EXDCI first project meeting
WP6
International liaison

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EXDCI WP6

Task 6.1: State of the art on Funding Agencies

- Complicated history following the disintegration of G8-HORC group.

- SPPEXA: Trilateral initiative, piloted by DFG (Germany), with France (ANR) and Japan (MEXT) as partners.

- Belmont Forum: E-infrastructure and Data Management coordinated research action (CRA).

  - First calls expected in 2017.

  - European Commission is an active partner.

  - Working on a proposition for an International ERA NET.

  - France (ANR + external experts) is coordinating.

- Perspective: expand SPPEXA-like call to other agencies…

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Task 6.2: Facilitate International Collaboration Opportunities

- **An established presence and process to promote the European HPC Technology Projects ('Projects') on the international area** (i.e. Supercomputing Bird-of-a-Feather / BOF/ session and additional activities and material)

- A very successful BOF at SC'15 and an approved BOF at SC'16 (now in preparation)

- A survey implemented to obtain information on the Projects and their needs

- A webpage dedicated to facilitating the international collaborations of the Projects, including an updated European HPC Technology Handbook - http://www.etp4hpc.eu/en/euexascale.html

- Established contact with the Japanese HPC eco-system (i.e. Riken)

Conclusions to date

- **The Projects are open to international collaboration opportunities** and willing to engage in activities in order to facilitate this process. Likewise, **the international community has demonstrated high level of interest** in the results of the European projects.

- **There are a number of areas where cooperation seems possible**, and the Projects are able to identify these areas and pinpoint potential partners in both academia and industry. Some projects have already started work involving international partners.

- The European HPC Ecosystem should further facilitate this process by **identifying areas of priority** where European and overseas projects could jointly contribute to the goals of the international HPC community and organise e.g. **common workshops** in selected areas and research visits (in particular in the area of Programming Tools), leading to joint calls and other funding mechanisms. Also, **a clear dissemination plan** is needed in order to help the Projects reach the appropriate partners.

- **The above should be refined following the results of the SC'16 BOF.**

Going forward

- SC'16 BOF (we have been given 1.5 hours – Wed, 16th Nov, 1030am-noon) and related activities (e.g. an updated Handbook)

  - During this BoF session the European HPC technology projects will showcase their work, aiming to seed new collaborations with international partners, to accelerate progress in Exascale research and development.

  - We will highlight the most important areas of these technologies, discuss opportunities for international collaboration, and identify key mechanisms required to facilitate this process. Project representatives will be present to facilitate networking

- Conclusions to be drawn regarding the main areas of international collaboration and the tools needed (e.g. workshops) – to be included in the final deliverable

- Developing links with Japan, US and other regions

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Task 6.3: EXDCI in Europe and Worldwide (aka BDEC)

Achievements to date

- BoF in SC'15.
- 2-day BDEC workshop in Frankfurt, June 2016.
  - 70 invited participants from 10 countries.
  - 6 keynotes, 4 national roadmaps (EU, USA, JP, CN), 21 presentations.
  - Dynamic breakout sessions.
- ½-day BDEC workshop in ISC'16, June 2016.
  - Reporting on BDEC workshop.
  - Perspectives and roadmaps.
  - Discussion on new roadmap.
- Extensive drafting of a new roadmap (see "Going forward").

Conclusions to date

- BDEC is alive and well.

- EXDCI has been an important motor.

- Sharing of international perspectives is vital for future research and funding strategies in e-infrastructures.

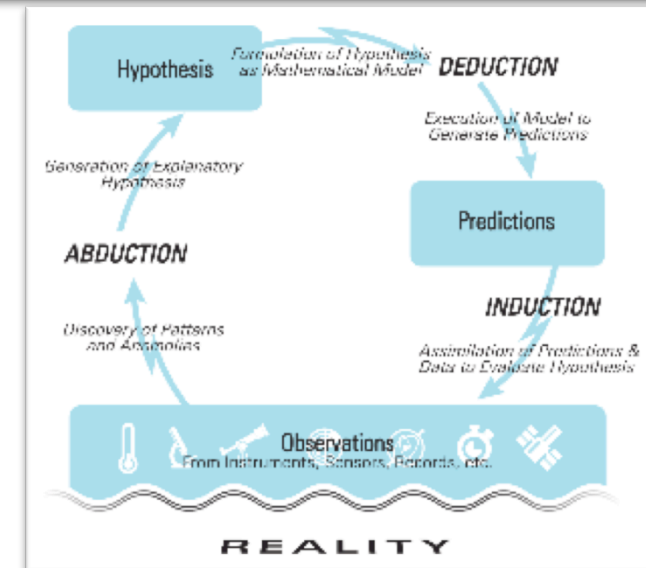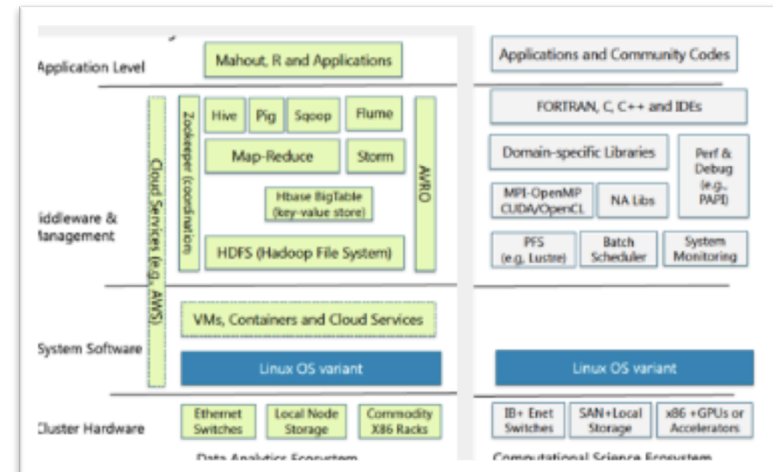- Big science and Big data are going to play an increasingly important role.

Going forward

- BoF in SC'16 where an initial draft of the new report will be presented.

- Coordination of contributions to the final draft, entitled "Pathways to Convergence".

- Publication of the Pathways document in the most highly visible journals.

- Publication of white papers targeted at funding organisations and decision makers.

- Collaboration with the EOSC initiative.

Pathways to Convergence

- **What is the problem?**
  - 2 separate software stacks – 1 for HPC, 1 for Big Data.
  - Impossibility to continue investing in both.
  - Outdated paradigm for scientific process.
- **What is the solution?**
  - Convergence of the software stacks.
  - Coordinated investment strategies.
  - Updated scientific process paradigm…

1. Introduction
2. Common Context for e-infrastructure Planning
3. Alternative pathways to convergence
4. An architecture for the new stack
5. Applications in the scientific research process
6. Operations and systems management
7. Conclusions and recommendations