
Page 1: Please provide the information requested below....

Q1 What is your organisation's/project's name?

CEA

Q2 Your organisation's/project's website

www.cea.fr , www-hpc.cea.fr

Q3 Are you?

A research organisation

Q4 Your name

Jacques-Charles Lafoucrière

Q7 Please summarise who you are and what you do

CEA is a French Research and Technology Organisation, with more than 16 000 staff members, focusing on low-carbon energies, defense and global security, information technologies and health technologies, as well as fundamental research. CEA is a major player all along the advanced computing and HPC value chain, from technologies to usages.

*Computing technologies: CEA Tech , CEA LETI, CEA LIST divisions are active in the development of silicon technology, architecture of processors, system integration, cyberphysical systems, artificial intelligence hardware and software; CEA/DAM, CEA/DRF, CEA/DEN divisions are active in HPC system integration, software environments, co-design of supercomputers, programming tools and algorithms for supercomputing – including parallel file systems and massive storage, numerical algorithms, meshing and visualisation.

*Supercomputing infrastructures: CEA operates world-class computing resources and services for research (TGCC), industry (CCRT), defence (TERA), which are all three petascale facilities, and participates in R&D in HPC and in co-design of supercomputers with leading technology providers.

*Supercomputing applications: CEA divisions make intensive usage of HPC in a wide diversity of areas corresponding to its aforementioned missions. CEA has co-funded Maison de la Simulation with CNRS, INRIA and two Paris region universities, a joint research lab in numerical simulation and HPC.

CEA has established many strong international cooperations in advanced computing; the most salient are with Intel (exascale; core technologies), Bull-ATOS (co-design of supercomputers), Japan/RIKEN, US/DOE, Germany/Helmholtz.

Q8 In what way would like to contribute to an EsD project?

As a technology provider,

An an application provider ,

As a HPC user

Q9 What would be your contribution to an EsD project?

Contributions to specifications of EsDs:

- Experience of requirements for large HPC systems; co-design of supercomputers, working with technology suppliers and vendors.

Hosting an EsD:

- Availability of HPC infrastructures with the capability to host innovative systems and perform ad hoc adjustments.
- Hosting innovative HPC systems in pre-production and making them available to users.
- Experience of operation of production multi-petascale HPC systems.

Other possible contributions:

- Software stack co-development and integration.
- Benchmarking via high-end applications and miniapps.
- Contributions to the development and assessment of core technologies suitable for HPC systems (incl. processors).

Q10 What partners are you looking for?

- Technology suppliers incl. SMEs in the area of software
 - Vendor/integrator.
 - Industrial applications owners
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Q11 Please include links to any additional material.

Chapter 4: TERA 100

in: Contemporary High Performance Computing: From Petascale toward Exascale

Jeffrey S. Vetter Ed. - April 23, 2013

ISBN 9781466568358 - CAT# KE21205

Series: Chapman & Hall/CRC Computational Science

(an example of successful co-design)

[https://books.google.fr/books?](https://books.google.fr/books?id=k1vSBQAAQBAJ&pg=PA45&lpg=PA45&dq=tera+100+vetter&source=bl&ots=P6FanZsbiV&sig=kY8DXiArWSTpZ4MO-PgYFQEpRxw&hl=fr&sa=X&ved=0ahUKEwj48fP13NnWAhUCL8AKHfCoAvkQ6AEIOjAD#v=onepage&q=tera%20100%20vetter&f=false)

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[e](https://books.google.fr/books?id=k1vSBQAAQBAJ&pg=PA45&lpg=PA45&dq=tera+100+vetter&source=bl&ots=P6FanZsbiV&sig=kY8DXiArWSTpZ4MO-PgYFQEpRxw&hl=fr&sa=X&ved=0ahUKEwj48fP13NnWAhUCL8AKHfCoAvkQ6AEIOjAD#v=onepage&q=tera%20100%20vetter&f=false)

Q12 Other comments/ideas

Respondent skipped this question
