Streamlining GIS Customizations and Integrations at MTEMC

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Agenda

● About MTEMC
  ● Territory
  ● Who we are

● MTEMC GIS
  ● Server Landscape
  ● Logical Diagram
  ● The Problem

● 10.X Upgrade
  ● Project Objectives
  ● Strategy
  ● Steps
  ● Success at Go-Live

● Lessons Learnt

● QA
About MTEMC – Territory

Middle Tennessee Electric Membership Corporation

MISSION - To provide reliable, affordable, safe electricity and outstanding member service.
About MTEMC – Who We Are

- MTEMC distributes more electricity than all but one other US Coop
- Sixth largest in the US
- Total miles of line energized = 10,562 miles
- Number of distribution substations = 34
- System electrical demand in kilowatts = 1,277,948
- Average Monthly residential electric bill = $143.21
- Number of employees = 376

- Four-county area directly south of metropolitan Nashville
- +/- 200,000 Members
- Members = Cooperative; each customer has part ownership
- Formed by farmers and homeowners in 1936
MTEMC GIS System – The Problem

*If it stinks – change it!*  
- Kent Beck; Martin Fowler www.sourcemaking.com

**Cause**
- 2005 migrated from GE Smallworld to Esri and ArcFM
- Age of super-customization
- Lack of balancing of interest
- No technical Best Practices
- Little process and no documentation
- No refactoring

**PROBLEM**
- Instability
- Bad performance
- Unpredictability

**RESULT**
- High cost of Support
- Constant fire-fighting
- High level of Effort
- No innovation
- User fatigue

**CODE SMELL**
HARD OBJECTIVES
1. Upgrade to Esri ArcFM 10.X – new architecture
2. Replace old Custom Code with now Out-of-the-Box functionality (OOTB)
3. Remove unused functionality and corresponding Custom Code
4. Rewrite remaining Custom Code to optimize new OOTB
5. Remove all VBA and replace with C#
6. Create technical Best Practices
7. Create documentation

SOFT OBJECTIVES
1. Improve use-ability
2. Lower user fatigue
3. Lower impact of Change Cycle
10.X Upgrade - Strategy

“The secret of change is to focus all your energy, not on fighting for the old, but on building the new.”

- Socrates

Understanding the Cycle of Change

- Ann Salermo and Lillie Brock

Stage 1 – Loss to Safety

Stage 2 – Doubt to Reality

Stage 3 – Discomfort to Motivation

The Danger Zone

Stage 4 – Discovery to Perspective

Stage 5 – Understanding

Stage 6 - Integration
10.X Upgrade - Steps

- Pre-Upgrade Code Review
  Stage 1
- Socializing change, ideas, concepts
  Stage 2
- OOTB Training
  Stage 3
- Parallel Environment
  Stage 3
- Gap Analysis Workshops
  Stage 4
- Change Control Board
  Stage 5
- Specification Documentation
  Stage 6
- Test Plan Development
  Stage 6
10.X Upgrade - Success at Go-Live

HARD OBJECTIVES

● Upgrade to Esri ArcFM 10.X – new architecture
  1. Successfully upgraded with minimum downtime; No rollbacks or delays; Successful post validation

● Replace old Custom Code with now Out-of-the-Box functionality (OOTB)

● Remove unused functionality and corresponding Custom Code

● Rewrite remaining Custom Code to optimize new OOTB
  1. Dropped approximately 5,000 lines of Code
  2. Installed 6 dll’s instead of 22
  3. Focused on creating re-usable components which removed redundant methods and components
  4. 12 Components replaced by OOTB components

● Remove all VBA and replace with C#
  1. Re-wrote all Code in C#

● Create technical Best Practices
  1. Re-architected the framework to adhere to Microsoft .NET Design Principles

  1. Create documentation
  1. Delivered full Component Specifications
  2. Delivered complete Test Plans for all ArcFM functionality containing Workflows

SOFT OBJECTIVES

1. Improve use-ability
2. Lower user fatigue
3. Lower impact of Change Cycle

0 Conflict = PASS
Lessons Learned

● **EXPECTATIONS, Expectations, expectations!!!**

● With a considerably new product – adjust for additional time/change after first test cycle.

● Get User buy in early and often and keep them engaged - Partnership

● Challenge existing Workflows

● Define Change Control process early

● Product performance limitations

● Importance of Soft Objectives
Questions

- Questions?

For more information on MTEMC [http://www.mtemc.com/](http://www.mtemc.com/)
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For more information on SE: [http://www.schneider-electric.com/](http://www.schneider-electric.com/)
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Thank You!