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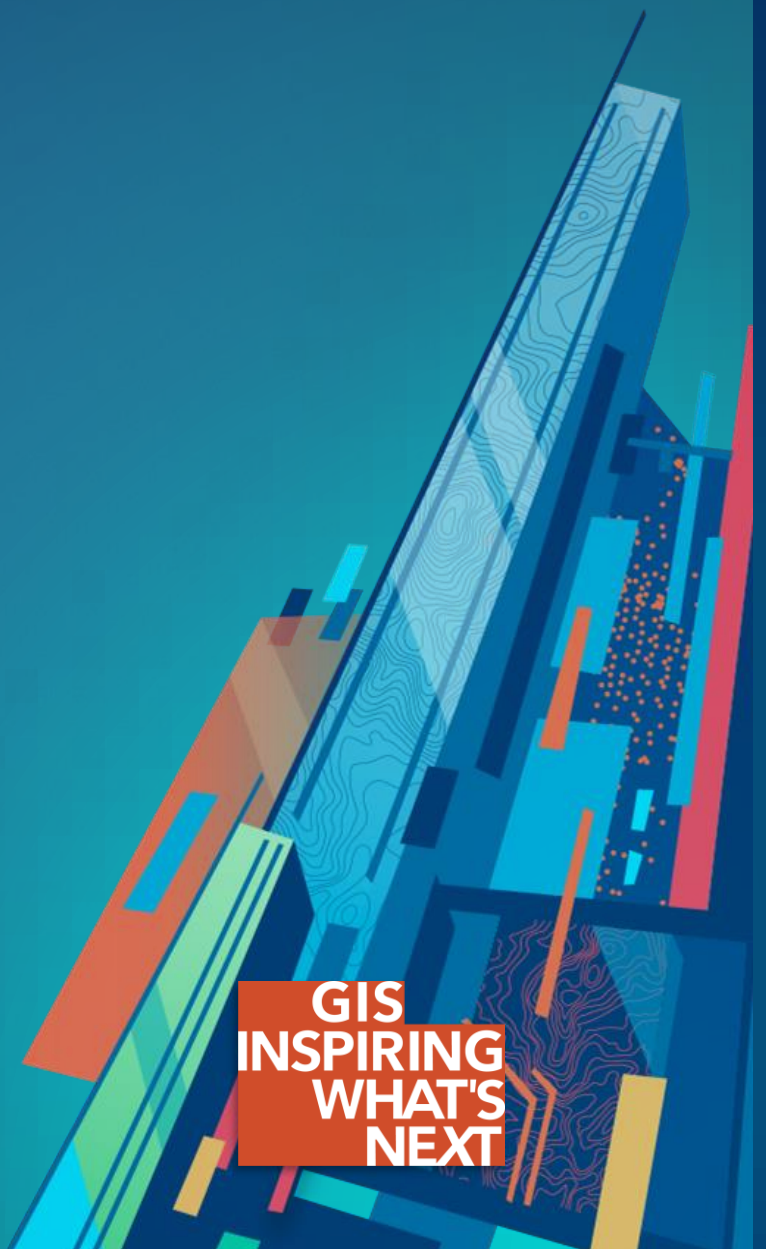
ArcGIS Enterprise: Configuring Backups, Disaster Recovery, and Replication

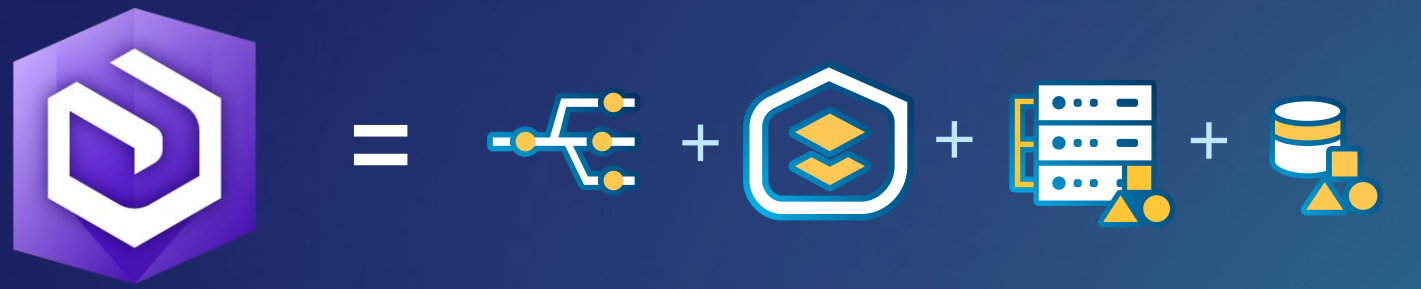
Harrold Sompotan and Patrick Jackson



Agenda

- Brief History of WebGIS DR Tool
- Who, Why, What, When, How and Where
- Considerations
- Disaster Recovery and Replication
- Geographic Redundancy
- Duplicating the Deployments
- Planning and Requirements
- Conclusion
- Q & A

ArcGIS Enterprise



ArcGIS Enterprise

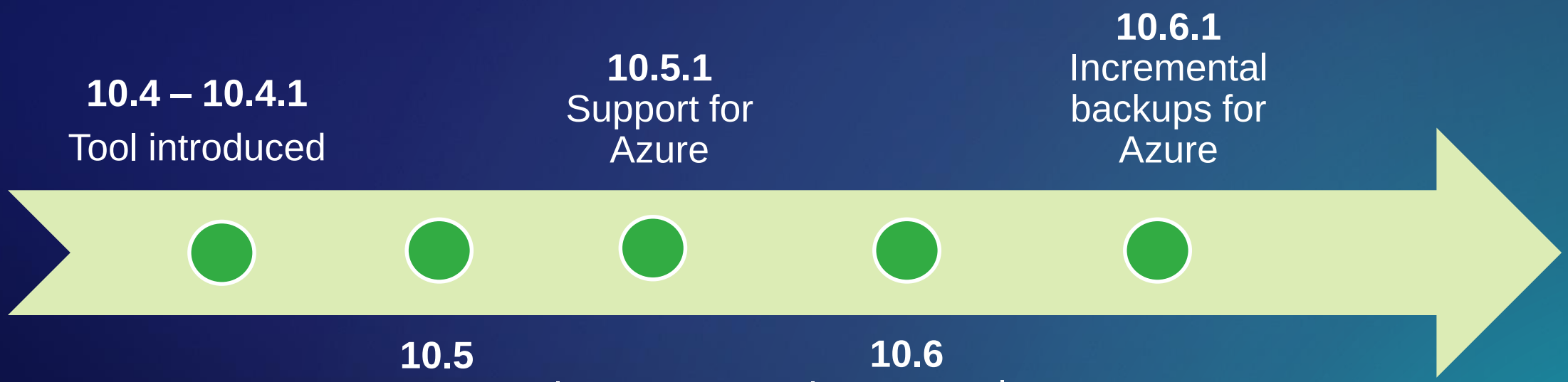
ArcGIS Web Adaptor

Portal for ArcGIS

ArcGIS Server

ArcGIS Data Store

Brief History of WebGIS DR



What is the WebGIS DR

- Tool built in to Portal for ArcGIS Install
- Basically a script to execute a single backup for:
  - Portal for ArcGIS
  - ArcGIS Server
  - ArcGIS DataStore
- Uses a properties file to define variables

WebGISDR properties file

```
# Specify a shared location to store the Web GIS backup file. This is where the backups for
# individual components will be saved to before being moved to the storage that you specify
# for the BACKUP_STORE_PROVIDER property
# The following accounts must have read and write permissions on the shared location:
# 1) The domain account used to run the web GIS software.
# 2) The account to run this tool.
SHARED_LOCATION=\\\\sharedlocation\\location
```

```
# Specify the Web GIS backup location if you've set the BACKUP_STORE_PROVIDER to FileSystem.
BACKUP_LOCATION =
```

```
# Specify the URL to your portal.
# Example:
# https://webadaptor.domain.com/context
# or
# https://portalmachine.domain.com:7443/arcgis
PORTAL_ADMIN_URL =

# Provide credentials for the portal administrator.
# Initially, leave PORTAL_ADMIN_PASSWORD_ENCRYPTED set to false.
# When you run the tool the first time, the password will be
# encrypted and PORTAL_ADMIN_PASSWORD_ENCRYPTED will change to true.
PORTAL_ADMIN_USERNAME =
PORTAL_ADMIN_PASSWORD =
PORTAL_ADMIN_PASSWORD_ENCRYPTED =
```

```
# Specify the Web GIS backup mode: full or incremental.
BACKUP_RESTORE_MODE =
```

Who

- ArcGIS Enterprise Administrator, the Organization, and end users

Why

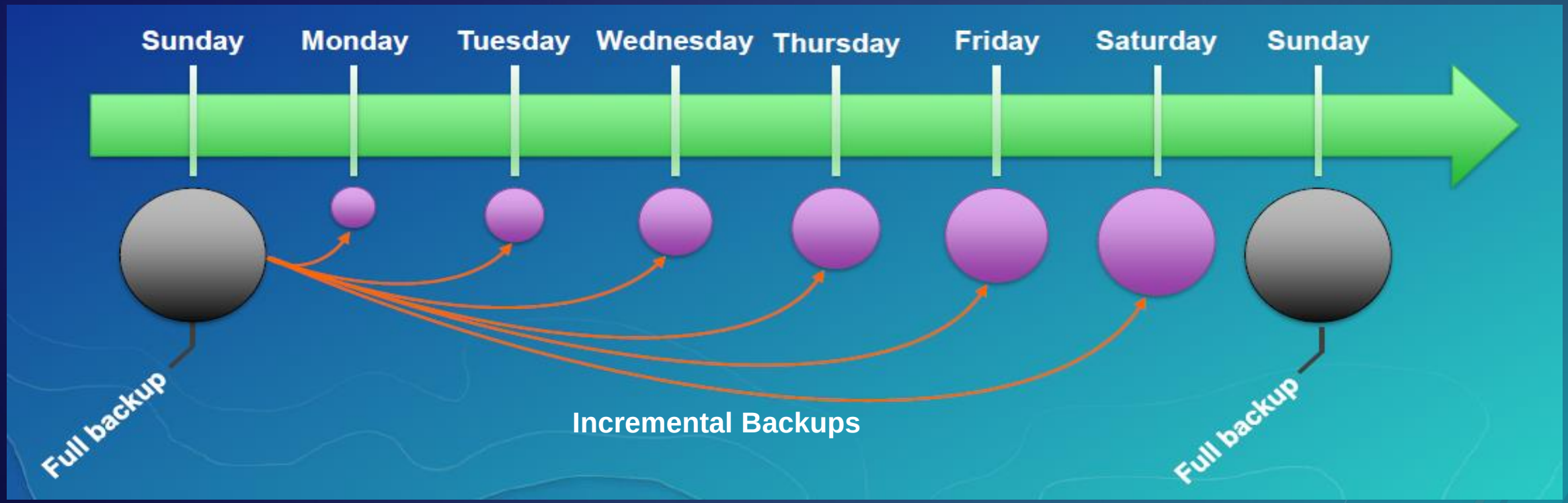
- Recover from failure
- Maintain data and configurations
- Replicate and failover

What is backed up…

WebGIS DR Takes backups of the entire ArcGIS Enterprise deployment

- Portal items and settings
- GIS services and settings
- ArcGIS Data Store
  - managed database (relational data store)
  - hosted scene layer (tile data store)
- It need write access to SHARED_LOCATION path
- needs access to BACKUP_LOCATION path

How often should I backup?



Considerations for the WebGISDR

- Disc Space
  - Running the backup
  - Storing the backup

- The domain account or service account

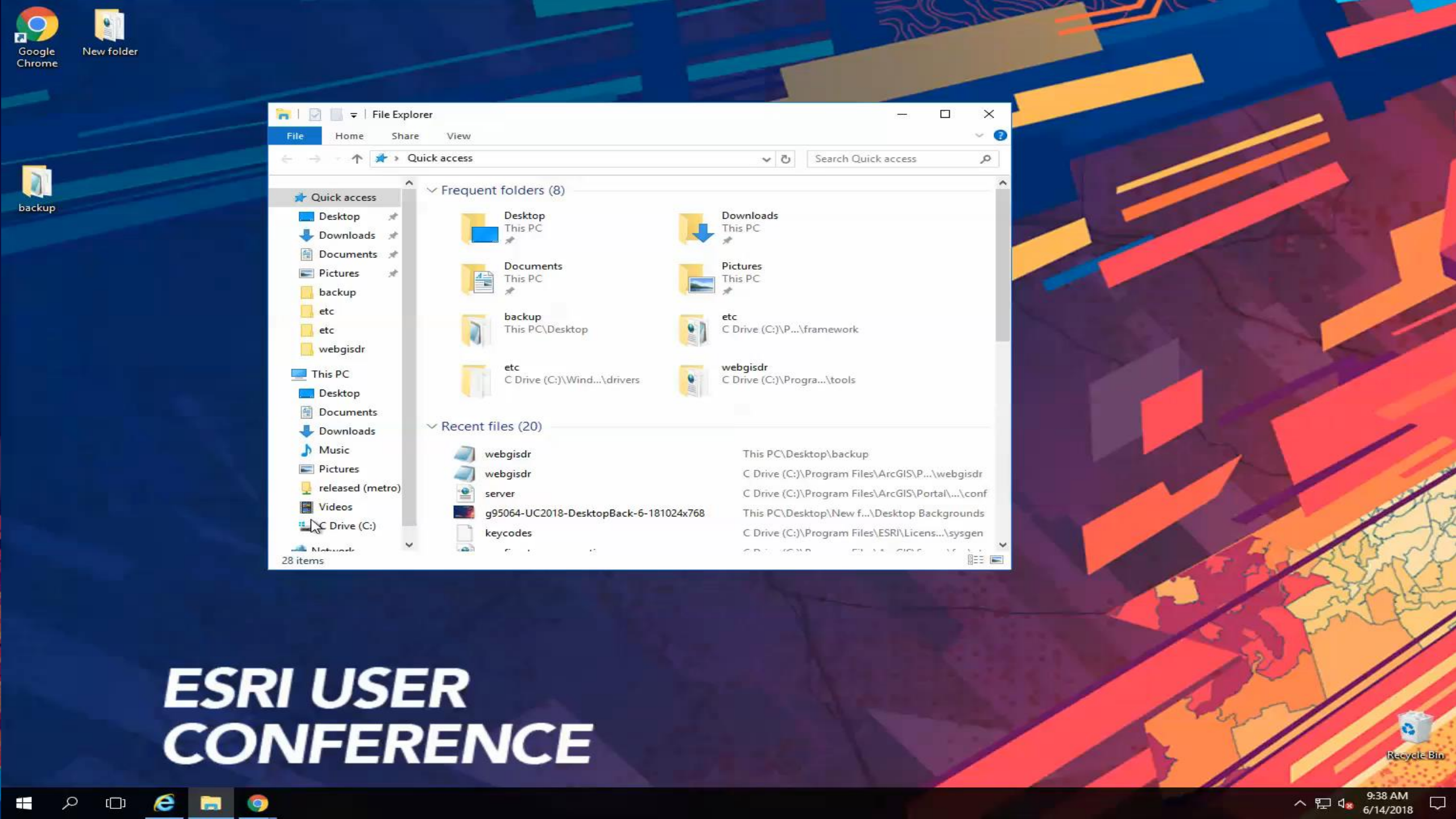
- Must have point-in-time recovery enabled on the ArcGIS Data Store

Considerations continued…

- Time to create the backup
- Resources involved when backing up
  - Admins
  - Users
  - Network
- How long will the backups be stored?
- Where to store the backup files

Demo

How to perform a webgisdr backup


Google Chrome
New folder
backup
File Explorer
File
Home
Share
View
Quick access
Search Quick access
Quick access
Desktop
Downloads
Documents
Pictures
backup
etc
etc
webgisdr
This PC
Desktop
Documents
Downloads
Music
Pictures
released (metro)
Videos
C Drive (C:)
Frequent folders (8)
Desktop
This PC
Downloads
This PC
Documents
This PC
Pictures
This PC
backup
This PC\Desktop
etc
C Drive (C:)\P...\framework
etc
C Drive (C:)\Wind...\drivers
webgisdr
C Drive (C:)\Progra...\tools
Recent files (20)
webgisdr
This PC\Desktop\backup
webgisdr
C Drive (C:)\Program Files\ArcGIS\P...\webgisdr
server
C Drive (C:)\Program Files\ArcGIS\Portal\...\conf
g95064-UC2018-DesktopBack-6-181024x768
This PC\Desktop\New f...\Desktop Backgrounds
keycodes
C Drive (C:)\Program Files\ESRI\Licens...\sysgen
28 items
ESRI USER CONFERENCE
Recycle Bin
9:38 AM
6/14/2018

Disaster Recovery and Replication

What is Disaster Recovery?

- Recovery efforts due to a failure
- In place restore or replication to new hardware and/or new site
- Uses the WebGIS DR tool to restore configurations and data

What is Replication?

- Process of making two different environments the same
- Use WebGIS DR to export and import
- Used for Failover to standby environment
- Cloning is not supported

ArcGIS Enterprise 10.6.1 Replication

Must be the Same

- Public Portal URLs
- Service URL for Federated Servers
- Registered Data Stores

May be different

- Portal Content Directory
- Server config-store
- Private Portal URL
- Admin URL for Federated Servers
- Machine Names
- Server Directories

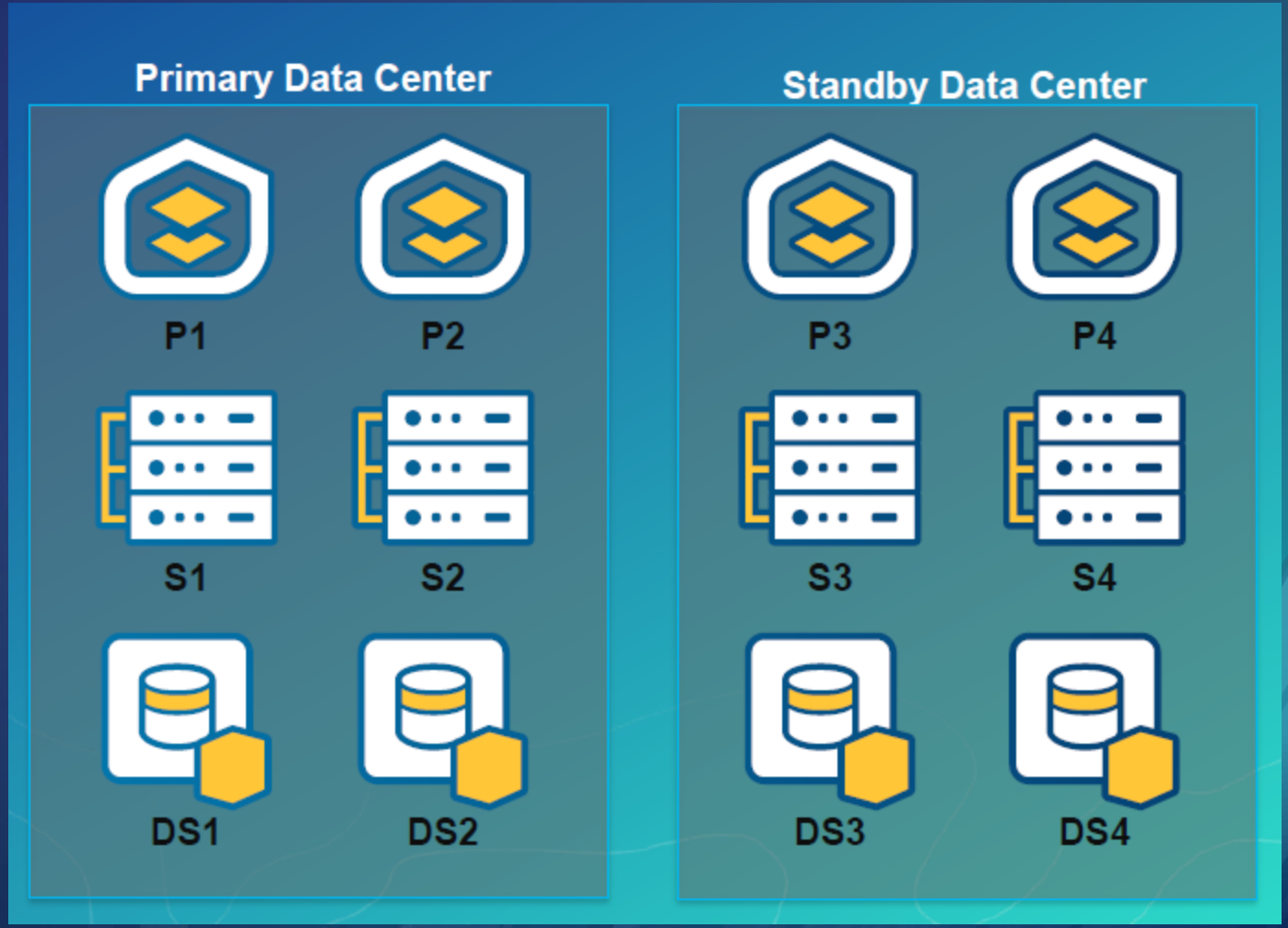
Geographic Redundancy

- Geographically separate data centers
- Duplicated environments, configurations and data
- Use the WebGIS DR tool to move snapshots of data and configuration

Duplicating the Deployments

- Shared folder and/or database connections
- Installation directory locations
- The number of machines

Tip: Use DNS entries or modify hosts files on the machines of your replicated deployment to achieve host name consistency.



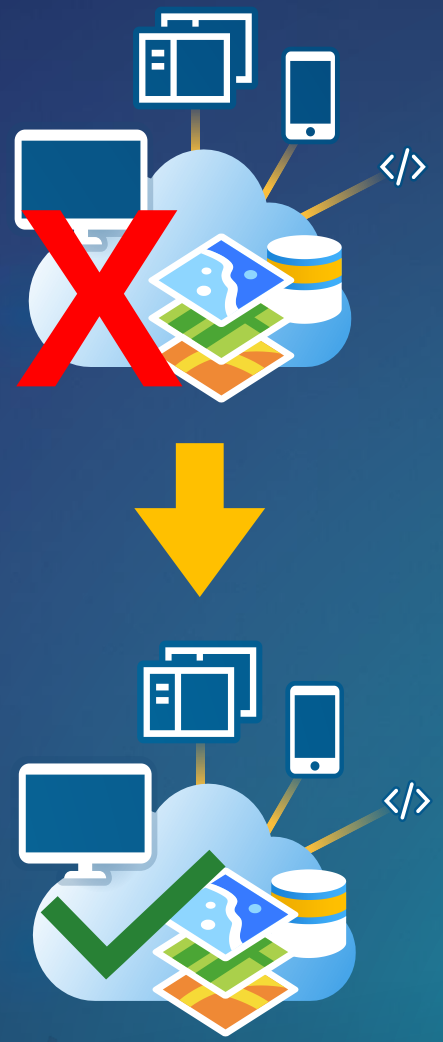
Planning the Environment

How many machines does my environment need?

(<number of GIS Server machines> + 1 Portal for ArcGIS machine + <number of machines in the data store>) X 2

Planning for Failover

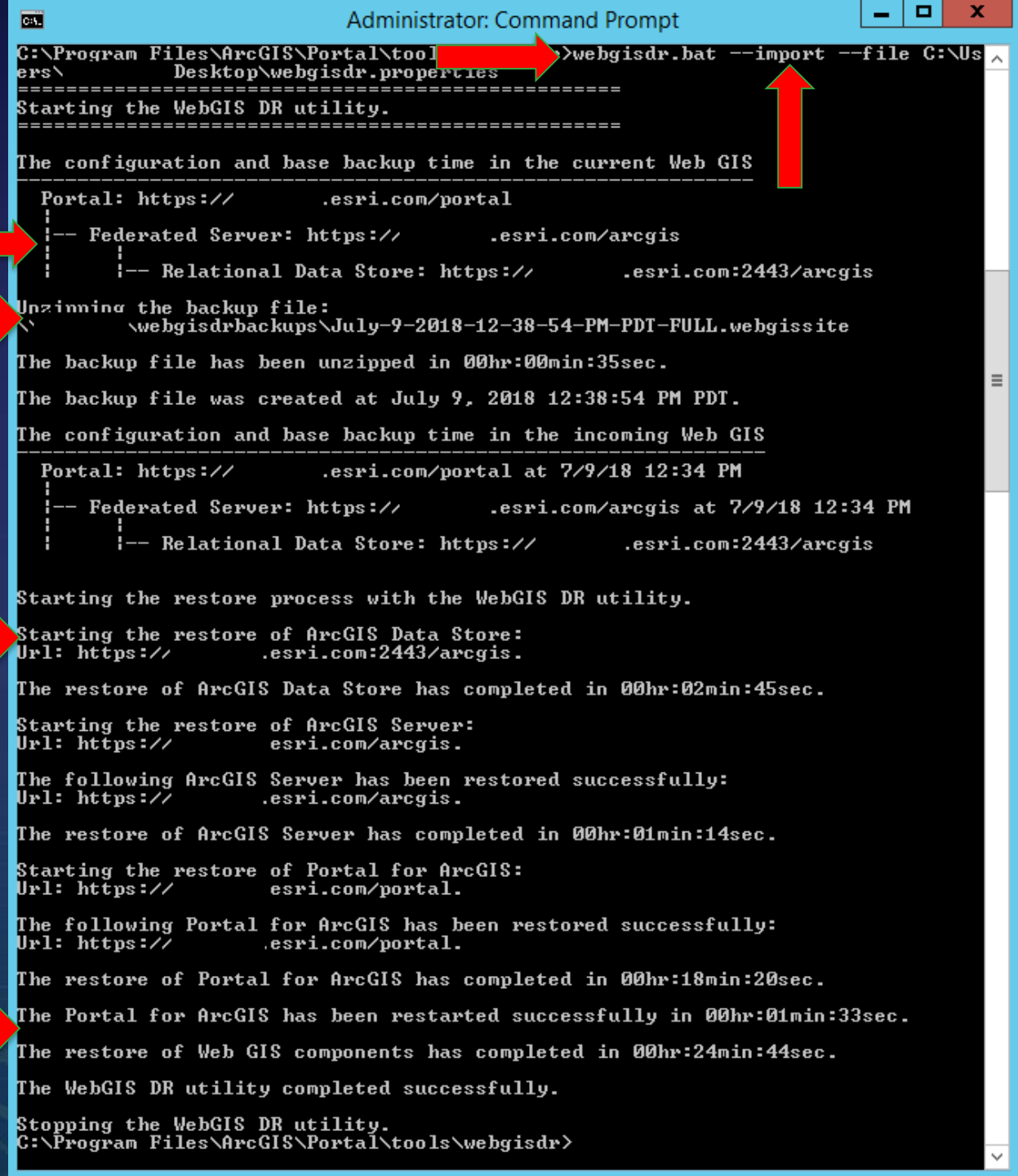
- Duplication
- Replication
- Monitoring
- Failover



Automation

- Use Cronjob on Linux.
- Use Task Scheduler on Windows

Example of the WebGIS DR import command



Conclusion

- WebGIS DR is a backup solution
- Leverage HA and Geographic Redundancy
- Replicate your ArcGIS Enterprise for Failover
- Supplement to industry standard backups

Questions?

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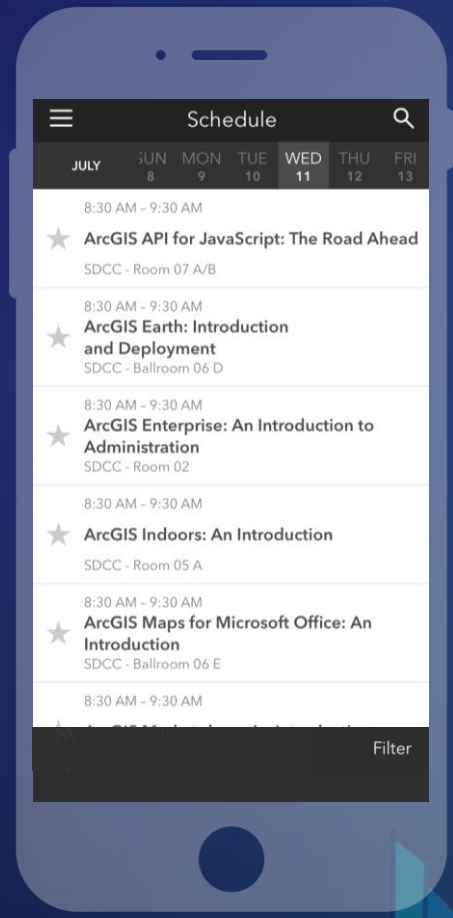
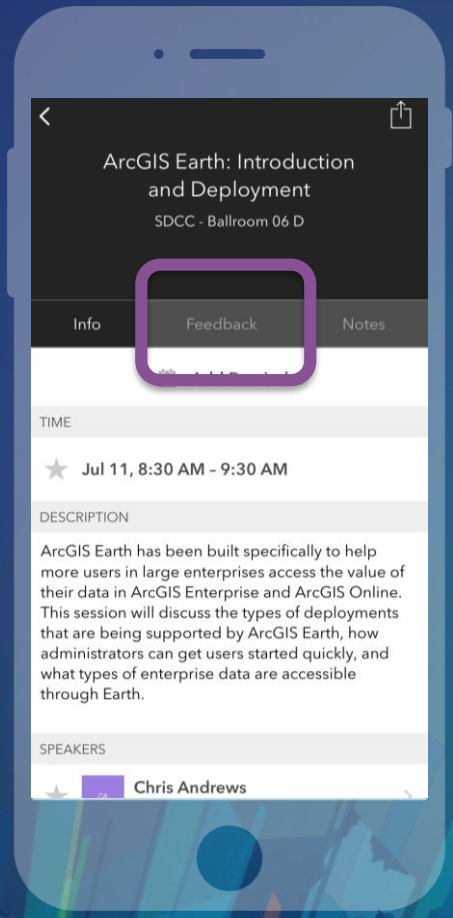
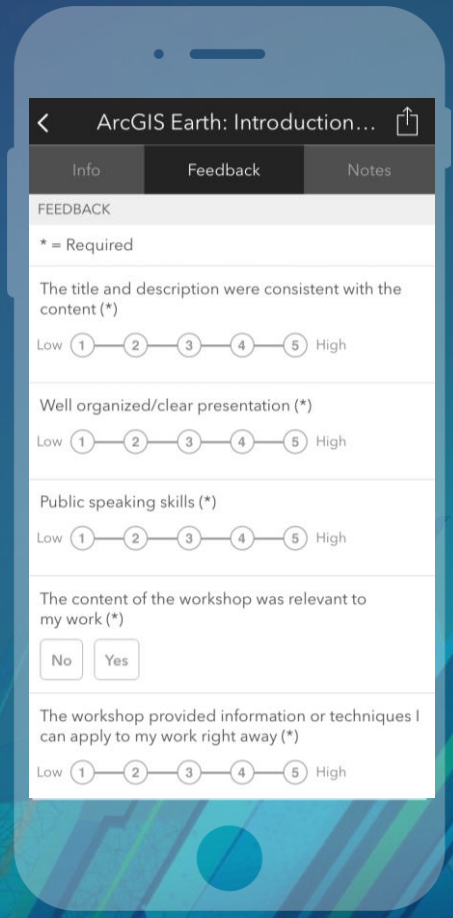


Scroll down to find the feedback section



Complete answers and select “Submit”



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