

Panel 6: Other Ideas?

6

Different stages have different actors.

In the TONS it is the operator, in an SVF it is the OBSW.

For the TONS the world should center around the MCS, in the SVF the center of the world is the CPU

→ Textual specifications to HBE: no link/people
→ A mechanical engineer does not understand a formal design
→ no UML please!

Launch and maintain a Web Page for SMP
(check the one of FYLI)

WORKSHOP ROOM OF PEOPLE ACROSS DOMAINS / MISSIONS / COMPANIES TO REACH A COMMON SET OF NEEDS FOR REUSING AND COMMUNICATION TOOLS / SYSTEMS.

Key: From System Design
2 Model Design

⇒ Conf. + Parameterization shall be standardized

⇒ Not another Scheduler!

Create a user friendly "playground" for lower development and demonstration

Compatibility with FMI standard & active participation to FMI standard Center for including Space Kit

Too many documentations

→ difficult to spin-in and "play around"

→ afraid of failure / mistakes

I THINK THAT CURRENT PLATFORMS ARE TRYING TO REINVENT THE WHEEL WHICH WAS DISCOVERED BY NET SPACE (E-COMMERCE) COMMUNITY

THE PLUGABLE ARCHITECTURE WITH COMMON API AND STANDARD PROTOCOL ARE LONG WELL MATURED SOLUTIONS AMONG THE BIGGEST IT COMPANIES

LIKE GOOGLE, FACEBOOK, AMAZON, ALLEGRO.

CHECK OUT SOA AND MICROSERVICES ARCHITECTURE WHICH ARE CURRENT TRENDS

OPEN SOURCE IS NOT ANUVELTY ITS A MUST

support deeper development languages
Python
Java

SaaS MODEL FOR TESTING AND SIMULATION BASED ON SUBSCRIPTIONS

MICROSERVICES ALLOWS TO WRITE IN DIFFERENT LANGUAGES (JAVA, C++, PYTHON)

THE BEST MYH ... THE DISORDER

MAKE COMMON ARCHITECTURE WITH WELL DEFINED BUILDING-BLOCKS AND OPEN API

YOU'LL BE ABLE TO SWAP COMPONENTS FOR OPEN SOURCE OR COMMERCIAL PLUGIN

OPEN SOURCE PLUGIN IMPLEMENTATION WITH POSSIBILITY TO EXCHANGE WITH VENDOR COMMERCIAL ONES

Too late for Ariane 6

ENHANCE KNOWLEDGE MGMT. METHODOLOGIES TO IMPROVE MUTUAL SHARING AND DEVELOPMENTS.

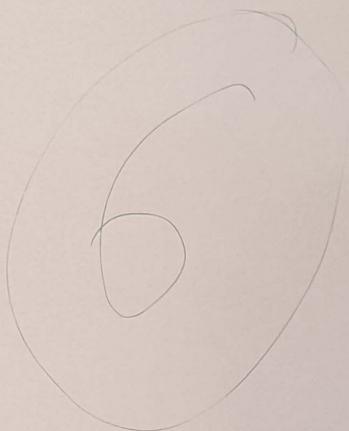
Knowledge Management
thanks Open Source,
Wiki, social
network...

A sort of Big Bang is
foreseen at short term
with AI. Shall we take
it into account in
RATIO-Sim?

EXPECTATIONS:
CAN SCOS BE
SEEN AS A TEST CASE
FOR THE CHANCES
OF SUCCESSFUL
RATIONALIZATION?

Flight Experience
re-inspected
(Project does not
stop @ LEOP)

LESSONS LEARNED
FROM OTHER INDUSTRIES
AUTOMOTIVE
AEROSPACE



EGS-CC lessons learnt
start small
make it works
enhance it

Integrate Universities
in Working Group

Failure
inspection
(a topic per se)

World wide
Open source
(ask Eclipse Foundation)

Multi-Physics
Modelling?

Collaboration
with NASA

Open to other
stakeholders
(Defense, Nuclear industry
Banks...)

Lessons learned and involvement of participants:

- Ask other industries outside space domain (automotive, aeronautic, nuclear, banks)
- Collaboration with NASA
- Include universities to the working groups
- EGS-CC: start small - make it working - enhance it!
- Lessons learned from SCOS: "can SCOS be seen as a test case for the chances of successful rationalization?"
- Lessons learned from MBSE: "no UML please", "a mechanical engineer does not understand a formal design"
- Bring people of several domains/missions/companies together and collect a common set of needs for reusing and communication tools/systems
- Open Source is a MUST
- Different simulations have different "users"/"actors" : In the TOMS it is the operator, in an SVF it is the OBSW. "For the TOMS the world should center around the MCS, in the SVF the center is the CPU"
- Support cheaper development languages (Python, Java)
- Enhance knowledge management methodologies to improve mutual sharing and developments
- Service Oriented Architecture (SOA)
- Microservice architecture

Potential topics:

- Failure injection
- Artificial Intelligence (AI)
- Flight experience shall be re-injected to the simulation models to improve simulation (mission does not stop at LEOP)
- Multi-Physics modelling
- Simple modelling and simulation application as "playground" for development, demonstration and training

Standardisation:

- Compatibility with FMI
- Configuration and Parameterization should be standardized (from system design to model design)
- Better documentation of standards:
- Current documentation too complex (too difficult to "spin-in" and "play around")
- Knowledge management (see open source, Wiki, Social networks)
- Webpage for SMP similar to existing FMI pages