

GALICIA TO INSTALL EUROPE'S HIGHEST CAPACITY SHARED MEMORY SUPERCOMPUTER

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CESGA, HP and Intel collaborate to install "Finis Terrae", a high performance computing (HPC) scientific solution, in order to support research projects that are currently hard to manage in Spain.

At an event attended by Galician and Spanish national authorities in the Supercomputing Center of Galicia (Centro de Supercomputación de Galicia - CESGA), CESGA, HP and Intel announced today their collaboration with Xunta de Galicia and the Higher Council of Scientific Research (CSIC) to install the largest memory-shared supercomputer in Europe. The new supercomputer, "Finis Terrae", will be based in the supercomputing center located in Santiago de Compostela. With it, Spanish and particularly Galician researchers will be able to perform more complex research projects than previously possible with the new supercomputer, providing enough computing and storage capacity to respond to the most ambitious scientific challenges.

"Finis Terrae" will be a worldwide reference point for scientific and technical computing and will benefit e-Science initiatives both in Spain and all across Europe, through existing collaborations with international research groups. Finis Terrae will also reduce the execution time of current applications and overcome performance challenges currently faced in Spain when managing HPC projects.

"The existence of important groups of researchers among CESGA and CSIC users in Galicia make this community an ideal option for the implementation of this supercomputer," explains Javier García Tobío, Director of CESGA. "Thanks to "Finis Terrae", CESGA is becoming a reference center at an European and worldwide level, supplying high level computing technology with which the international scientific community will be able to conduct important research projects".

Public and private R&D strongly committed themselves to Spanish research in Santiago.-

The decision to set up a reference center responds directly to advancements in R&D by research groups from universities in Galicia and the CSIC in the area of high performance computing. The three partners in this collaboration have a common interest in developing projects in the following areas: design, development and optimization of scientific applications and specific software for shared memory systems (SMP); design and enhancement of new computing architectures as well as adaptation and optimization of free software-based scientific applications into shared memory. Also, the reference center will participate in conducting benchmarks of applications and beta tests of new developments.

"Finis Terrae", one of the world's largest shared memory supercomputers will be installed by mid 2007.-

As a direct result of this collaboration agreement, the high performance supercomputer "Finis Terrae" will be installed at CESGA, with more than 2,500 leading edge Intel® Itanium® 2 processor cores. This exceptional infrastructure, dedicated to R&D, has a shared memory architecture of more than 19,000 GB (Gigabytes) and a high performance Infiniband network. The supercomputer will work with free software-based codes (Linux, Lustre, Globus) and will have a hierarchical disk storage of 390,000 GB and 1 Petabyte (a million GB) automated tape library.

"Finis Terrae" will be made up of 142 nodes of 16 Itanium® 2 processor cores with 128 GB of memory each. It will also include two nodes of 128 processor cores each (one with 384 GB of memory and the other with 1,024 GB). The Intel® Itanium® 2 processors that will be installed will be from the latest generation of the Itanium 2 family, designed to satisfy scientists' and researchers' needs, thanks to an excellent performance in floating point operations, powerful memory bandwidth and high volume data management. The supercomputer will occupy 140 square meters and weigh 33.500 Kg.

For Jesús Maximoff, General Manager of Intel Corporation Iberia, "Finis Terrae" is boosting supercomputing capacities in Spain as an essential tool for innovation, and it represents a leap ahead for Intel in the research activities carried out in the country. We are proud of the fact that Galicia, through the CESGA researchers, has opened the doors for us to be integrated into a worldwide network of research centers that are present in more than 20 countries. It will also become the biggest infrastructure for numerical simulation available in Spain to researchers from CSIC.

A €60 million project

The value of the equipment exceeds €60 million, and each of the partners in the collaboration agreement will supply part of this cost. The contributions from CESGA will attend infrastructure, operation and management, first level maintenance and coordination of R&D projects. Intel collaborates in the project with processors, software tools, R&D projects, training, and a reference center. Finally, HP will provide the supercomputer and its maintenance, software tools, training, R&D projects and a reference center. According to Salustiano Mato, President of CESGA and general manager of R&D; "The creation of the collaboration agreement announced today provides possibilities and opportunities that will very positively influence the incorporation of distinctive and competitive elements to our companies and institutions in the framework of a sustainable development that benefits social welfare. Thus, we are not talking of just the purchase of

a supercomputer, but of a long-term collaboration in which the partners work together to complete research and training activities which promote the creation of projects that benefit society as a whole

New shared memory supercomputer to benefit research.-

"Finis Terrae" will allow scientific research that has been impossible to achieve with current resources. Santiago Cortés, President of HP Española asserts that "for HP, this project, which we have been working on for more than a year, represents our company's continuity with the R&D impulse in our country, a task which requires daily work, and to which we have dedicated a significant part of our profits. We are fully convinced that Spain needs to become an important reference for knowledge, innovation and science. Furthermore, "Finis Terrae" is bringing us closer to Galicia and its people, as well as CSIC, the country's research unit, which is very valuable to all of us". This collaboration represents an important step towards facing research challenges and converting Spain, and specially Galicia, into an international model for HPC services for scientific and technical calculation, applied to both public and private sectors. Today, this supercomputer would be among the first 20 in the famous "Top 500" supercomputers ranking list. Moreover, Spain acquires a supercomputer that will increase the level of research in the country, extending this way its presence in the field of high performance computing.

The machine will provide computing and storage power and will answer the needs of the most ambitious scientific projects in important areas such as engineering, physics, chemistry, biomedicine, health science, astrophysics, meteorology and climatology.

The following people took part in the act of presentation of the agreement: Secretary of State for Education and Research from the Ministry of Education and Science, Salvador Ordóñez; Innovation and Industry Councillor, Fernando Blanco; President of CSIC, Carlos Martínez; President of CESGA and General Manager of R&D, Salustiano Mato; President of Hewlett-Packard Española, Santiago Cortés; General Manager of INTEL Corporation Iberia, Jesús Maximoff and Director of CESGA, Javier García Tobío.

About CESGA:

The Supercomputing Center of Galicia (CESGA) is a center of excellence for research and HPC services. Since 1993, it has been the science computing, high performance communications and advanced services center of the scientific community of Galicia and Consejo Superior de Investigaciones Científicas (CSIC). CESGA is an institution formed by Xunta de Galicia and CSIC whose mission is to promote, spread and render services of intensive computing and communications to research communities in Galicia and from CSIC, as well as to those companies or institutions that request it. In this way it contributes to technological innovation and perfection, and the improvement of competitiveness among companies. For more information, visit: www.cesga.es

About HP:

HP is a technology solutions provider to consumers, businesses and institutions all over the world. The company's offerings span IT infrastructure, global services, business and home computing, and imaging and printing. For the four fiscal quarters which ended Jan. 31, 2006, HP revenue totaled \$87.9 billion. More information about HP (NYSE, Nasdaq: HPQ) is available at www.hp.com.

About Intel:

Intel, the world leader in silicon innovation, develops technologies, products and initiatives to continually improve people's work and living conditions. Additional information about Intel is available at www.intel.es or www.intel.es/pressroom

Contacts

CESGA: Fernando Bouzas – Tel: +34 981 569810 – fbouzas@cesga.es

HP: Luis Sanjuan – Tel: +34 91 634 8908 - luis.sanjuan@hp.com

Intel: Beatriz Pérez – Tel: +34 91 432 90 90 – beatriz.perez@intel.com