Short report on EU-T0

to the WLCG CB

@ Lisbon meeting 1-3 Feb 2015

Pete Clarke

Reminder of EU-T0

EU-T0

Has been presented before in overview to several WLCG meetings.

- See slides attached to this agenda, given by Giovanni Lamanna to the WLCG Oversight Board & the “Statement of Intent document (SID)”
- A Consortium of major European Funding Agency / equivalent Bodies, who are responsible for provision of e-Infrastructure for large scientific enterprises.
- To coordinate in addressing future resource provision – in particular:
  - Policies
  - Practicalities of funding
  - Opening the infrastructure to more disciplines

Organisational Structure

Consortium Board
(Chair: A.Medland)

Meets ~ 2 x per year

Spokesperson
(G.Lamanna)

Executive board
(Chair G.Lamanna)

Meets ~ 2-3 times year

Extended EB
(working group)

(Convenor: M. Delfino Reznicek)

Meets ~ 2 x per month

Structure

Consortium Board
(Chair: A.Medland)

Meets ~ 2 x per year

Consists of 1 rep (+advisor) from each member body.

Elects Chair

Elects Spokesperson

Receives reports

Agrees/ratifies..etc, and provides feedback into the managements of the agencies/ bodies it represents

Structure

EU-T0

Executive board
(Chair G.Lamanna)

Meets ~ 2-3 times a year
1 rep per member body
To make goals of EU-T0 happen

Extended EB
(working group)

(Convenor: M. Delfino Reznicek)

Meets ~ every 2 weeks

So far it has concerned itself with

- Enablement - to extend access to the infrastructure to serve other areas
  - SKA,LSST, EUCLID, CTA, ...
  - Non-Astro/Particle
  - Planning a liaison meeting with APPEC
- Positioning for H2020 and the "Open Science Cloud"
- Synergies with PRACE
- Endorsing initiatives such as AARC and to develop multi community AAAI
- Specific involvement in projects:
  - IndigoDataCLoud
  - HNSciCloud

What EU-T0 is not !

- EU-T0 is not a new e-infrastructure. It does not replace EGI and does not interfere with WLCG future resource planning.
- EU-T0 is not a EC funded project.
- EU-T0 is not simply a federation of computing centres.
- EU-T0 is not an all-disciplines serving initiative.
- EU-T0 is not about giving away WLCG resources to other sectors.
- EU-T0 does not aim at providing data and grid infrastructures for long-tail science (*NGIs, where still applicable, EUDAT and EGI are perhaps used for this*).

- Hence its not to be unexpected that it doesn't pervade day to day operations of WLCG
- But it is none-the-less important, working behind the scenes to secure the backdrop for the future provision large scale scientific computing (including of course the LHC).

Questions

WLCG and other sciences: **the EU-T0 initiative**

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WLCG-OB 4 December 2015

Outline

- Background
- What is EU-T0?
- 2015 actions
- Perspectives

EU-T0: background

- Some European research funding agencies (FAs) which make large contributions to WLCG also have responsibilities in Nuclear Physics, Light-source facilities, Astroparticle Physics, Astronomy and Cosmology.

- These FAs support large Research Infrastructures (RIs) (some in the ESFRI roadmap) in Astro. and Cosmology, such as AMS, AUGER, H.E.S.S., MAGIC, CTA, FERMI, KM3Net, SKA, VIRGO/EGO and future gravitational waves projects, PLANCK, EUCLID, LSST, and in photon science XFEL, etc..

- Some of these projects are demanding in terms of data management, computing and data access and will produce data of the same order of magnitude than LHC experiments.

- Most of them will run as observatories or facilities accessible from very large scientific communities and operating in data-open-access mode.

EU-T0: background

- These FAs must plan for provision of data processing and archive infrastructures for the current and future major research projects' requirements, whilst at the same time facing funding challenges.

- These FAs wish to promote and extend the infrastructure, building upon the WLCG technical heritage and benefit from the WLCG experience.

- These FAs have agreed to work in closer harmony to make their data centers more easily accessible to all of these domains and develop a more sustainable and effective approach.

EU-T0, what is this?

EU-T0 is a consortium of funding agencies and research institutes:

- which all together are "core and historical partners of EGI";
- some of which are members of the EUDAT project;
- which almost all together support and participate to the pilot project HNSciCloud led by CERN.

EU-T0 started as a top-down initiative to promote the HEP institutes know-how in data management and also a "political and scientific forum" for future common challenges.

EU-T0, what is this?

- The EU-T0 consortium aims to make it easier for the new scientific projects that it supports to obtain the e-Infrastructures needed for their purposes.

- The EU-T0 consortium wishes to promote building bridges where appropriate, for example with EGI, EUDAT, PRACE, GEANT, eduGAIN etc.

- EU-T0 supports R&D towards a future global European cloud infrastructure for science, and the possible eventual integration of their data centres within it (concerned in particular by the *infrastructures implementation and the governance issues*).

- EU-T0 benefits from many outstanding experts in computing within its partners, and so expects to make a strong technical contribution to new developments within potential future initiatives , e.g. H2020 bids.

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What EU-T0 is doing

H2020:

- ”IndigoDataCloud”: a funded project in response to the e-infra-1-2014 originally proposed in the EU-T0 framework is now a project by itself with more parties.
  It aims at building a data/computing platform targeted at scientific communities, deployable on multiple hardware provisioned over hybrid (private or public) e-infrastructure.

- "Data backbone, ZEPHYR” not-funded project in response to the e-infra-1-2014, originally proposed by EU-T0 patners and still part of the EU-T0 challenges.
  It aims at developing prototypes and proof of concept to enable the agile handling of the scientific data from future large scale facilities and research communities at the Zetabyte-Exascale level. *(action to be reconsidered in 2016-2017)*

- Participation to ”HNSciCloud” CERN-led project in response to the ICT-14-2015
  It aims at a pilot project of common procurement of cloud computing through cooperation of private & public partners.

In all of them EU-T0 also proposes WLCG and other Astrop. projects as use-cases

What EU-T0 is doing

H2020:

➢ Involvement in cooperative actions with ”ASTERICS" funded project in response to the infradev-4-2014-5

Providing computing centres know-how and services for tests and benchmarking to ESFRI projects in Astronomy.

Other actions:

PRACE & EU-T0 common pilot proposal of HPC computing time and HTC storage and post-processing users services (March 2015) for all disciplines.

New call in March 2016 in under discussion in PRACE (decision expected in December 2015). EU-T0 could support LHC use cases (ex.: ATLAS simulation production?) and others under investigation.

EU-T0 is following up the APPEC actions in support of provision of large scale computing/data infrastructures and services for future multi-messengers Astrop. needs through a dedicated workshop in 2016

Visions

The EU-T0 initiative is consistent with visions coming from elsewhere:

Next generation of services for the **distributed computing and storage infrastructures** have to address the current limitations and profit at best of the important advancement in **Cloud Computing** and in the **CPU architectures**.

- ✓ Most of the EU-T0 partners participate to the IndigoDataCLoud and HNSciCloud consortia.
- ✓ EU-T0 Consortium is following up together with CERN the perspectives opened up by the EC European Open Science Cloud program.

This could be essentially the way to extend the WLCG heritage to the next step of the e-infrastructure-for-research evolution in Europe.

The EU-T0 partners aim to contribute in a coherent and coordinated manner to meet present and future data challenges in order to ensure continued excellence in science (*including HL-LHC perspectives*).