



Change Management Board Meeting

September 20, 2011

Video Conference: CO- Burns Video Bridge 3

Audio: 850 - 414 – 5666



Welcome and Call for Quorum

Eric Gordin, CMB Chairman



Agenda



Time	Item	Lead
1:30 – 1:35	Welcome and Call for Quorum	Eric Gordin
1:35 – 1:40	Previous Meeting Recap and Action Item Review	Eric Gordin
1:40 – 1:45	CMB Chair Nomination	Eric Gordin
1:45 – 1:50	SunGuide 5.1 Update	Clay Packard
1:50 – 2:00	FMT / ITS WAN update	Frank Deasy
2:00 – 2:15	TVT Scheduling <i>(vote)</i>	Robert Heller
2:15 – 2:40	SQL Server <i>(vote)</i>	Robert Heller
2:40 – 3:05	Color DMS <i>(vote)</i>	Eric Gordin Robert Heller
3:05 – 3:15	Break	



Agenda



Time	Item	Lead
3:15 – 3:40	TVT Algorithm (<i>vote</i>)	Robert Heller
3:40 – 4:05	ONVIF Support (H.264 / Video Switching)	Robert Heller
4:05 – 4:20	Top Priority Item by District	Eric Gordin
4:20 – 4:30	Action Items Review	Eric Gordin

Supporting Materials:

<https://atkins.box.net/shared/j0uu6q10tnte5ffqzt7e>



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Previous Meetings Recap and Action Items Review

Eric Gordin



April 2011 Action Items



1. SwRI to provide cost estimate for video touring.
2. CMB to choose one of two options presented for H.264 during the meeting.



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WAN / FMT Update

Frank Deasy



Change Management Board



SunGuide 5.1 Development

Presenter: Clay Packard



Release 5.1 (part 1)



- **Connected Vehicle**
 - **Communicate with Roadside Equipment**
 - **Send Traveler Advisory Messages**
 - **Receive Basic Safety Messages from ITS Beacons**
 - **Receive Probe Vehicle Data Messages**
 - **Integrate with TSS**
 - **Integrate with Response Plan Generator**



Release 5.1 (part 1) IV&V



- Environment Challenges
- Concept Demonstrated
- Issues Identified and being corrected
- Continued retest on test system in preparation for World Congress
- No impact to rest of SunGuide



Release 5.1 (part 2)



- **New Features by requesting District:**
 - DMS Multi-Threading
 - EM Publish Flag
 - OOCEA Alerts for TSS Detectors
 - Response Plan “Miles Ahead” Tag (FP1260)
 - FL-ATIS Soft Messaging
 - Closed Events Removed from Map



Release 5.1 (part 2)



- **New Features by Requesting District:**
 - Multiple Virtual Video Wall Layouts (FP730)
 - Suppress Redundant Spelling Conflicts (FP1522)
 - DMS Blanked Chronology Word Correction (FP1753)
 - Improved Error Message in Ramp Meter Configuration (FP1829)
 - Spelling Conflict Bypass Flag (FP1854)



Release 5.1 (part 2)



- **Testing Approach**
 - **New Requirements (previous slide)**
 - **59 Footprints**
 - **Regression**
 - **Admin Editor and Operator Map GUI checklist**
 - **Windows 2008 R2 (64 bit)**
 - **same procedure as regression testing**



Release 5.1 (part 2)



- **5 Issues Found:**
 - Detector threshold overlap
 - Invalid data email alerts missing
 - SPARR error preventing event departure
 - TSS Rollups calculated incorrectly
 - Video destinations could not be added
- **All issues addressed and retested in subsequent build on 9/8 and 9/9**



Release 5.1 Distribution and Training



- **SunGuide Release 5.1 Distribution expected out by 9/23**
- **Admin Training provided by SwRI during the installation process.**
 - **Local Technical staff encouraged to attend installation process as well**
- **Operator Training available and typically provided soon after deployment**
 - **Customized per need – please contact Clay**



Change Management Board



Travel Time Scheduling

Presenter: Robert Heller



Travel Time Scheduling

- **Footprints 1473 requested the ability to turn on or off TVT message on a DMS**
 - Originally affect all signs
 - Evolved into ability to create schedule to control display of TVT on signs
- **SunGuide contains**
 - **Scheduled Actions Subsystem: create a sequences and schedules**
 - **DMS Sequences: schedule when message will be displayed**



TVT Scheduling Approach



- **Rework existing SAS dialogs**
 - Easier to understand
 - Move sequence and schedule creation from Admin to GUI using WPF
 - Protected by privilege
- **Extend SAS subsystem functionality**
 - Preserve CCTV
 - Add DMS sequences
 - Add TVT schedules



Functionality & Cost



- Associate schedule with
 - Manual message for single DMS or DMS group
 - Library message for single DMS or DMS group
 - Travel time device template message
 - Travel time global display
 - Travel time for single sign display
- Budgetary estimate: \$75,000



Change Management Board



Oracle to SQL Server Transition

Presenter: Robert Heller



Oracle Licensing Scheme



- **Per Core Licensing (.5 multiplier)**
- **Oracle (Technical) Support**
 - Free software upgrades included
 - Pay per license, regardless of support usage
- **Oracle has an add-on based sales structure**
- **Dataguard is needed for off-site disaster recovery, and must be purchased for each license**
- **4 Oracle licenses are required to implement the test system**
 - 2 licenses each for Servers A and C
 - Oracle Failsafe for Servers B and D



MS SQL Server Licensing Scheme



- **Per Processor Licensing**
- **Premier (Technical) Support**
 - Free upgrades not included
 - Pay per support usage, not per license
- **Software Assurance = free software upgrades**
 - Separate from technical support
- **SQL Server has no add-ons**
 - All functionality contained in base software
- **These factors lead to major cost reduction**
- **1 license required to implement test system**



Cost Evaluation



- Oracle cost includes four licenses and four Dataguard purchases at GSA prices
- SQL Server cost includes one license at general Florida contract price

	Oracle Enterprise w/o Support (Support required for first year)	Oracle Enterprise w/ Support	SQL Server Enterprise w/o Premier Support	SQL Server Enterprise w/ Premier Support
First Year Cost	\$106,204.56	\$106,204.56	\$15,560.00	\$25,560.00
Five Year Cost	\$106,204.56	\$182,811.12	\$15,560.00	\$65,560.00



Closing Comments



- Oracle is a great DBMS, but is expensive
- SQL Server can meet the needs of SunGuide at a lower cost
- The estimated five year savings of migrating SunGuide to SQL Server: \$1,240,943.41

Total cost of Oracle Support = \$ 1,655,503.41
= Yearly Single License Support Cost X 37 Licenses X 5 Years

Total cost of SQL Server Licenses and Support = \$414,560.00
= (26 Licenses X Cost of a Single License) +
(5 years X Support Costs)



Approach & Cost



- **Modify database objects (tables, views and dependencies)**
- **Migrate PL/SQL to subsystems (EM, RS, DA)**
- **Update SunGuide subsystems**
- **Provide methods to convert existing data**
- **Produce database creation scripts**
- **Perform Oracle & SQL Server testing**

- **Cost: \$350,000**



Change Management Board



Full Color DMS

Presenter(s): Eric Gordin
& Robert Heller



Full Color DMS



- NTCIP v2 Support
- See Color DMS ConOps (9/9/11 from A. Krishnamurthy)
- Standard Color DMS Template:



- Message Templates:
 - Travel Time
 - Event Management
 - Crash Ahead, Construction Ahead, Wet Roads Ahead.



Full Color DMS



- Examples from ConOps:



#1



#2



Full Color DMS



- Examples from ConOps:



#3



#4



Full Color DMS



- Examples from ConOps:



#5



SunGuide Enhancements



- **DMS to use NTCIP V2.0 color and graphics OIDs**
- **Create a graphic library with add and delete functions**
- **TVT and response plan templates**
 - Use a graphic from the local library
 - Specify color for the background and text
- **Sizing algorithm to fit oversize message**
 - Apply abbreviations
 - Remove the graphic



SunGuide Enhancements



- **Manual message send form**
 - Use a graphic from the local library
 - Specify color for the background and text
- **Center to Center**
 - Status will support color and graphics
 - Command will support color & graphics



Cost



- **Based on availability of TxDOT “merged” DMS**
 - FDOT multi-thread
 - TxDOT mono-chrome, text only Version 2
- **Single control for display**
- **Cost: \$185,000**



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Probe Matching Algorithm

Presenter: Robert Heller



Probe Matching Algorithm

- **Footprints 1847 reported a possible problem with travel time algorithm**
 - Exposed recurring problem with probe based speeds in low volume conditions
 - Applies to probe technologies (Tags, LPR, Bluetooth, etc.)
- **Example: single vehicle match stops between readers for rest stop, flat tire, driver changes, etc.**
- **OOCEA probe based speed requires**
 - Minimum number of matches
 - Within recent time period



SunGuide Enhancements



- **Modify the probe based speed calculation require**
 - Minimum number of matches parameter
 - Matches no older than parameter
- **Introduce volume parameter and age parameters**
 - System default
 - Link specific override
- **Cost: \$35,000**



Change Management Board



ONVIF Support

Presenter: Robert Heller



SunGuide Digital Video

- **Early digital video support in SunGuide**
 - Selected encoders & decoders in use
 - Implements driver for those legacy devices
 - All MPEG-2
- **Developments since SunGuide 1.1**
 - MPEG-4, H.264
 - Two surveillance associations
 - Open Network Video Interface Forum (ONVIF)
 - Physical Security Interoperability Association (PSIA)



ONVIF



- **Status**
 - Currently 331 member companies
 - 973 compliant products
- **Specifications**
 - ONVIF Core Specification, V 2.1 (Jun 2011)
 - ONVIF Test Specification, V 1.02.4 (Jul 2011)
- **WSDL and XML Schema**
 - Versions vary
 - Jun 2011



ONVIF Device Types

- **Network Video Transmitter (NVT)**
 - Sends media data over an IP network to a client.
 - Examples: IP network camera, encoder
- **Network Video Display (NVD)**
 - Receives media data over an IP network and outputs it.
 - Examples: IP network video monitor
- **Network Video Storage (NVS)**
 - Records media over an IP network, to a permanent storage medium.
- **Network Video Analytics (NVA)**
 - Performs analysis on media data an IP network



SunGuide Enhancement



- **NVT**
 - Encoders
 - Cameras with built-in encoders
- **NVD**
 - Video walls
 - Network displays
 - Decoders
- **PTZ capable NVT**
 - Cameras

- **No budgetary estimate at this time**



References



- Website: <http://www.onvif.org>
- Open ONVIF Device Manager
 - <http://www.sourceforge.net/projects/onvifdm/>
 - GNU General Public License (GPL)



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Top Priority Item by District

Eric Gordin



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Action Item Review

Eric Gordin