



Publishing GIS Services to ArcGIS Server

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Technical Workshop

Agenda

- **Introduction**
- **Publishing workflow**
 - **Configuring services**
 - **Service definition files: What are they and how to use them?**
 - **Registering data with ArcGIS Server data store**
- **Consuming services**
- **Automating publishing workflows using Python**

Introduction

Sharing GIS content on the web

- Share geographic information using the web
- Make geographic data available instantly across multiple devices and platforms
- Allow simultaneous editing of geographic data irrespective of their physical location
- Work on projects collaboratively



Map service layers

- **Basemap service layers**

- Reusable background service
- Provide context for operational layers



- **Operational service layers**

- Interactive
- Visual representation of GIS data
- Provide functions that meet a business need

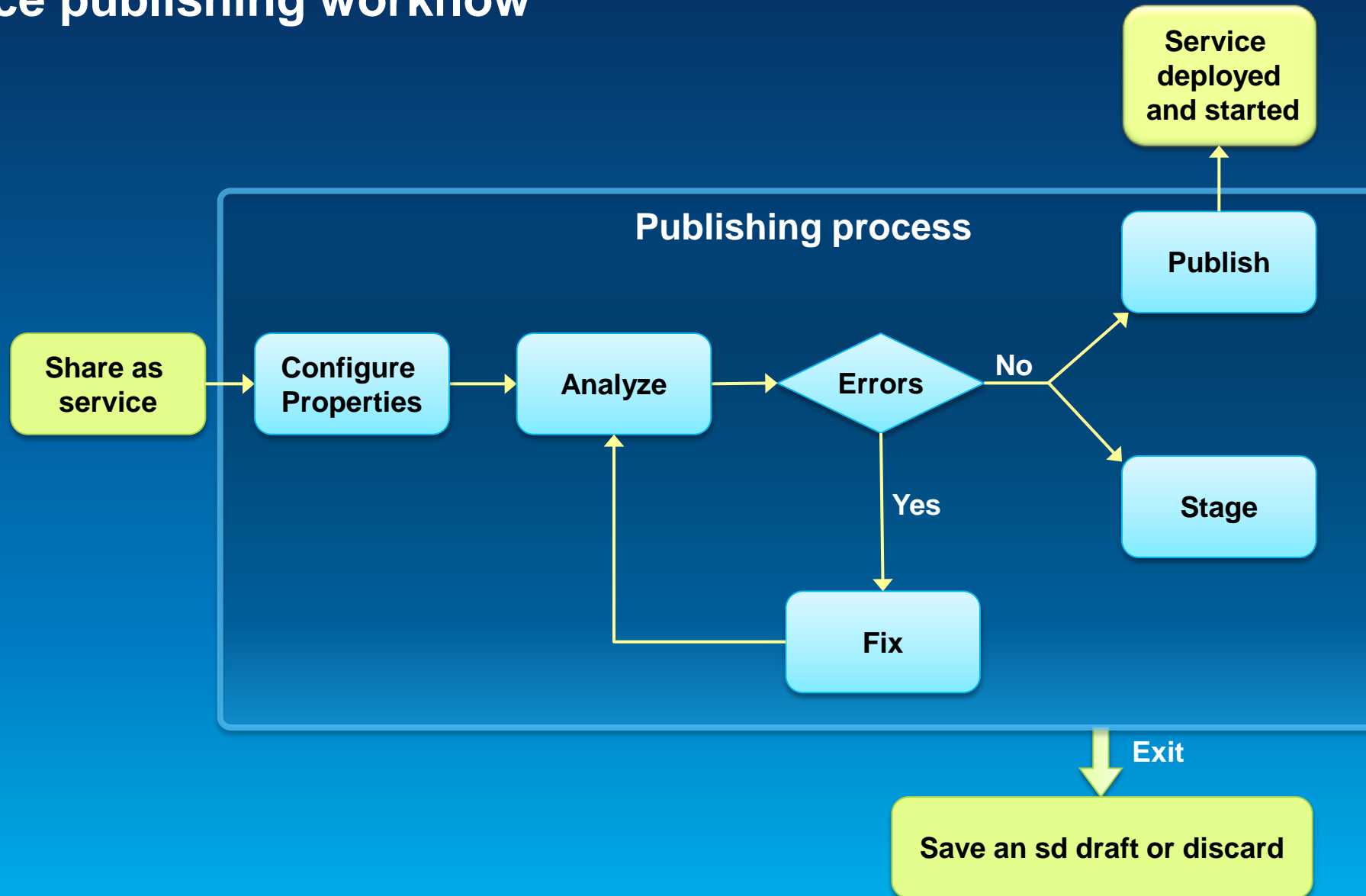


Demo

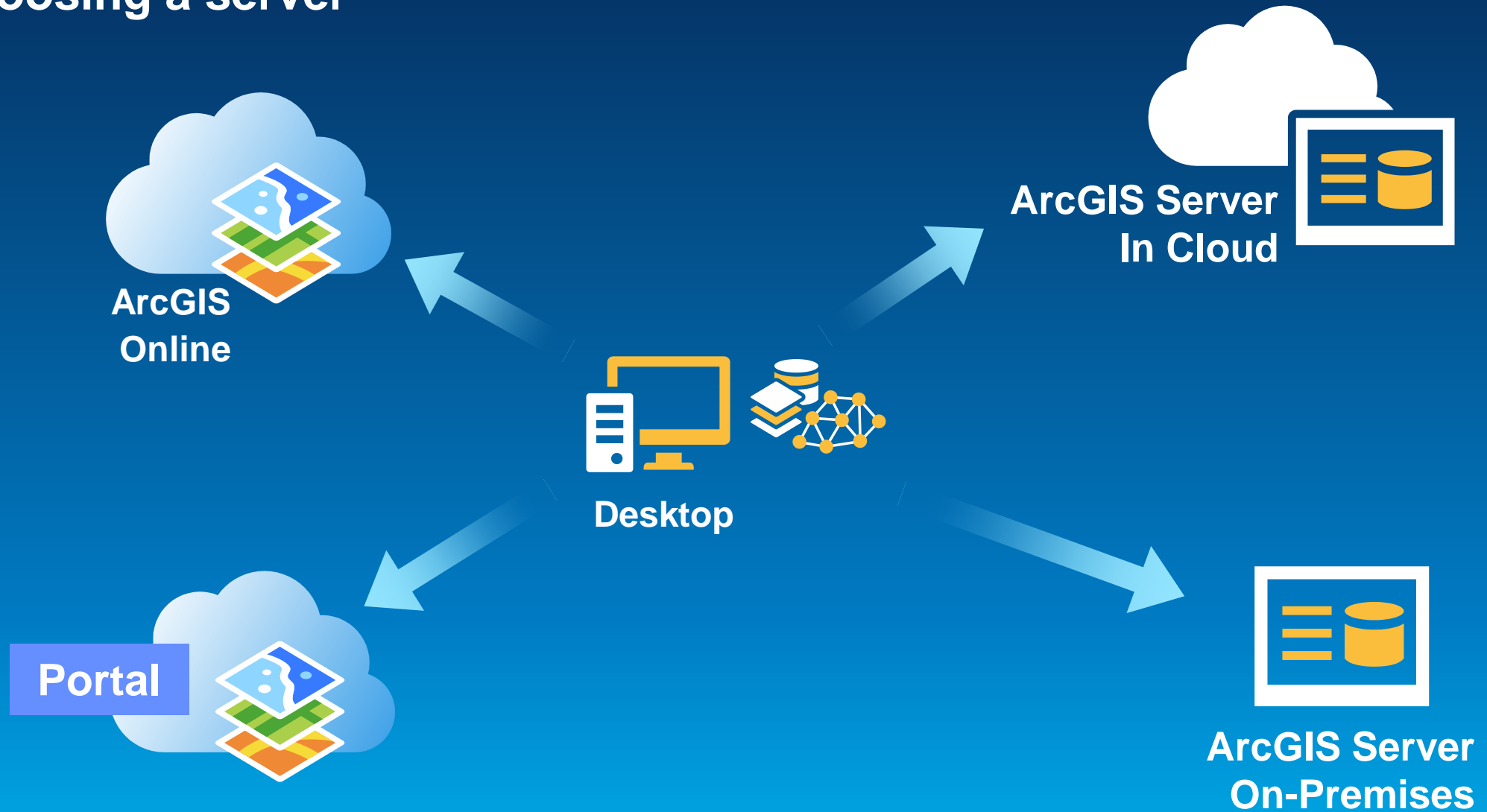
Publishing a Simple Map Service

Publishing Workflow

Service publishing workflow

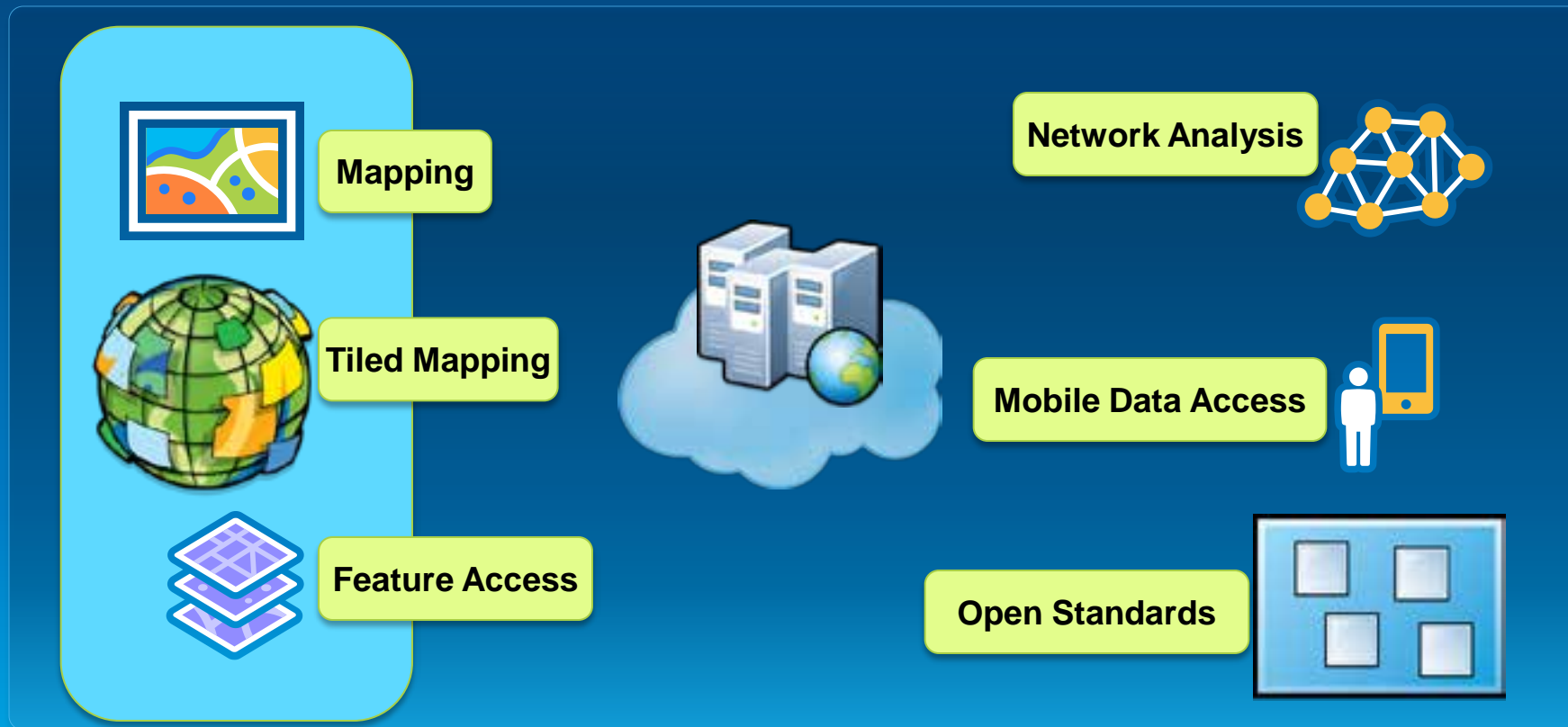


Choosing a server



Service capabilities

- Depend on server and licensing



Common service capabilities

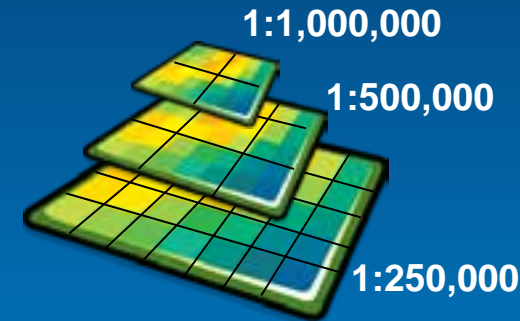
- **Mapping**

- **Dynamic**
 - Server needs to retrieve data
- **Option to cache**



- **Tiled Mapping (cached)**

- **Pre-rendered tiles at different scales**
- **Improved performance**






- **Feature Access**

- **Serve feature geometry and symbology**
- **Allows for editing and querying**



Analyzers

- **Help to**
 - **Identify critical errors**
 - **Create optimized map services**

- **Three types**
 - **Errors** 
 - **Warnings** 
 - **Information Messages** 

- **Provide access to the help and solutions**

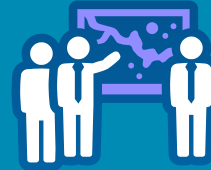
Sharing items

Must be signed into ArcGIS Online or your portal

My Content



Organization*



Everyone

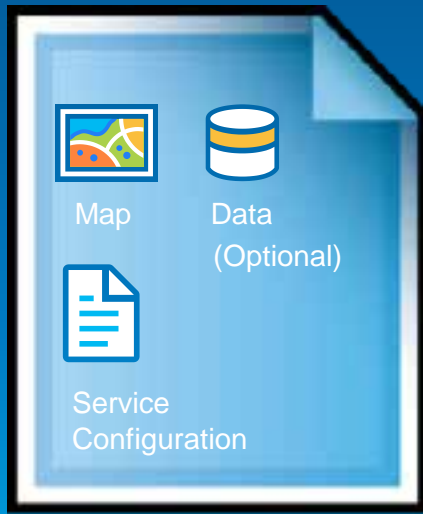


Groups



Service Definition File

Desktop

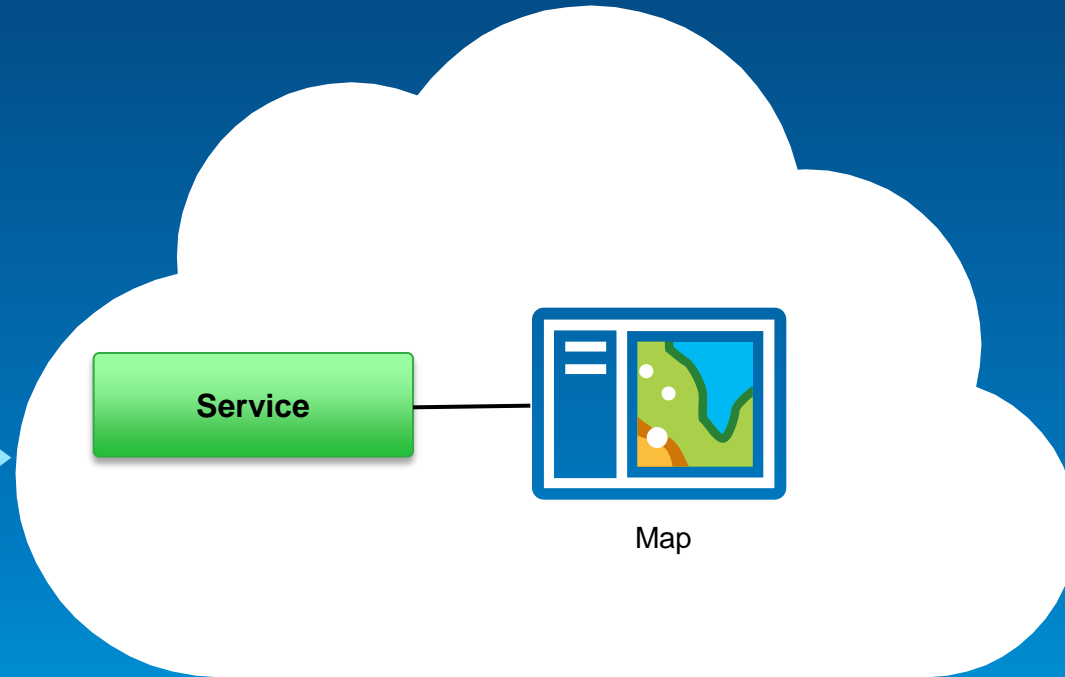


Service Definition

Publish



ArcGIS Online/ ArcGIS Server



Consuming services



Demo

Publishing a Cached Map Service From a Service Definition File

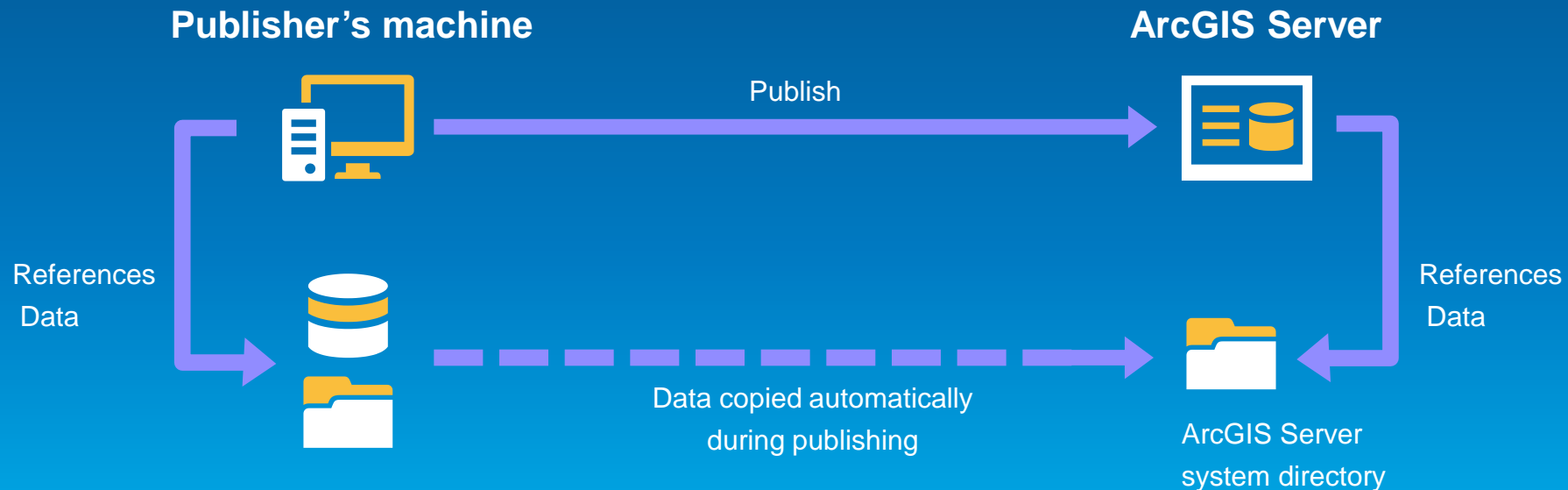
Managing Service Data

Managing Service Data

- **Method 1:**
 - **Data is copied to server when publishing**
- **Method 2:**
 - **Register your data folders and databases with the server**

Managing Service Data

- **Method 1:**
 - **Data is copied to server when publishing**



Managing Service Data

Data Store Registration

- **Method 2:**
 - Register your data folders and databases with the server
 - Three registration options:
 - Referenced
 - Replaced
 - Managed Database

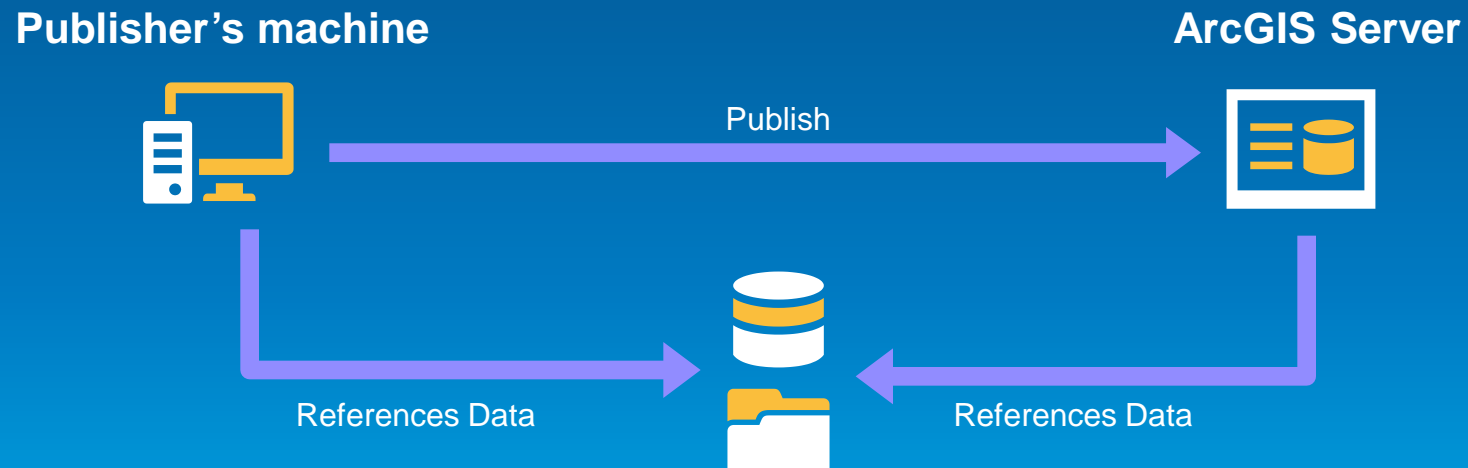
Demo

Publishing a Service with Referenced Data

Referenced

Data Store Registration

- **Publisher and server work with the SAME data**
- **When to use:**
 - **To avoid having a copy of data placed on server**



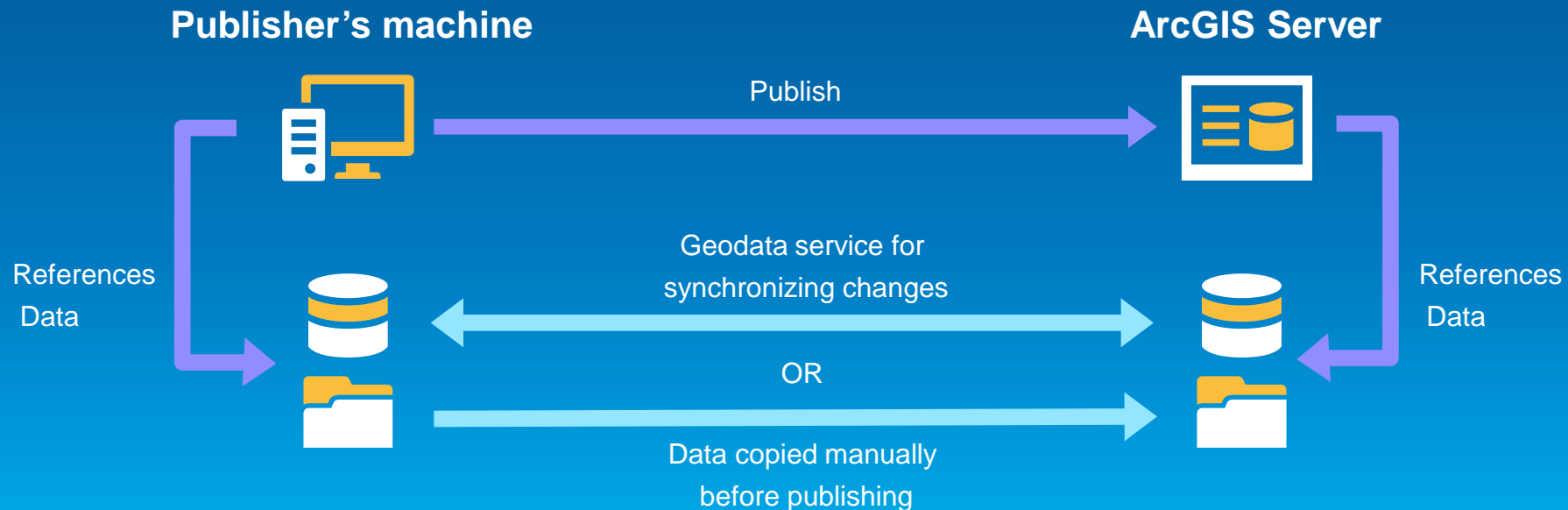
Demo

Registering a Replaced Data Store

Replaced

Data Store Registration

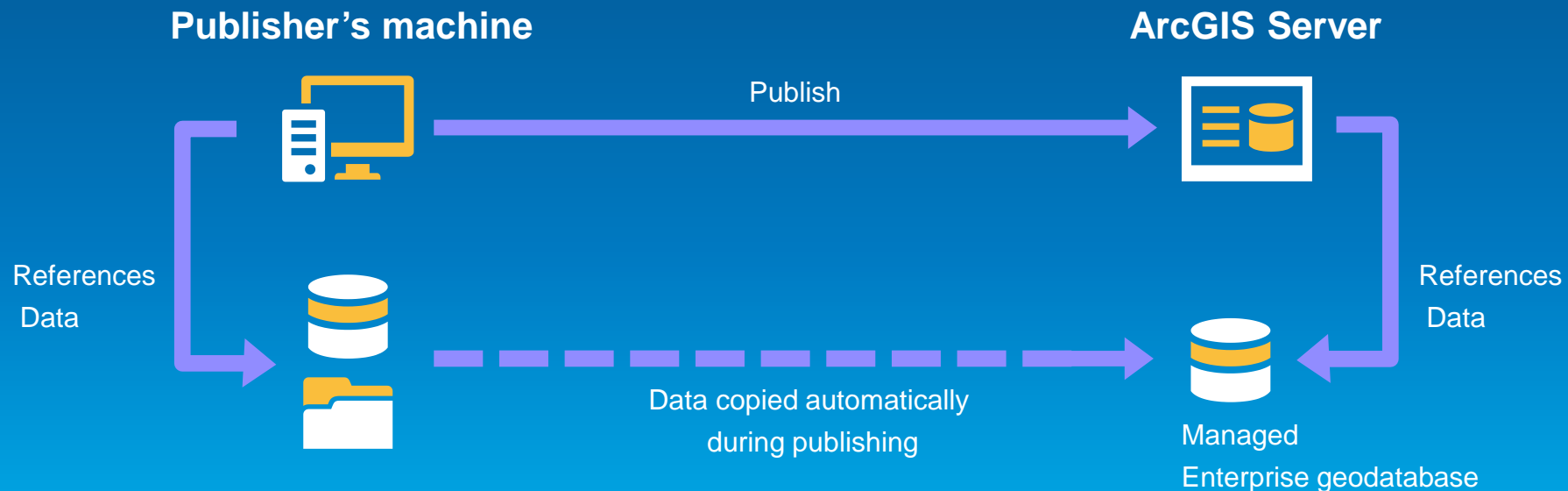
- Publisher and server work with **DIFFERENT** data
- **When to use:**
 - To maintain a separate copy of the data on server



Managed Database

Data Store Registration

- Service data is managed for you
- When to use:
 - Publishing a Feature Service or a transaction-enabled Web Feature Service (WFS-T)
 - Must be an enterprise geodatabase



Managing Service Data

Data Store Registration

- **Referenced**
 - **Publisher and server work with same data**
- **Replaced**
 - **Publisher and server work with different data**
- **Managed Database**
 - **Publishing service type requires an enterprise GDB**

Automating Publishing Using Python Scripts

Arcpy library

1. CreateMapSDDraft()
2. StageService_server()
3. UploadServiceDefinition_server()

Set up the variables

```
import arcpy

#Setting the variables
mxd = arcpy.mapping.MapDocument(r'c:\temp\MapDemo.mxd')
con = r'c:\temp\myserver.ags'
sddraft = r'c:\temp\service1.sddraft'
sd = r'c:\temp\service1.sd'
service = 'service1'
```

Configure the service

Stage into a SD file

Publish as service

Demo

Publishing using Python

Tips & Tricks

- **If you get a consolidation error, check:**
 - There's enough space on the publisher/server machine
 - Path names are not too long
 - The appropriate extension is enabled
- **If publishing services that reference enterprise data**
 - Ensure you install the appropriate database client libraries on both the client and server machines
 - Be sure the ArcGIS Server account has the appropriate permissions to the database
- **Videos**
 - <http://video.arcgis.com/series/40/server>

Summary

- **Publishing allows you users:**
 - To share and use gis resources via the web
- **Publishing workflow is the same**
 - Configure the service`
 - Analyze the service
 - Publish/Stage the service
- **Data store ensures data is accessible to the server**
- **Ability to automate the publishing workflow**

Thank you...

- **Please fill out the session survey:**

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Second Offering ID: 1339

Online – www.esri.com/ucsessionsurveys

Paper – pick up and put in drop box



Understanding our world.