Summary and next steps for the future

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Second Helix Nebula Review

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Main achievements

At the end of a two year pilot phase, the Helix Nebula EC FP7 project has fulfilled its goal of enabling a federated cloud service across Europe through:

- The successful deployment of several scientific flagship applications
- The establishment of a production platform providing a basis for future expansion
- Tracing the path for an ecosystem to transform data into valuable information
- Expanding the consortium from 20 to 41 members and adapting the governance framework to the public-private marketplace

- The CERN, ESA and EMBL flagship use cases drove the transition from pilot phase to production through the Helix Nebula Marketplace (HNX)
    - Launched at the Helix Nebula public event: "from cloud-active to cloud-productive" organised at CERN on 14 May 2014

    http://indico.cern.ch/event/293382/

    - The European cloud service providers (Atos/Canopy, CGI, CloudSigma, EGI, Interoute, SixSq, The Server Labs and T-Systems) declared their intention to deliver easy access to a range of commercial Cloud Services through the innovative broker technology deployed within the Helix Nebula Initiative over the last two years

    http://hnx.helix-nebula.eu/index.html

    - Technology tested with the flagship applications from CERN, EMBL and ESA

2014: continue with initial flagships: CERN, EMBL, ESA (& national space agencies)

- Continue testing on the HNX platform until the end of 2014

- CERN to test hybrid cloud model linking Helix Nebula suppliers with EGI and GEANT using the CERN ATLAS flagship as a use-case

2014: New Flagship

Port d'Informació Científica (PIC), Barcelona

- Reduce costs and improve speed of delivery, increase volume and accuracy for Neuroimaging
- Foresee to deploy the new flagship in 2H 2014
- Requirements entered into the online tool
- Already deployed directly with CloudSigma

EC DIGIT

- EUROPA web-based application under review

Commitments to sustain the FP7 project

- Trust-IT will maintain and update the HN website free of charge until the end of 2014

- EMBL will maintain the alfresco collaboration site until the end of 2014

- EGI.eu will continue offering the mailman tool, which hosts the 21 email lists, for two more years

- CERN will maintain the open repository for all Helix Nebula documents on the CERN Doc. System (CDS) for a minimum of 2 years

Commitments to continue support the initiative

GÉANT offered to:

- Support the Helix Nebula production service through to the end of 2014, so as to integrate the HN suppliers into the GÉANT framework

- Support the HN Supplier-Supplier traffic during the next 6 months and measure its impact on the utilisation of GÉANT

- GM3 + Support to Cloud

- EGI:

Commitments to continue support the initiative

- T-Systems committed to carry on working in 2014 on the development of a sustainable governance model for the Helix Nebula Initiative

- ESA will host the next general assembly in November 2014, where the revised governance model is foreseen to be adopted

Commitments to HNX:

- HNX (the Helix Nebula Marketplace) will provide production service support at a discount rate until the end of 2014

- CERN, ESA & EMBL will continue testing the HNX production environment with their flagship applications

The e-Infrastructure commons Marketplace

- Science workflows can be facilitated for all researchers through an e-Infrastructure commons Marketplace:
    - *E-Infrastructure*: Encompass Generic, Domain and Community specific services
    - *Commons*: Open but governed to protect demand and supply side actors
    - *Marketplace*: Pay for use mechanism for public and private sector suppliers

- The document:
    - Analyses and explains the need for more coherence and integration from the service providers to engage researchers in all disciplines & from all sizes of communities
    - Proposes to keep resources free at the point of use for researchers and to link resource use to service provider income for sustainability; to reduce entry barriers and to simplify use for end-users

- The position paper on the 'exploitation platform' as an open marketplace won the prize for the best position paper at the CloudScape VI event

- Benefits:
    - The creation of an e-Infrastructure Commons Marketplace is foreseen to have a direct impact on how researchers drive the evolution of services for their research needs
    - Funding agencies will also benefit from market forces to establish volume & price and service providers will be able to establish revenues to sustain services and an ecosystem that benefits downstream industries.
    - http://admin.cloudscapeseries.eu/Repository/document/PositionPapersCSVI/e-Infrastructure%20commons%20marketplace.pdf

Information as a Service

- Development is taking place towards providing "Information as a Service" in this environment

- A number of pilot projects have been proposed to ESA, making use of their Earth Observation data

- Intended to create an environment where those projects can be accommodated, but which would also provide an ideal vehicle for further dissemination of the data from the newly-launched Sentinel satellites

Helix Nebula and Europe 2020

- The Horizon 2020 EU framework programme for research and innovation will build on 3 major pillars:

  - Strengthening the EU's position in science

  - Strengthening industrial Leadership in innovation

  - Tackling Societal Challenges

Helix Nebula's vision and strategic goals are fully aligned with Europe 2020 strategy

Procurement

Background

- Effort and costs of developing the HNX platform were under estimated by the suppliers
- This FP7 project was a CSA which excluded funding for technical developments
- Public-private partnership developments could be a good match for a PCP scheme

Consequence

- Application made to the EC for further funding to set up a procurement network of public research organisations under the project proposal named PICSE (Procurement Innovation for Cloud Services in Europe)

Goal

- Create a reference framework for the public procurement of cloud services in which a European multi-tenant 'Open Market Place for Science' composed of data, scientists, funding bodies, SMEs and downstream industry meet to work towards common interests
- Beyond PICSE – lead to the creation of PCP/PPI actions focused on expanding the cloud services marketplace

Evolution of the HNX platform

- Enhancements:
  - Develop platform delivery as a service:
    - Unified contracting and billing structure
    - Improve EGI and GEANT integration
- Structured release plan to be release in the coming months and years
- An application made to the EC for further funding to develop the required facilities:
  - Project name XZELCloud
  - Focus on real-world use cases such as Open City services