In return, the teams at CERN gather a lot of real user experience and shared this knowledge at conferences and with the Oracle product and development teams. This has guided product enhancements, and helped Oracle to find new solutions, which they can pass on to other customers.

Within the Joint Software Testing programme, where Oracle provides early versions of their software, CERN have been able to confirm compatibility of some of its most critical applications with Oracle's newest functionality. In particular, testing Oracle's storage "offload operation" system - Exadata – meant the potential benefits could be quantified for some of the most data-insertion intensive applications CERN relies on. Thanks to this testing programme, the teams have provided valuable feedback on the early versions of this new Oracle technology, which was included in the software before the product was released. Since the Oracle VM announcement last year, the teams involved in CERN openlab have been working extensively towards virtualization. A first implementation for some of CERN's non-critical databases will result in a reduction of hardware and infrastructure costs.

From 2009 onwards, with Oracle entering CERN openlab III, further developments are expected in these domains as well as studies related to the upcoming Oracle 11g release 2.

To fulfill the ambitious objectives of each CERN openlab phase, innovation and motivation have been key factors and Oracle has been very forthcoming about funding highly proficient and proactive fellows. The CERN openlab fellows provided the bridge between CERN and Oracle's own R&D division during openlab I and extended and deepened the relationship between the two organizations during the second phase. In the third phase of the programme, Oracle will continue to fund fellows and work closely with the two CERN IT groups involved in the previous phases, the Data Management Group and the Database & Engineering Services Group.

CERN openlab NEWS

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Oracle enters phase three of the CERN openlab, adding a new chapter to a long-standing and fruitful collaborative story

The collaboration between Oracle and CERN is a particularly long-standing and fruitful one. The partnership started 26 years ago and Oracle decided to join CERN openlab from its early beginnings, in 2003. Oracle is now about to enter the third phase of the programme starting in January 2009, writing a new chapter to the openlab story.

The CERN-Oracle partnership in the openlab proved to be an incubator for innovation.Examples of this are the Maximum Availability Architecture technologies (Real Application Clusters – RAC, Streams and Data Guard) which are now used in production on a worldwide scale for key elements of data production and processing for the Worldwide LHC Computing Grid (WLCG). The WLCG is a global collaboration that connects and combines the IT power of more than 140 computer centres in 33 countries ; these computer centres are structured in a tiered system, with the CERN computer centre as the tier 0 centre of the grid. Its mission is to build and maintain a data storage and analysis infrastructure for the high energy physics community that will use the Large Hadron Collider (LHC) at CERN.

Oracle Streams is the main replication technology used for relational data distribution in the framework of the LHC. Different kinds of data (vital for data processing and analysis) such as detector conditions, calibration data, alignment information and accelerator conditions are stored in Oracle RAC databases and are replicated through a distributed database infrastructure between CERN and ten of the eleven tier 1 computer centres all over the world.

Furthermore, the openlab collaboration enabled CERN to standardise and greatly improve the monitoring of the Oracle infrastructure with the Enterprise Manager 10g Grid Control product, resulting in less time spent firefighting and more time adding value for the organisation. Oracle has helped through several major software upgrades and the migration from Solaris to Linux, as well as giving advice on extending the products' capabilities.