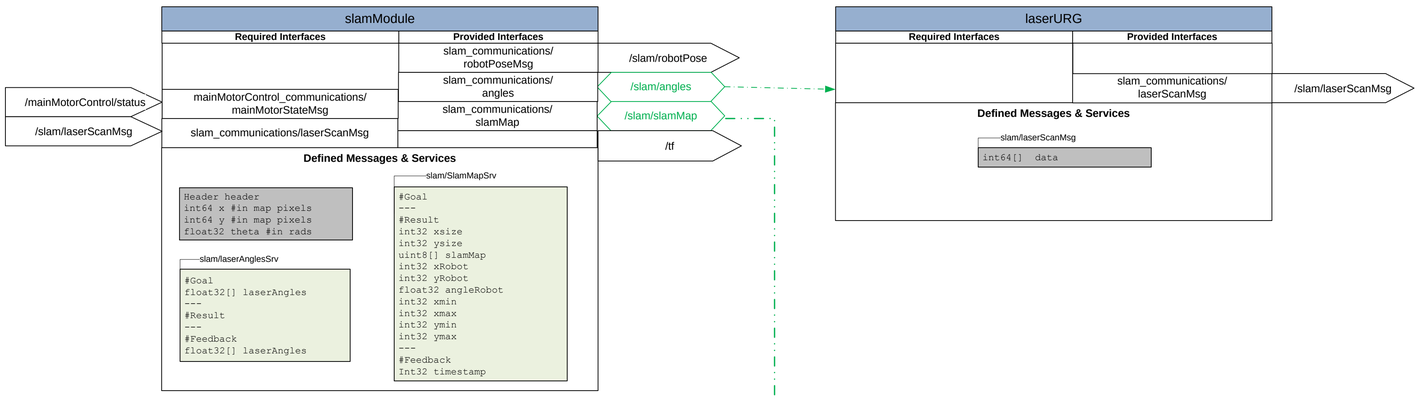
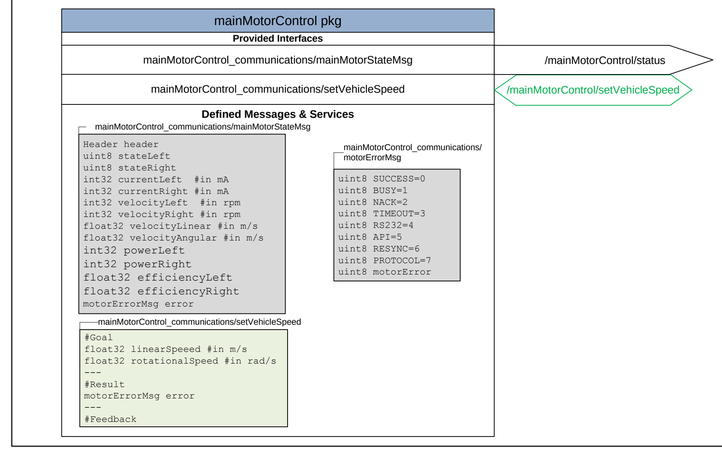
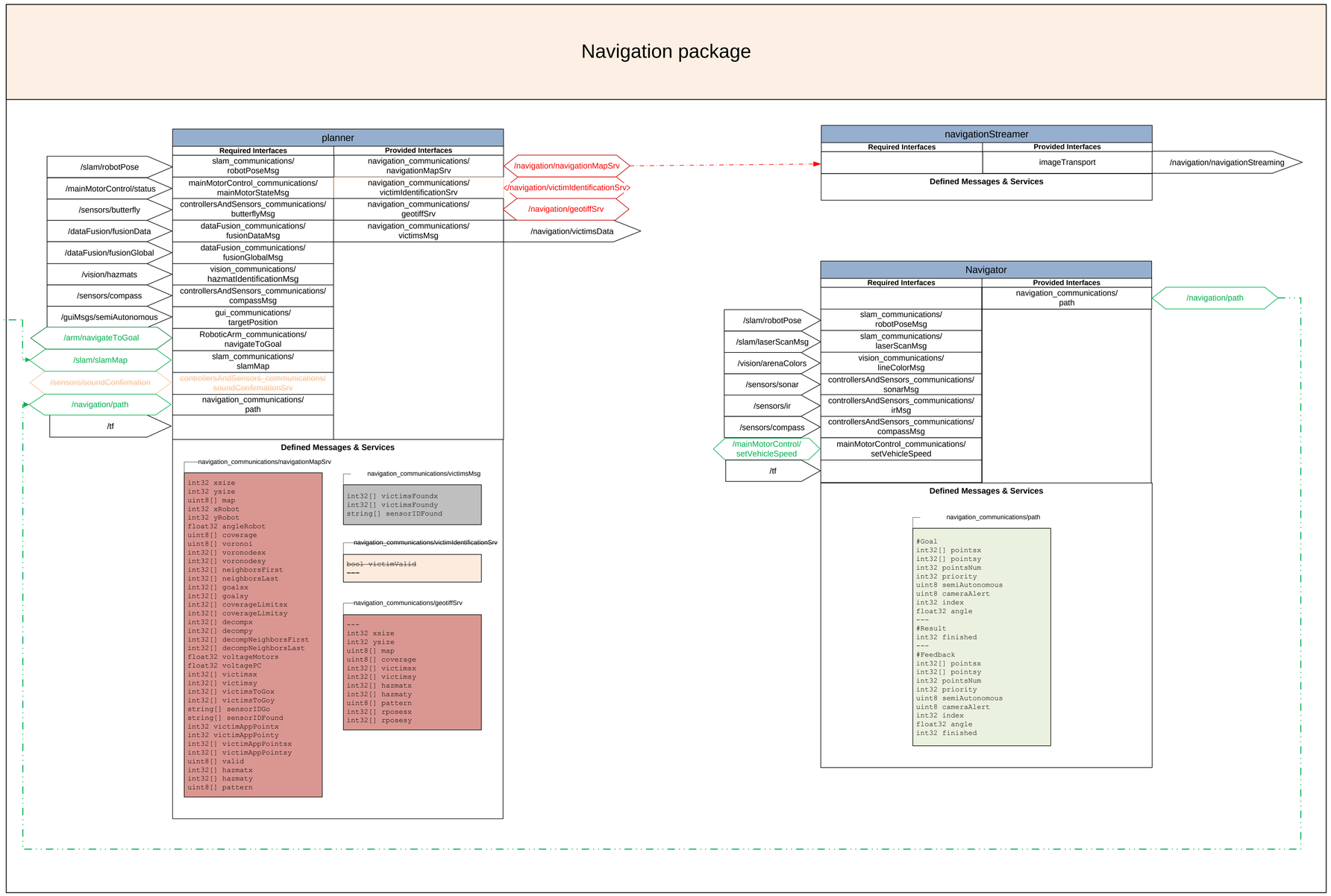
Slam package



Main Motor Control package



Navigation package



Controllers and Sensors package

controllersAndSensors pkg

Required Interfaces	Provided Interfaces
	controllersAndSensors_communications/ controlSwitchSrv
	controllersAndSensors_communications/ controlSwitchSrv
	controllersAndSensors_communications/ tiltControlSrv
	controllersAndSensors_communications/ tiltControlSrv
	controllersAndSensors_communications/ gripperControlSrv
	controllersAndSensors_communications/ controlServo
	controllersAndSensors_communications/ controlServo
	controllersAndSensors_communications/ soundScan
	controllersAndSensors_communications/ soundExistenceMsg
	controllersAndSensors_communications/ compassMsg
	controllersAndSensors_communications/ irMsg
	controllersAndSensors_communications/ headIrMsg
	controllersAndSensors_communications/ tpaMsg
	controllersAndSensors_communications/ co2Msg
	controllersAndSensors_communications/ butterflyMsg
	controllersAndSensors_communications/ sonarMsg
	controllersAndSensors_communications/ mlxMsg

/sensors/laserPointerControl
/sensors/ledControl
/sensors/tiltRightMotor
/sensors/tiltLeftMotor
/sensors/gripperControl
/sensors/cameraRotatation
/sensors/moveHead
/sensors/soundScan
/sensors/soundExistence
/sensors/compass
/sensors/ir
/sensors/headIr
/sensors/tpa/*(0,1,2)
/sensors/co2
/sensors/butterfly
/sensors/sonar
/sensors/mlx

Defined Messages & Services

controllersAndSensors_communications/ gripperControlSrv

```
uint8 STATE_OFF=0
uint8 STATE_OPEN=1
uint8 STATE_CLOSE=2
uint8 state
---
uint8 ERROR_OK=0
uint8 ERROR_COMMUNICATING=1
uint8 error
```

controllersAndSensors_communications/ tiltControlSrv

```
uint8 tiltPosition
---
uint8 error
uint8 OK=0
uint8 ERROR_COMMUNICATING=1
```

controllersAndSensors_communications/ controlSwitchSrv

```
uint8 STATUS_OFF=2
uint8 STATUS_ON=1
uint8 status
---
uint8 OK=0
uint8 ERROR_COMMUNICATING=1
uint8 error
```

controllersAndSensors_communications/ tpaMsg

```
Header header
int32 ambientTemp #Celcius
int32[8] pixelTemp #Celcius
```

controllersAndSensors_communications/ soundErrorMsg

```
Header header
uint8 soundError
uint8 SUCCESS=0
uint8 FAILURE=1
```

controllersAndSensors_communications/ butterflyMsg

```
Header header
float32[2] voltage #in volts
```

controllersAndSensors_communications/ controlServo

```
#Goal
uint8 position
uint8 positionSet=2
---
#Result
uint8 error
uint8 OK=0
uint8 ERROR_COMMUNICATING=1
---
#Feedback
```

controllersAndSensors_communications/ co2Msg

```
Header header
uint32 ppm
```

microcontrollers_communications/ soundExistenceMsg

```
Header header
bool soundExists
float32 certainty
```

controllersAndSensors_communications/ compassMsg

```
Header header
float32  pitch # in rads
float32 roll  # in rads
```

controllersAndSensors_communications/ irMsg

```
Header header
int32[5] distance #in mm
```

controllersAndSensors_communications/ headIrMsg

```
Header header
int32 distance #in mm
```

controllersAndSensors_communications/ mlxTempMsg

```
Header header
float32[2] mlxTemp #Celcius
```

controllersAndSensors_communications/ sonarMsg

```
Header header
int32[6] distance #in mm
```

sensors/soundScan

```
#Goal
---
#Result
uint8 ok
---
#Feedback
float32 th5
```

Vision package

vision

Required Interfaces	Provided Interfaces	
controllersAndSensors_communications/ controlSwitchSrv	vision_communications/ hazmatIdentificationMsg	/vision/hazmats
controllersAndSensors_communications/ controlSwitchSrv	vision_communications/ lineColorMsg	/vision/arenaColors
controllersAndSensors_communications/ controlServo	vision_communications/ victimIdentificationDirectionMsg	/vision/victimDirection
	vision_communications/ victimIdentificationPositionMsg	/vision/victimPosition
	imageTransport	/vision/source
	std_srvs::Empty	/vision /motionArmService

/sensors/laserPointerControl
/sensors/ledControl
/sensors/cameraRotation

Defined Messages & Services

vision_comunications/ victimIdentificationPositionMsg

```
Header header
  uint32 seq
  time stamp
  string frame_id
int32[3] position
float32[3] normalVector
float32 probability
uint64 holeId
```

vision_communications/ hazmatIdentificationMsg

```
Header header
  uint32 seq
  time stamp
  string frame_id
float32 x
float32 y
uint8 patternType
```

vision_comunications/lineColorMsg

```
uint8 COLOR_YELLOW=1
uint8 COLOR_RED=2
uint8 COLOR_ORANGE=3
uint8 ORIENTATION_NONE=0
uint8 ORIENTATION_HORIZONTAL=1
uint8 ORIENTATION_VERTICAL=2
Header header
  uint32 seq
  time stamp
  string frame_id
float32 fromAngle
float32 toAngle
uint8 color
uint8 orientation
```

vision_comunications/ victimIdentificationDirectionMsg

```
uint8 FACE=1
uint8 HOLE=2
uint8 SKIN=3
uint8 MOTION=4
Header header
  uint32 seq
  time stamp
  string frame_id
float32 x
float32 y
float32 probability
int32 area
uint8 type
uint64 holeId
```

GUI package

gui

Required Interfaces	Required Interfaces	
navigation_communications/ geotiffSrv	gui_communications/targetPosition	/guiMsgs/semiAutonomous
mainMotorControl/setVehicleSpeed		
navigation_communications/guiInfoLargeSrv		
navigation_communications/guiInfoSmallSrv		
RoboticArm_communications/moveArm		
controllersAndSensors_communications/soundExistenceMsg		
controllersAndSensors_communications/irMsg		
controllersAndSensors_communications/headIrMsg		
controllersAndSensors_communications/tpaMsg		
controllersAndSensors_communications/co2Msg		
controllersAndSensors_communications/butterflyMsg		
controllersAndSensors_communications/sonarMsg		
controllersAndSensors_communications/mlxMsg		
dataFusion_communications/fusionGlobalMsg		
navigation_communications/victimsMsg		
imageTransport		
imageTransport		
mainMotorControl_communications/mainMotorStateMsg		
stateManager_communications/robotModeMsg		
navigation_communications/ victimIdentificationSrv		

/navigation/geotiffSrv
/mainMotorControl/ setVehicleSpeed
/navigation/mapData
/navigation/navigationData
Not used
/arm/armControl
/sensors/soundExistence
/gui/sensors/ir
/gui/sensors/headIr
/gui/sensors/tpa/*(0,1,2)
/gui/sensors/co2
/gui/sensors/butterfly
/gui/sensors/sonar
/sensors/mlx
/dataFusion/fusionGlobal
/navigation/victimsData
/vision/image2
/navigation/navigationStreaming
/mainMotorControl/status
/robot/state
/tf
/navigation/victimIdentificationSrv

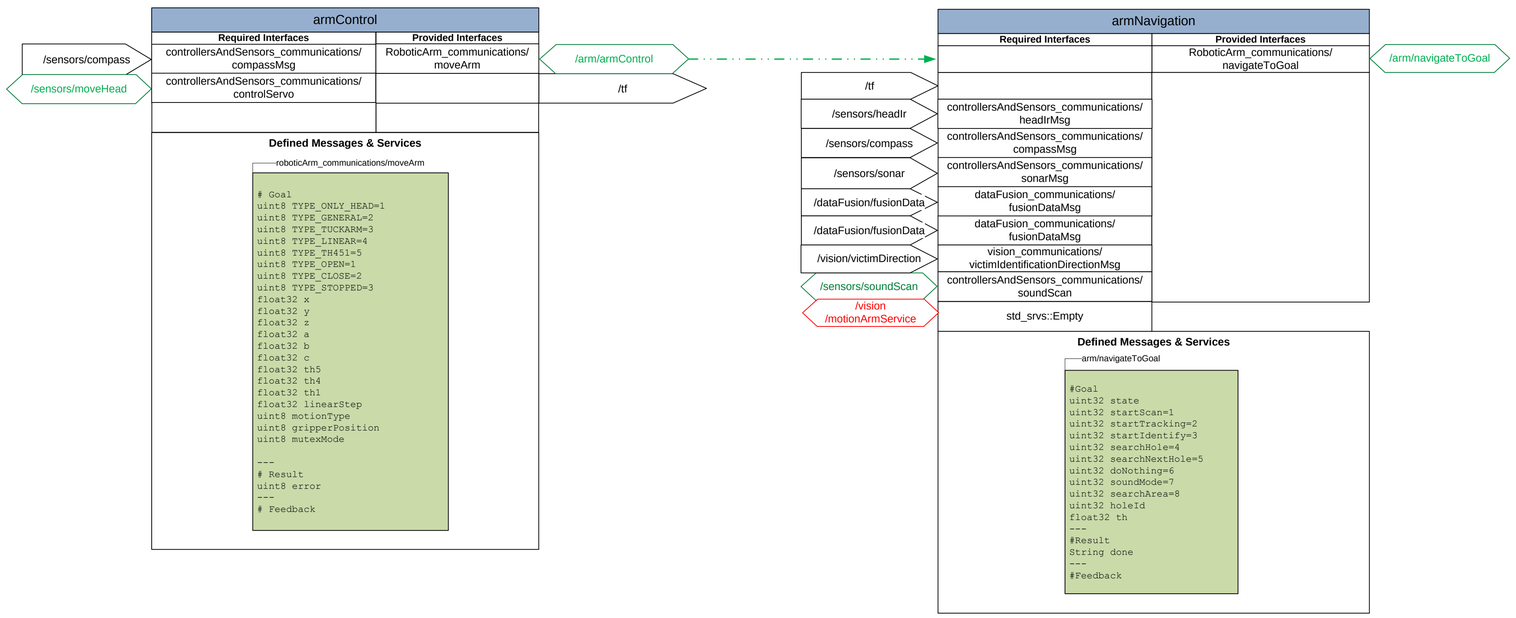
/sensors/ir
/sensors/headIr
/sensors/tpa/*(0,1,2)
/sensors/co2
/sensors/butterfly
/sensors/sonar

Defined Messages & Services

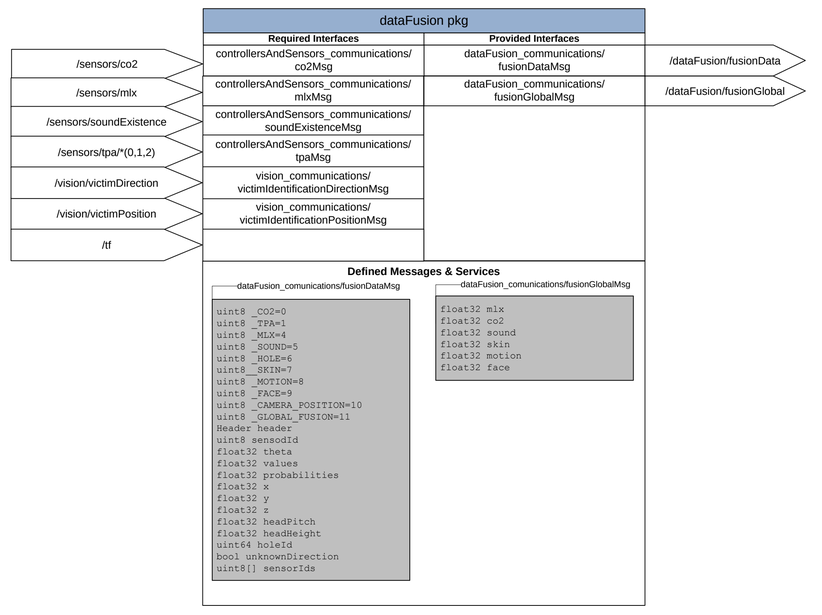
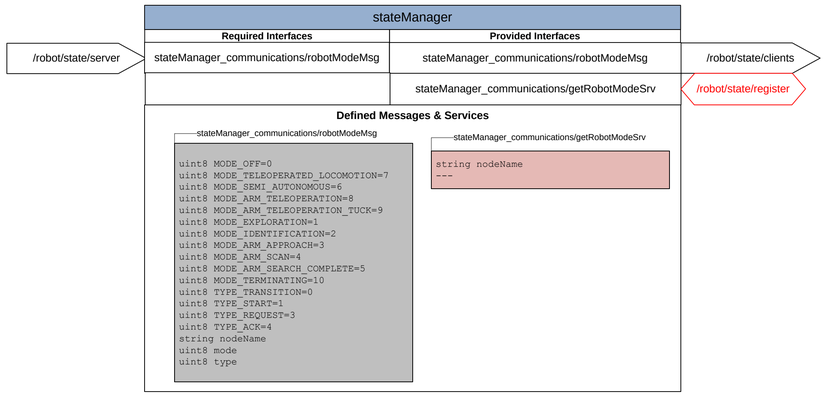
gui_communications/targetPosition

```
float32 x
float32 y
int32[] sensorsIDs
```

Robotic Arm package



Data Fusion package



State Manager package