MANAGING ARCGIS SERVER IN AN ENTERPRISE ENVIRONMENT

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European Environment Agency
What is DISCOMAP?

- DISCOMAP is EEA’s webservice platform
- Many (many!!!) webservice on different themes (land, biology, climate, water, ...)
- Lot of access
  
  May 2015: > 138,000 Unique visitors
  ~ 8,800,000 page views
  ~ 11,000,000 hits
SDI for Web Dissemination

ArcGIS online
http://eea.maps.arcgis.com

ArcGIS Server Farm
http://discomap.eea.europa.eu

Cloud

consumer

Web maps
Feature services
Tiled services
Templates

Map layouts

On premise

GIS Officers Operators Integrators

advanced web-services
Print layouts
ArcGIS Server Farm Details

**INTERNET**

- [Image of computer icons]

- URLs:
  - http://discomap.eea.europa.eu
  - http://land.discomap.eea.europa.eu
  - http://bio.discomap.eea.europa.eu
  - http://secure.discomap.eea.europa.eu
  - ...

**DMZ**

- Land
- Water
- Air
- Test
- !?
- Bio
- Image
- Secure

- Reverse Proxy
- File Server
- IIS
- SQL Server

**INTRANET**

- [Image of computer icons]

- Linux Box
- FME

European Environment Agency
Administrator tasks

• Uptime
• Monitoring
• Backup
• Transfer
• Maintenance / fixing
• Publication / verification
• Stats
Some classic issues

- Who is doing WHAT – WHEN – WHY?
- Is it good?
- Where is it happening in the infrastructure?

- What are existing solutions? From ESRI?
What we need?

- Monitoring tool (up/down, new, delete)
- Outside monitoring (alerts)
- Daily monitoring
- Backup tool
- Transfer – Move
- Main page (hide or show)
- Visibility in server list
- Stats
- Metadata- Info update - Rename
Tools (1) - Monitoring

- What should we monitor and why?
  - Availability from outside
  - New stuffs
  - Removed
  - Report

- How?
  - Dotcom Monitor alert
  - FME
Tools (1) - Monitoring

- Published in FME Server
- Scheduled every 40 minutes
- Includes
  - Stress test
  - Service events notification + attached report
  - Backup of new services
Tools (1) - Monitoring

How is the system designed?

1. FME
   - Lists services & folders from ArcGIS Servers

2. ArcGIS Server
   - Access through ArcGIS Server Admin REST interface to Servers data

3. Notification
   - Send services status notifications by email

4. Report Builder
   - Generate servers & services reports

3a. SQL Server
   - Store Stress Test info into database

3b. SQL Server
   - Store services & folders info into database

3c. Backup
   - Save backup of new services

3d. FME
   - Services Stress Test

4a. SQL Server
   - Store Stress Test info into database
Tools (1) - Monitoring

- Published in FME Server
- Scheduled every day at 7:00 am
  - Server reports
  - Services reports
Tools (2) - Backup

- Classic backup but not enough
- We need to get resources from one single service
- Tool
Tools (2) - Backup

How is the tool designed?

1. **ArcGIS Desktop**
   - Python custom tool for ArcToolbox

2. **ArcGIS Server**
   - Geoprocessing service published

3. **WEB Interface**
   - HTML
   - Javascript
   - Bootstrap
   - JQuery
   - ...

What does the tool do?

- **ArcGIS Server**
  - Input Server

- **Sources**

- **Save backup into Network path**
• Need to move from test to production
• Need to move from A to B
• Not manual
• Keep track
Tools (3) - Transfer

How is the tool designed?

1. ArcGIS Desktop
   - Python custom tool for ArcToolbox

2. ArcGIS Server
   - Geoprocessing service published

3. WEB Interface
   - HTML
   - Javascript
   - Bootstrap
   - jQuery
   - ...

What does the tool do?

Input Server

Output Server

ArcGIS Server

ArcGIS Server
Discover the map services of the European Environment Agency
Tools (4) – Management interface for Standard user

Management interface

1. WEB Interface
   - HTML
   - Javascript
   - Bootstrap
   - JQuery

2. SQL Server
   - Get/Set Services & Folder info

3. FME
   - Run FME to regenerate Services Catalog Web Page

Discomap Web

1. FME
   - Creates Services Catalog Web Page

2. SQL Server
   - Get Services information from database

3. WEB Interface
   - HTML

4. ArcGIS Server
   - Access to Services info on Rest interface
Some services should be accessible but not shown. From 10.2.2 possible via admin interface.

In ArcGIS Server admin directory, find the service. Go in edit mode and add the "deprecated":true property to the JSON file.

But when many and how to keep track?
Tools (5) – Visibility (Show and hide Services)

**How is the tool designed?**

1. **ArcGIS Desktop**
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   - HTML
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   - Jquery
   - ...  

**What does the tool do?**

1. **ArcGIS Server**
   - Input Server

2. **ArcGIS Server**
   - Edit properties & post to server
• Some tools from ESRI (ArcGIS Server and ArcGIS Online) but...
• We are using Google analytics for our templates
• Awstat to read stats from our Reverse Proxy
Other tools

- Restore backup
- Fill metadata
- Rename a service
- Update Metadata and infos (bulk or single)
## Services to publish

<table>
<thead>
<tr>
<th>Backup</th>
<th>Publish</th>
<th>Folder</th>
<th>Service Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AirQualityTest.MapServer</td>
<td></td>
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<td>AirQualityTest</td>
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<tr>
<td>AirQualityTest.MapServer</td>
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<td>AirQualityTest</td>
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<tr>
<td>SOER/VulnerablePeople.MapServer</td>
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<td>SOER</td>
<td>VulnerablePeople</td>
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<tr>
<td>MapServicesForMapViewers/WISESoE_Gw_AmmoniumInGwByG ...</td>
<td></td>
<td></td>
<td>WISESoE_Gw_Amr</td>
</tr>
<tr>
<td>BathingWater/BathingWater_Dyna_WM.MapServer</td>
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<td></td>
<td>BathingWater_Dyna</td>
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<td>BathingWater/BathingWater_TimeSlider_Dyna_WM.MapServer</td>
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<td>WISESoE_Gw_Amr</td>
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</tbody>
</table>
Fill Metadata

For ArcGIS Online and ArcGIS Server

**Description**

**App Registration**
Register your app to generate an App ID. Use the App ID in your app to allow users to sign in to the platform (with OAuth 2.0), and to collect usage statistics.

**REGISTRATION**

**Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>URL</td>
<td><a href="http://maps.eea.europa.eu/EEAbasicviewer/v4/?appid=cda8077d8b704809a20bd7ab2053a7a">http://maps.eea.europa.eu/EEAbasicviewer/v4/?appid=cda8077d8b704809a20bd7ab2053a7a</a></td>
</tr>
<tr>
<td>Code Attachment</td>
<td>None</td>
</tr>
<tr>
<td>Purpose</td>
<td>Ready To Use</td>
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<tr>
<td>API</td>
<td>JavaScript</td>
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<tr>
<td>Shared with</td>
<td>Everyone (public)</td>
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<td>Tags</td>
<td>Test, Nuts</td>
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<td>Credits</td>
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<td>Delete Protection</td>
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<td>Owner</td>
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</table>
ArcGIS Online – What where?

- Which app is embed, which webmap or webservices used?

![Image of my url's results](http://maps.eea.europa.eu/EEADasview/v4/?appid=87c9a5886e4ed39a36a3fdbe071)

**Results**

- [UWWT receiving areas, catchments](http://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [UWWT plants assessment of perf. compliance, overall](http://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [UWWT treatment plants](http://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [UWWT Agglomerations - big cities/dischagers](http://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [UWWT Agglomerations treatment pathways](https://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [Agglomerations - overall compliance](http://test.discomap.eea.europa.eu/arcgis/rest/services/UWWT/UWWT_WM_20150225/MapServer)
- [NatGeo_World_Map_2536](http://services.arcgis.com/online.com/ArCGIS/rest/services/NatGeo_World_Map/MapServer)
Report daily