



# Maintaining Data Quality During a Phased Enterprise GIS Implementation





## Abstract

Southern Company has embarked on an implementation project to bring enterprise GIS to all of its four electric utilities. Southern evaluated “big bang” versus phased implementation options and chose a phased approach. Thus processes, procedures, and tools needed to be developed that would allow for a gradual adoption of the enterprise GIS while maintaining the quality and integrity of the previously migrated data. This presentation discusses the processes and tools developed to import drawing files into the enterprise GIS. The audience will learn first hand of the challenges faced, and resolutions employed, in developing a data migration tool that performs daily updates.



# Agenda

- Introductions
- Project Background
- Problem Description
- Solution
- Q&A

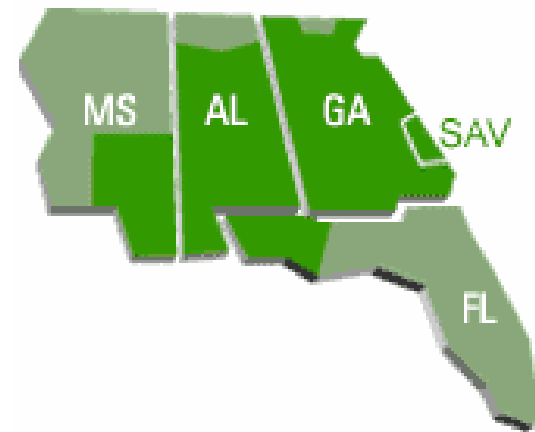


# Introductions

- Rich Faglier and Faye Hall
- Southern Company
- Georgia Power

# Southern Company

- Regional energy company in Southeast
- 120,000 square mile service territory
- Owns 4 regulated retail electric utilities
  - ◆ Alabama Power
  - ◆ Georgia Power
  - ◆ Gulf Power
  - ◆ Mississippi Power
- [www.SouthernCompany.com](http://www.SouthernCompany.com)



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# Georgia Power Company

- Affiliate of The Southern Company
- Represents over half of Southern Company
- Headquartered in Atlanta, Georgia
- 2.2 million customers
- Distribution service in 153 of Georgia's 159 counties
- [www.SouthernCo.com/GAPower](http://www.SouthernCo.com/GAPower)







# Project Background

- Business Drivers for Change
- Original Environment
- Target Environment
- Maintaining the Data



# GPC GIS Implementation Project

## *Business Drivers for Change*

- Strategic Direction – Common Platform
- End of life for existing software
- Sharing of ownership costs
  - ◆ Desire to use common interfaces
  - ◆ Cost reductions in licensing, support, hardware
- More robust environment
- Drive to go mobile





# GPC GIS Implementation Project

## *Original Environment*

- "AM/C" – Automated Mapping & Construction
  - ◆ CAD
  - ◆ Customized data model & functionality
  - ◆ 120,000 map tiles
  - ◆ 4627 Primary Maps
  - ◆ 2085 Circuit Maps
  - ◆ Interfaces
    - Smart Drawings
    - DistView
    - CYME
    - TCMS



# GPC GIS Implementation Project

## *Target Environment*

- Implement Enterprise GIS for GPC
- Implement DistGIS Version 5 data model for GPC
- Migration of AM/C data, functionality, and interfaces to the GIS platform
- Implement new functionality, such as:
  - ◆ Designer
  - ◆ Schematics
  - ◆ Feeder Management
  - ◆ Tracing Tools



# GPC GIS Implementation Project

## *The Concern*

- Data Migration a year long project with several batches
  - ◆ Data becomes stale
- Operating headquarters continue updates in AM/C
  - ◆ Data becomes more stale
- Operating headquarters not using M&M Designer immediately
  - ◆ Data becomes really stale



# GPC GIS Implementation Project

## *The Big Problem*

- How do you maintain data quality and currency during this year long transitional time?



# GPC GIS Implementation Project

## *The Big Solution*

- Develop a data synchronization tool that will maintain the accuracy and currency of migrated data until the enterprise system is deployed to all of the 54 regional operating headquarters.

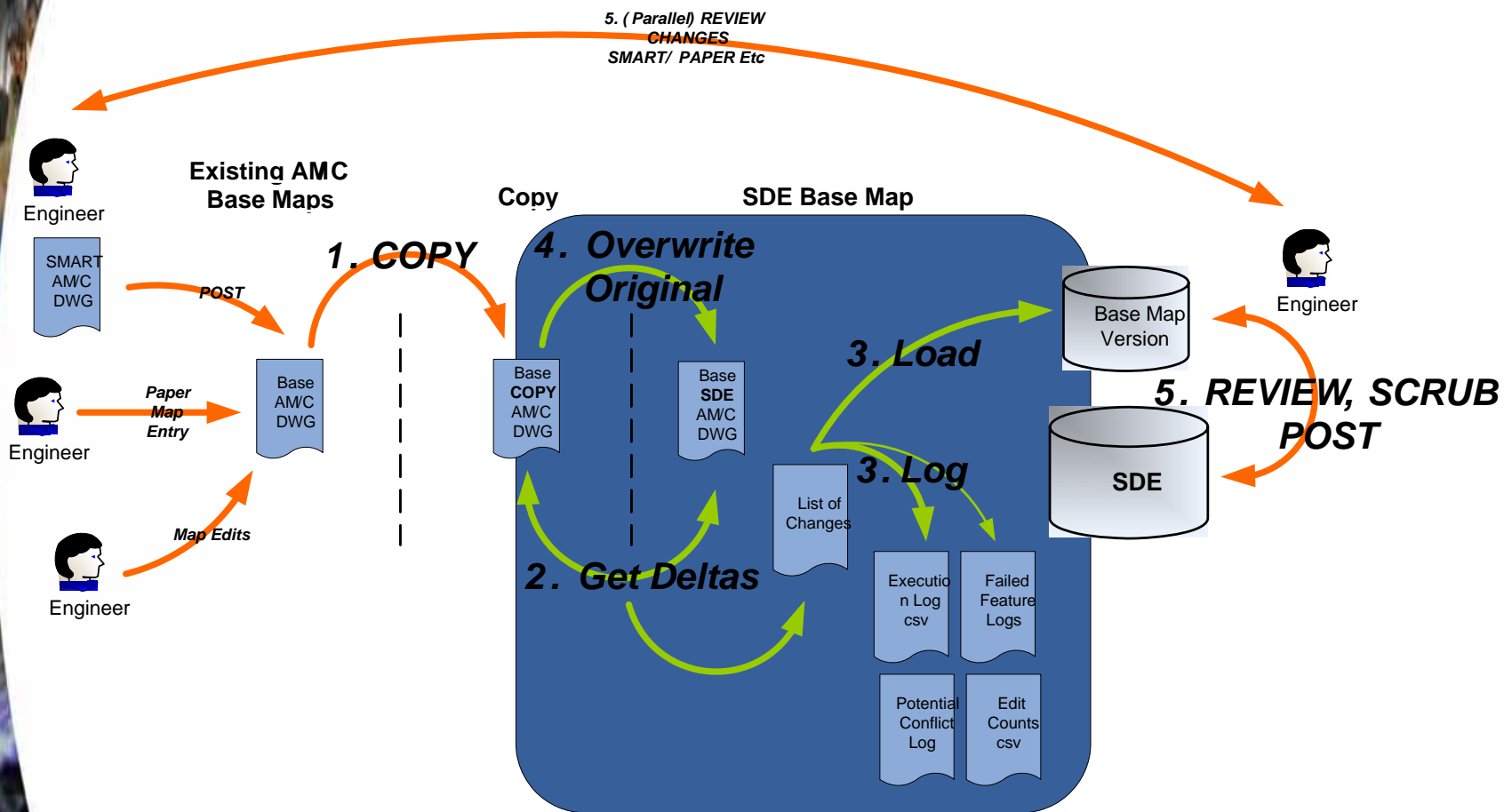


## “DWG-In” is born!

- A two-way approach?
- A one-way replication mechanism
- CAD to versions GIS *with customizations*
- Only replicate deltas
- Mimic data migration specifications



# DWG-In Concept





# DWG-In

## *Considerations*

- Linking AutoCAD attribution to geometry
- Network features
- Miner & Miner customizations
  - ◆ Licensing
  - ◆ Auto Updaters
- Feature relationships
  - ◆ Spatial relationships
    - Snapping
    - Connected Conductors
  - ◆ Related Objects

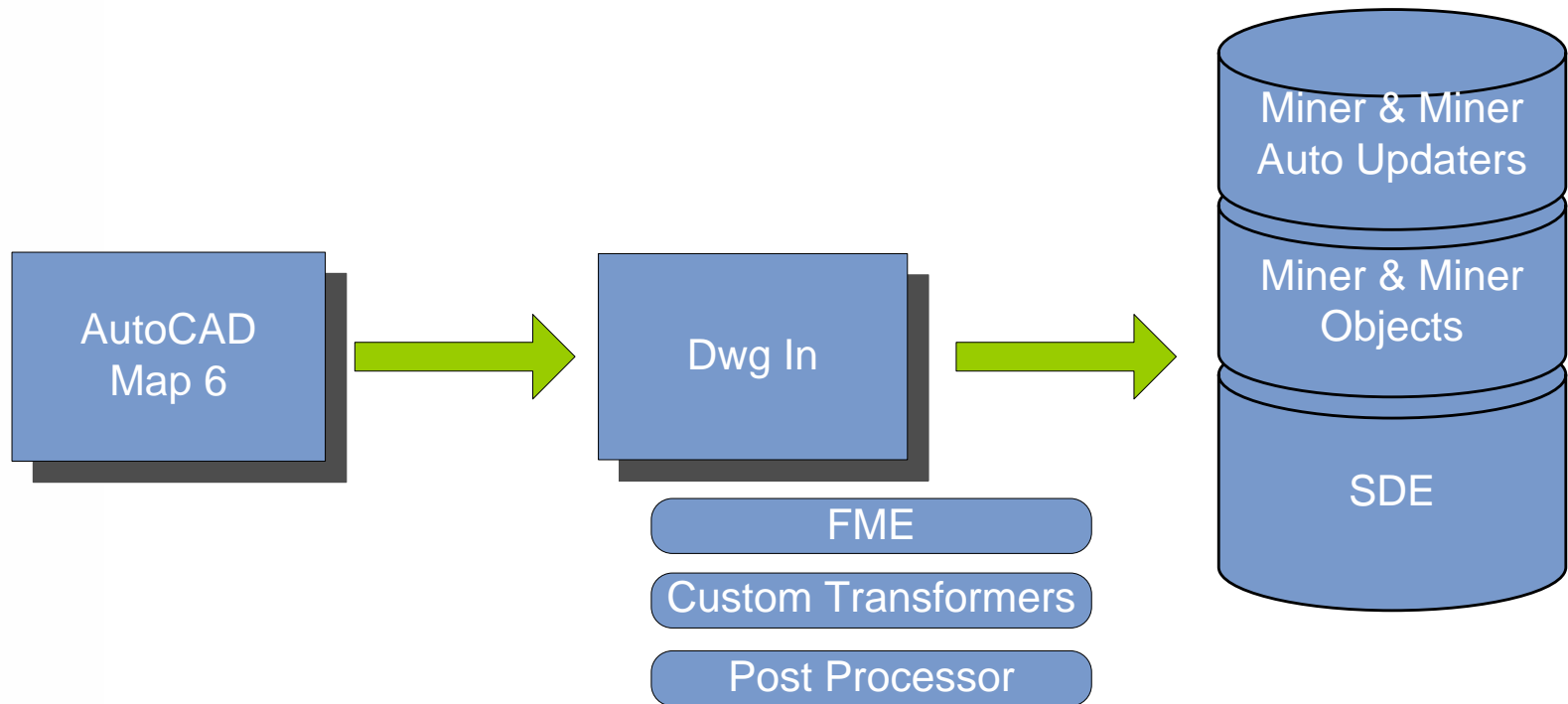


## DWG-In *Implementation*

- Utilize and mimic existing data migration specifications
- Get deltas and indicate insert, update, delete
- Develop translations for features
- Merge with existing GIS features to retrieve ObjectID
- Post process all features
  - ◆ Network features
  - ◆ Trigger Auto Updaters
- Transition to Pending Post state
  - ◆ BVRP

# DWG-In

## *Conceptual Implementation*





## DWG-In *Challenges*

- Manual migration processes
  - ◆ Bus bars
  - ◆ Service wire connectivity
- Miner & Miner
  - ◆ Licensing – FME Reader/Writer
  - ◆ Auto Updaters
- Microsoft Security patches – KB 917422
- Performance



# DWG-In

## *More Challenges*

- Error Handling
- QC
  - ◆ Version Difference Tool
  - ◆ Number of edits
  - ◆ Visual QC
  - ◆ Validation Rules
- Conflicts & Posting
  - ◆ Batch Reconcile and Post Service
  - ◆ Network Features & Feeder Manager





## DWG-In

### *The Success*

- Ran for a month in test environment
- Currently running in production environment
- Processes hundreds to thousands of files daily
- Unexpected Feature:
  - ◆ New tiles

*Questions?*





# Contact Information

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