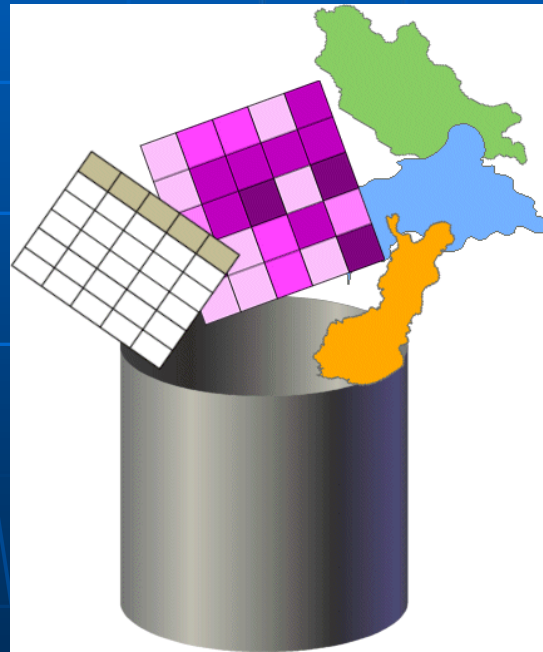




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Geodatabase Basics





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**So who is using GDB
now as their
primary GIS
format?**





Agenda

- What is the Geodatabase
- Things that can be stored in a GDB
- Types of Geodatabases
- Advantages of GDB
- Q & A



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What is the GDB?





The Geodatabase

- New ESRI Standard Format
- Replaces Coverages & Shapefiles
- Container for multiple data types
 - Raster
 - Vector
 - Tables
 - More...
- Scalable – Single user to multi-user/editor
- Allows for data validation





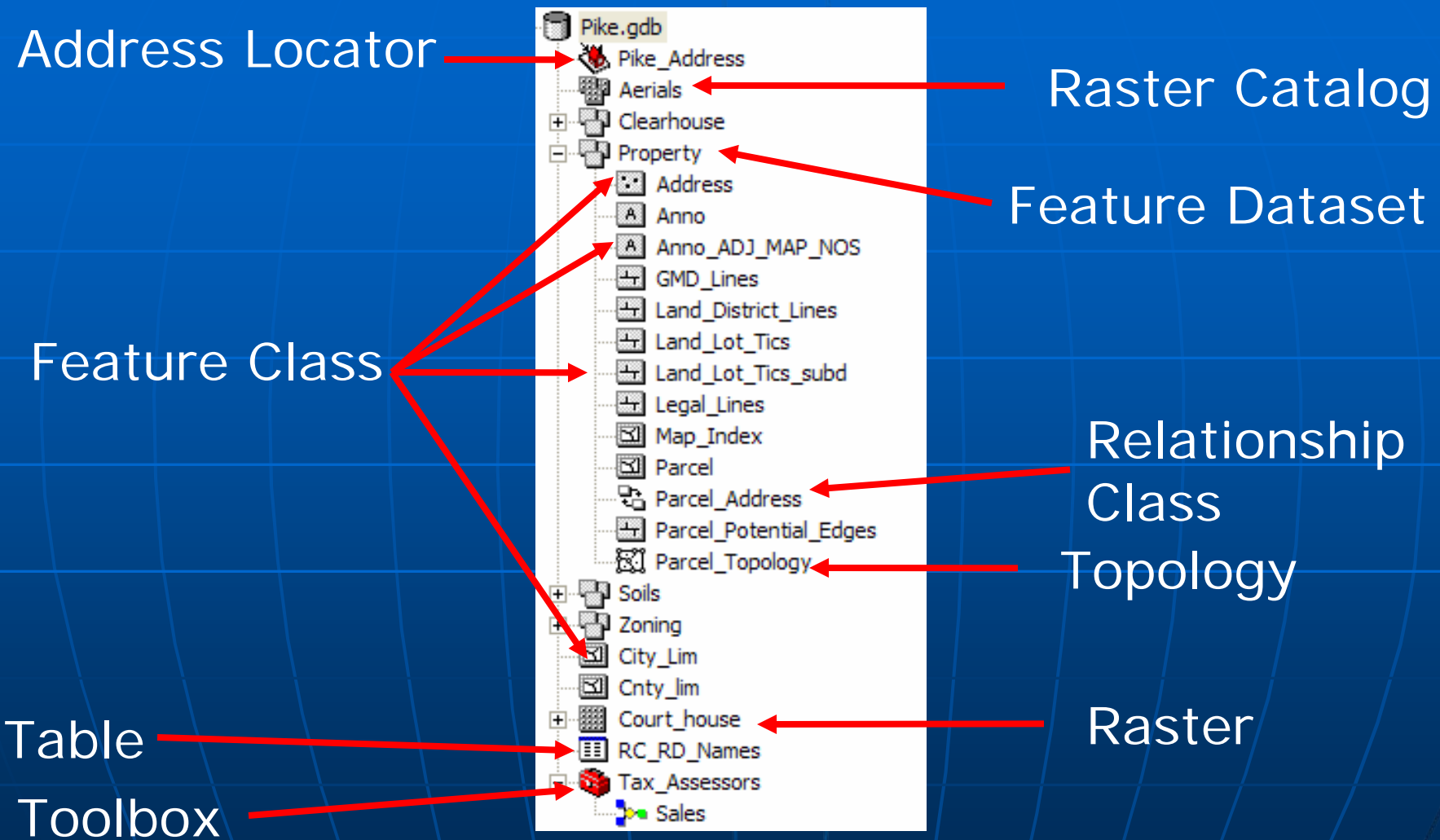
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What can be stored in a GDB?



GDB Contents





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**What types of GDB
are there?**





Types

- Three basic types of GDB
 - Personal (MS Access)
 - File (ArcGIS 9.2 & above)
 - SDE (Workgroup & Enterprise)
- Data both spatial and attributes stored in the same RDBMS



Personal GBD





File GDB

- ESRI Proprietary Format
- Developed with 9.2
- Stores data in multiple files & folders
 - Think Coverage on Steroids
- 1 TB per Feature Dataset
- 1 Editor per Feature Dataset
- Can be edited with all versions of ArcGIS Desktop





SDE GDB

- Three Types
 - Personal SDE
 - Workgroup
 - Enterprise
- Workgroup & Personal – SQL Server Express
- Enterprise – SQL Server, Oracle, DB2, Informix, & PostgreSQL (9.3)
- 2 Way replication between all three types





Personal & Workgroup SDE

- SQL Server Express
- 4 GB
- 1 GB RAM
- 1 CPU
- 3 Maximum Users – Personal
- 10 Maximum Users – Workgroup
- Workgroup requires ArcGIS Server
- Workgroup supports Web editing





Enterprise SDE

- SQL Server, Oracle, DB2, Informix, & PostgreSQL (9.3)
- Size only limited by Hardware
- Unlimited users and editors
- Requires ArcGIS Server
- Supports Web editing
- Supports Mobile editing with ArcGIS Server Advanced





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**So what are the
advantages of the
GDB?**





Better Organization

Goes from this to



To this





Validation

- Spatial – ArcEditor or ArcInfo
 - Topology
 - Geometric Networks
 - Relationship Classes
- Attribute
 - Subtypes – ArcEditor or ArcInfo
 - Domains – ArcView & up





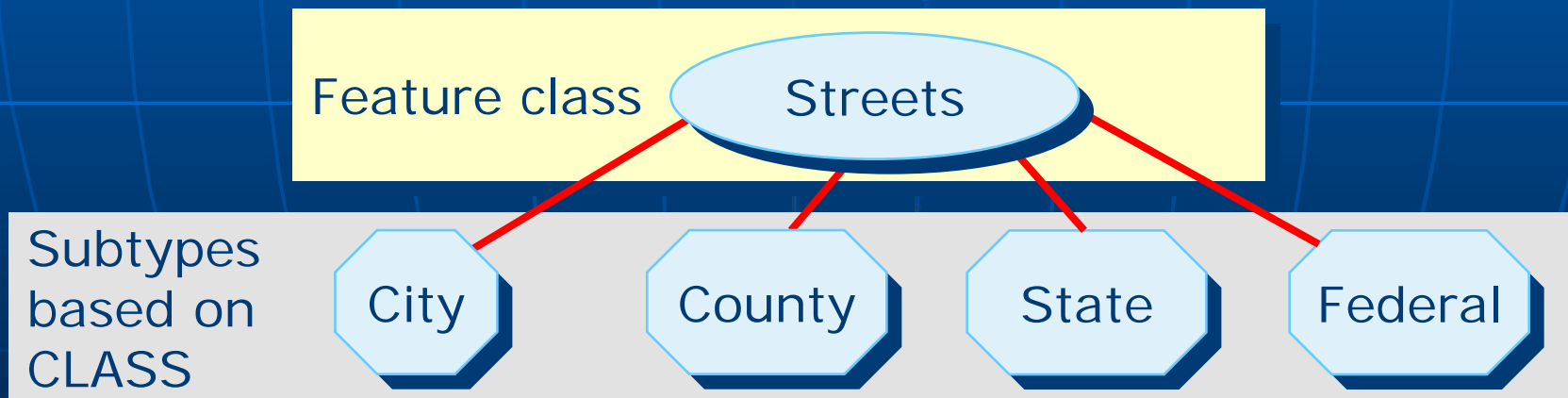
GDB Topologies

- One or more Feature Classes
- Must be in a Feature Dataset
- Rules
- Quickly locate errors
- Parts of a Topology
 - Rules
 - Ranks
 - Cluster Tolerance



GDB Subtypes

- Way to group features in a FC
- Based on an Integer Field
- Different Topology rules assigned
- Different domains & default values assigned



GDB Domains

- Assigned to a Field
- Coded Values
 - List of Acceptable Values
- Range
 - Acceptable number range

STATE	ZIP	Animal
LA	70094	Dog
		Bird
		Cat
		Dog
		Reptile
		Other

Property	Value
FID_1	7
EMERSERV-ID	8
NAME	SOUTH SUBSTATION
ADDRESS	1150 BROOKSIDE AV
FACILITY_CODE	50

e.g., FACILITY_CODE has a range domain of 100-500

Editor: Start Editing, Stop Editing, Save Edits, Move..., Split..., Validate Features...

Task: Create New Feature

Validate Features: Field FACILITY_CODE attribute value 50 is not within range of 100 and 500. OK



Other Advantages

- Security
 - Easier to manage
 - Stronger
- Scaleable
- Multi-user Editing
- Versions
- Replication



Some Gotchas

- ArcView cannot edit:
 - Feature Linked Annotation
 - Any feature class participating in a Topology or Geometric Network
 - SDE GDB
- Cannot make changes to Schema while in use
- Be careful validating in ArcCatalog
 - no undo





Questions?

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