

# Winona County GIS Infrastructure

## Software:

**ESRI** (*Environmental Systems Research Institute*) Software Products

ArcGIS 9.1 – 2 ArcInfo Licenses

*ArcGIS 9.1 Extensions (Spatial Analyst, 3D Analyst, Network Analyst)*

ArcPad 6.0.1

ArcView 3X – 3 Licenses

ArcIMS 9.1

ArcSDE 9.1

SQL Server 2000

Freeance (Middleware)

# Winona County GIS Infrastructure

## Hardware:

### Computers:

2 – HP Workstations (XW8000)

3 – HP Desktop PC's

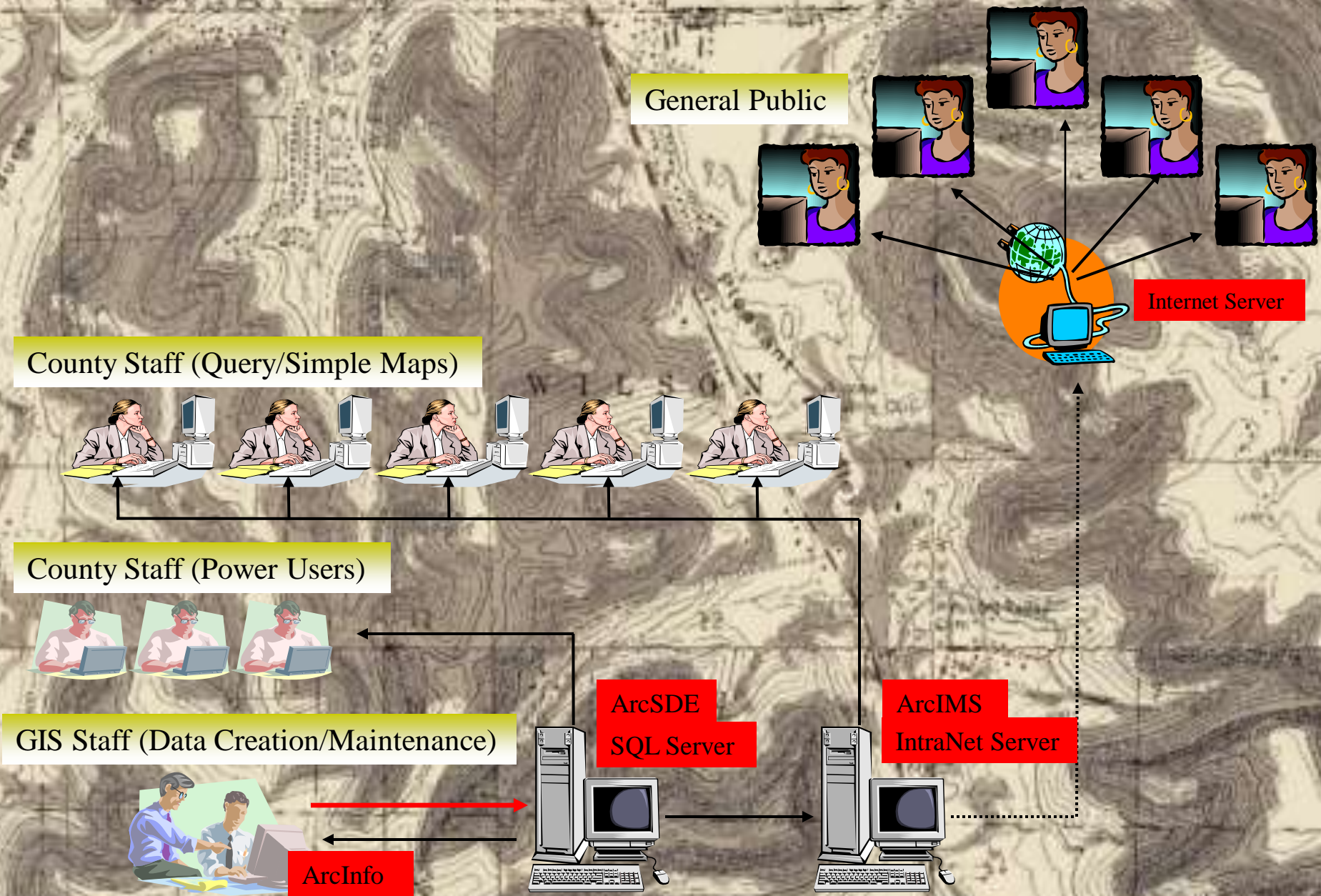
2 – GPS Units (Trimble GeoXT, Thales Mobile Mapper CE)

### Servers:

1 – HP Server – ArcIMS Server

1 – HP Server – ArcSDE & SQL Server 2000 Server

# Winona County GIS Infrastructure



# Winona County Parcel Data Development

## Parcel Development Process:

- \* Formed small GIS/Land Records working group
  - \* Administration, Auditor, Assessor, Environmental Services, I.T., Planning, Survey, Recorder
- \* Identified benefits to GIS retrieval of Parcel Data ((2-3 months)(3<sup>rd</sup> attempt))
- \* Decision to “out-source” parcel creation due to lack of staff

# Winona County Parcel Data Development

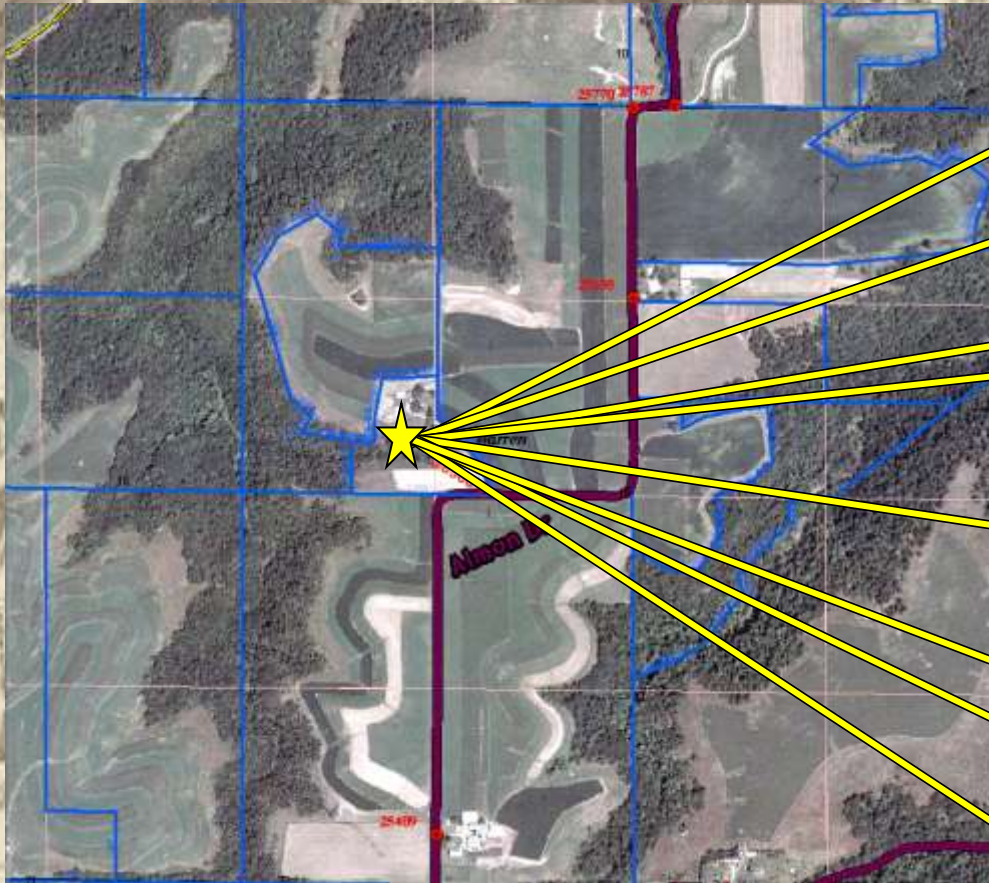
## Goal

- \* A digital representation of individual parcel/property lines within Winona County

## Purpose

- \* Accurate, efficient access to land records
- \* Improved public services and improved public access to data
- \* Data Uses: Property Location Mapping, Public Safety Issues, Public Notifications, Planning Determinations, Parcel Area/Characteristic Determinations, Property Sales Trend Maps, Disaster Scenario Planning, School Resource Planning, Voting/Re-Districting, Non-Spatial Data Retrieval (portal)...

# Winona County Parcel Data Development



Four screenshots of a GIS data development software interface, showing various data windows and tables. The windows are arranged in a 2x2 grid. The top-left window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation', 'Area', 'Perimeter', 'Volume', 'Elevation'. The top-right window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation', 'Area', 'Perimeter', 'Volume', 'Elevation'. The bottom-left window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation', 'Area', 'Perimeter', 'Volume', 'Elevation'. The bottom-right window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation', 'Area', 'Perimeter', 'Volume', 'Elevation'.

A screenshot of a GIS data development software interface showing a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation'. The table contains several rows of data.

Three screenshots of a GIS data development software interface showing various data windows and forms. The top-left window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation'. The top-right window shows a table with columns for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation'. The bottom window shows a form with fields for 'Parcel ID', 'Area', 'Perimeter', 'Volume', 'Elevation'.

# Winona County Parcel Data Development

## Parcel Development Process:

- \* Research RFP and Parcel Data Models (1-2 months)

- \* Selected ESRI's Parcel Data Model for Data Structure – simplified RFP by reference industry standard

- \* RFP contained Pilot Township for process verification/modification

- \* Vendor Selection (2 months)

- \* Total of Three Responses – (Bid Range (\$77,200 – 405,000))

- \* Contract awarded to ProWest Inc. – \$132,000 (~12,000 parcels)

# Winona County Parcel Data Development

## Quick Facts:

- \* Project Start Date: April, 2005
  - \* Locate and Obtain all scanned data (plats, surveys, assessor data, R.O.W.'s etc...)
  - \* Download Complete AS400 data set (PIN's, document numbers and legal description)
    - \* AS400 legal descriptions only partially complete – estimated 40 – 50%
  - \* Research Auditor/Assessors field cards to gather any more deed document #'s or dates
  - \* Create temporary database to hold PIN # , deed document & dates from research
- \* Sit back and wait...

# Winona County Parcel Data Development

\* Vendor **Data Requests** Begin to Arrive!!

Parcels required legal description research	Research (% of original request)
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•DR – 188 of 402	(47%)
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•EL – 105 of 416	(25%)
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•FR – 90 of 381	(24%)
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•HR – 114 of 339	(34%)
------------------	-------

•HL – 112 of 493	(23%)
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•HM – 475 of 882	(54%)
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•MV – 139 of 325	(43%)
------------------	-------

•NH – 293 of 721	(40%)
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•NR – 171 of 455	(38%)
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•PH – 151 of 460	(33%)
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•RM – 302 of 499	(61%)
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•RL – 460 of 744	(62%)
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•SC – 174 of 452	(38%)
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•SR – 89 of 460	(19%)
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•UT – 153 of 406	(38%)
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•WR – 240 of 494	(49%)
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•WT – 104 of 409	(25%)
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•WL – 494 of 798	(62%)
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•WS – 109 of 355	(31%)
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•Total Deeds provided to vendor for

•Townships = 4,237 (as of 01/25/06) \*\*see note below

# Winona County Parcel Data Development

## Quick Facts:

- \* Vendor Data Request for roughly 50% of parcels
  - \* Requests include primarily deed research
    - \* Use temporary database created for PIN to deed relationship –30% of requests
    - \* Provide Auditor with list of PIN's – Auditor provides parcel creation date and or document#
    - \* Provide Recorder with parcel creation date to research return actual deeds or deed #
    - \* Deeds since 1989 are obtained digitally and saved as .pdf files
    - \* Deeds prior to 1989 are obtained by Records Office and scanned into .pdf files
- \* Filled Data Request are uploaded to Vendor Website - paperless
- \* Sit back and wait...

# Winona County Parcel Data Development

\* **Discrepancy** Lists Begin to Arrive!!

Parcels required legal description research	Additional research (% of original request)	Discrepancies (% of Total)			
•DR – 188 of 402	(47%)	<i>pending</i>			
•EL – 105 of 416	(25%)				
•FR – 90 of 381	(24%)	22	(24%)	25	(7%)
•HR – 114 of 339	(34%)	32	(28%)	32	(9%)
•HL – 112 of 493	(23%)				
•HM – 475 of 882	(54%)	<i>pending</i>			
•MV – 139 of 325	(43%)				
•NH – 293 of 721	(40%)	101	(34%)	112	(16%)
•NR – 171 of 455	(38%)				
•PH – 151 of 460	(33%)	40	(26%)	40	(9%)
•RM – 302 of 499	(61%)	<i>pending</i>			
•RL – 460 of 744	(62%)				
•SC – 174 of 452	(38%)				
•SR – 89 of 460	(19%)	41	(46%)	43	(9%)
•UT – 153 of 40	(38%)				
•WR – 240 of 494	(49%)	<i>pending</i>			
•WT – 104 of 409	(25%)				
•WL – 494 of 798	(62%)	<i>pending</i>			
•WS – 109 of 355	(31%)	38	(35%)	41	(12%)

Total Deeds provided to vendor for Townships = 4,237 (as of 01/25/06) \*\*see note below -Does Not Include Municipalities

# Winona County Parcel Data Development

## Quick Facts:

- \* Vendor Discrepancy List for roughly 10% of parcels
  - \* Requests include primarily more deed research
    - \* Incomplete legal descriptions
    - \* Gaps between or Overlaps between adjacent parcels
    - \* Contradiction between aerial photos and legal description
    - \* Suspected distance, direction or reference conflicts in legal description
    - \* “Empty” legal descriptions (excepting everything just described)
- \* “Irresolvable” parcel discrepancies will be reviewed by committee

# Winona County Parcel Data Development

## Quick Facts:

- \* 16 of 19 Townships Completed (first round)
- \* 4 of 12 Municipalities (first round)
- \* 9,282 Parcels complete and attributed
- \* Over 5,300 legal descriptions to ProWest
- \* Over 700 discrepancies to resolve (10% of parcels)

# Winona County Parcel Data Development

## Quick Facts:

- \* All Data securely stored in SQL Server Database
- \* Links to TAX and CAMA system in place
- \* Link to TriMinn (recorded documents) scanned images planned
- \* [Internal Website](#) to view project progress

# Winona County Parcel Data Development

## Financial Facts:

- \* Project Cost: \$132,470 (not to exceed)

- \* Expense Incurred: \$80,560

- \* Expense Outstanding: \$51,910 (not to exceed)

# Winona County Parcel Data Development

## Parcel Data Structure

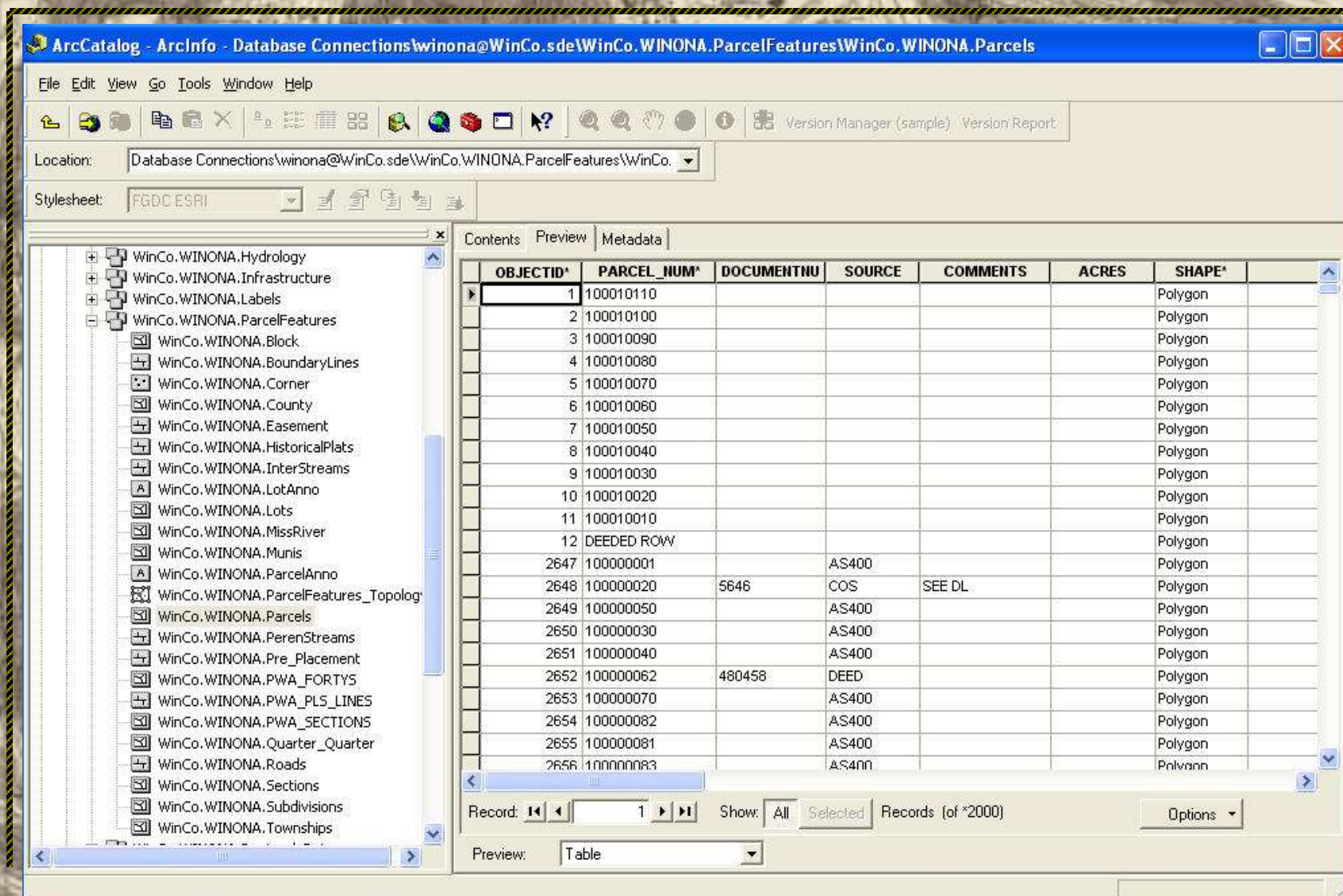
The screenshot displays the ArcCatalog interface with the following details:

- Title Bar:** ArcCatalog - ArcInfo - Database Connections\winona@WinCo.sde\WinCo.WINONA.ParcelFeatures
- Menu Bar:** File Edit View Go Tools Window Help
- Location:** Database Connections\winona@WinCo.sde\WinCo.WINONA.ParcelFeatures
- Stylesheet:** FGDC ESRI
- Left Panel (Tree View):** A hierarchical list of database connections and feature classes. The selected item is **WinCo.WINONA.ParcelFeatures**. Other items include: Add Spatial Database Connection, QA@WinCo.sde, sde@winco.sde, WinCo\_GIS@WinCo\_Raster.sde, winona1@WinCo.sde, winona@WinCo.sde, Address Locators, WinCo.WINONA.Administrative, WinCo.WINONA.Environmental, WinCo.WINONA.General, WinCo.WINONA.Geology, WinCo.WINONA.Hydrology, WinCo.WINONA.Infrastructure, WinCo.WINONA.Labels, WinCo.WINONA.Regional\_Data, WinCo.WINONA.Temp\_Misc\_Working, WinCo.WINONA1.Toms\_Temp, WinCo.sde.SLOPE\_ACRES\_SUM, WinCo.Winona.AS400\_Data, WinCo.Winona.FEEDLOTDATA\_110305, WINCO.WINONA.ROLL\_HAXTON, WinCo.Winona.SUM\_OUTPUT, WinCo.Winona.SUM\_OUTPUT\_2, winona@WinCo\_Raster.sde, Address Locators, Coordinate Systems, GIS Servers, and Scalar References.
- Right Panel (Contents Tab):** A table listing the contents of the selected database connection.

Name	Type
WinCo.WINONA.Block	SDE Feature Class
WinCo.WINONA.BoundaryLines	SDE Feature Class
WinCo.WINONA.Corner	SDE Feature Class
WinCo.WINONA.County	SDE Feature Class
WinCo.WINONA.Easement	SDE Feature Class
WinCo.WINONA.HistoricalPlats	SDE Feature Class
WinCo.WINONA.InterStreams	SDE Feature Class
WinCo.WINONA.LotAnno	SDE Feature Class
WinCo.WINONA.Lots	SDE Feature Class
WinCo.WINONA.MissRiver	SDE Feature Class
WinCo.WINONA.Munis	SDE Feature Class
WinCo.WINONA.ParcelAnno	SDE Feature Class
WinCo.WINONA.Parcels	SDE Feature Class
WinCo.WINONA.PerenStreams	SDE Feature Class
WinCo.WINONA.Pre_Placement	SDE Feature Class
WinCo.WINONA.PWA_FORTYS	SDE Feature Class
WinCo.WINONA.PWA_PLS_LINES	SDE Feature Class
WinCo.WINONA.PWA_SECTIONS	SDE Feature Class
WinCo.WINONA.Quarter_Quarter	SDE Feature Class
WinCo.WINONA.Roads	SDE Feature Class
WinCo.WINONA.Sections	SDE Feature Class
WinCo.WINONA.Subdivisions	SDE Feature Class
WinCo.WINONA.Townships	SDE Feature Class
WinCo.WINONA.ParcelFeatures_Topology	SDE Topology

# Winona County Parcel Data Development

## Parcel Data Structure



ArcCatalog - ArcInfo - Database Connections\winona@WinCo.sde\WinCo.WINONA.ParcelFeatures\WinCo.WINONA.Parcels

File Edit View Go Tools Window Help

Location: Database Connections\winona@WinCo.sde\WinCo.WINONA.ParcelFeatures\WinCo.WINONA.Parcels

Stylesheet: FGDC ESRI

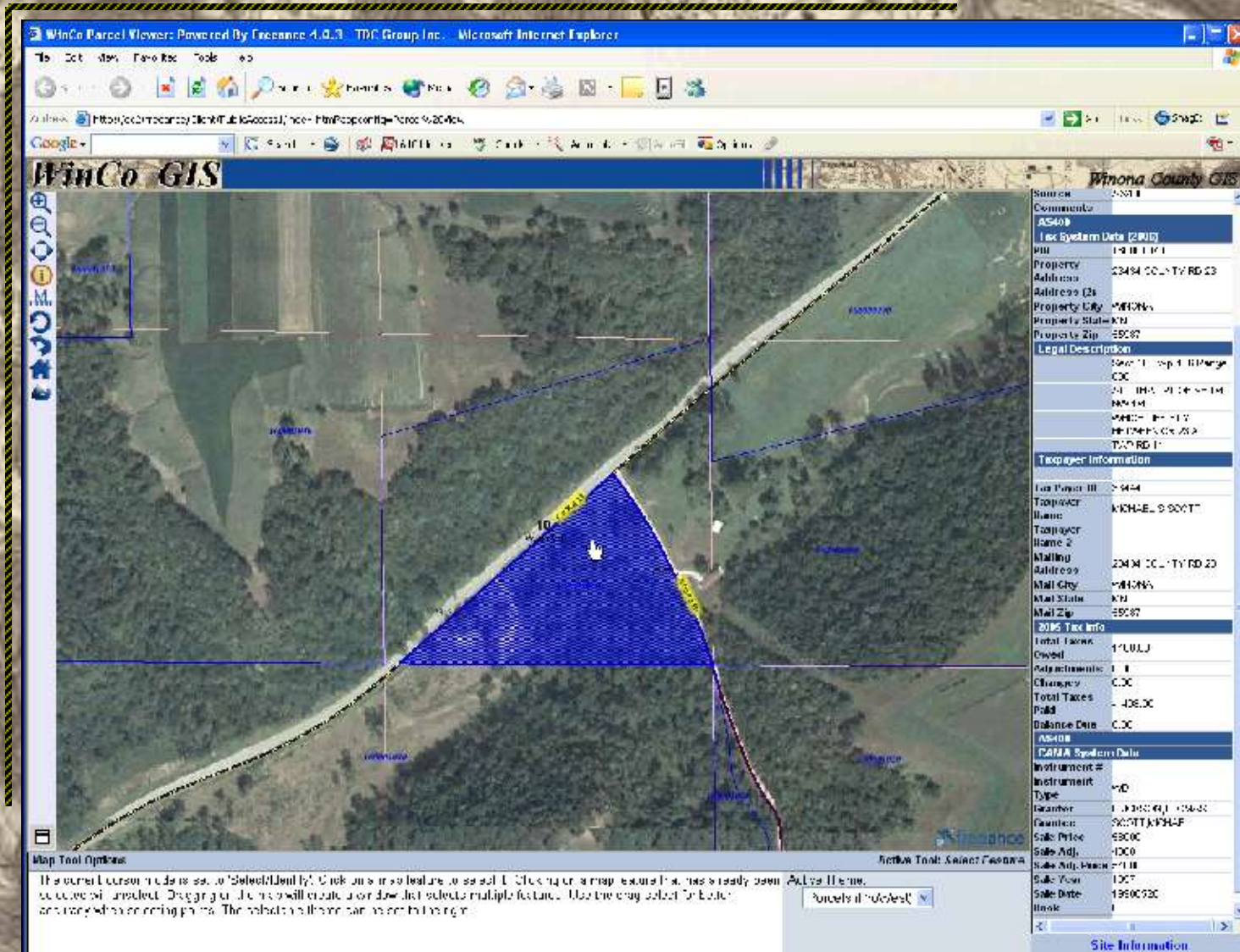
Contents Preview Metadata

OBJECTID*	PARCEL_NUM*	DOCUMENTNU	SOURCE	COMMENTS	ACRES	SHAPE*
1	100010110					Polygon
2	100010100					Polygon
3	100010090					Polygon
4	100010080					Polygon
5	100010070					Polygon
6	100010060					Polygon
7	100010050					Polygon
8	100010040					Polygon
9	100010030					Polygon
10	100010020					Polygon
11	100010010					Polygon
12	DEEDED ROW					Polygon
2647	100000001		AS400			Polygon
2648	100000020	5646	COS	SEE DL		Polygon
2649	100000050		AS400			Polygon
2650	100000030		AS400			Polygon
2651	100000040		AS400			Polygon
2652	100000062	480458	DEED			Polygon
2653	100000070		AS400			Polygon
2654	100000082		AS400			Polygon
2655	100000081		AS400			Polygon
2656	100000083		AS400			Polygon

Record: 1 Show: All Selected Records (of \*2000) Options

Preview: Table

# Internal Website



Manual\_ZoomIn\_Identify.avi

## Internal Website

# Winona County Parcel Data Development

## GIS/Land Records Committee

•Administration	-Bob Reinert
•Assessor	-Stephen Hacken
•Auditor	-Cherie MacLennan
•Community Health	-Lynn Theurer
•Environmental Services	-Jill Johnson
•Finance	-Blake Pickart
•Information Technology	-Mark Anderson
•Planning	-Nancy Spooner-Mueller
•Recorder	-Bob Bambenek
•Survey	-Pat Veraguth

**Questions/Comments:** Lonnie Meinke (GIS Analyst 457-6505)



# Short Break

# Winona County ArcSDE Development

# Bliss

# Eden



Kirvane Utonia

mmm maybe not quite

The Golden Rule

ArcSDE

Advanced Spatial

## ArcSDE

## Advanced Spatial Data Server

# Winona County ArcSDE Development

## ARCSDE: The Upside

Speed

Reliability

Robustness/Potential

Security

Restorability

Control

Multi-User Editing

Database Features

# Winona County ArcSDE Development

## ARCSDE: The Downside

Additional Software

ArcSDE

Windows/Command Line interface

Not quite ready for Prime Time – ArcGIS standard

Windows “Service”

SQL Server (or other RDBMS)

Heavy Equipment – Technology/World unto itself

Managing: Users/Permissions/Groups/DTS/  
Backups/Restores/SQL/Views/Queries

Additional Hardware – Servers/ Remote Administration

**\*\* NO ADDITIONAL BRAIN CELLS INCLUDED IN PACKAGE !!!**

# Winona County ArcSDE Development

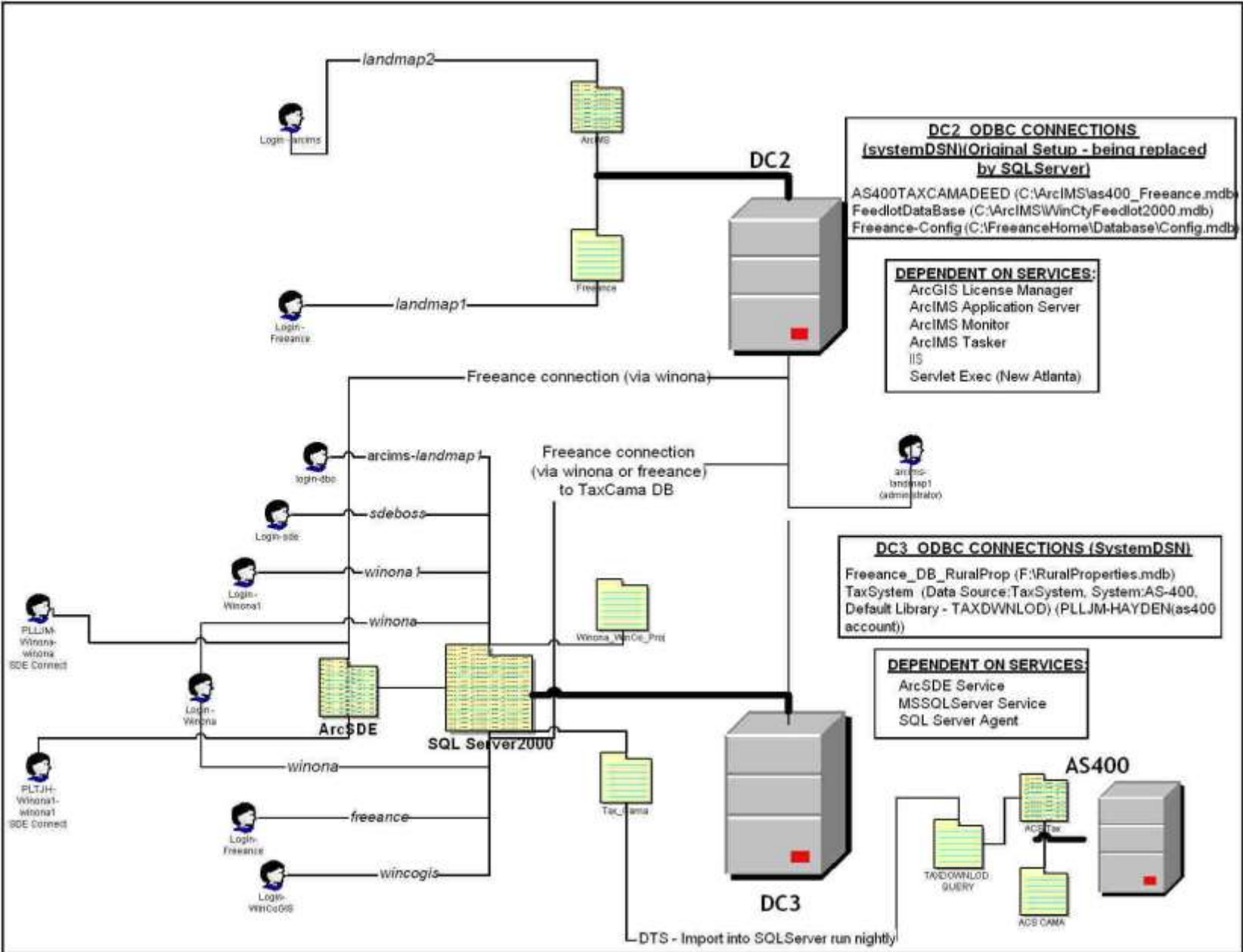
The ArcGIS/ArcSDE Environment – Concept is Simple

ArcGIS

ArcSDE

ArcIMS

# Winona County ArcSDE Development



# Winona County ArcSDE Development

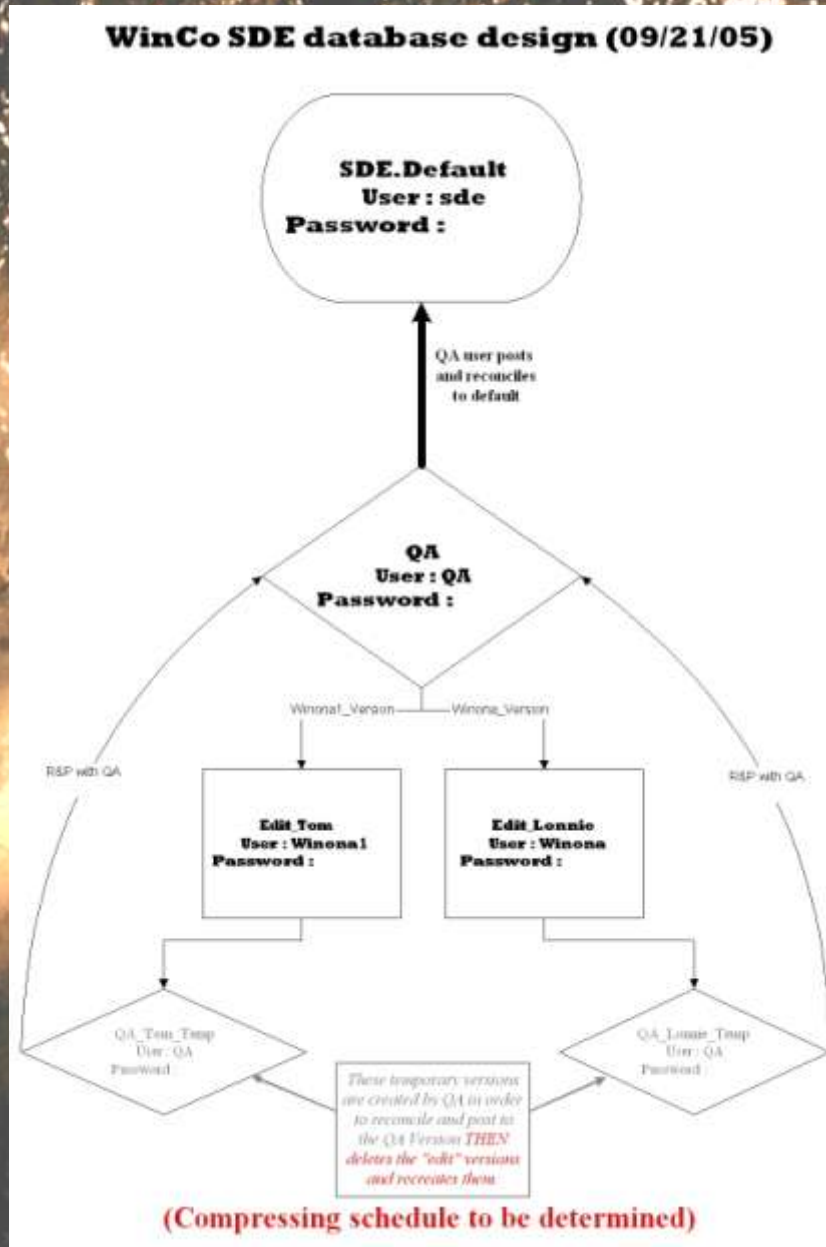
## Multi-User Editing

Reconcile

Post

Compress

Troubleshoot



# Winona County ArcSDE Development

## ARCSDE: The “Wrap”

Delivers most of what is advertised

Confident in Data Storage

Overhead

Overhead

Overhead

Need to occasionally defragment own brain

**Would recommend if data required it, budget allowed for it and/or staff levels present to maintain and administer it.**



**Short Break**

# SE MN User Group Discussion Topic ?

## Data Pricing/Policy

To charge or not to charge?

Methodology behind charge (cost justification)?

User Agreements

Redistribution - unlimited

Redistribution – not allowed

# SE MN User Group Discussion Topic ?



Microsoft Excel  
Worksheet