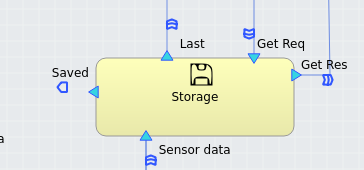
Goal: Prove traceability between design and code generated

Model used

A diagram of a software company

Description automatically generated with medium confidence

Special focus on Storage



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AADL Model Element** | **Type** | **Code/Configuration Representation** | **File/Location** | **Verification** |
| Startup\_PRIORITY | Property | CFE\_APP, storage\_app, STORAGE\_APP\_Main, STORAGE\_APP, 100, 16384, 0x0, 0; | cfe\_es\_startup.scr:15 | Verified priority 100 matches AADL model; Adds component correctly |
| NEEDS\_DATASTORE, DATASTORE\_size | Property | Functions int32 STORAGE\_User\_Datastore\_Init()  int32 STORAGE\_User\_Datastore\_Store(const void \*dataToStore)  int32 STORAGE\_User\_Datastore\_Load(uint8 load[STORAGE\_DATASTORE\_SIZE])  struct CFE\_ES\_CDSHandle\_t | storage\_app.c:56  storage\_app.c:93  storage\_app.c:108  storage\_app.h:99 | Signature matches AADL model; Correctly handles datastore initialization |
| “SAVED” Event | Connection | Function int32 STORAGE\_User\_Saved\_Event()  #define STORAGE\_SAVED\_EID         7 | storage\_app.c:285  storage\_app\_events.h | Vertified event ID 7 matches AADL model; Event handler executes correctly |
| “Sensor data” SUB | Connection | Functions int32 STORAGE\_Receive\_Sensor\_data\_Init()  int32 STORAGE\_User\_Receive\_Sensor\_data()  struct asn1SccAnalogDataTable | storage\_app.c:559  storage\_app.c:250  storage\_app.h:87 | Verified that function initializes subscription correctly based on AADL ;  Tested for correct data reception;  Data structure correctly generated based on ASN.1 model definition |
| “Get Req” SUB | Connection | Functions int32 STORAGE\_Receive\_Get\_Req\_Init()  int32 STORAGE\_User\_Receive\_Get\_Req()  struct asn1SccTimestamp | storage\_app.c:544  storage\_app.c:217  storage\_app.h:90 | Verified that function initializes subscription correctly based on AADL ;  Tested for correct data reception;  Data structure correctly generated based on ASN.1 model definition |
| “Get Res” PUB | Connection | Functions int32 STORAGE\_Send\_Get\_Res\_Init()  int32 STORAGE\_User\_Send\_Get\_Res()  struct asn1SccSatelliteState | storage\_app.c:509  storage\_app.c:120  storage\_app.h:91 | Verified that function initializes the publish mechanism correctly based on AADL;  Tested for correct data transmission;  Data structure correctly generated based on ASN.1 model definition |
| “LAST” PUB | Connection | Functions int32 STORAGE\_Send\_Last\_Init()  int32 STORAGE\_User\_Send\_Last()  struct asn1SccSatelliteState | storage\_app.c:528  storage\_app.c:170  storage\_app.h:91 | Verified that function initializes the publish mechanism correctly based on AADL;  Tested for correct data transmission;  Data structure correctly generated based on ASN.1 model definition |