

Jennifer3 WP5

- Task 5.1 **Worldwide distributed computing** [INFN,KCL,CNRS,DESY,JSI]

Implementation of a common interface such as the DIRAC Cloud Computing Element, for integration of virtual machines into the MC factory and testing the PaaS/SaaS services in INFN, CNRS/IN2P3 clouds.

INFN, CNRS will provide cloud resources and technologies for access to cloud infrastructures. INFN, KCL, CNRS, DESY will provide use cases and test workflow over the cloud.

Total number of person months: 12

Deliverable D5.1 – Workshop on cloud computing - month 24

Key people: S.Pardi (INFN), S.King (KCL), M.Bracko (JSI).

- Task 5.2 **Advanced network solutions** [INFN, KCL, CNRS, DESY, JSI,KEK]

We will perform a set of joint stress tests sending data from the main sites in Japan to the European Data Centers of Belle II and Hyper-K in Italy, France, UK, Germany and others. A set of common tools will be used to monitor the network links and the performance will be compared with the estimated requirements of the two experiments. All institutions will contribute.

Total number of person months: 3

Deliverable D5.2 Report on joint data challenge - month 36

Key people: S.Pardi (INFN), S.King (KCL).

Jennifer3 WP5 (cont'd)

- **Task 5.3 Machine learning for big data analysis** [INFN, DESY, HEPHY, KCL, ETHZ, TAU, UGE, JSI]

Develop and compare different applications of ML algorithms for various data analysis tasks. Share tools and methodologies thanks to a unified platform. Hold bi-annual workshops including hands-on tutorial sessions. All listed institutions will develop at least an application and share with the others.

Total number of person months: 12

Deliverable D5.3 – Bi-annual workshops on ML for data analysis - month 24-48

Key people: G. Inguglia (HEPHY), A. Soffer (TAU), D. Sgalaberna (ETHZ), N. Catania (INFN), L. Santelj (JSI)

- **Task 5.4 Machine learning for real time applications** [DESY, INFN, KEK]

Test of the Xilinx Versal FPGA hardware platform with benchmarks and study of possible realtime ML applications of pattern recognition in the DAQ and trigger systems for Belle II. Application of the Versal system to anomalous cluster detection in the Belle II PXD, to disentangle possible exotic particle signals from background.

Total number of person months: 4

Deliverable D5.4 – Report on real time ML on FPGA - month 48

Key people: S. Lange, T. Ferber (DESY), S. Yamada, Yun-Tsung Lai (KEK)

Staff effort per participant

Grant Preparation (Work packages - Effort screen) — Enter the info.

Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person-Months
1 - INFN	34.00	14.00	29.00	13.00	11.00			101.00
2 - DESY	38.00			7.00	6.00			51.00
3 - CNRS	15.00	4.00	3.00	9.00	1.00			32.00
4 - OEAW	9.00			3.00	2.00			14.00
5 - JSI	11.00			4.00	3.00			18.00
6 - CEA		7.00	5.00	1.00				13.00
7 - CU	6.00							6.00
8 - IFJ PAN	9.00	1.00						10.00
9 - NCBJ		6.00	10.00					16.00
10 - TAU	3.00				1.00			4.00
11 - CAEN			1.00	1.00				2.00
12 - IFAE-CERCA		4.00	3.00	1.00				8.00
13 - CSIC	3.00			1.00				4.00
14 - UU					3.00			3.00
15 - USE		4.00						4.00
16 - UNIOVI			4.00					4.00
Total Person-Months	128.00	40.00	55.00	40.00	27.00	0.00	0.00	290.00

BACKUP