



LMC Common Framework:

Goals and scope for the LMC
workshop

SKA Common Framework Group

Goal:

The goal of the meeting is to define the criteria and process for selection of the common LMC platform (technology, framework, approach, method) to be used by all SKA Elements (or at least majority).

All Elements will have an opportunity to contribute to definition of the scope, criteria and process for selection and to propose solutions.



Software infrastructure and middle-ware

- A software infrastructure framework is a set of software routines that provides the basic elements and structures for developing a distributed application.
- Frameworks are designed with the intention to facilitate software development by providing tools to perform basic and common operations, allowing designers and programmers to concentrate on meeting software requirements rather than dealing with the tedious low-level programming tasks.
- Usually software frameworks come with a lot of software tools intended to assist the developer to deploy the customized infrastructure that a project needs.

Possible Levels of Standardisation

We should evaluate candidate solutions (technologies) for the following three uses:

1. Communication between TM and other Elements (requirements to be reviewed and evaluated for each Element individually, by TM and Elements so that we don't miss requirements that apply for a single Element).
2. Communication internal to each Element (to be evaluated by each Element).
3. Functionality to be provided by Telescope Manager.

Our first priority is to identify and select a suitable technology (framework) for 1. (to be used for communication with all Elements).

If a candidate meets requirements for 2. and 3. that's a big advantage.

A proposal for the objectives from the TM Consortium are:

- Discuss the need for / desirability and scope of of a LMC Common Framework across SKA elements
- Provide an opportunity for all elements that are mainly software based, especially SDP, CSP and LFAA (and other elements that want to) to present their current ideas and activities with regards framework evaluation, and to put forward their one or two preferred options.
- Discuss the scope of such an LMC Common Framework
 - standardised protocol
 - standardised communications layer
 - UI framework?, simulator framework?, what else?
- Discuss Monitoring&Control development concepts, and identify areas for commonalities among LMC teams
- Discuss additional areas for standardisation/commonality, probably including general purpose software tools and technologies (like deployment, virtualisation, configuration control and others), and hardware (do we want standardization of sensors, buses, servers etc) in addition to LMC common framework
- Build a community of practice among all SKA LMC developers.
- Build a Community of practice among all SKA * developers (many other cross-cutting concerns like security, A&A, etc..)

Starting point:

- Document on LMC software Infrastructure (04/2014)
- Generic LMC framework Evaluation criteria
- Requirement of individual LMCs and TM
- Design of individual LMCs and TM
- SKA ICDs
- Existent Frameworks
- Precursor

Discussion points:

- Framework Architecture
- Communication Protocol
- Scalability
- User Interface
- Community
- Usage
- Support
- Evolution
- Consultancy
- Learning Curve

Meeting Plan:

- Workshop web page:
 - <https://www.ict.inaf.it/indico/event/74>
- Google docs:
 - <https://drive.google.com/drive/#folders/0ByGeYKBAZOD-cGlrU2ILa3E5NFk>
- First day
 - SKA LMC's Presentation of requirement
- Second and Third days
 - Discussion on how to perform the target
 - Expert Presentation

Social Dinner:

Thursday 26 March: 20:00 @ Trattoria ai Fiori

Remeber:

- SKAO strongly suggest that a candidate/s framework/s are defined before June/July
- Have a (single framework) commonalities between Elements means:
 - Increase common expertize
 - Increase development speed
 - Reduce maintenance cost