Online-Model

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Warning: This presentation has no physics content, no formula and no plot.

- The "object" and the "project"

- What ? Who ? Where ? When ? How ?

Caveat

"Loaded Gun" for several reasons:

- many different ideas and opinions

- many different existing or deprecated tools

- Several attempts already

- Recurring request

Handle with Care

Online Model

- Model: A simplified or idealized description or conception of a particular system, situation, or process, often in mathematical terms, that is put forward as a basis for theoretical or empirical understanding, or for calculations, predictions, etc.; a conceptual or mental representation of something.

- Online: With processing of data carried out simultaneously with its production; while connected to a computer, or under direct computer control.

What ?

- Target: LHC !

- "Online Model" is not MADX-online !

- Online Model is a software tool to better diagnose and monitor the performance of the LHC in different operational modes. (?)

Who ?

- Users ?

  – Operators , Engineers in Charge, Coordinators

  – Experts : ABP (different realms), BI...

- Providers ?

  – ABP : Optics, Collective effects...

  – CO + OP : LSA, Timber, Fidel...

- Developers and maintainers ?

Where ?

- CCC of course ! but is that all ?

- Offices, labs ?

- TN and/or GPN ?

- Read-Only or Read-Write ?

How ?

- Interface ?

- Usability ?

- Buttons and sliders, and/or language ?

- Plug to known components and interfaces ?

- ???

When ?

- Everyday for operation monitoring and optimization ?

- During Machine Development and specific measurements ?

- In Setup of a new operational mode ?

- Panic Mode ?

Object

- Not well defined at the moment.

- Many open questions and many aspects not settled.

- I have my vision of the online model,
  but will not impose it.

- The Online Model must be the result of a collection of ideas and opinions, and must be agreed and accepted at large by the LHC operation community.

Project

- I have accepted / suggested the project given my experience with optics and with accelerator operation in the past.

- Last year as EiC on LHC was an excellent observation post.

- Important for Management,
  at group, department and sector level.

What ?

- A software project with integration of many different toolboxes
  (DB, Controls, Interfaces, Computation Engine, Plugins…)

- A complex object calling for complex development in a complex environment.

Who ?

- BE-CO : overall development and integration in controls infrastructure; long term maintenance.

- BE-OP : interfaces and short term upgrades for agility in use of the model

- BE-ABP : underlying engine, physics content

- Professional developers please !! not a student's job...

- Resources are not defined yet.

How ?

- Establish a common and accepted view of the object.

- Establish a common and accepted plan for development, integration and maintenance of the object

- Develop, integrate, validate...

When ?

- Online model ready for LHC restart after LS1... (bootstrap and validate)

- Launch Dev. Project by End 2013

- Publish plan for development, integration, maintenance (technical spec.) by Dec. 2013

- Published description of the tool (functional spec.) by June 2013

- Enquiries and interviews of stakeholders. Started...

Conclusion... for now

- I need your help, wisdom, opinions, ideas... to first establish the description of the Online Model.

- Please share with me your knowledge of existing tools and past initiatives, whether successful or not.