

Geography Matters



UC98

San Diego, California

ESRI

EIGHTEENTH ANNUAL INTERNATIONAL USER CONFERENCE

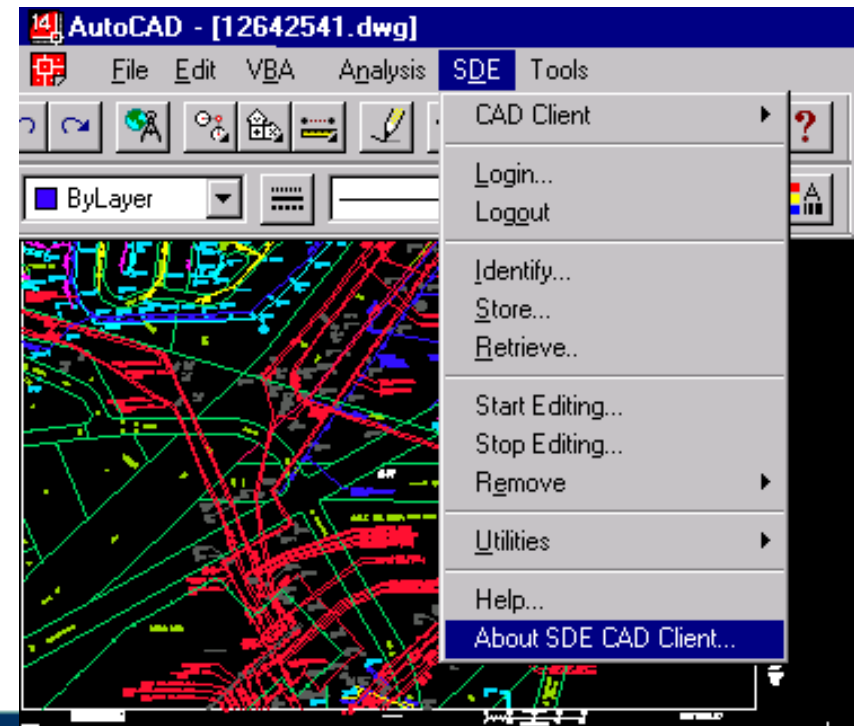
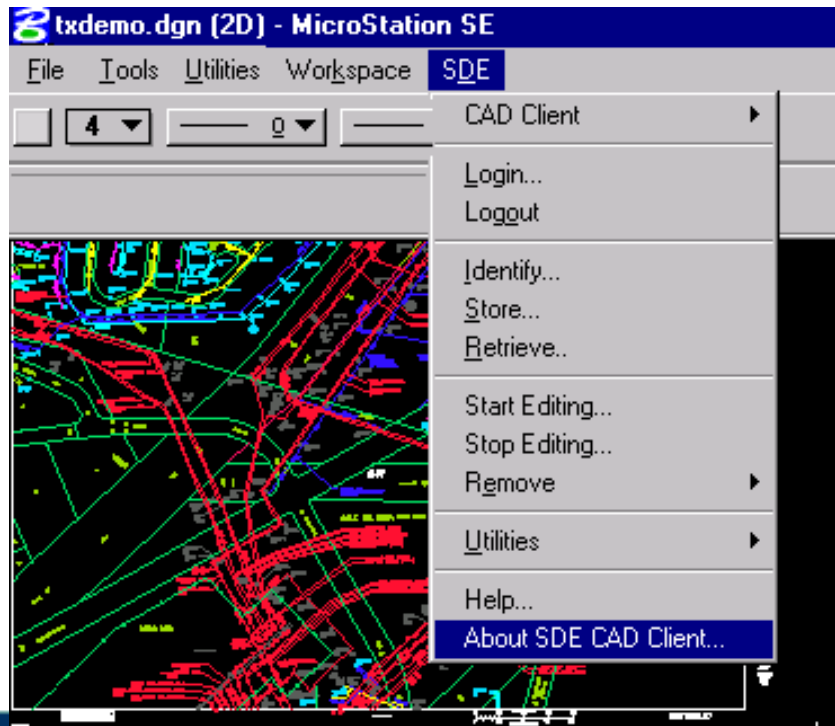
SDE CAD Client

CAD For The GIS Enterprise

eVAN bRINTON- Product Specialist
dON kUEHNE -Product Management

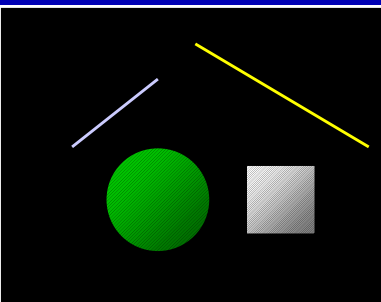
SDE CAD Client

- **Store CAD mapping data in a DBMS**
- **Connects AutoCAD or MicroStation to SDE**



SDE CAD Client

AutoCAD/MicroStation



Arc/Info



Shape	BLOB	Color	Owner	Layer	Hand
		Green	Paul	CH-1	AA23
		Blue	Bill	SB-2	12CD
		Red	Steve	BD-0	3FD2

ArcView

'C' API

ArcExplorer

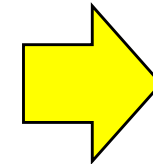
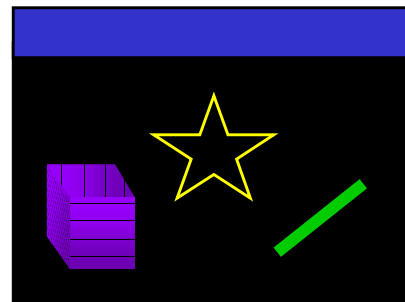
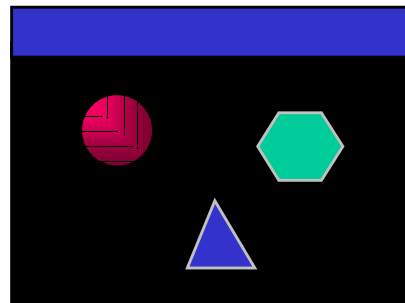
MapObjects

How it Works

- CAD Objects are stored in SDE as both CAD objects and SDE features
- SDE CC can store and retrieve both types

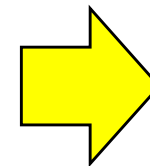
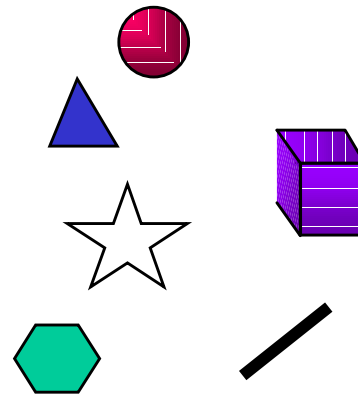
Start with Tiled CAD Files

DWGS or DGNS



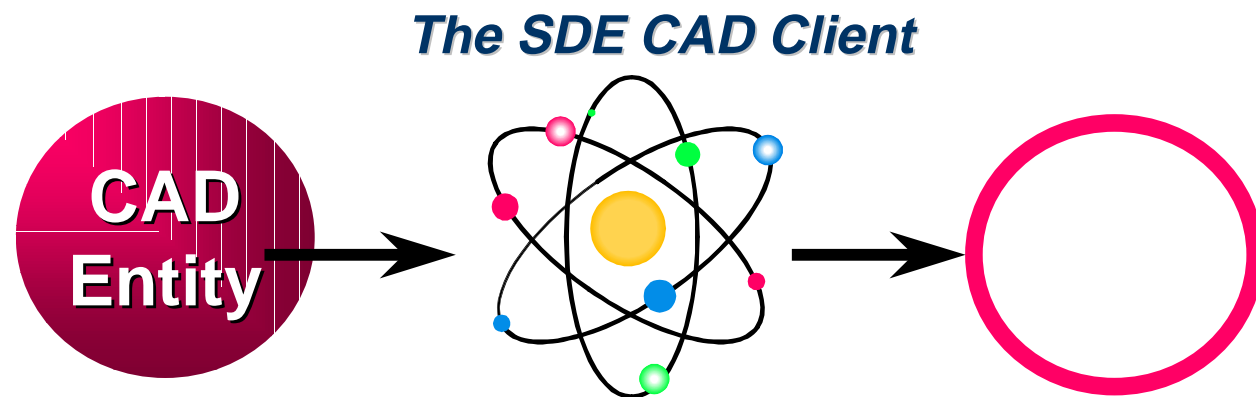
Break Files Into Objects

Objects



Interpreting CAD Entities

- CAD entities are always assigned an SDE shape



- Feature creation methods are defined By SDE CAD client:
 - Line -> Spaghetti
 - Text, Blocks, Cells-> Points
 - Closed Lines -> Polygon

Store In Table With Properties

Shape	BLOB	Color	Owner	Layer	Handle
		Green	Paul	CH-1	AA23
		Blue	Bill	SB-2	12CD
		Blue	Paul	BD-0	3FD2



CAD Objects In The Table

- **The CAD object is an exact binary copy of the CAD entity/element**
 - **CAD objects are only accessible by the SDE CAD Client host which stored them**

Non-graphic Objects Are Not Stored

- **Headers**
- **Level symbology**
- **Dimensions**
- **Other non-geographic entities**

What Storage of Properties Means:

- **CAD Client users can query back CAD objects by drawing name, color, layer, etc.**
- **Non-CAD SDE Clients (AV, MO...) can access CAD properties for symbolization/query**

User Profile

- **CAD Users Who Would Benefit from Storing their CAD drawings in a Tile-less Database Table**
- **Organization That Want to Share Large Amounts of CAD Mapping Data Throughout Enterprise.**
- **SDE Users Who Require AutoCAD or MicroStation to Access SDE Data**
- **Organizations That Want To Build Spatial Databases From CAD Mapping Data**

Benefits

- **Gives CAD Users Direct Access to SDE Mapping Data**
- **Enterprise Access to Your CAD Mapping Data**
- **CAD Environment Makes You More Productive For Maintaining Base Maps**
- **Eliminate the Need to Tile Your Data, or Use Reference Files**

What About MGE Data?

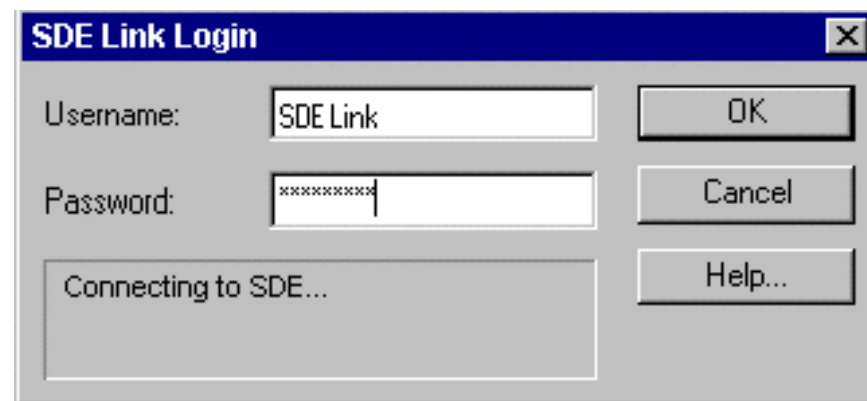
- **MGE attribute linkages are stored along with the objects in the SDE business table**
- **ArcView can access corresponding attributes by joining tables**
- **SDE CC with MGE can use SDE CC queries to bring elements into working drawing to use with regular MGE**

Requirements

- **SDE 3.0 or Higher**
- **SDE CAD Client**
- **SDE Compatible DBMS:**
(Oracle, Microsoft SQL Server, INFORMIX, IBM DB2, SYBASE...)
- **PC Running Windows NT 3.51+
or Windows 95+**
- **MicroStation 5.01+
or AutoCAD r13c4+**

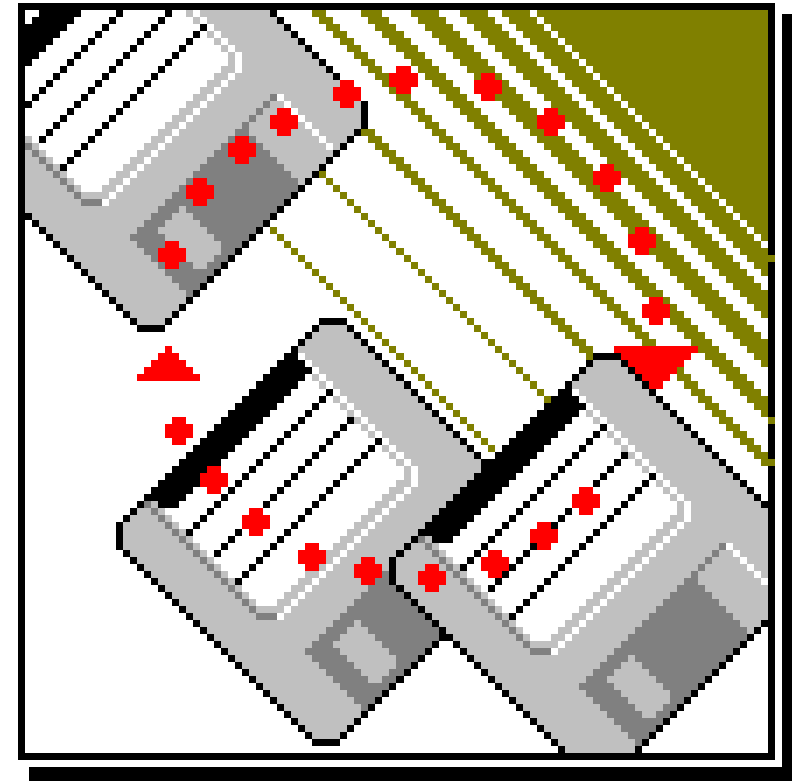
Database Administration

- **DBA Sets Up Tables and Users**
- **All Security and Privileges Are Handled by the DBMS**
- **SDE Maintains the Spatial Indexes and Performs the Spatial Queries**



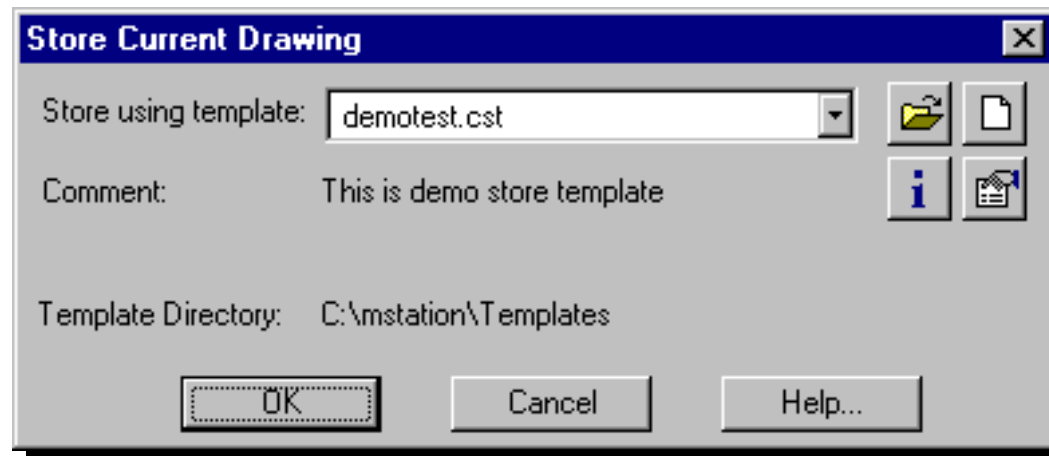
SDE CAD Client Features:

- Data Storage
- Data Retrieval
- Editing
- Developer API



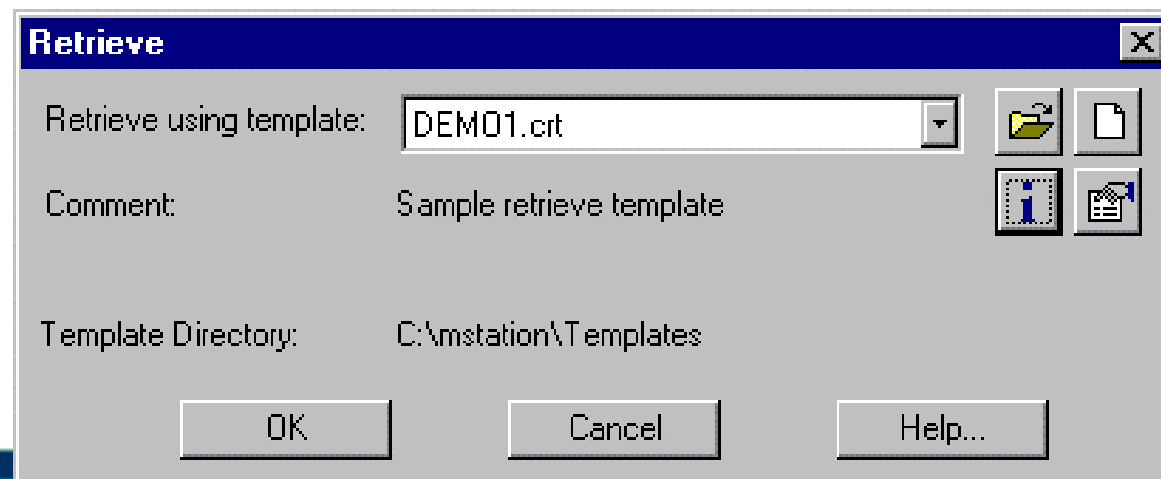
Data Storage

- **Store CAD Entities Into SDE Tables.**
- **Stores SDE Shapes For Each Entity To Ensure All Clients Can Access The Data.**



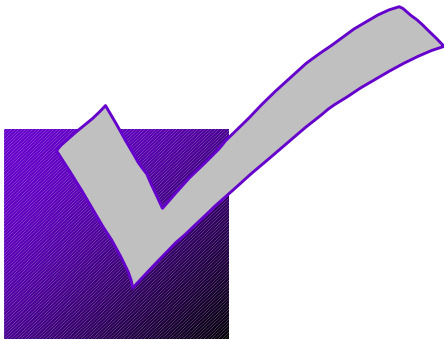
Data Retrieval

- **Retrieves Any SDE Data Into CAD Drawing As New CAD Entities.**
- **Retrieve Previously Stored CAD Objects**
- **Features Can Be Selected Using combinations of SQL and Spatial Query Methods**



Editing

- Retrieve Has a Check Out Option for Editing
- Checked Out Features Remain Locked In SDE Until the Transaction is Complete
- SDE CAD Client Automatically Resolves Changes, Additions and Deletions Made at the End of an Editing Session.



Developer API



- **SDE CAD Client Is Programmable**
- **CAD Client Functions Calls are Accessible Through the Host CAD System's Programming Languages**
 - **AutoCAD: Autolisp, ADS, ARX**
 - **MicroStation: MDL, BASIC**

Licensing

- **SDE CAD Client**
 - Software License
 - Connect License
 - Annual Maintenance
- **Included in the SDE CAD Client Product Box:**
 - Installation Guide
 - User's Guide
 - Sample Applications with Source Code
 - SDE CAD Client Software (CD-ROM)
 - Tutorial with Sample Data
 - Registration Card

Summary

- **Enables CAD In The Enterprise GIS**
- **Stores CAD Objects in SDE (DBMS)**
- **Stores CAD Attributes, That Can Be Used for GIS Query**
- **Provides “Tile-less” CAD Mapping**
- **Simple Interface**
- **AutoCAD and MicroStation**
- **SDE CAD Client is Programmable**

SDE CAD Client

Software Demonstration...

eVAN bRINTON