

Streamlining GIS Customizations and Integrations at MTEMC

An-Louise De Klerk – Middle Tennessee Electric Membership Corp
Beth Picardi – Schneider Electric

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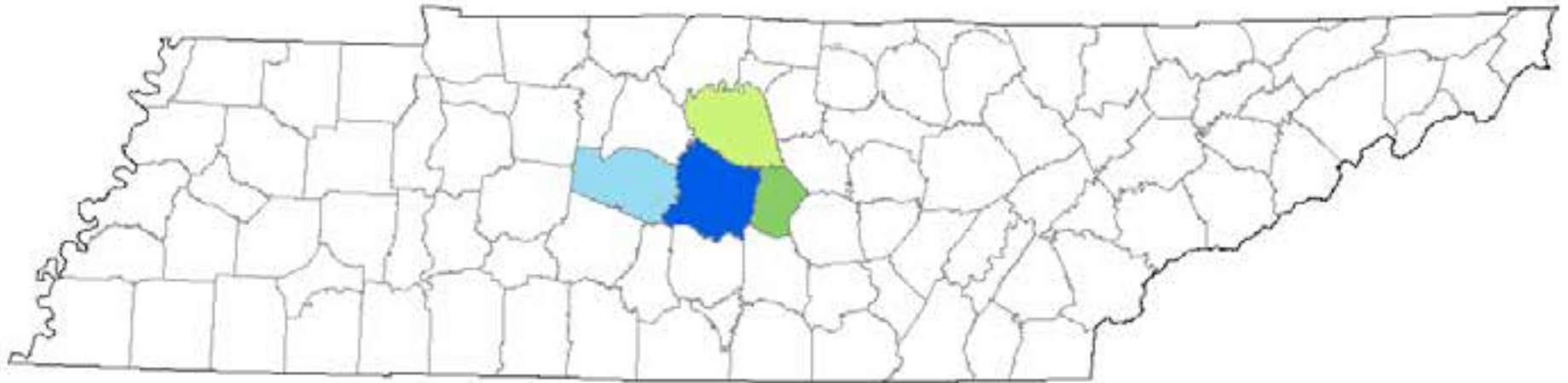
Agenda

- About MTEMC
 - Territory
 - Who we are
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 - Server Landscape
 - Logical Diagram
 - The Problem
- 10.X Upgrade
 - Project Objectives
 - Strategy
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 - 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.*

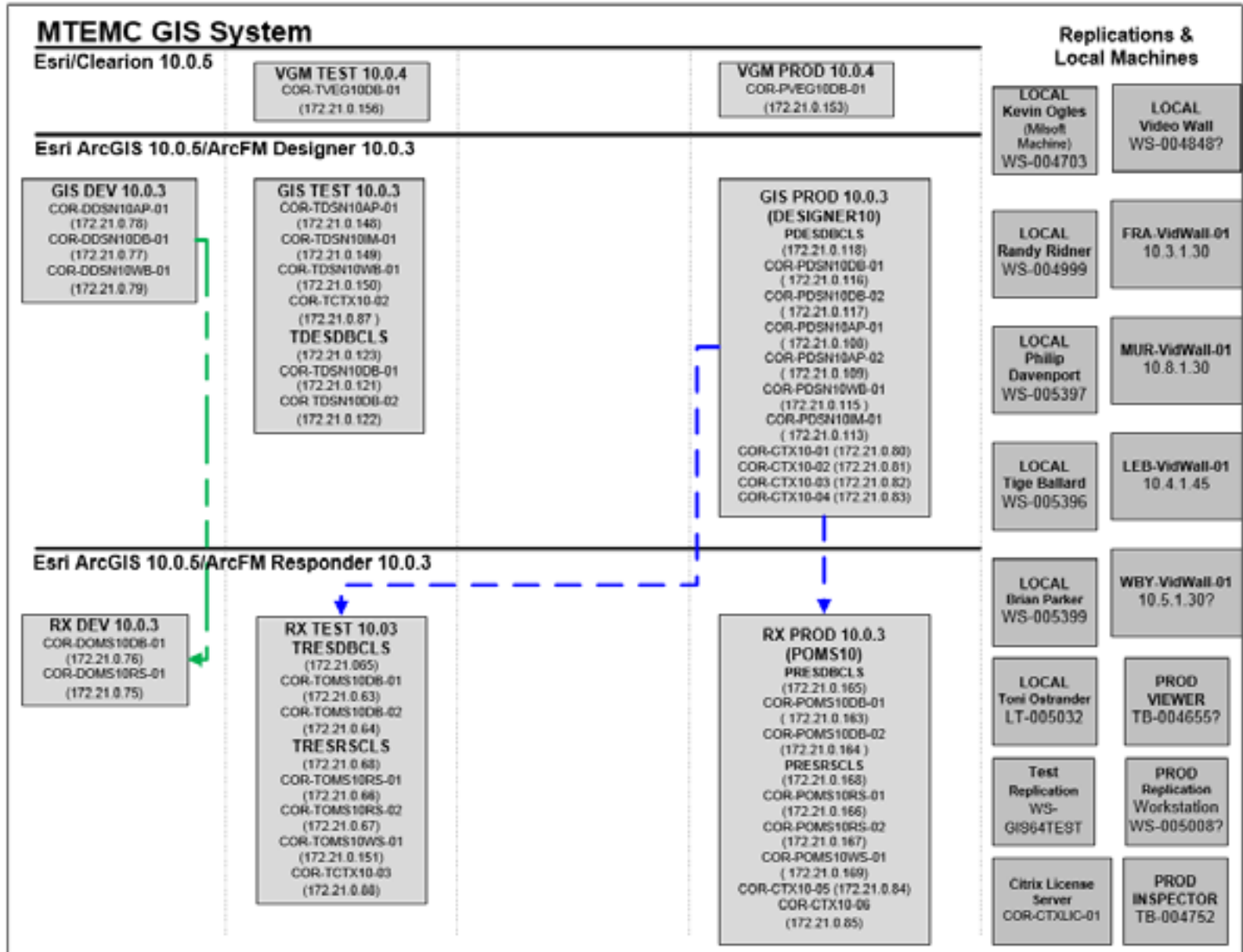
About MTEMC – Who We Are



- 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

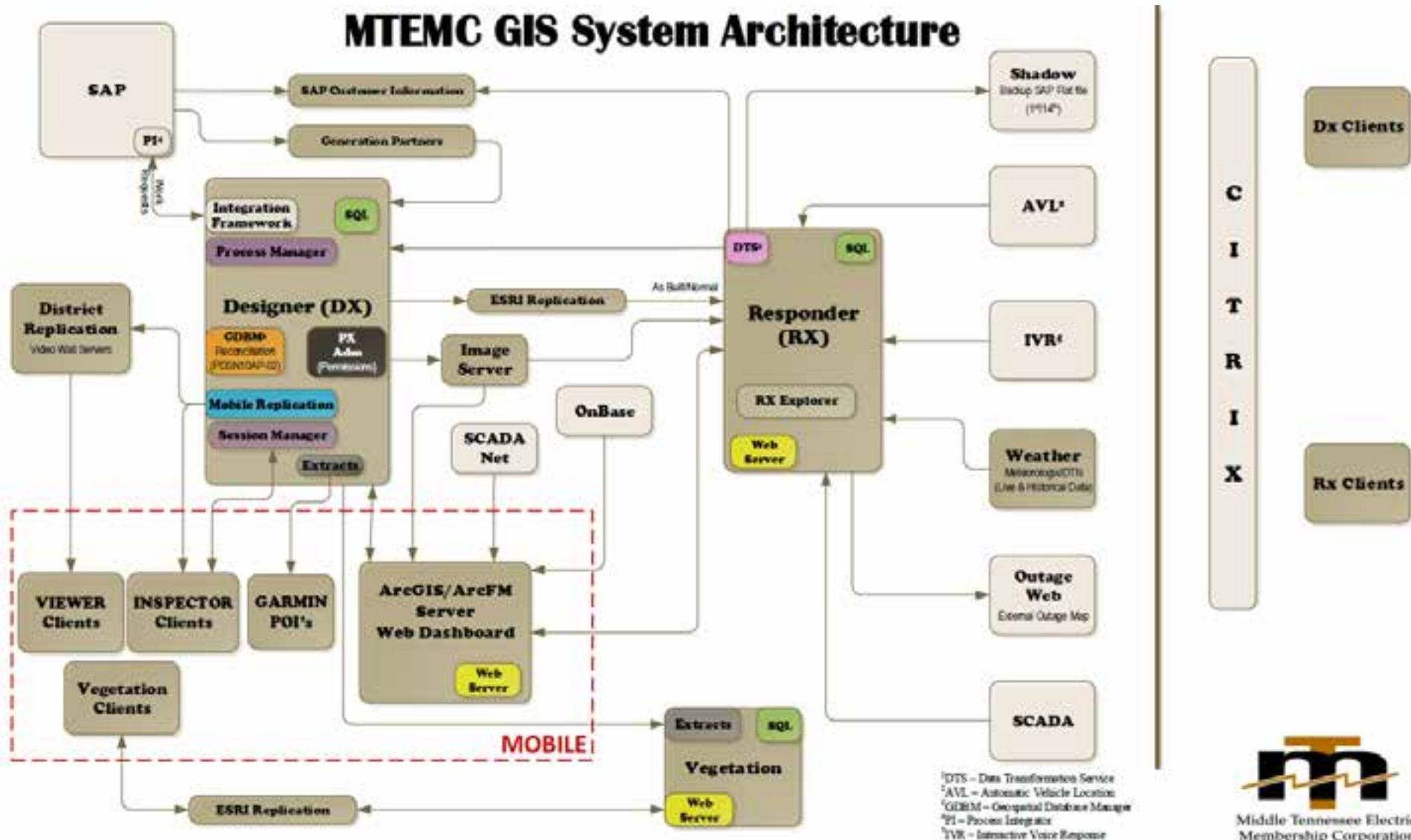
- MTEMC distributes more electricity than all but one other US Coop
- Sixth largest in the US
- Total miles of line energized = 10,562 miles
- Number of distribution substations = 34
- System electrical demand in kilowatts = 1,277,948
- Average Monthly residential electric bill = \$143.21
- Number of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

MTEMC GIS System - Landscape



MTEMC GIS System - Diagram

MTEMC GIS System Architecture



C
I
T
R
I
X

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



CODE
SMELL

PROBLEM

- Instability
- Bad performance
- Unpredictability

RESULT

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

10.X Upgrade - Project Objectives

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

REWRITE

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.”

Understanding the Cycle of Change

- Ann Salermo and Lillie Brock

Stage 1 – Loss to Safety

Stage 2 – Doubt to Reality

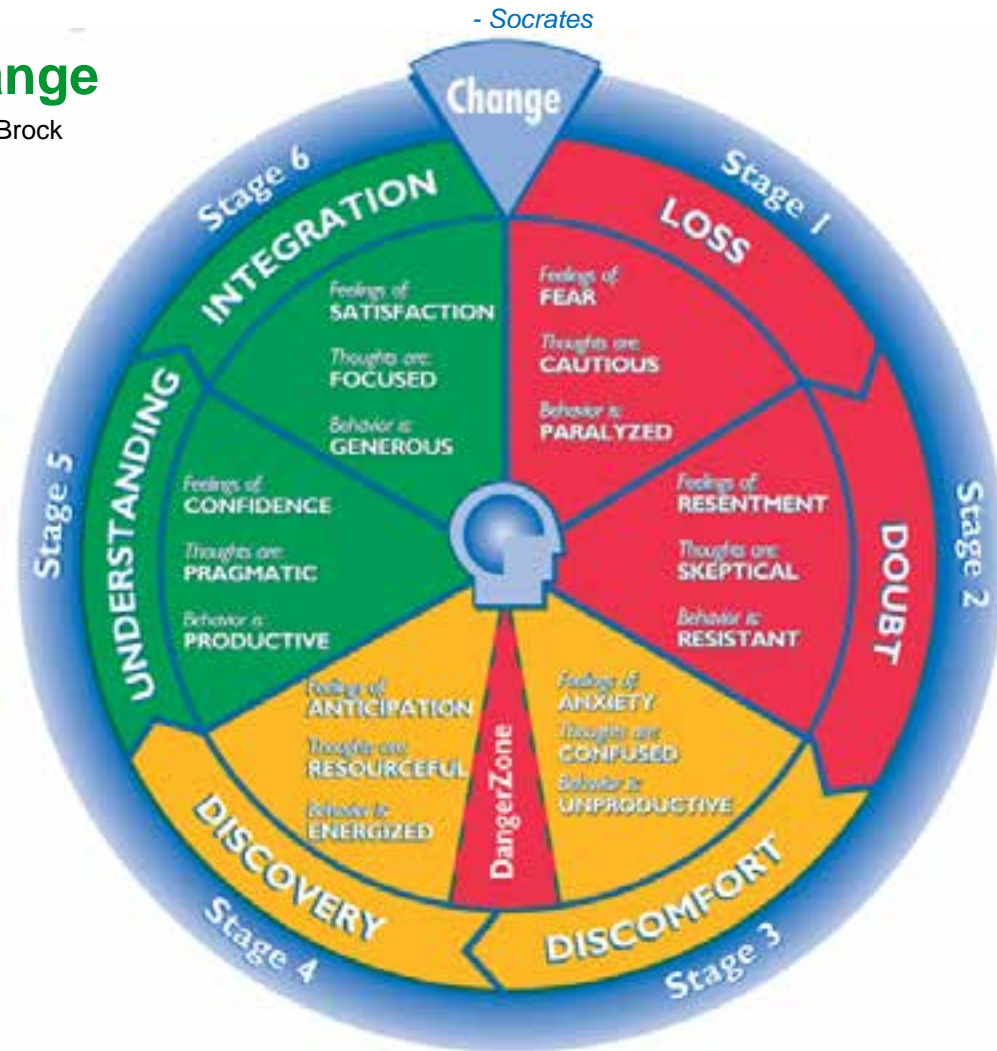
Stage 3 – Discomfort to Motivation

The Danger Zone

Stage 4 – Discovery to Perspective

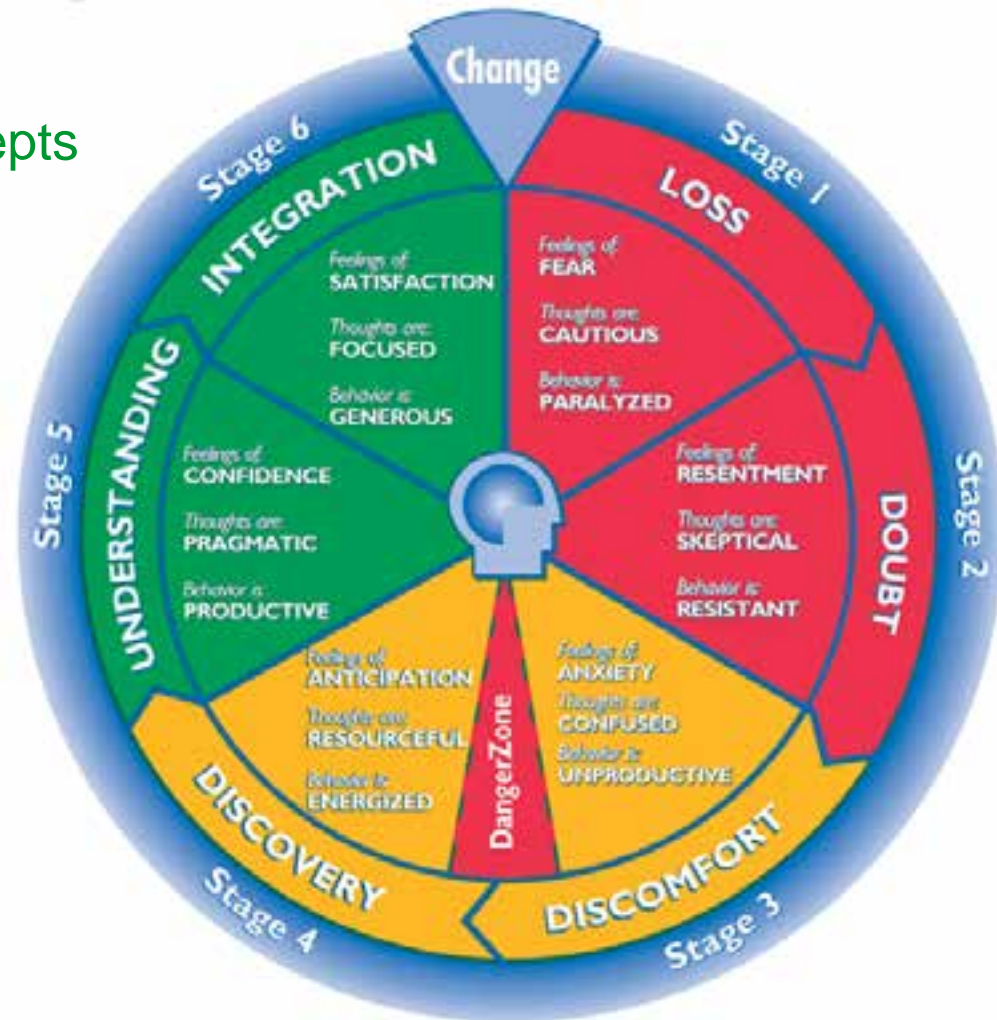
Stage 5 – Understanding

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/>
or contact An-Louise at adeklerk@mtemc.com

For more information on SE: <http://www.schneider-electric.com/>
or contact Beth at beth.picardi@schneider-electric.com

Thank You!

