1. PROJECT

ROOT_OBJECTS

--|C:\Users\pierre\Documents\Stood\examples_AADL\Common\Base_Types|--,

--|C:\Users\pierre\Documents\Stood\examples_AADL\EndToEndFlow|--,

--|C:\Users\pierre\Documents\Stood\examples_AADL\EndToEndFlowTypes|--

END

1.1. Project Description

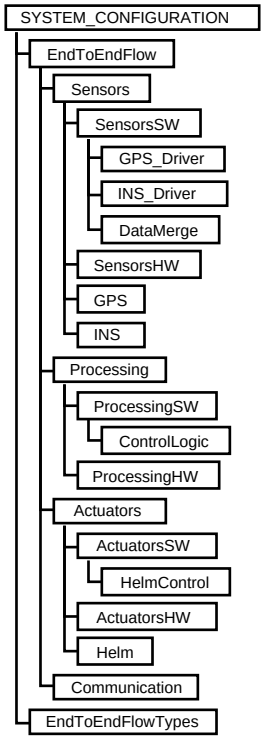
END TO END FLOW

This example shows how to automatically generate AADL flows and end to end flows with Stood.

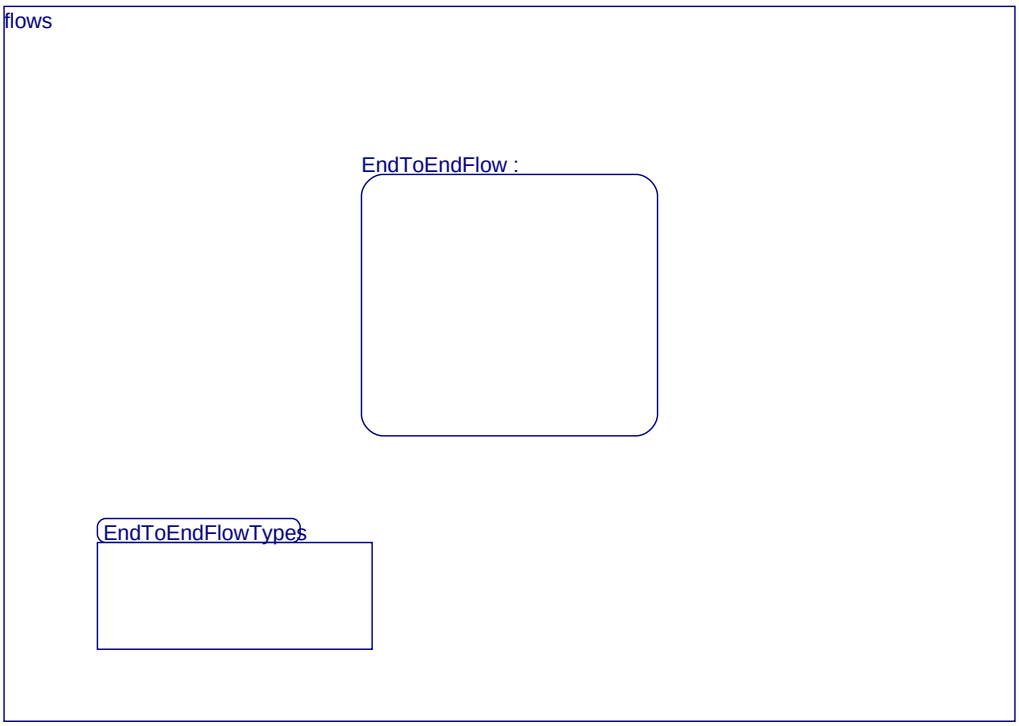
It describes a typical sensor-processing-actuator chain connected by a bus.

Contribution of a port to a flow is specified in its feature declaration section.

1.2. Design Tree



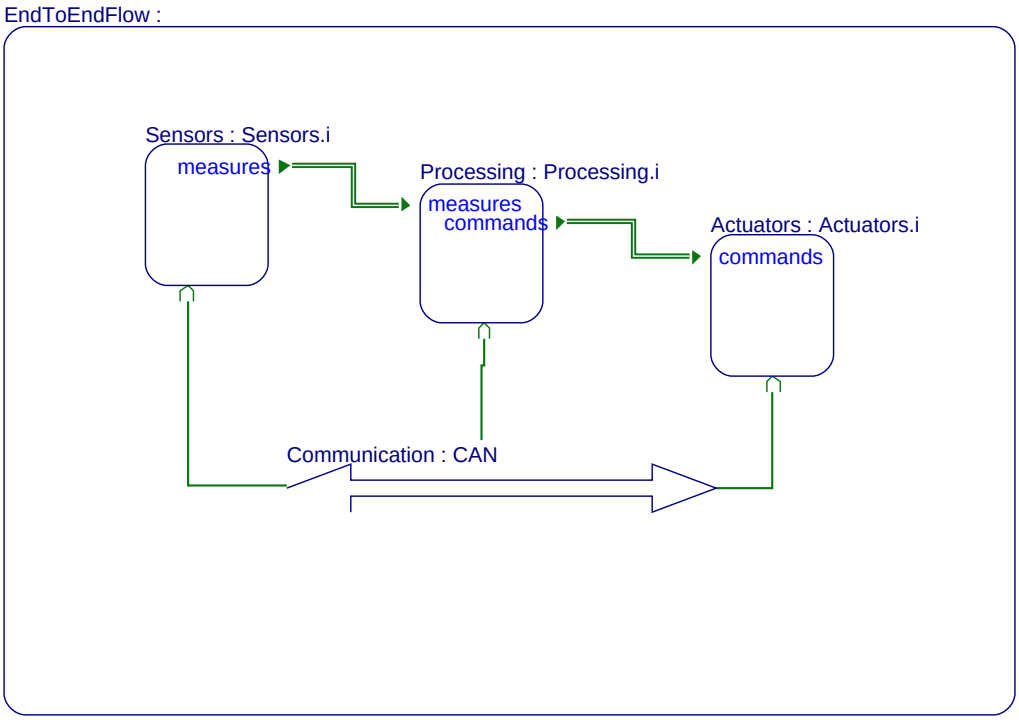
1.3. AADL Diagram



2. SYSTEM EndToEndFlow IS

2.1. DESCRIPTION

2.1.1. AADL Diagram

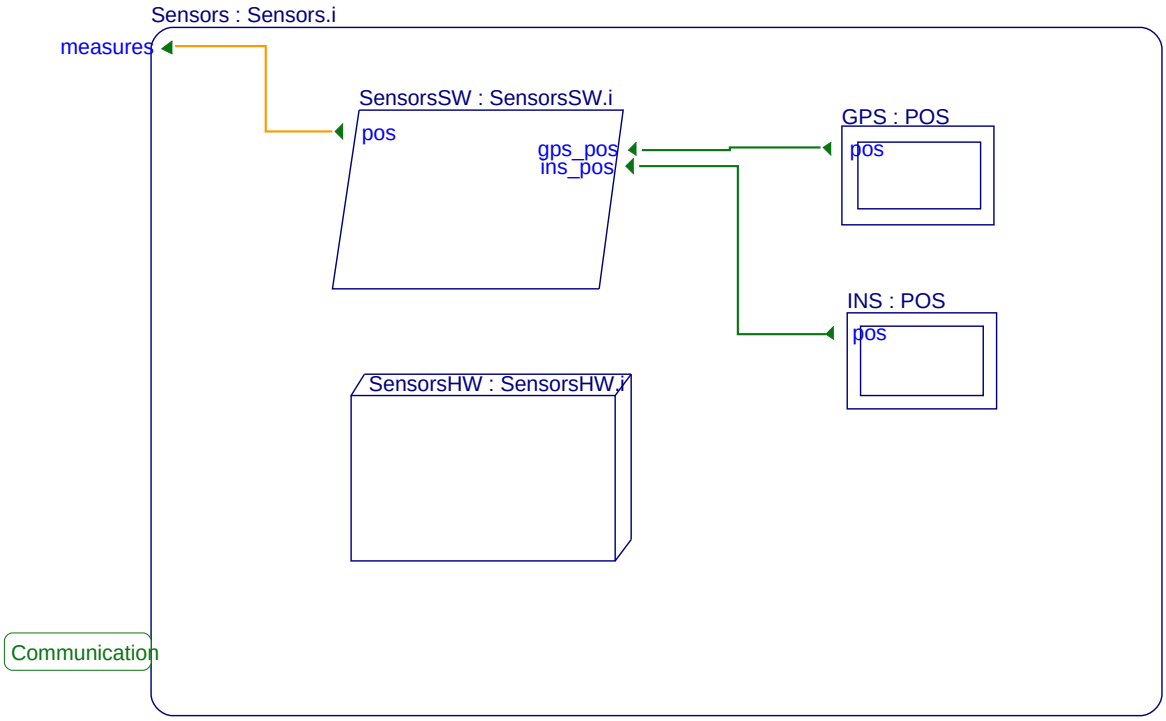


2.1.2. FEATURES

3. SYSTEM Sensors IS

3.1. DESCRIPTION

3.1.1. AADL Diagram



3.1.2. FEATURES

3.1.2.1. measures

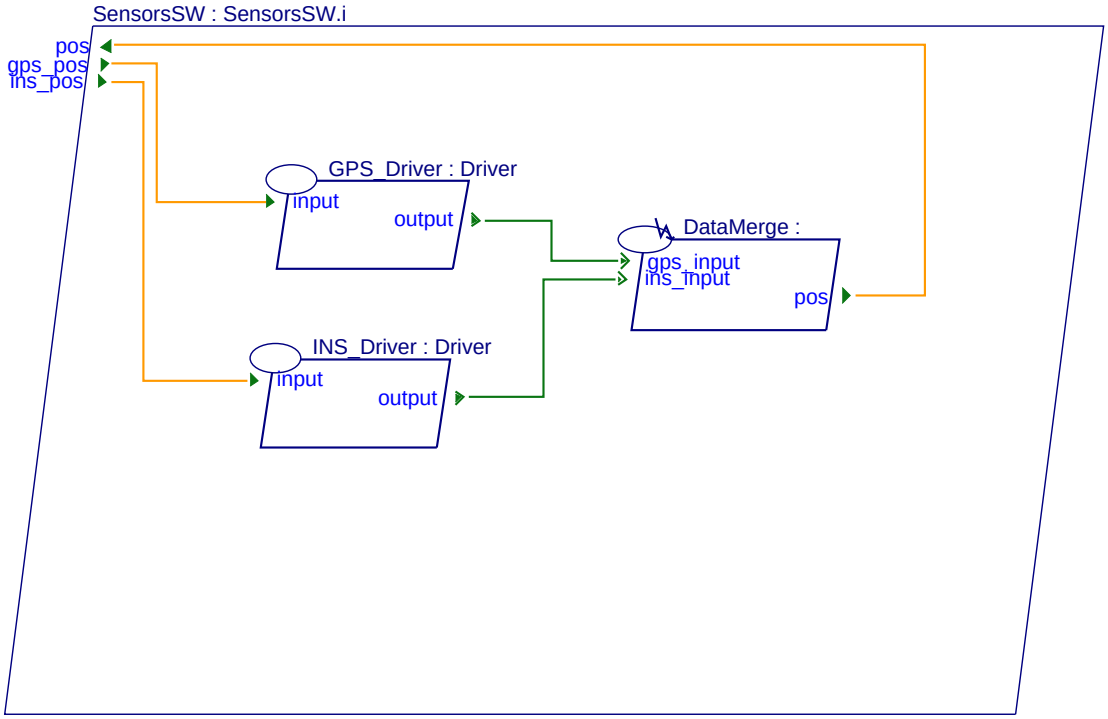
3.1.2.1.1. Feature Declaration

```
measures(F1 : out T_Position);
```

4. PROCESS SensorsSW IS

4.1. DESCRIPTION

4.1.1. AADL Diagram



4.1.2. FEATURES

4.1.2.1. pos

4.1.2.1.1. Feature Declaration

```
pos(F1 : out T_Position);
```

4.1.2.2. gps_pos

4.1.2.2.1. Feature Declaration

```
gps_pos(F1 : in T_Position);
```

4.1.2.3. ins_pos

4.1.2.3.1. Feature Declaration

```
ins_pos(Flow : in T_Position);
```

5. THREAD GPS_Driver IS

5.1. DESCRIPTION

5.1.1. FEATURES

5.1.1.1. input

5.1.1.1.1. Feature Declaration

```
input(F1 : in T_Position);
```

5.1.1.2. output

5.1.1.2.1. Feature Declaration

```
output(Event : out T_Event; F1 : out T_Position);
```

6. THREAD INS_Driver IS

6.1. DESCRIPTION

6.1.1. FEATURES

6.1.1.1. input

6.1.1.1.1. Feature Declaration

```
input(Flow : in T_Position);
```

6.1.1.2. output

6.1.1.2.1. Feature Declaration

```
output(Event : out T_Event; Flow : out T_Position);
```

7. THREAD DataMerge IS

7.1. DESCRIPTION

7.1.1. FEATURES

7.1.1.1. gps_input

7.1.1.1.1. Feature Declaration

```
gps_input(Event : in T_Event; F1 : in T_Position);
```

7.1.1.2. ins_input

7.1.1.2.1. Feature Declaration

```
ins_input(Event : in T_Event; Flow : in T_Position);
```

7.1.1.3. pos

7.1.1.3.1. Feature Declaration

```
pos(F1 : out T_Position);
```

8. PROCESSOR SensorsHW IS

8.1. DESCRIPTION

8.1.1. FEATURES

9. DEVICE GPS IS

9.1. DESCRIPTION

9.1.1. FEATURES

9.1.1.1. pos

9.1.1.1.1. Feature Description

GPS pos is the flow source for F1

9.1.1.1.2. Feature Declaration

```
pos(F1 : out T_Position);
```

10. DEVICE INS IS

10.1. DESCRIPTION

10.1.1. FEATURES

10.1.1.1. pos

10.1.1.1.1. Feature Description

INS pos does not contribute to flow F1

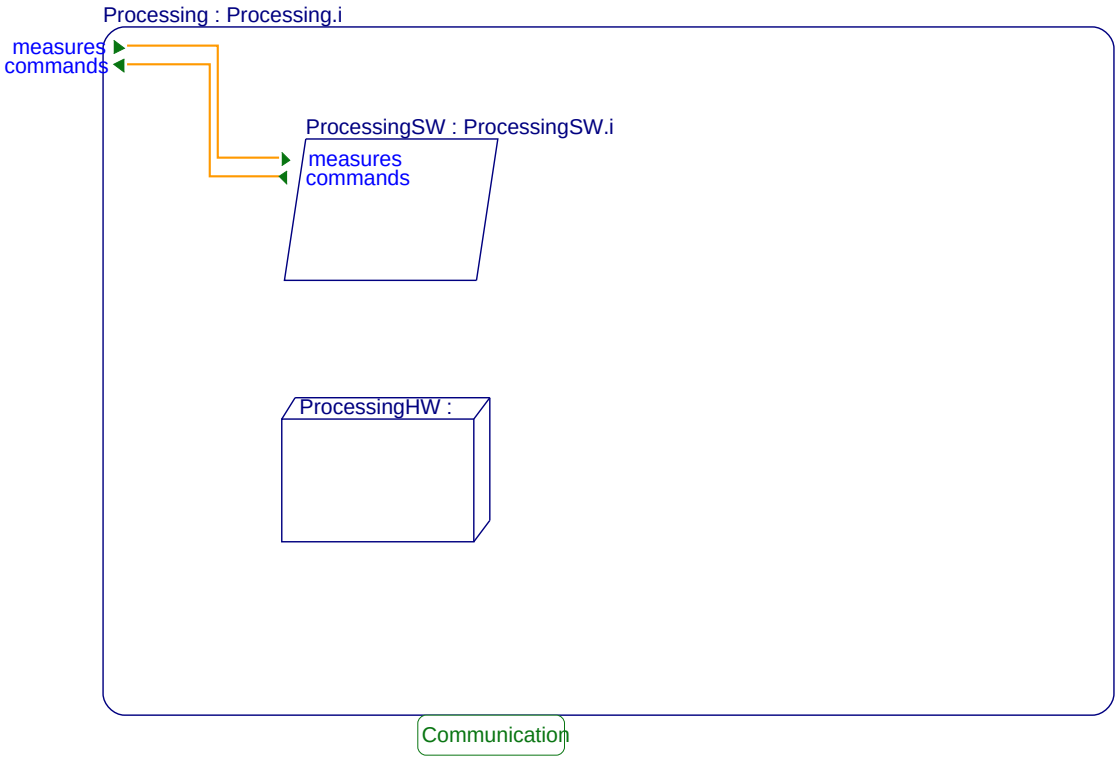
10.1.1.1.2. Feature Declaration

```
pos(Flow : out T_Position);
```

11. SYSTEM Processing IS

11.1. DESCRIPTION

11.1.1. AADL Diagram



11.1.2. FEATURES

11.1.2.1. measures

11.1.2.1.1. Feature Declaration

```
measures(F1 : in T_Position);
```

11.1.2.2. commands

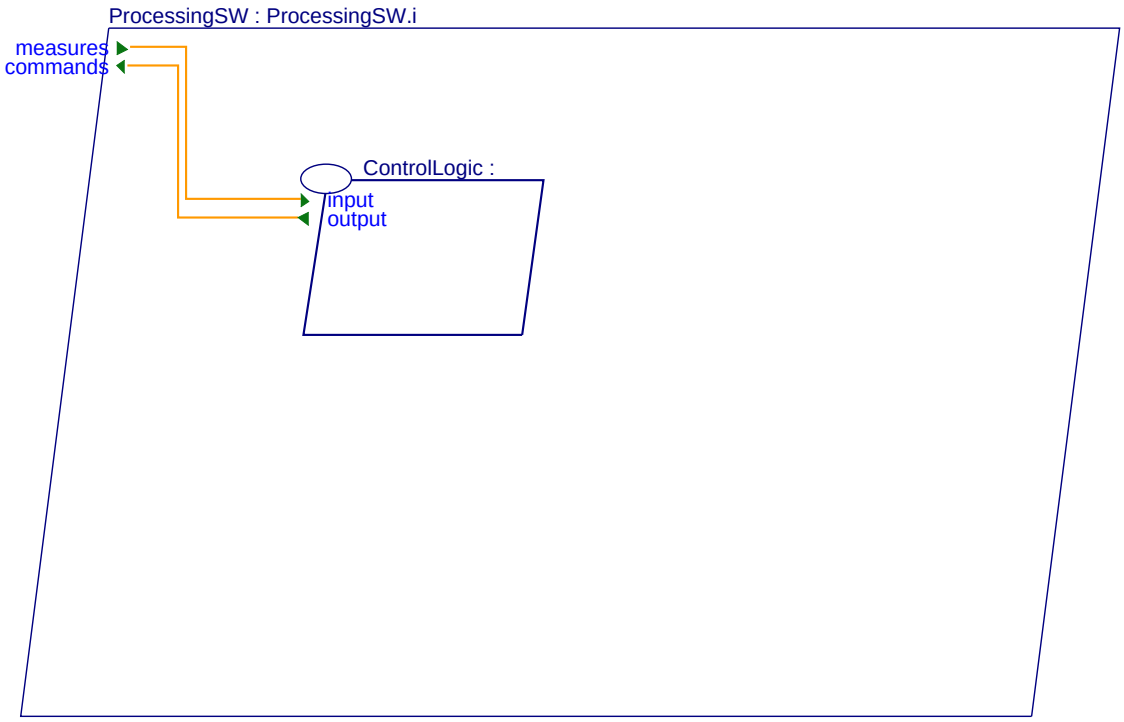
11.1.2.2.1. Feature Declaration

```
commands(F1 : out T_Angle);
```

12. PROCESS ProcessingSW IS

12.1. DESCRIPTION

12.1.1. AADL Diagram



12.1.2. FEATURES

12.1.2.1. measures

12.1.2.1.1. Feature Declaration

```
measures(F1 : in T_Position);
```

12.1.2.2. commands

12.1.2.2.1. Feature Declaration

```
commands(F1 : out T_Angle);
```

13. THREAD ControlLogic IS

13.1. DESCRIPTION

13.1.1. FEATURES

13.1.1.1. input

13.1.1.1.1. Feature Declaration

```
input(F1 : in T_Position);
```

13.1.1.2. output

13.1.1.2.1. Feature Declaration

```
output(F1 : out T_Angle);
```

14. PROCESSOR ProcessingHW IS

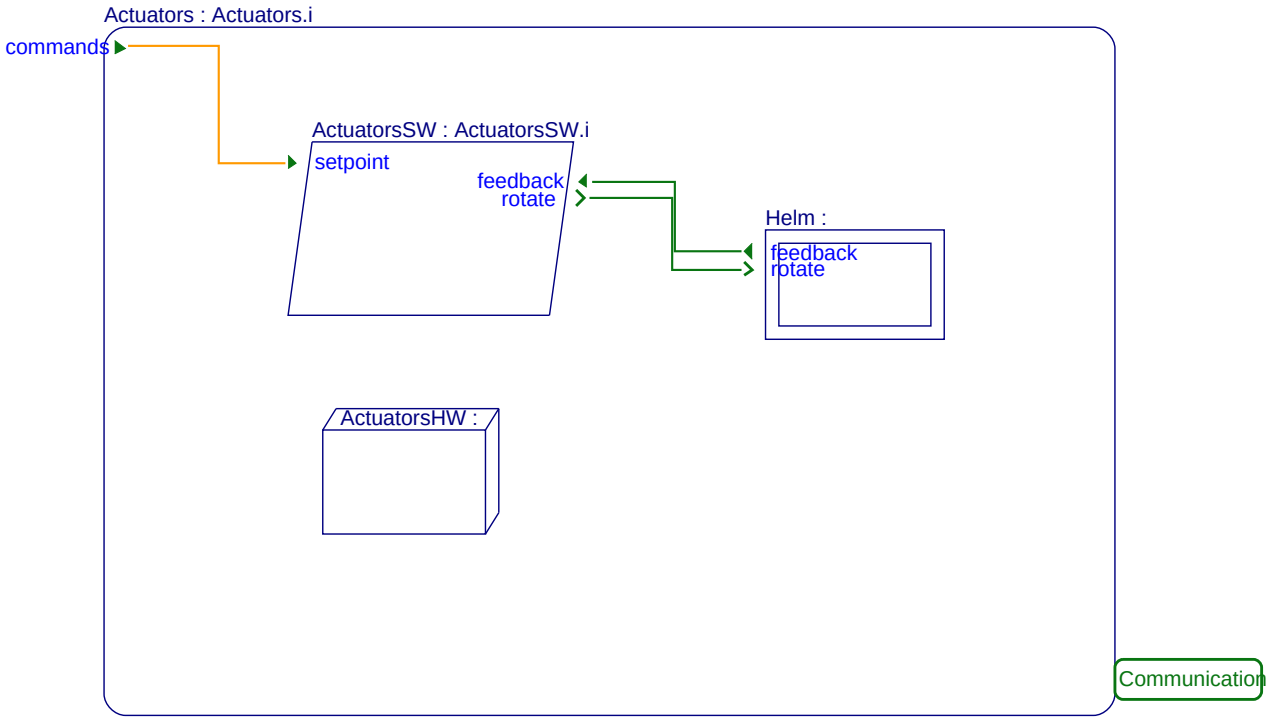
14.1. DESCRIPTION

14.1.1. FEATURES

15. SYSTEM Actuators IS

15.1. DESCRIPTION

15.1.1. AADL Diagram



15.1.2. FEATURES

15.1.2.1. commands

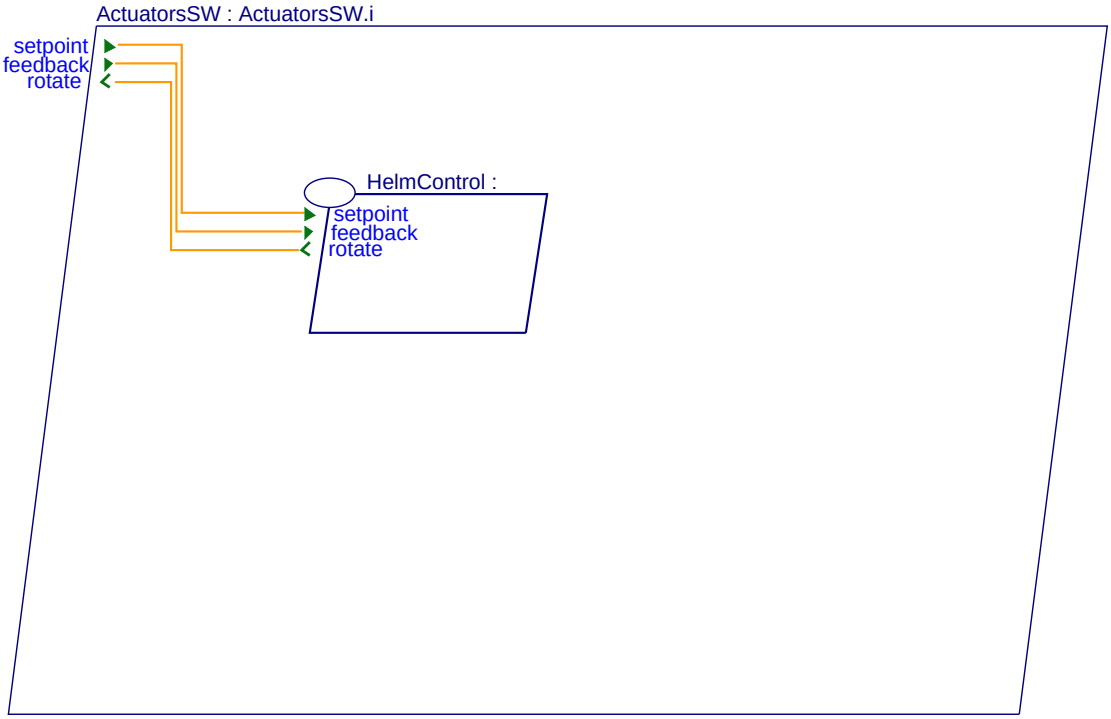
15.1.2.1.1. Feature Declaration

```
commands(F1 : in T_Angle);
```

16. PROCESS ActuatorsSW IS

16.1. DESCRIPTION

16.1.1. AADL Diagram



16.1.2. FEATURES

16.1.2.1. setpoint

16.1.2.1.1. Feature Declaration

```
setpoint(F1 : in T_Angle);
```

16.1.2.2. feedback

16.1.2.2.1. Feature Declaration

```
feedback(Flow : in T_Angle);
```

16.1.2.3. rotate

16.1.2.3.1. Feature Declaration

```
rotate(Event : out T_Event);
```

17. THREAD HelmControl IS

17.1. DESCRIPTION

17.1.1. FEATURES

17.1.1.1. setpoint

17.1.1.1.1. Feature Description

setpoint is the flow sink of F1

17.1.1.1.2. Feature Declaration

```
setpoint(F1 : in T_Angle);
```

17.1.1.2. feedback

17.1.1.2.1. Feature Declaration

```
feedback(Flow : in T_Angle);
```

17.1.1.3. rotate

17.1.1.3.1. Feature Declaration

```
rotate(Event : out T_Event);
```

18. PROCESSOR ActuatorsHW IS

18.1. DESCRIPTION

18.1.1. FEATURES

19. DEVICE Helm IS

19.1. DESCRIPTION

19.1.1. FEATURES

19.1.1.1. feedback

19.1.1.1.1. Feature Declaration

```
feedback(Flow : out T_Angle);
```

19.1.1.2. rotate

19.1.1.2.1. Feature Declaration

```
rotate(Event : in T_Event);
```

20. BUS Communication IS

20.1. DESCRIPTION

20.1.1. FEATURES