

spatial dimension  
AN MS GROUP BUSINESS



flexicadastre

# ArcGIS Integration with FlexiCadaastre

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# The Map as an Application

- The map can be seen as an application within FlexiCadaastre – it performs a function for the user
- Like any application, design standards must be developed and adhered to during map development
  - Standards apply to all components that make the map – data, layers, labeling, naming etc
- The MXD is the GIS resource used in a map
- The MXD contains the data to be displayed

# Mapping on the Internet

- Internet/intranet connectivity required
- Access often bandwidth dependant
- Often many architectures involved in producing one map
- Speed is always an issue
- KISS - simpler maps are best
- Display as little as possible

# Frequently asked questions

1. Can I design my own map?
2. What about data? Where does it come from?
3. Some layers make the map difficult to use when I zoom in or out. How can I change this?
4. Some layers take a long time to draw. How can I make them draw faster?
5. It's important to label some features, but these get in the way. How can I sort that out?

# FAQ #2

6. What kind of symbology can I use to make my map easy to understand? Some users aren't familiar with the data.
7. I want to show some licenses or agreements, not all of them in layer. How can I do this?
8. What about date ranges? How can I show these in a map?

# FAQ #3

9. What about all our expensive imagery? Can it be used?
10. My maps are slow. How can I make sure they're drawing as fast as possible?
11. This map is great! I want to use it in FlexiCadastre. Is that possible? Can ArcGIS server help me?
12. How do I configure this in FlexiCadastre? What settings are needed?

# FAQ #4

13. As a FlexiCadastre admin, I don't want all users accessing all maps. How can I do this?
14. When I query a layer in FlexiCadastre, lots of fields are displayed, some useful, some not. How can I turn off the noise?
15. If I search for licenses, can I show them on a map?
16. Maps on my screen are fine. But what about printing them?

# 1. Can I design my own map?

- Yes, of course!
- You can have a map for each region or jurisdiction you work in. You can even have different maps for different departments
- Data can reside in a single location, or even several.

## 2. What about data? Where does it come from?

- Data that goes into your map can be any spatial data
- Ideally, the best place to keep data is in SDE located on one of the FlexiCadaastre-purposed servers

### 3. Some layers make the map difficult to use when I zoom in or out. How can I change this?

- Map display scale ranges allow you to set the scale range at which a layer will draw.
- Small scales for regional layers
- Large scales for more detail.

## 4. Some layers take a long time to draw. How can I make them draw faster?

- Spatial indices allow you to draw detailed data just in the extent of your display
- Make sure that you draw just what you want when you want it, so that surprises are avoided!!
- Some layers may not even be worth drawing

## 5. It's important to label some features, but these get in the way. How can I sort that out?

- Just like with layers, we can turn the labels on at your required scale
- It's important to consider what the labels show and how they should be displayed
- Labels can assist in simplifying symbology by adding connotation to the display

## 6. What kind of symbology can I use to make my map easy to understand?

- Maps need to be designed with a few considerations:
- Number of discrete colours used – not too many – 12 max at one time
- Number of shades used of the same colour hue – not too many – 7 max at one time
- Symbology – don't use symbols that are too similar for line styles and polygon shading

## 7. I want to show some licenses or agreements, not all of them in layer. How can I do this?

- You can use a definition query that will 'preselect' features based on attributes, and just show that.
- This speeds things up, and rather than use symbology to show certain things, select what you want first, then symbolize just that.

## 8. What about date ranges? How can I show these in a map?

- Definition queries will allow querying on dates
- You can get up a rolling date range for any of the application, granting or expiry dates and show just those licenses. Definition queries will be your friend.
- Using the ***CURRENT\_TIMESTAMP*** field, you can select ranges of dates
  - DteExpires BETWEEN ***CURRENT\_TIMESTAMP*** AND ***CURRENT\_TIMESTAMP*** + 30, 60, 90 etc

# 9. What about all our expensive imagery? Can it be used?

- Imagery can be included as well
- Imagery at different scales can be used in different ways
  - Using scale display ranges, this can make a big difference to map usability.

## 10. My maps are slow. How can I make sure they're drawing as fast as possible

- ArcGIS 9.3.1 has a tool in ArcMap that will help you optimize your map.
- These tools analyse your map to help ensure that any possibility of 'slowness' is removed from the map function

# 11. This map is great! I want to use it in FlexiCadaastre. Is that possible? Can ArcGIS server help me?

- ArcGIS Server Map services comply with SOA standards
- A single map service can be used in multiple manners
- FlexiCadaastre can 'consume' a map service, integrating it with license/agreement/group information

## 12. How do I configure this in FlexiCadastre? What settings are needed?

- Using Admin Tools, you can reference the map service by specifying the details.
- There is a test tool to allow you to see if this connects correctly or not.

## 13. As a FlexiCadaastre admin, I don't want all users accessing all maps. How can I do this?

- FlexiCadaastre authorisations have been extended to include Map Services
- Users can be authorised to see these services or not.

# 14. When I query a layer in FlexiCadastre, lots of fields are displayed, some useful, some not. How can I turn off the noise?

- The license/agreement/group spatial layers managed by FlexiCadastre have some internal fields
- These fields can be turned OFF in ArcMap.
- Care should be taken to make sure that fields required by the Map Service are retained

# 15. If I search for licenses, can I show them on a map?

- FlexiCadaastre queries, done either by license searches or my map selections are a two-way street
- Licenses can be selected from search lists for map display
- Conversely, license selections done in a map can be shown in a search list

# 16. Maps on my screen are fine. But what about printing them?

- FlexiCadastre has tools for adding templates for map printing
- Map templates can contain any feature that is needed on a map
  - Titles
  - Legends
  - Scale bars
  - North arrows
  - Logos
  - etc

# Mapping considerations

- Mapping can be as complex as you want it to be
  - Adhere to basic guidelines
  - Keep intended purpose in mind
- Use ArcGIS tools and functions to simplify the map at any particular view
  - Use iterative approach for symbology, scaling and labeling

Thank you







# Maps...

- Data
- MXD
- Map Services
- FlexiCadaastre
- Map Printing
  - via FlexiCadaastre
  - via ArcGIS (addins/extensions)

# Data to be used..

- What data is there?
- How can I use this data?
- Where does this data come from?
- How can I use this data? **CAN** I use this data?
- Considerations
  - Projections
  - Accuracy
  - Data availability
  - Spatial indices

# Data demo??

- Database catalog of layers available
- Imagery must be considered
- Types of data available
- Data resolution/accuracy
- Naming conventions

# MXD components

- Layers
  - Thematic standards
  - Labeling

# MXD optimisation

- ArcGIS 9.3.1 has built in Map Publishing tool
  - Optimises map display
- Definition queries
  - Single feature class filtered into different ‘displays’
    - Application/Active/Inactive
  - Each ‘display’ classified uniquely as separate layer
    - Allows simplified symbology

# MXD demo

- Data in a map – Bad example
  - No layer naming
  - No thematic standards
  - No consideration for layering/grouping
  - Labelling
- Data in a map – Good example
  - Same map, but standardised
  - Layer ordering – licenses, admin boundaries
  - Scale drawing
  - Label scaling

# MXD's to Map Service

- ArcGIS ArcMap 9.3.1 tool not only optimises, but also publishes too
- ArcCatalog map publication preferred where possible
- ArcGIS Server Manager can also use used via web interface

# Layer symbology

- Use simple symbology where possible
- Use of 'clever' layer ordering to simplify display while enhancing aesthetics
- DEMO



# Services in FlexiCadaastre

- Integration of services with FlexiCadaastre
- The license layer in the table of contents
- DEMO

# Map service authorisation



# Server configuration

- Maintain clean log files
- Restart SOM services on regular basis to clear hanging contexts
- Spatial indices