Change Management Board

Engineering Change Proposal #2.1

SunGuide℠ Software

SunGuide℠ CMB Agenda

Time	Item	Lead	Supporting Materials
1:00 – 1:10	Welcome and Introductions	Glotzbach	Sign-in Sheet
1:10 – 1:20	Previous Meeting Recap and Action Item Review	Glotzbach	July 25, 2006 Meeting Minutes
1:20 – 1:30	CMB Chairperson *(Vote)*	Glotzbach	Ballot
1:30 – 1:40	SunGuide℠ Software Budget Update	Tillander	
1:40 – 2:00	SunGuide Software Systems Engineering Process	Bonds	PowerPoint Presentation
2:00 – 2:20	Central Data Warehouse Research Project Update	Dr. Ken Courage	PowerPoint Presentation
2:20 – 2:30	Ramp Metering Firmware Update	Tillander	PowerPoint Presentation
2:30 – 2:40	SunGuideSM Software Release 2.2 – Initial Event Manager and Performance Measures Subsystems	Corbin	Final Requirements Specification – Ver 4
2:40 – 3:00	Break		

SunGuide CMB Agenda (cont)

Time	Item	Lead	Supporting Materials
3:00 – 3:20	SunGuide℠ Software Device Compatibility	Hsia	Draft Guideline
3:20 – 3:50	Preset Scheduling Enhancement *(Vote)*	Bonds	White Paper, Requirements, Ballot
3:50 – 4:20	SunGuide℠ Software Release 3.x – AVL Subsystem	Bonds	Draft Requirements Specification
4:20 – 4:30	Closing and Action Item Review	Glotzbach	

Welcome and Introductions

Gene Glotzbach, FDOT Central Office

Previous Meeting Recap and Action Item Review

Gene Glotzbach, FDOT Central Office

CMB Chairperson

VOTE

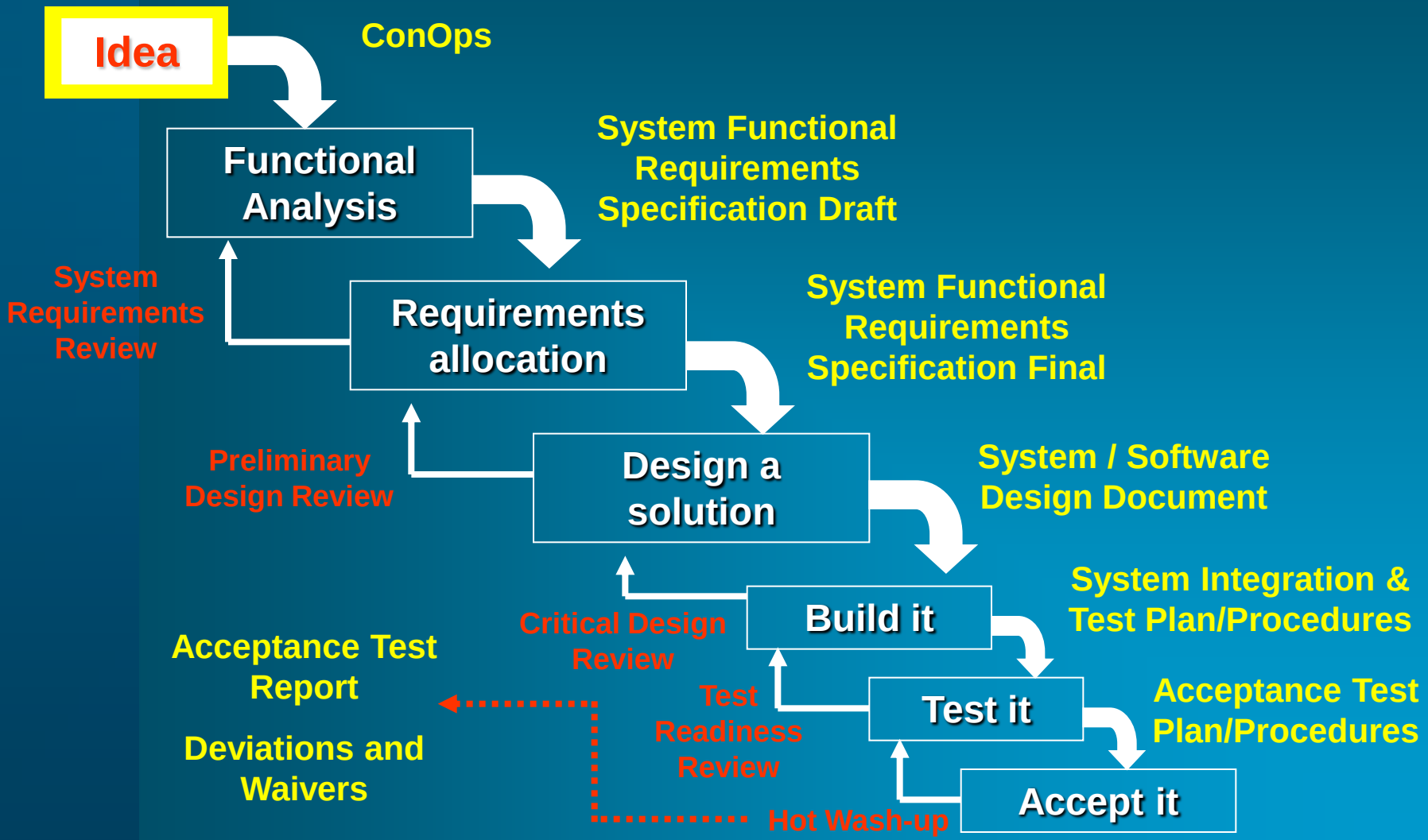
SunGuide℠ Software Budget Update

Trey Tillander, FDOT Central Office

SunGuide℠ Software Systems Engineering Process

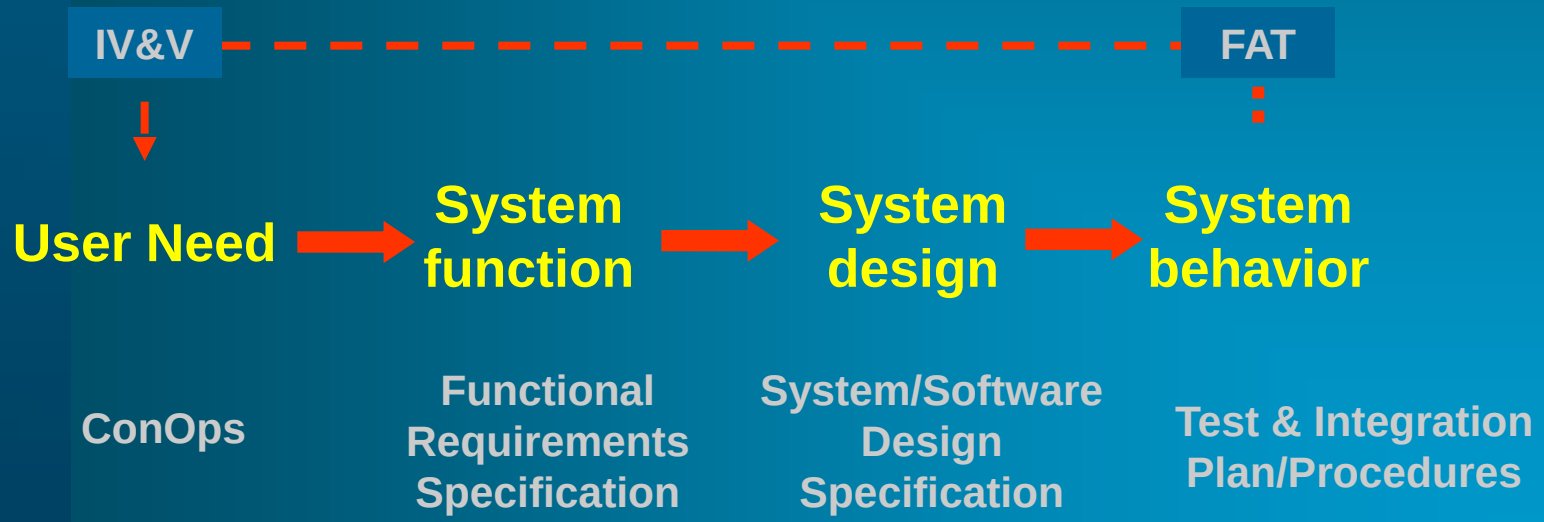
John Bonds, PBS&J

From Concept to Product Process



Requirements Traceability

- Important so that no user need is missed and no additional expense was incurred building features that were not asked for.
- User needs come from many sources – ConOps is the best source if written by the user.



Configuration Management

- Baseline establishes the configuration for major steps in the development
- Baseline freezes are used to manage scope creep
- Baseline freezes establish the criteria that defines the end of each step and the start of the next in the development.
- Four baselines are used:

	Milestone
– Requirements baseline	SRR
– Design baseline	PDR
– Integration baseline	CDR (FDR)
– Production baseline	FAT / IV&V

- No changes to the configuration after a baseline freeze

SunGuide 2.2 has frozen the requirements baseline

Process for CMB

- Review ConOps and decide what features are desired.
- Requirements will be developed that express what functionality is desired.
- CMB will review the system requirements and decide if they clearly and without ambiguity express **WHAT** is described by the ConOps
- Design requirements will be derived from the system requirements that expresses **HOW** the system will do **WHAT** is required by the user.
- CMB will review the design requirements to decide if they will satisfy the system requirements
- FDOT will independently verify that the final system meets the system requirements as they are understood.

Central Data Warehouse Research Project Update

Professor Ken Courage,
Principal Investigator,
Statewide Central Data Warehouse Project

Ramp Metering Firmware Update

Trey Tillander, FDOT Central Office

SunGuide Software Release 2.2 – Initial Event Manager and Performance Measures Subsystems Development Status

Steve Corbin, FDOT District 4

20 Minute BREAK

SunGuide Software Device Compatibility

Liang Hsia, FDOT TEOO

Preset Scheduling Enhancement

John Bonds, PBS&J

Preset Scheduler Function

- Applies to CCTV for now
- Allows the operator to use SunGuide to create CCTV presets and manage when they are applied.
- Requirements based on SwRI White Paper published March 31, 2006 – 16 functional requirements were derived from the white paper.
- Vote to establish the Requirements Baseline

Preset Scheduler Requirements

TV004	The CCTV function shall provide the capability for an operator with appropriate permissions to define, schedule and execute a sequence of camera commands.
TV001C	Sequence definitions shall contain information needed to run a sequence on a CCTV device.
TV001C1	The scheduler function shall allow a sequence to be created for presets containing at a minimum; one or more preset numbers and a duration (dwell time) for each preset.
TV001C2	The scheduler function shall allow a sequence to be created for camera control containing at a minimum; pan speed and direction and/or tilt speed and direction and/or zoom factor.
TV001C3	Once a schedule is created, the summary can be viewed and printed.
TV001C4	It shall be possible to create a schedule of presets with the repeat attribute selected and a dwell time resulting in the camera(s) being moved to the appropriate preset position every time the dwell time expired.
TV002C	Schedules shall contain information needed to allow a sequence to be run at specified times in the future.
TV002C1	Schedules shall contain one or more sequences, a start and end time for each sequence that include specific days of the week and an associated device or devices.

Preset Scheduler Requirements (cont)

Tv002C2	Schedules can be activated or deactivated by an operator with appropriate permissions.
TV002C3	The schedule shall be able to be specified and created by calendar dates.
TV003C	Sequences may be activated or deactivated by an operator with appropriate permissions without being added to a schedule.
TV004C	When activating a sequence, the operator shall be able to specify the information needed to run the sequence; the associated CCTV, duration, and whether the sequence should repeat and how many times it should repeat.
TV005C	An operator with appropriate permissions shall be able to display the currently active sequences and schedules on the operator map GUI.
TV006C	CCTV Scheduler function shall allow one or more cameras to be moved to predefined presets.
TV006C1	The group pre-set command shall be able to be a “perform now” type of action.
TV006C2	The group pre-set command shall be able to be scheduled to occur at certain times of day.

End of Requirements List

Preset Scheduler Requirements

Any changes?

Establish requirements baseline?

SunGuide℠ Software Release 3.x AVL Subsystem

John Bonds, PBS&J

AVL Requirements Analysis

- Draft Requirements Specification for Autonomous Vehicle Location Tracking, August 1, 2006
  - 49 functional requirements
- District 4 Review Comments, August 17, 2006
  - 8 additional requirements added
  - 20 additional requirements pending discussion of the District 4 Concept for EM/PM/AVL operation
- District 7 ConOps in work
  - Expect requirements refinement

AVL Concept Summary

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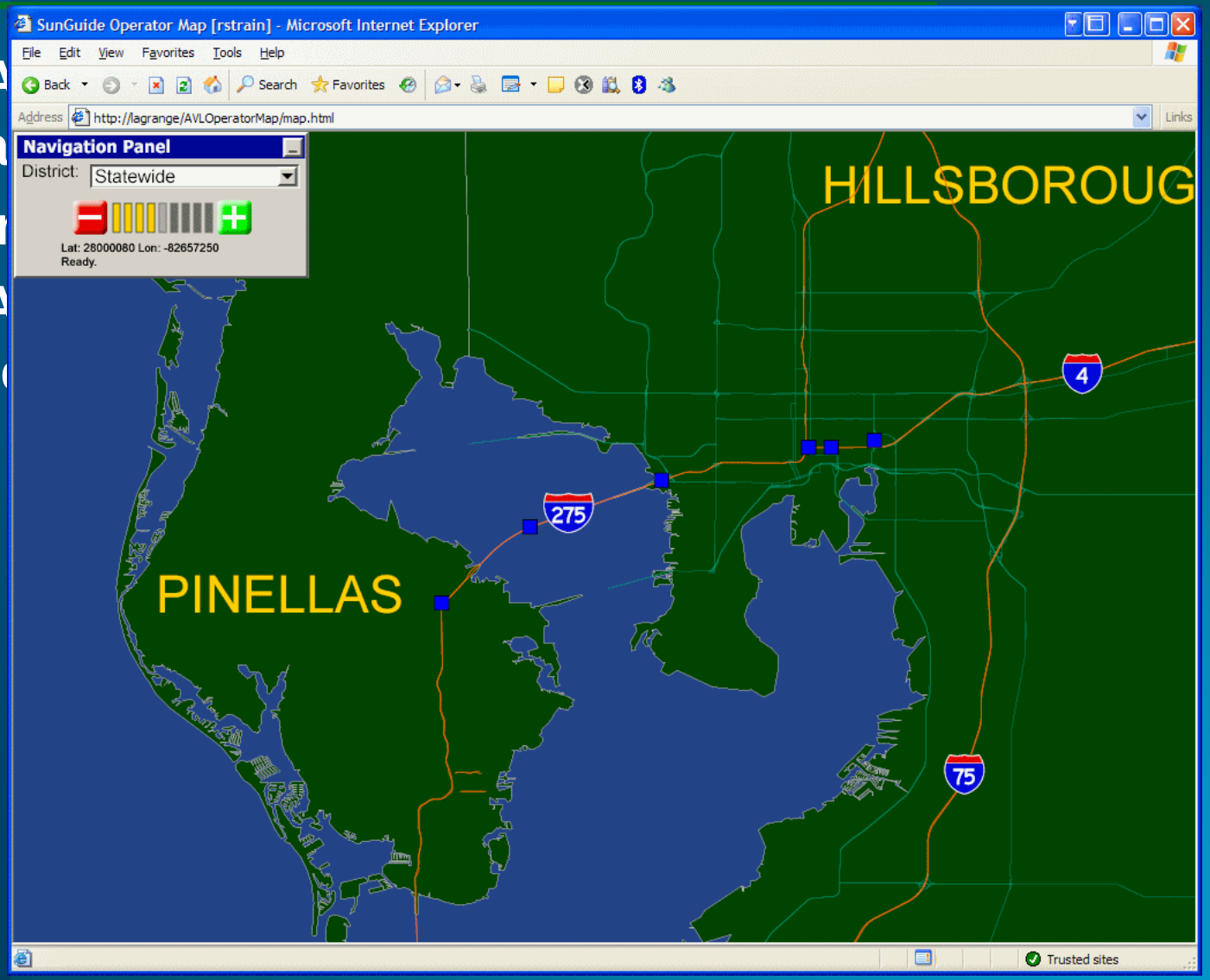
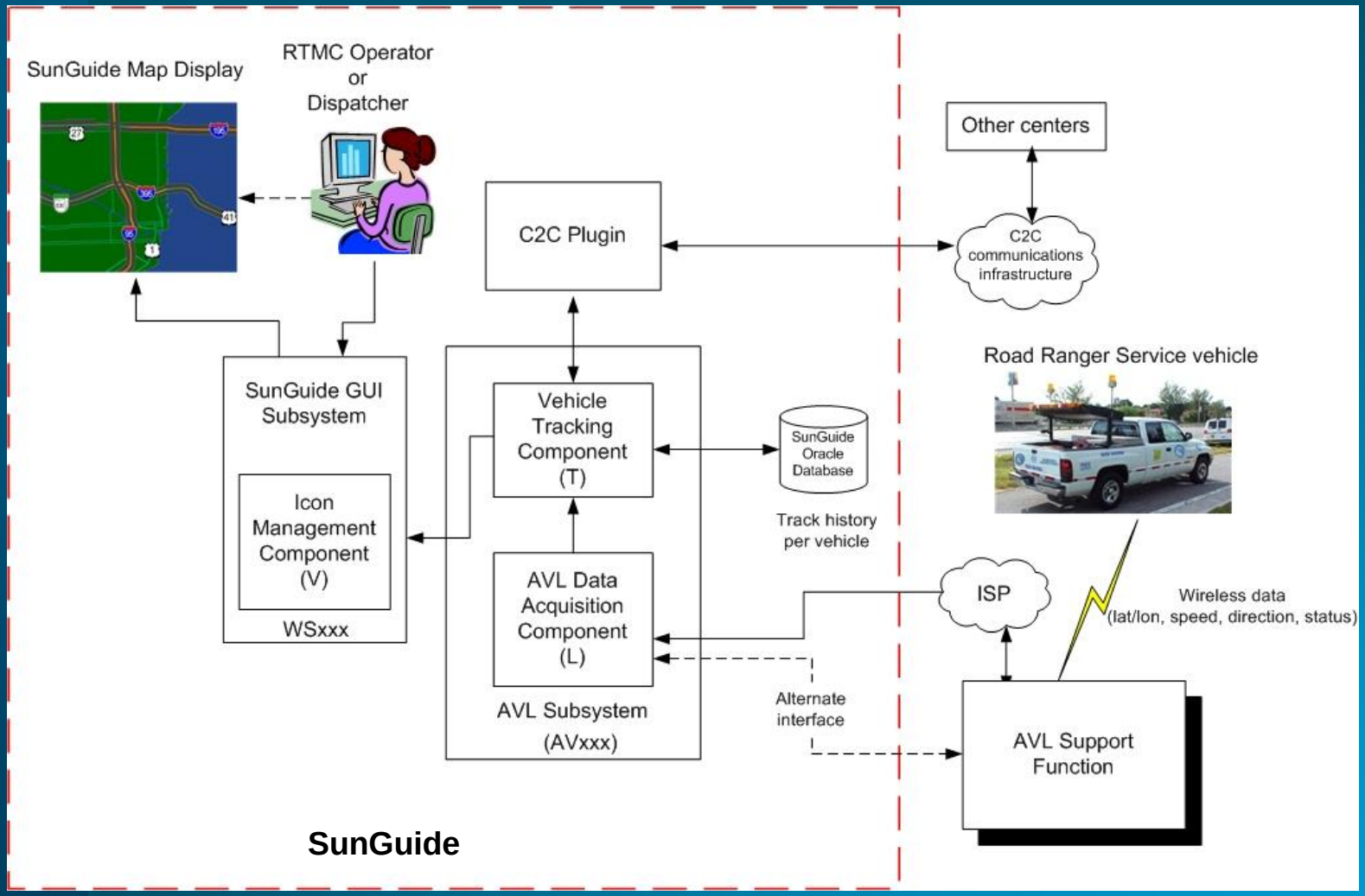


AVL Functional Architecture



AVL Discussion Points so far..

- **D4 requested specific availability categories be defined.**
  - The "Availability Status" values shall be configurable by someone with appropriate permissions using the Admin Editor. (added AV010V1)
  - If Districts can/have agreed already through the Statewide RR Committee, this doesn't need to be configurable. Standard availability status values are preferred to assist with accurate and consistent performance measures reporting. (CO)
- **D4 requested that truck number, beat, driver, radio/telephone number, truck position (roadway, direction, reference location, proximity to reference location), speed and status (availability).**
  - Added AV006T1 but may be unique to D4
  - Need input from Statewide RR Committee if this is standard or unique to D-4. (CO)

AVL Discussion Points so far….

- **AV004L3 Event data and event type codes shall use the Florida Highway Patrol codes.**
  - We should be using the list of event types defined by Central Office. (D4)
  - Don't believe there is a statewide/CO standard yet. What is the difference between D-4 and D-6? Need input from Statewide RR Committee on this. (CO)
- **Geo-fencing shall be a capability of the AVL subsystem (D4)**
  - Let's include Geo-fenced requirements and discuss at the CMB meeting if that is something desired by all. (CO)
- **A "more noticeable" icon shall be used when a vehicle stops or leaves the geo-fenced area without justification. (D4 proposed requirement)**
  - Let's include Geo-fenced requirements and discuss at the CMB meeting if that is something desired by all. (CO)

AVL Discussion Points so far……

- **An operator shall be able to right-click on a vehicle to dispatch it to a new or existing event. In the case of new events, the operator will be prompted to enter the required information for the new event. (D4 proposed requirement)**
  - **This exceeds the original intent of AVL reporting and appears to be an internal part of Event Management. This is a new concept not addressed in ConOps Version 3.x. (PBS&J)**
  - **Might be a good req., but in the wrong subsystem. Release 3.x will also be updating the EM Subsystem to be compliant to the SunGuide architecture, so we can include the req. in that subsystem (EM/PM) update if CMB wants it. (CO)**
- **The SunGuide GUI Map shall enable the user to switch from map view to a satellite 'image' view (D4 proposed requirement)**
  - **Is D4 referring to a Google map capability? This appears to be a req. for the AVL Subsystem, but for the map subsystem. This should be part of SwRI's mapping technology white paper and a consideration for a potential SunGuide Release 4. (CO)**

Review AVL Requirements

- Review District 7 Concept of Operation
- Review District 4 Concept of Operation
- Decide on a generic implementation or a District specific implementation for all
- Comment on the AVL Subsystem Specification to convey what additions/deletions/changes are needed
- Requirements baseline to be established at the next CMB meeting
- Implementation will be in SunGuide 3.x

Closing and Action Item Review

Gene Glotzbach, FDOT Central Office