



Press release

Leipzig, June 18, 2013

University of Reims to deploy France's most powerful GPU-accelerated supercomputer

The University of Reims Champagne-Ardenne today announced plans to deploy a new BULL bullx high performance computing (HPC) cluster at its ROMEO HPC Center, powered by NVIDIA® Tesla® K20X GPU accelerators.

Expected to be the most powerful GPU-accelerated cluster in France, and one of the most important Kepler installations in Europe, the “*Romeo*” system will be installed this summer. It will be available for both industrial and academic researchers in the region, along with an entire ecosystem of services, including secured storage, software and support, as well as an in-depth expertise in different engineering fields: HPC, applied mathematics, physics, biophysics and chemistry.

Ten years after the creation of the ROMEO HPC Center, and just one year after the University of Reims Champagne-Ardenne was named the first NVIDIA CUDA® Research Center in France, the ROMEO HPC Center will once again provide an exceptional computing system to its users. It will be utilized to drive research in three key application domains: mathematics and computer science, physics and engineering sciences, and multiscale molecular modeling.

Romeo was funded for a total cost of 2.4 M€ by the Regional Council of Champagne-Ardenne, Reims Metropolis, European FEDER funds, and the French government's “Investment for future” program. Powered by 260 NVIDIA Tesla K20X GPU accelerators housed in 130 bullx R421 E3 servers, the system is expected to deliver 230 Tflops of performance based on the Linpack benchmark, and will feature a free-cooling system based on Bull Cool Cabinet Door.

Since 2011, the ROMEO HPC Center has been involved in the French Computing strategy as a special tier-2 to tier-1 provisioning center, since it is a member of the Equip@meso consortium founded by the French government (Equipment for Excellence, Investment for future) and coordinated by GENCI (Organization for French High Performance Computing in public research).

The scope of the Equip@meso project is to develop 10 medium sized HPC centers, both in terms of computing power and capacity aiming to aid SMEs in their projects. Furthermore, University of Reims is also a candidate for the European Technology platform for high performance computing (ETC4HPC).

Two main objectives guide the participation in both Equip@meso and ETC4HPC projects, and are addressed by either the joint scientific and technical collaboration with NVIDIA and BULL, or the choice of the Tesla K20X accelerator technology:

- Increase the HPC hardware and software capacity of University of Reims that benefits to its users and partners in France and Europe. Develop an HPC educational program oriented towards accelerator technologies allowing to increase its awareness among students and SME partners.
- Develop and relay in the region Champagne-Ardenne the French initiative *HPC PME* (HPC for SME in English) in partnership with GENCI and INRIA. The main goal of this initiative is to help SME access HPC solutions in order to enhance their competitiveness. ROMEO is the GPU-accelerated technical platform that will be available for SME engaged in this initiative.

As a first step towards these objectives, the new cluster will be made freely available for European researchers and companies who want to experiment on the *Romeo* cluster.

The ROMEO HPC Center – Champagne Ardenne is an HPC platform hosted by the University of Reims Champagne-Ardenne and supported by the Champagne-Ardenne region since 2002.

Its mission is to deliver high performance computing resources for both industrial and academic researchers in the region, along with an entire ecosystem of services like secured storage space, specific software and support in its usage, as well as an in-depth expertise in different engineering fields: HPC, applied mathematics, physics, biophysics and chemistry.

All these resources allow industrial and academic research teams to reduce their investments in equipment and personnel, while taking advantage of the latest technology and a support team of dedicated engineers. This represents a strong advantage in the competitive environment of today, where modeling and simulation can significantly cut costs and development times for new research projects.

Since 2007, researchers have been interested in GPU computing. This new domain adds an important computation power on our servers and allows the tackling of new industrial challenges with an everyday impact to areas such as public transportation optimization or the development of new therapeutic approaches.

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University of Reims Champagne-Ardenne (URCA) is a multidisciplinary university which develops innovative, fundamental and applied research within more than 30 laboratories. With 1557 teachers and teachers-researchers—including 126 hospital practitioners—as well as a technical and administrative staff of 1038, URCA provides more than 22 000 students from undergraduate to doctorate graduation in the whole region Champagne-Ardenne: Reims (main site), Troyes, Charleville-Mézières, Châlons en Champagne and Chaumont.

The university largely contributes to the development of Champagne-Ardenne through its partnerships with local and national companies and the regional authorities.

URCA aims to appeal to international students and has consequently introduced the construction of an interregional and international cluster (PRES) which will include the main institutions of higher education of Champagne-Ardenne and Picardie, and Walloon universities.

Situated in the heart of the Ile-de-France –at 30 minutes from Paris Center or Roissy Airport by TGV-, the Rhineland, Northern Europe and Italy, URCA occupies a geostrategic position which is favorable to European and international exchanges.

Contacts :

- ROMEO HPC Center : <http://romeo.univ-reims.fr>
 - Arnaud RENARD : +33 3.26.91.85.91 - arnaud.renard@univ-reims.fr
- URCA : <http://www.univ-reims.fr>
 - Marie-Odette VICTOR : +33 3.26.91.39.41 - marie-odette.victor@univ-reims.fr