FGSSE#9—EGSE#6

09-10 October 2000, ESTEC

Present: Otto Bauer (OHB-MPE), John Dodsworth (JD-ESOC), Albrecht de Jonge (AdJ-SRON), Luc Dubbeldam (LD-SRON), Pierre Estaria (PE-ESTEC), Astrid Heske (AH-ESTEC), Rik Huygen (RH-KUL), Ken King (KK-RAL), Bryan Melton (BM-ESTEC), Nestor Peccia (NP-ESOC), Sunil Sidher (SS-RAL), Johannes Riedinger (JRR-ESTEC), Peter Roelfsema (PRR-SRON), Stephane Veillat (SV-ESTEC), F.N. Wechsler (FW-ESTEC), Erich Wiezorrek (ErW-MPE).

Minutes written by Rik Huygen.

Monday, 9 October 2000

WELCOME

Stephane welcomes all and explains the objectives of this meeting.

AGREEMENT OF THE AGENDA

Agenda is agreed, some constraints for the end of the meeting are expressed.

DOCUMENTATION

Stephane Veillat (Appendix 01)

The documents that are in the scope of this meeting and currently under review are presented wrt the FIRST document tree.

Pjotr remarks that since some of these documents depend on each other there should be no big changes in the upper documents that have severe impacts on the lower-level documents, e.g. big changes in the scenario document will affect the FGS-DD. Also the SIRD is not yet in a stable state and Pjotr asks if these documents can be signed of in some way to fix requirements etc.

Ken remarks that the diagram shown is not completely conform to the way SPIRE is organised, i.e. the ICC is not responsible for the EGSE and can therefore not be responsible for these and related documents. This is also the case for HIFI; for example the HIFI ICC is not responsible for the EGSE and the On Board Software.

FCSS related documentation is to be re-issued for formal review by the end of October.

FIRST Ground Segment: ILT System Set-up

Pjotr Roelfsema (Appendix 02)

Pjotr explains about ILT set-up of the FIRST ground Segment, system partitioning. Diagrams from EGSE-ILT URD by Ken (FIRST-SPI-DOC-000127).

Ken remarks that there might be information, which is not in the MIB but should be made available to TestControl and sits somewhere in another place/database (*It's at this point unclear what Ken means…check with him)*. Later it became clear that Ken is really objecting to using MIB for what is actually an *instrument Database* and this will confuse people especially from the MOC who start to think in specific terms.

Pjotr explains that the diagrams are for one instrument only and the dotted lines for the MIB transfer indicate that information for one instrument only is travelling. After (each?) ILT the common systems of all three instruments should be merged (see comment in FGS-DD).

There seems to be still some confusion about what the MIB is and what exactly the tools like MIB editor and 'the database' are.

Ken explains that at this point he sees four different databases, i.e. in the MOC, RTA, TestControl, and FCSS, and sees them as independent databases. The rest of the group does not support this latter statement.

The MIB editor could create two types of output; (1) the DBMS as a BLOB and (2) the set of ASCII files as used by SCOS-2000. The DBMS could be put into the FCSS for the purpose of version control, the set of ASCII files are needed into the FCSS for distribution to SCOS-2000. The FCSS can interpret the information (from either the DBMS or the set of ASCII files) and extract information from it for populating specific objects in its database. FCSS will not do any translation or reformatting while exporting the 'MIB' to the SCOS-2000 environment.

John explains that the MIB (Mission Information Base) can contain other instrument specific information that is never used by SCOS 2000 but just travels along with all other information in the MIB (in separate files). This could be the mechanism by which the MIB could be extended (or could contain more/different information than needed by SCOS 2000).

Conclusion: The MIB will be generated in only one format, a format compatible with SCOS-2000. The FCSS will store this MIB as a BLOB. The FCSS will also (as a separate process) ingest a subset of the MIB corresponding to the data needed for the CUS, TM ingestion and IA/QLA.

The discussion continues on TestControl…

Pjotr remarks that people should be very explicit and careful in the requirements they specify for TestControl in that they try to keep them consistent with what is possible with SCOS-2000 and the MIB as-is.

Discussion on TestControl functionality (question by Bryan): Test procedures can in the currently existing system(s) not easily by exported and/or saved into an external system like FCSS.

In TestControl you can define test procedures and include references to observation modes. At the time of execution of the test procedure the observation modes are requested from FCSS. The FCSS then expands the requested mode into a sequence of command mnemonics with parameters and sets the relevant identifiers; OBSID and BBID. The sequence of mnemonics is subsequently handed over to TestControl to be forwarded to Commanding for upload to the instrument.

Question by Nestor: Do we do time correlation in the FCSS? (see discussion below).

Question by Astrid: Does QLA have a safety function? Answer: no; that will be handled by the autonomous functions of the TestControl. Timing typically is a few seconds.

Bryan confirms that this set-up indeed seems compatible with TPE, SCOS 2000 and the router.

Questions and open points:

Question: "Do we need FCSS functionality *before* October 2001?"

- HIFI says NO! HIFI needs minimal functionality of FCSS by February 2002 and the full FCSS as defined for v0.1 in May 2002.
- PACS says Yes! if there is an interface between the MIB editor and SCOS 2000.

- SPIRE is not sure what they need before October 2001.

Next question is: "what do we need *by* October 2001?"

- PACS starts AVM ILT in October 2001 and needs TM I/F, MIB I/F, TestControl I/F, CUS, and maybe limited IA/QLA to check compression/de-compression software.
  In April 2002 PACS will do a combined AVM-CQM ILT and basically needs *all* FCSS functionality as specified on the viewgraph.

Question by Erich to Johannes: Is it still valid that we have the 6-8 weeks iteration on development releases like described in the roadmap document. Answer by Johannes: Yes, but that is described for the construction phase while we are now talking about elaboration phase 2. In any case, the same development cycle will probably be used for this phase.

This opens the possibility for an incremental delivery of the FCSS functionalities, but we need dates urgently! Pjotr is going to split up the diagram into three (TBC) successive deliveries and we will put dates next to it tomorrow morning.

Concerning SCOS 2000 we identified the problem of updates of the SCOS 2000 system and of the third party software used by SCOS 2000. We need a detailed planning of the different releases and versions of software that are used in order to synchronise this with our schedule for instrument tests.

End of October 2000 the SCOS 2000 v2.1 will be released.

A new version of SCOS 2000 v2.0 including interfacing to the router (and TPE) will be delivered by the end of this year. That is the version of SCOS 2000 that has already been delivered to the instruments, albeit without the router interface.

Another point of concern (raised by Stephane) is if the instruments already decided on using the TPE and/or the router. PACS and HIFI say that the current baseline for them is to go for these 'tools' and start already now to start the steep learning curve. SPIRE has not yet decided. Stephane asks if there is a timeframe for this decision. [*Is there a timeframe?*]

Next question: Are there parallel EGSE-ILT sessions for a single instrument? Answer: This might occur when IST starts and the instruments are running a set-up at their home institute while working on the next model for their instrument. This is really an issue for FCSS because of the different models and the merging of the systems.

Albrecht will phrase a new requirement by tomorrow.

Technical Issues (viewgraph 7):

- TM ingestion: relation between TM and BBs (i.e. Building Blocks in FCSS).

  The main question here is to which extent the instruments want to define the granularity in BB. PACS is happy with only two levels while HIFI wants to go further.

  Rik explains the current idea of the BB in the FCSS Class Model. The design puts no limitations on the specification of the granularity and is therefore feasible for each instrument.

  - Sufficient to relate TM and BBs? YES
  - OBSID_BBID: only one level of BBID per observation or more? NO
  - TEI TM will have OBSID, BBID? YES
  - TC history needed for ingestion? NO

- TC history in not an issue, i.e. it is not needed for TM ingestion!
- How to link command mnemonic with TC generated by TestControl?

FCSS sends command mnemonics that will be routed to Commanding by TestControl and translated into telecommands (they will get a counter).

We only have this problem if TestControl is able to generate commands out of the scope of the generation of an observation within FCSS.

Does the SCOS 2000 system generate a unique identifier that can be passed back to TestControl or FCSS?

Bryan will put something in writing to explain the connection by end of November 2000.

- Mechanism by which RTA events (SCOS 2000 events) (that mimic the autonomy functionality) or any other events from e.g. the CDMS are saved in the archive?

  A solution might be that the information is in the Test Procedure Log that is ingested into the FCSS.

  RTA and the CDMS are passive wrt events etc. the only place that is actively reacting on events is TestControl. It was precised that the PROBA implementation of test control is not supporting the interface with SCOS 2000 events, only the SOCS 2000 TM parameter interface is supported. Events will therefore have to be simulated in the Test Control from TM parameter values.

- Are OOL, derived parameters etc. generated by RTA stored in the FCSS?

  Part of the specification of the RTA to FCSS interface. Does this interface indeed has to cope with SCOS 2000 packets?
  What about the OOL of a derived parameter?

  Conclusion: We need the interface for OOL, not for derived parameters (SPIRE?). OOL data will be ingested in the FCSS, i.e. will be related to observations/BB. Ingestion will be based on time key.

- Format of the instrument database (MIB?)

  This is covered in previous discussions.

- Use of several version of the MIB in parallel.

  Yes! It means that for any TM packet in the FCSS you have the appropriate version of the MIB available and associated with that packet.

  In SCOS 2000 this is not possible, but also not strictly required!

- Is time correlation needed and in what form? No, only time translation TAI → UTC

  The CDMS needs to know the time and receive some commands to instruct the instruments to set their time.

  The FCSS will receive the TM with counters (TAI) which need to be translated into UTC.

- Calibration files: where and how?

  Uplink calibration data is only needed by the CUS. Downlink calibration data is only needed by IA functionalities. There will be no calibration data flowing from the FCSS to RTA except for calibration curves that are defined in the MIB.

- Implementation of OBSW management (in SCOS 2000) is not yet specified.

  MOC will provide a clear description of OBSW management.

Tuesday, 10 October 2000

Otto brings up the point that there is still no common understanding about IA, what it is, what it includes and what will be delivered by the instruments. An action [FGSSE#9-004] has come out of this.

The discussion on the ILT set-up continues.

Availability and go/no-go for TPE and the router. SCOS 2000 and the router we need in April 2000 (for PACS DPU testing) and the TPE (Test Processing Environment) will be needed in autumn 2000 (for PACS AVM ILT).

Organise a meeting on TPE (and the router?) in November 2000 and start writing the interfaces between TPE and FCSS. [The meeting is organised on 15th November 2000].

Staggered development of the FCSS

Peter Roelfsema (Appendix 03)

Pjotr has prepared some viewgraphs for staggered development and presents them. Each viewgraph has some minor discussion points, but the overall set-up was accepted by all instruments and by FSCDT.

Johannes asks if dates for these deliveries will be available for the management meeting on the 30th October. Answer is Yes (no action is recorded since this is normal work).

EGSE-ILT URD – Ken King

This document is a cut down version of the original ESGE URD. OBSM and MIB editor requirements are left out and also interface requirements that will go into the FGS-IRD.

What is in the document is a general description of the EGSE-ILT sub systems but no requirements.

[If you read RTA log in the diagram, this is in our current understanding only the OOL report that contains the actual values and the current limits on the parameter. The RTA log may be expanded with other information in the future.]

[TFCS: Test Facility Control System]

Q by Otto: Quite a number of requirements are changed/reworded wrt the old EGSE URD.

A: This is an action on the EGSE-WG to check this.

Q by Pierre: Can you go with this system as described until the end of ILTs? And how is it compared to IST?

A: We are happy, this means that as the EGSE-ILT is currently defined and with the staggered development we will be able to execute the ILTs.

Q by John: Does the TEI also use the 1553B? No!

Q by John: IF-FR-02 should be rephrased.

Q by John: maximum data-rate requirement is 400 kbps?

For commanding, SCOS 2000 can not handle more that 4 commands per second (TBC).

Does the data-rate of 400 kbps include both instrument and test equipment or should it be more to include test equipment data.

CDMS is just a stupid interface in that it does not look into packets (except timing packets) and does not do autonomy (which is done in a wider loop via TestControl). CDMS just shuffles packets back and forth and implements the MIL BUS 1553 interface.

TestControl has to have a facility to organise the timing of *all* clocks.

Bryan says that TestControl might not always be running e.g. if you do manual commanding from SCOS 2000.

Stephane has a comment on TC-CMD-07: Is it in contradiction to what we said yesterday that there is no flow of calibration files. Yes it is and the requirement will be reworded.

The outcome of this discussion is that the EGSE-ILT URD will be reviewed by the EGSE-WG, both for completeness and for consistency.

FCSS delta URD – Otto Bauer

Otto sent around a list of URs that have to merge to the FCSS URD. If somebody wants to look into this list, the 2nd draft of the EGSE URD has to be used.

Stephane remarks that the CUS requirements are not currently in the FCSS URD. The UC group (operations splinter) should start from section 4.6 of the EGSE URD Draft 2 and check/identify the requirements that will go into the FCSS URD.

Requirements for IA/QLA should include the comments made by Ana Heras and the section 4.5 of the EGSE-URD Draft 2. Comments will be send to Ana and UC group (end of business on Thursday 12/10/2000) who will make a consistent set of requirements out of these inputs and put them into the FCSS URD.

The UC group will review the consolidated set of requirements and check it against the current core class model.

RTA URD – Peter Roelfsema (Appendix 04)

The point of having a separated RTA URD is that the RTA will live through the mission while the EGSE will only live during ILTs.

We go over the open issues that Pjotr identified in the RTA URD.

Pjotr asks for a new custodian → ToBeDecided in the next EGSE-WG meeting.

Pierre says that there are quite a number of requirements that are listed as desirable and we might want to ingest these into future releases of SCOS 2000. The possibility exists to do this via the SCOS 2000 users group.

Pjotr will update the document with the comments made during this meeting and then take it to the EGSE-WG.

Otto asks where the requirements are on OBSM (maintenance). Pjotr will extract the requirements from the original EGSE-URD and make a separate URD out of it by end next week.

IRD section 4 – Stephane Veillat

Stephane gives a short introduction on the IRD contents and the scope of this discussion.

We go through the requirements one by one...

[First bullet at bottom of page 48] Command sequences (SCOS 2000, manual commanding) will not be used during ILT and if they will be used, they stay in SCOS 2000 and will not be transferred to FCSS. Can disappear.

[Second bullet at bottom of page 48] no use for this, can disappear.

Comment by John that we want to be able to store anything in a generic way into FCSS and keep version control on it. This already exists in the terms of artefacts in the current FCSS.

Some things in the TC history might change or be added; e.g. MOC might add a time field for handling TAI. But this is dependent on decisions by Project.

The interface between RTA and EGSE-ILT (router) to receive TM packets in real-time in RTA is not in this document. Stephane will add it.

The interface between Commanding and RTA monitoring is also not in the document but for completeness this could be put into the document. No specific requirement on this interface, its main purpose is TC history.

Assessment of technical status for FGS management meeting on the 30th October – Pierre Estaria

Pierre says that we are in a very good shape and this meeting solved a lot of issues already.

Management Meeting on 30th October 2000: starts at 13:30 and ends by 17:30 @ ESTEC and will be chaired by Project.

Project wants to go through all the boxes (sub systems of the EGSE-ILT and FCSS) and have assigned work packages for these and assign responsible parties or appoint people for it.

Ken asks who is expected to report, the EGSE-WG or the instruments.

Pierre asks about the status of the ESGE-WG Terms of Reference. Otto says there are still a number of things to be decided that affects the EGSE-WG.

Pierre asks about the status of the SPMPs. The FCSS-SPMP will be ready. Ken says that the SPMP for the EGSE-WG can only be written when we are at the stage that we know how to produce the system.

One-liner of the day by Pierre:

"*I don't like to use the word de-scoping but maybe reducing the scope…*"

Consolidation of the list of ICDs for ILT – Stephane Veillat

We go through the list of ICDs identified for ILT.

Comment by Erich: OBSID and BBID should be visible outside of the TM (science) data field

We had a discussion on the MIB (Instrument TM and TC). We need to cover by ICDs (1) the mechanism by which the MIB is distributed to and from the (sub)-systems, (2) the format for the MIB, but not the contents of the MIB (this should go into another document?). Consequently, The TC &TM I/F for both the instrument and the TEI will be removed from the list. Only the MIB format I/F will appear in the list of ICD.

What about the OBSID and the BBID, where will these be described? John suggested to put this information in the PS-ICD.

The Science TM data field: where is this information? Otto says its in the instrument user manual.

OOL events are (probably) made available during operations as a file. For ILT this will be a log file, which is in principle the same mechanism.

We agreed that ICDs will contain a description of the protocol by which the information is transferred and the format in which this information is presented.

John remarks that if you use the FCSS for configuration control of the OBSM there is a lot more than just the image. You want to configuration control the source files, the regression tests, the documentation etc.

It was clarified that the Instrument Command Sequence I/F is not relevant for ILT.

It was agreed to split the RTA-FCSS I/F into two ICDs, one for TM from the FCSS to the RTA and one for OOL and TC history from RTA to the FCSS.

Conclusions

1. The ILT system design (systems, components, interface) as in the FGS-DD section 3.2 and presented at the meeting was agreed by all parties as being suitable to support ILT. The test control I/F however requires further investigation to fully assess its feasibility. A meeting to address this issue has been planned at the meeting.
2. The principle of a staggered development/delivery for ILT has been accepted and the different stages have been defined based on the ILT system design. The exact content on these different stages still needs to be firmed up as well as their corresponding need dates. This shall happen in the context of the preparation of the FGS management meeting on the 30th October.
3. The documents describing and defining the ILT system design (FGS-DD, FGS IRD and system URDs) have been commented and will be re-issued as a follow-up of this meeting.

Next Meeting

FGSSE#10 16 November 2000 @ SRON Groningen

APPENDICES

1. Objectives, Agenda, Documentation, and Technical issues – Stephane Veillat
2. FIRST Ground Segment ILT System Set-up – Peter Roelfsema
3. Staggered development for the FCSS system for ILT – Peter Roelfsema (FGSSE)
4. RTA URD Born Again – Peter Roelfsema

ACTION ITEMS

Number	Action on	Due date	Description
FGSSE#9-001	Instrument Project Managers	20/10/2000	Comment on the FIRST documentation tree as in appendix 03 and send your comments to PE, JRR. *This was especially for the EGSE-ILT documentation under responsibility of the ICCs.*
FGSSE#9-002	Bryan	24/11/2000	Find out how to link command mnemonics to TC generated by TestControl. *Implementation of a TC history mechanism.* Verify if any single command request gets a handle to be able to identify it outside the SCOS 2000 scope.
FGSSE#9-003	Nestor	31/10/2000	Write a short description on OBSW management to go into the FGS-DD.
FGSSE#9-004	Pjotr, Rik, Sunil	20/10/2000	Write a section on common understanding of IA, send to instrument project scientists for approval and than include it into the FGS-DD.
FGSSE#9-005	ICCs	12/10/2000	Send input on IA comments by AH and on section 4.5 of EGSE-URD to AH and UC group.
FGSSE#9-006	UC group		Review consolidated set of requirements for IA/QLA and check against the core class model.
FGSSE#9-007	Pjotr	20/10/2000	Update RTA URD with comments of this meeting and send to EGSE-WG for comments.
FGSSE#9-008	Pjotr	20/10/2000	Assemble OBSM (Maintenance) URD from existing documentation.

Objectives

"Make sure that every one is working towards the same goal"

*"Who has the responsibility of **what**"*

- Achieve common understanding of system design and requirements for ILT...
  - systems identification & scope for ILT: components, URs
  - systems interfaces : identification, IRs, ICDs
  - **prioritize components & interfaces (minimum ILT set-up)**
  - **system design validation wrt to existing infrastructure (SCOS-2000, TPE, Router)**
  - **address open technical issues**

- Achieve consistent set of documentation for ILT : FGSDD, URDs, IRD, ICDs list ...

…. allowing individual systems development to start with clear scope and interfaces

Agenda

Day 1 PM

- **General introduction**
  - meeting objectives
  - agenda
  - status of documentation/comments
- **FGS Design Description consolidation** (3 hours)
  - Recall of the ILT end-to-end functions and data flow (SV)
  - Presentation /discussion of the FGS ILT system set-up: FCSS, EGSE-ILT, OBSM, RTA, MIB editor components and interfaces (PRR-SV/all)
  - Detail review of FGSDD ILT section (3.2) (led by PRR-SV)
  - Summary of open technical issues and actions

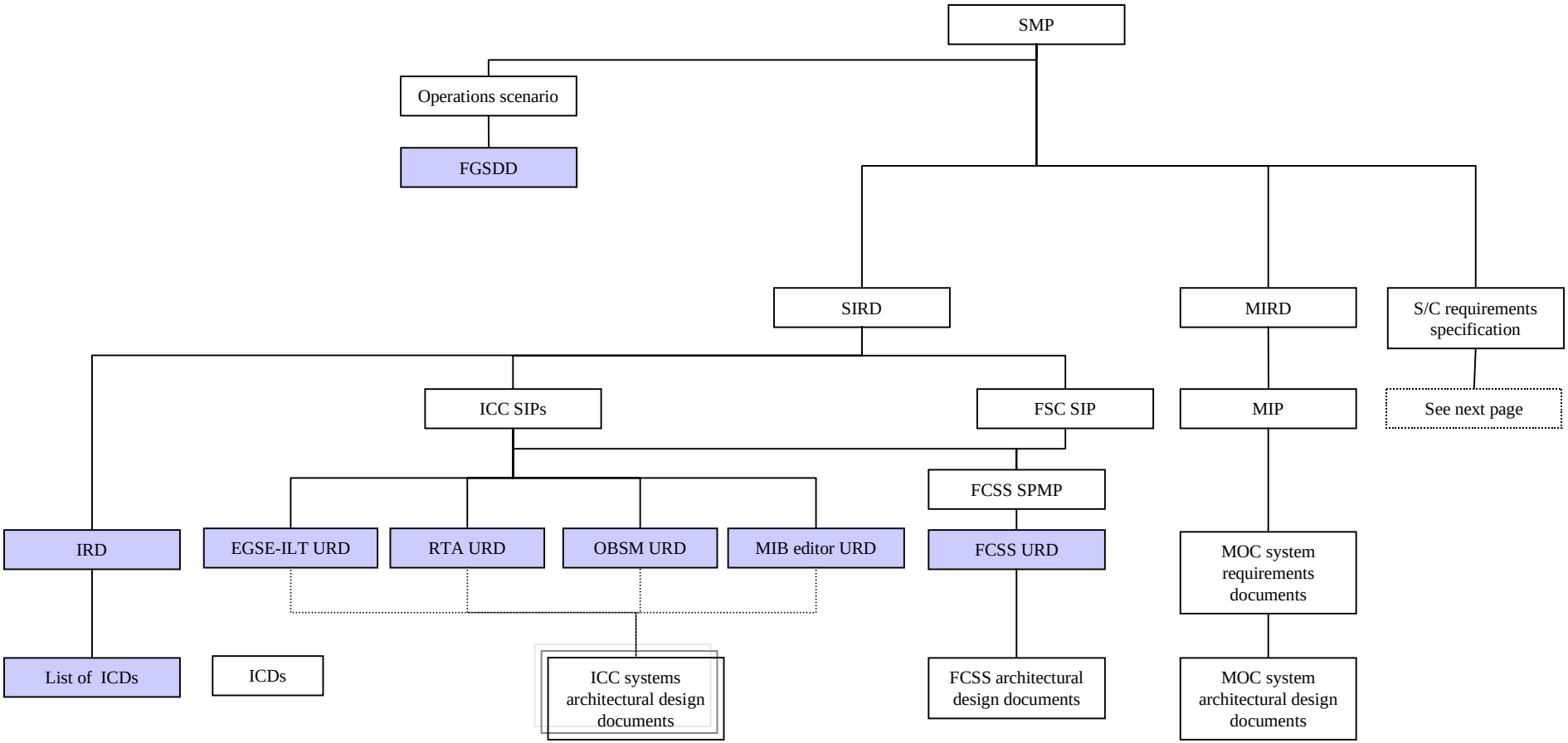
Day 2 AM

- **FGS requirement baseline consolidation** (4 hours)
  - Introduction
  - Review of
    - EGSE-ILT URD (led by KK) (1 hour)
    - FCSS delta URD (led by OHB) (1 hour)
    - RTA URD (led by PRR) (1/2 hour)
    - IRD section 4 (led by PRR-SV) (1 hour)
  - Summary of open technical issues and actions

Day 2 PM

- **Consolidation of the list of ICDs for ILT** (1&1/2 hour)
  - Review of the FGS List of ICDs document (led by SV).
- **Conclusions**
  - Open technical issues and actions (recap)
  - assessment of technical status for FGS management meeting on the 30/10
- **Next meetings (FGSSE & EGSE WG) & AOB**

FIRST documentation tree, documents to be reviewed in context



EGSE-FGSSE meeting #1 , Documentation to be reviewed

- **FGSDD** section 3.2 draft 0.1 - Updated draft 0.2, dated 02/10
- **EGSE-ILT URD** draft 0.1 (derived from EGSE-URD draft 2), dated 04/10
- Delta URD for **FCSS URD** (Otto's email), dated 04/10
- **RTA URD** (derived from EGSE-URD draft 2), dated 28/09
- **FGS IRD** section 4 draft 1.1 - Updated draft 1.2, dated 04/10
- **FGS ICDs list** draft 0.1

- MIB editor URD TBW
- OBS Maintenance URD TBW

FCSS related documentation is to re-issued for formal review by end of October.

EGSE-FGSSE meeting #1 , Comments

- **from PACS on FGSDD, IRD and ICD dated 08/10**
- **from Project (PE) on FGSDD, IRD and ICD dated 28/09**
- **from ESOC (JD) on IRD and ICD dated 26/09**
- **from FSCDT (JRR) on FGSDD dated 11/09**
- **from PACS (EW) on EGSE-URD dated 18/09**
- **from FSCDT on EGSE-URD dated 14/09**

HIFI contributed to the FGSSE documents updates. Any comments from SPIRE?

We should only address ILT related comments at this meeting. Other comments will be discussed off-line and taken into account in the next issue of the documents.

Most ILT related comments have already be taken into account in documents updates

EGSE-FGSSE meeting #1 , Technical issues identified

- TM ingestion:
  - sufficient to relate TM and BBs?
  - OBSID-BBID: Only one level of BBIDs per observation or more ?
  - TEI TM will have OBSIDs, BBIDs?
  - TC history needed for TM ingestion?
- several EGSE-ILTs interfacing in parallel with one FCSS? : impact on TM ingestion
- TC history:
  - How to link command mnemonic and TC in the FCSS? (TC sequence count assigned by SCOS-2000)
- MIB: several operational MIBs in parallel in the FCSS? (for downlink and/or uplink?)
- OOL and derived parameters from RTA to be stored/ingested into FINDAS?
- Time correlation, needed? Impact on I/F with FCSS
- Calibration files
  - flow?
  - Ingestion into the FCSS?

FIRST Ground Segment; the ILT system setup

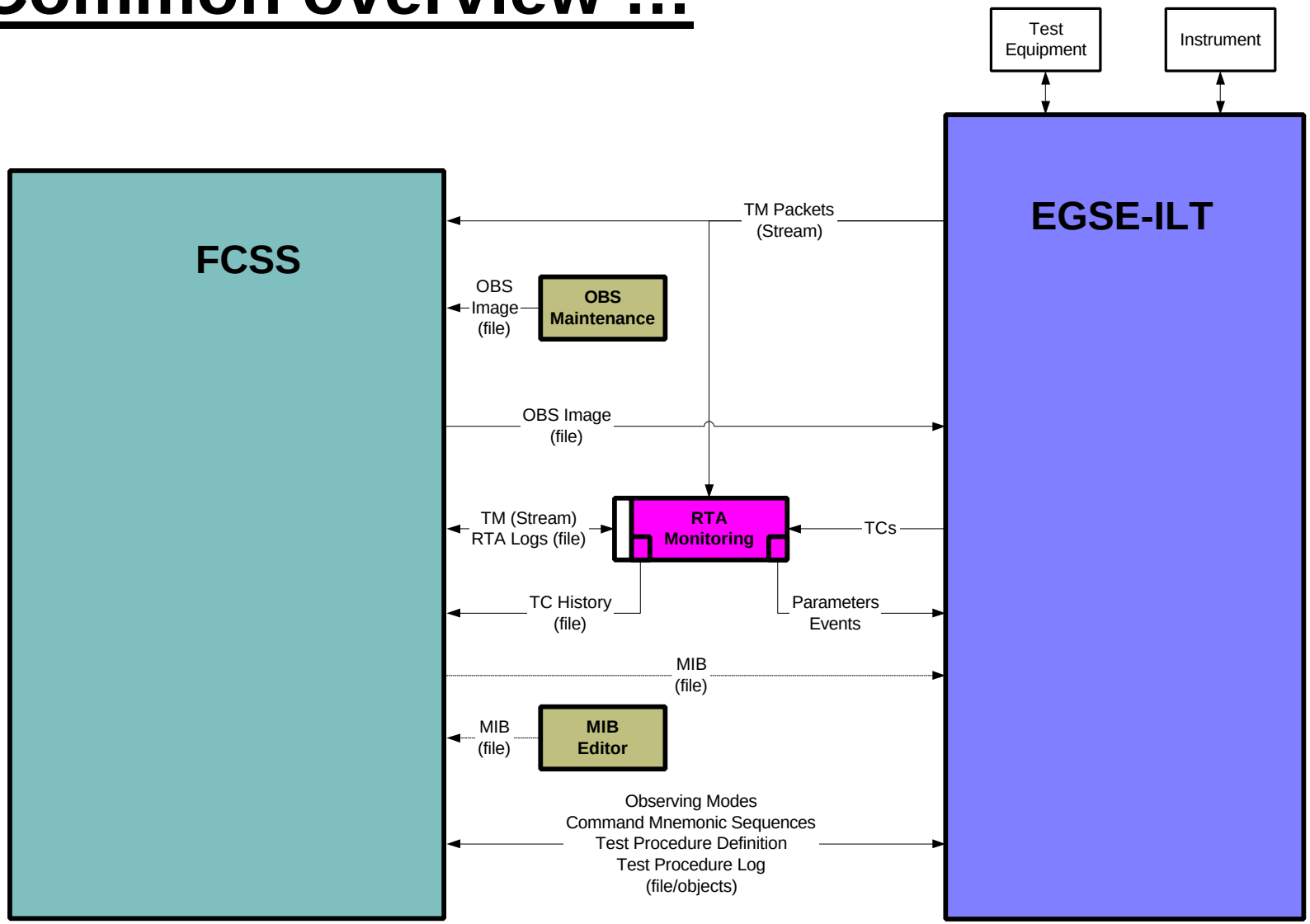
FGSSE

System partitioning

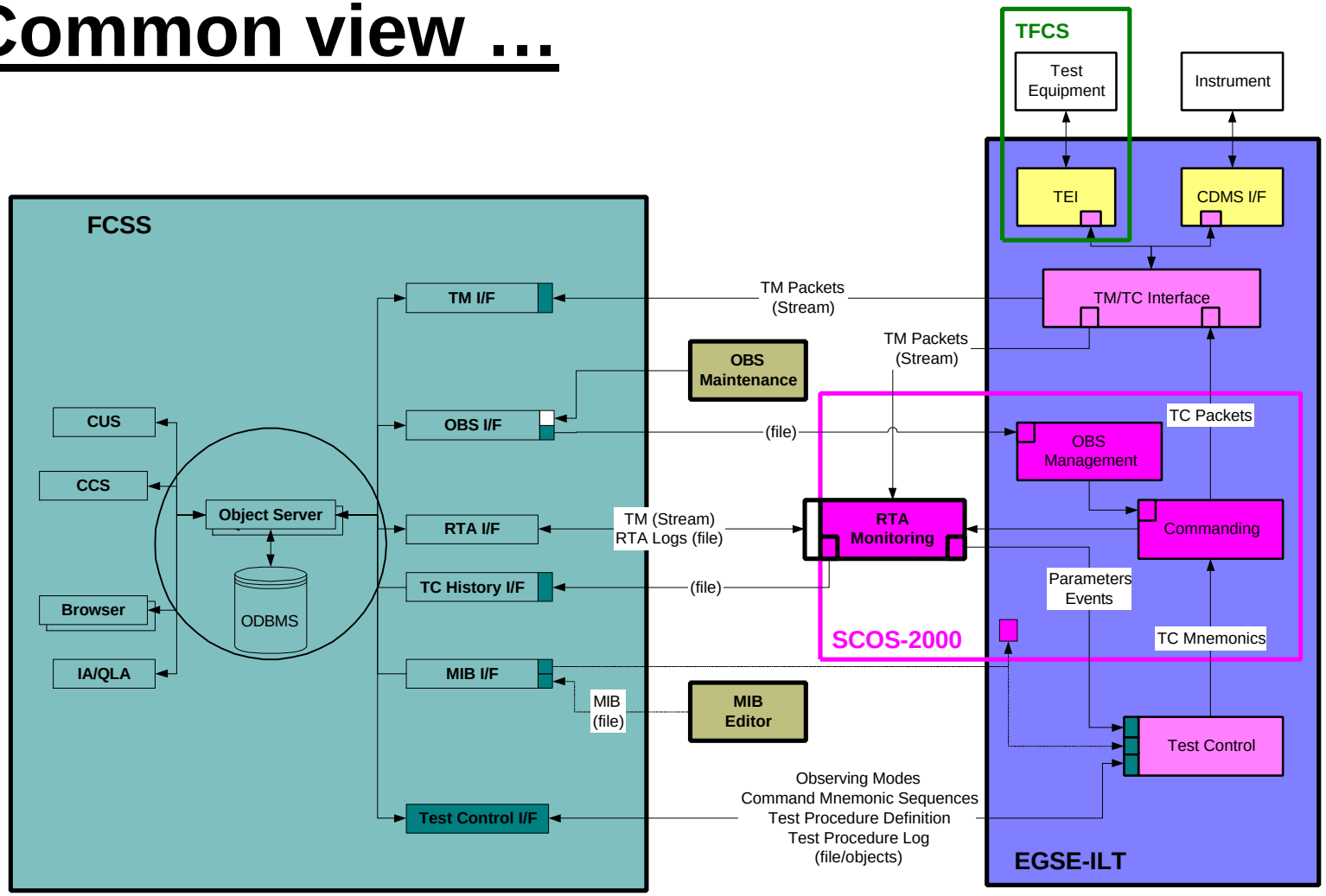
- The FIRST Common Science system – FCSS
  - Joint development responsibility for FSC and ICC's
    - Creation of 'templates' (observations, building blocks)
    - Creation of 'observations'
    - Archiving (including observation ingestion)
    - Science analysis (IA/QLA)
- The EGSE components (H/W and S/W) for ILT - EGSE-ILT
  - Instrument group responsibility
    - Controlling and executing tests (includes commanding)
    - Interfacing to instrument and test equipment
    - Mimic on-board (instrument-CDMS) and satellite-ground control loops
- Other components
  - Not falling under FCSS or EGSE-ILT
    - Monitor HK telemetry (RTA)
    - Maintain instrument database and OBSW

Note: analysis is complicated due to mixing of **responsibility** and **function**
(I.e. 'who makes it' v.s. 'what does it do')

Common overview …



Common view …


TFCS
Test Equipment
Instrument
TEI
CDMS I/F
TM/TC Interface
FCSS
TM I/F
TM Packets (Stream)
OBS Maintenance
TM Packets (Stream)
CUS
OBS I/F
(file)
TC Packets
OBS Management
CCS
Object Server
RTA I/F
TM (Stream) RTA Logs (file)
RTA Monitoring
Commanding
Browser
ODBMS
TC History I/F
(file)
Parameters Events
SCOS-2000
IA/QLA
MIB I/F
TC Mnemonics
MIB (file)
MIB Editor
Test Control
Observing Modes
Command Mnemonic Sequences
Test Procedure Definition
Test Procedure Log
(file/objects)
Test Control I/F
EGSE-ILT
System
Sub-Systems
Mission phase dependant FCSS Subsystem
S2K based sub-system
( ) type of transfer protocol
FINDAS node

The FGSSD, section 3.2

- Often re-use of operations functions
  - Subsection ordering same as ‘operations’ section
  - Refers to corresponding operations subsection whenever possible
- Adds new functions in EGSE-ILT component
- Is currently in agreement with work by ILT use case group

Top level questions

- Is this setup compatible with TPE, S2K and router?
- Can we define a ‘minimum’ ILT setup out of this?
- Are there parallel EGSE-ILT sessions for a single instrument?

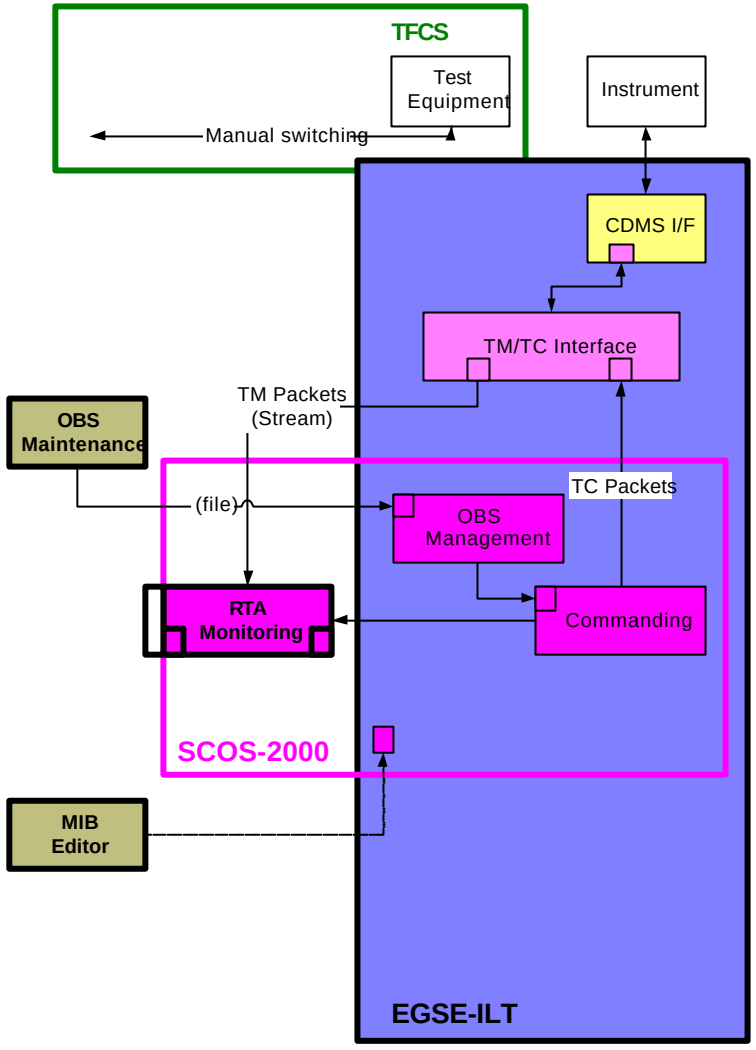
Technical issues

- TM ingestion:
  - Sufficient to relate TM and BBs?
  - OBSID_BBID: only one level of BBID per observation or more?
  - TEI TM will have OBSID, BBID?
  - TC history needed for ingestion?
- Implementation of ‘TC history’-mechanism
  - How to link command mnemonic with TC generated by test control
- Mechanism by which ‘RTA events’ (mimicking autonomy loops) are saved in the archive
- Are OOL, derived parameters etc. from RTA stored in FCSS?
- Format of instrument database (MIB?)
  - Transfer from MIB editor to FCSS to RTA etc.
  - Storage in FCSS; BLOB or structured
- Use of several versions of the MIB in parallel
- Is time correlation needed? In what form?
- Calibration files; where (FCSS/RTA?), transfer/ingest methods
- Implementation of OBSW management (in S2K) not specified yet

Staggered development of the FCSS system for ILT

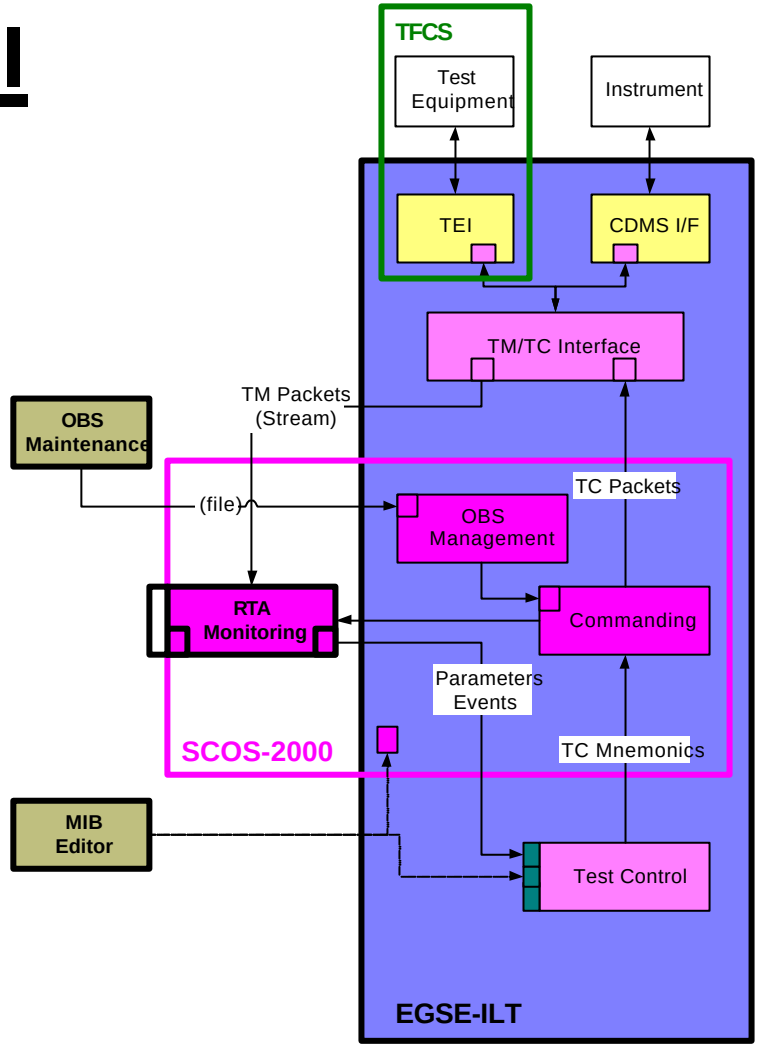
FGSSE

Unit functional test I



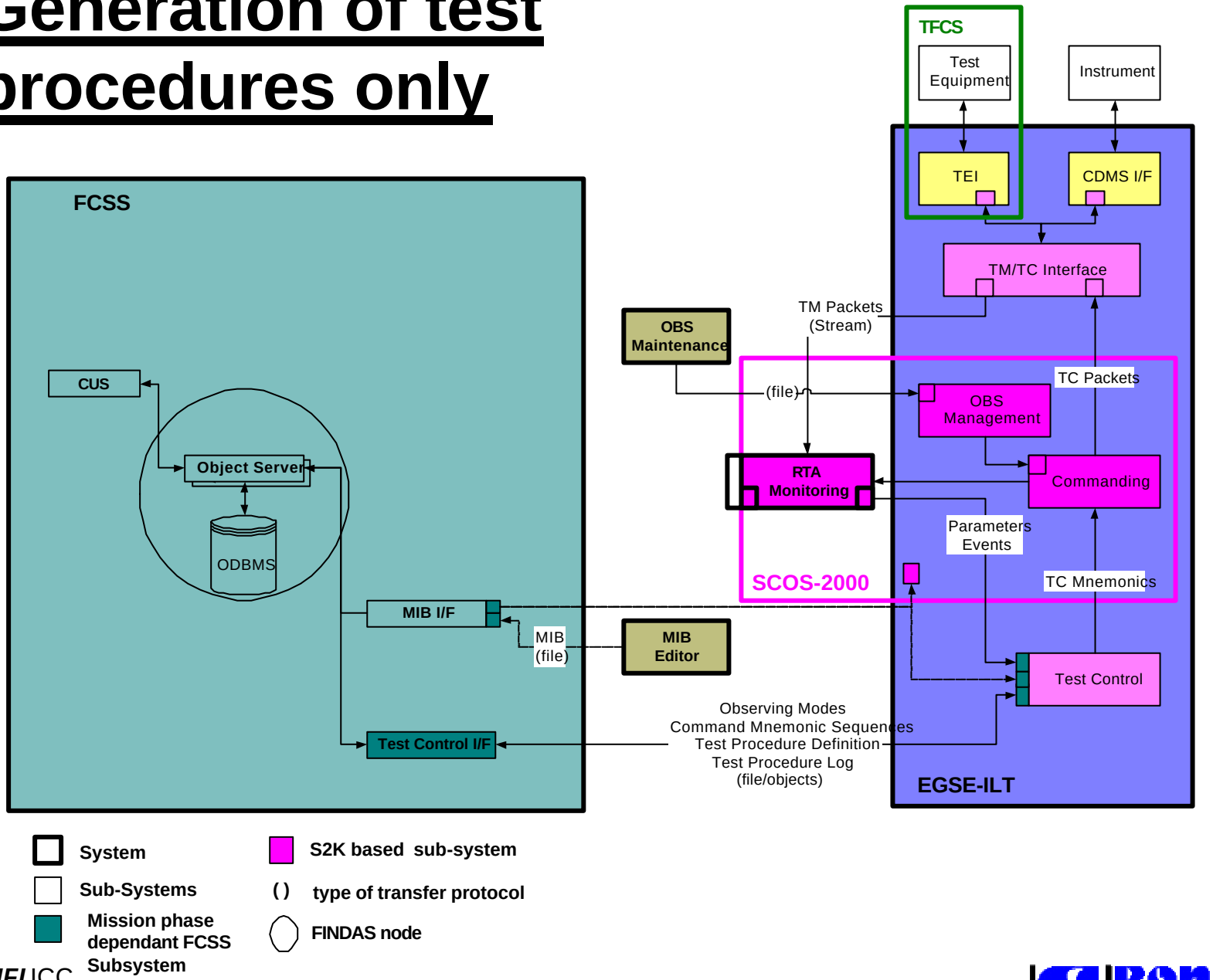
System
Sub-Systems
Mission phase dependant FCSS Subsystem
S2K based sub-system
( ) type of transfer protocol
FINDAS node

Unit functional test II

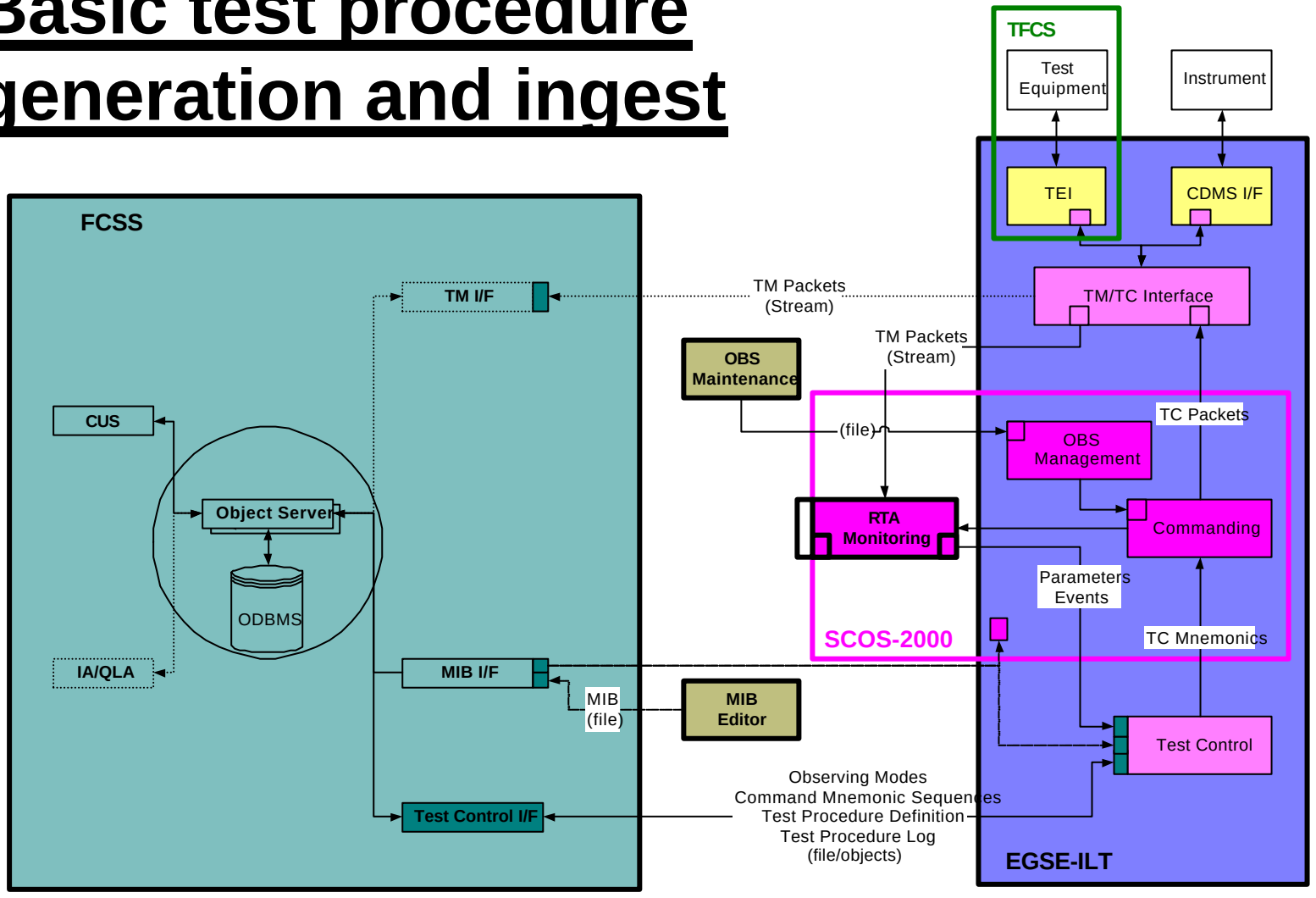


System
Sub-Systems
Mission phase dependant FCSS Subsystem
S2K based sub-system
( ) type of transfer protocol
FINDAS node

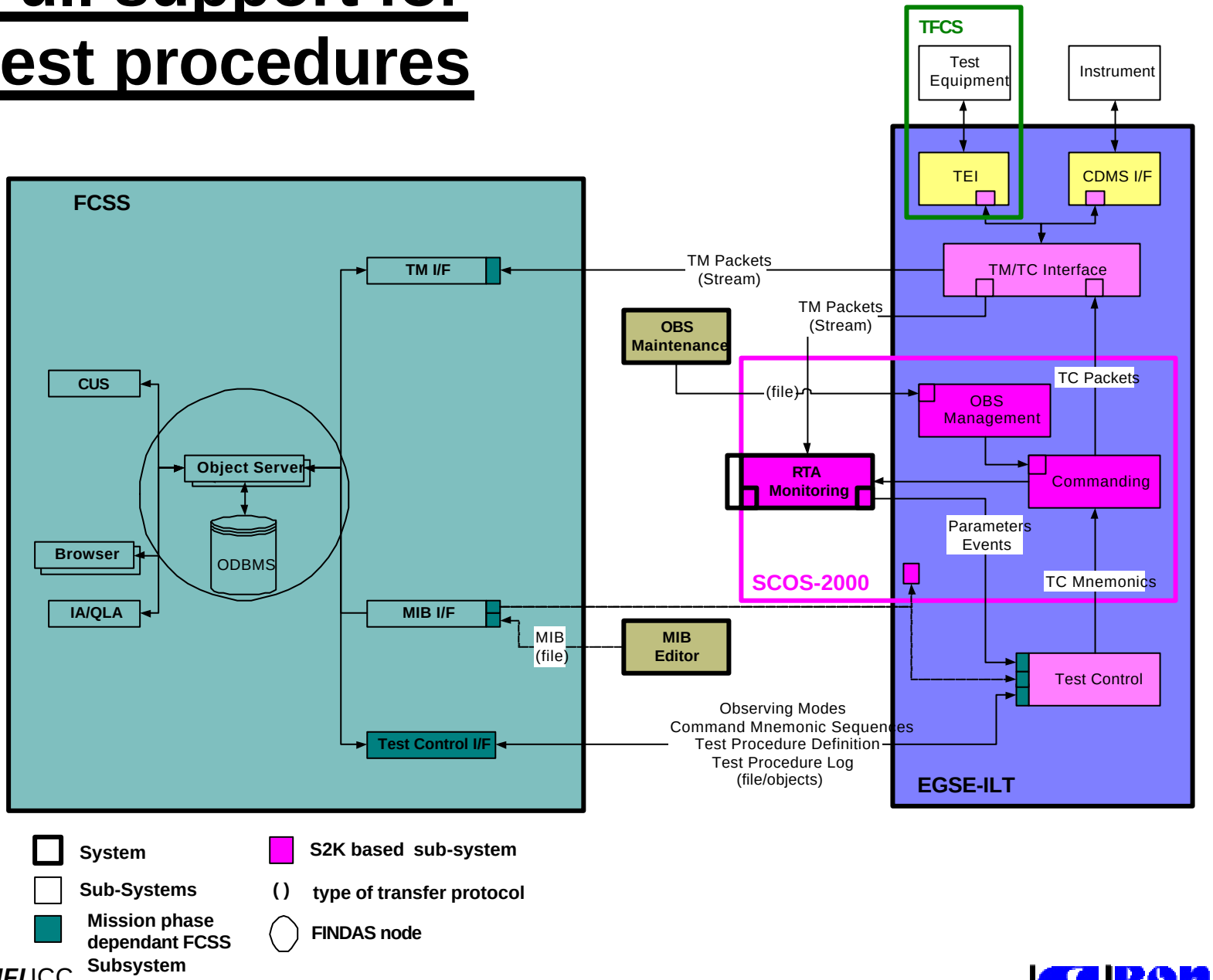
Generation of test procedures only



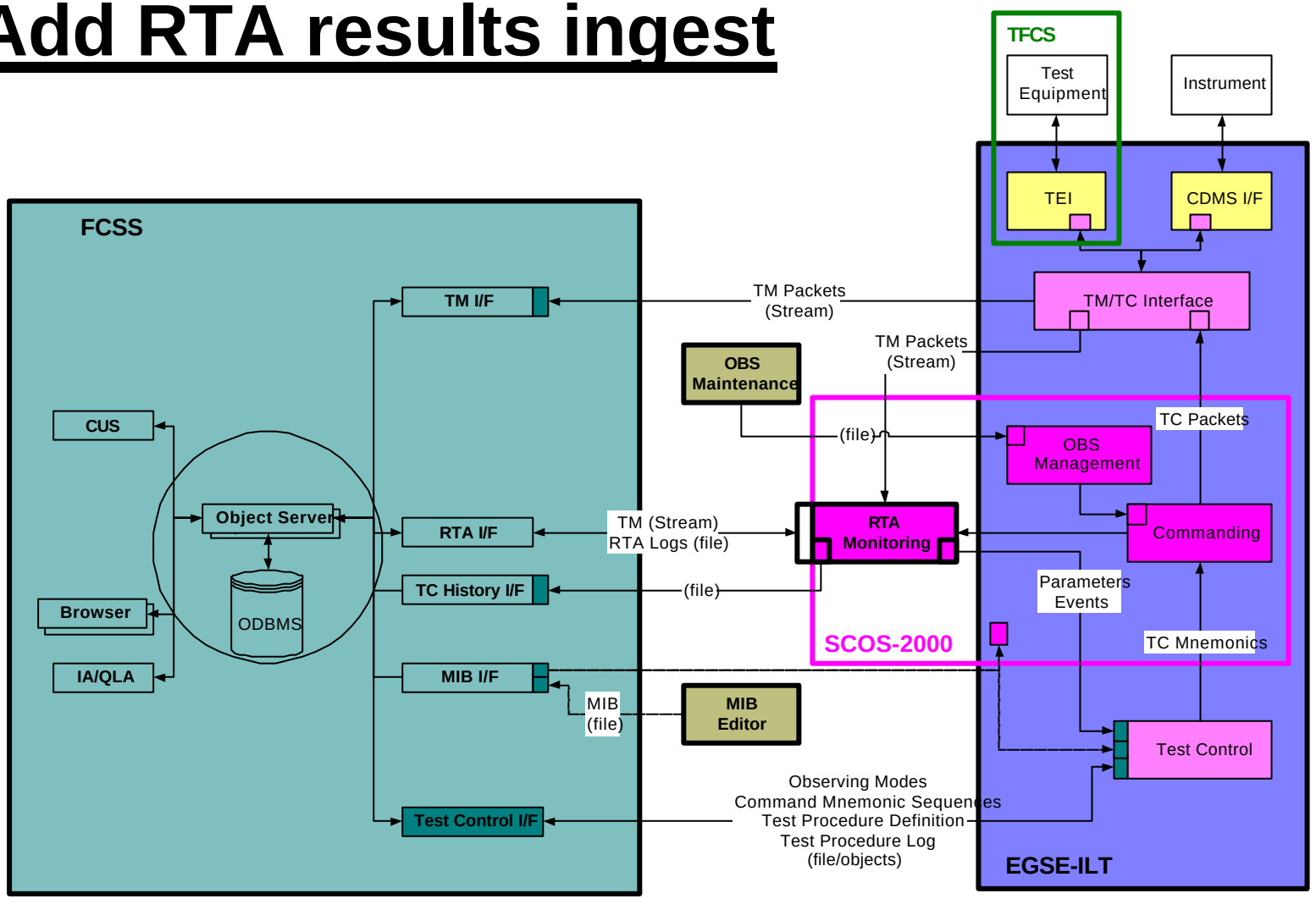
Basic test procedure generation and ingest



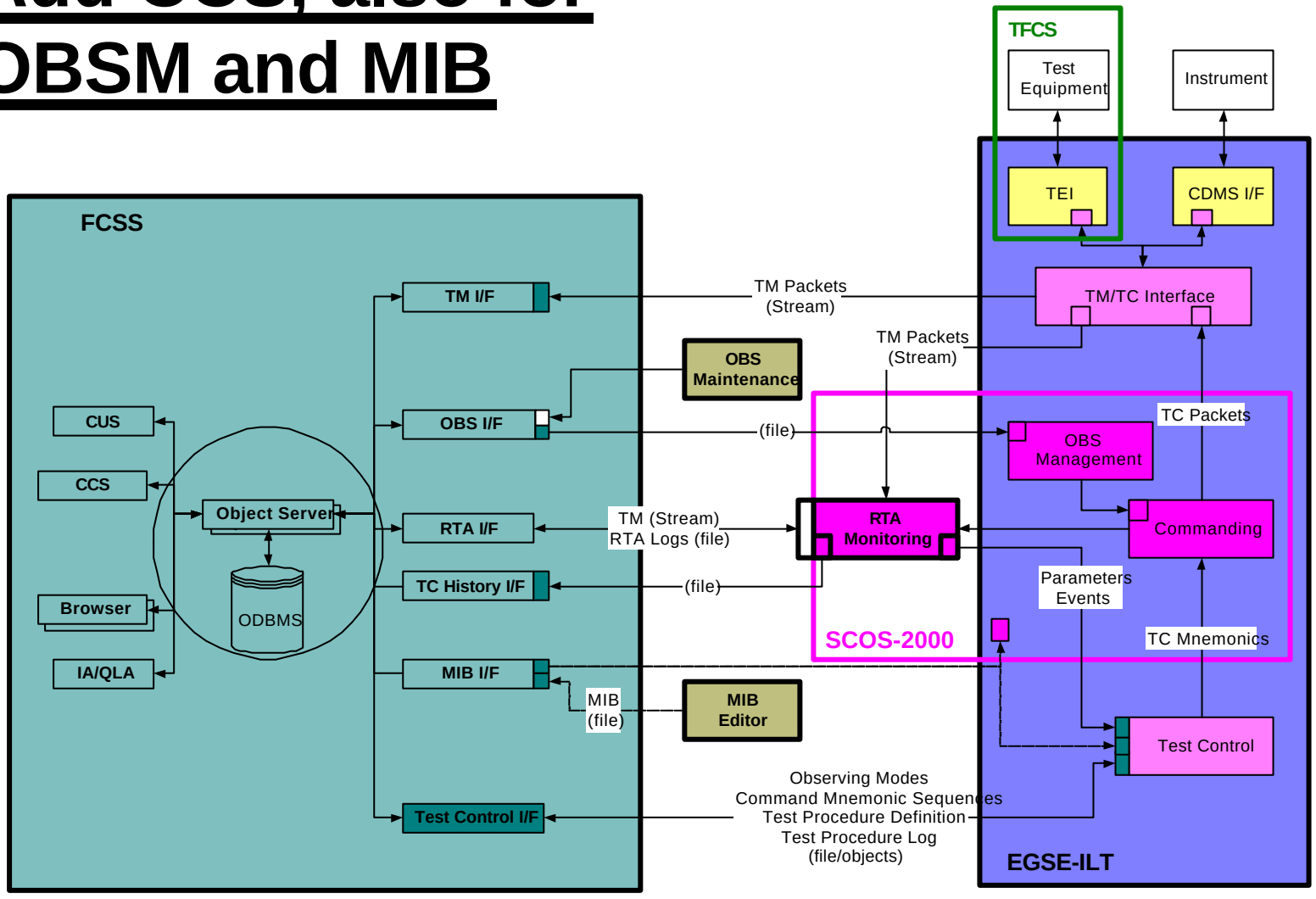
Full support for test procedures



Add RTA results ingest



Add CCS, also for OBSM and MIB



URD’s born again; RTA

Peter Roelfsema

Origin of the RTA URD

- Originally written as input for a test to see whether S2K was suitable for RTA use
- Following test additional requirements were generated
- Combined requirements were discussed with S2K people
- Resulting list was included in overall EGSE URD

…..and now all I did was cut them out of the EGSE URD

(….and I added a few comments by HIFI people)

Open issues… to be closed now?

- Should be pretty much complete (given its origin)
- Some requirements get extra weight with current ILT description
  - TC history handling -> RTA needs TC stream (sec. 2.1.4, CVER-03)
  - Inconvenient OOL display – MON-05
  - Multiple S2K displays – OPS-08
  - MIB editor identified -> does RTA need possibilities to change TC/TM definition? (OPS-16, OPS-18)
- Some requirements were/are not fulfilled by S2K
  - Alphanumeric displays – DISP-06/07
  - Saving modified displays – DISP-08/09
  - Display of listing for user defined time period – DISP-15
- MIB editor requirements..?

What next?

I don’t feel very qualified, I was just the first stage editor….

who takes this URD from me ?!?