Portuguese **Distributed Computing** Infrastructure

Relations with Users

Periodic Report of the activities of the WP3

State:	**Final**
Dissemination:	**Public**
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Date	Author	Comments
09-07-2018	Catarina Ortigão	Initial version
05-08-2018	Catarina Ortigão	Updated

Cofinanciado por:
COMPETE 2020 PROGRAMA OPERACIONAL COMPETITIVIDADE E INTERNACIONALIZAÇÃO
PORTUGAL 2020
UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional
Lisb@20 20
FCT Fundação para a Ciência e a Tecnologia

Scope and Introduction

The Relation with users' activity intends to boost the interaction with both potential and actual user communities of the INCD infrastructure. It will interact direct with interested users, analyse their objectives and needs, and collect feedback on the effective use of pilot services. Its main objective is to maximize the benefits of INCD services to the user communities.

Sub-task 2 (Liaison with the users) was planned to be a continuous interaction phase with potential users, where contacts would be tracked and direct contacts established in coordination with activity 2 (dissemination).

This is the Periodic Report of the Work Package 3 (Relations with users) and complies the project's milestone **M3.2.- Periodic Report.**

Update of the activity

INCD has set the guidelines to manage the relation with users:

1. Direct interaction with interested users
2. Analyse their objectives and needs
3. Collect feedback on the effective use of pilot services
4. Conduct service satisfaction surveys
5. Establish and promote an INCD users' forum
6. Establish a board to evaluate and to define priorities of the access requests

The initial set of indicators (KPI) were defined and are the following:

- Volume and type of dissemination and promotion actions
- Volume and type of contacts of the user community
- Volume of users and their distribution among the various INCD services
- Capacity used by each user in CPU, RAM, disk, network or other computer resources
- Response to trouble tickets
- Availability of the services
- Follow-up visits and meetings with the users
- Analysis studies oriented to understand and meet the needs of users
- Treatment of complaints.
- Periodic reporting.
- Collaborate on an annual review of the SWOT analysis.
- Identify complementary or high-level services to enhance the services portfolio.

Although we have established these guidelines and performance indicators, this activity, in pair with the Dissemination activity (WP2), was refrained for the first year, as the INCD infrastructure could not support more new users before being renewed and updated.

Nevertheless, the community already using the INCD services was vast and diverse, and we have conducted meetings with the pilots' users (WP4) to define requirements and goals.

That said, INCD has received several user requests and those were accommodated in the infrastructure with initial and follow up meetings shepherded. The following table resumes the activity from July/2017 to July/2018.

Internal ID	Date	Institution	Requirements	Outcome
57	2017-04-06	Universidade da Beira Interior/Faculdade de Engenharia	*Acesso a HPC para correr o software OpenFOAM, com instalação local na área do utilizador para poder ser costumizado.*	1
58	2017-04-17	Universidade de Lisboa, Faculdade de Ciências, Dep. Informática	*A library de treino de redes neuronais que estamos a usar consegue tirar partido da paralelização assegurada por GPUs Nvidia usando a framewrok CUDA. É possível assim reduzir mais de 10 vezes o tempo de treino necessário.* *Recursos computacionais deste género seriam de grande ajuda.*	1
60	2017-06-22	Instituto Superior de Engenharia de Lisboa	*Não existem requisitos estritos. O objectivo é expor os alunos a este tipo de instalações e ambientes de execução com o tipo de interface fornecido pelo INCD. Os recursos para esta experiência podem ser 4 nós com multicores 8 GB de memória e alguns Gigas de armazenamento.*	0
61	2017-07-04	Universidade de Évora	*clusters MPI*	0
62	2017-07-04	Universidade de Coimbra	*Sistemas HPC*	0
63	2017-07-13	ISEG-ULisboa & CEMAPRE	*Utilização do Microsoft R Open, memória RAM superior a 512 GB (os objectos criados pelo software são alocados na RAM e não no disco), rápido processamento de dados. Não será necessária elevada capacidade de armazenamento em disco.*	1
64	2017-07-24	Faculdade de Medicina Universidade de Lisboa	*Acesso a uma cloud open stack ou semelhante onde fosse possivel colocar 2 VMs cada 16 Cores /entre 32 e 64GB RAM /500GB de disco de forma a facilitar o desenvolvimento da plataforma. Gostariamos também de saber a possibilidade de usar os vossos serviços para*	1

			dar cursos de 1-2 dias de formação sobre a plataforma .	
65	2017-07-27	ISEL	*Máquina linux (e.g. ubuntu server) com um mínimo de dual-core com Hyper-threading e cerca de 300GB de disco.*	1
66	2017-09-14	NOVA IMS	*Our approach requires making a considerable amount of simulations that are highly computing demanding. We have tried to do it running R in a server, but it has not been able to do the procedure.* *Based on the above and in our knowledge about the tools that FCCN has, we would like to ask for a possibility to have access to install R and run our codes to make our study in one of your machines".*	1
67	2017-09-22	CCMAR	*2Tb of HD, and 200Gb of RAM that can be allocated to one CPU or several.*	1
68	2018-01-23	CCMAR, Universidade do Algarve	*Parallel computing jobs with memory requirements of 100Gb (or more).* *Highly parallel database searches*	1
69	2018-02-22	CFTP, Instituto Superior Tecnico, Universidade de Lisbo	*Access to grid computing for serial job submission where individual grid nodes receive random seeds for Monte Carlo cross section calculation and histogram and event generation.*	1
70	2018-03-06	Instituto de Telecomunicações	*My codes run most efficiently on a mixed distributed memory/shared memory architecture. Due to the nature of the numerical calculations I find the most efficient way to divide work is to have up to 64 processes with 12 cores per process. Each process requires approximately 32 GB RAM. Of course, smaller core counts are also good. To complete the first part of the project I would need roughly 500 khours. I need approximately 10 GB of disk space to store the codes, input files and results.*	1
71	2018-03-07	Instituto Superior Técnico	*I need a high-performance computer resource for running a parallel Fortran computer code. Would you please let me know how I can proceed.*	1
72	2018-03-08	Universidade do Algarve	*HTC, Sistema Operativo Windows (qualquer versão), 4 cores, 16 GB RAM, 4TB armazenamento.*	1

73	2018-03-16	Faculdade Ciências e Tecnologia- Nova de Lisboa	*º Ram acima dos 16G* *º Programa R*	1
75	2018-04-07	Universidade de Aveiro	*"Cluster" equipado com CPU multi-core, conectado por rede infiniband, e com sistema de batch.* *Compilador forrtan (MPI) e librarias blas, lapack, scalapack optimizadas (preferencia intel-mkl).*	1
77	2018-05-10	CICECO - Aveiro Institute of Materials	*Programa CASTEP* *HPC - High Performance Computing, com processadores múltiplos (processamento paralelo) .*	1
78	2018-05-23	Faculdade de Ciências da Universidade de Lisboa	*Sistema Operativo: Linux* *Linguagens de programação: C e Python* *MPI (Message Passing Interface) para suporte da "replica exchange" durante o processamento concorrente das várias simulações* *150GB storage em disco* *Data de conclusão do projecto: 30/09/2018, após a qual todos os recursos podem ser libertos.*	0
79	2018-05-30	CBMR - Universidade do Algarve	*2.5TB of disk space, 40 CPU and 200GB of RAM*	1
80	2018-06-01	Instituto de Sistemas e Robótica - Lisboa / Instituto Superior Tecnico, Univ. Lisboa	*Uma ou mais máquinas virtuais correndo Linux Ubunto 16.04 LTS. ROS kinetic e gazebo 7.12 (nós podemos proceder à instalação destes pacotes, pelo que seria conveniente ter acesso de administração às máquinas virtuais).*	1
81	2018-06-05	Universidade do Algarve	*(i) number of cores: 100* *(ii) RAM memory: 300GB* *(iii) disk space: 5TB*	1
84	2018-06-07	Universidade do Algarve	*Número de cores, memória RAM, Espaço em disco*	1
85	2018-06-07	Centre for Biomedical Research (CBMR)	*60 CPUs, 50 GB RAM memory, and 1 TB disk space*	1
86	2018-06-07	Universidade do Algarve	*(i) número de cores* *(ii) memória RAM* *(iii) espaço em disco*	1
87	2018-06-15	Universidade de Coimbra - Centro	*Os cálculos efetuados, em conjunto com a equipa da Dinamarca que já está a utilizar e*	1

		de Ecologia Funcional	*desenvolver os modelos há bastante tempo, indicam uma necessidade computação de 15000CPU/dia por core por ano. Outros requisitos importantes são 4GB RAM /core numa arquitetura de 64bits, e normalmente os mainframes dos restantes colegas utilizam processadores de 24 cores com uma velocidade de 3GHz em arquitetura de 64bits. Algum armazenamento disponível é também uma necessidade. Estes são os requisitos usados pelas restantes equipas, mas somos flexíveis ao que possa estar disponível.*	

New projects accepted during 2017

- P2020-PTDC/BIM-MED/0075/2014
  - "Mechanisms underlying hemogenic induction in human fibrobalsts"
- NORTE-01-0246-FEDER-000014
  - "DESVENDAR - DEScobrir, VENcer as Doenças rARas"
- PTDC/BEX-BID/5410/2014
  - "TIMING CELL DIFFERENTIATON: Gene Regulatory Network in Temporal Control of Mesoderm Specification"
- SFRH/BPD/109685/2015
  - Bolsa de Doutoramento
- SFRH/BPD/104544/2014
  - Bolsa de Doutoramento
- PTDC/DTP-FTO/4973/2014
  - "Desenvolvimento de antídotos para intoxicações por Amanita phalloides, do in silico ao doente intoxicado"
- P2020-PTDC/EMS-ENE/5742/2014
  - "UNsteaDy boUndary LAyer flow coNTrol using plasma actuators of Next generation"
- SFRH/BD/92277/2013
  - Bolsa de doutoramento
- INCD 01/SAICT/2016 - nº 022153
  - "INCD Infraestrutura Nacional de Computação Distribuida"
- CERN/FIS-PAR/0008/2017
  - "Collaboration in the ATLAS Experiment2
- CERN/FIS-PAR/0007/2017
  - "Collaboration in the COMPASS Experiment at CERN"
- CERN/FIS-PAR/0006/2017
  - "Collaboration in the CMS experiment at CERN"
- CERN/FIS-PAR/0005/2017
  - "PORTUGAL AT ISOLDE : Materials and Nuclear Physics Research with Radioactive Isotopes and Techniques"

- CERN/FIS-PAR/0020/2017
  - "Collaboration in the International Space Station experiment AMS for the detection of intermediate energy cosmic rays"
- CERN/FIS-PAR/0022/2017
  - "Probing Quark Gluon Plasma with jets"
- CERN/FIS-PAR/0023/2017
  - "PORTUGUESE PARTICIPATION IN THE PIERRE AUGER OBSERVATORY"
- CERN/FIS-PAR/0027/2017
  - "Prospective study for the Portuguese participation in CERN's Future Circular Collider"
- CERN/FIS-PAR/0034/2017
  - "Phenomenological Studies at the LHC"
- CERN/FIS-INS/0025/2017
  - *"Participation in the RD51 Colaboration"
- IF/00248/2015/CP1311/CT0001
  - Individual project
- IF/00863/2013/CP1172/CT0006
  - Individual project
- PTDC/FIS-NUC/0640/2014
  - "Portuguese Participation in the SNO+ Neutrino Physics Experiment"
- ESA: 1-7560/13/NL/HB
  - "RADEM proto-flight model"
- ESA/4000115004/15/NL/RA/ZK
  - "Flight Data Analysis of TDP8 Radiation Experiments On-board AlphaSat"
- PTDC/FIS-PAR/28567/2017
  - "Participation in dark matter experiments LZ"
- PTDC/FIS-PAR/29147/2017
  - "BigDataHEP: Understanding Big Data in High Energy Physics: finding a needle in many haystacks"
- MELOA EC grant 776825
  - "MELOA: Multi-purpose/Multi-sensor Extra Light Oceanography Apparatus"

New projects accepted during 2018

- POCI-01-0145-FEDER-007679
  - "CICECO-INSTITUTO DE MATERIAIS DE AVEIRO"
- PTDC/AGR-TEC/1191/2014
  - "DEEPBIOREFINERY"
- H2020-EU.3.2.6 (668970)
  - "PROcesses for Value added fibres by Innovative Deep Eutectic Solvents"
- PIAAC-AMAL
  - "Elaboração do Plano Intermunicipal de Adaptação às Alterações Climáticas da AMAL"

- LISBOA-01-0145-FEDER-030895
  - "INTERGEN: Inovação de GWAS em cancro da mama através da integração de genómica funcional "
- PTDC/EEI-SII/4698/2014
  - "Human-aware service robots for domestic environments"
- CoastNet
  - "Portuguese Coastal Monitoring Network"
- BINGO EC Grant 641739
  - "BINGO A better furutre under CLIMATE CHANGE"
- EOSC-hub EC grant 777536
  - "EOSC-hub"
- DEEP-HybridDataCloud - EC Grant 777435
  - "DEEP-Hybrid-DataCloud"
- PTDC/FIS-PAR/29158/2017
  - "LATTES: an innovative detector for very high energy gamma ray astrophysics in the southern hemisphere"