Leveraging Esri’s Managed Cloud Services to Help Your Organization

Alec Walker
Organizations are increasingly turning to the cloud to deliver capabilities and information more reliably and securely than they have in the past. Esri Managed Cloud Services is helping organizations leverage the benefits of the cloud to achieve their business strategy. Focusing on specific customer use cases, discover why, how, and what organizations are doing to accomplish their business goals and objectives through a managed cloud services approach.
Organizations are increasingly turning to the cloud to deliver capabilities and information more reliably and securely than they have in the past. Esri Managed Cloud Services is helping organizations leverage the benefits of the cloud to achieve their business strategy. Focusing on specific customer use cases, discover why, how, and what organizations are doing to accomplish their business goals and objectives through a managed cloud services approach.
Key Takeaways

What are managed cloud services?
How might the cloud benefit my organization?
How is the cloud being used to deliver capabilities?
Agenda

- Introduction and Session Overview
- Managed Cloud Services Approach
- Benefits of the Cloud
- Capabilities Overview
- Customer Use Cases
- Q&A
Deployment Architectures
Deploy ArcGIS on-premises, in public clouds (PaaS), and/or use Esri’s cloud (SaaS)
What are Managed Services?
A look at industry offerings
“Managed Services is the **proactive management** of an IT (Information Technology) asset or object, by a third party typically known as a Managed Service Provider (MSP), **on behalf of a customer**. The operative distinction that sets apart a MSP is the **proactive delivery of their service**, as compared to reactive IT services, which have been around for decades.”

MSP Alliance

*International Association of Cloud and Managed Service Providers*
Managed services cover a variety of IT services

- Managed computer support (help desk)
- Managed security
- Managed hosting
- Managed network services
- Managed print services
- Managed spam filtering
- Application managed services
  - Payroll services
  - Customer service
  - Disaster/Recovery
  - Backup
  - Managed storage
  - Remote monitoring
  - Network management (NOC)
  - Private cloud
  - Telco services/
- Managed VoIP
  - Patch management
  - Colocation
  - Mobile device management
  - Vendor management
  - Hardware as a service
  - Software license management
  - Warranty management
Regardless of the IT service, all Managed Service Providers (MSPs) share certain characteristics:

- Help or service desk available
- Deliver services with some form of a predictable billing model
- Monitor and manage the objects for the customer
- Proactively maintain the objects for the customer
How many present are using a managed service provider of some sort?

Answer = 50%
What is the Cloud?
A quick definition
“We think the notion of cloud as a style of computing is **mainstream**. It’s **not a matter of if, it’s a matter of when** and how and where. And does this style of computing evolve on internal private systems you control, external public systems, or some combination that’s a hybrid. Regardless of how it comes down we think **everyone is really moving** towards that cloud-style of computing.”

David W. Cearly – Gartner Fellow, Gartner’s Top 10 Strategic Technology Trends for 2015
How has the market responded to the cloud?

Additionally 56% of organizations are still identifying IT operations that are candidates for cloud hosting.

2016 IDG Enterprise Cloud Computing Survey
How many present are using a currently using the cloud?

Answer = 6/7
How many present are planning on shifting to the cloud in the next 12 months?

Answer = 33%
How many present are planning on growing their adoption of the cloud in the next 12 months?

Answer = 100%
There are certain, essential characteristics of the cloud

<table>
<thead>
<tr>
<th>On-demand self-service</th>
<th>Broad network access</th>
<th>Resource pooling</th>
<th>Rapid elasticity</th>
<th>Measured service</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Consumer can provision resources</td>
<td>- Accessible over the network</td>
<td>- Computing resources pooled</td>
<td>- Capabilities scale inward and outward</td>
<td>- Systems are typically metered</td>
</tr>
<tr>
<td>- Provisioning happens automatically</td>
<td>- Available through thick or thin clients</td>
<td>- Service of multiple consumers (multi-tenant)</td>
<td>- Can be automatically triggered</td>
<td>- Resource usage can be monitored, controlled and reported</td>
</tr>
<tr>
<td>- Does not require human interaction with service provider</td>
<td></td>
<td>- Physical and virtual resources assigned dynamically</td>
<td>- Appear to have unlimited capacity</td>
<td>- Allows for optimization of resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sense of location independence</td>
<td>- Provisioning can happen at any time and in any quantity</td>
<td></td>
</tr>
</tbody>
</table>

At its core, cloud means providing IT capabilities as a service.

“A style of computing where scalable and elastic IT-related capabilities are provided ‘as a service’ to customers using internet technologies.”

– Gartner
An introduction to the cloud service types

**SaaS**  
Software applications running on a cloud infrastructure delivered to consumers via the web

**PaaS**  
Consumers are given the capability to build, test, and/or deploy created or acquired application using platform-specific languages, libraries, services, and tools supported by the provider

**IaaS**  
On-demand delivery of cloud computing infrastructure – servers, processing, storage, network, and OS
<table>
<thead>
<tr>
<th>Service provider does</th>
<th>Consumer does</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SaaS</strong></td>
<td></td>
</tr>
<tr>
<td>Updates code and manages releases</td>
<td>Designates users and associated roles</td>
</tr>
<tr>
<td>Manages infrastructure transparently to consumers</td>
<td>Limited customizations to software</td>
</tr>
<tr>
<td>Delivers up-time SLA</td>
<td>NOT pick hosting location</td>
</tr>
<tr>
<td>Usage tracking (typically # of users)</td>
<td>Pay based on usage</td>
</tr>
<tr>
<td><strong>PaaS</strong></td>
<td></td>
</tr>
<tr>
<td>Maintains and updates languages, libraries, services and tools for integration with platform</td>
<td>Builds, tests, and deploys COMPATIBLE applications on the platform</td>
</tr>
<tr>
<td>Typically controls underlying cloud infrastructure (network, servers, OS, storage)</td>
<td>May configure some of the infrastructure settings, but not the infrastructure itself</td>
</tr>
<tr>
<td><strong>IaaS</strong></td>
<td></td>
</tr>
<tr>
<td>Owns hardware associated with cloud</td>
<td>Decides the how much, what, and (sometimes) where of their environment</td>
</tr>
<tr>
<td>Provides up-time SLAs associated with hardware and network connectivity</td>
<td>Picks OS and ALL software deployed within their environment</td>
</tr>
<tr>
<td>Provides metered usage to consumers</td>
<td>Pays for usage of hardware</td>
</tr>
</tbody>
</table>
Vendors across the cloud landscape

IaaS

SaaS

PaaS

CenturyLink®

salesforce®

ORACLE®

SAP

esri

box

Microsoft

Google

amazon web services™
Vendors across the cloud landscape

IaaS

SaaS

PaaS

CenturyLink®
Managed Cloud Services
Cloud + Managed Services
“Managed [Cloud] Services is the proactive management of [cloud] assets or objects… on behalf of a customer.

Adapted from MSP Alliance
International Association of Cloud and Managed Service Providers
## Managed Cloud Services is…

<table>
<thead>
<tr>
<th>Managed Service Provider does</th>
<th>Consumer does</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Configures users and roles</td>
<td>• Designates users and associated roles</td>
</tr>
<tr>
<td>• Customizes software on behalf of customer</td>
<td>• Pays based on usage</td>
</tr>
<tr>
<td>• Implementation and delivery of initial operating capabilities</td>
<td>• Uses the software</td>
</tr>
<tr>
<td>• Bills as project or by user</td>
<td></td>
</tr>
<tr>
<td>• Deploys applications on behalf of customers</td>
<td>• Builds and tests applications on the platform</td>
</tr>
<tr>
<td>• Configures &amp; maintains infrastructure settings to optimize both platform &amp; architecture</td>
<td>• Uses platform based applications</td>
</tr>
<tr>
<td>• Applies patches and updates to platform</td>
<td>• Provides feedback to service provider</td>
</tr>
<tr>
<td>• Bills as value added service based on consumption (by server or by user)</td>
<td></td>
</tr>
<tr>
<td>• Proactively manages customer’s cloud environment, how much, what and where resources are best deployed</td>
<td>• Uses the infrastructure environment</td>
</tr>
<tr>
<td>• Deploys software and applies patches and updates to environment</td>
<td>• Deploys software on top of environment for usage</td>
</tr>
<tr>
<td>• Bills as value added service based on consumption (typically by server)</td>
<td></td>
</tr>
</tbody>
</table>
Benefits of the Cloud

What are our customers hoping to get?
The Benefits of the Cloud

- Cost savings
- Flexibility and scalability
- Increased security
- Shorten time to value
- Shared accountability
- Try before you buy
- Access to innovation
- Innovation
What benefits have you seen from the cloud?

Answers

Ability to support multiple geographies and reduce latency

Easier relative to on-premises (rely on others, "always there")
If the cloud provides so many benefits on its own, why are customers seeking out GIS-based Managed Cloud Services?

<table>
<thead>
<tr>
<th>Driver</th>
<th>Yes/No</th>
<th>Comments/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looking for specific GIS capabilities</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Looking for GIS-based industry capabilities / solution</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Looking for increased performance &amp; flexible infrastructure</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: reduce expenses/costs</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: lack skills / resources</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Want to try ArcGIS technology before they buy</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Want GIS capabilities sooner (than they could do in-house)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>
What our customers said…

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<th>Yes/No</th>
<th>Comments/Notes</th>
</tr>
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<tbody>
<tr>
<td>Looking for specific GIS capabilities</td>
<td>Y</td>
<td>Especially administrative capabilities</td>
</tr>
<tr>
<td>Looking for GIS-based industry capabilities / solution</td>
<td>Y</td>
<td>Not across all industries</td>
</tr>
<tr>
<td>Looking for increased performance &amp; flexible infrastructure</td>
<td>Y</td>
<td>Especially true in government</td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: reduce expenses/costs</td>
<td>Y</td>
<td>Not primary driver</td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: lack skills / resources</td>
<td>Y</td>
<td>True for smaller customers</td>
</tr>
<tr>
<td>Want to try ArcGIS technology before they buy</td>
<td>Y</td>
<td>High conversion rate to larger opps</td>
</tr>
<tr>
<td>Want GIS capabilities sooner (than they could do in-house)</td>
<td>Y</td>
<td>One of the primary drivers</td>
</tr>
<tr>
<td>Other</td>
<td>Y</td>
<td>“Cloud first” initiatives</td>
</tr>
<tr>
<td>Driver</td>
<td>Yes/No</td>
<td>Count</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>--------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>Looking for specific GIS capabilities</td>
<td>Y</td>
<td>Stay more current with Enterprise</td>
</tr>
<tr>
<td>Looking for GIS-based industry capabilities / solution</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Looking for increased performance &amp; flexible infrastructure</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: reduce expenses/costs</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Outsourcing IT/GIS operations: lack skills / resources</td>
<td>Y</td>
<td>Spread thin hard to get time</td>
</tr>
<tr>
<td>Want to try ArcGIS technology before they buy</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Want GIS capabilities sooner (than they could do in-house)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Y</td>
<td>Trying to reduce redundancy across government by consolidating, considering cloud</td>
</tr>
</tbody>
</table>
Capabilities
What are we delivering to our customers?
Capabilities and Client Examples

- Consulting Services – US Bureau of Land Management
- Content Hosting (Web Service) – State of Michigan
- Application Hosting – Avingrid
- Sandbox/Prototype – USDA Forest Service
- Business Continuity/Recovery – Cook County
- Outsourced GIS Operations – Fort Hill Natural Gas
Data Center Consolidation Initiative
Reducing costs and improving GIS operations

Navigating the journey to the cloud
3 month proof of concept
Evaluating ArcGIS for Desktop in the cloud
Decreasing cost of hosting imagery

Expert guidance for cloud options
State of Michigan and the Cloud

- Cost savings
- Flexibility and scalability
- Increased security
- Shorten time to value
- Try before you buy
- Access to innovation
- Shared accountability
- Try before you buy
- Access to innovation
- Shared accountability
- Try before you buy
Outage Viewer supports variable usage

Bringing critical outage information to the general public

Highly available, scalable systems

Supports day-to-day usage and major events

Frequent, automated data updates

Application Hosting
Data
3rd Party Systems

On-Premises

Web
Device

Esri Managed Cloud Services

Outage Application
Replicated data

SaaS
Esri ArcGIS Online
Basemaps
Avangrid and the Cloud

- Cost savings
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- Shared accountability
- Try before you buy
- Access to innovation
- Try before you buy
- Shared accountability
- Try before you buy
- Access to innovation
Forest Service Cloud Proof of Concept

Experience necessary to make a confident migration decision

- Advise
- Enable
- Migrate
- Manage

On-prem and cloud performance comparison
Data publishing and validation
Security review and integration

Sandbox/Prototyping
USFS and the Cloud

- Cost savings
- Flexibility and scalability
- Increased security
- Shorten time to value
- Shared accountability
- Try before you buy
- Access to innovation
- Try before you buy
- Access to innovation
- Shared accountability
- Shorten time to value
- Increased security
- Flexibility and scalability
- Cost savings
On-Premises
Raw Imagery

Esri Managed Cloud Services
Processed Imagery
Imagery Services
Imagery Application

SaaS
Esri ArcGIS Online
Basemaps

System of Engagement
System of Record
System of Monitoring
Off-site back-up and recovery

Always ready in the event of a disaster

Off-site replication of production environment

Leveraged during maintenance windows

Instant on in the event of local outage
System of Engagement

Desktop
Web
Device

System of Record

On-Premises

Operational GIS

Esri Managed Cloud Services

Back-up of Operational GIS Replicated Data

SaaS
Esri ArcGIS Online Basemaps
Cook County and the cloud

Cost savings
Flexibility and scalability
Increased security
Shorten time to value
Shared accountability
Try before you buy
Access to innovation

Try before you buy
Shared accountability
Shorten time to value
Increased security
Flexibility and scalability
Cost savings
Fort Hill Natural Gas Authority and the cloud

Cost savings
Flexibility and scalability
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Access to innovation
Key Takeaways

What are managed cloud services?
How might the cloud benefit my organization?
How is the cloud being used to deliver capabilities?
Questions
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Scroll down to find the survey

Complete Answers and Select “Submit”

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