

Adventures in IT

A Guide for GIS People
v3.0

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A Look Back

Networking

2016

Terminology

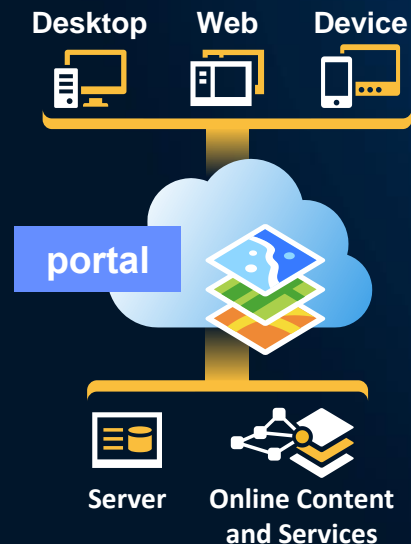
2017

Process

2018

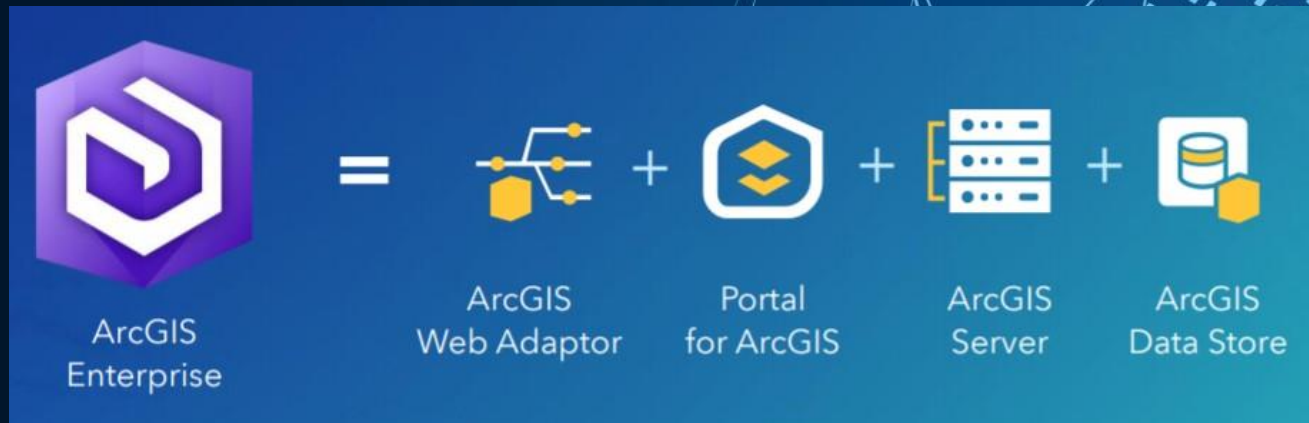
Networking

How to explain
Web GIS
communication



Terminology & Security

How to explain
Web GIS
components



RECAP

GIS

ArcGIS for Server

Software that exposes GIS resources through a RESTful API via HTTP over non-standard ports (6080, 6443)

Portal for ArcGIS

Software that provides a central hub for managing Web GIS content and accessing GIS resources.

ArcGIS Web Adaptor

A .Net Web Application that runs on IIS and acts as a load-balancing proxy to ArcGIS for Server Sites and Portal for ArcGIS.

ArcGIS Data Store

A managed storage engine that can be configured to store spatial data, tile data or spatiotemporal big data.

ArcGIS Enterprise

A product term that refers to an on premise, federated deployment of Portal for ArcGIS, ArcGIS for Server, ArcGIS Data Store and the ArcGIS Web Adaptor.

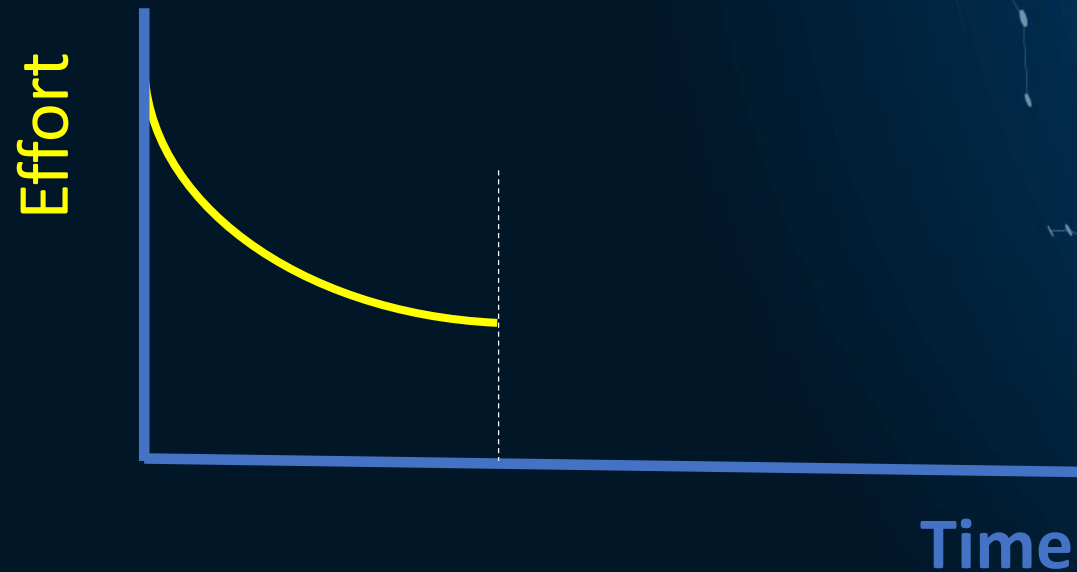
IT

Process

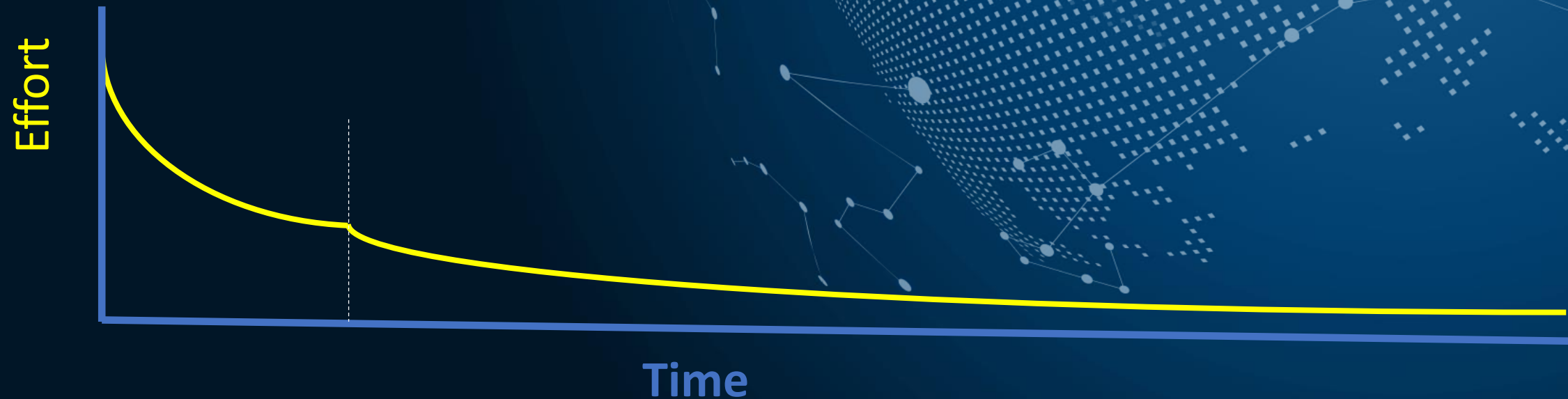
How to explain
Web GIS setup
& maintenance



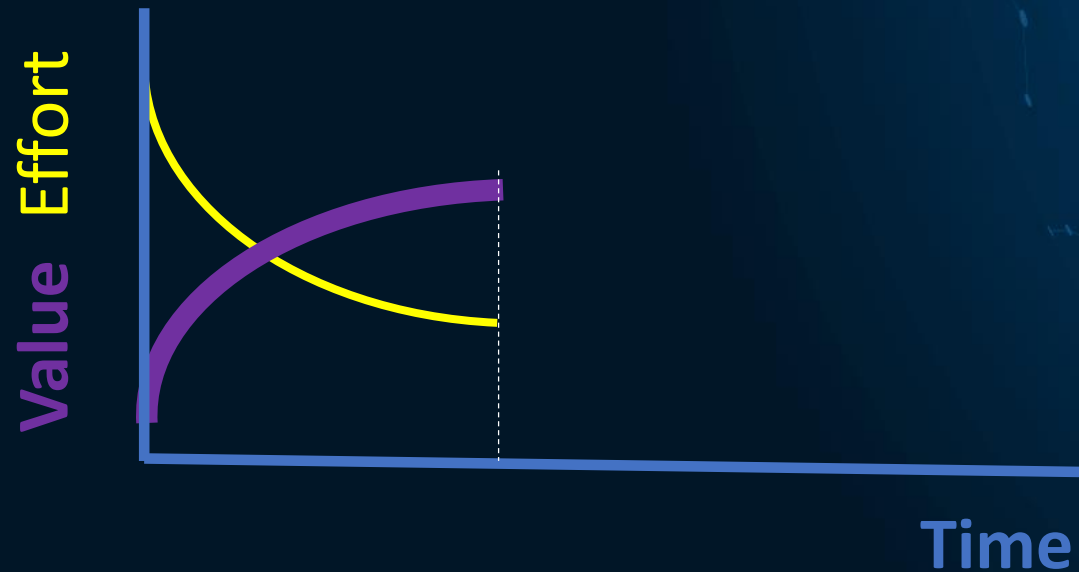
Initial Configuration



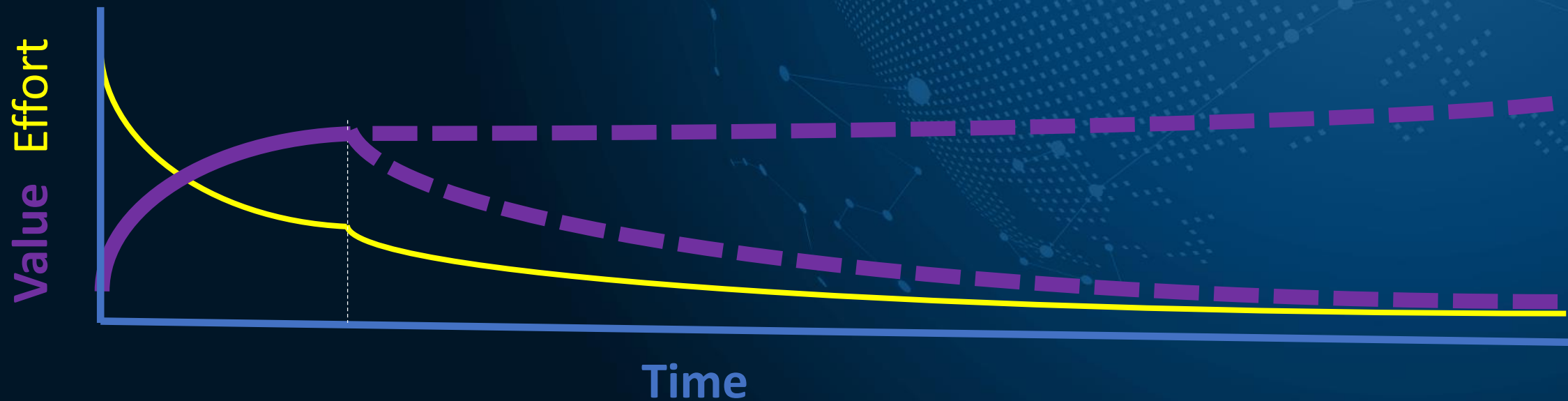
Daily Administration



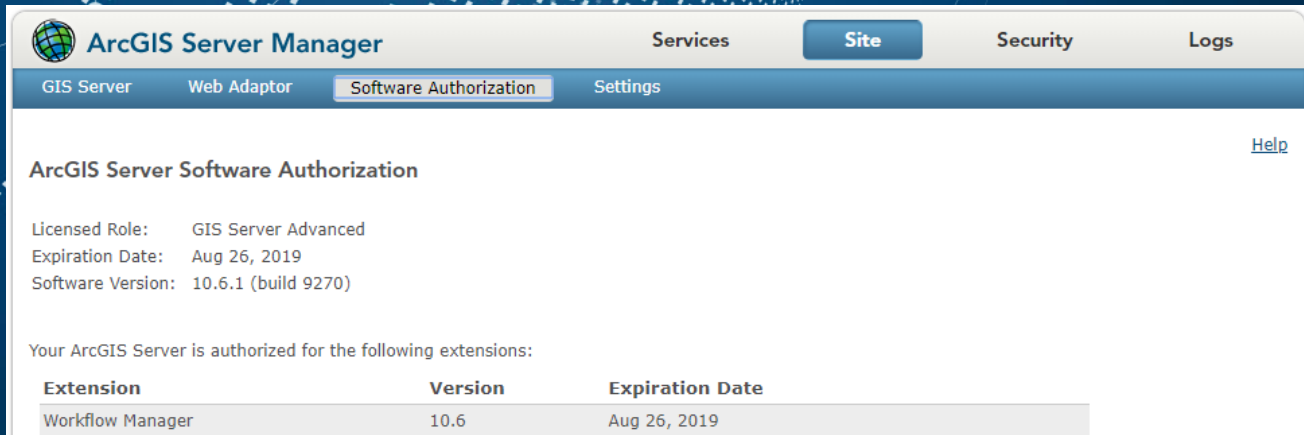
Initial Configuration



Daily Administration



Management vs. Administration



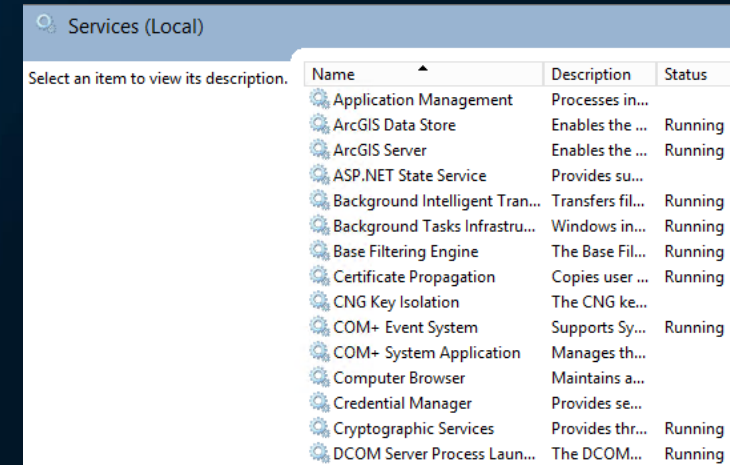
The screenshot shows the ArcGIS Server Manager interface. The top navigation bar includes 'Services', 'Site' (selected), 'Security', and 'Logs'. Below this, there are tabs for 'GIS Server', 'Web Adaptor', 'Software Authorization' (selected), and 'Settings'. The main content area is titled 'ArcGIS Server Software Authorization' and includes a 'Help' link. It displays the following information:

Licensed Role: GIS Server Advanced
Expiration Date: Aug 26, 2019
Software Version: 10.6.1 (build 9270)

Your ArcGIS Server is authorized for the following extensions:

Extension	Version	Expiration Date
Workflow Manager	10.6	Aug 26, 2019

- IT personnel are in charge of **Administration**
- GIS personnel are in charge of **Management**



The screenshot shows the Windows Services console for 'Services (Local)'. It displays a list of services with their names, descriptions, and status. The 'Status' column shows that several services are running.

Name	Description	Status
Application Management	Processes in...	
ArcGIS Data Store	Enables the ...	Running
ArcGIS Server	Enables the ...	Running
ASP.NET State Service	Provides su...	
Background Intelligent Tran...	Transfers fil...	Running
Background Tasks Infrastru...	Windows in...	Running
Base Filtering Engine	The Base Fil...	Running
Certificate Propagation	Copies user ...	Running
CNG Key Isolation	The CNG ke...	
COM+ Event System	Supports Sy...	Running
COM+ System Application	Manages th...	
Computer Browser	Maintains a...	
Credential Manager	Provides se...	
Cryptographic Services	Provides thr...	Running
DCOM Server Process Laun...	The DCOM...	Running

Distinction between the system and the software that provides business value

Management vs. Administration

IT

- Setting up physical servers or virtual machines with required specs
- Installing the required operating systems and system dependencies
- Ensuring the Operating System is kept up-to-date
- Setting system firewall rules
- Monitoring network connectivity
- Acquire SSL Certificates

GIS

- Publishing ArcGIS Services
- Managing Portal Named Users
- Managing Portal Sharing policies
- Managing ArcGIS Server secured services
- Setting up ArcGIS Server Data Stores (*not Data Store!*)
- Install SSL Certificates

Either/Both

- Running the Esri installers
- Updating Esri Software
- Licensing ArcGIS Software
- Monitoring ArcGIS logs
- **Troubleshooting**

Cooperation ~~X~~



Cooperation ✓

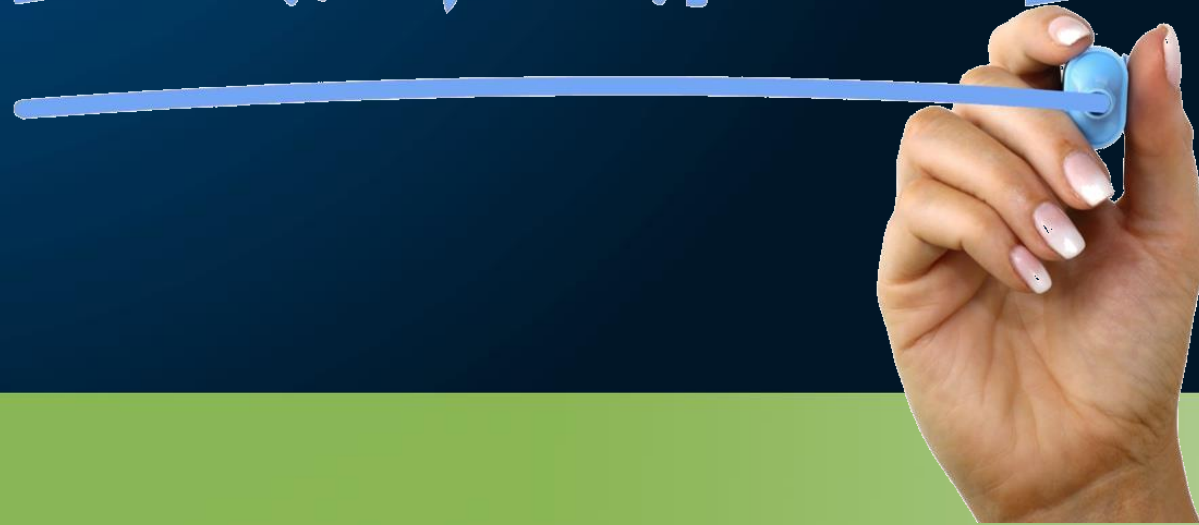


gettyimages

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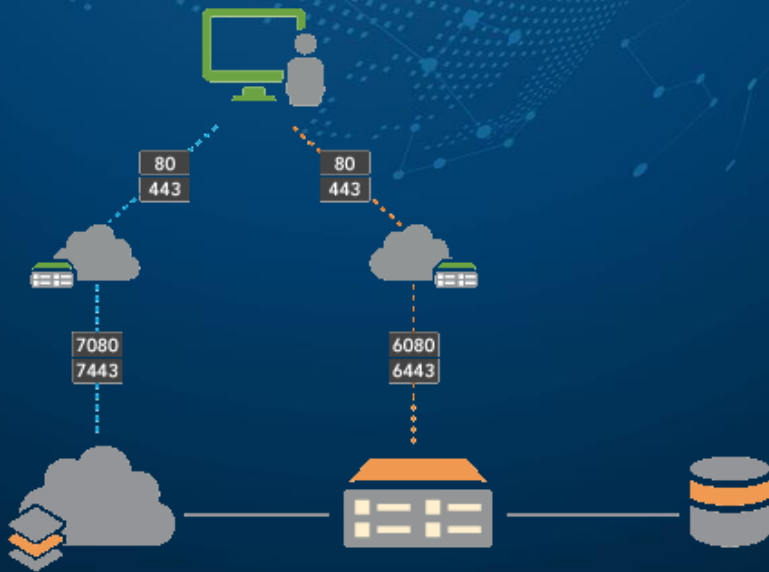
Troubleshooting

EXAMPLE



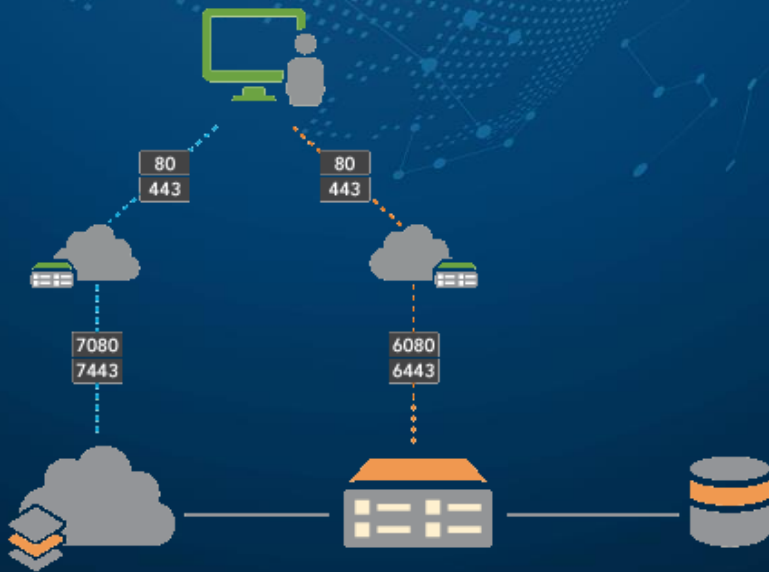
Troubleshooting

Problem: The solution is “not working”



Troubleshooting

Goal: Identify and isolate the fault

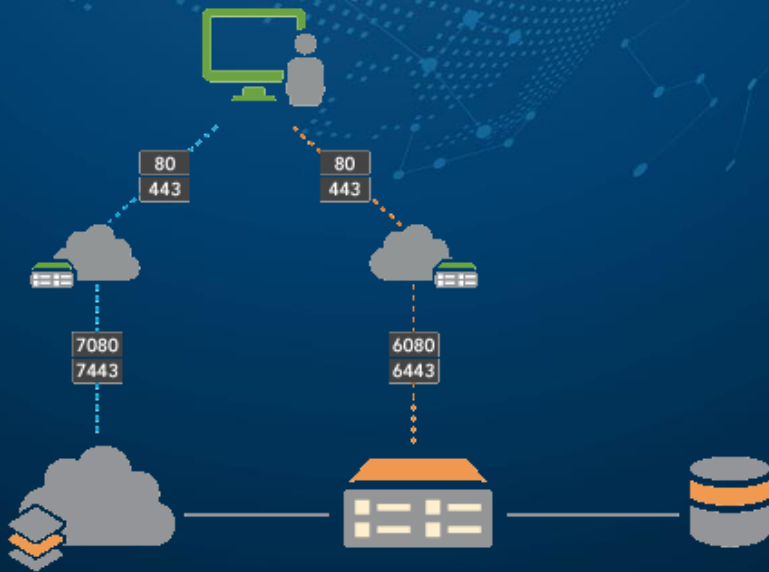


Troubleshooting

Goal: Identify and isolate the fault

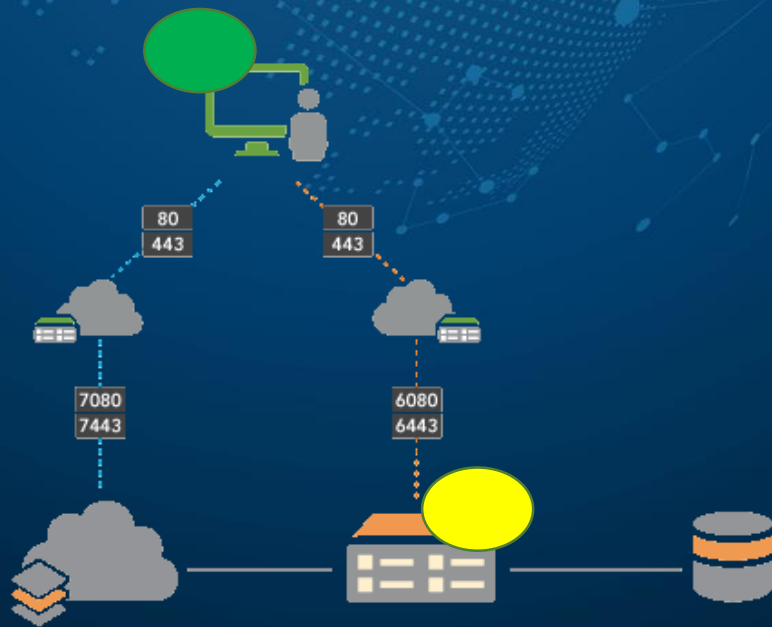
IT

GIS



Troubleshooting

Goal: Identify and isolate the fault



IT

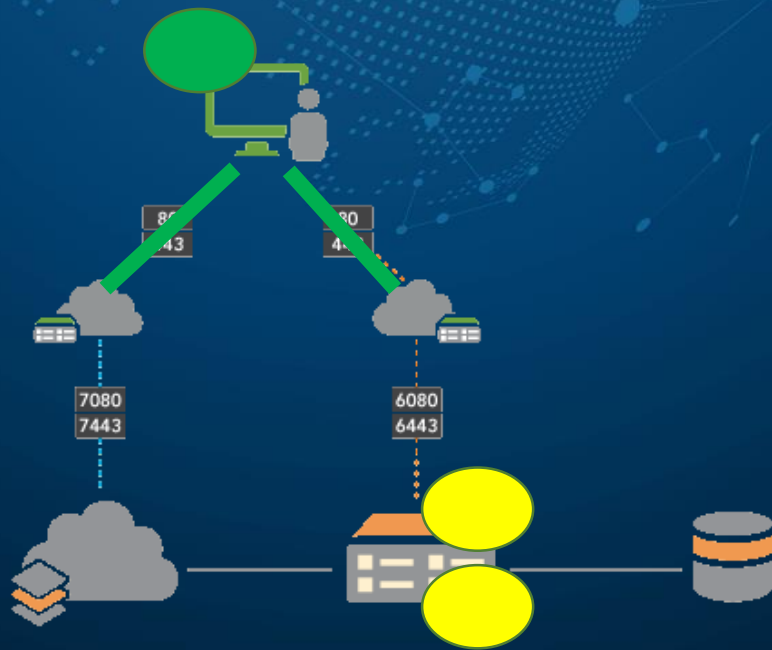
- Check external internet connection

GIS

- Is the ArcGIS Server running (Manager is *internally* reachable)

Troubleshooting

Goal: Identify and isolate the fault



IT

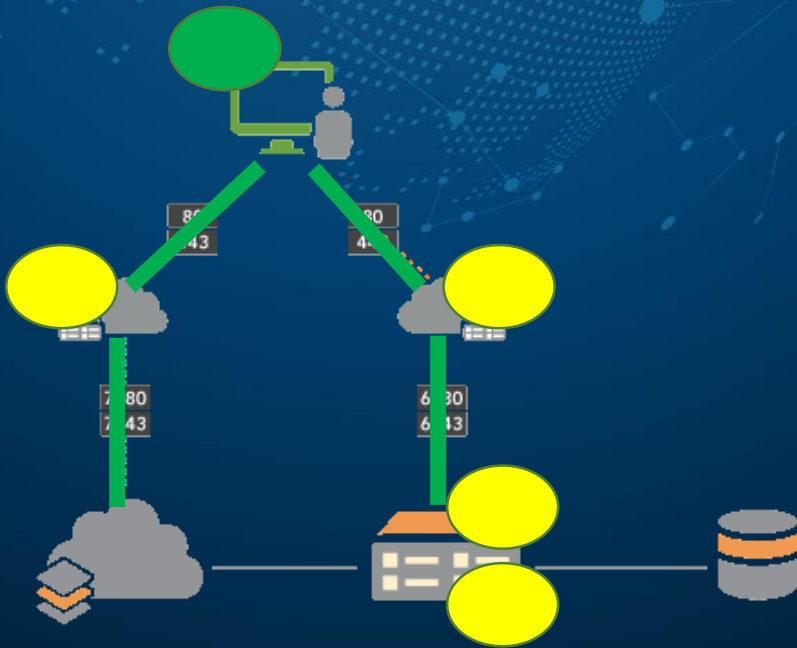
- Check external internet connection
- Is the network to the Web Adaptors up?

GIS

- Is the ArcGIS Server running? (Manager is *internally* reachable)
- Are the services up?

Troubleshooting

Goal: Identify and isolate the fault



IT

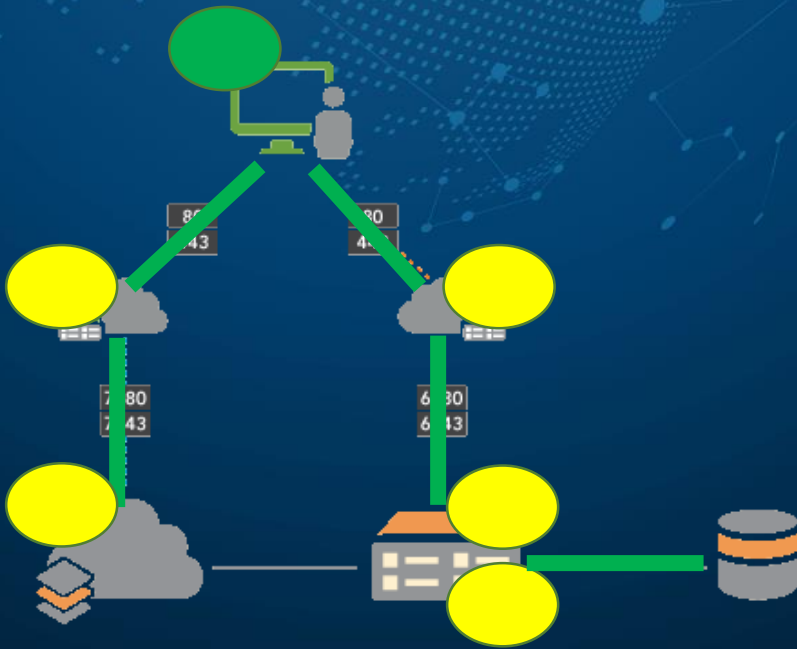
- Check external internet connection
- Is the network to the Web Adaptors up?
- Is the network to the Portal and ArcGIS Server up?

GIS

- Is the ArcGIS Server running? (Manager is *internally* reachable)
- Are the services up?
- Are the services reachable via the Web Adaptors?

Troubleshooting

Goal: Identify and isolate the fault



IT

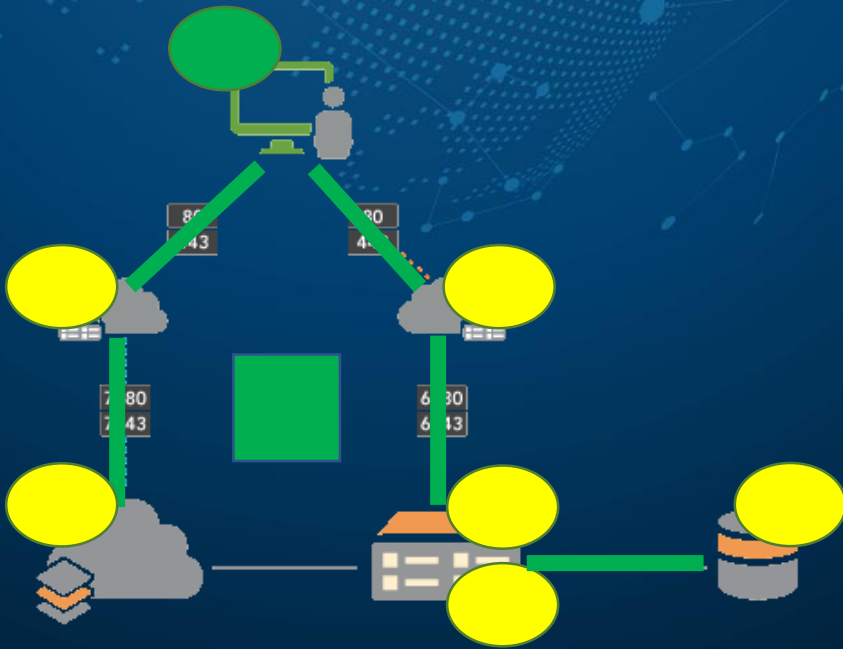
- Check external internet connection
- Is the network to the Web Adaptors up?
- Is the network to the Portal and ArcGIS Server up?
- Is the connection between the ArcGIS Server and Database up?

GIS

- Is the ArcGIS Server running? (Manager is *internally* reachable)
- Are the services up?
- Are the services reachable via the Web Adaptors?
- Are the solution items in Portal with proper Sharing?

Troubleshooting

Goal: Identify and isolate the fault



IT

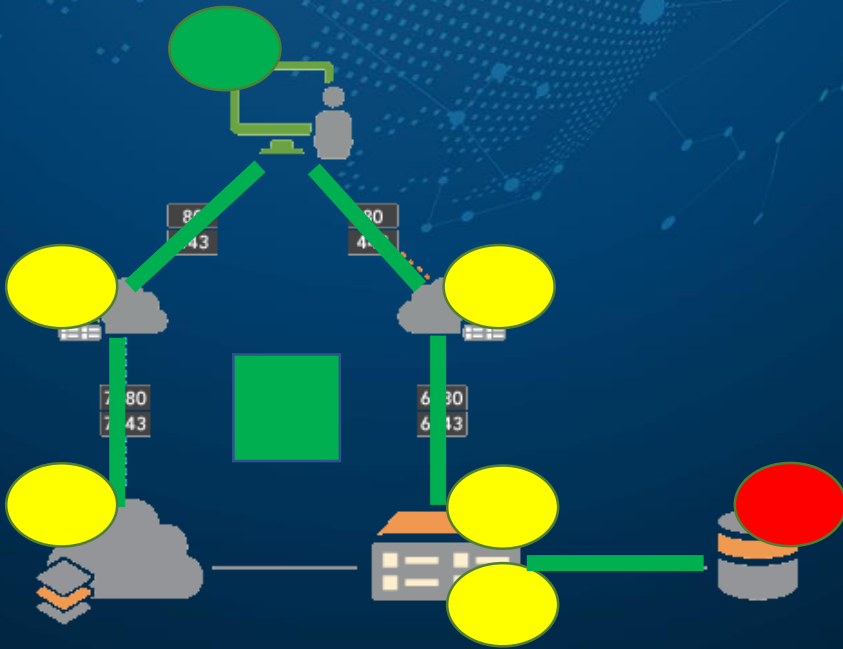
- Check external internet connection
- Is the network to the Web Adaptors up?
- Is the network to the Portal and ArcGIS Server up?
- Is the connection between the ArcGIS Server and Database up?
- Are the system service accounts active?

GIS

- Is the ArcGIS Server running? (Manager is *internally* reachable)
- Are the services up?
- Are the services reachable via the Web Adaptors?
- Are the solution items in Portal with proper Sharing?
- Is the expected data present in the Geodatabase?

Troubleshooting

Goal: Identify and isolate the fault



IT

- Check external internet connection
- Is the network to the Web Adaptors up?
- Is the network to the Portal and ArcGIS Server up?
- Is the connection between the ArcGIS Server and Database up?
- Are the system service accounts active?

GIS

- Is the ArcGIS Server running? (Manager is *internally* reachable)
- Are the services up?
- Are the services reachable via the Web Adaptors?
- Are the solution items in Portal with proper Sharing?
- **Is the expected data present in the Geodatabase?**

Resolution

- Root cause was a GIS issue but IT has a role to play
- **GIS fixes the script**
- **IT sets up email alerts if script errors out**





Thank you!

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