Useful, Cloud Tools to be used by scientific communities when adopting cloud services

Today, public authorities, businesses & research communities all over the world have a growing amount of data to manage and use. This increasing phenomenon opens up new possibilities for the scientific community, in terms of sharing knowledge, results and innovation. Promoting the adoption of standards and common tools within or between communities is key to maximise impact and effectiveness to fully appreciate a well-networked, international community.

These opportunities have not yet been fully exploited due to difficulties in accessing, sharing, and ensuring interoperability and re-usability of data. A further problem is the lack of trust and security related to cloud services that delay the adoption of cloud in the aforementioned community. Rather than building tools from scratch, this presentation wishes to capitalise on a series of existing tools & use-cases developed under H2020 unit E2 of DG Connect to then adapt within an EOSC context.

According to the challenges posed by the European Open Science Cloud (EOSC) initiative, CloudWATCH2, SLA-READY and PICSE Coordination & Support Action (CSA) projects have developed several, useful, free cloud based tools and services that could support scientists and academics.

In order to make all scientific data produced by the Horizon 2020 Programme open by default, the CloudWATCH2 project offers three services: a guide for Cloud standards for portability; a service offer catalogue of open sources tools and software from EU project; a database of recommendations reports on many aspects of cloud computing.

Sharing data is not just a matter of technology but also of awareness and incentives. A scientist who does not understand or does not have the time to study a cloud contract will not have the necessary incentives to share its knowledge nor its data. CloudWATCH2 could help with a series of guides & to understand legal terms without the financial burden of calling in legal expertise. Interoperability & data sharing cannot be guaranteed without standards. CloudWATCH2 provides a guide on Cloud Standards for interoperability that helps cloud software developers create interoperable services for scientific purposes, free of charge.

To develop cloud-based services for Open Science is one of the objectives posed by the EOSC initiative. Scientists who use these services will also need to know how their personal & research data will be treated. The SLA-Ready's Common Reference Model provides a set of cloud service level agreement components that provide a common understanding of SLAs for cloud services. Additionally, the SLA-Aid tool could provide a scientist with a set of tailored Cloud SLA free advice.

Similarly, just as governments need to go through procuring cloud services, so do research institutions and this is where the PICSE wizard tool can help the scientific community make informed decisions about how to procure cloud services. The tool finds the most appropriate cloud procurement model and it assesses the current procurement process.

The EOSC involves a huge community of users to maximise benefits & for it to work efficiently. In order help researchers and scientists to understand what the cloud means for their activities, CloudWATCH2 offers the European Cloud Scout, an online questionnaire which delivers a tailored report on secure transition to cloud.

Furthermore, SLA-Ready provides a set of four real world SME and government Use Cases extended to the scientific sector.