

TRAINING GUIDE

GIS Setup and Configuration

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GIS Setup and Configuration

In this session, we'll cover the tools necessary to properly configure Lucity to work with your GIS environment. We'll give you information about the synchronization setup, synchronization process and database connection.

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Introduction

Some system configuration and setup is required prior to using any of the Lucity GIS applications. This configuration occurs in the Lucity Administration tool, Lucity desktop application, ArcCatalog, ArcMap, and ArcGIS Server.

Lucity Administration

- 1. Create geodatabase connection strings
- 2. Configure system settings

Lucity Desktop application

1. Configure show in map settings

ArcCatalog

- 1. Using the Geodatabase Configuration tool to map feature classes and fields to Lucity
- 2. Default fields configuration (optional)

ArcMap

- 1. Optional .mxd and user specific settings
- 2. Alias Name import (optional)

ArcGIS Server

1. Install/Enable Lucity Data Update SOE

The following pages describe the above steps in further detail.

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Lucity Administration Tool

The Lucity Administration tool (Lucity.Admin.exe) is used to configure various GIS settings. This .exe can be found in your local workstation \bin directory or can be accessed by the Start>>All Programs>>Lucity>>Lucity Administration Tools

GIS Connection Strings

GIS Connection Strings are created and modified within the Lucity Administration Tool. This is the connection that Lucity will try to use to recognize whether feature classes in ArcMap are configured to update Lucity. If using an enterprise or file geodatabase, Lucity will also use this connection string to connect to and update the geodatabase when changes are made in Lucity. How those updates work are controlled by other system settings.

To add a geodatabase connection use the GIS Connection Strings form under the GIS menu.

Åί	ucity Ac	dministratio	n 7.30 - Client: C	LINT015	- User: EDAI	NIEL	1	-	-								
Sy	stem	Dashboard	Navigation	Forms	Reports	GIS	Securi	ty Win	dows	Help							
							Connec	tion String	gs								
							Map Se	rvices									
							Map Set	tup									
A G	IS Conne	ction Strings															
	Name	E	dit Map Service Url		Database			Map Service User	Map Servic Password	ce	Server	Instance	Version	UserName	Password	AuthenticationTyp	e DatabaseType
•	DEFAU	JLT htt	p://example.lucity.com:	6080/ L	ucityGIS		F	RCalhoun		-	Example	sde:sqlserver:Example	dbo.DEFAULT	GIS		DB	SDE 🔻
											"						
	Add Conn	ection String]		*Note: 0	Changes	will be persis	ted automatic	ally for valid	records	when you leave the	row		Delete			

- Name: This is simply a name for the connection. Note: You must have one connection named DEFAULT, so if you only have one geodatabase configured with Lucity, you must name the connection DEFAULT.
- Map Service URL: (Optional) This is the URL for a map service that is used by Lucity Desktop or Web to update feature class attributes in the SDE geodatabase.
- Database: This must contain the name of your SQL Server geodatabase. The database listed in this field is not the SDE repository database. Instead, it is the geodatabase that contains the infrastructure data that you want to integrate with the desktop. For Oracle geodatabases this must be blank. For Access or File geodatabase this is the path to the .mdb/.gdb.
- Map Service User: If the Edit Map Service URL is for a secured map service enter user name that has permissions to access the service.
- Map Service Password: Enter the password for the Map Service User.
- Server: (For SDE databases only) The name of the server that holds the SDE database
- Instance: (For SDE databases only) The name of the instance for the SDE database. This supports either spatial or direct connections.
- Version: (For SDE databases only) Designates the name of the geodatabase version that Lucity will use to connect to the geodatabase. For Oracle, the Version is case sensitive.

- UserName: If using DB authentication type you must specify a user. This database login will be used by Lucity to connect to the geodatabase.
- Password: If using DB authentication type you must also specify a password for the user.
- Authentication type: How Lucity will connect to the database. The desktop app will attempt to connect to the geodatabase using either Database Authentication or Operating System Authentication. If you specify DB you must also populate the UserName and Password fields.
- Database Type: Specify either SDE, Personal, or File.

ArcCatalog/Map Connection String

Da	tabase Connection			×	1								
	Database Platform:	SQL Server		•									
	Instance:	sde:sqlserver:Example	e	-									
	Authentication Type:	Database authentication										1	
		User name: GIS	\$	_				-					
		Password:	••••							-			
		Save user name and pas	sword										
	Database:	LucityGIS											
	About Database Connections		ОК	Cancel									
			Г										
Lu	city Connection	String											
"Д	GIS Connection Strings												
Γ	Name Edit	Map Service Url	Database		Map Service User	Map Service Password	Server	Instance	Version	UserName	Password /	Authentication Type Database	Гуре
Þ	DEFAULT http:	//example.lucity.com:6080/	LucityGIS		RCalhoun		Example	sde:sqlserver:E	ample dbo.DEFAULT	GIS	0	B 👻 SDE	-
•	[m						

System Settings

There are various settings for Lucity GIS that are maintained under System Settings.



GIS Edit Integration Tab

The GIS Edit Integration tab of system settings contains the options that impact how the Lucity application will update the geodatabase.

Ă Syste	m Settings
Арре	rance Designer Automation Documents Email General GIS 3rd Party Integrations GIS Desktop GIS Edit Integration GIS Routing GIS Web
	Description Value
	GIS/Lucity Edit Integration - Allow unversioned geodatabase edits to enterpris FALSE
	GIS/Lucity Edit Integration - Disable all updates to the geodatabase from Lucity TRUE
	GIS/Lucity Edit Integration - Make fields shared with the geodatabase always FALSE
	GIS/Lucity Edit Integration - Make Lucity fields integrated with the geodataba FALSE
	GIS/Lucity Edit Integration - Prevent saving Lucity record if GIS update fails FALSE
•	List of emails for notifications regarding failures to update the GIS database nscdasdt1@lucity.com
	Send an email if no feature is found in GIS to update TRUE
	Save

- **GIS/Lucity Edit Integration**: Allow unversioned geodatabase edits to enterprise geodatabase: This allows edits to be made to unversioned geodatabases.
- **GIS/Lucity Edit Integration**: Disable all updates to the geodatabase from Lucity: This prevents the geodatabase from being updated with edits made in Lucity desktop and web.
- **GIS/Lucity Edit Integration**: Make fields shared with the geodatabase always read only. Any field that is shared with the geodatabase will be set as read-only in Lucity desktop and web.
- **GIS/Lucity Edit Integration**: Make Lucity fields integrated with the geodatabase read only if the geodatabase cannot be updated. If a connection to the geodatabase fails when loading a form, all fields integrated with the geodatabase will be read-only.
- **GIS/Lucity Edit Integration**: Prevent saving Lucity record if GIS update fails. This does not apply to the desktop application. If a modification is made to a record in Lucity and the geodatabase fails to get updated this will prevent the record in Lucity from being saved.
- List of emails for notifications regarding failures to update the GIS database: Provide a comma delimited list of email addresses that should receive notification if the geodatabase failed to get updated with an edit when using the Lucity Data Update SOE.
- Send an email if no feature is found in GIS to update: Sends an email when the Lucity Data Update SOE cannot find a feature in the geodatabase to update. This is sent to the list specified in the "List of emails for notifications regarding failures..." setting.

Notes: ____

GIS Desktop Tab

The GIS Desktop tab of system settings contains many of the editing options for the Lucity GIS tools

Арреа	arance	Designer Automation	Email	General	GIS	GIS 3rd Party Integration	ons GIS Desktop	Object Locking	REST API	Settings with custom in		
	Des	cription					Value					
•	Add :	sewer service address t	o custor	ier address	module		FALSE					
	Add :	street name records to t	he Stree	Name Lis	that do	n't exist	FALSE					
	Add	water service address to	o custom	er address	module		FALSE					
	Autor	matically insert a sewer	structure	for each n	ew sewe	er pump station	FALSE					
	Autor	matically insert a storm s	structure	for each n	ew storm	detention basin	FALSE					
	Autor	matically insert a storm s	structure	for each n	ew storm	pump station	FALSE					
	Defa	ult location for map exp	orts				\\gbams-dev-01\t\TestData\Documents					
	Form	at for map exports					pdf FALSE 30 P P P					
	Log	gbaMS edit session to 0	GBACom	n.GBAELO	G							
	Num	ber of days to keep item	ns in GBA	Comm.GB	AELOG							
	Sewe	er Parallel Pipe Naming	Convent	on Index								
	Stom	n Parallel Pipe Naming (Conventi	on Index								

- Add sewer service address to customer address module: Set this option to true if you want the sewer service address added to the Customer Address module.
- Add street name records to the Street Name List that don't exist: Set this option to true if you want street name records that do not exist added to the Street Name List.
- Add water service address to customer address module: Set this option to true if you want the water service address added to the Customer Address module.
- Automatically insert a sewer structure for each new sewer pump station: Set this option to true is if you want a sewer structure added for each new sewer pump station.
- Automatically insert a storm structure for each new storm detention basin: Set this option to true if you want a storm structure added for each new storm detention basin.
- Automatically insert storm structure for each new storm pump station: Set this option to true if you want a new storm structure added for each new storm pump station.
- Default location for map exports: This option allows you to choose the location that you would like to store the map images you save when creating a new work order, request, etc.
- Format for map exports: This option allows you to choose the file type for the map exports.

Lucity Desktop

Show in Map Configuration (Single User)

The GIS Show in Map configuration is a user-based setting. This window allows you to choose a custom programmed component for the desktop application to use in place of the default component. You can then select the parameters that the system passes to the component.

Note: Since this window determines what GIS project is displayed, it must be defined before initial use of the Show in Map button.

- 1. Select *System>>Configuration>>GIS>>Show in Map* to open the configuration window.
- 2. In the ArcMap Project for Display field, browse to the location of your standard ArcMap project. By default, this map will be displayed whenever you click the Show in Map button in either your desktop version of the desktop application. Note: If you do not have a project set up, the web map will be the default.

GIS - Show In Map Configuration
ArcMap Project for Display
If no project is specified, the default web map for this user will be opened.
Show In Map
Component Lucity.ShowInMap.exe
Parameters: /Client Number /GeoDatabase Table Name /GeoDatabase ID Field Name /Asset ID
Include comma delimited lists of all possible feature classes
X/Y Component
Component Lucity.ShowInMap.exe
Parameters xcoord ycoord
Work Order Component
Component Lucity.ShowInMap.exe
Parameters WO_ID
- Add to Work Order Component-
Component Lucity.ShowInMap.exe
Parameters WO_ID
Add X/Y to Work Order Component
Component Lucity.ShowInMap.exe
Parameters W0_ID
Change to Default OK Cancel

Show in Map Function

The Show in Map function allows you to set the map document to display on a per-module basis. This is useful if you have a separate map document for each asset type. For example, you may have one ArcMap project for sewer features, another for water features, and a third for street features. You can set up the Show in Map function for all *Sewer* modules to open your sewer map, and set up the Show in Map function for all *Sewer* modules to open your sewer map, and set up the Show in Map function for all *Water* modules to open your water map. Additionally, you can use the Show in Map function from equipment features that are not in the map if the parent feature is in the map.

To specify a different ArcMap project for each module, complete the following steps:

1. Click the down arrow located to the right of the Show in Map tool in the desired module in the desktop application.

no file is specified then it means that there hasn't been an .mxd

- View/Set Map Settings Show in Map Show in Web Map
- A sub-menu will appear; click "View/Set Map Settings"
 A dialog will appear showing you the currently specified .mxd. If
 - associated with this module yet.

 Select .mxd Files

 K
 Cancel

 K
 Cancel
- 4. To associate a new .mxd click the browse button and navigate to the location of the .mxd. Click OK.

Note: If no special Show in Map project is setup for a module, the system will use the project specified under System>>Configuration>>GIS>>Show in Map (Show in Map Configuration dialog).

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ArcCatalog

Lucity Show in Map Configuration Tool

The Show in Map Configuration tool allows system administrators to set show in map settings for multiple users. This can save a lot of time, especially if they manage which maps their users access, and if a generally used map changes. To access the Show in Map Configuration tool, go into ArcCatalog, click on the Lucity GIS Tools button and select Show in Map Configuration.

Lucity GIS Tools 🕶 🤤	
Geodatabase Configuration	
Show In Map Configuration	
Default Fields Setup	Lucity Show In Map Configuration
Update Geodatabase Values	Configures the desktop Show In
Update Show in Map Flag	Map settings for multiple users
QA/QC	1

The following dialog will appear:

Show In Map Configuration #1-Select Method Groups Users		Default MXD: C:\Users\edaniel\D	esktop\740Demo.mxd Clear Se	etting
Select Group(s) Administrator GIS Administrator GIS Administrator GIS User Jonathan Test NoAccess Security Noels Security Test Noels Test VotifivebGroup test Victoria's Test Group WebAppPermissionsTesting - Victori WorkOrderReadOnly	Select User(s) Administrator a dowles a johnson arobison arobison bbb B B B bbb B B B bbb B B B B binkston B B B B B B B B B B B B B B B B B B B	Module Specific MXD: "Settings I Module Work/MasterProjectAssets Work/MasterProjectManagement Work/PMTemplateAsset Work/PMTemplateLocation Work/WorkOrderLocation Work/WorkOrderLe Work/WorkOrder Work/WorkOr	sted in red indicate the setting is not applied to all selected use MXD C:\Lucity\Data\GIS\sql.mxd	ers
	Select All	•	111	4

To select a Group(s) to configure:

- 1. Choose the Group Select Method.
 - The Select Group(s) grid will be activated. (these groups are from the Lucity Security program)
- 2. Select one or more groups in the grid.
 - The users in those groups will be checked in the Select User(s) grid, but the selection will be read-only.
 - The module settings for the selected users are also displayed in the field and grids to the right.

To select a User(s) to configure:

- 1. Choose the Users select method.
 - The Select Group(s) Grid will be deactivated. The Select User(s) grid will be editable.
- 2. Select the user(s) to configure.
 - The module settings for the selected users are also displayed in the field and grids to the right.

To configure the show in map for selected users:

- 1. Set the Default MXD for the program. Either enter the path, or click the ... button and navigate to the desire MXD
- 2. In the Module Specific MXD grid right-click and select Add. The following screen will popup:

💀 Module Setting	
Select Module(s):	
Common	
Electric Era inment	
B-Park	
B - Sewer	
Storm	
- Water	
. Work	
Module MXD:	
Analy	
mppry	Carlcel

- 3. Select the modules to set a map for. Selecting a program will select all the modules under that (i.e. Selecting Park will select every park module.)
- 4. Near the bottom of the popup click the ... button to select the .mxd to be used with the show in map for those modules.
- 5. After selecting the .mxd click Apply.
- 6. A record will appear in the right hand grid for each module, with the path to the .mxd.

Note: Existing show in map settings can be modified by right-clicking on them and selecting either Edit or Delete from the submenu:

Module Specific MXD: *Settings listed in red indicate the setting is not applied to all selected users						
Module	MXD					
Work Master Project Assets	- <u> </u>	<mark>`</mark> G S∖sql.mxd				
Work Master Project Managemen	Add	IS\sql.mxd				
WorkPMTemplateAsset	Edit	IS\sql.mxd				
WorkPMTemplateLocation	Delete	IS\sql.mxd				
WorkPMTemplate	C. YEDOKY YEDOK	a valS∖sql.mxd				
WorkWorkOrderAsset	C:\Lucity\Dat	a\GIS\sql.mxd				

Lucity Geodatabase Configuration Tool

Once you have created the geodatabase connections with the Lucity Administration tool you can use the Lucity Geodatabase Configuration tool in ArcCatalog to perform all other configurations.

In ArcCatalog, Click on Lucity GIS Tools>>Geodatabase Configuration.



The following dialog will appear:

+ Geodatabase Configuration for Lucity	
Geodatabase Configuration for Lucity	Connection Properties Version Setup Workspace Type: SDE Personal Geodatabase Connection Properties Database Location: File Geodatabase Connection Properties Database Location: Enterprise Geodatabase Connection Properties Server: PL-DIM3100-01 Service: sde.sqlserver:PL-DIM3100-01 Database: LuctyGIS730 © Database Authentication Username: GISAdmin Password: © Operating System Authentication V = DOD DEFAULT
	Operating System Authentication Version: DBO.DEFAULT Test Connection URL: URL: Update From Lucity Replica Geodatabase

This tool can be used to perform the following activities which are described in detail in the Geodatabase Configuration Overview session:

- Modify and test geodatabase connection properties
- Indicate if geodatabase should be updated from Lucity and if it is a replica
- Specify which versions of the geodatabase should have edits pushed to Lucity
- Add/Modify/Delete feature classes, spatial relationships, number generators
- Add/Modify/Delete feature class field mappings
- Create/Synch feature class domains
- View and configure feature class alias names

Connection Properties

The Connection Properties tab shows you the geodatabase connection information.

Connection Properties Version Setup
Workspace Type: SDE
Personal Geodatabase Connection Properties Database Location:
File Geodatabase Connection Properties Database Location:
Enterprise Geodatabase Connection Properties
Server: PL-DIM3100-01
Service: sde:sqlserver:PL-DIM3100-01
Database: LucityGIS730
Oatabase Authentication
Username: GISAdmin
Password: ••••••
Operating System Authentication
Version: DBO.DEFAULT
Test Connection
URL:
Update From Lucity 📄 Replica Geodatabase

- To setup a Personal or File geodatabase browse to the database location.
- ArcSDE setup is as follows:

Enterprise	Geo	Salabase Connection Properties
Server:	PL-D	M3100-01
Service:	515	1
Database	G	BAGIS
💿 Datab	ase A	uthentication
Usem	ame:	GISAdmin
Passw	bron	•••••
O Opera	ting S	ystem Authentication
Version	dbo.	Default
	Г	Test Connection

- 1. Server: This must contain the name of the machine where ArcSDE is installed
- 2. Service: The only thing that will differ between an ArcSDE spatial connection and a direct connection is the information stored in this field.
 - Spatial Connect: This field should contain the port where ArcSDE is installed. By default this is typically 5151. Do not include the /tcp identifier; enter only the number for the port.
 - **Direct Connect:** Enter the name of the direct connect driver and the name of the "sde:sqlserver:GIS_SERVER\DATA."
- 3. Database: This must contain the name of your SQL Server geodatabase. The database listed in this field is not the SDE repository database. Instead, it is the geodatabase that contains the infrastructure data that you want to integrate with the desktop. For Oracle geodatabases this must be blank.
- 4. Authentication type: Used by Lucity to connect to the geodatabase

- UserName: If using DB authentication type you must specify a user. This user must have permission to ALL feature classes linked to Lucity.
- **Password:** If using DB authentication type you must also specify a password for the user.
- 5. Version: This information is always required; it designates the name of the ArcSDE version that Lucity will use when connecting to the geodatabase. For Oracle, the Version is case sensitive.

The connection properties tab also contains the following fields.

URL:		
🗸 Up	date From Lucity	🔲 Replica Geodatabase

- 1. URL: (Optional) The map service used to push edits to the geodatabase when using the Lucity Data Update SOE
- 2. Update From Lucity: This indicates if the geodatabase should be updated with edits made in the Lucity desktop and web interfaces
- 3. **Replica Geodatabase**: This indicates if the geodatabase is a replica geodatabase. If this is checked, functionality with the configuration tool will change preventing some actions (such as deleting feature classes) and enable other actions (such as associating feature classes)

Notes:	 		

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Validating the Geodatabase Configuration

You can validate against the entire geodatabase or individual feature classes. There are two parts to the geodatabase verification: verification of the geodatabase setup based on *Lucity* requirements and business rules, and verification of the custom geodatabase setup against your geodatabase to ensure that the setup is valid based on your data structure. Initially, only the verification of your custom geodatabase setup based on *Lucity* requirements is performed. If no critical errors are encountered during that verification, it will continue the verification and validate against your custom geodatabase to make sure feature class names, field names, and field types are valid based on your setup.

Validating Against Geodatabase

1. Right-Click on the geodatabase node and select Validate.



- Immediately upon clicking this tool, a dialog similar to the one shown below will be displayed with results of the verification. Once it is complete you will be able to scroll down and view any messages resulting from verification.
- This label displays the current feature class being validated. If any warnings or errors are found relating to the feature class, they will be displayed below the feature class label with "Warning" or "Error." Errors are highlighted in red.

닉는 V	alidation Results		
File	• •		
Valid	ating Setup Requirements General Custom Facility Buildings Facility Door Warning, I Equipment Fleet : I Facility Eloor	CMGENINVG EFBLDGG EFDODGG festing Optional Feature Dass Parent Common ID and AutolD Link Fields EFEQUPG EFFLEETE OPDG	
	Facility Furning: N Facility Furnishing Warning: N Facility Roof Warning: N	fissing Optional Feature Class Parent Common ID and AutoID Link Fields EFFURNS EFFURNS EFRODRINVG EFRODRINVG Feature Class Parent Common ID and AutoID Link Fields	
	Facility Room Warning: M Facility Site Asset Warning: M Facility Site	EFRODMSG tissing Optional Feature Class Parent Common ID and AutoID Link Fields EFSASSETG tissing Optional Feature Class Parent Common ID and AutoID Link Fields EFEOTEC	
	Intersection Network Park Courts	: INTNETG PKCOURTG DVFCNING	~

 Once the initial verification is complete, any errors that are found will prompt the following message and you will be unable to continue the validation until the errors are addressed.

	ucity G	× ×
4	⚠	Failed validation tests! Critical errors were found with your GIS configuration. Review the validation results for errors. You will likely experience issues with the Lucity GIS tools until these errors are resolved.
		ОК

2. When the validation is complete, a message box will appear indicating if the validation result was successful or failed. The validation Results window will remain open. Again, any errors found will be highlighted in red. You can copy the results of this dialog into another file, or you can select File>>Save or File>>Print to print the results.

🗶 Yalidation Results	
76 A	
Rev Water System Values WTREVUS Rev Water Spoten Values WTREVUS Rev Water Stonge Dat WTREVUS Rev Water Stonge Dat Water Sender WTSERVCB Water Sender WTSERVCB Water Sender Initial Verification 1 Water Sender Initial Verification 2 Water Sender Source WTSERVCB Water Source WTSERVCB Water Source WTSERVCB Water Source WTSERVCB Water Source Source Source Source Source WTSERVCB Water Source Sour	

Validating Against a Feature Class

Right-Click on the feature class you want to validate and select Validate.

ㅓ	Geodatabase	Configurati	ion for Lucity
1			
	— <mark>CMGENIN</mark> ⊕- EFBU	NG ZIN CMG Add	
	EFD0	Delete	
	EFEU	Validate	
	EFFL0 EFFUI	Domains	•

Note: The Process of validation is the same as <u>validating the geodatabase</u>. You will get results that look similar to the validation results for validating against the geodatabase.

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Default Fields Setup

The Default Fields tool allows you to set up additional fields for the editable grids that are displayed with the Lucity Module tool in ArcMap when creating Requests, Work Orders, PM Work/Templates, and Inspections.

These fields will be displayed in the grid in addition to the required fields (both system and userdefined required fields).

ᆉ	equired Fields for	TV Inspection				
	Inspection #	Asset	Associate Document	Document Path	TV Direction (Required)	Date Televised (Required)
Þ	1				•	9/22/2011
	2	119462			•	• <mark>9/22/2011</mark>
	Submit and View in Lucity Web Submit Only Cancel					

Setting up Default Fields

In ArcCatalog, Click on Lucity GIS Tools>>Default Fields Setup.



1. After you have logged in to the client, the following dialog will appear. Select the Lucity tool from the drop down menu.



2. After selecting the Lucity tool, the "Select a Lucity Module" option will open up. Select the module for which you are setting up default fields.

Step 2: Select a Lucity Module	
	-
Requests	
Work Orders	
PM Work/Template	
Inspections	

• If you selected Inspections in Step 2 then you will be prompted to select the inventory type for the inspection:



o Next, select the inspection module.

Step 4: Select a Lucity Inspection Module	
PACP Inspections	-
PACP Inspections	Ξ.
Pipe Air Testing	
Pipe Mandrel Testing	- 1
Sewer Building Inspection	- 1
Line Lamping	- 1
Smoke Testing	- 1
TV Inspection	
	 _

3. After specifying the module you can indicate if you would like to create a new default setting or modify an existing default. Note: If there are no current default settings for the selected module this option will be disabled.



4. After selecting the module and specify the option to create or modify, the following dialog will appear:



Note: The system default fields grid is not editable. This grid shows the fields that are required by the system and will always appear in the grid.

- 5. Check the fields in the "Main Fields" tab that you would like to make as default.
- 6. To select the users you would like the default fields to apply to, highlight the user in the

"Available Users" grid and click to move the user to the "Selected Users" grid. Note: If you wish the default field to appear for all users then select the "This is a global default" checkbox.

7. Click Save Setting to save the default fields to the module.

Update Geodatabase Value

This tool is designed to allow users to rapidly update the values in a feature class with the values from a related Lucity table. You'll use this tool if you've recently added a field to the Lucity database and need it to be added to your map.

To use this tool:

- 1. Select a feature class in ArcCatalog.
 - Lucity GIS Tools 🔻 ╤
- Then, click as roos and select the Update Geodatabase Value tool from the drop down menu. The following window will appear:



3. Select the field you wish to update from the list. Then click *OK*. You'll receive the following warning notifying you that this tool will overwrite the values for the selected field with new values. If you wish to continue, click *OK*.

Warning					
	This tool will overwrite the values fo	r the selected fie	eld with new values.	Are you sure you want to continue?	
		ОК	Cancel		

4. You'll be notified when the process is complete.



GIS Setup and Configuration (v7.6)

Update Show in Map Flag

You'll use this tool to run an update query on the show-in-map flag in the *Lucity* inventory modules.

To access the Update Show in Map tool open up ArcCatalog, select Lucity GIS Tools>>Update Show in Map Flag.

1. Select the type of map data that you use (Geodatabase or Shapefiles).

닉는 Map Data Selection	
Please select the map data th	at you use
Geodatabase	•
ОК	Cancel

2. After selecting the appropriate map data, the following dialog will appear. Select the module(s) you wish to have updated.

H Module Select	x
Please select module(s) to update Address/Parcel Bridges Equipment Facility Buildings Facility Door Facility Floor Facility Floor Facility Room Facility Ste Facility Ste Facility Ste Facility Ste General Custom General Custom General Custom Mailboxes Mast Arms Park Courts Park Cour	H
Park Fields Park Funiture/Amenities Park Ingation Controllers Park Ingation Valves Park Lights OK Cancel	•

3. The following dialog will appear confirming that you want to continue.



4. Once complete you will receive a dialog indicating the results



ArcMap

Additional settings can be configured to be used with the Lucity GIS tools in ArcMap. Some of these settings are saved with the map document (.mxd) while others are user specific.

These settings can be accessed by the Settings button on the Lucity GIS Edit Tools toolbar.

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		Various MXD and
		settings
💀 Lucity GIS Settings		
MXD Specific Settings		
Currently logged in client:	OL Server Development	
Current default client:		
New default client:		
Save new default client value		
User Specific Settings		
Search Tolerance: 17		
Disable 'Lucity will now be un when saving edits	pdated" prompt	
Disable Lucity Editor Extens	ion	
Show in Map for Requests:	Assets and Locations	
Show in Map for Work Orders:	Assets and Locations	
Show in Map for Routine:	Assets and Locations	
Symbology Defaults		
Save	Close El for hole	
Jave	- Fifor help	

MXD Specific Settings

Every time a user opens ArcMap and attempts to use a Lucity tool they are prompted for their Lucity login and password and if there is more than one Lucity client, they will be prompted for which client they are logging into. There are two things that can be setup to speed up this process:

Bypassing Login and password

The Lucity GIS tools support using Lucity Windows Authentication. Upon using a Lucity GIS tool the program checks to see who is logged into the computer and if that user has windows authentication configured. If it finds an associated Lucity account it checks to see if they have permissions to run the Lucity GIS tools. If the correct permissions are present the user is automatically logged in and the Lucity GIS tools are activated. This will stop users from being prompted for their login and password when they try to use the Lucity GIS tools. Lucity Windows Authentication must be setup by an administrator in the Security program.

Setting a Default Client

Part of the login process checks to see what Lucity client the user is logging into. If there is more than one client, the user will be prompted to choose a client every time they start ArcMap and try to use a Lucity GIS tool. To by-pass the client selection dialog, you can specify a default client that should be used for the .mxd.

- 1. In the settings dialog, select a client from the new default client list
- 2. Make sure the Save new default client value checkbox is checked
- 3. Click Save on the Lucity GIS Settings dialog form. A prompt similar to the following will appear:

Lucity GIS
The user specific settings have been saved. However, the MXD specific settings will not be saved until the .mxd is saved! Save the map document in ArcMap under File>>Save or File>>Save As.
ОК

4. Save the .mxd.

User Specific Settings

There are three user specific settings that can be saved. These settings will be used anytime the user logs into the Lucity GIS extension regardless of the .mxd or machine.

Default Search Tolerance

Users can set a new default search tolerance for Lucity GIS. This is used with all Lucity GIS tools that use a search tolerance. The system default is 7 map units. Alternatively, the search tolerance can be changed on the fly for a specific tool when it is selected by pressing Shift + F7.

Disable "Lucity will now be updated" prompt

Users can disable the editing prompt that lets them know that the Lucity editor extension is going to process the ArcMap edits.

Disable Lucity Editor extension

Users can disable the Lucity editor extension. This is useful if the user never or rarely edits feature classes linked to Lucity. Having this checked will prevent the extension to become active every time they edit the geodatabase linked to Lucity. Alternatively, the editor extension can be disabled directly on the Lucity GIS Editor toolbar; however, that setting only disables the extension for that session of ArcMap.

Show in Map for Requests/Work Orders/Routine

Work Orders, Requests, and PM/Work Templates can be displayed by the Show in Map tool several different ways. They can display the assets and/or the address and XY locations. These settings control how the Show in Map tool should work for the various modules. It will either show Assets, Locations, or both. The default is set to both.

Symbology Defaults

This allows users to specify lyr files as symbology templates for the following set of Lucity GIS tools: Lucity Views, View Work Frequency, View Work Locations and TV Observation tools.

- 1. In order to set symbology defaults, you first need to run the Lucity GIS tool you wish to have a default symbology template for. (Lucity Views, View Work Frequency, View Work Locations, or TV Observations).
- 2. Make any desired changes to the properties of the layer the tool generated. These changes can include:
 - Symbology changes (size, shape, color, etc.)
 - o Symbol levels

- o Labeling
- Scale Dependence
- o Fields Displayed
- o Etc...
- 1. In the table of contents right-click on the layer and select Create Layer File



- 2. On the Symbology Settings Form, find the related tool and layer.
- 3. Click the ... button and navigate to the location of the .lyr file. This must be repeated for each layer.
- 4. When complete, click Apply Changes.
- 5. The next time the Lucity GIS tool is ran, the results will use the settings stored in the .lyr file.

Notes: __

ArcGIS Server

Lucity Desktop and Web use ArcGIS Server and the Lucity SOE to make attribute updates to an SDE geodatabase. This allows users to edit fields in Lucity that are linked to the geodatabase and have the edits persist to the geodatabase.

Install the Lucity SOE

The following instructions are for ArcGIS for Server 10.1+. Please refer to the installation instructions provided with your Lucity install media for 10.0 instructions.

1. Log into ArcGIS Server Manager

ArcGIS Server Manager	
Enter your ArcGIS Server username and password:	
Usemane:	
Password:	

- 2. Click on Site at the top of the screen
- 3. Select Extensions on the left of the screen
- 4. Select Add Extension. The file selection screen will popup.

ArcGIS Serve	er Manager	Services	2 Site	Security	Logs	
GIS Server Web /	Adaptor Software Authoriz	ation				
Directories Configuration Store Clusters Machines Data Stores	Extensions Server object exter Click Add Extension 4 Add Extension	nsions allow you to add additi n to deploy your extension to Debug Settings	onal features to se ArcGIS Server.	rvices.		<u>Help</u>
Extensions	Name	Extension Descript	ion		Туре	
3	Lucity.GIS.SOE.soe	ELUCITY Metadata Provides I SOE and table	metadata access fo names from the GI	r Lucity to obtain field names S data where necessary	REST	×
		Lucity Data Provides - Update SOE the geoda	access for Lucity to atabase	make attribute updates to	REST	
	< ►					

5. Click Browse and navigate to the Lucity SOE file downloaded from the Lucity support site.

6. Click Add.

Add Extension	X
Browse to the extension	you want to deploy.
5 Extension:	Browse
	6 Add Control
	Add Cancel

7. The SOE is now installed. Make sure that the Lucity extensions are enabled on the desired map services.

Enable the Lucity SOE for a Map Service

When Lucity updates the SDE geodatabase using ArcGIS Server it uses a map service made up of Lucity features and the Lucity SOE to correctly update the geodatabase. The following diagram shows the logic the SOE uses to update the feature class.



Note:

- The map service must contain at least one feature class from the geodatabase that contains the features that Lucity will be updating. It is acceptable for the map service to contain all the feature classes that could be updated but this is not required.
- Map service can be new or existing

- Map service does not need to be included in any web maps
- The feature classes in the map service must be connected using a user account that has edit permissions. Note: If map service isn't going to contain all Lucity linked feature classes then the feature class at layer index = 0 in the map service must be connected using a user account that has edit permissions to ALL Lucity linked feature classes.
- The feature classes in the map service must be pointed to the version that Lucity should update.
- 1. To enable the Lucity Data Update SOE extension for a map service, Log into ArcGIS Server Manager



- 2. Click Services > Manage Services
- 3. Find the map service to use for the SOE update



- 4. Click on the map service to see its properties
- 5. Click on the Capabilities button

6. Check the Lucity Data Update SOE

ArcGIS Ser	ver Manager		Services	Site	Security	Logs
Manage Services	OGC Services	KML Network Links	Sharing			
Editing: <u>Site (root)</u>	> LucityGIS760_I	ERICDANIEL_LT			Help Save and I	Restart Cancel
General	Sele	ct and configure capabil	lities			
Parameters	E	Mapping (always enabl	led)	WCS		
Pooling		WMS		Feature Acc	ess	
Processes		Schematics		Mobile Data	Access	
Caching		Network Analysis		KML		
Item Description		WFS		Lucity Data	Update SOE	
	Мар	ping Configuration				
		1.5				

- 7. Click Save and Restart
- 8. If you have more than one geodatabase configured with Lucity, you will need to repeat these steps so that each Lucity linked geodatabase has a map service with the Lucity Data Update SOE enabled.

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Configure SOE settings in Lucity

After publishing the map service and enabling the SOE there are several options that must be reviewed inside the Lucity Administration tool

You must know the REST URL of the map service that has the Lucity SOE extension enabled. If you are unsure this information can be obtained in ArcGIS Server Manager on the Capabilities tab of the map service. The REST URL should have a path similar to:

http://<servername>/ArcGIS/rest/services/<servicename>/MapServer

Specify Edit Map Service URL

- 1. In the Lucity Administration Tool go to GIS > Connection Strings
- 2. Find the record which contains the connection properties for the data within the map service and update the URL field with the REST URL of the map service.

Note: Version 7.6 supports secured map services, so if using a secure map service you must also populate the Map Service User and Map Service Password fields in order for the Lucity SOE to have the ability to update the gdb.

GIS Connection Strings Edit Map Detabase Map Service Map Service Service Service Service									
	Name	Service Url	Dalabase	User	Password	Server	instance		
•	DEFAULT		C:\Lucity\Data\L						
	ESRI_SAMPLE		C:\Lucity\Data\E						
	replica		C:\Lucity\Data\L						

3. You will need to repeat this process for each geodatabase connection that contains feature classes linked to Lucity

Notes: ___

Configure GIS Edit Integration settings

- 1. In the Lucity Administration Tool go to GIS > Settings
- 2. The GIS Edit Integration tab contains all the settings used by the SOE.

X,	System	Setti	ngs									_ • ×
	Appeara	ince	Designer Automation	Documents	Email	General	GIS 3rd Party Inte	egrations	GIS Desktop	GIS Edit Integration	GIS Routing	GIS Web
		Description		Value								
	•	GIS/Lucity Edit Integration - Allow unversioned geodatabase edits to enterpris			edits to enterpris	FALSE						
		GIS/	Lucity Edit Integration -	Disable all upo	dates to t	he geodat	abase from Lucity	TRUE				
		GIS/	Lucity Edit Integration -	Make fields sh	nared wit	n the geod	atabase always	FALSE				
		GIS/	Lucity Edit Integration -	Make Lucity fi	elds inte	grated with	the geodataba	FALSE				
		GIS/	Lucity Edit Integration -	Prevent savin	g Lucity	record if G	IS update fails	FALSE				
		List o	f emails for notifications	regarding failu	ures to up	odate the (GIS database	nschmidt1@lucity.com				
		Send	an email if no feature is	s found in GIS	to updat	e		TRUE				
											Save	Cancel

- Allow unversioned geodatabase edits to enterprise geodatabase: This allows edits to be made to unversioned geodatabases.
- **Disable all updates to the geodatabase from Lucity**: This prevents the geodatabase from being updated with edits made in Lucity desktop and web.
- Make fields shared with the geodatabase always read only: Any field that is shared with the geodatabase will be set as read-only in Lucity desktop and web.
- Make Lucity fields integrated with the geodatabase read only if the geodatabase cannot be updated: If a connection to the geodatabase fails when loading a form, all fields integrated with the geodatabase will be read-only.
- **Prevent saving Lucity record if GIS update fails**: (Web Only) If a modification is made to a record in Lucity and the geodatabase fails to get updated this will prevent the record in Lucity from being saved.
- List of emails for notifications regarding failures to update the GIS database: Enter a comma delimited list of email addresses. This list will receive emails when the Lucity Data Update SOE fails to update the geodatabase.
- Send an email if no feature is found in GIS to update: Sends an email when the Lucity Data Update SOE cannot find a feature in the geodatabase to update. This is sent to the list specified in the "list of emails for notifications regarding failures..." setting.
- 3. After you are finished reviewing the settings, click Save. You have completed the steps necessary to properly configure the Lucity SOE.