GIS & Municipal Business - Integration Strategy, Tools and Methodology

Ronald R. Butcher
Asset Management Practice Lead
Phone: 804.200.6971
Email: ron.butcher@yahoo.com
Agenda

What are we talking about?
  Why bother?
    The Past
    The Now
      Challenges/Risks
      Variations
      Approach
    Happy Customers
Integrations Are…

Synchronization of data between systems

(automated)

Simple &/or Complex
Internal &/or External
Interface &/or Functional
Anatomy

- Scripts (BAT, db Triggers, Stored Procs)
- Custom developed software
  - Application Programming Interfaces (APIs)
  - SDK’s
  - Web Services
- File Transfer
- Scheduled processes
- Others…
Why Bother?

- Leverage Data from one system in another
- Reduce Overhead associated with manual sharing of information
- Reduce / Eliminate Redundancy of Data Maintenance
- Less Data Entry == Fewer Errors
- ROI
The Past

Legacy Integration Model

Finance

Custom Export / Import Scripts

Work Stations

App Server

Database Stored Procs/Triggers

Mainframe

Custom Export / Import Scripts

Text Files

BAT Import / Export

Cityworks®
Why Custom Code?

• Triggers / Stored Procs (...a time and place)
  - Version Control “sneaker net” (Redgate – sorta)
  - Trigger Failures (no logging)
  - Debug/Unit Testing (not really)
  - Can’t leverage Cityworks (or others) API’s or SDK
Why Custom Code?

- Custom Code
  - More tools in the box
  - Tight security
  - Unit Testing / Debug
  - Compiled Code/Logic
  - Version Control (Subversion!)
  - Cityworks (and others) API’s and SDK
  - Web Services
Challenges

• Communication (lack thereof)
• Territorial Disputes (becoming a dino)
• 3rd-Party Cooperation
• Data Types
• Systems Security
• Corporate IT Policies
• Automation (Propagation of Errors)
2 Flavors

- Concurrent Cityworks Deployment
  - Concurrent 3rd-party systems deployment
  - Existing 3rd-party system(s)
- Existing Cityworks Deployment
  - Concurrent 3rd-party systems deployment
  - Existing 3rd-party system(s)
Approach - Road Map to Customer Satisfaction

• Planning (Have a Plan – Execute a Plan)
  - Requirements / Assessment
  - Design
• Build
  - Prototype
• User Acceptance and Testing (UAT)
• Training
• Production Deployment

Production Review (Mods/Enhancements)
Planning

- Identify Stakeholders
- Identify Systems of Record
Requirements Assessment

- Develop Work-Flows and Swim lanes
- Engage Stakeholders to include any cooperating 3\textsuperscript{rd}-party vendors
- Identify Data Touch Points
- Schedule Review
Design

- Requirements Document / Sign-Off
Build

- Modified Agile Approach
  - Iterative Review
  - Weekly Progress Meetings
- Proof of Concept
  - Prototype Core Application
  - Test Connectivity Between Systems
User Acceptance & Testing

• Close-coordination with Client Representative(s)

• Develop Use Cases
  - Functional Testing (non-UI)
  - Data Testing
  - UI Testing

• Prep Test Data (reset scripts if necessary)
Training

• Primarily Systems Administrator
• UI Where Applicable
Production Deployment

- Backup Existing Systems
- Moratorium On New Records *(Nights/Weekends)*
- One System at a time *(where possible)*
- Testing/Validation
- Lift Moratorium
- Documentation *(Administrators Need This)*
Production Review

- Defined Period
- Modifications
- Systems Enhancements
Happy Customer

City of Auburn AL

- Cityworks and GIS Integration with:
  - Tyler Technologies’ Eden System Integration
  - Customer Service (Meters)
  - Materials
  - Equipment
  - Employees
  - Customers
Happy Customer

Skagit PUD #1- Mount Vernon WA

- Cityworks and GIS Integration with: 
  * Modeling Complete – Integration In Progress*
  - Harris Cayenta and North|Star
  - Customer Service
  - Labor/Employees
  - Materials
  - Equipment
  - Contractors
Happy Customer

Alpharetta GA

- It’s just getting good!
- Cityworks (AMS/PLL) and GIS Integration with:
  - MUNIS
  - ACS Firehouse (w/ PLL)
  - Plan Check (w/ PLL)
  - Filemaker Data Migration