SunGuide®:

Permission Model in SunGuide 6.1

Prepared for:

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List of Acronyms

DOT .....Department of Transportation
FDOT .....Florida Department of Transportation
ITS.....Intelligent Transportation Systems
SAA.....Software Administration Application
SwRI……...Southwest Research Institute®

Revision History

Revision	Date	Changes
1.0.0	October 14, 2014	Initial release
2.0.0	December 30, 2014	Comments by Central Office

1. Scope

1.1 Document Identification

This document serves as the documentation of change made to the SunGuide version 6.1 permission model.

1.2 Project Overview

The Florida Department of Transportation (FDOT) SunGuide Support, Maintenance and Development Contract, contract number BDQ69, addresses the necessity of supporting, maintaining and performing enhancement development efforts to the SunGuide software. The SunGuide software was developed by the FDOT in a contract from October 2003 through June 2010. The SunGuide software is a set of Intelligent Transportation System (ITS) software that allows the control of roadway devices as well as information exchange across a variety of transportation agencies and is deployed throughout the state of Florida. The SunGuide software is based on ITS software available from the state of Texas with significant customization and development of new software modules to meet the needs of the FDOT.The following figure provides a graphical view of the software to be developed:

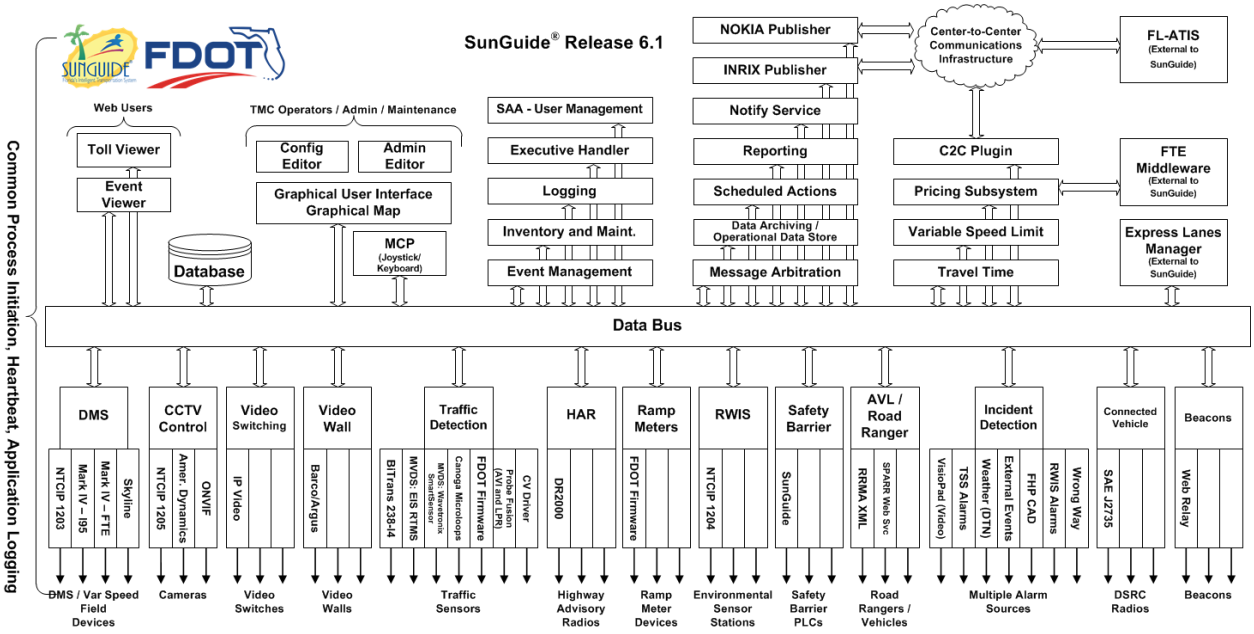

Figure 1: High-Level Architectural Concept

The SunGuide development effort began in October 2003 and sixmajor releases have been developed since. After the development, the software will be deployed to a number of Districts and Expressway Authorities throughout Florida and support activities will be performed.

1.3 Related Documents

The following documents were used to develop this document:

- FDOT Scope of Services: *BDQ69,Standard Written Agreement for SunGuide Software Support, Maintenance, and Development, Exhibit A: Scope of Services.* July 1, 2010.

- Notice to Proceed: Letter to SwRI for BDQ69, July 1, 2010
- SunGuide Project website: http://sunguide.datasys.swri.edu.

1.4 Contacts

The following are contact persons for the SunGuide software project:

- Elizabeth Birriel, ITS Section, Traffic Engineering and Operations Office, elizabeth.birriel@dot.state.fl.us, 850-410-5606
- Derek Vollmer, FDOT SunGuide Project Manager, derek.vollmer@dot.state.fl.us, 850-410-5615
- Clay Packard, Atkins Project Manager, clay.packard@dot.state.fl.us, 850-410-5623
- Tucker Brown, SwRI Project Manager, tbrown@swri.com, 210-522-3035
- Roger Strain, SwRI Software Project Manager, rstrain@swri.com, 210-522-6295

2. Permission Models

The following sections describe the current permission model and the model that SunGuide will use in the future.

2.1 Permission Model before Release 6.1

In the older permission model, SunGuide stored each user's permssions in the database. On startup, a subsystem would be responsible for retrieving permissions relating to that subsystem for all users. Changes to permissions would directly write to the database and then notify subsystems that they must go re-read their permissions from the database. This model is shown below.

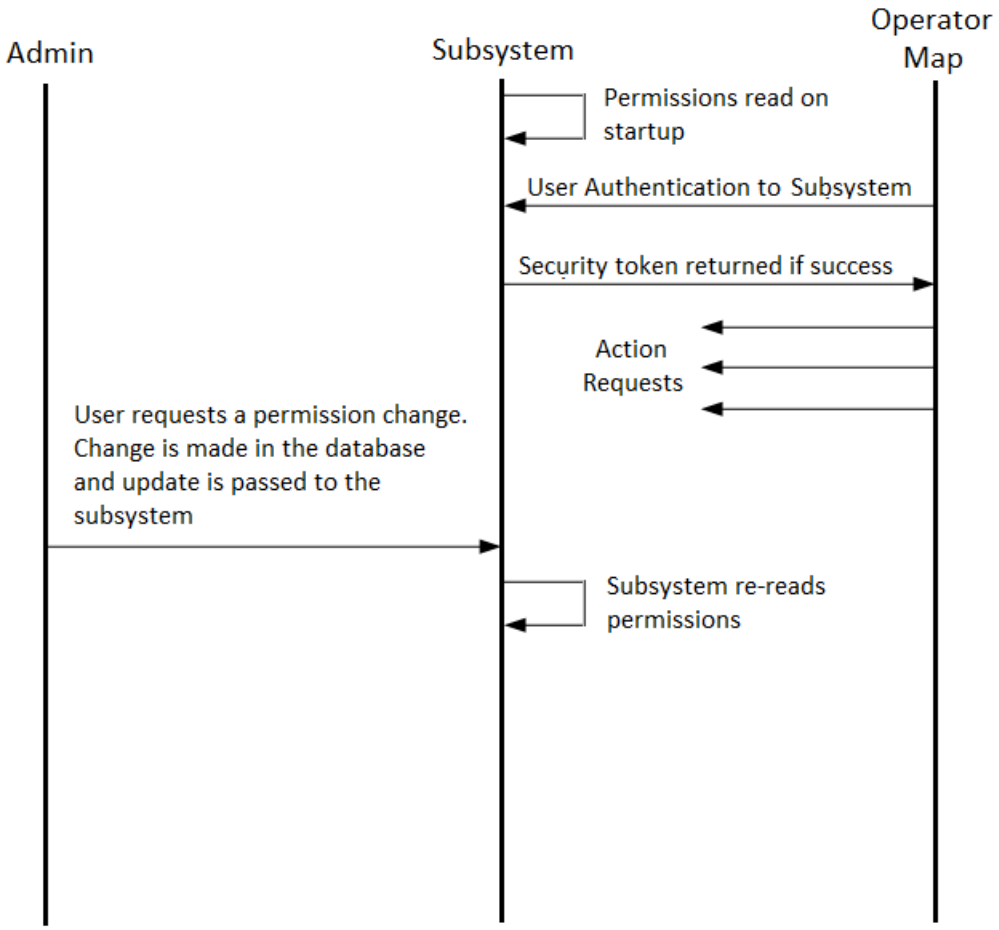

Figure 2: Pre-6.1 Permission Model

2.2 Release 6.1 Permission Model

In the new permission model, SunGuide will still store permissions in the database but all permissions will be maintained by the Software Administration Application (SAA). Software permissions will now be maintained through the Operator Map and require administrative permissions in order to modify any user's permissions. When a user is added or permissions are changed, these changes are sent to SAA and are written to the SunGuide database. When a

subsystem gets an authentication request from a user, the susbsystem will ask SAA to validate the password and return the user's permissions. This model is shown below.

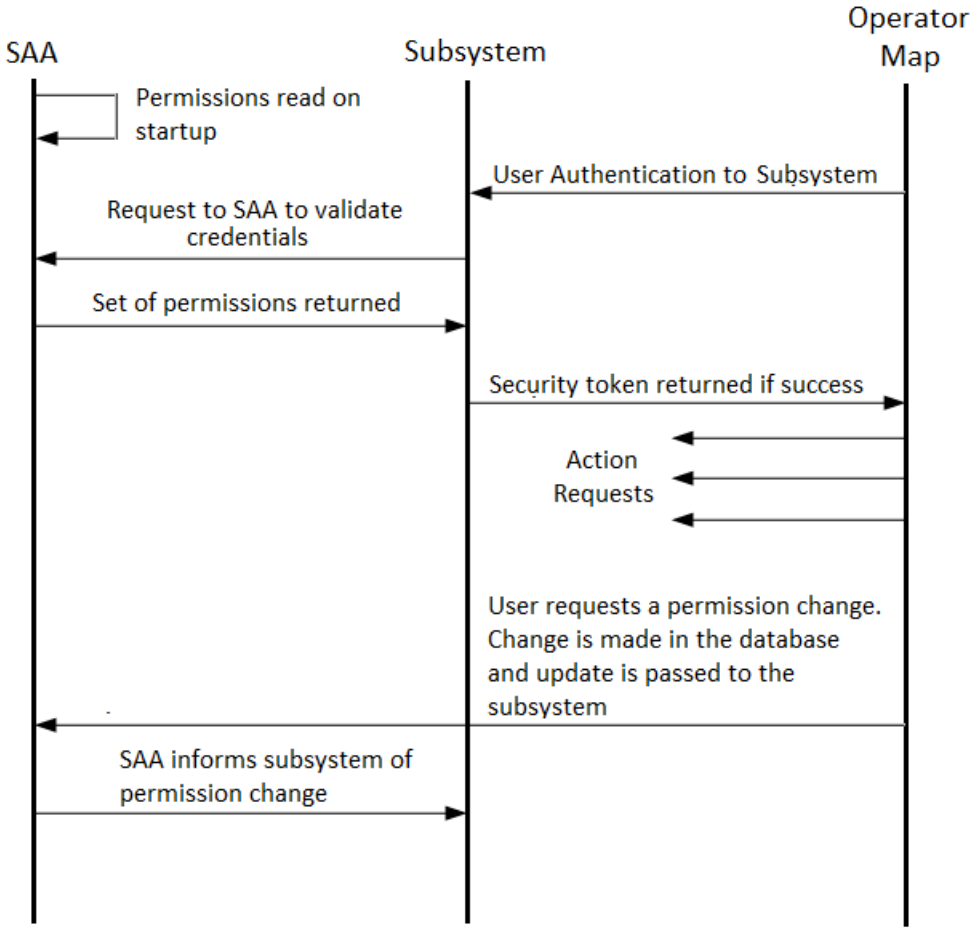

Figure 3: Post-6.1 Permission Model

2.2.1 Changes needed for 3rd PartyUsers

If you are a user logging into a subsystem with a username and password via the standard authentication request, **there is no change that will be required**.

SunGuide 6.1 will allow multiple logins for the same username/password combination. While not recommended for third party applications for tracking purposes, a change to the format of the username within the authentication request will enable this functionality. If you wish to use this functionality please use the following format for the username field in the authenticationReq:

Username:MachineName:ProcessId

- Username: Standard username, same as the previous request (case sensitive)
- MachineName: Name of the computer where the connection is being established
- ProcessId: Process Id of the program making the connection

Please note that the machine name and process id are what establish a unique id and allow multiple logins. For each login, the combination of these fields should be unique.

2.3 Database Model

The permission structure in the database has changed in the SunGuide 6.1 Release. Permissions and user data are now stored in the IDB_USER schema in Oracle and the dbo schema for SQL Server. The figure below shows the structure of the permissions tables.

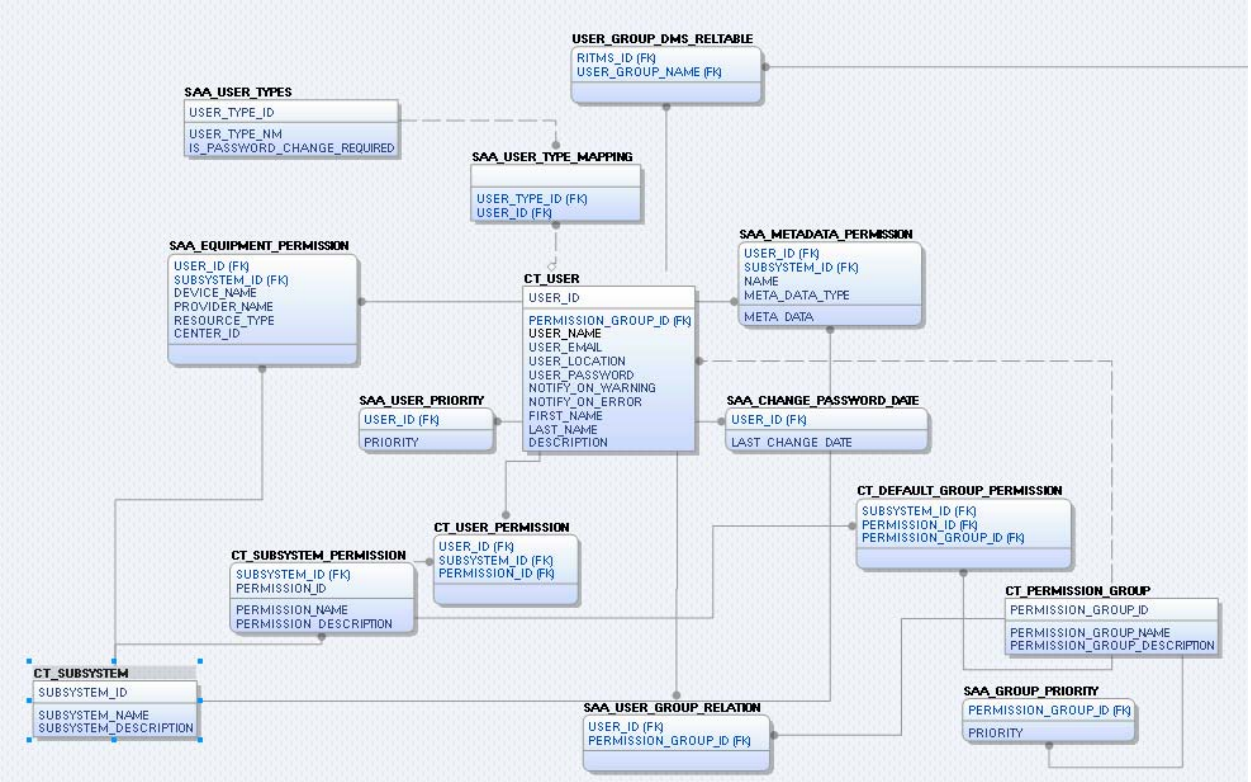

Figure 4: Post-6.1 Database Model for User Permissions

While the database model for permissions is available, it is recommended that no changes be made to the permissions tables that are outside the scope of the SunGuide software package. If there are specific questions about the model please contact Central Office or SwRI using the contact information found in Section 1.4.