CERN openlab boosts the performance of LHC computing

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The LHC Grid Fest, held last Friday at CERN in Geneva, Switzerland, and at several sites around the world, commemorated the readiness of the Worldwide LHC Computing Grid (WLCG). At full capacity, the Large Hadron Collider (LHC), the world's largest particle accelerator, is expected to produce more than 15 million Gigabytes of data each year. Hundreds of millions of subatomic particles will collide each second, presenting a massive data challenge. The mission of the WLCG is to build and maintain the data storage and analysis infrastructure for this immense flow of data, thus helping physicists open new frontiers in our understanding of the Universe. This ambitious project connects and combines the IT power of more than 140 computer centres in 33 countries

New and advanced systems were needed to rise to this unprecedented computing challenge. This required the joint forces of science and industry to expand technological boundaries. CERN openlab provides a unique framework for this collaboration, enabling partnership with Hewlett-Packard, Oracle and Intel, and EDS as a contributor.

"HP overall has a strong, long-standing association with CERN, based on invention, innovation projects, and R&D, and we were delighted when we extended that partnership last year to include the ProCurve networking business in openlab projects," said Bill Johnson, head of R&D at HP ProCurve Networking. "HP anticipates ongoing collaboration with CERN, and we look forward to participating in, and seeing the results from the IT infrastructure that supports the LHC

project." On 6 October 2007 ALICE, one the four LHC experiments at CERN, presented its Industrial Award to HP for their instrumental role in enabling ALICE physicists to collect and process experimental data on the Grid.

Today, as part of the morning ceremony, Intel and Oracle received the prestigious LHC Computing Award in recognition of their outstanding contribution to LHC computing. CERN Director General, Robert Aymar presented the awards to Stephen Pawlowski, Intel's Senior Fellow, and to Stéphane Rousset, Senior Vice President EMEA at Oracle.

"The recently commissioned Large Hadron Collider at CERN ushers in an incredibly exciting time in the world in the search to deepen the understanding of fundamental laws of nature. The massive amount of data generated from the LHC experiments requires state of the art compute power to perform the complex analysis and to deliver meaningful results. This must be balanced with the need to provide computing solutions that operate with optimal energy efficient performance", said Stephen Pawlowski, Intel Senior Fellow. "Intel is proud to be a technology provider to CERN, delivering x86 based Xeon® microprocessors with the leading Performance-per-watt in the industry.'

"Oracle is proud to have contributed to the deployment of CERN's Worldwide LHC Computing Grid," said Monica Marinucci, Director of the EMEA Oracle in Research and Development Programme. "The project has been an innovative challenge and a rewarding journey that allowed us to integrate CERN's unique requirements into Oracle technology and actively support the adoption of the Oracle Grid in the business world. Mutual openness and trust and the drive to succeed were major ingredients of our successful partnership with CERN, which started 26 years ago. We look forward to continuing to support the operations of the LHC in realising their objectives."

EDS developed the highly successful GridMap tool to monitor Grid infrastructures and Rolf Kubli, EDS Fellow, is convinced that Grids will be of growing importance – for business, too. "I am proud EDS and CERN are jointly working on solutions that will be sought by large corporations in the near future."

Robert Aymar, CERN Director General, stated that "the CERN openlab partnership continues to have a direct and positive impact on the development of the Grid and computing services that underlie the LHC. The synergy that CERN openlab creates with leading IT companies is vital and I therefore thank all CERN openlab partners and contributors for their continued support of our joint effort and anticipate many future shared benefits of this unique collaboration."

"CERN openlab has established itself as a reference thanks to the excellent relationship and on-going commitment of all partners and contributors during the past six years. The combined knowledge and dedication of the engineers from CERN and the companies have produced remarkable results", said Wolfgang von Rüden, Head of CERN openlab and Head of CERN's IT department. "I am confident that we will be equally successful in the future, and with an additional partner, Siemens, we are continuing in the right direction."

Source: CERN