



SunGuideSM Status Meeting Minutes



Tuesday, August 17, 2004, 8:30 AM to 2:30 PM EDT
Ft. Lauderdale, District 4

CDRL 1-8.2.8

Attendees:

Liang Hsia, FDOT	Robert Heller, SwRI
David Chang, PBS&J	Meredith Moczygomba, SwRI
John Bonds, PBS&J	Dong Chen, FDOT
Jesus Martinez, FDOT	Kendra Blackford, Turnpike
James Bitting, FDOT	Walt Townsend, ITS-Siemens
Arturo Espinosa, FDOT	Gregory Floyd, PBF
Dan Baxter, PBF	Mohammad Hadi, PBS&J
Pete Vega, FDOT (phone)	Steve Corbin, FDOT
Steve Dellenback, SwRI (phone)	Larry Rivera, FDOT (phone)

Subject: Project Status Meeting for SunGuideSM

Note: Agenda and slides for each agenda item are available from the project website at:

<http://sunguide.datasys.swri.edu>

Item #1 – License Updates

- FDOT received license from TxDOT, and now awaiting final approval
- Firmware sent to FDOT from WSDOT, but TOU (term of use) is extremely strict
- FDOT received official letter to add the Lee County name to the sublicense

Item #2 – TMC and Software Deployment Schedule Updates

- District 4 update:
 - The As-Built plans were rejected by the city of Ft. Lauderdale four times; the contractor is working on resubmitting a new plan
 - New servers are now ready
 - Expecting a TCO (temporary certificate of occupancy) by the first week of September
 - A milestone demo may be held 2 weeks after this TCO is received
- District 5 update:
 - D5 reported that the interface with OCCEA is a task that District 5 is requesting to be added to the SunGuideSM project
- District 6 update:
 - D6 indicated that the I-95 project will be done in 2005
 - The TMC is ready; the District wants to know what hardware to purchase now

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- DMS signs to NTCIP to be done in the current fiscal year, IDI cameras now communicate with NTCIP
- Planning to turn on Ramp Meter in 2005
- In the next 2-3 months, fiber must be in place for testing, and connection with Turnpike will need to be integrated
- District 7 update:
 - D7 indicates that D7 is expecting a Certificate of Occupancy by March 2006
 - Cameras and other devices are expected to be available for acceptance testing in the February 2006 timeframe
- Turnpike Enterprise update:
 - Reported that Turnpike is currently working on NTCIP integration
 - Want to include C2C with D4, D5, and D6 for camera feeds, and eventually HAR integration
 - As far as the fiber project goes, currently on second phase of project

Item #3 – Recent Requirement Reviews

- C2C
 - How will video be shared? SwRI feels that the IP video and codec compatibility is not a software issue
 - Configuration of C2C can greatly influence network bandwidth
 - Snapshots will be supported by SunGuide, but this feature may be turned off
 - Issues raised:
 - The network model to support C2C is not within the scope of the SunGuide software project
 - User credentials must be transmitted to the receiving center for device control security purposes
 - The new requested capabilities for a message library and agency/operator/contact information still await direction and final approval from FDOT
- HAR
 - Support of the HAR device requires the DR2000 Software Interface Model (SIM) for each district desiring the HAR system
 - The SIM software costs approximately \$15K (from HIS, the HAR vendor)
- Data Archiving
 - Issues raised:
 - Data quality: not collected in the current system
 - RWIS requirements: additional field to support “air pressure” added (“frost” was requested but not in the FDOT provided system requirements)
 - Ramp Metering: The speed, occupancy, and volume data will be done as part of TSS and the control component of RM will work directly with the RM subsystem
- Web Server Requirements
 - Some Districts may rely on ISPs to provide web services

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- SwRI would like to explore providing streaming video services
- Directional information would need to be derived from the name of the video source
 - There is a issue with camera device installation as each device must be calibrated to North
 - SunGuide software allows you to name the camera as desired
 - D5 mentioned that some cameras have a compass built-in, with quadrants named
 - Dellenback noted that there is not a clean way to do this with NTCIP
 - Dan Baxter made the observation that text may be too small to read in the video web page showing streaming video; the Districts did not believe that this is an issue
- Emergency Evacuation Requirements
 - John Bonds consulted Robert Collins who is experienced with Emergency Evacuation for comments on SunGuide's EE requirements; the revised comments were presented
 - SERT/EOC uses the Emergency Transportation Information System (ETIS) program which is currently in operation right now; it is proposed that SwRI will not replace this system but instead, SunGuide will provide HEADS-UP (Hurricane Evacuation Analysis and Decision Support Utility Program) access to ITS assets via C2C
 - HEADS-UP is under development now, expect deployment by 2005
 - Major functions:
 - Dynamic Hourly Travel Demand Forecasting
 - Integrated Traffic Counter Data Ingestion and Analysis
 - Hourly Traffic Queue Length Estimation
 - Host Shelter Demand Estimation
 - Evacuation Shutdown Calculation
 - Will possibly interface with meso-scale weather monitoring (e.g. FAWN, DOT, and others) in the future
 - SunGuide provides realtime ITS data on roadways covered by ITS devices controlled though SunGuide; FDOT hopes to channel this data to HEADS-UP used for travel demand forecasting purposes
 - Liang wanted to know if HEADS-UP would be included as a SunGuide software subsystem (SwRI indicated it would not be a SunGuide subsystem)
 - Walt Townsend asked if the realtime data is being used currently for HEADS-UP development. D7 indicated that there are few realtime counters.
 - A question arose as to whether or not the HEADS-UP software would use C2C if the EOC and SunGuide are co-located
 - SwRI recommended that the C2C interface be used as long as the C2C plug-in interface is built. It was stated that co-location is irrelevant to the software; this data would not be realtime-critical, only a forecasting/planning tool. Either, or, both should work – one would take some coding and the other is built-in.
 - Modified/suggested EE requirements include:

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- Zones drawn on the GUI map would help TMCs manage emergency evacuations
- D7 indicated that it needs to be clear how this information is being used; feels that it is key to sit down with the districts and EE folks soon to review these comments once more before approving them and John Bonds emphasized that it is not desired to duplicate this information
- D6 believes that the Districts should only want to point people to the right direction to where EE info is maintained and not be in the shelter business of up-keeping this information.
- 511 should focus on providing transportation data only rather than being a path-of-delay for this other realm of shelter, hospital, etc., emergency data.
- EC005G and FEAT 11.4.5 – John Bonds feels that this requirement should be deleted on the philosophy presented above by Jesus. Dellenback would like to consult Mike Meadows first before agreeing to remove the requirement.
 - D6 envisions operators providing only up-to-date roadway information and not emergency and evacuation data, as this data can be found elsewhere.
 - Dan Baxter agreed with D6 in that it is difficult to keep EE info current, as shelters can fill up even before a message directing people to suggested shelters is placed on a DMS.
 - Baxter claims that the EOC wants traffic volume, road closure, and live streaming real-time video information
 - D6 wondered if the Web Server could be used to host useful video feeds? (yes it could)
- Baxter brought up the concern that if data is stored and is not properly used, it is possible that a District could be blamed if a problem occurs and data was not taken into consideration
 - D6 and others did not feel that this is a problem
- A resolution made in today's meeting is that SunGuide will not provide EE information conclusively to the public

Item #4 – Recent Discussion Topics

- IP Video Compatibility
 - SwRI's approach included grouped encoder/decoder pairs for VBrick, Teleste, iMPath, and Coretec to extend the process of establishing settings that would maximize compatibility
 - If districts wish to share streaming video, the C2C software provides switching capability only
 - Dellenback clarified that the software will check settings when attempting a connection, or the user command will send back an error indicating the rejected settings
 - D2 expressed concern with a standalone decoder behind a monitor
 - Robert agreed that this is problematic, emphasizing, however, that the issue is only with standalone monitors and not with Barco

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- SwRI's recommendations:
 - Hold more discussions with network planners/implementers, software staff implementing C2C, and Districts deploying (or planning to) IP video
 - FDOT should consider adopting a standard video compression format along with vendor hardware (because a standard alone does not provide compatibility)
- DMS Message Formatting
 - SunGuide requirements are silent on messaging formatting
 - Not all Districts want the same messaging philosophy
 - Message formatting options posed include CHART's message formatting rules, District 4's formatting rules, or a generic ability to customize formatting rules for each SunGuide deployment.
 - The IM subsystem in Release 1 will be based on the CHART formatting rules
 - Many districts have extensive message libraries, and with IM's ability to automatically generate message recommendations, the need for extensive libraries should diminish
 - SunGuide supports ad hoc message creation as long as the words are in the approved words list and Robert emphasized that the IM suggests messages that are only *recommendations*
 - Liang asked whether or not slight changes could be made to existing Release 1 suggested messages
 - As pointed out by John Bonds and Robert, even slight changes would require the code to be reopened, retested, and reintegrated
 - If cost and schedule are impacted as appropriate, SwRI has agreed to make the preferred changes once a formatting consensus is made by FDOT
- Barco / ARGUS Driver for Release 1
 - The Barco / Argus driver being developed for SunGuide utilizes the Barco Apollo software for an interface
 - The driver was planned for Release 2a but it has been moved to Release 1 at the request of FDOT
- C2C Transmission Rates for Video Snap Shot
 - Liang insisted that this issue is very high on the FDOT management agenda and thus, there is pressure to resolve this item quickly
 - Liang posed the question as to how to control the frequency of the snapshots
 - Throughput analysis performed by SwRI found that a limit is reached for transmitting snapshots at 0.1 second, where the only variable is network speed.
 - SwRI recommends that FDOT utilize the C2C software infrastructure to transmit snapshots every five minutes (out from a center to the infrastructure) and establish a set of procurement guidelines that will provide codec vendors that are compatible

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- Question arose as to whether or not snapshot files will be displayed on the GUI (answer: no)
- Question posed by D7 - How does District 4 get District 6 cameras? Dellenback explained that in Release 2, one would subscribe to camera data from District 6 via C2C, which will then be displayed on the GUI

Item #5 – Project Status Report

- Project Web Site
 - “What’s New” section has been added to the FDOT SunGuide project website
- Release Changes
 - SwRI proposes to combine 2a and 2b to reduce overall testing and project management activities and provide full SunGuide functionality by June 2005
 - Early completion allows for full development team in place through June
 - FDOT requested during negotiations to accelerate the schedule if possible
 - Development progress is proceeding very well
 - D6 feels that SwRI’s approach is a good thing for D6 as a full package system is desired as the District is ready and awaiting software
 - SwRI proposes a Release 3 for engineering change requests for debatable items such as EE
 - D6 feels there is no need for EE to be complete until Release 3, as it is not as much of an impact to most districts like D6
 - Steve Corbin from D2 also agrees with D6 to prevent scope creep and not halt progress
 - SwRI will eliminate a full test cycle by adhering to the accelerated release schedule
- Scope Changes
 - SwRI was asked to terminate development of NTCIP 1208 Video Switch Driver (and associated DTS testing) due to the requirement change by D4.
- Status
 - Most all of Release 1 items are now complete
 - For Release 2 - RM is under way, problems with requirements with EE still need to be worked out, Data Archiving requirements are awaiting FDOT approval, HAR unit is selected and design has been initiated
- Deliverable Status
 - ConOps delivered last week
- District 4 Milestone Demo
 - Intent is to demonstrate system functionality prior to formal release
 - The demo will be held in mid-September – Sept. 13th-15th was mentioned

Item #6 – Concept Paper about Freeway ITS and Arterial Software

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- SwRI performed extensive user needs analysis on 25 TxDOT Districts, numerous cities of variable size, toll authorities, and counties
 - No agency was willing to allow “un-managed” control of signals, primarily because of liability and “local knowledge”
 - Agreed to allow the initiation of “pre-programmed” plans
- TxDOT C2C software supports query of current and available plans and initiation of a pre-programmed plans, where the “owner” of signals must build a C2C interface
- SwRI recommends educating FDOT users on C2C software capability and developing a concept paper of how signals could be integrated into SunGuide using C2C
- D7 mentioned that Joe wants an adaptive signal control system built-in to SunGuide
- Walt Townsend emphasized the involved complexity of signal software systems, explaining that this sort of system is not just another DMS/TSS/etc SunGuide plug-in
- D6 stated that it would be nice to control signals software at some point during extenuated circumstances via the C2C plug-in

Item #7 – Device Location Information on GIS

- The districts would like to provide field device location in GIS coordinates (ISO microdegrees)
- State Traffic Engineering and Operations Office may contribute to statewide procurement of GDT
 - Concern with GDT is slowness in relation with detail
 - Liang presented one resolution for this performance issue - removing unnecessary detail layers from the GDT
- SwRI will work with Districts to determine the needed information from GDT database during deployment
- A license should be signed in a couple of weeks for use of GDT

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ACTION ITEMS

Numbering of Action Items is based on all action items identified on the SunGuide project.

Number	Responsible	Text	Due Date
41	PBS&J	Get contacts for HEADS-UP and their needs from each of the districts.	TBD
42	FDOT	Coordinate a meeting to resolve Emergency and Evacuation requirements.	TBD
43	FDOT	Obtain a Terms Of Use agreement (TOU) with WSDOT.	TBD
44	FDOT	Provide SwRI with desired DMS, IM proposed changes so that an estimate can be given	TBD
45	SwRI	Gather hardware procurement recommendation and ensure a white paper identified in action item covers this information	TBD
46	SwRI	Revise the sizing document	Sep 15 , 2004