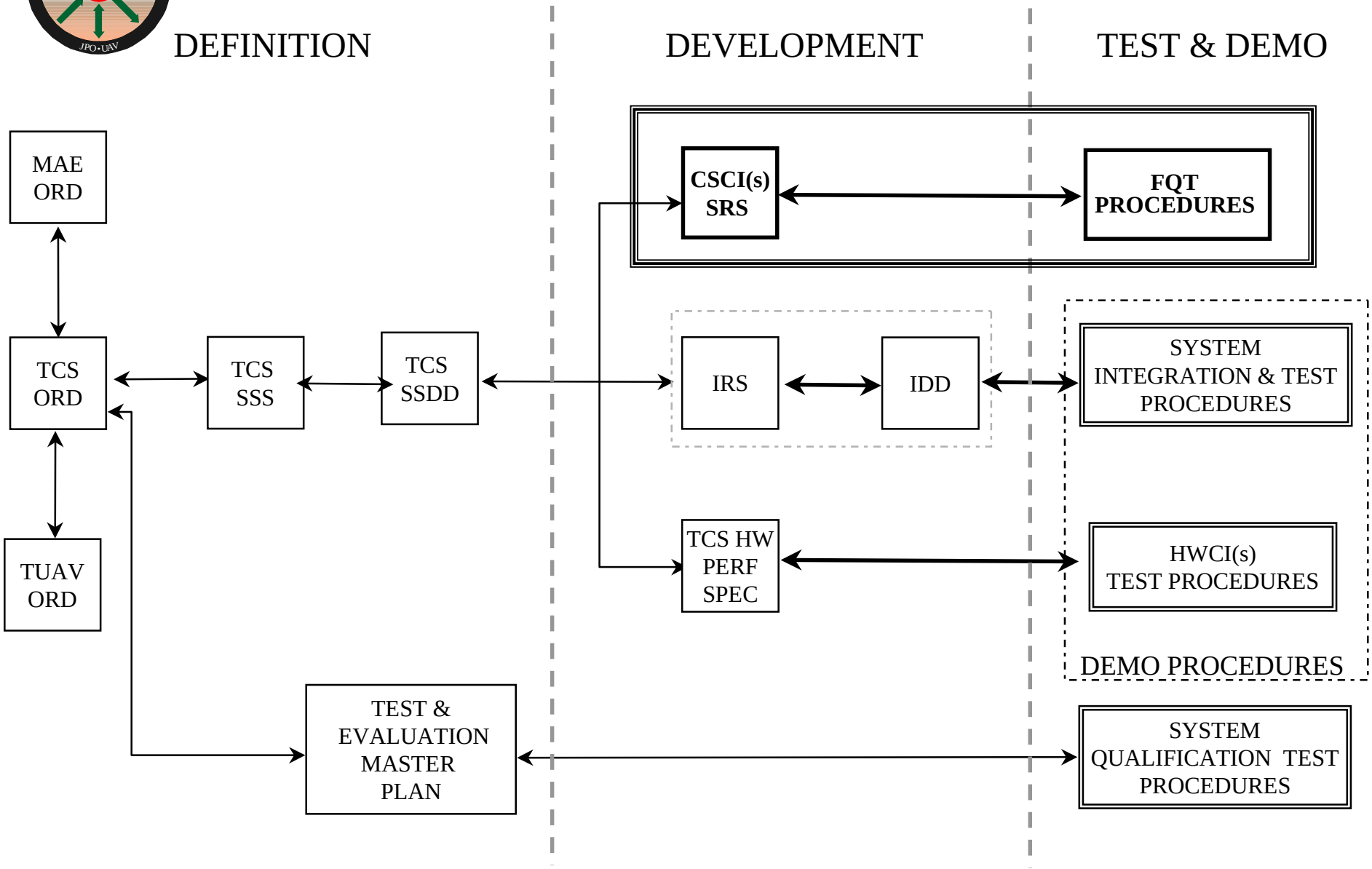
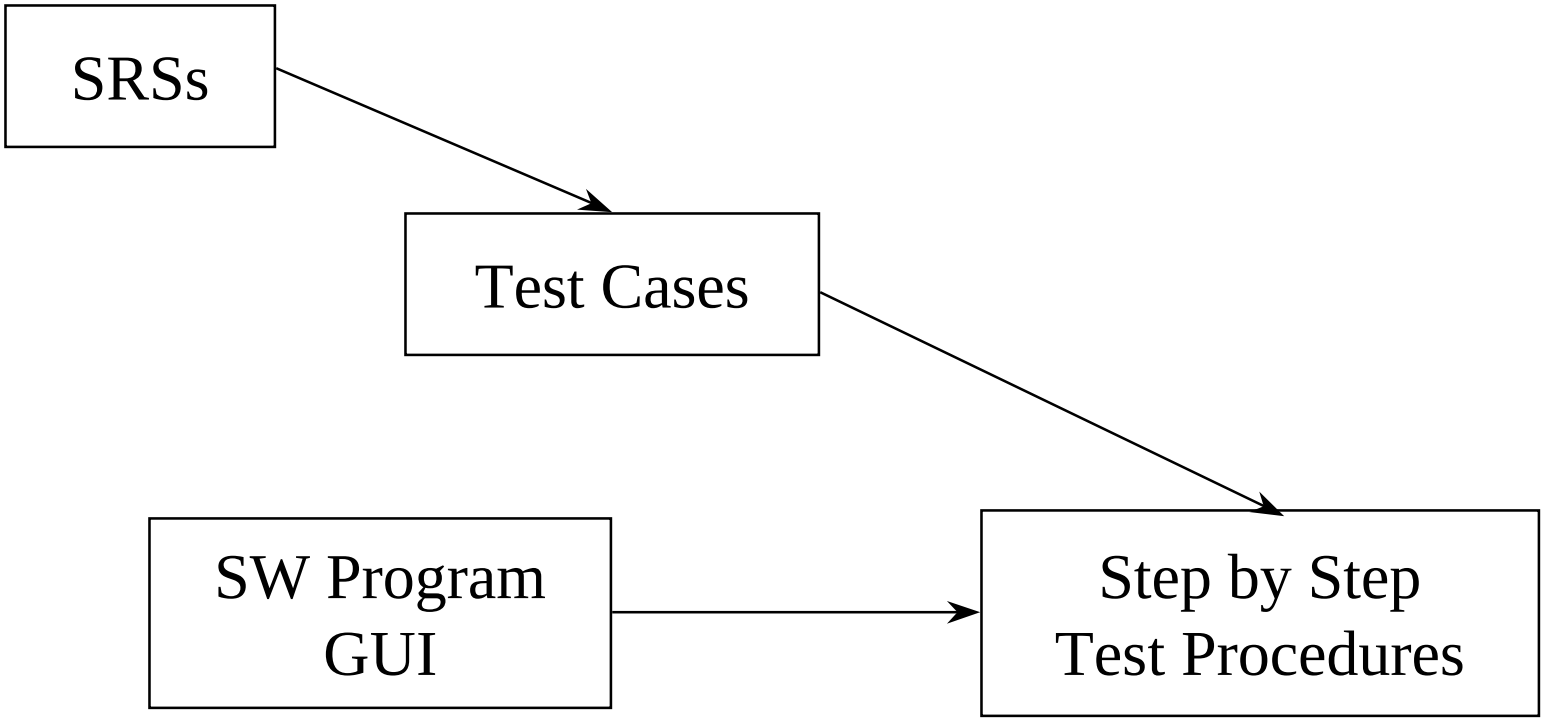
Formal Qualification Testing Process

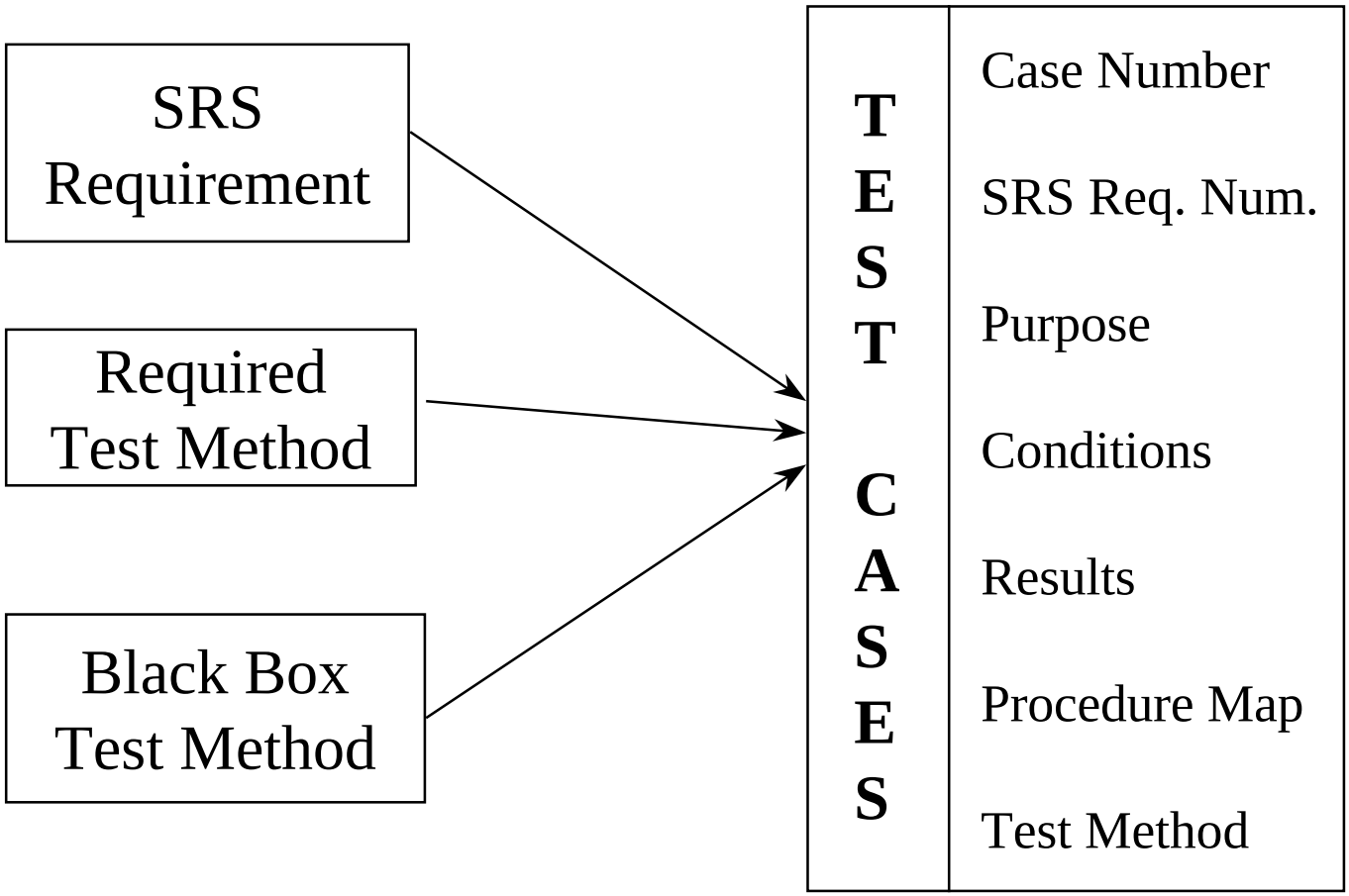
TRACEABILITY MODEL



FQT Procedure Process Plan



FQT Test Case Process



FQT Test Case Example

(TCS 103 v1.1) Upon operator command, TCS shall display [SRS0013] or remove from display [SRS0064] the following overlay data on the NTSC video imagery: Cross Hair (graphic), from IMAGE_COORDINATES_AND_ANGLES: True North Pointing Arrow (graphic, based on North_Vertical_Projection and North_Horizontal_Projection), LOS_Incidence_Angle, and Center_FOV_Slant_Range

TCM # SRS0013-3 **SRS REQ #** 13 **SRS Para** 3.2.3 **inspection only**

Test config standard lab **Procedure Name** Video Processing Procedure

PURPOSE Verify overlay data indicators for AV 360 deg. turn

COND Telemetry data received, video and overlay being displayed, AV turn 360degrees

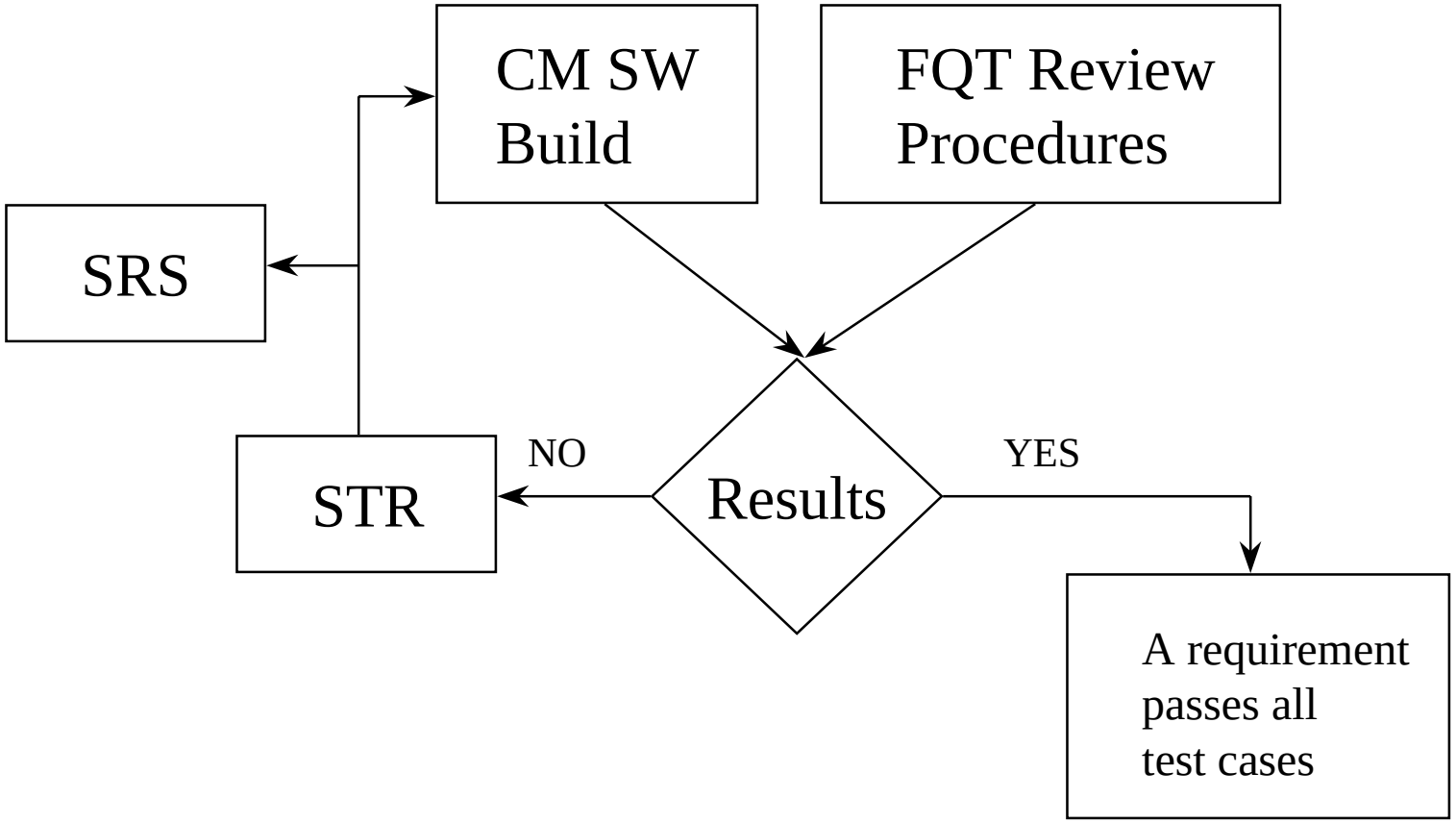
RESULTS North pointing indicator turn 360 degrees smoothly on the overlay, LOS Incidence Angle and FOV range change minimally

CLASS Normal Operation

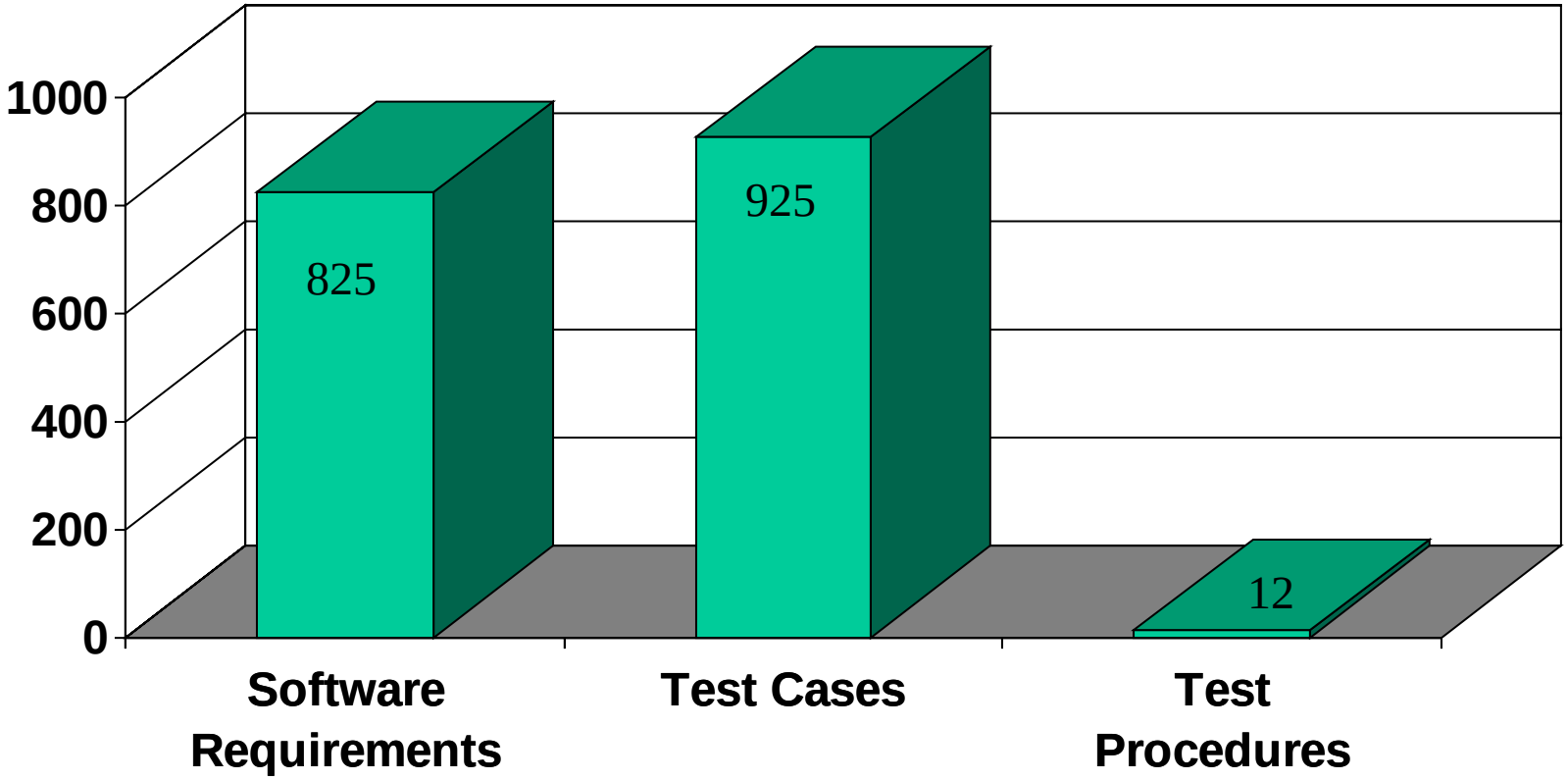
MIN_SCRIPT NOs, fix Payload azimuth 90 deg. out from AV heading, set AV pitch, roll, heading EOIR azimuth, depression to non-zero non-90 values. ISD cause the AV to turn a full 360 deg.

COMMENT

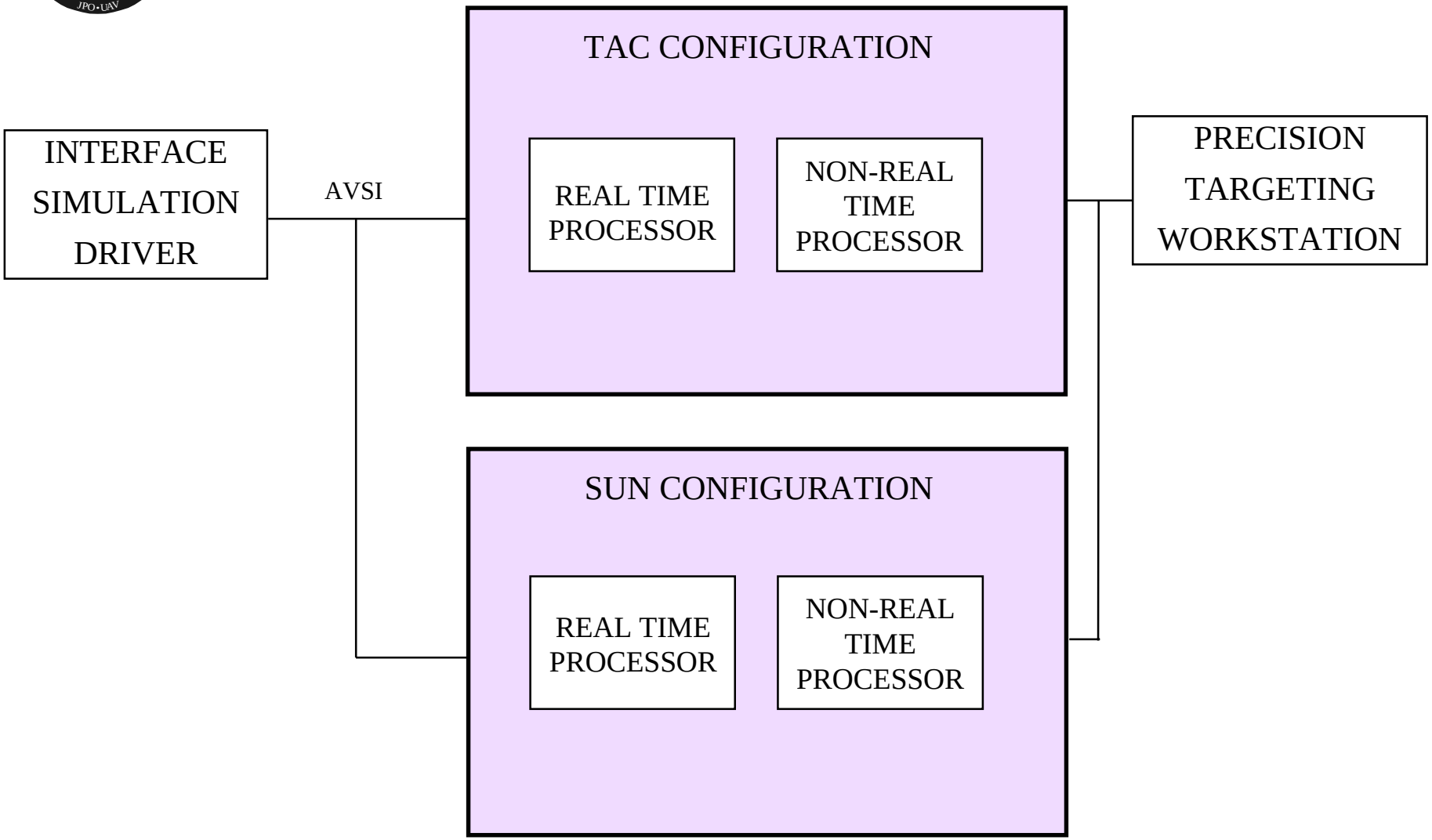
FQT Procedure Testing Plan



FQT Traceability Numbers for Engineering Build 2



METHOD (1) FOR DRIVING S/W



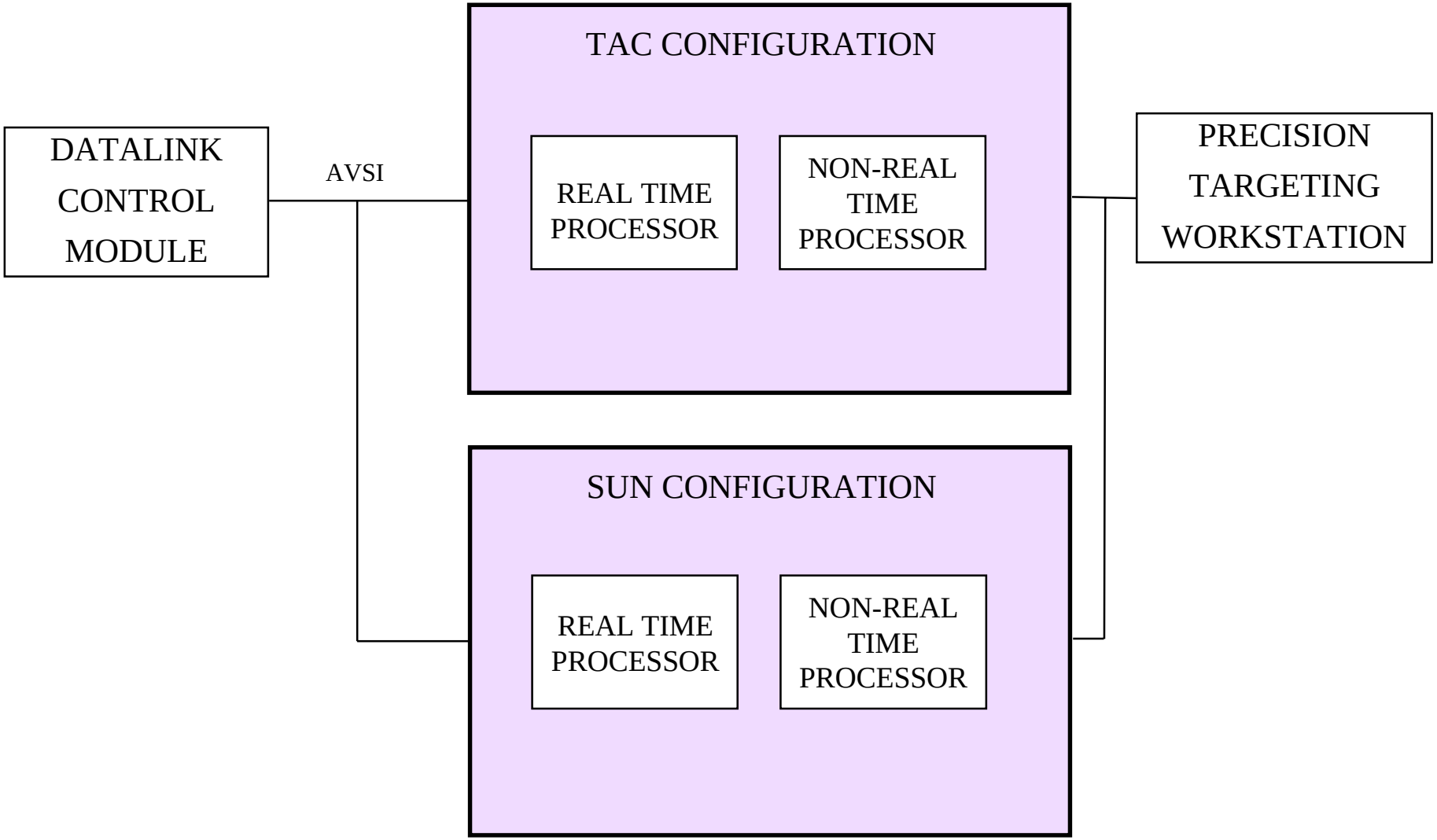
Interface Simulation Device (ISD)

- Description
  - ISD is an interface test tool designed to support software integration and testing of TCS via the AVSI
- Capabilities
  - Support for interface message control
    - Monitor all interface messages
    - Introduce planned and unplanned fault conditions
      - Individual control of message elements
      - Individual control of outbound message rates
      - Ignore inbound messages
      - Inhibit or force response messages

ISD (cont.)

- Capabilities (cont.)
  - Support for 3-DOF AV flight simulation
    - “Flight Route Plan”, “Fly To”, “Loiter”, and “Direct Control” navigation modes
    - Circle patter for “Loiter” navigation mode
    - Fuel consumption
  - Support for payload movement simulation
  - Logging of user input and interface data
  - Scenario generation for automating user input

ISD (cont.)

- Supporting Utilities
  - LogView
    - Interprets and displays the user input and interface data that was logged
  - Log2Scn
    - Converts the user input that was logged into a scenario
- Platform
  - Internet ready Windows 95 PC

METHOD (2) FOR DRIVING S/W