



The Digital Energy
2015 Americas Software Summit

Using Common Data Between Different Network Datasets

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DOING THE IMPOSSIBLE

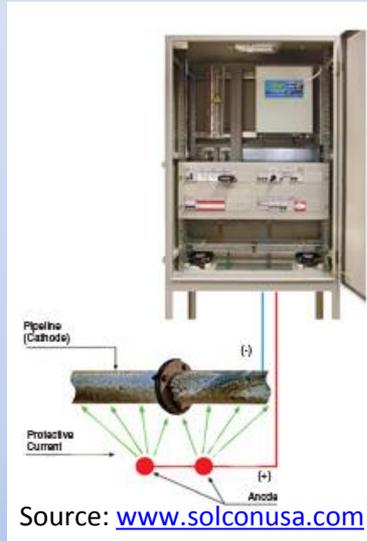


Why?

- You may have several disciplines
 - Gas & Electric
 - Power & Telco
- Multiple targeted user groups
 - Engineering
 - Environmental
 - Municipality
- Support multiple images with specific SOCs
 - Support multiple authorization definitions

Examples

- Cathodic Protection
 - Gas/Electric
- Power/Fiber
- GDO/GTO
- Shared Facilities
 - Substations
 - Buildings





Electric & Fiber Example

- Sho-Me Power
 - Transmission Lines (Electric Dataset)
 - Fiber Network (PNI [gis] Dataset)
- Common Data
 - Structures
 - Buildings
 - Substations
- Separate Topological Networks
 - Strand (PNI)
 - Electrical (Electric)



Land Base Dataset

- Real World Data
 - Description (pole type, number, etc.)
 - Actual GPS Location
- Objects
 - Structures/Poles
 - Substations
 - Buildings
- *Super Joined to Pole Inspection Dataset
 - Synchronized data with external SQL Database



Design Manager Configuration

- Design Administration Tool
 - New Dataset in Dataset Tab
 - Added “,landbase” to Options->Administration->Project->Initial dataset names
- Customize job_type.cfg
 - `shome\customization\dm_glue\resources\base\config\job_type.cfg`
 - Added “<tab>:landbase”

Design Administration Tool

Design Administration

Datasets | Options | State Model | Project Types

Category: Administration

Themes

- Project Design dwlscheme_wp

Options

- Project area buffer
- Auto-extend project areas on save
- Default state model
- Deletion allowed with existing design
- Initial dataset names
- Maximum auto-create region
- Merge and Post Mode
- Project termination criterion
- Update Project bounds on up

Current Value

String

gis.landbase

Design Administration

Datasets | Options | State Model | Project Types

Datasets subject to design

User Dataset Na...	As Built (Alternative Pa...	Design Top Altern...	Construction Altern...	Dataset
gis		Engineering Design	PLAN_96380	gis
landbase		Engineering Design	PLAN_111924	landbase

[Design_admin] Dataset Information

Field name	Value	Δ	*	▲
As Built (Alternative ...			*	≡
Design Top Alterna...	Engineering Design		*	
Dataset	landbase		*	
Comment				▼

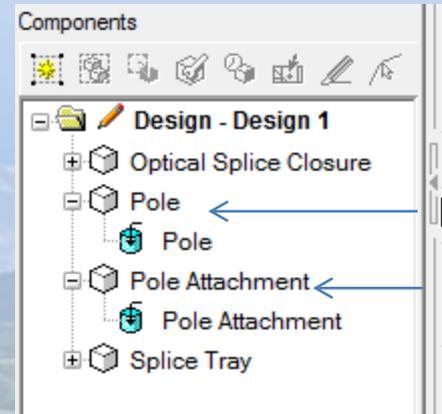
Landbase History Components

- Added to Application config.xml

```

<plugin name="pp_plugin" class_name="planning_presentation_plugin">
  <properties>
    <property name="map_manager_plugin_name" value="map_plugin"/>
    <property name="planning_style_category" value="Planning"/>
  </properties>
  <plugin_data>
    <dataset name="gis"/>
    <dataset name="landbase"/>
  </plugin_data>
</plugin>

```



Landbase Object

GIS Object



Conflict Rules Update

- Empty Rules for Landbase Dataset

- In empty_conflict_resolution.xml:

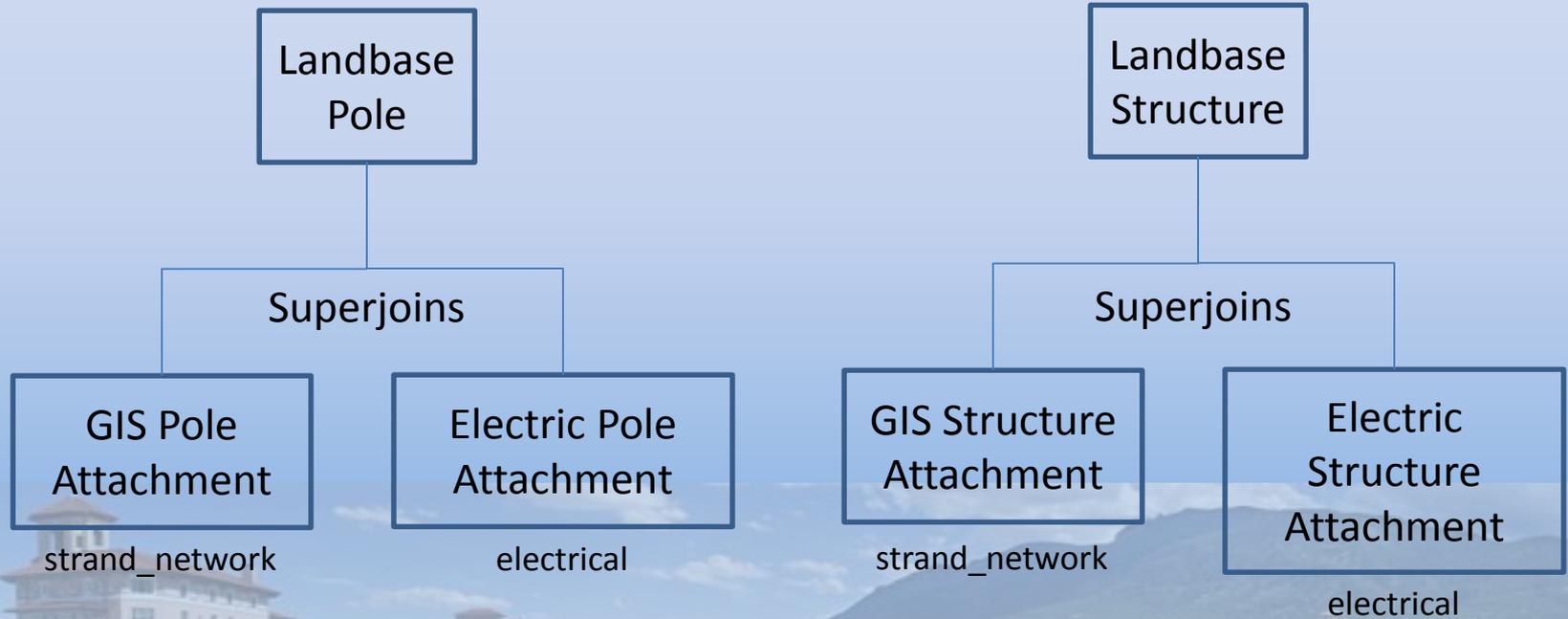
- <conflict_resolution_process_engine/>

- Run Following on Magik Prompt

```
crse << conflict_rules_storage_engine.new(  
    gis_program_manager.ace("Default"))  
crse.make_writable()  
crse.import_rules(:landbase, :empty,  
"path_to_file/empty_conflict_resolution.xml")  
crse.make_rules_standard(:landbase, :empty)  
crse.save_changes()  
crse.make_readonly()
```



Cross Dataset Relationships





Cross Dataset Relationships

- Externally Renamed PNI “Pole” to Pole Attachment
- Externally Renamed PNI “Structure” to Structure Attachment
- Created Triggers to Update GIS & Electric Geometry if Landbase Geometry moves
 - Optional to update from GIS or Electric dataset



Other Coding

- Created Trigger Code on Pole & Structure Objects
 - Update GIS & Electric locations when Landbase object updates
 - Optionally update Landbase and other dataset if GIS or Electric locations are updated
- Implemented Code for Landbase & Electric to Use GIS Dynamic Enumeration
 - Kept Landbase & Electric as gis_ds_view
 - Easier to maintain list in one spot

Other Coding (cont.)

- Added “Programmmic” Fields to GIS & Electric Objects
 - The “Programmmic” fields are seen in editor but do not exist on object as logical fields

Editor | Street View | Google Earth | Google Maps

[Icons]

Annotate | Associate | Specials

[Gis] Pole Attachment - Getting Pole Attachment records

Properties | Related Items

Field name	Value		*
[-] Pole Data			
Number	5268		*
Owner	COMO		*
Staking Sheet ...	76		*
GPS ID	78		*
GIS ID	5268		*
Construction Status	In Service		*

From Landbase
Object

Other Coding (cont.)

- Added Additional Programmic Fields to Landbase Structures to SQL Problem Database

Field name	Value
Fiber Struture Att...	1
Elec Struture Atta...	1
Pole Data	8876302133461263790
External	
<input checked="" type="checkbox"/> Problem	3: Repair #1, Repair #1, Repair...
<input checked="" type="checkbox"/> Status	3: Bad Top #1, Woodpecker Da...
<input checked="" type="checkbox"/> Hot Spot	7
<input checked="" type="checkbox"/> Danger Tree	0
<input checked="" type="checkbox"/> Immediate Att..	
<input checked="" type="checkbox"/> Driveability	Good
<input checked="" type="checkbox"/> Bad Arm	0
<input checked="" type="checkbox"/> Problems?	True

From Problem Dataset (SQL)



Questions? / Contact

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