<document classification>

Fuel Management

Simulador de Administrador de Combustíveis

Summary:
<summary>

Company: Instituto Tecnológico de Aeronáutica
Authors: Lucas Tosi
Reference: <reference>
Index: <index>
Date: 27/09/2019

Distribution List: <distribution list>

Table Of Contents

List Of Figures

List Of Tables

1. General Project Description

<description>

2. Software Architecture

2.1. Project Architecture

This section displays the package hierarchy of projects.

Project FuelManagement

2.2. Call Graph

This Call Graph displays the dependency tree of model operators.

1. Main
    1.1. EnableWidgets
    1.2. RepaintFuelLevel
    1.3. SetFuelColor
    1.4. SetFuelLevel
    1.5. SetTankFullVisible
    1.6. ShowLayer

2.3. SCADE Display Integration

This section lists the SCADE Display projects linked to the SCADE Suite model, as well as the SCADE Suite operators connected with SCADE Display graphics.

Linked SCADE Display projects:

- fuel_management.etp

Connected SCADE Suite operator(s):
None

3. FuelManagement Project

3.1. Root Elements

3.1.1. Types

Table 1: Public Types of FuelManagement

Name	Definition	Comments and Information
BoolMsg	{Emit : bool, Value : bool}	
intMsg	{Emit : bool, Value : uint32}	
intMsg2	{Emit : bool, Value : uint8}	

3.1.2. Constants

Table 2: Public Constants of FuelManagement

Name	Type	Value	Comments and Information
A661_FALSE	bool	false	
A661_TRUE	bool	true	
ALCOHOL_COLOR	uint8	64	
CLOSED_ID	int32	0	
DIESEL_COLOR	uint8	47	
FUEL_INCREMENT	uint32	1000	
FUEL_LEVEL_OFFSET	uint32	100	
GASOLINE_COLOR	uint8	57	
MAX_FUEL_LEVEL	uint32	10000	
OPEN_ID	int32	1	

3.1.3. EnableWidgets Operator

Declared as **`private function`**

3.1.3.1. Interface

Table 3: Inputs of EnableWidgets

Name	Type	Comments and Information
FuelType	uint16	
FuelStatus	int32	
FuelLevelValue	uint32	

Table 4: Outputs of EnableWidgets

Name	Type	Comments and Information
RefuelEnable	BoolMsg	
FuelTypeEnable	BoolMsg	

3.1.3.2. Operator Hierarchy

diagram : EnableWidgets_1

3.1.3.3. Graphical and Textual Diagrams

3.1.3.3.1. View of EnableWidgets_1 (EnableWidgets)

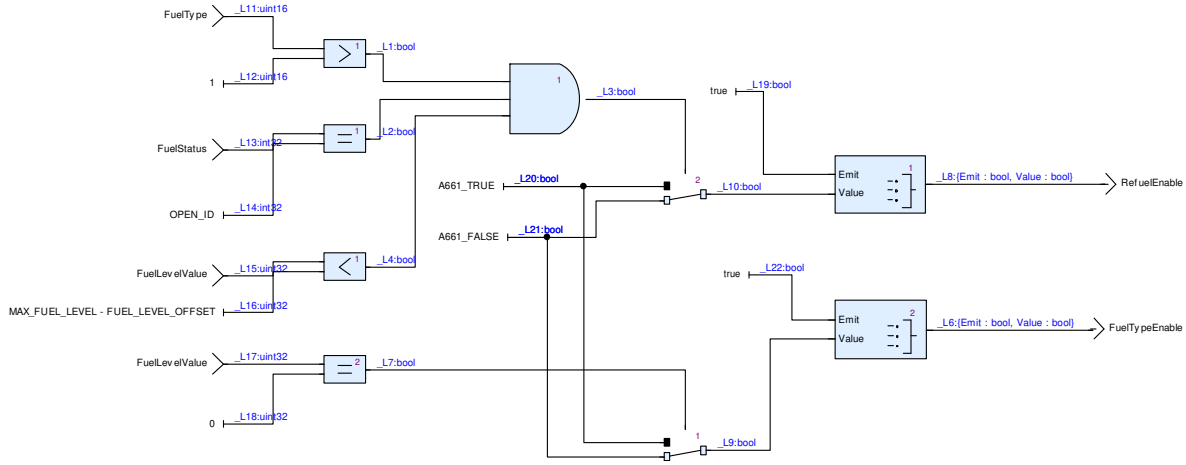

Figure 1: View of EnableWidgets_1 (EnableWidgets)

3.1.4. Main Operator

Declared as **`public node`**

3.1.4.1. Interface

Table 5: Inputs of Main

Name	Type	Comments and Information
TankStatus	bool	
Refuel	bool	
EmptyTank	bool	
FuelType	uint16	

Table 6: Outputs of Main

Name	Type	Comments and Information
LayerVisible	bool	
FuelVisible	BoolMsg	
FuelLevel	intMsg	
RefuelEnable	BoolMsg	
FuelTypeEnable	BoolMsg	
TankFullVisible	BoolMsg	
FuelColor	intMsg2	

3.1.4.2. Locals

Table 7: Locals of Main

Name	Type	Comments and Information
tank_status	int32	

3.1.4.3. Operator Hierarchy

diagram : Main_1
state-machine : SM1
state : TankClosed
diagram : TankClosed_1
state : TankOpen
diagram : TankOpen_1

3.1.4.4. Graphical and Textual Diagrams

3.1.4.4.1. View of Main_1 (Main)

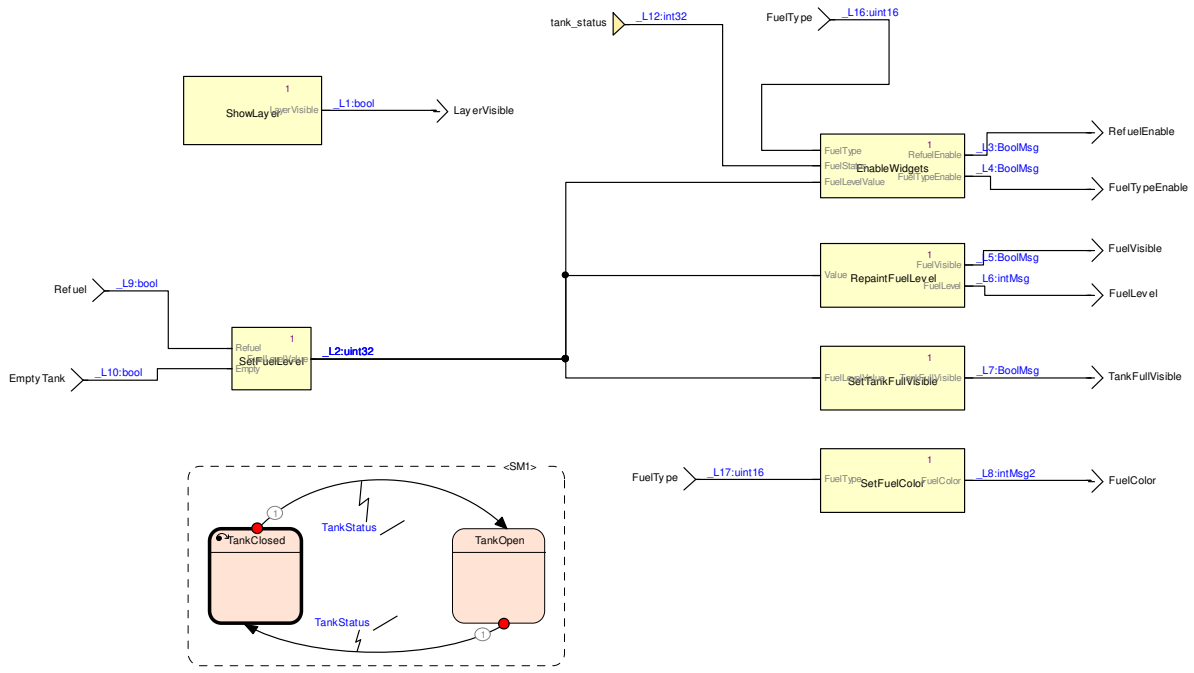

Figure 2: View of Main_1 (Main)

Table 8: State Machines of Main_1

State Machine	Comments and Information
SM1	

Table 9: States of Main_1

State	Comments and Information
SM1:TankClosed	
SM1:TankOpen	

Table 10: Transitions of Main_1

Source/Target	#	Conditions/Actions	Comments and Information
Source: SM1:TankClosed **Target:** SM1:TankOpen	1	**Condition:** TankStatus	
Source: SM1:TankOpen **Target:** SM1:TankClosed	1	**Condition:** TankStatus	

3.1.4.4.2. View of TankClosed_1 (Main/SM1:TankClosed:)

Owner diagram: Main_1

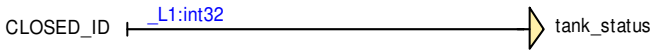

Figure 3: View of TankClosed_1 (Main/SM1:TankClosed:)

3.1.4.4.3. View of TankOpen_1 (Main/SM1:TankOpen:)

Owner diagram: Main_1

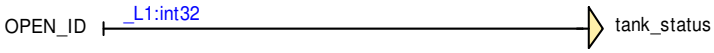

Figure 4: View of TankOpen_1 (Main/SM1:TankOpen:)

3.1.5. RepaintFuelLevel Operator

Declared as **`private function`**

3.1.5.1. Interface

Table 11: Inputs of RepaintFuelLevel

Name	Type	Comments and Information
Value	uint32	

Table 12: Outputs of RepaintFuelLevel

Name	Type	Comments and Information
FuelVisible	BoolMsg	
FuelLevel	intMsg	

3.1.5.2. Operator Hierarchy

diagram : RepaintFuelLevel_1

3.1.5.3. Graphical and Textual Diagrams

3.1.5.3.1. View of RepaintFuelLevel_1 (RepaintFuelLevel)

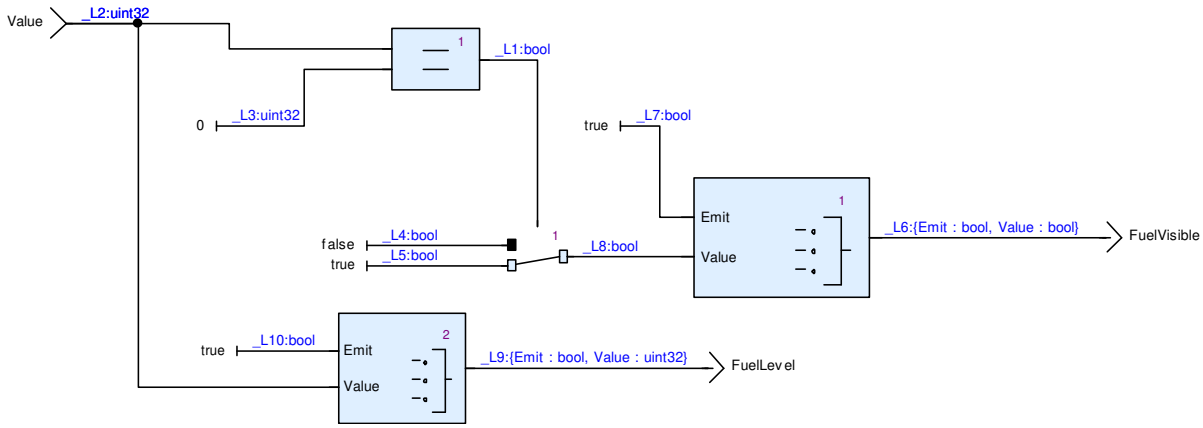

Figure 5: View of RepaintFuelLevel_1 (RepaintFuelLevel)

3.1.6. SetFuelColor Operator

Declared as **`private function`**

3.1.6.1. Interface

Table 13: Inputs of SetFuelColor

Name	Type	Comments and Information
FuelType	uint16	

Table 14: Outputs of SetFuelColor

Name	Type	Comments and Information
FuelColor	intMsg2	

3.1.6.2. Operator Hierarchy

diagram : SetFuelColor_1

3.1.6.3. Graphical and Textual Diagrams

3.1.6.3.1. View of SetFuelColor_1 (SetFuelColor)

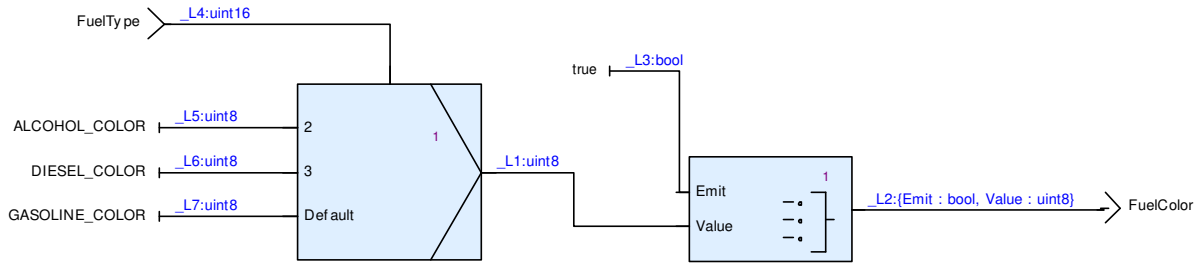

Figure 6: View of SetFuelColor_1 (SetFuelColor)

3.1.7. SetFuelLevel Operator

Declared as **`private node`**

3.1.7.1. Interface

Table 15: Inputs of SetFuelLevel

Name	Type	Comments and Information
Refuel	bool	
Empty	bool	

Table 16: Outputs of SetFuelLevel

Name	Type	Comments and Information
FuelLevelValue	uint32	

3.1.7.2. Locals

Table 17: Locals of SetFuelLevel

Name	Type	Comments and Information
value	uint32	

3.1.7.3. Operator Hierarchy

diagram : SetFuelLevel_1

3.1.7.4. Graphical and Textual Diagrams

3.1.7.4.1. View of SetFuelLevel_1 (SetFuelLevel)

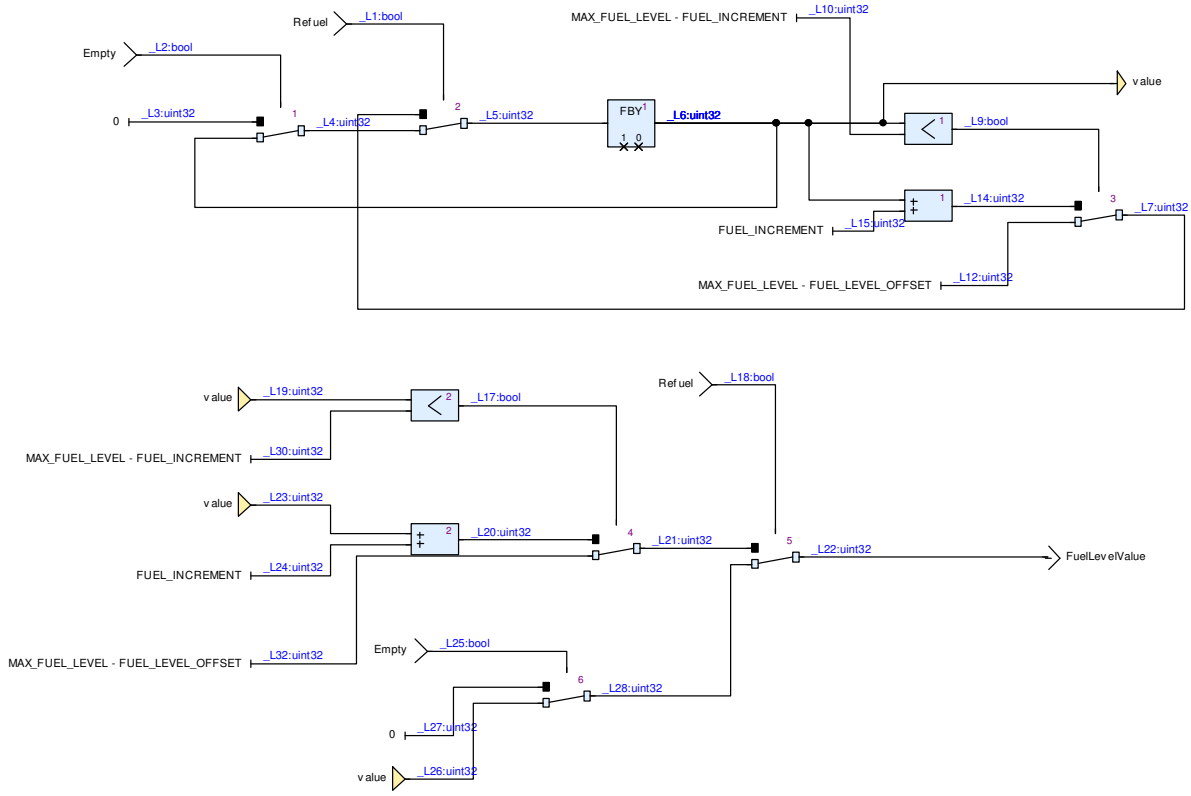

Figure 7: View of SetFuelLevel_1 (SetFuelLevel)

3.1.8. SetTankFullVisible Operator

Declared as **`private function`**

3.1.8.1. Interface

Table 18: Inputs of SetTankFullVisible

Name	Type	Comments and Information
FuelLevelValue	uint32	

Table 19: Outputs of SetTankFullVisible

Name	Type	Comments and Information
TankFullVisible	BoolMsg	

3.1.8.2. Operator Hierarchy

diagram : SetTankFullVisible_1

3.1.8.3. Graphical and Textual Diagrams

3.1.8.3.1. View of SetTankFullVisible_1 (SetTankFullVisible)

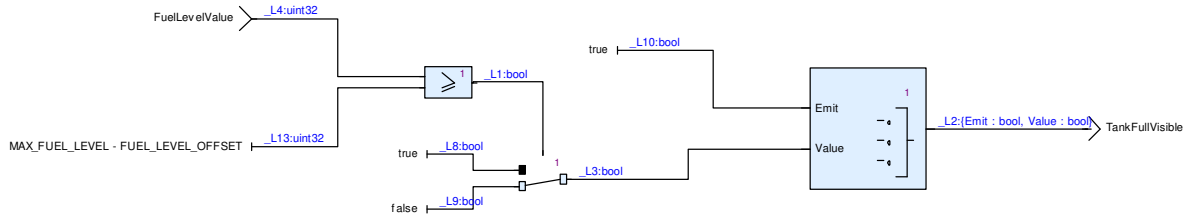

Figure 8: View of SetTankFullVisible_1 (SetTankFullVisible)

3.1.9. ShowLayer Operator

Declared as **`private node`**

3.1.9.1. Interface

Table 20: Outputs of ShowLayer

Name	Type	Comments and Information
LayerVisible	bool	

3.1.9.2. Operator Hierarchy

diagram : ShowLayer_1

3.1.9.3. Graphical and Textual Diagrams

3.1.9.3.1. View of ShowLayer_1 (ShowLayer)

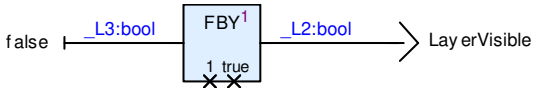

Figure 9: View of ShowLayer_1 (ShowLayer)

End of document.