Web Trns•port Overview

County Engineers' Workshop

February 12, 2014

Background

- *MDOT uses AASHTO Trns•port systems to manage and process virtually all aspects of Michigan's road, bridge, airport, and railroad construction project life cycles*

- *Trns•port systems are critical to MDOT carrying out its mission*

- *Current systems utilize client/server based technology*
  - *Becoming obsolete*
  - *Eventually will no longer run in our standard and supported environment*

- *AASHTO sponsoring major endeavor to rewrite and update the existing client/server based systems for operation in web based environment*

- *Endeavor is called Web Trns•port (WT)*

Transition Analysis Project

- *DTMB/MDOT conducted Web Trns•port (WT) Transition Analysis Project in 2011*

- *Purpose of project was to identify and examine the issues involved with migrating the existing client/server based Trns•port systems to the new WT systems*

- *Based on the results of the analysis, it was recommended:*
  - *MDOT move forward with implementing the WT systems*
  - *Eventually retire the client/server predecessors*
  - *Replace MDOT's Materials Testing System (MTS) with the WT Construction/Materials System*
  - *Implement WT Civil Rights and Labor Management System (CRLMS)*

Current/Replacement Systems

Current System	WT Replacement System
• Proposal and Estimates System (PES) • Letting and Awards System (LAS)	• Preconstruction
• FieldManager Software Suite • FieldNet System • Construction Administration System (CAS) • Materials Testing System (MTS)	• Construction/Materials
N/A	• Civil Rights and Labor Management System (CRLMS)

Business Case For Moving Forward

- *New and improved functionality in WT systems*
  - *Significant amount of new business functionality in addition to retaining applicable functionality in client/server predecessors*
  - *Provides improved business efficiencies as software is built using best business practices based on input from DOTs nationwide*
- *AASHTO using license fees from client/server systems to help fund the development of WT systems*
  - *AASHTO no longer funding enhancements to client/server systems*
  - *Only further investment being made by AASHTO to client/server systems is for break/fixes*
- *Consistent with State of Michigan's strategic direction which calls for migrating client/server applications to web based environment*

Business Case For Moving Forward (cont)

- *WT systems designed with a unified data model with a single standard security model*
  - *Provides single consolidated architecture that addresses the entire construction project life cycle (design, letting, award and construction) in one consolidated system*
  - *Provides many benefits including ability to install and maintain a single software solution for multiple functional areas*
- *Web based systems are industry standard and offer many advantages over client/server systems*
  - *Access to software much more readily available to users as web browser and internet connection is all that's required*
  - *Users no longer have to deal with installs, patches, and upgrades*
  - *Software upgrades much faster to complete statewide*
  - *Software less costly to maintain for MDOT, DTMB, and user organizations*

Business Case For Moving Forward (cont)

- *If MDOT/DTMB does <u>not</u> move forward, the following will likely occur:*
  - *MDOT/DTMB will lose AASHTO support for client/server systems*
    - *AASHTO is sun setting client/server systems and will no longer provide support after sun set date*
    - *PES/LAS support ends 6-30-14*
  - *MDOT will have to independently fund enhancements needed to client/server systems in order to keep functionality current*
  - *MDOT would not realize the many new business functions and efficiency improvements provided in WT*
  - *Client/server systems will eventually no longer run in State of Michigan's standard environment*

Projects Needed To Move Forward

Web Trns•port Project	Est. Begin Year	Est. End Year
Construction/Materials Development	2011	2014
Preconstruction Analysis/Preparation	2011	2014
Preconstruction Implementation	2013	2014
Construction/Materials Phase I Analysis/Preparation	2015	2015
CRLMS Phase I Analysis/Preparation	2015	2015
Construction/Materials Phase I Implementation	2016	2016
CRLMS Phase I Implementation	2016	2016
Construction/Materials Phase II Analysis/Preparation	2017	2017
CRLMS Phase II Analysis/Preparation	2017	2017
Construction/Materials Phase II Implementation	2018	2018
CRLMS Phase II Implementation	2018	2018

WT Preconstruction Analysis/Preparation Project

- *Conducts the analysis work and tasks required to prepare the system for implementation*
  - *Gap analysis between Preconstruction and it's predecessor systems*
    - *Proposal and Estimates System (PES)*
    - *Letting and Awards System (LAS)*
  - *Preparation work required to migrate PES/LAS data, interfaces, reports, and business processes to Preconstruction*
  - *Configuring and testing software in DTMB's environment*
  - *Development of implementation plan*
  - *Upgrading 20 interface systems to interface with Preconstruction instead of PES/LAS*
  - *Project scheduled for completion in Feb. 2014*

WT Preconstruction Benefits

- *Provides new business functionality and features in addition to retaining applicable functionality in PES and LAS*
- *General improvements include:*
  - *Significant customization options which include the ability to:*
    - o *Customize screens*
    - o *Insert external links on screens*
    - o *Customize reports*
    - o *Develop and embed new reports*
    - o *Locate user access to reports based on the business task at hand*
  - *New functionality which includes:*
    - o *Auto-complete function*
    - o *Event notifications*
    - o *Issue tracking*
  - *Ability to review all projects, proposals, and lettings regardless of owner*
  - *Ability to export reports in XML file format*
  - *Improved report processes*
  - *Enhanced security*

- *Project level functional improvements include:*
  - *Ability to:*
    - *View items within projects*
    - *Copy similar breakdown/items to multiple breakdowns*
    - *Easily renumber breakdown IDs*
    - *Automatically generate project item line numbers and breakdown item line numbers*
    - *Price items at the project item level*
  - *Enhancements to the import from MERL process*
  - *Security enhancements including:*
    - *Ability for users to read all projects*
    - *New workflow phase rules to help prevent errors*
    - *Additional project validation checks to help prevent errors*

- *Proposal level functional improvements include:*
  - *Ability to lock proposals*
  - *New validations to help verify winning bids*
  - *Proposal addenda's support of breakdown/items*
- *Bid-level functional improvements include:*
  - *Automated proposal postponement process*
  - *Ability to re-let an un-awarded proposal on a bid letting*
  - *Option to remove proposals*
  - *Innovative bidding ability*
- *See Web Trns•port Preconstruction Benefits document for complete list of benefits*

WT Preconstruction Implementation Project

- *Will implement Preconstruction system into production and decommission PES and LAS*
  - *Report development and customizations (82 reports)*
  - *System configuration and customizations*
  - *Testing (Integration, Parallel, User Acceptance)*
  - *User Training*
  - *Cut-over*
    - *Migrate data from PES/LAS to Preconstruction*
    - *Implement 20 upgraded Preconstruction interface systems into production*
    - *Implement Preconstruction into production*
    - *Decommission PES and LAS*
    - *Cut-over currently scheduled to occur between 5-15-14 and 6-30-14*

WT Preconstruction Implementation Project

- *Initial implementation will be for MDOT staff only*
- *Local agencies and design consultants will continue to use the Michigan Engineers' Resource Library (MERL) and the Stand Alone Project Worksheet (SAPW)*
  - *Will need to use new export project function in MERL and SAPW to submit projects to MDOT after cut over to Preconstruction*
  - *Will need current MERL and SAPW releases*
- *MDOT will likely allow local agencies and design consultants to use Preconstruction in a future release*

WT Construction/Materials Development Project

- *Project includes the software design and engineering required to develop the Construction/Materials system*

- *Currently in the Design and Development phases*

- *New software:*
  - *Will be an AASHTOWare product*
  - *Will be web based*
  - *Currently named Trns•port Construction/Materials*
    - *Will be renamed AASHTOWare Project Construction & Materials as part of AASHTO rebranding initiative*

MI/AASHTO Partnership

- *MI has partnered with AASHTO on Construction/Materials Development Project:*
  - *MI is the champion state and taking nationwide leadership role*
  - *Project management and oversight assistance*
  - *Staff for comprehensive hands-on participation*
  - *Funding contribution*
  - *Michigan's software requirements are included in project*
- *Partnership benefits include:*
  - *AASHTO and other states provide majority of funding*
  - *Draw on expertise of AASHTO committee members for "best business practices" (16 states participating)*

States Participating In WT Construction/Materials Project
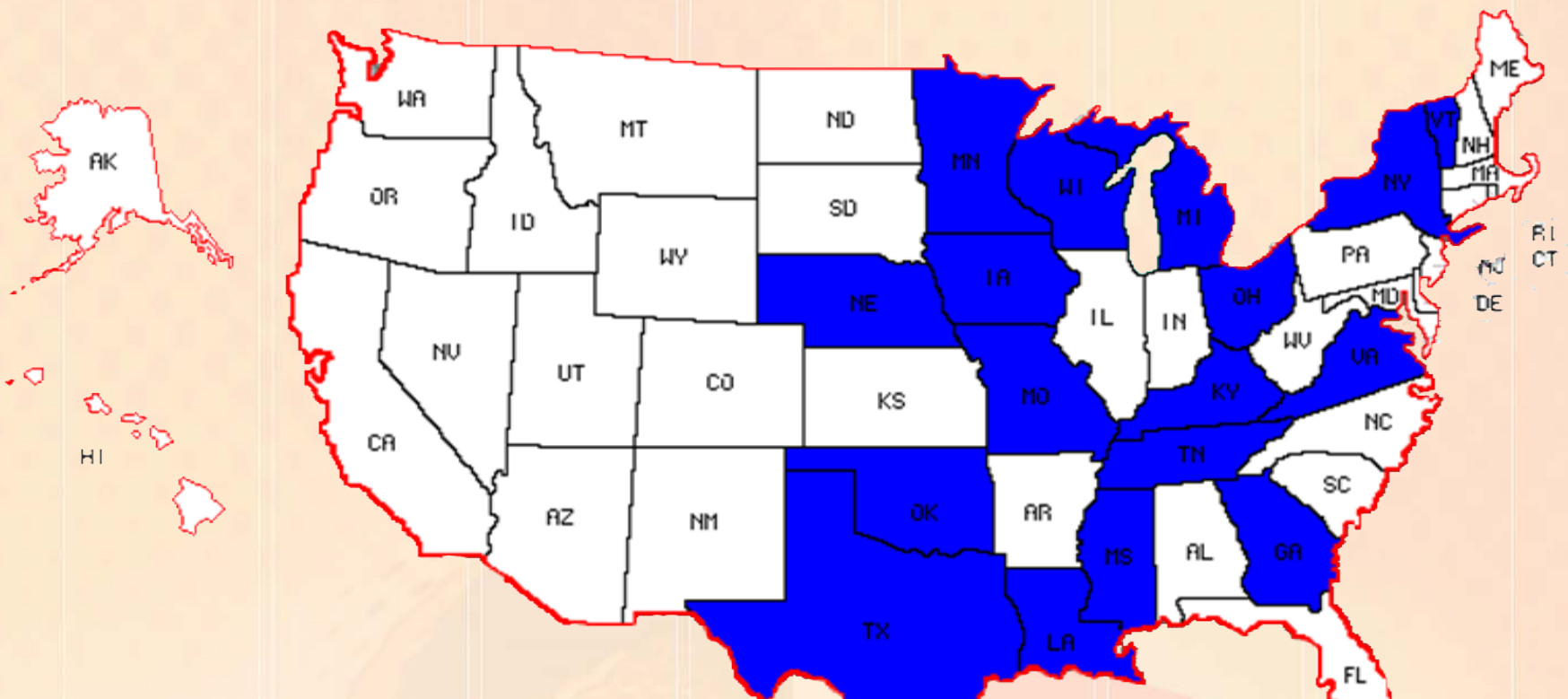
1. *Kentucky*
2. *Louisiana*
3. *Georgia*
4. *Iowa*
5. *Michigan*
6. *Minnesota*

7. Missouri
8. Nebraska
9. New York
10. Ohio
11. Oklahoma
12. Tennessee
13. Texas

14. Vermont
15. Virginia
16. Wisconsin

WT Construction/Materials Functionality

- *Will contain all applicable functionality currently in FieldManager and CAS*
- *Will also include significant amount of new functionality:*
  - *Electronic approvals for:*
    - *Contract Modifications*
    - *IDRs*
    - *Pay Estimates*
    - *Contractor Performance Evaluations*
  - *Ability to go paperless in many areas including:*
    - *Contract Modifications*
    - *IDRs*
    - *Pay Estimates*
    - *Contractor Performance Evaluations*
    - *Material Test Reports*
    - *Material Test Certifications*
  - *Historical reports*

- *New functionality (cont):*
  - *Materials management :*
    - *Material requirements*
    - *Laboratory information management*
    - *Source & facility oversight*
    - *Material sampling, testing, usage and approvals*
  - *Storm water environmental compliance inspections*
  - *Force accounts*
  - *Event notifications*
  - *User roles*
  - *Enhanced security*
  - *Pursuing with AASHTO including a mobile inspection app for use on mobile devices (tablets, smart phones)*

- *Improved/reengineered functionality in many areas including:*
    - *Material approvals*
    - *Material usage*
    - *Stockpiles*

- *Web based system will streamline and eliminate:*
    - *FieldNet*
    - *Sending read-only copies of contracts to contractors*
    - *Software installs and upgrades*

- *New user interface:*
    - *Will not look like FieldManager*
    - *Will look like a web application*

WT Construction/Materials Enterprise Level Options

- *Contains many enterprise level agency customization options*
- *Customization options include the ability to:*
  - *Customize field labels*
  - *Customize screens*
  - *Insert external links on screens*
  - *Customize reports*
  - *Develop and embed new reports*
  - *Locate user access to reports based on the business task at hand*
- *Also contains hundreds of enterprise level agency configuration options which will allow MDOT to configure the software based on MDOT business rules*

WT Construction/Materials Terminology

- *Goal is to use standardized AASHTO terminology as much as possible*
- *Likely terminology changes include:*
  - *Inspector's Daily Report -> Daily Work Report*
  - *Contract Modification -> Change Order*
  - *Construction Pay Estimate Report -> Payment Estimate For Contractor*
  - *Contractor's Performance Evaluation -> Contractor Evaluation*
  - *National Pollutant Discharge Elimination System -> Stormwater Environmental Compliance Inspection Report*
  - *Site Times - > Contract Times*

WT Construction/Materials Schedule

TASK	Begin Date	End Date
Analysis	Apr. 2010	Oct. 2011
Design	Jan. 2011	Jan. 2014
Development	Apr. 2011	Feb. 2014
Alpha Testing	Feb. 2014	May 2014
Beta Testing	May. 2014	Sept. 2014
Production Release Finishing	Oct. 2014	Dec. 2014
Phase I Production Preparation	Jan. 2015	Dec. 2015
Phase I Implementation	Jan. 2016	Dec. 2016
Phase II Production Preparation	Jan. 2017	Dec. 2017
Phase II Implementation	Jan. 2018	Dec. 2018

- *MDOT/DTMB plans to host Construction/Materials software for MDOT let contracts only*
- *Working with AASHTO to offer locals and consultants solution for non-MDOT let contracts*
- *Currently exploring options which include:*
  - *Licensing Construction/Materials from AASHTO*
    - *Local/consultant would be responsible for hosting software*
  - *Licensing Construction/Materials hosted service from AASHTO*
    - *Software would likely be hosted by the AASHTO contractor*
  - *Licensing the AASHTO contractor's Appia software*
    - *Software would likely be hosted by the AASHTO contractor*
- *FieldManager will continue to be available for non-MDOT let contracts for awhile after MDOT has implemented Construction/Materials*

Questions?

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