LMC Standardization Workshop

Wednesday, 25 March 2015 - Friday, 27 March 2015

Scientific Programme

As you can see from the programme below the days will be

quite intense and we expect to have 3 full days.

<u>**<big>First day: Goals and scope</big>**</u>

1. Discuss **goals and scope** for the LMC workshop : (45 min) (Chair: R. Smareglia)

Standard LMC protocol and common communication infrastructure

Other M&C related technologies and tools, to be used within Elements for M&C, like:

general M&C design aspects and architectural solutions

standard GUI technologies, offered by frameworks and others ?

common LMC simulation framework ?

General technologies and tools? Should standardisation include:

general software system "infrastructure" like OS, virtualization, deployment environment and supporting tools/processes, development environment and supporting tools/processes, and others

discussing standardisation possibilities for other common technologies and tools (see Day 3 point 2)

2. Presentation by TM on **LMC interfaces and M&C architecture** (45 min) (S. Chaudhuri)

Overview of TM M&C Architecture (TELMGT)

Overview of SKA LMC interfaces

Common M&C related issues

3. Presentation by **each Element LMC** (CSP, SDP, LFAA, SADT, DISH, INFRA SA&AUS, AIV, TM, AADC) (10 x 30 min = 5.0 hr) (Element LMC Lead or delegated representative)

(A guideline for the items to be included can be found below at the bottom of this Programme.)

on requirements and current ideas and investigations related to:

See section 2 below for suggested content for now

4. **Discussion time** (±1 hr, if required) (Chair: R. Smareglia)

Summary of and comments on what we heard so far

<u>**<big>Second day - Morning: Criteria and roadmap definition 1/2 </big>**</u>

1. **Agree scope** of LMC standardisation: (1 hr) (Chair: S. Vircic)

Short presentation on summary of Day 1

Facilitated discussion to agree scope

2. Wrap up open observations on **LMC selection criteria document** (1.5 hr) (Chair: L. van der Heever)

(The preliminary list of the criteria will be prepared by the TM Consortium and published for review before the meeting, around 2015/02/15. Observations not resolved before the workshop will be discussed in this timeslot.)

3. Define the **process** to: (1.5 hr) (Chair: S. Chaudhuri)

Short leading presentation

Discussion on:

finalising options to be evaluated

finalising the evaluation criteria

evaluating the options

selecting common LMC framework

<u><big>Third day: Criteria and roadmap definition 2/2 </big></u>

4. Identify **resources** : (30 min) (Chair: M. Dolci)

TM leads activity, but all interested parties are invited to contribute to this effort

Identify specific names from Elements

5. Define **schedule**: (1 hr) (Chair: L. van der Heever)

Schedule for LMC common framework

finalised list of options   by __

finalised evaluation criteria by __

options evaluated and selection identified by __

report produced

by __

Schedule for M&C architecture solutions

<big><u>**Second and Third day: Timeboxed presentations and discussions**</u></big>

1. Open-source **frameworks** and frameworks used in the precursors / pathfinders and other arrays: (4.5 hrs) (Chair: TBD)

including standard protocols, communications framework, GUI technologies provided.

(A guidelines for the Framework Presentations can be found below at the bottom of this programme.)

Open source Framework (day 2):

EPICS (1 hr) (invited expert) (day 2)

TANGO (1 hr) (invited expert) (day 2)

ACS and ALMA (1 hr) (invited expert) (day 2)

Precursor (day 3):

KATCP (as used by MeerKAT) (45 min) (Lize vd Heever) (day 3)

ASKAP & ITER (based on EPICS) (45 min) (JC Guzman + Subhro Chaudhuri) (day 3)

2. Other **potential common technologies** for general purpose, simulation, user interfaces, etc (±1 hr - if time allows): (Chair: J.C. Gutzman)

For example:

Cloud computing and cluster monitoring (e.g. Open Stack)

Virtualization and Deployment

Standardised

O/S

Standardised development environment and tools (e.g. using GIT)

Standardised hardware (servers and actual sensors)

Web-based UI development frameworks

...

3. **Wrap-up** (1 hr) (Chair: R. Smareglia)

Short presentation on outcomes of workshop and summary of way forward

<u>**<big>Guideline for Element LMC Presentations (Day 1)</big>**</u>

TM Consortium invites each Element LMC Lead to prepare a 30 min presentation covering the following:

Element architecture and proposed M&C designs and architectural solutions,

Requirements and issues related to monitor and control within each Element,

Assumptions made so far,

Technologies considered, investigated and/or used (in the case where a working prototype already exists),

Plans for prototyping, state of existing prototypes,

<span

style="color:#800080">Short list of prefered LMC common frameworks to be evaluated,

Scope of LMC standardisation expected / required / preferred (protocols and communications middleware; but what about GUI frameworks, M&C design approaches and architectural solutions, supporting tools and computing platforms, development environments, etc).

<u>**<big>Guideline for Framework Presentations (Day 2-3)</big>**</u>

Overview of framework

Development roadmap for framework

Pros/cons

Examples where used and experiences from projects