



ArcGIS Enterprise: Configuring Backups, Disaster Recovery, and Replication

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An abstract 3D architectural graphic on the right side of the slide. It features several overlapping, semi-transparent planes in shades of blue, orange, green, and red. The planes are oriented at various angles, creating a sense of depth and perspective. Some planes have patterns or textures, such as a topographic map on one of the blue planes. The overall composition is dynamic and modern.

**GIS
INSPIRING
WHAT'S
NEXT**

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

+



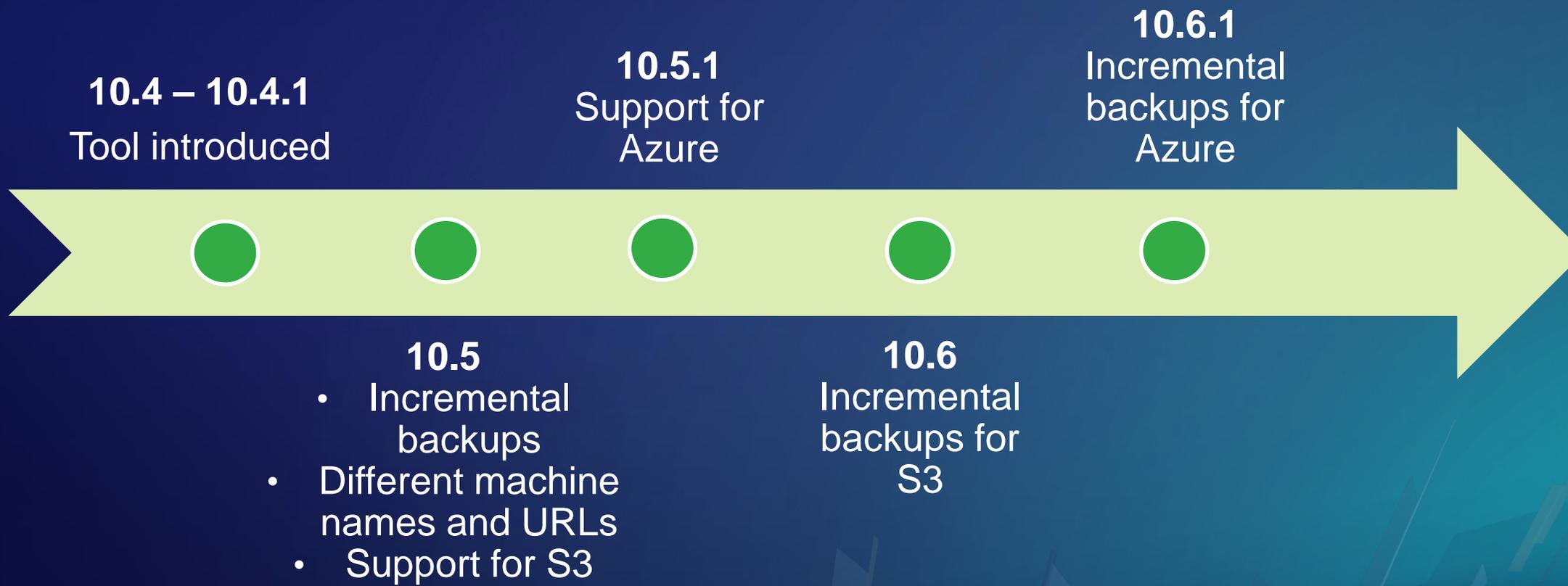
ArcGIS
Server

+



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

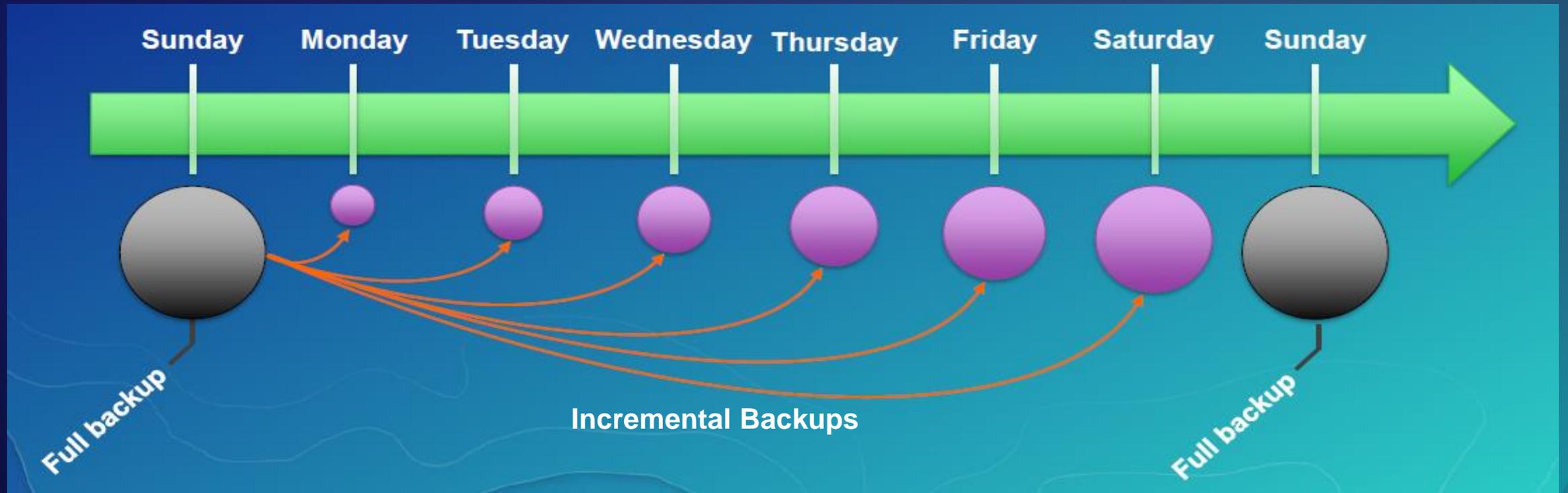


What is backed up...

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?



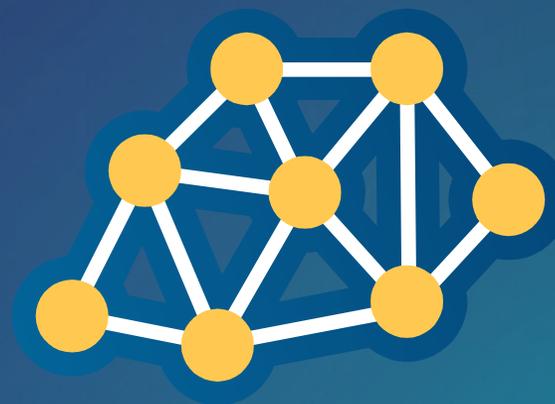
Considerations for the WebGISDR

- 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





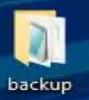
Demo

How to perform a webgisdr backup



Google Chrome

New folder



backup

File Explorer window showing Quick access, Frequent folders, and Recent files.

File Explorer window showing Quick access, Frequent folders, and Recent files.

Quick access: Desktop, Downloads, Documents, Pictures, backup, etc, etc, webgisdr, This PC, Desktop, Documents, Downloads, Music, Pictures, released (metro), Videos, C Drive (C:), Network (28 items)

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)

ESRI USER CONFERENCE



Recycle Bin



9:38 AM 6/14/2018

Disaster Recovery and Replication

The background is a gradient of teal and blue. On the left, there are several diagonal lines in shades of teal, blue, and red. On the right, there is a faint, stylized map outline with various colored lines and shapes, suggesting a global or regional context. The overall aesthetic is modern and technical.

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

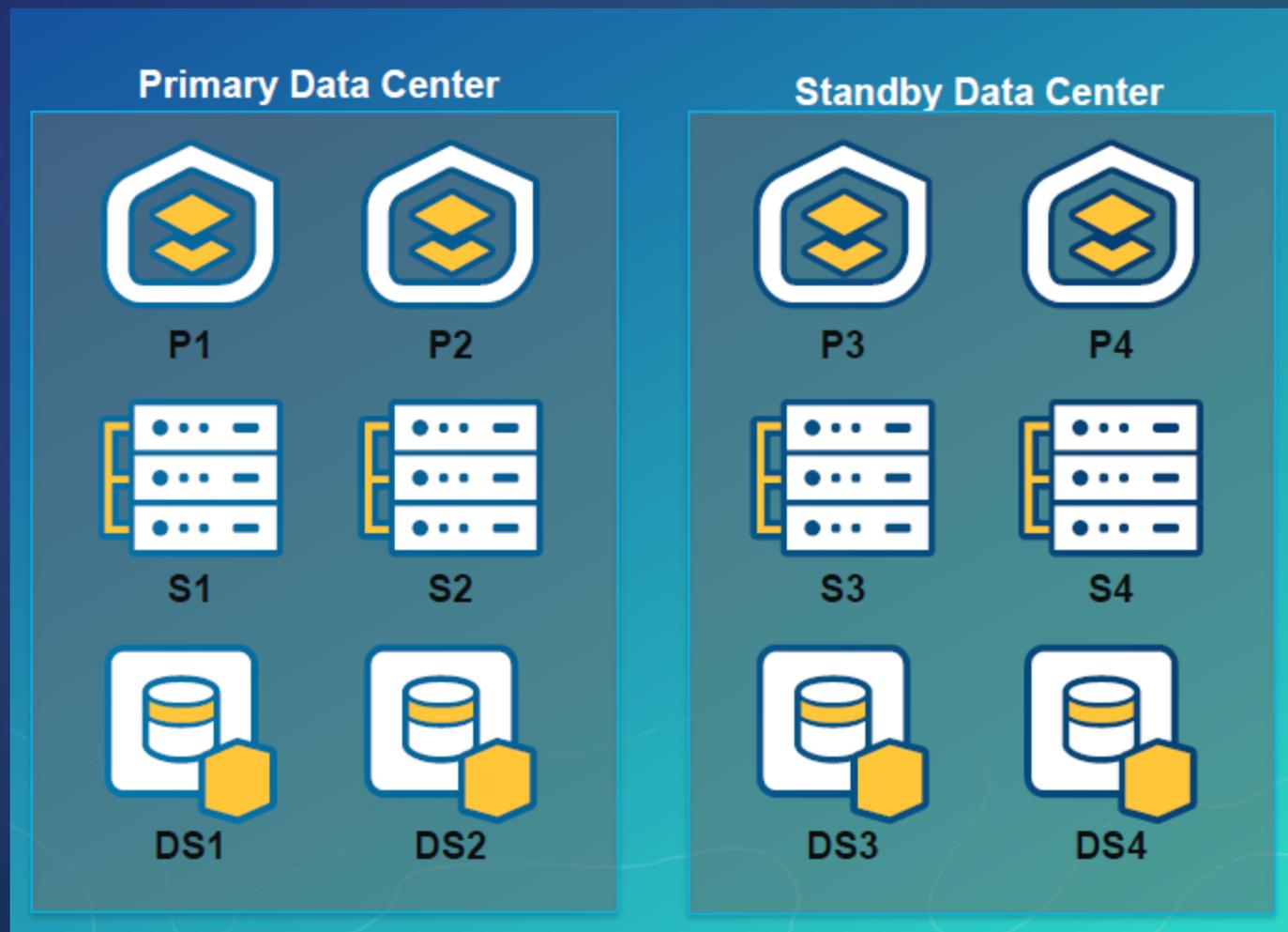
- Geographically separate data centers
- Duplicated environments, configurations and data
- Use the WebGIS DR tool to move snapshots of data and configuration



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

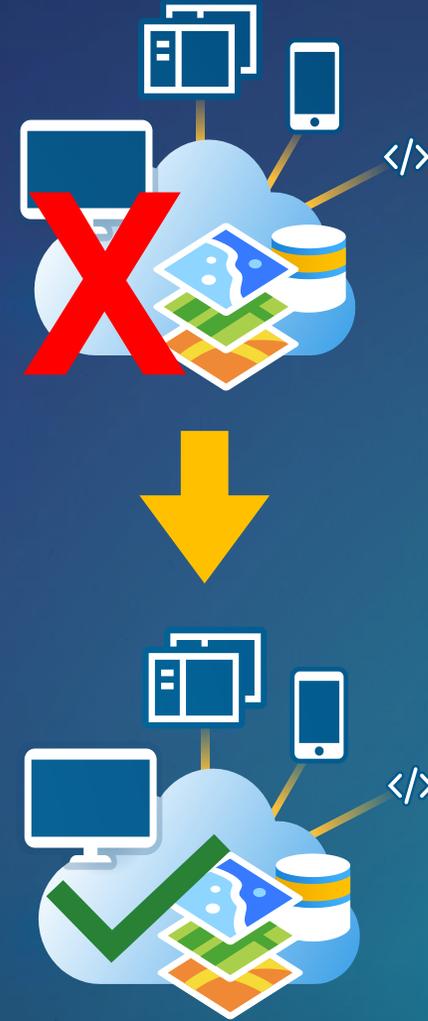
How many machines does my environment need?

(<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

```
Administrator: Command Prompt
C:\Program Files\ArcGIS\Portal\tools>webgisdr.bat --import --file C:\Us
ers\Desktop\webgisdr.properties
=====
Starting the WebGIS DR utility.
=====
The configuration and base backup time in the current Web GIS
-----
Portal: https://          .esri.com/portal
|-- Federated Server: https://          .esri.com/arcgis
|-- Relational Data Store: https://          .esri.com:2443/arcgis
Unzipping the backup file:
\webgisdrbackups\July-9-2018-12-38-54-PM-PDT-FULL.webgissite
The backup file has been unzipped in 00hr:00min:35sec.
The backup file was created at July 9, 2018 12:38:54 PM PDT.
The configuration and base backup time in the incoming Web GIS
-----
Portal: https://          .esri.com/portal at 7/9/18 12:34 PM
|-- Federated Server: https://          .esri.com/arcgis at 7/9/18 12:34 PM
|-- Relational Data Store: https://          .esri.com:2443/arcgis
Starting the restore process with the WebGIS DR utility.
Starting the restore of ArcGIS Data Store:
Url: https://          .esri.com:2443/arcgis.
The restore of ArcGIS Data Store has completed in 00hr:02min:45sec.
Starting the restore of ArcGIS Server:
Url: https://          esri.com/arcgis.
The following ArcGIS Server has been restored successfully:
Url: https://          .esri.com/arcgis.
The restore of ArcGIS Server has completed in 00hr:01min:14sec.
Starting the restore of Portal for ArcGIS:
Url: https://          esri.com/portal.
The following Portal for ArcGIS has been restored successfully:
Url: https://          .esri.com/portal.
The restore of Portal for ArcGIS has completed in 00hr:18min:20sec.
The Portal for ArcGIS has been restarted successfully in 00hr:01min:33sec.
The restore of Web GIS components has completed in 00hr:24min:44sec.
The WebGIS DR utility completed successfully.
Stopping the WebGIS DR utility.
C:\Program Files\ArcGIS\Portal\tools>
```

Conclusion

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

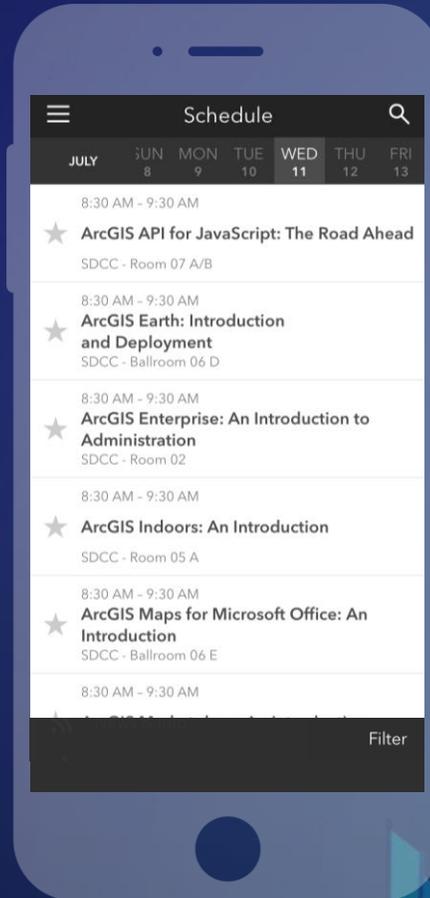
Questions?

Please Take Our Survey on the App

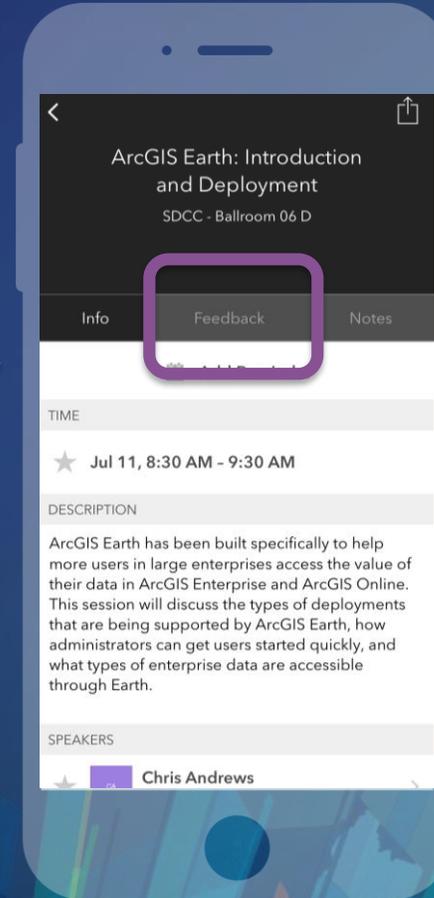
Download the Esri Events app and find your event



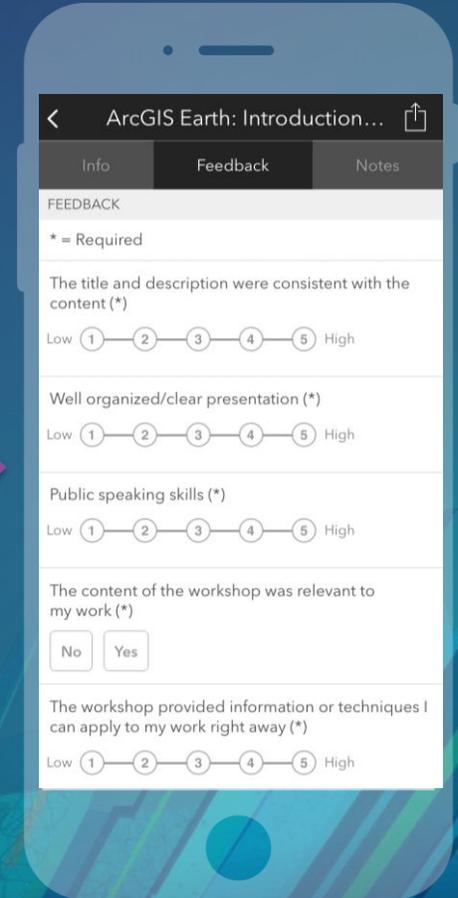
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





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OF
WHERE**