



MapObjects and ArcSDE8

Frequently Asked Technical Questions



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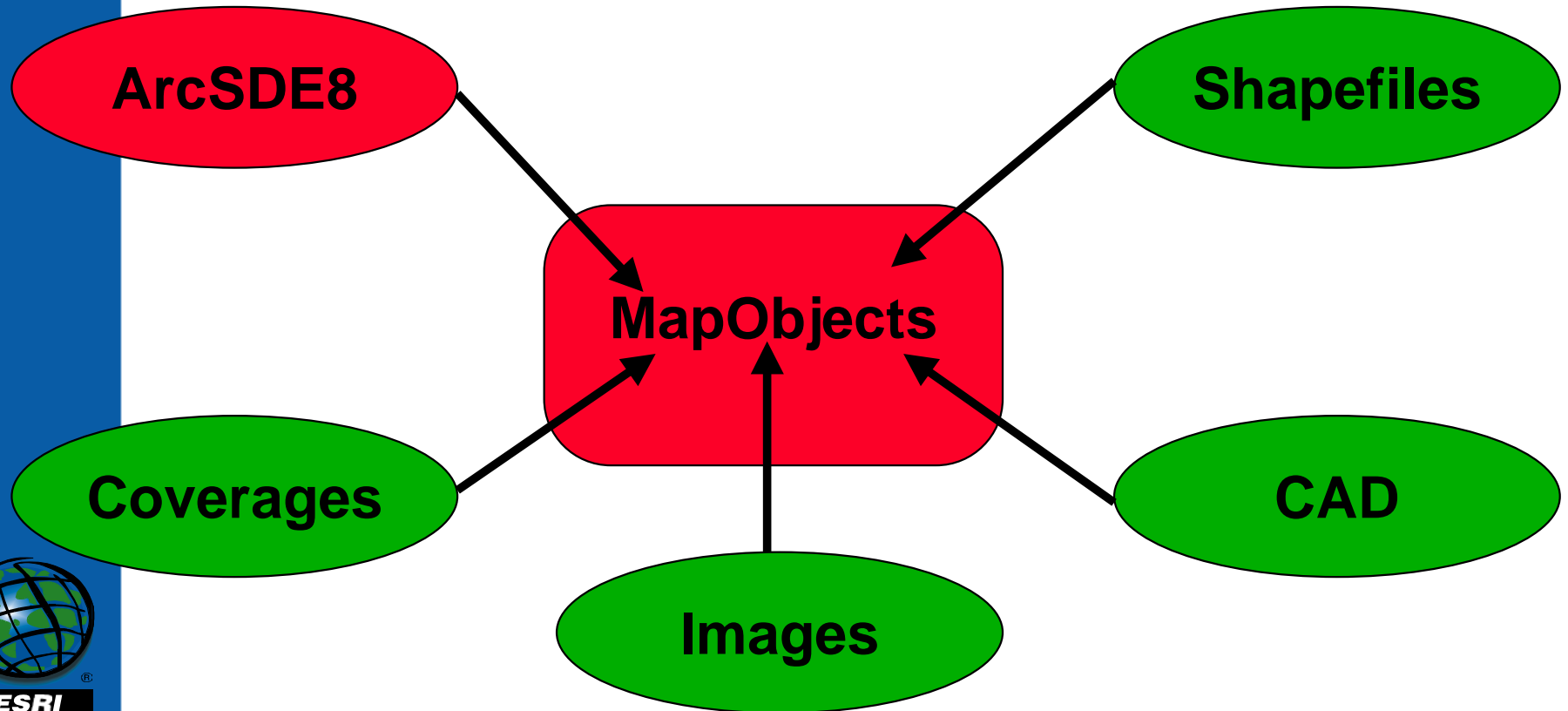
MO2 and ArcSDE8

- **Frequently Asked Technical ???**
 - **Connecting**
 - **Querying / Editing**
 - **GeoDatabase**
 - **Relating to external data**
 - **Deploying**



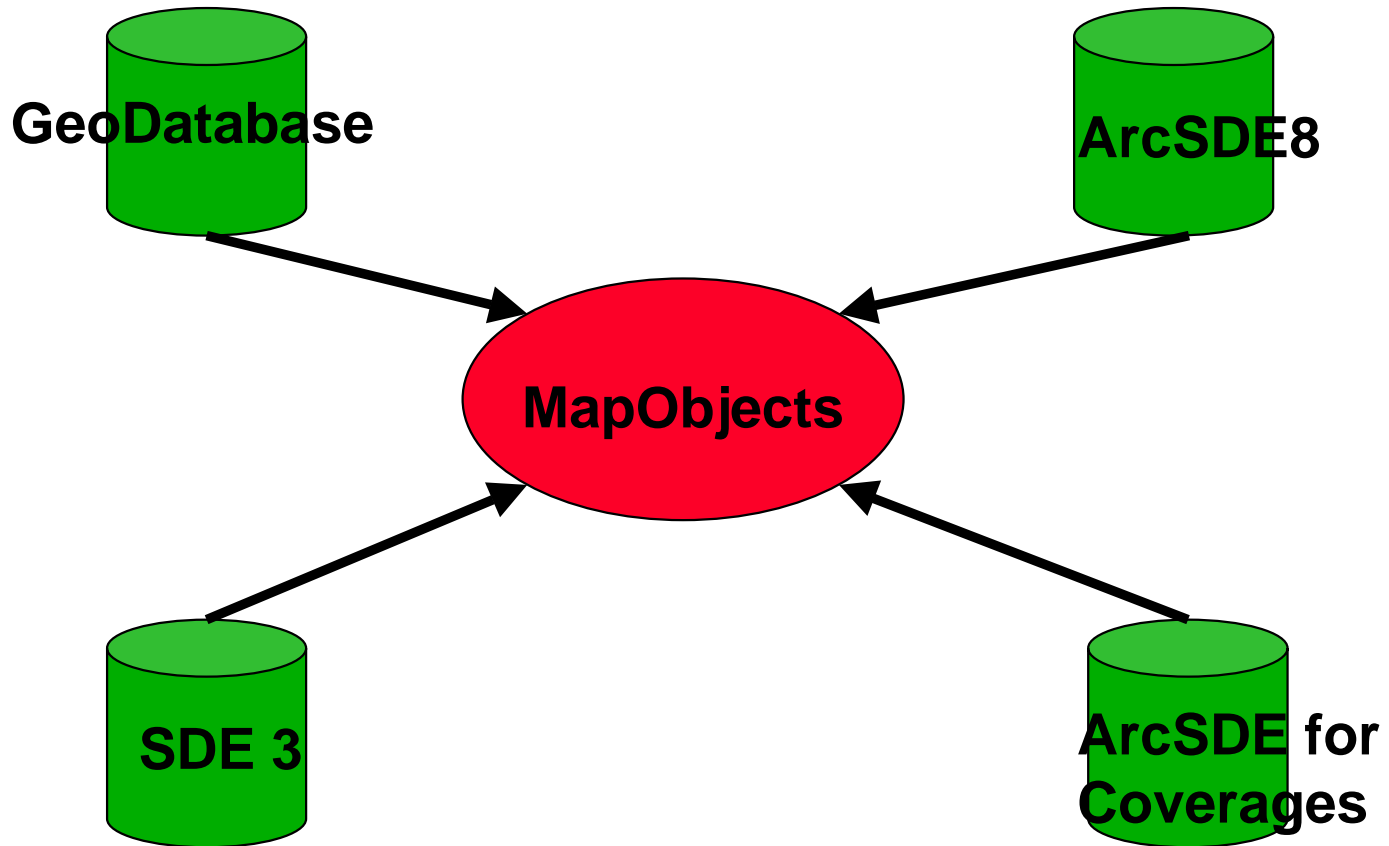
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Supported data formats



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ArcSDE8



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Current versions

- **MapObjects 2.0a**
- **MapObjects 2.0 + 2.0a upgrade**
- **ArcSDE 8.0.2**

<http://www.esri.com/modeveloperconnection>

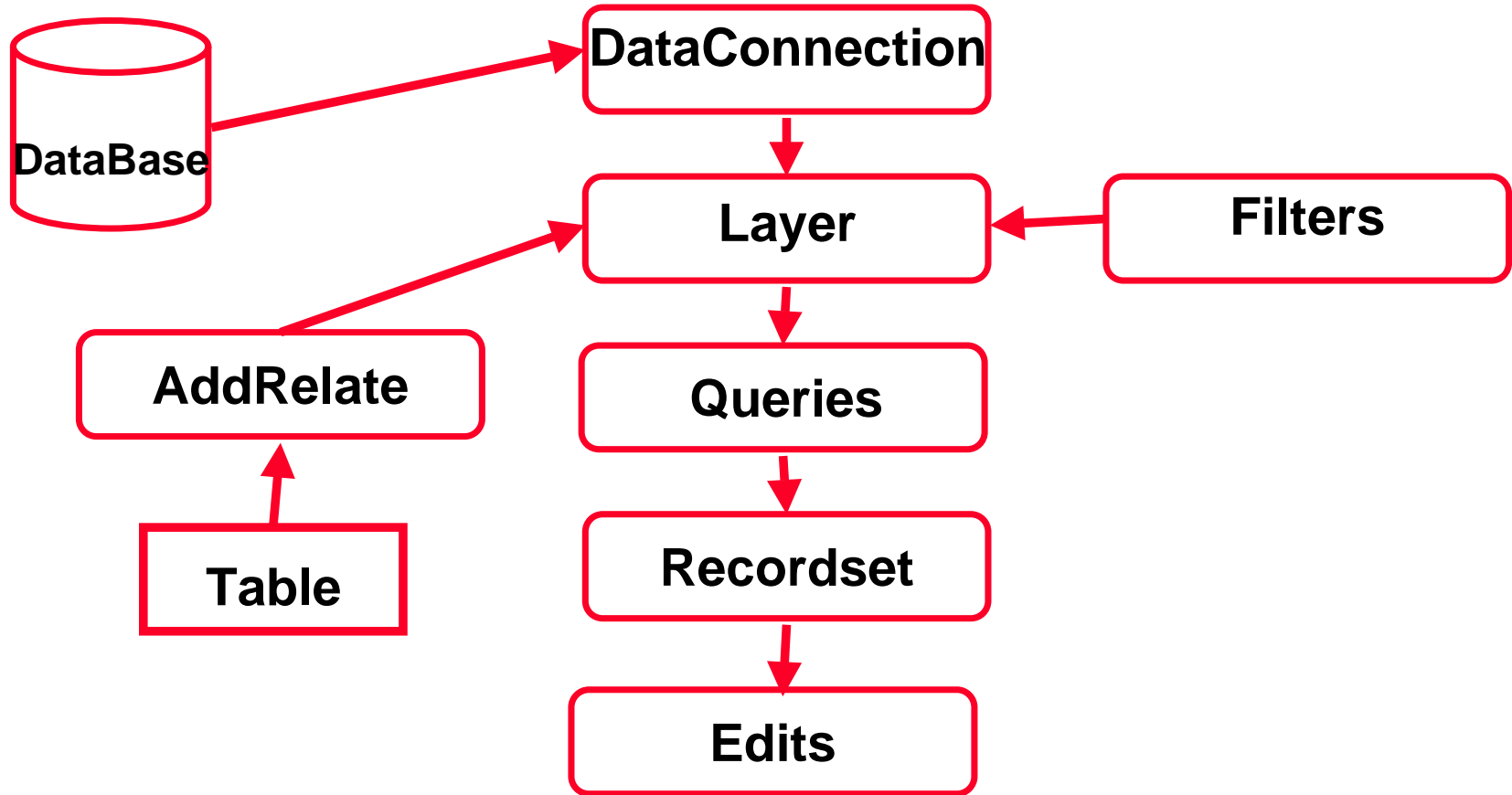


Supported formats

- **SDE 3.x layers**
- **ArcSDE8 layers**
- **GeoDatabase**
- **ArcSDE for Coverages**



Accessing the data



How do you connect?

```
dc.Server = <Server Name>  
dc.Database = <Instance>  
dc.User = <User>  
dc.Password = <Password>  
dc.Connect
```



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DataConnection

- **SDE 3.x layers**

- **Using moSDE302.dll**

- `dc.Server = "server3x"`

- or

- `dc.Server = "SDE30:server3x"`

- **Using moSDE80.dll**

- `dc.Server = "SDE80:server3x"`



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DataConnection

- ArcSDE8
- ArcSDE for Coverages

```
dc.Server = "SDE80:server8x"  
dc.Database = "esri_sde"  
    ' dc.Database = "esri_sde:sde"  
dc.User = "sde"  
dc.Password = "sde"  
dc.Connect
```



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GeoDataset Name

- **Single-database DBMS**
`<owner>.<tbl>.<spatial column>.<feature>`
- **Multiple-database DBMS**
`<db>.<owner>.<tbl>.<spatial column>.<feature>`
- **ArcSDE for Coverages**
 - Depends on source data



When is SDE license used?

- **MO uses SDE license until**
 - All SDE layers are removed
 - Memory freed from global variables
 - Layer, Table, Field, etc.
 - `dc.Disconnect`
 - Application terminates



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What about query performance?

- **Client side query**
 - Spatial
 - Attribute

- **Better performance**
 - Server side query
 - Filters



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Why use filters?

- **Improve performance**
- **Reduce number of records sent by server**
- **Serve only necessary fields**
 - **Text field when rendering Labels**
 - **Shape field for drawing operations**



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FilterExpression

- **Simple query**

```
state_name = 'California'
```

- **Complex query**

```
state_name =  
(select state_name from sttab  
where sde.sttab.code = '123')
```



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Client side queries

- **Attribute query**
 - **SearchExpression**
 - SQL where clause
- **Spatial queries**
 - **SearchShape**
 - **SearchByDistance**



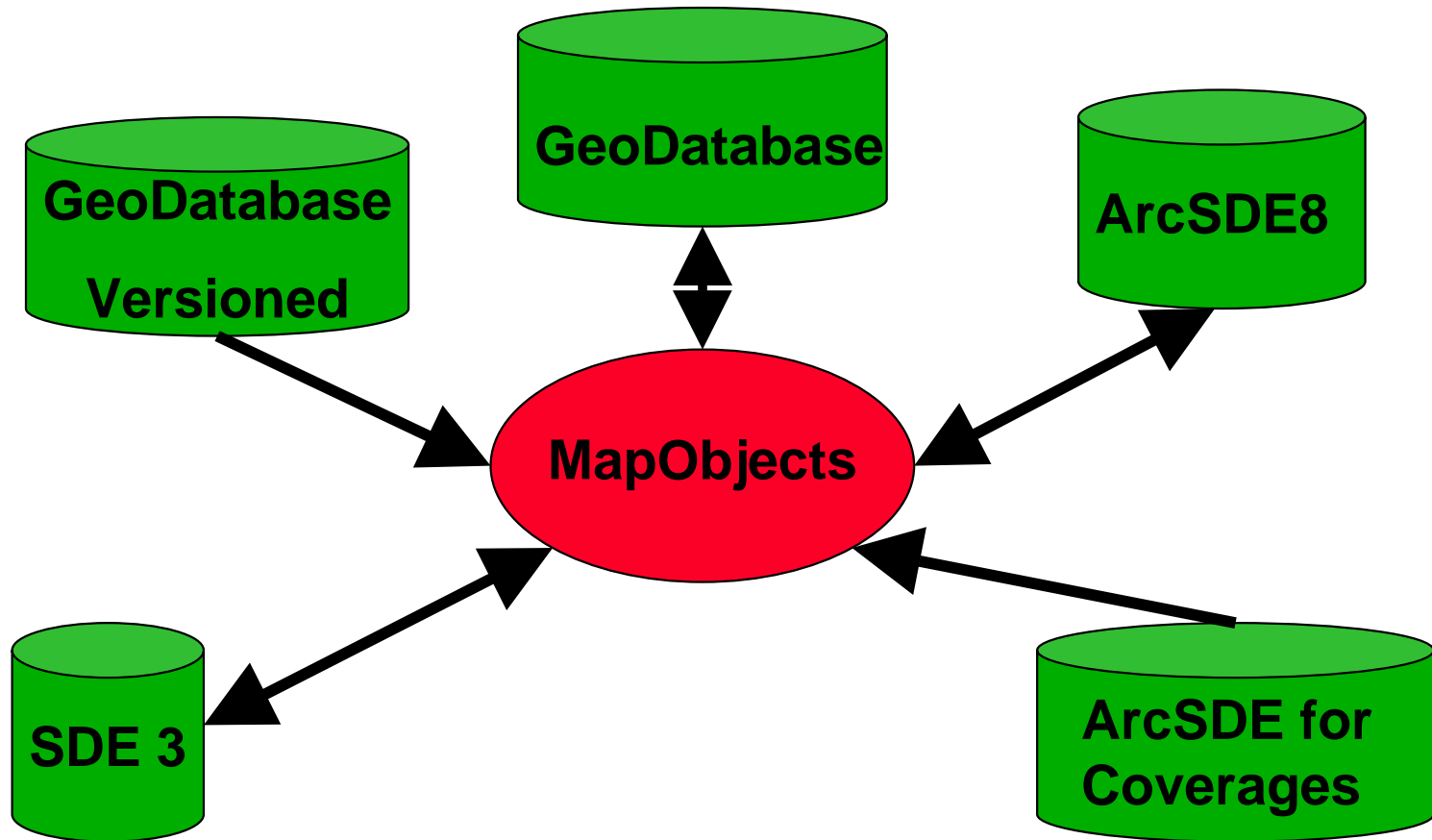
SearchExpression

- **ArcSDE**
 - SQL Where clause
 - Use Shape to query FID
 - `lyr.SearchExpression("Shape > 10")`
- **ArcSDE for Coverages**
 - INFO operators (cn, lk)
 - `lyr.SearchExpression("st_name lk 'Dakota'")`



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Is the data editable?



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ArcSDE layers

- **ArcSDE8 and SDE 3**
 - **Editable**
 - **recs.Updatable returns True**



GeoDatabase

- **Personal GeoDatabase**
 - **Unsupported**
- **Not registered as versioned**
 - **Editable**
 - **recs.Updatable returns True**



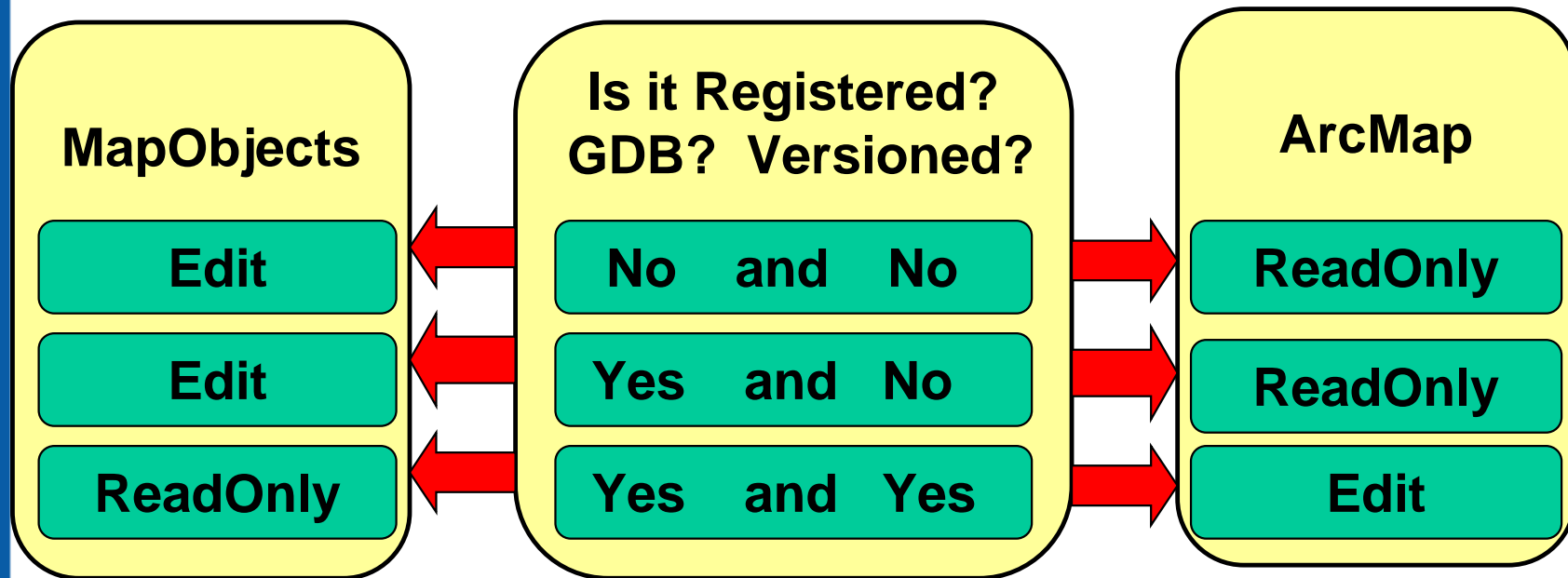
GeoDatabase

- **Registered as versioned**
 - **ReadOnly in MapObjects**
 - **MO sees DEFAULT version**
 - **recs.Updatable returns False**
 - **recs.Edit fails at run-time**



Editing the Geodatabase

ArcSDE Feature Class or Feature Dataset



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Editing

- **MO's Recordset object**
 - MoveFirst
 - MoveNext
 - EOF
- **SDE controls edit management**
 - Ignores AllowSharing/AutoFlush
- **SDE API**



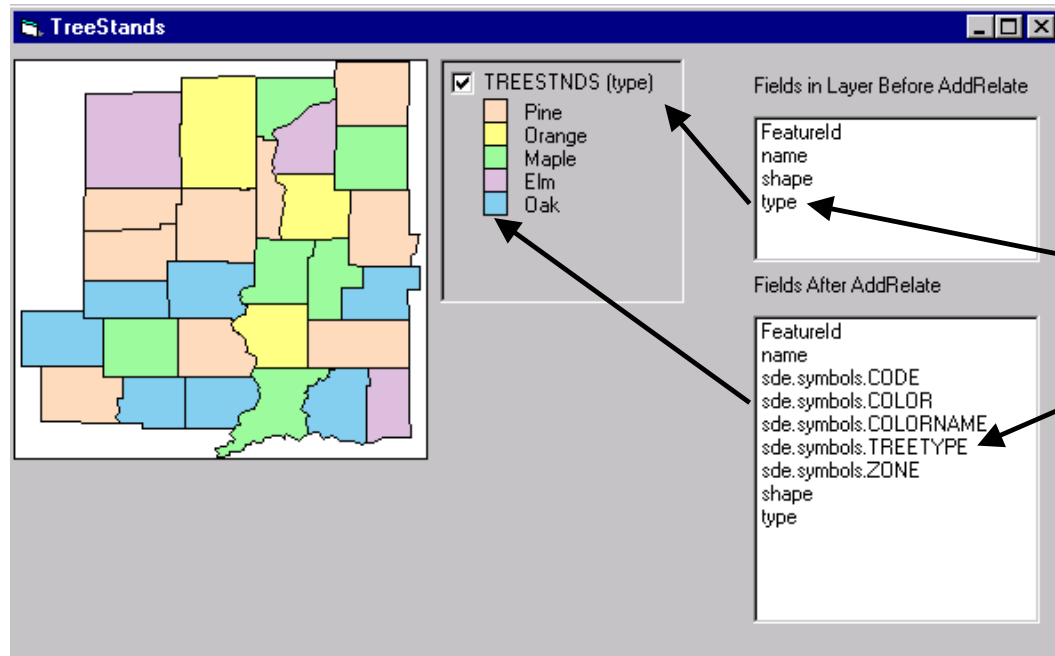
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Latest at MapObjects 2.0a

- **With Date/Time column present**
 - **.AddNew is successful**
- **Set to NULL**
 - **fld.Value = NULL**
- **Annotation -- ReadOnly**



External tables?



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Table object

- **Connect to external table**
- **ReadOnly**
- **All fields accessible**
 - **Queries**
 - **Symbology or Rendering**



AddRelate

- **Same DBMS instance as layer**

```
tbl.Server = "SDE80:server"
```

```
tbl.Database = "esri_sde"
```

```
    ' tbl.Database = "esri_sde:sde"
```

```
tbl.User = "sde"
```

```
tbl.Password = "sde"
```

```
tbl.Name = "sttab"
```



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AddRelate (cont'd)

- Use fully-qualified field names

```
toFld = "sde.states.state_name"
```

```
frFld = "sde.sttab.state_name"
```

```
lName = "sde.states.shape.polygons"
```

```
Map1.Layers(lName).AddRelate(toFld, tbl, frFld)
```



ArcSDE8 and Projections

- **Metadata in ArcSDE layer's table**
- **ReadOnly to MO**
- **To update? Use SDE API**
- **Rename PE_GRIDS directory**



Export to shapefile

- **Export method on Recordset**
- **OK if no Date fields**
 - **Skip .Value when Null Date**

' Shapefile dates are populated as yyyy-mm-dd

```
tDescSHP.FieldLength(i) = 10
```

```
strDate = '2000-03-14'
```

```
recs.Fields("date").Value = strDate
```



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Deploying

- **SDE 3.x only**

MoSde302	2.0.1.100	SDE 3.0 support library
MoSde302Table	2.0	SDE 3.0 support library
SDE30	3.0.2.1	SDE 3.0 extension library



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Deploying

- **ArcSDE8**

MoSde302 2.0.1.100 SDE 3.0 support library
and/or

MoSde80 2.0.1.100 ArcSDE 8.0 support lib

SDE80 3.0.2.1 ArcSDE 8.0 extension lib

PE80 8.0.1 ArcSDE 8.0 project engine

SG80 8.0.1 ArcSDE 8.0 shape geometry

(P.S. Remember pe.dll and sg.dll)



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Summary

- **Connect to ArcSDE8**
- **Filter / Query**
- **Edit**
- **Relate**
- **MO Developer Connection**

<http://www.esri.com/modeveloperconnection>



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