ssp innovations

GIS • Work Management • Customization • Systems Integration

Maximizing ROI on Utility Work Management Systems

A look at a low total cost of ownership WMS
by SSP Innovations

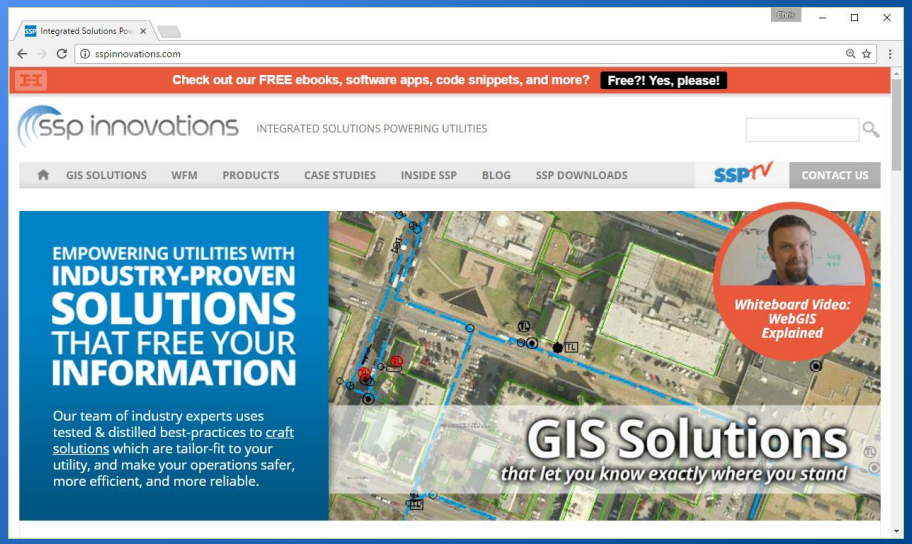
Why we're here

About me

- Over 10 years in Utility Enterprise Systems
- Consultant / Solution Architect
- SSP Innovations
- Previous: Schneider Electric / Telvent / GeoFields
- GIS and Work Management
- Many large projects for utilities and energy companies

About SSP Innovations

- Utility Work Management Product: WFM aka Workforce Management
- 12-year old **Utility technology consulting** company (GIS and WMS)
- Work **exclusively** in the U.S. utility/telecom/pipeline industries
- Began as a services company – now perform services and offer a line of software products



Clients – Referral Network Started with 2 Clients … Now with 80+, Still 100% Reference-able

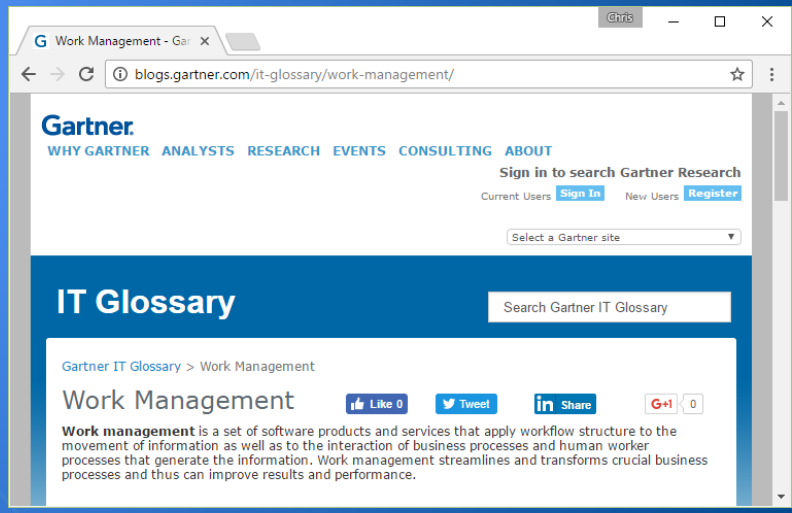
Alabama Power (Southern Co)
Alliant Energy
Ameren
Belmont Light
Benton PUD
City of Beverly Hills, CA
Black & Veatch
Black Hills Corporation
Burbank Water & Power
Burlington Electric Dept
CenterPoint Energy
Central Lincoln PUD
Town of Chapel Hill, NC
Clallam County PUD
Colorado DOT
Connexus Energy
Consolidated Electric
CoServ Electric
Cowlitz County PUD
CPS Energy
CSpire Telecom
Denton Municipal Energy
Digital Globe
Digital West Networks
Douglas County PUD
Energy United
Town of Estes Park, CO
Eugene Water & Electric Board
Fayetteville PWC
Garland Power & Light
Georgia Power (Southern Co)
Glendale Water & Power
Green Mountain Power
Greenville Utilities Commission
Hart EMC
Holyoke Gas & Electric
City of Houston, TX
Hydro One
Intermountain REA
Jackson Energy Authority
Kissimmee Utility Authority
Lansing Board of Water and Light
Kissimmee Utility Authority
Lansing Board of Waster and Light
City of Leesburg, FL
Lincoln Electric System
City of Longmont, CO
Memphis Light Gas & Water
Midcontinent Communications
Middle Tennessee Electric
Midwest Energy
Navajo Tribal Utility Authority
New Braunfels Utilities
NIPSCO
NiSource
Northwest Natural Gas
Norwich Public Utilities
Nsight Telecom
NSTAR
Oconee County, SC
Pacific Gas & Electric
Pasadena Water & Power
Pend Oreille PUD
PLA Detroit
Portland General Electric
POWER Engineers
Public Services of New Mexico
Redding Electric Utility
City of Roseville, CA
Sam Houston Electric
SCANA
Schneider Electric
SMECO
Swova
Texas-New Mexico Power
TOA Technologies
Tri-County Electric
Tri-State G&T
UniSource
Utility Data Contractors
Vectren
Verizon
Westar Energy
Zia Natural Gas

Agenda

- Utility Work Management Systems
- Evaluation Points for Acquisition:
  - Initial considerations
  - Functional characteristics of low cost WMS
  - Implementation considerations
- Summary
- Questions

Work Management Systems

"**Work management** is a set of software products and services that apply **workflow structure** to the movement of information as well as to **the interaction of business processes** and human worker processes that generate the information. Work management **streamlines** and transforms crucial business processes and thus **can improve results and performance**."



Utility Work Management Systems?

- Capital Work Management
- Work Order Management
- Workforce Management
- Work Management
- Work Order Asset Management
- Service Request Management
- Asset Management

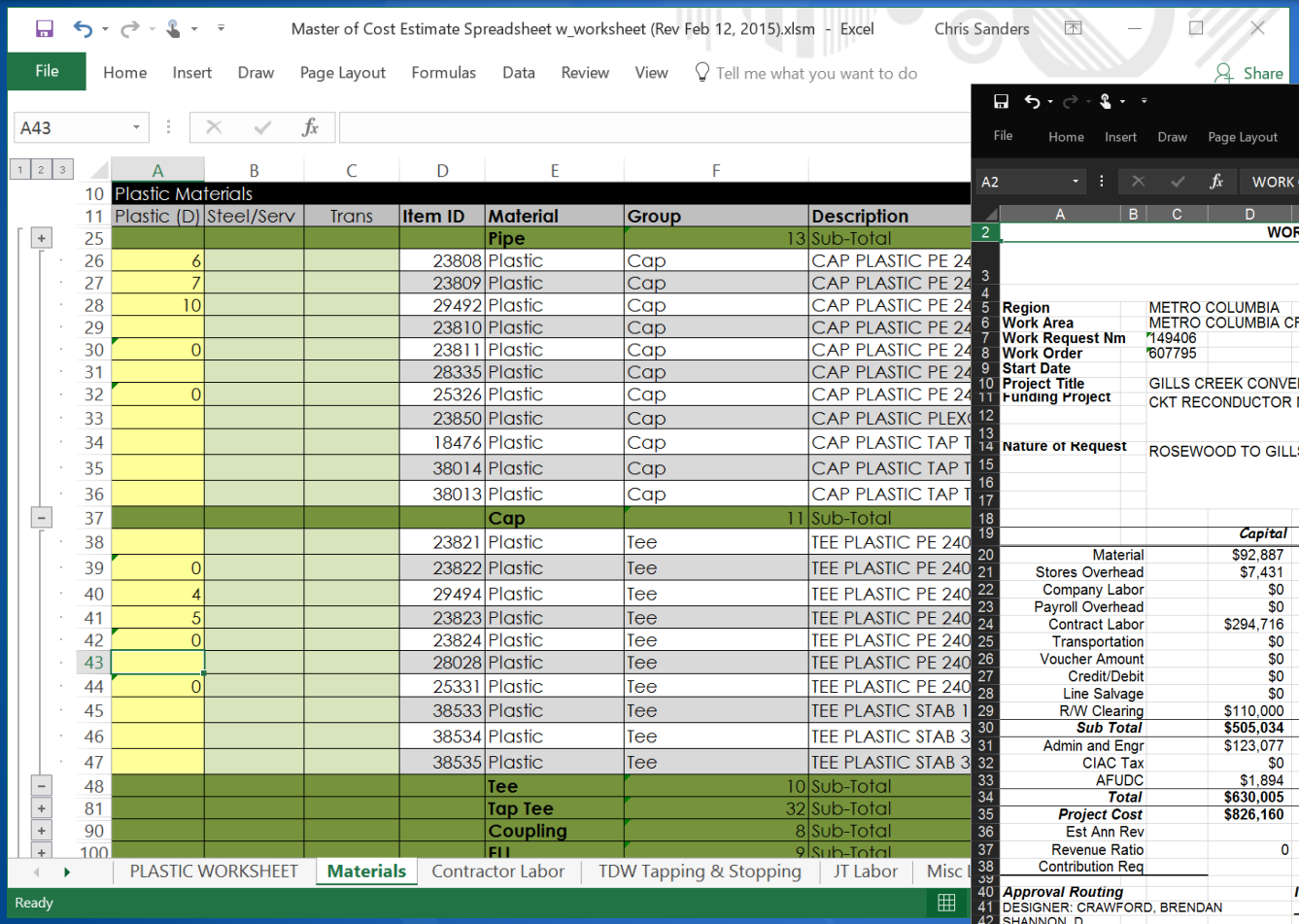
Utility Work Management Systems

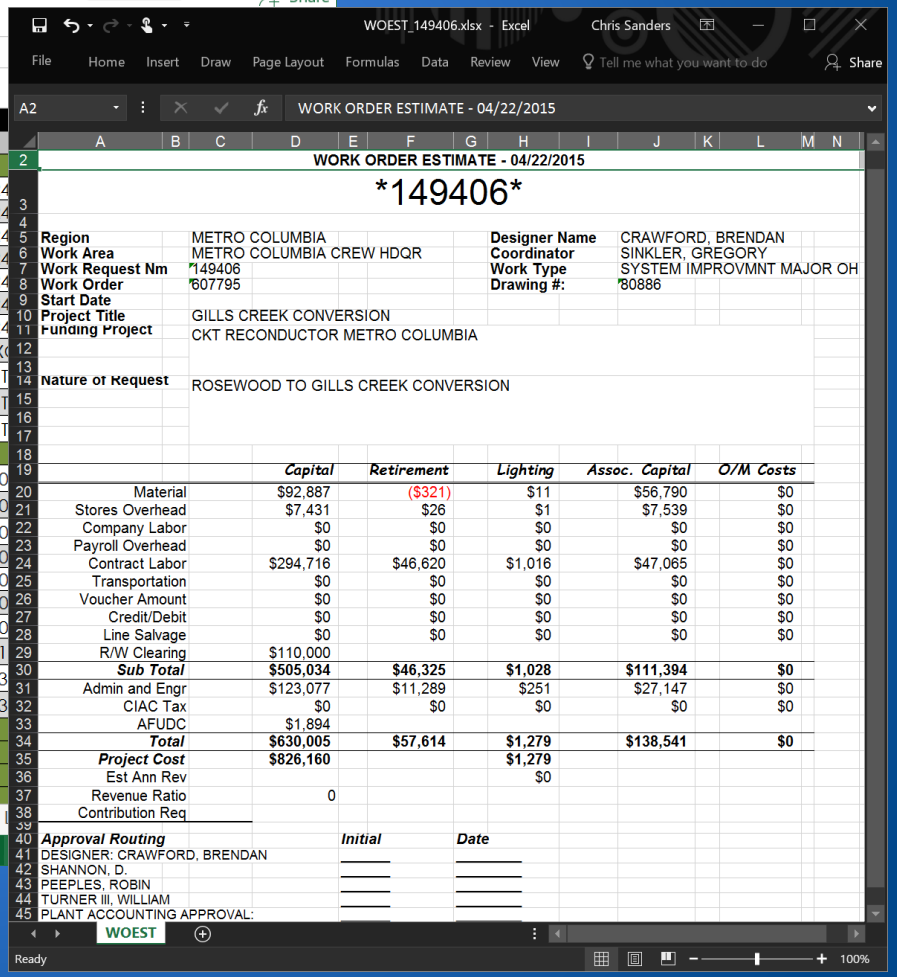
- Construction Jobs for Assets
- Engineering Department

Asset Construction (and Maintenance)

WMS History: Construction jobs managed with paper

WMS History: Construction jobs in Excel

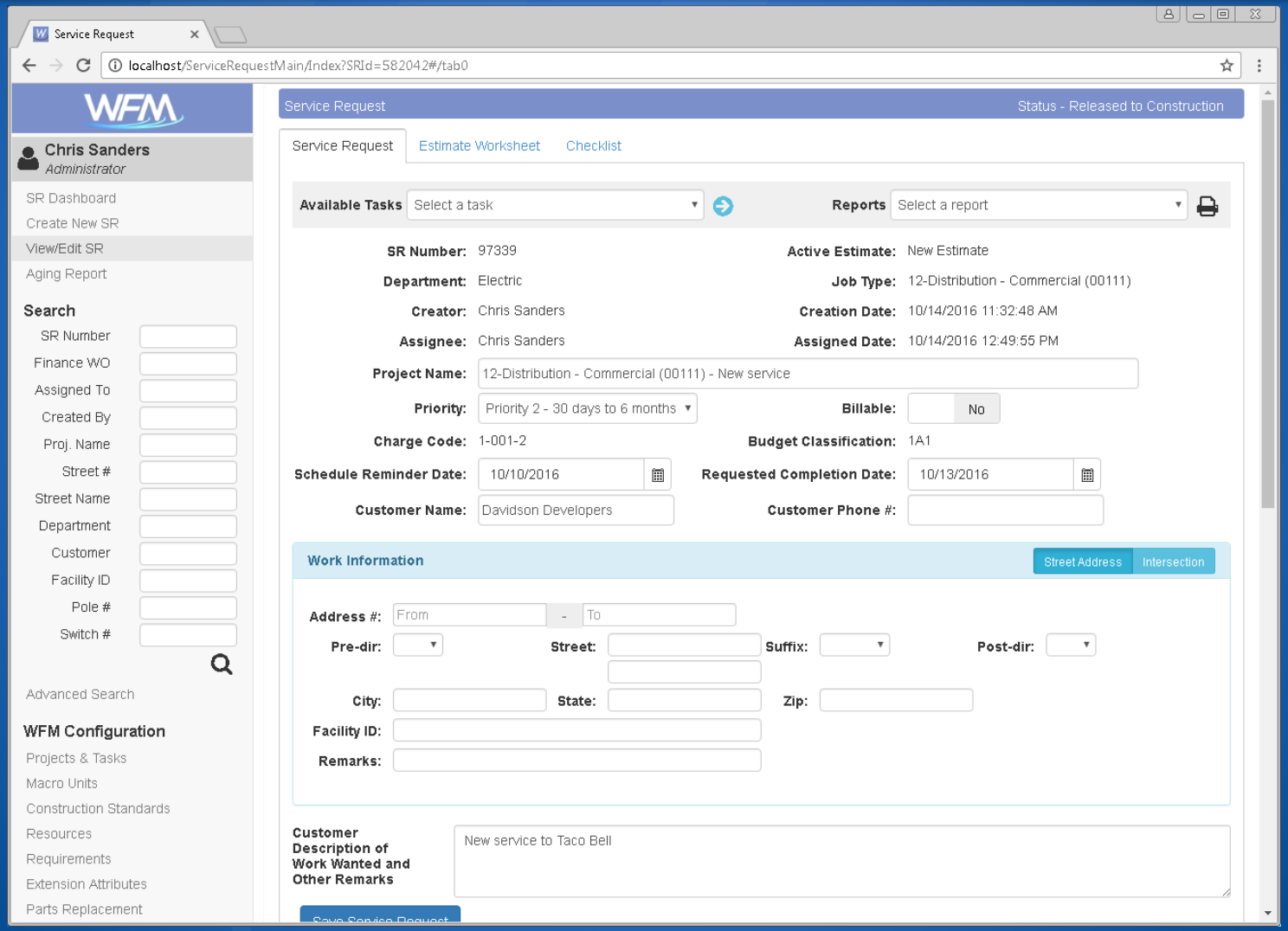




Historical Problems

- Disparate data scattered across the organization
- No enforcement of business process (silos)
- No standardization of estimation
- No opportunities for integrations with other departments / systems
- Difficulty understanding what was estimated vs. what was actually constructed

Construction Jobs in an Enterprise WMS



Benefits of Enterprise WMS

- One central system of record
- Streamline business processes
- Improved project oversight
- Regulatory compliance
- Standardize design and estimation
- Audit tracking

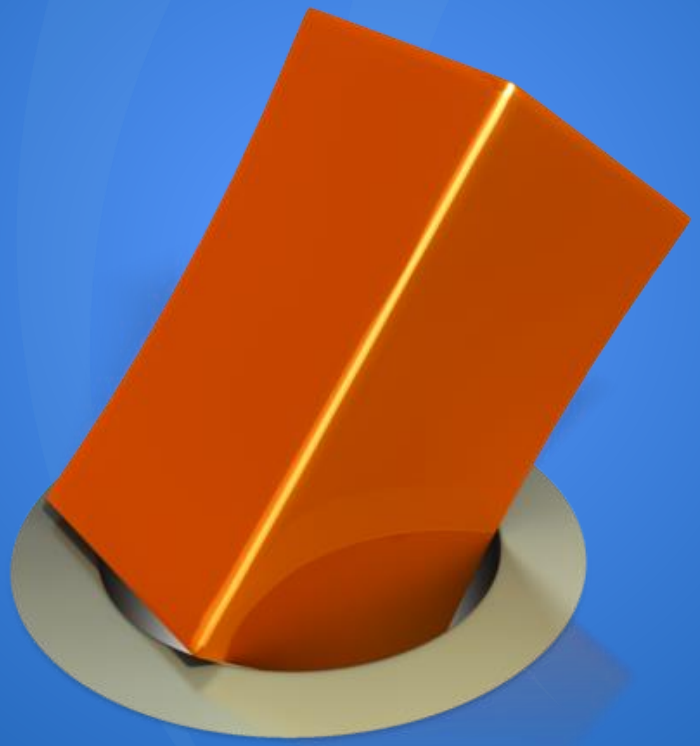
Evaluation Points: Initial Considerations

- The ‘Fit’
- Configuration vs. Customizations vs. Product Enhancements/Modifications
- Technology Framework
  - Web
  - Mobile Support
- Integrations and Integration consciousness

Identify areas of need (WMS)

Identify areas of need (External)

Not all WMS are created equally



Configuration vs. Customization vs. Product Modifcations

- Configuration: No coding required! Use out of the box tools / database values / updates to files to achieve desired outcome.
- Customizations: Required a code change to achieve desired results. Intentionally extensible aspect of the core product framework. Does not require a change to the core product. Less costly!
- Product Enhancement / Modifications – Requires a code change and a release. Impacts many customers.
  - Even longer testing cycles
  - May have to wait to prioritize functionality with the market

Priorities!

1. Configuration
2. Customization
3. Product Modification / Enhancement

Integration Consciousness of a WMS

Integration Consciousness

- Integration: Configuration vs. Customization vs. Product Modification
- Application Design
- Open data model

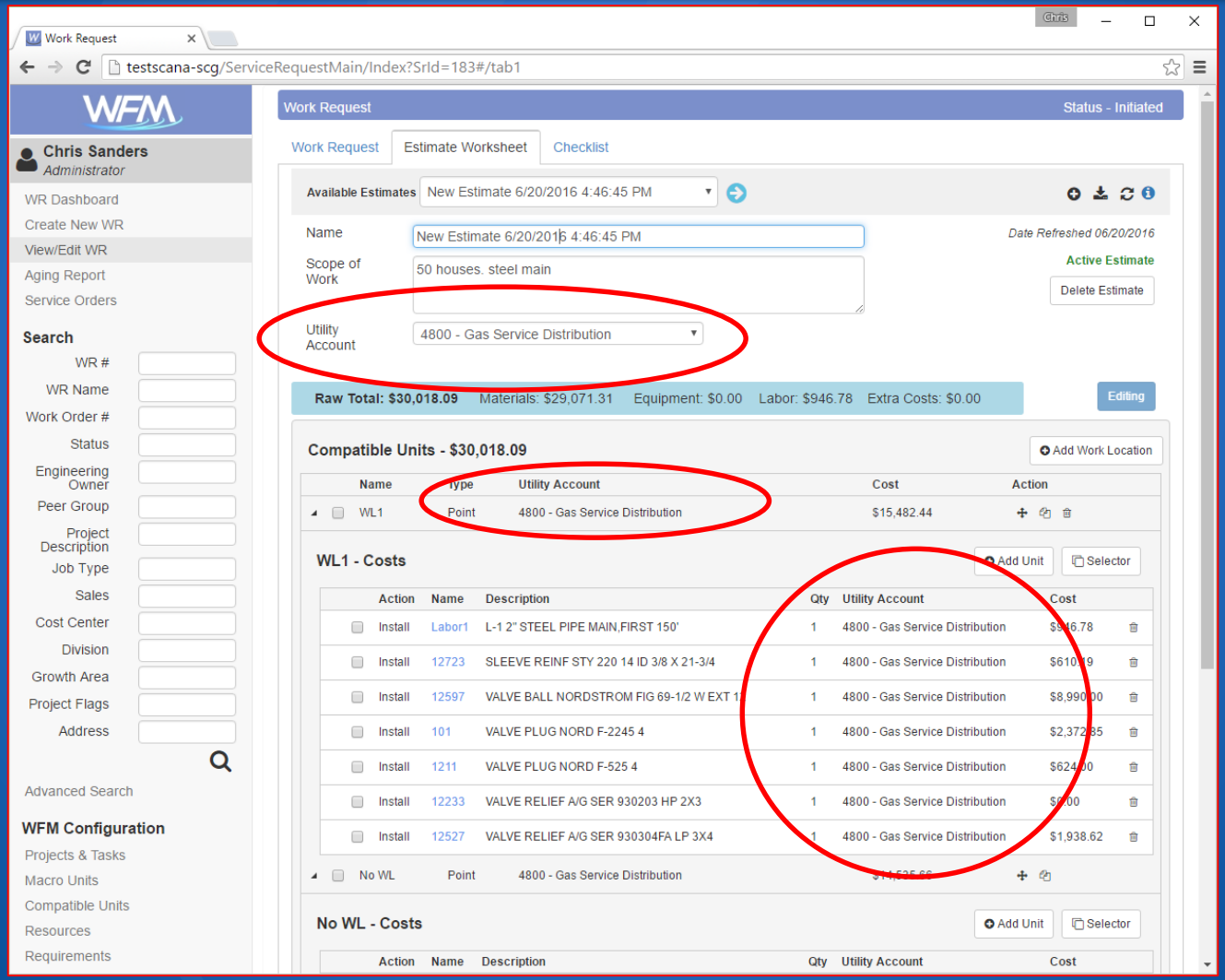
Integration Consciousness

- Potentially costly (but important!) integrations
  - GIS – Most expensive integration
    - Work area organization (i.e. points, spans, area)
  - Accounting
  - Materials Management
- 2 WFM Examples:
  - WFM Estimates and GWD Designs
  - WFM Estimates and Property Accounting

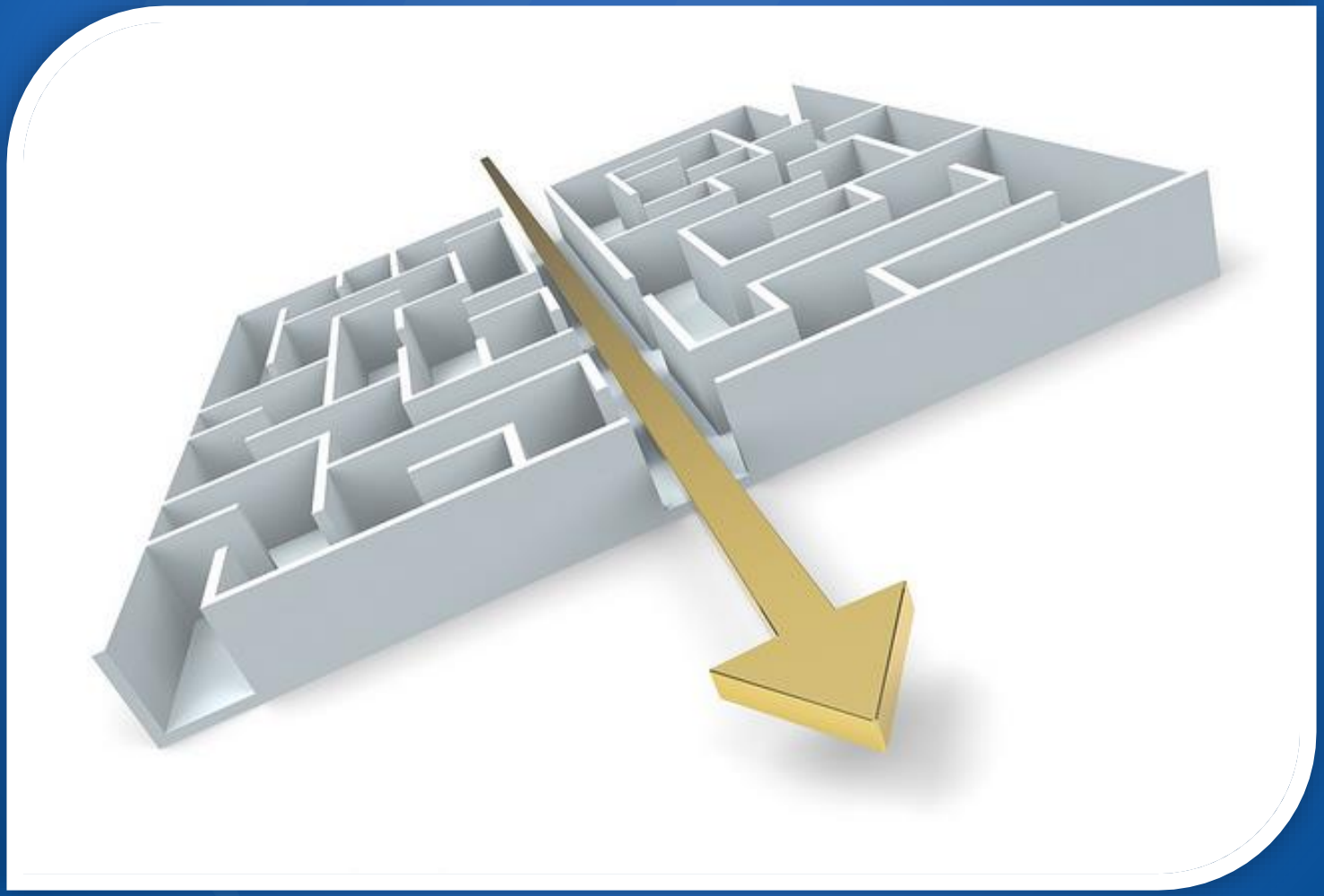
WMS Estimates and Graphic Work Design / GIS

- Service/Work, Request/Order
- Workflow – Status, Transitions, and Tasks
- Estimate/Design
- Work Locations
- Compatible Units / GWD objects or features
  - Resources: Material, Labor and Equipment
- As Builts

WMS Estimates and Property Accounting



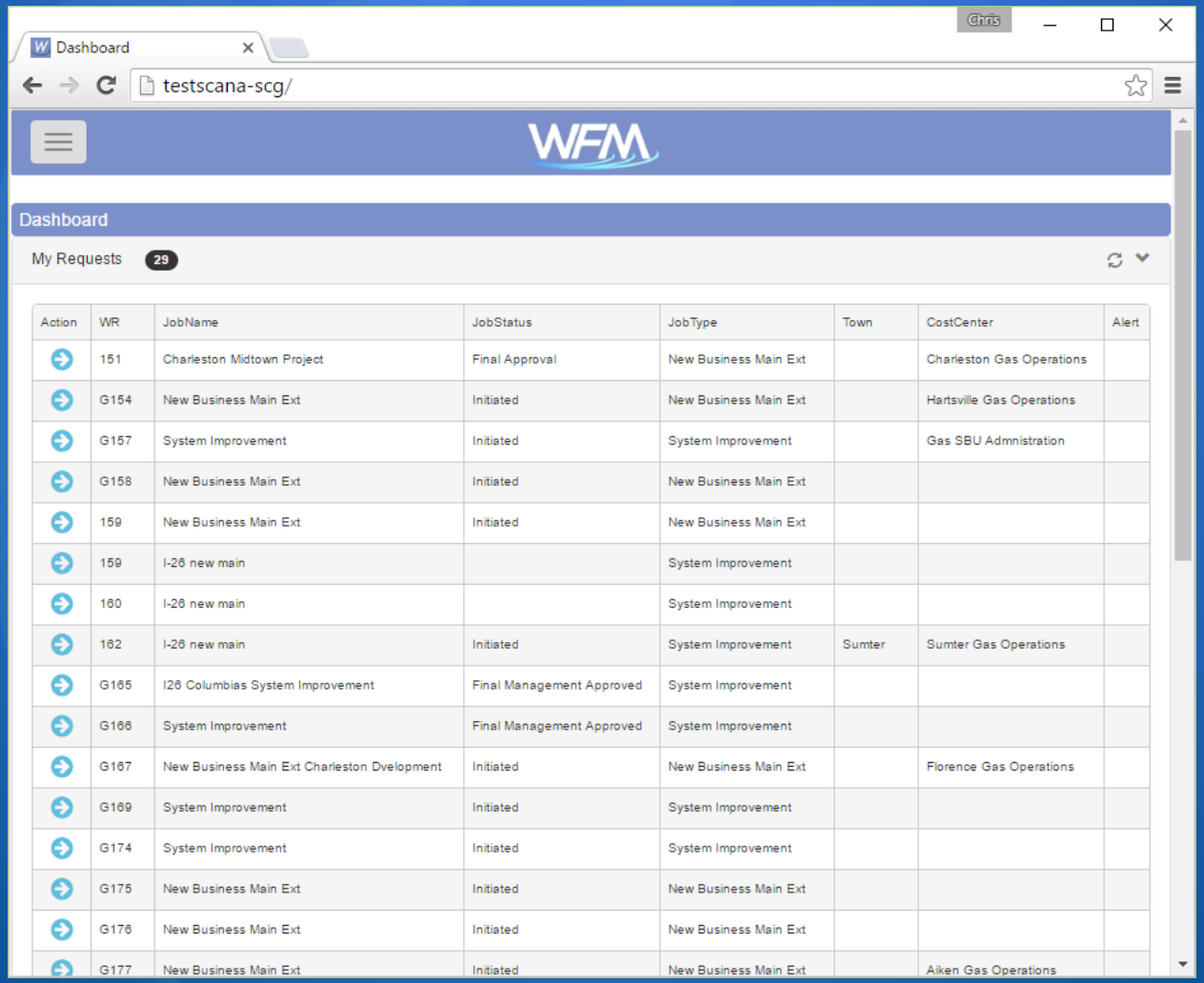
Integration Design



Technology Framework

- Web-based: Why?
- Are all web-based systems the same?
- Mobile considerations

Device Responsiveness UI / UX



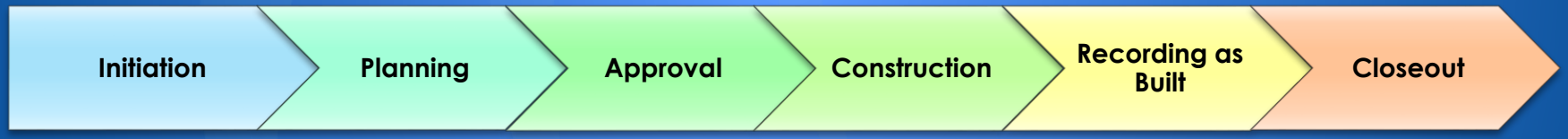
Action	WR	JobName	JobStatus	JobType	Town	CostCenter	Alert
	151	Charleston Midtown Project	Final Approval	New Business Main Ext		Charleston Gas Operations	
	G154	New Business Main Ext	Initiated	New Business Main Ext		Hartsville Gas Operations	
	G157	System Improvement	Initiated	System Improvement		Gas SBU Admnistration	
	G158	New Business Main Ext	Initiated	New Business Main Ext			
	159	New Business Main Ext	Initiated	New Business Main Ext			
	159	I-26 new main		System Improvement			
	160	I-26 new main		System Improvement			
	162	I-26 new main	Initiated	System Improvement	Sumter	Sumter Gas Operations	
	G165	I26 Columbias System Improvement	Final Management Approved	System Improvement			
	G166	System Improvement	Final Management Approved	System Improvement			
	G167	New Business Main Ext Charleston Dvelopment	Initiated	New Business Main Ext		Florence Gas Operations	
	G169	System Improvement	Initiated	System Improvement			
	G174	System Improvement	Initiated	System Improvement			
	G175	New Business Main Ext	Initiated	New Business Main Ext			
	G176	New Business Main Ext	Initiated	New Business Main Ext			
	G177	New Business Main Ext	Initiated	New Business Main Ext		Aiken Gas Operations	

Evaluation Points: Functional characteristics of low cost systems

- Adaptability to utility business processes
  - Handle job types / common tasks
  - What should be configurable?
- Efficiency of common data entry (Estimates!)

Adaptability to utility business process

- Lifecycle Management



Adaptability to utility business process

- Job Scalability
- Out of the box can you?
  - Define Job Types
  - Define the project's job requirements (checklist) by Job Type
  - Define statuses by Job Types
  - Define available tasks by status
  - Define available tasks by user roles/permissions

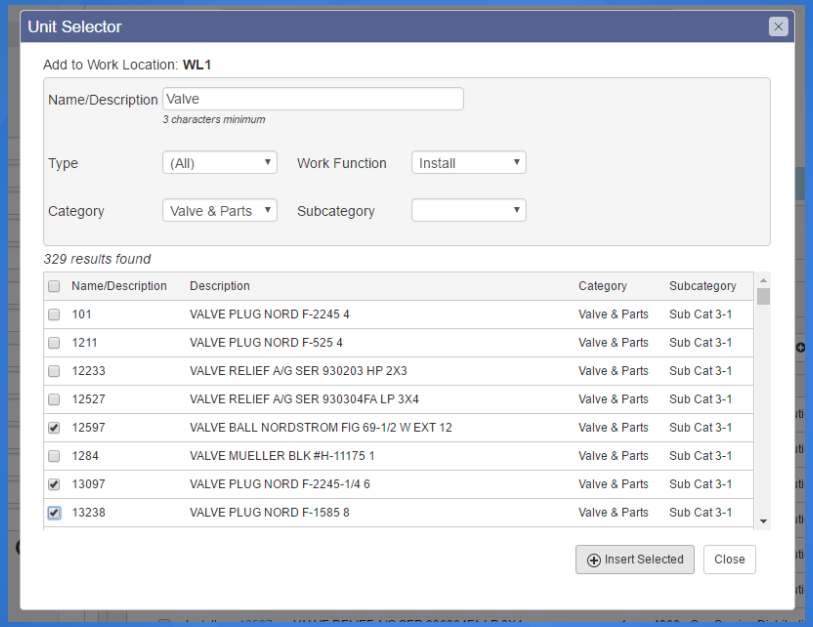
Important Configurations: adapability

- Resources
- Compatible Units
- Macro Units

Data input efficiency

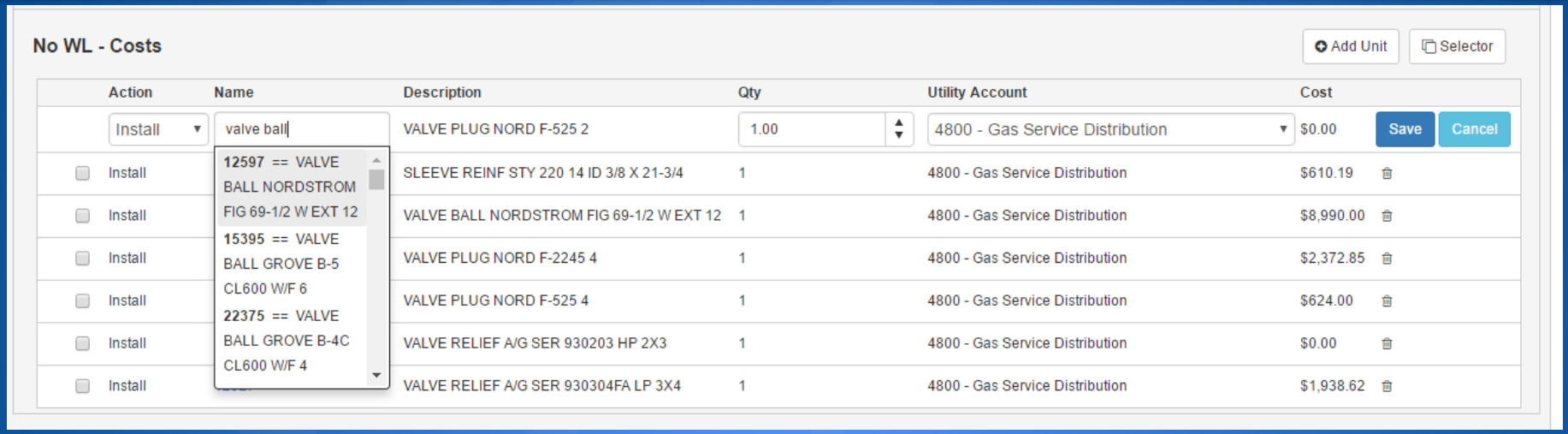
- Estimates! Estimates! Estimates!

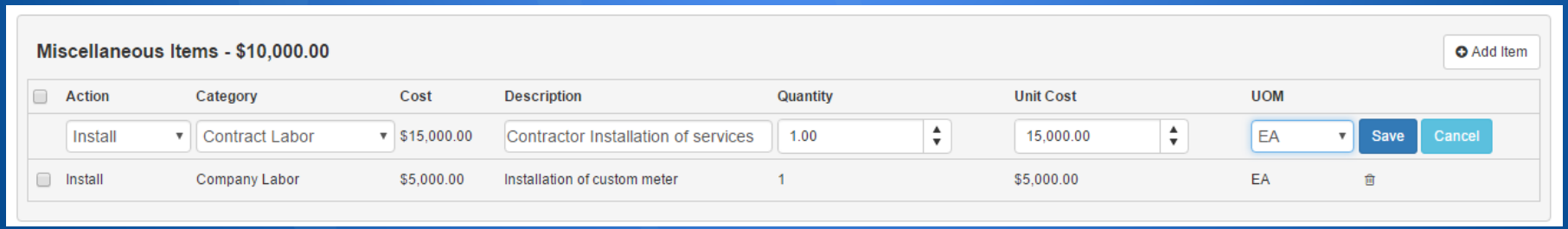
Data Input: A WMS CU / MU Selector



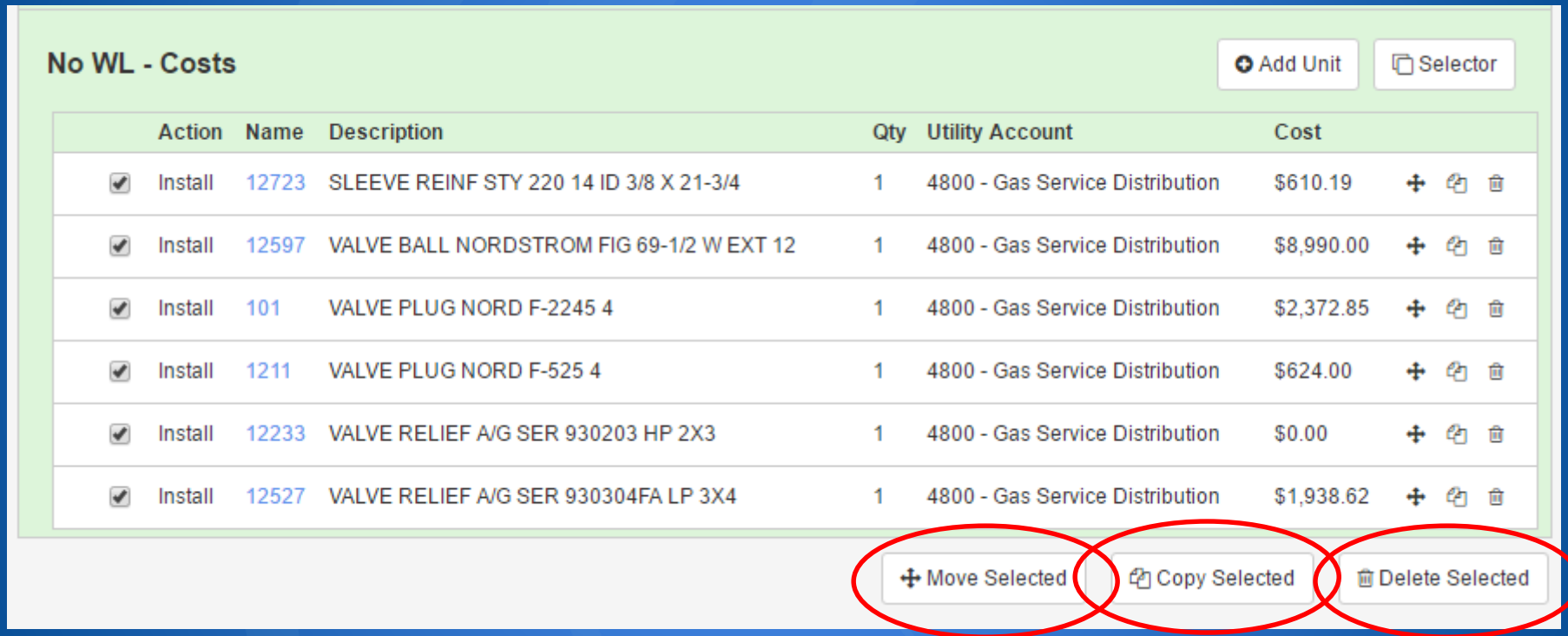
Type ahead and categorization

Data Input: Estimates: Inline editing for CUs, MUs, and Misc Items





Data Input: Estimate Worksheet -Work Locations and CU Selection Controls



Important implementation considerations

- Implementation Project
- Change Management

Implementation Project

- Discovery (for internal and/or external team)!
- System Architecture
- System Integrators and/or Project Team Familiarity with:
  - Affected systems
  - Business processes
  - Technology implemented
  - All!
- Thorough design vetted by Users!

Change Management

- Involve Users, Users, and Users!
  - From start to finish

Indications of Inflexible WMS

- Generic enterprise system that can be used for any purpose
  - Development required to do things you would expect all utilities to do
- Workflows are developed not configured
- No discussion of common hooks or extensibility
- No discussion of an API
- Little or no plans for integrations

Indications of Flexible WMS

- Efficient data entry
- Workflow Engine that can be configured
- Instant recognition for placement (extensible framework) of uncommon (company specific) modules
- ‘You can configure the system’ to do common things you’d expect utilities to do

Questions?

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Thank You!

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