turn-key to users, with continued tech support & background monitoring
Successfully Implementing Your Cloud Strategy

Success depends on you
Four-step Process
Success for all scopes

1. LOCATION STRATEGY
2. ASSESS & PLAN
3. BUILD CAPABILITY
4. OPERATE & MEASURE
Mindset
1. Focus on business outcomes
2. Vision with quick wins
3. Uncertainty is ok
4. Configure first
5. Be flexible & adaptable
Location Strategy
The guiding principles of success

1. Location Strategy

- What is the organizational mission?
- What is the bold vision?
- What are your top business drivers & considerations?
- What does success look like?
Assess & Plan
Honestly reflecting on what’s working & what’s not

• Establish baselines

• Cloud Readiness Assessment
  - Inventory data, workflows, applications, & users
  - Evaluate responsibilities
  - Measure capacity of IT
  - Establish skills of individuals
Build Capability
Small steps towards success

- Focus on highest priority
- Demonstrate value
- Show rapid results – prototype before production
- Configure first
- Share results to generate excitement
Operate & Measure
Monitor & move on

- Monitor system performance
- Collect & measure feedback from users & stakeholders
- Select additional priority from location strategy & begin again
A Success Story
The Journey to a Successful Implementation

A Solid Foundation

• Driven by Executive Sponsor
• Clear project leader
• Alignment with Business & IT Strategy

Assess & Plan

1. Location Strategy
   • Bold vision – All GIS in a central, shared location information w/o duplication
   • Location information a central, critical system
   • Clearly documented what successes look like

2. Operate & Measure
   • Regular steering committee meetings
   • Review priorities & performance

3. Build Capability
   • Agreed to crawl, walk, run approach
   • Develop a prototype then move to Production
   • Quick, small wins

4. Operate & Measure
   • Regular steering committee meetings
   • Review priorities & performance

The Journey to a Successful Implementation

Operate & Measure

Build Capability
Review Key Takeaways

• How to Identify Organizational Strategy & Priorities
• Esri’s Cloud Offerings – There’s more than ArcGIS Online
• Successfully Executing Your Strategy
Questions
Please Take Our Survey on the App

Download the Esri Events app and find your event

Select the session you attended

Scroll down to find the feedback section

Complete answers and select “Submit”
Thank You