

Spatial Asset Management

What can Maximo do for
you?

Jeremy Myers



**Cohesive
Information
Solutions** Inc.

www.cohesivesolutions.com



Today's Topics

- What is Maximo Spatial
 - High Level Architecture
- Using Spatial
- Configuration Capabilities
- Use Case
- Where can we go?

What is Maximo Spatial?

Introduction

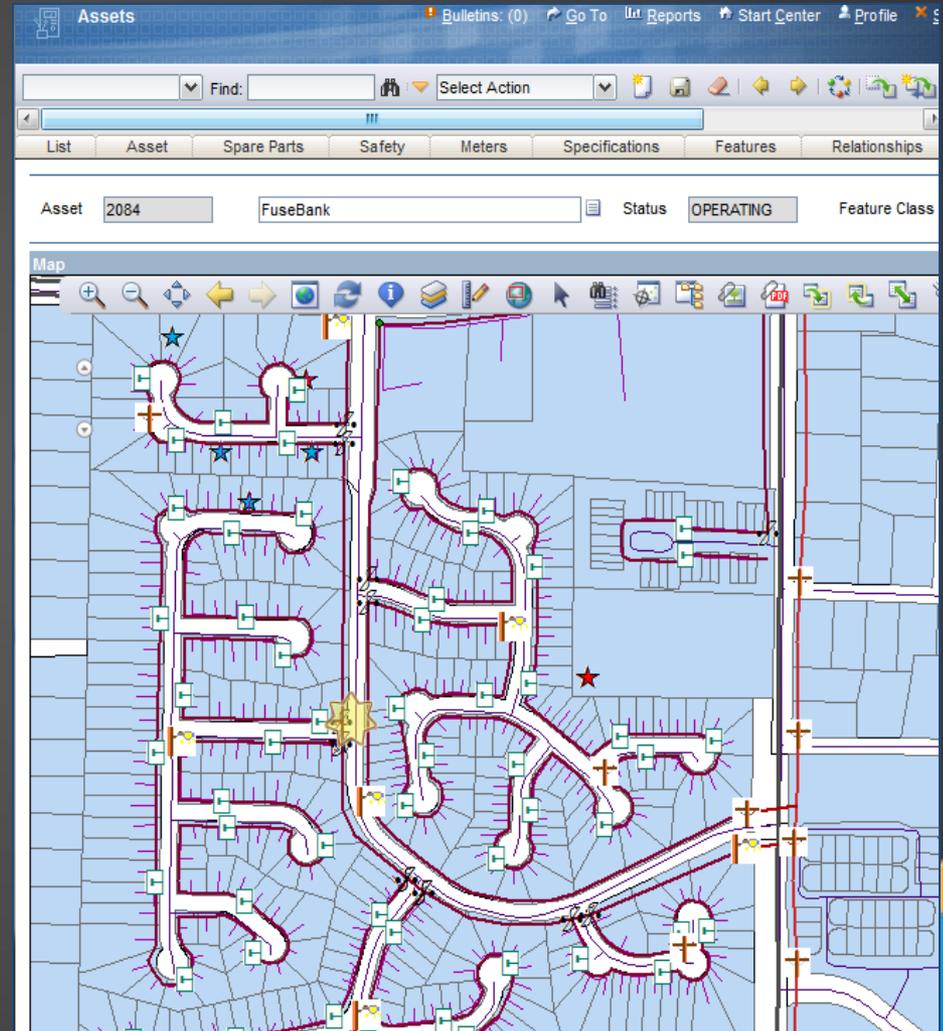


**Cohesive
Information
Solutions** Inc.



Spatial: Maximo Asset Management plus ESRI ArcGIS

- Spatial creates a **live** link between Maximo and ESRI GIS.
- Spatial serves organizations who's assets spread over large areas outside the four walls of a factory or plant.
- Maximo screens are enhanced with a **Map Tab** to allow Assets and Work to be plotted on interactive maps.



OK. What's the big deal?

- Adding GIS maps to Maximo allows users to see **where** assets are and **where** work gets done.
- Spatial exposes attributes housed in GIS to Maximo for display, use, and editing. (*and vice versa...*)
- One strength of GIS is **analytics**. Now data in Maximo can be analyzed for **geographic relationships** and **trends**.
 - Ex. View failure codes by region.
- For GIS, Maximo adds the ability to **archive** and collect **trending** data that would be difficult for GIS to maintain.

What is EAM!? ...Doesn't GIS "Manage Assets?"

What's GIS? ... Is that like "Online Maps?"

EAM Functions

Purchasing

Contracts

Labor

Scheduling

Work Planning

Inventory

Safety

Tools

Failure Analysis

Meters

Spares

Operational Costs

Where Does Spatial Fit?

Maximo Desktop User



ArcGIS Desktop User



Maximo
Add Ons
T&D, Nuclear,
ACM

Maximo

Spatial

ArcGIS

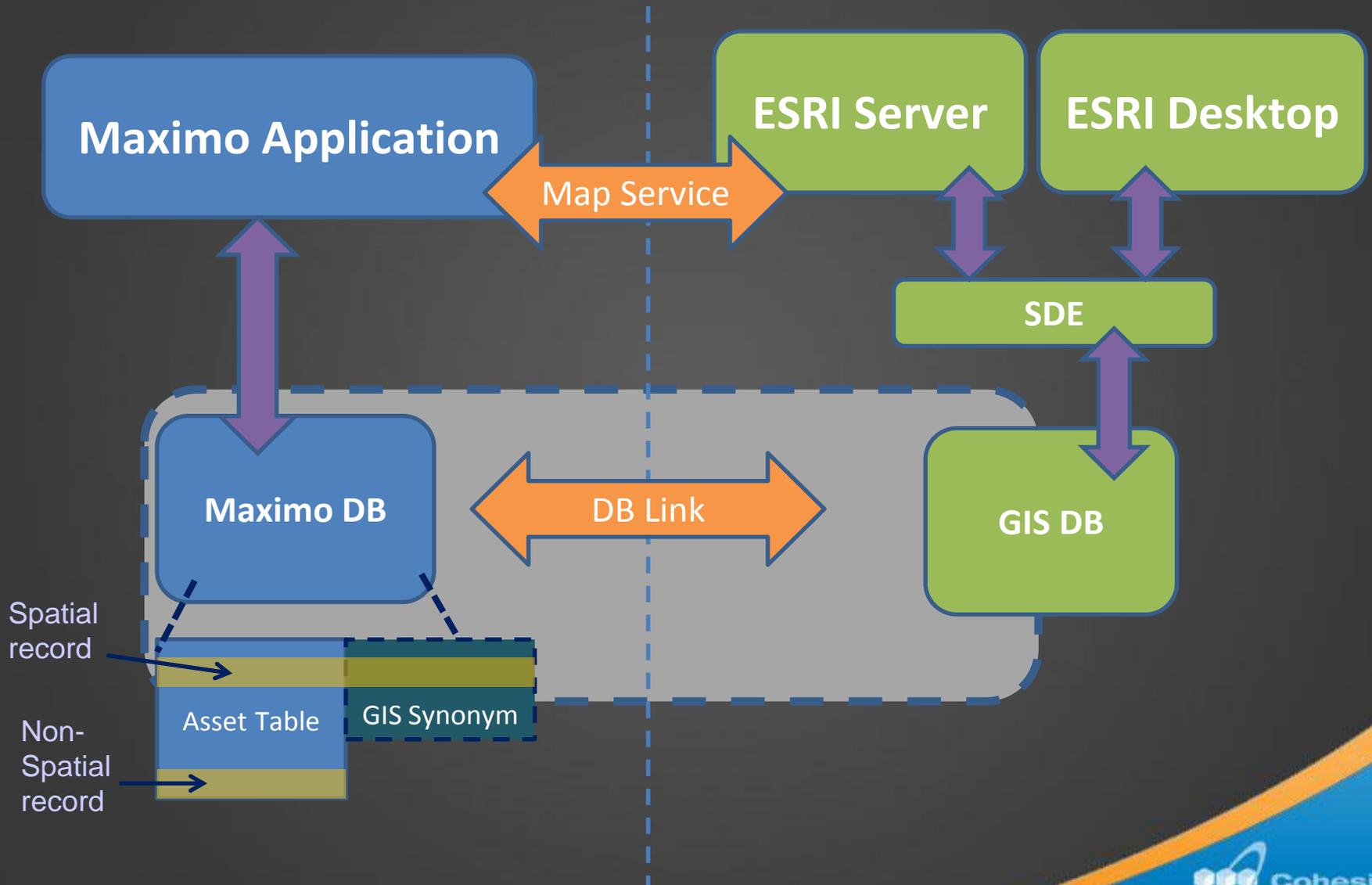
GIS "Add
Ons"
Telvent,
Powell, 3GIS

Mobile Maximo

Mobile ArcGIS

Mobile User

Spatial High Level Architecture



Using Spatial

End User Overview

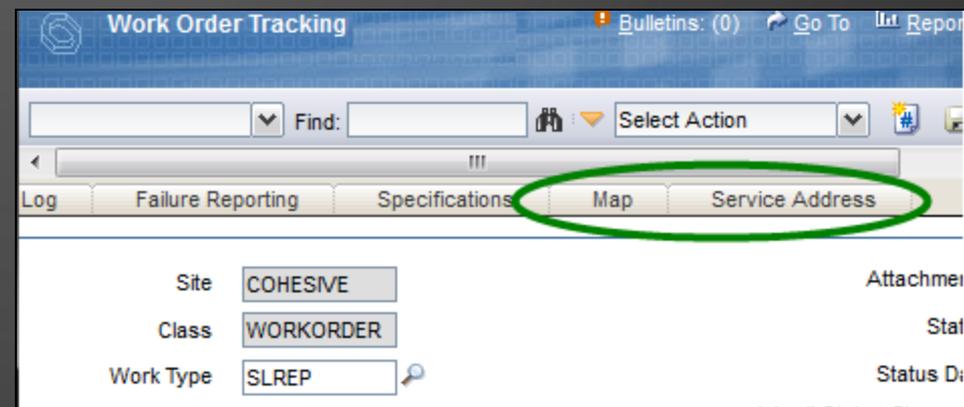
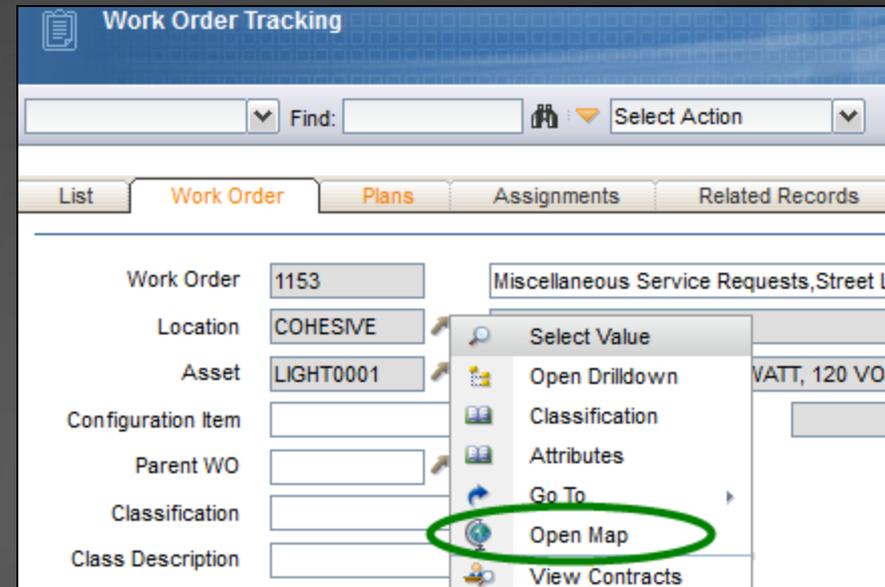


**Cohesive
Information
Solutions** Inc.



Where to Find Spatial in Maximo

- **Contextual Menus** allow users to select a value from a map.
- Some Apps have a **Map Tab**
 - WOTrack, SRs, Locations, and Assets OTB.
- The **Service Address** Tab is also bundled with Spatial



Asset Demo

Overview of Map Functions

Maximo Spatial

New Configuration Capabilities



**Cohesive
Information
Solutions** Inc.



Spatial and the Conditional UI

- Maximo's Conditional UI allows administrators to **add fields** from GIS tables to a Maximo Screen.
- The fields can be Edited in Maximo or made Read Only.
- Field **Security** is controlled with Sig Options.

The screenshot shows the 'Application Designer' interface. The main workspace displays the configuration for the 'GIS_ASSET' application, specifically for the screen 'Assets w GIS changes'. The configuration includes several fields with icons indicating their properties:

- Condition Code**: A text field with a magnifying glass icon.
- Meter Group**: A text field with a pencil icon.
- Usage**: A text field with a magnifying glass icon.
- GIS Details**: A section containing the **Pole Insp Date** field, which is highlighted in green and has a magnifying glass icon.
- Linear Referencing Details**: A section below the GIS details.
- sectionrow...**: A section at the bottom of the workspace.

The 'Data Source Properties' dialog box shows the following configuration:

- Control ID**: 1303236012389
- Bean Class**: [Empty field]
- Business Object**: [Empty field]
- Parent Data Source ID**: [Empty field]
- Relationship**: SPATIAL_POLE
- Order By**: [Empty field]

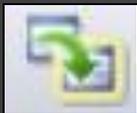
The 'Add/Modify Signature Options' dialog box displays a table of signature options:

Option	Description
[Empty field]	POLE
▶ PLUSL-1004	GIS Layer /1004/63/SDE.Pole
▶ PLUSL-GISAL	Spatial GIS Object POLE

Below the table, there is an 'Advanced Signature Options' section.

Spatial and Searches

- The Maximo List Tab and Advanced Search can be modified to allow search parameters from GIS tables.
- Advanced search comes with a field called “**Is GIS**” to filter records that are Spatial from core Maximo records.
- The Spatial Toolbar has a **Query By Attribute** function to select GIS features based on attribute values.
- The Spatial Toolbar lets you transfer search **results** To and From the **List Tab**.



Update GIS List



System Logs and Crons

- Spatial has a system log called **PLUSGIS** that can be enabled.
- Spatial provides a Cron task, **PlusSCreateFeatureLinkCronTask**, to create Maximo Asset Records when a new GIS feature is created.
 - The Cron also automatically links the Maximo record to the GIS record.

Use Case

- Service Request to point Work Order

Where can we go?



**Cohesive
Information
Solutions** Inc.



Possibilities

- Modify Assignment Manager to **Filter Labor by Proximity to Work**. (Spatial query, but no map)
- Allow view to Asset Meters on maps. Click on an asset and see if meters are in proper range. If not create WO.
- Geographic based KPIs.
- Use GIS to create **Maximo Routes**.
- Add Network Trace functions to Maximo.
- Analyze **Failure Codes** by region.
- Enhanced Disaster Preparedness / Planning / Response.

Thank You!



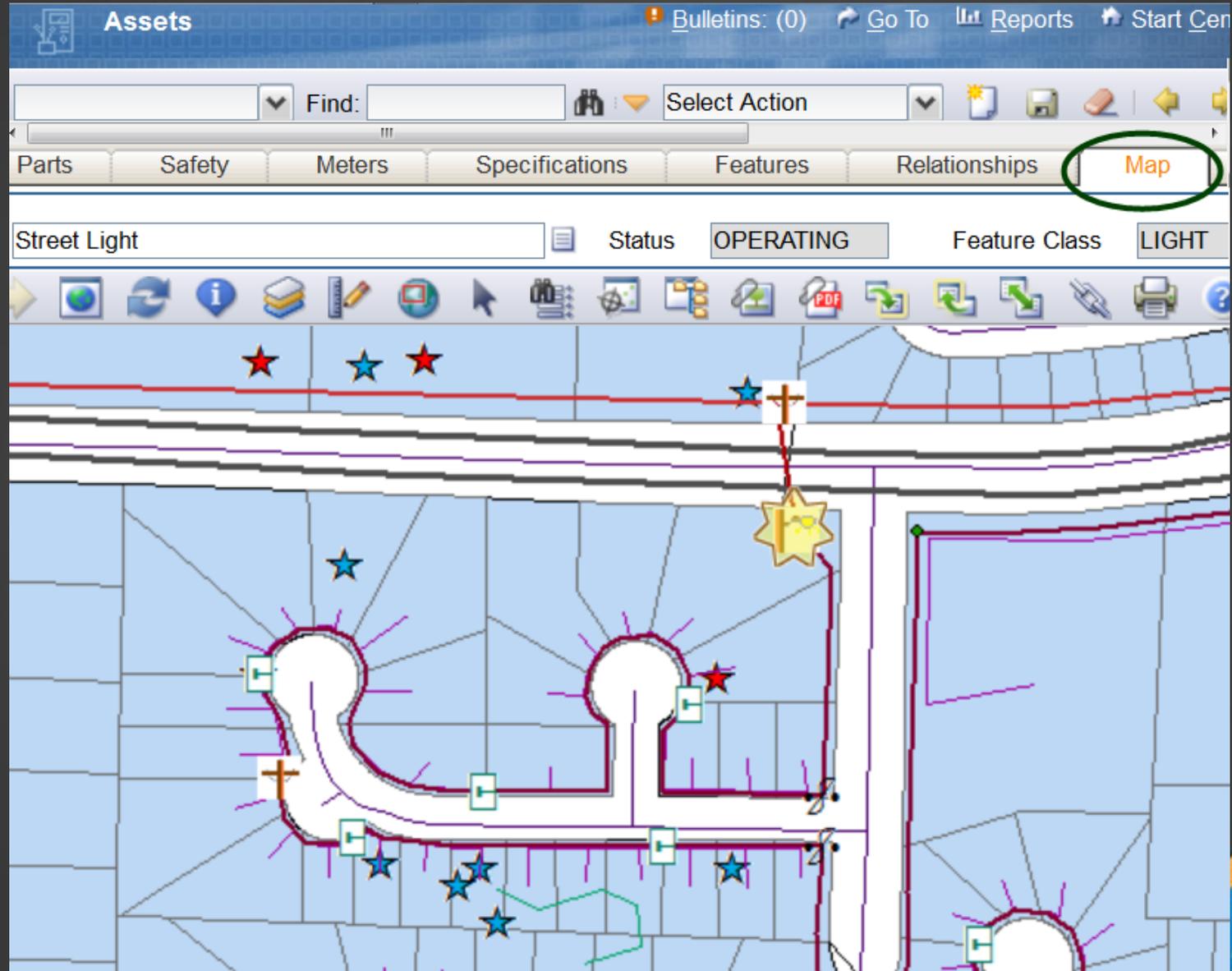
34.039698, -84.566081

www.cohesivesolutions.com

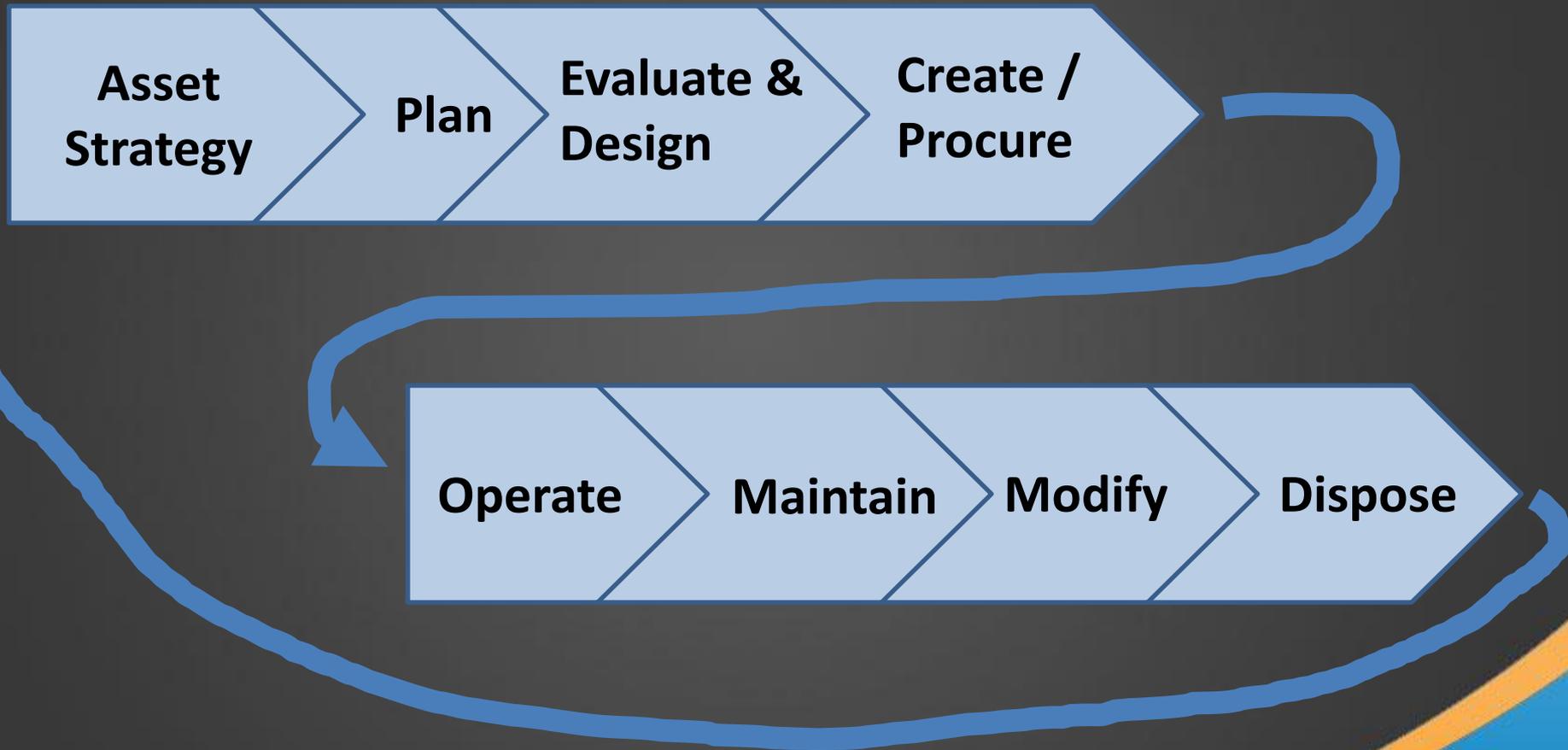
EXTRA SLIDES



ESRI ArcGIS plus MAXIMO Asset Management

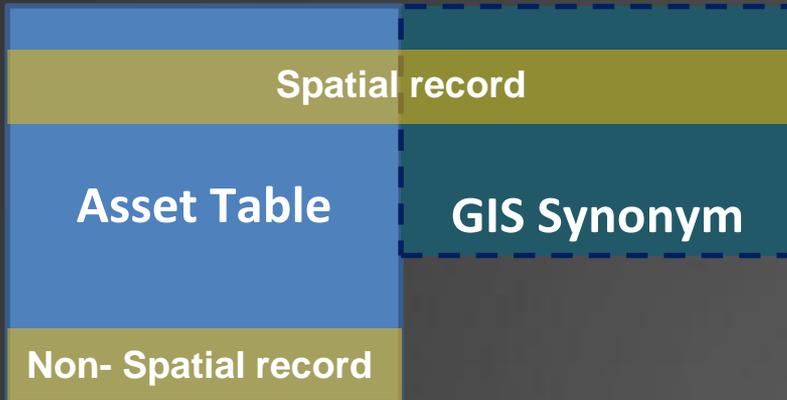


Asset Lifecycle



Analysis & Feedback

Spatial and DB Config



Database Configuration

Object: ASSET * The ASSET Table

Attributes: Filter > 1 - 10 of 167

Status	Attribute	Description
	ADDTOSTORE	Add to store?
	ANCESTOR	Root Parent
	ASOFDATE	Displays the relationships that existed with the
	ASSETID	unique id
	ASSETNUM	Asset Number
	ASSETTAG	Asset Tag Number
	ASSETTYPE	The predefined type of this asset.



Database Configuration

Object: LIGHT * Light for GIS electrical feature

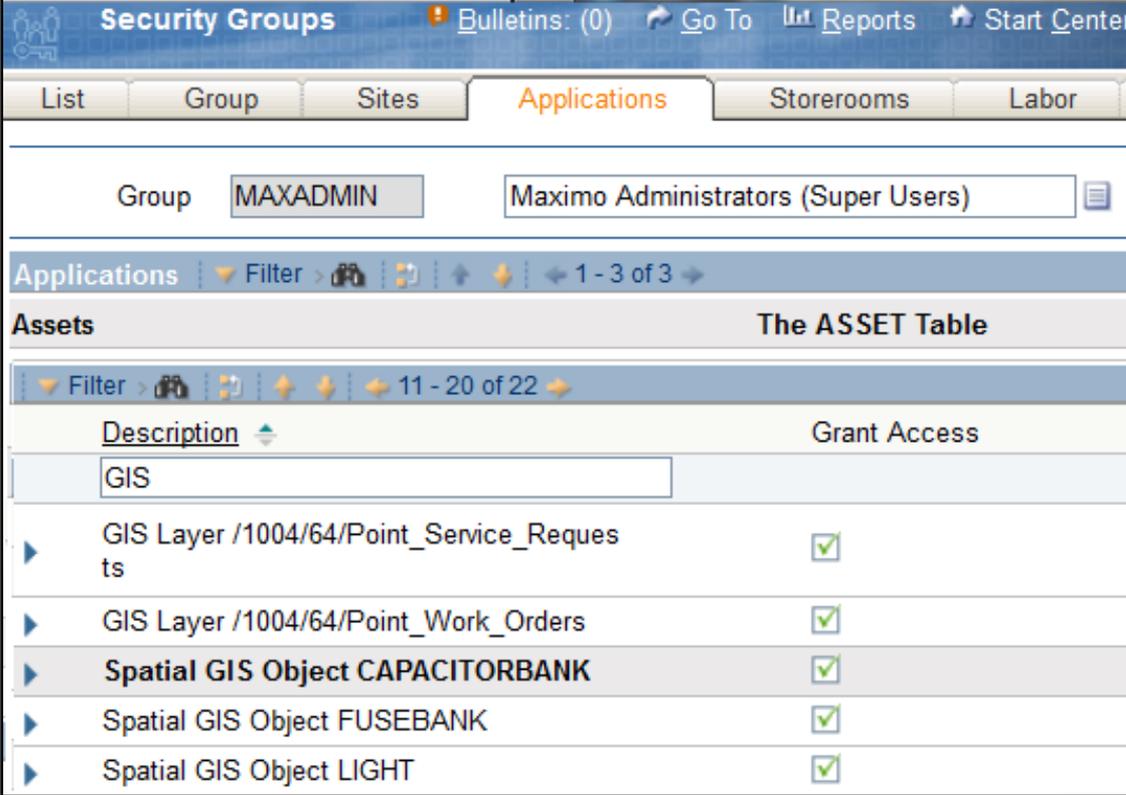
Attributes: Filter > 1 - 7 of 7

Status	Attribute	Description
	FIXTURETYPE	Fixture Type
	MXASSETNUM	Mxassetnum
	MXSITEID	Mxsiteid
	OBJECTID	Object ID
	POLEID	Pole ID
	WATTAGE	Wattage
	FEEDERID	Feeder ID

- Attributes from GIS tables are *virtually* appended to Maximo tables.
- The Maximo table points to a GIS record in a **REMOTE** database.

Spatial and Maximo Security

- Sig Options are created when a GIS Object is set up.
- Security controls who **sees** GIS layers and who can **interact** with GIS data.



The screenshot shows the 'Security Groups' interface in Maximo. The 'Applications' tab is selected, and the group 'MAXADMIN' is chosen, showing 'Maximo Administrators (Super Users)'. Below, the 'Assets' section is titled 'The ASSET Table' and displays a table of GIS-related assets with their grant access status.

Description	Grant Access
GIS	
GIS Layer /1004/64/Point_Service_Requests	<input checked="" type="checkbox"/>
GIS Layer /1004/64/Point_Work_Orders	<input checked="" type="checkbox"/>
Spatial GIS Object CAPACITORBANK	<input checked="" type="checkbox"/>
Spatial GIS Object FUSEBANK	<input checked="" type="checkbox"/>
Spatial GIS Object LIGHT	<input checked="" type="checkbox"/>

Spatial and Reports

- Spatial Attributes can be used in Maximo Reporting.

Similar to reports:

- Maps from Maximo Spatial's Map tab can be printed as PDFs or TIFFs and saved as Attachments on Maximo records.
- Spatial Maps can be marked up or redlined.

Current Limitations

- Can't add a Maximo domain to a GIS field.
- Can't use Actions or Escalations on GIS fields.
- OTB Spatial does not filter Maximo authored data. EX. You see ALL WOs and SRs even completed and closed.
 - This can cause screen clutter.
 - WOs and SRs might be stacked. (Repair on different floor of building.)
- DB Configuration values to GIS Objects aren't easily changed after initial setup.
- Not sure how Migration Manager will work with Spatial. Some rework expected from DEV to TEST to PROD.