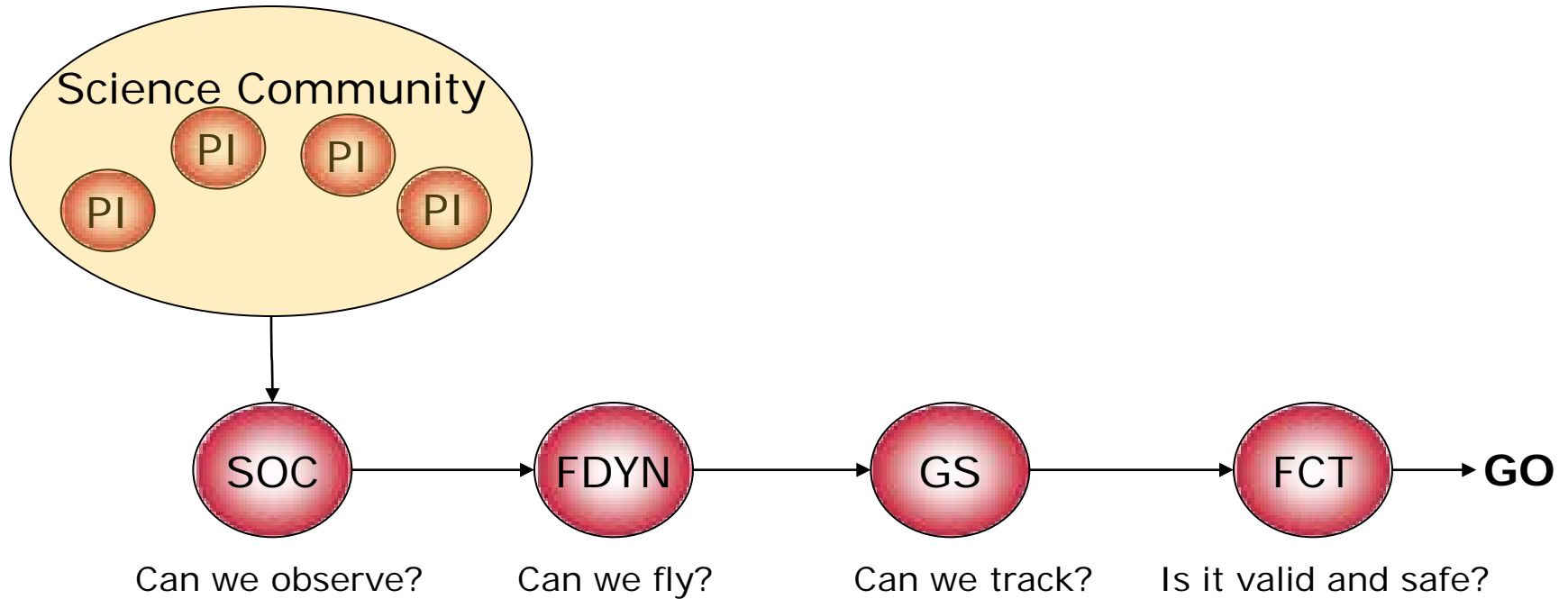
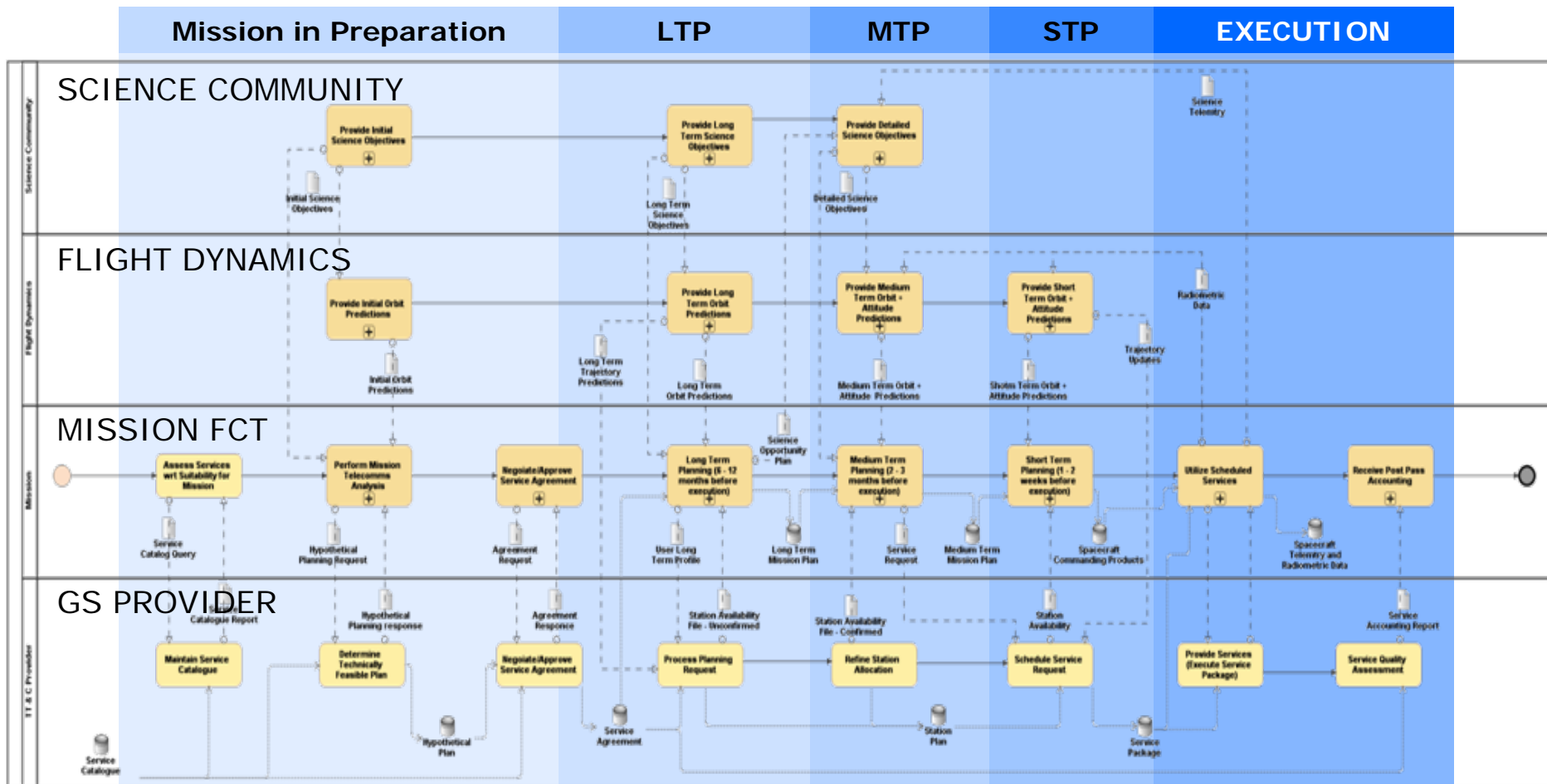


# ESA's Operations Planning: What challenges lie ahead?

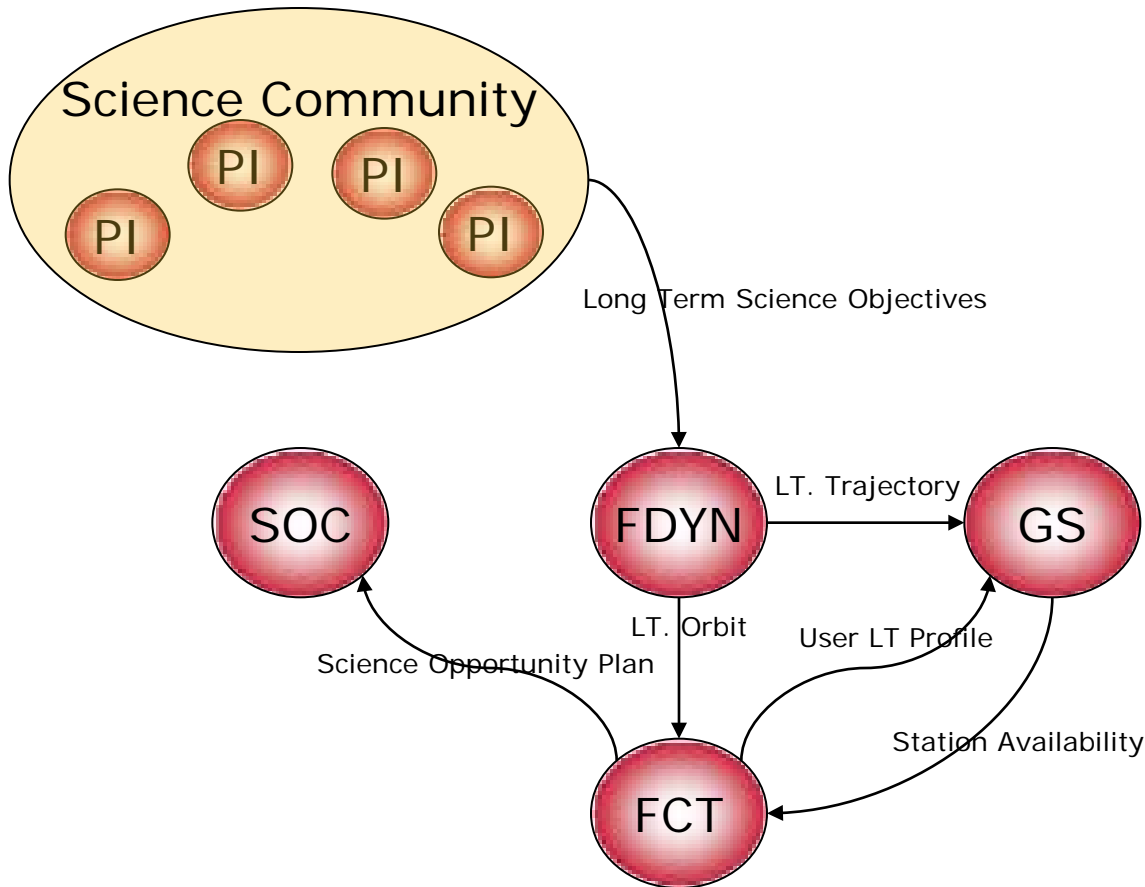
Bruno Sousa, Alessandro Ercolani  
Abingdon, SPACEOPS 2011  
15/06/2011



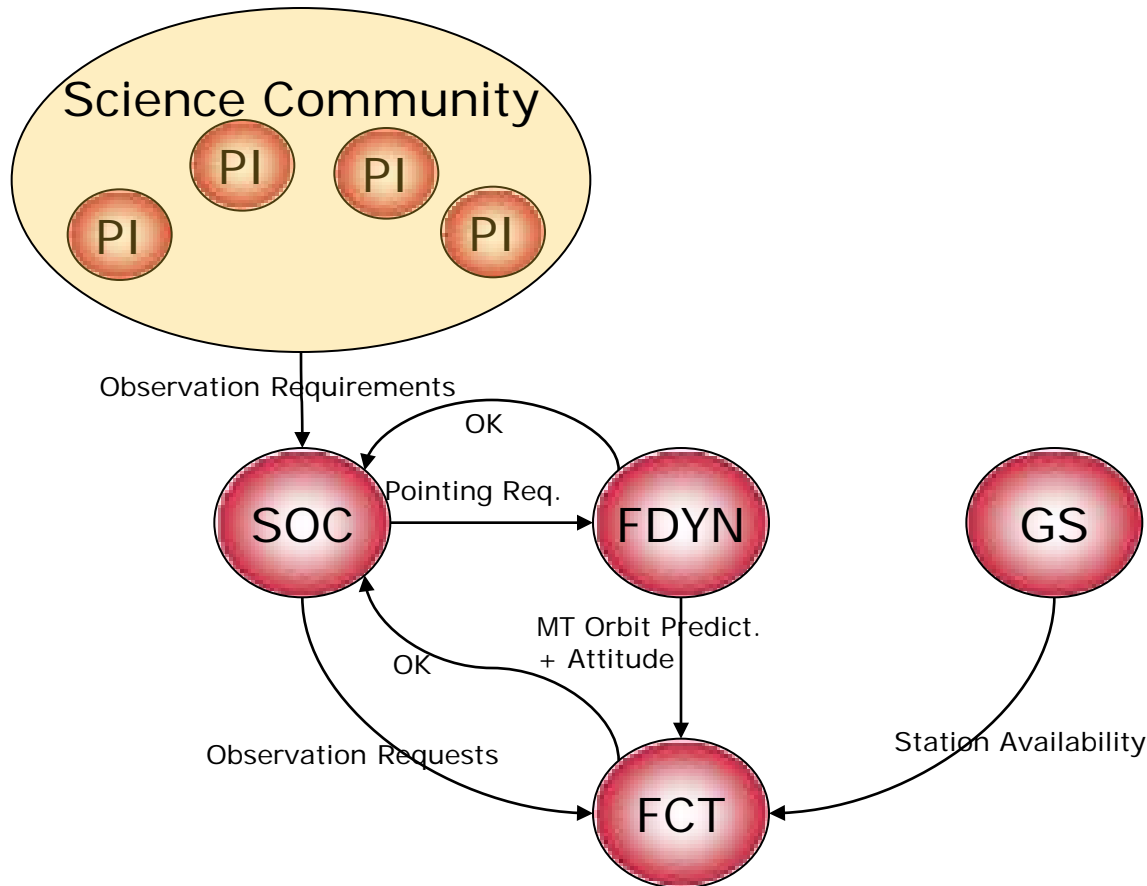
# Service Interactions – the big picture



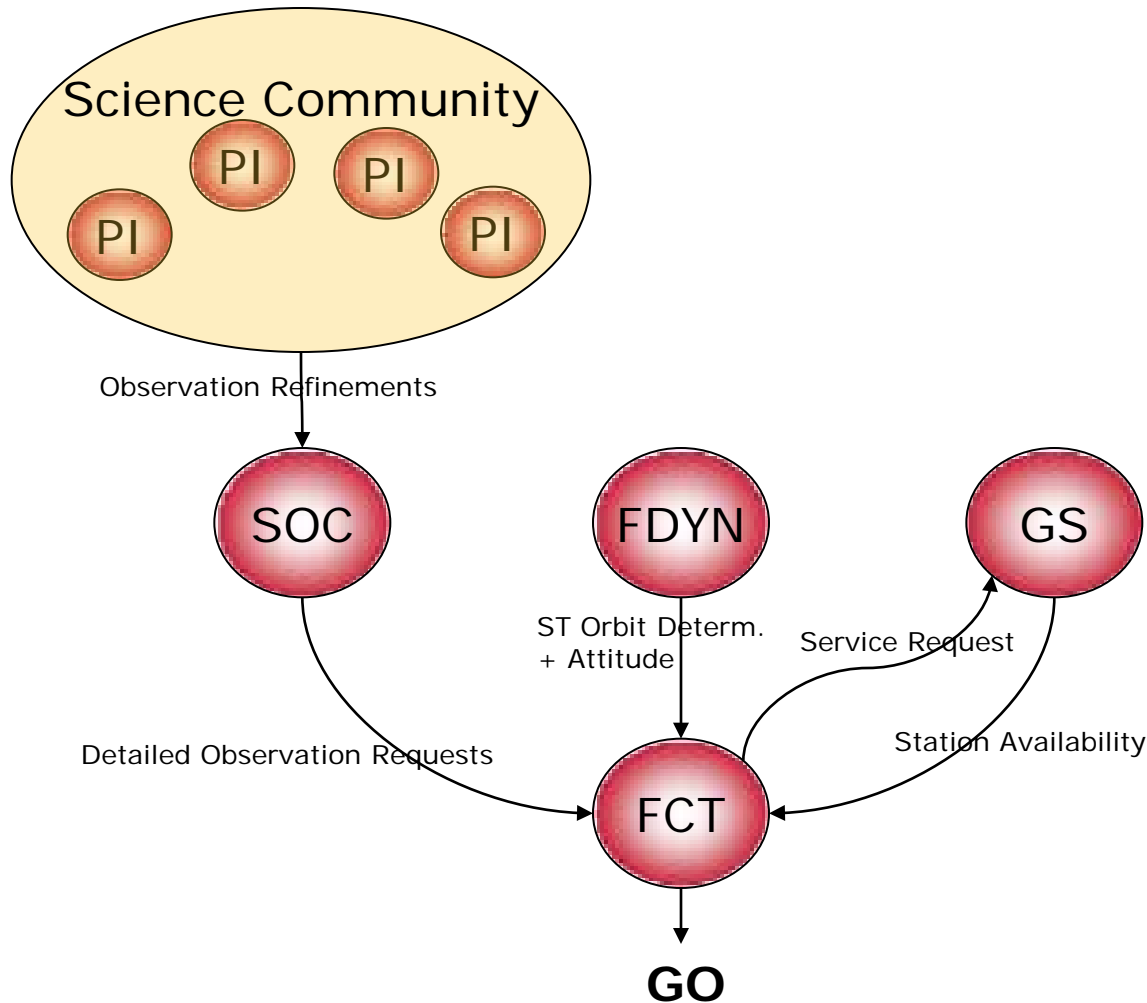
# Detail Interaction Long Term



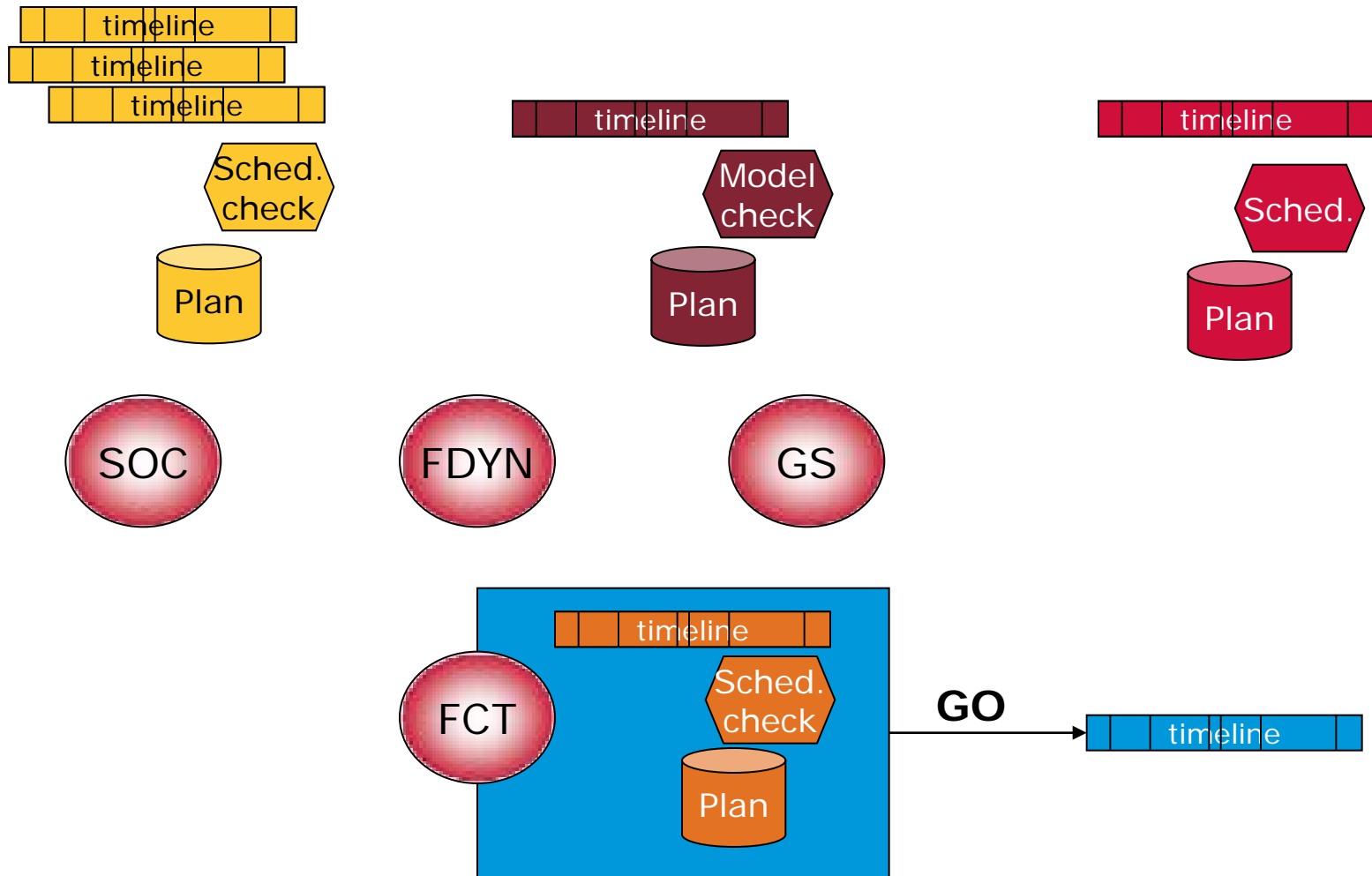
# Detail Interaction Medium Term



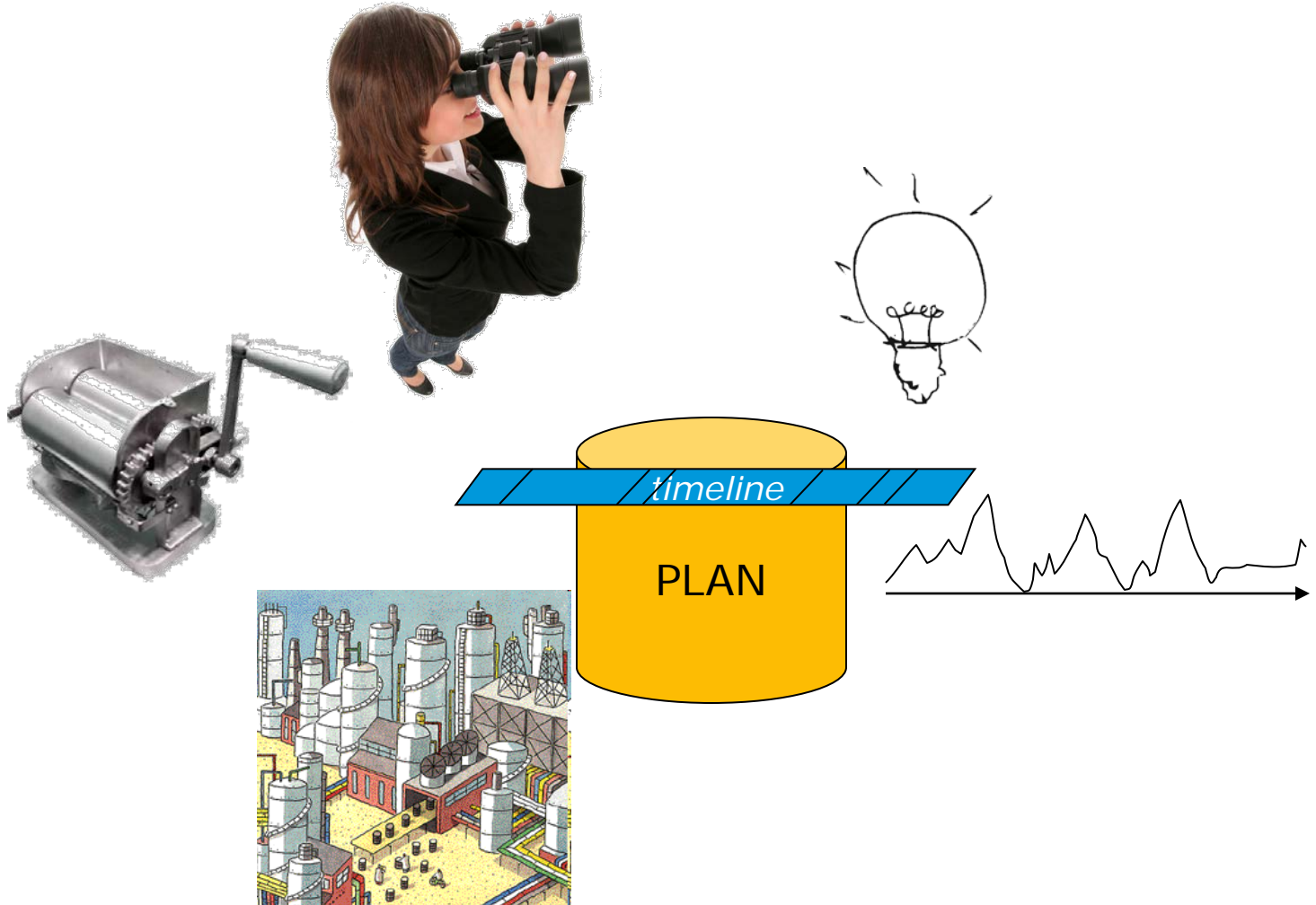
# Detail Interaction Short Term



# What really happens in practice?

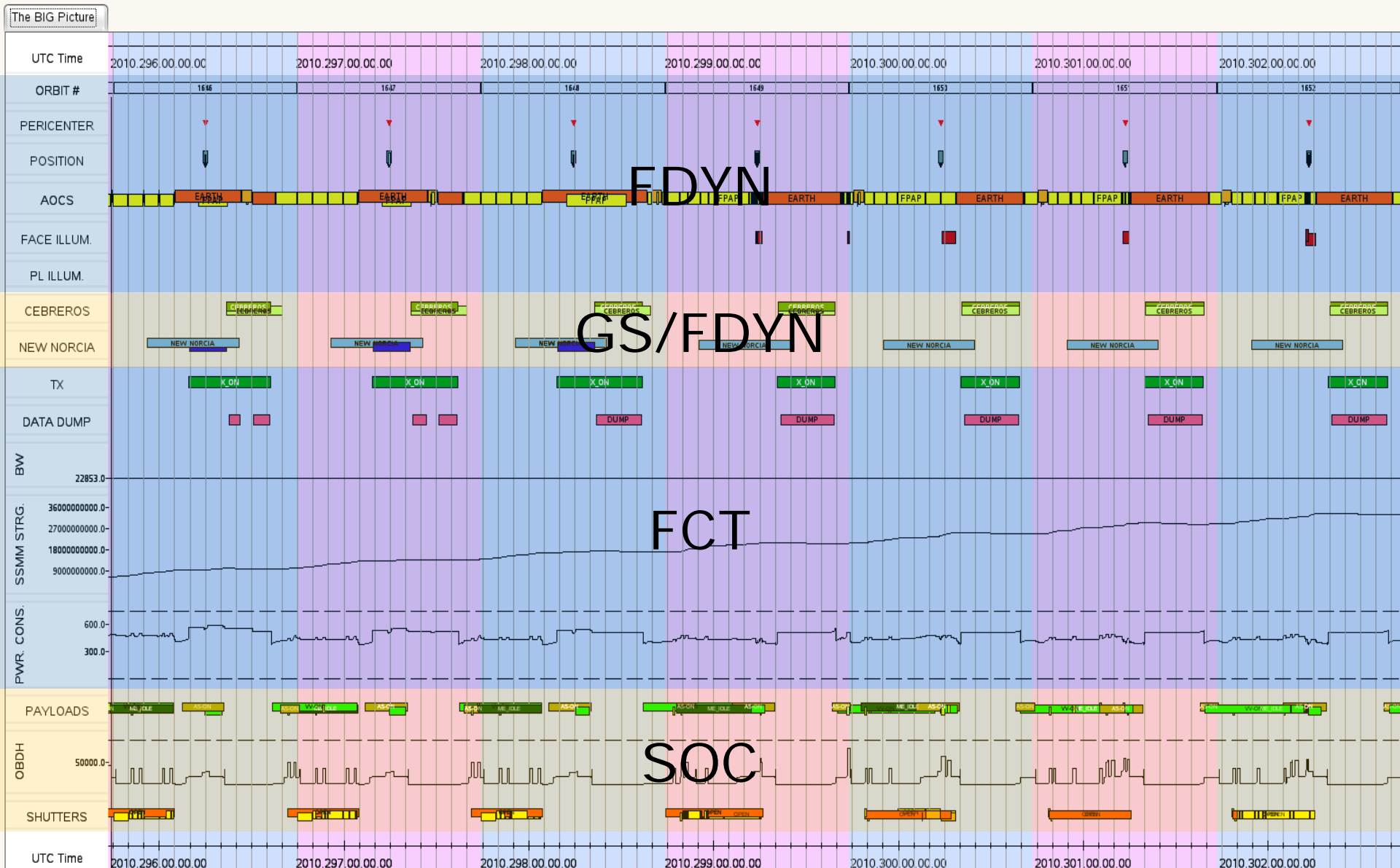


# All systems have common functions

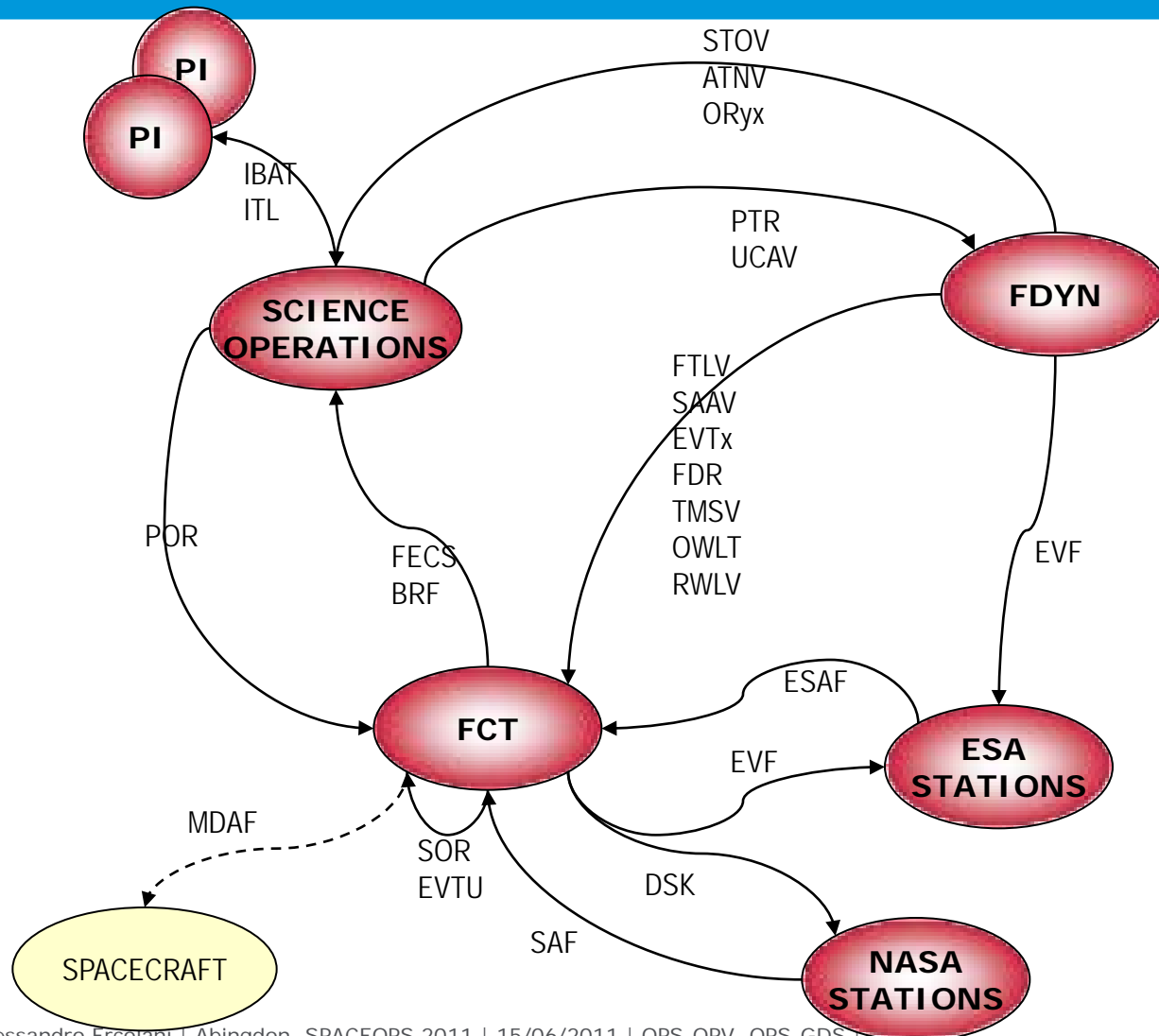




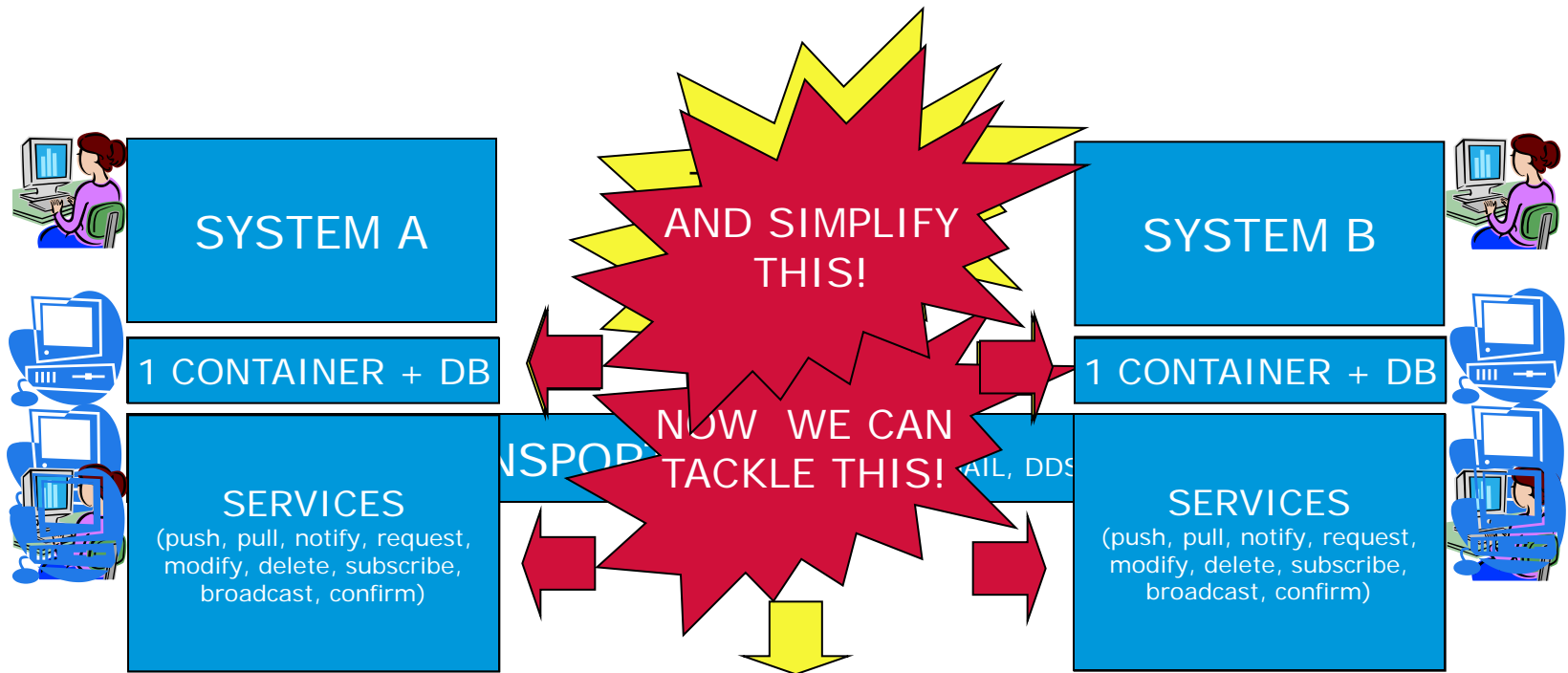
# All planning data represents timelines



# We use dozens of ways to represent them

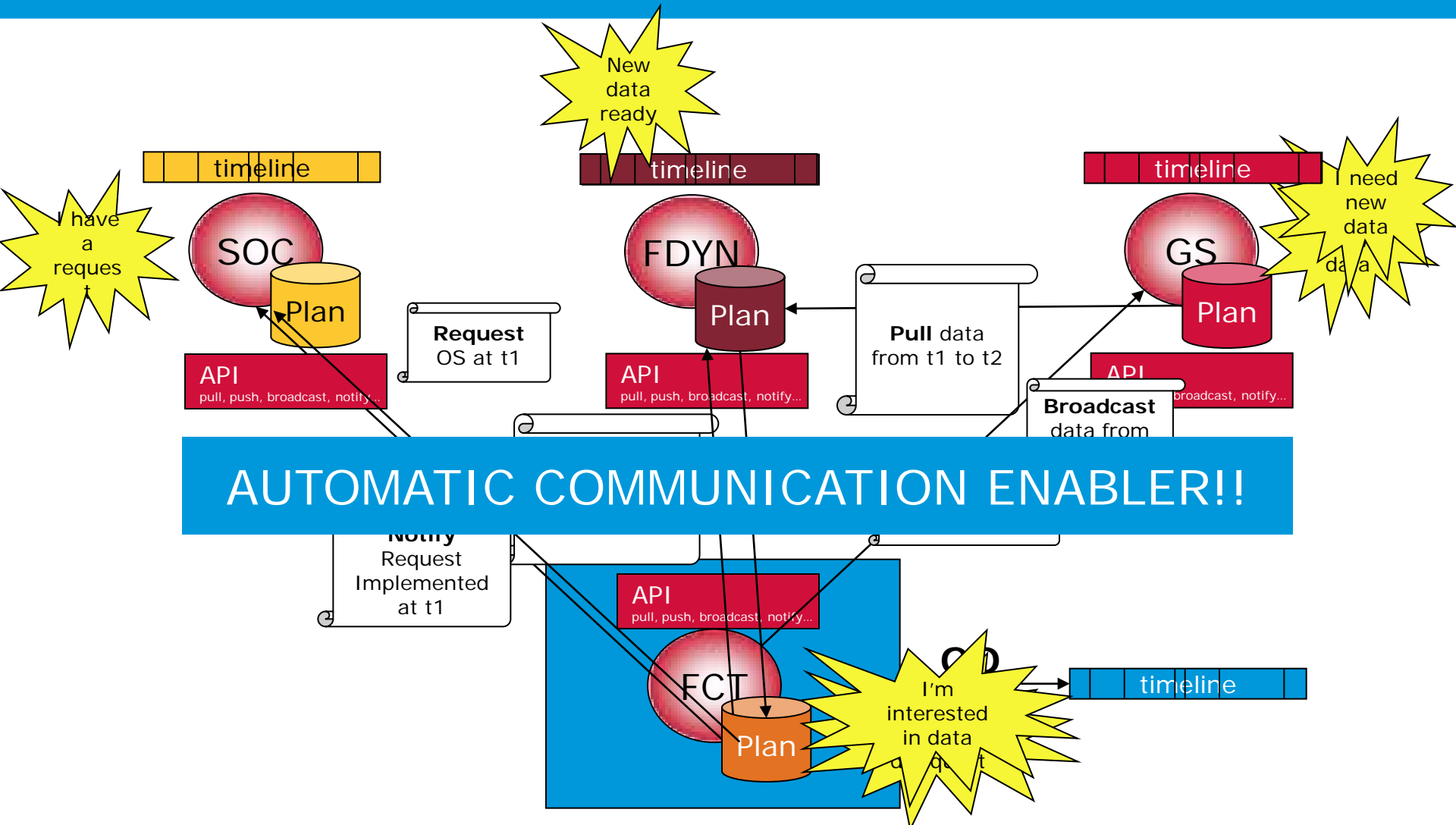


# Where is the bottleneck?



It has been done for the ground-space link (TM/TC packet std.) and for communication among some ground systems (SMF)

# What should we be standardising?



It is therefore desirable that planning system evolutions considers the following:

1. Re-usage of best implementations of common functions among systems from different parties
2. Expansion of service based approach (e.g. CCSDS SM&C) to the layer between the application and the transport of planning data: create standard communication mechanism.
3. Standardization of planning interfaces: One standard data container and a corresponding configuration DB.

1. Station Booking/Scheduling and Operational Service requests across station networks/agencies
2. Payload operations across different instruments/missions/agencies
3. Payload operations from a multi-user community (e.g. XMM/Hubble)
4. Relay operations across different missions/agencies (e.g. MEX/EXOMARS)
5. Flight Dynamics cross-fertilization among agencies: flight product sharing, navigation, collision avoidance, space debris, DDOR and others.