JENA DISTRIBUTED COMPUTING INITIATIVE: TRAINING, DISSEMINATION AND EDUCTION

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ICFA DATA LIFECYCLE PANEL, 3 DEC 2024

JENA, THE COMPUTING INITIATIVE, THE MANDATE

▸ JENA == ECFA, NuPECC & APPEC communities

▸ Computing initiative, a followup from the Bologna 2023 JENA computing workshop

  ▸ Identify the computing needs of the next decade

  ▸ Focus on synergies among the JENA communities and neighbouring sciences

  ▸ Produce a white paper by the spring 2025 JENA symposium

    ▸ 5 working groups to prepare each a ~ 10 pages report with overview of existing strategies, findings and recommendations

    ▸ Also to be re-used as input to the European Strategy for Particle Physics

THE FIVE WORKING GROUPS

1. HTC and HPC

2. Software and Heterogeneous Architectures

3. Data Management, Virtual Research Environments and FAIR/Open Data

   ▸ Will be covered by EOSC / ESCAPE

4. Machine Learning and Artificial Intelligence

5. **Training Dissemination and Education**

WORKING GROUP 5, PROCESS TOWARDS THE ~ 10 PAGES REPORT

▸ Late start ~ summer with 3 conveners, Arnau Rios (NuPECC, Barcelona), Patrice Verdier (APPEC, IN2P3-CC), SR (ECFA, CERN)

  ▸ Regular meetings preparing the input to the paper

  ▸ Organisation of a workshop inviting the community to contribute

  ▸ Draft document prepared by 19 November <— current status

FINDING AND RECOMMENDATIONS

(1) This vibrant program of trainings on federated computing to satisfy the needs of the JENA communities requires continuous support in the future. The community will strongly benefit from a **centralised repository of training materials and events** augmented with proposed **curricula and training pathways** to achieve certain proficiency.

(2) JENA should support the creation or the **exploitation of existing forums** for discussions and developments such as conferences, workshops, seminars for computing aspects open to all communities.

(3) The competitive economic environment in the digital sector, together with a lack of stability in some career paths, reduces the capacity to attract or **keep the best talent** in Federated Computing. It is important to promote and support **competitive salaries** and **attractive career opportunities**.

FINDING AND RECOMMENDATIONS (CTD.)

(4) With many **dissemination** activities established in the JENA communities and the growing size of data and infrastructure needed to support those, the synergies among them are an important cost saving factor. It is therefore important to establish proper ways of information and knowledge exchange to **exploit** those **synergies**.

(5) With university students in particle, astroparticle and nuclear physics not necessarily being exposed to software and computing techniques which are required in the respective JENA areas it will be beneficial if the **required skills education can be passed to the universities and schools**. Among many relevant skill sets the feedback on education in Artificial Intelligence and Machine Learning is of utmost importance. This can be done either **directly with universities** and engineering schools or indirectly on a political level through the **national sciences ministries**.

FINDING AND RECOMMENDATIONS (CTD.)

(6) Attending training courses in many cases is mandatory for students e.g. while attending a PhD program. With many training and schools being offered within the JENA communities the granting of **ECTS points** for attending those will be beneficial for the students. A **generalised approach of granting those points** for attendance will be helpful to the training communities.

JENA, NEXT STEPS

▸ Draft documents to be ready by Friday 13 Dec

▸ Next discussion of the JENA group in a meeting the week before Xmas (date TBD)