Center for Computational Sciences, University of Tsukuba
www.ccs.tsukuba.ac.jp

JLDG: Japan Lattice Data Grid

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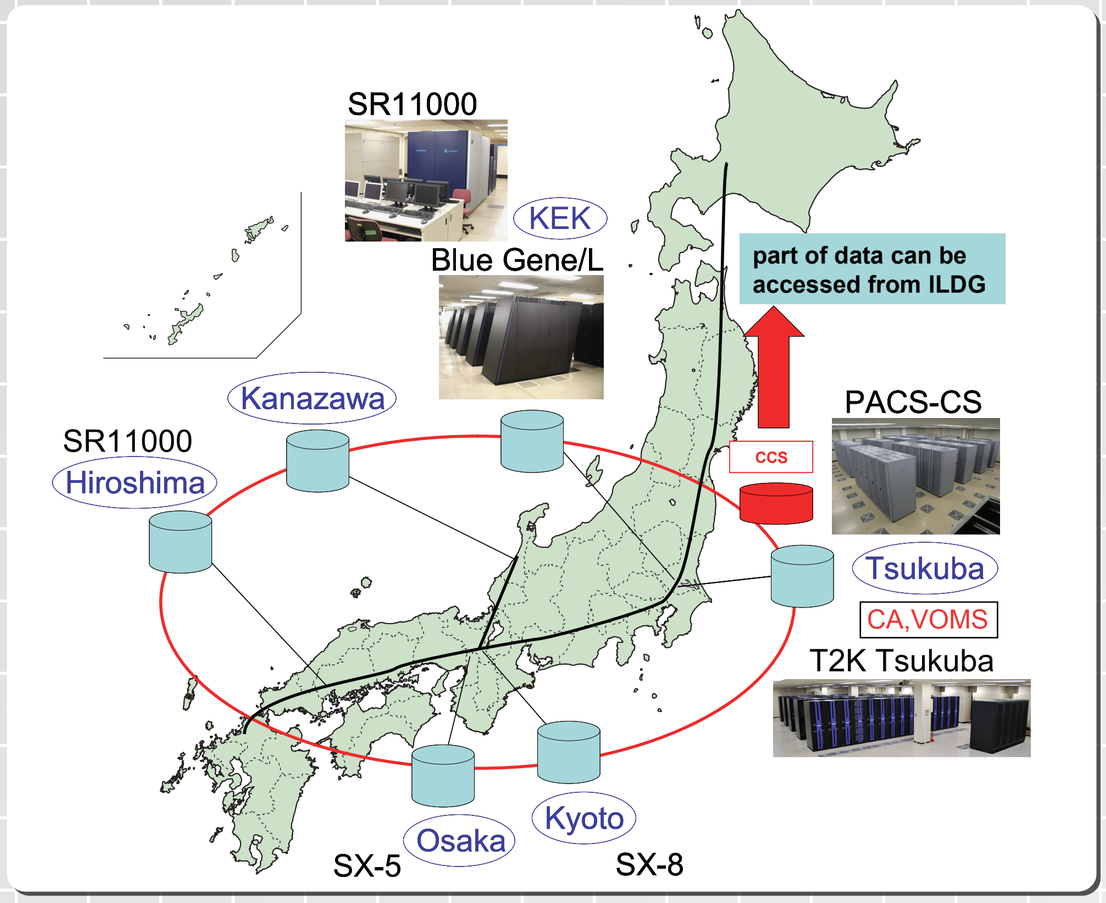
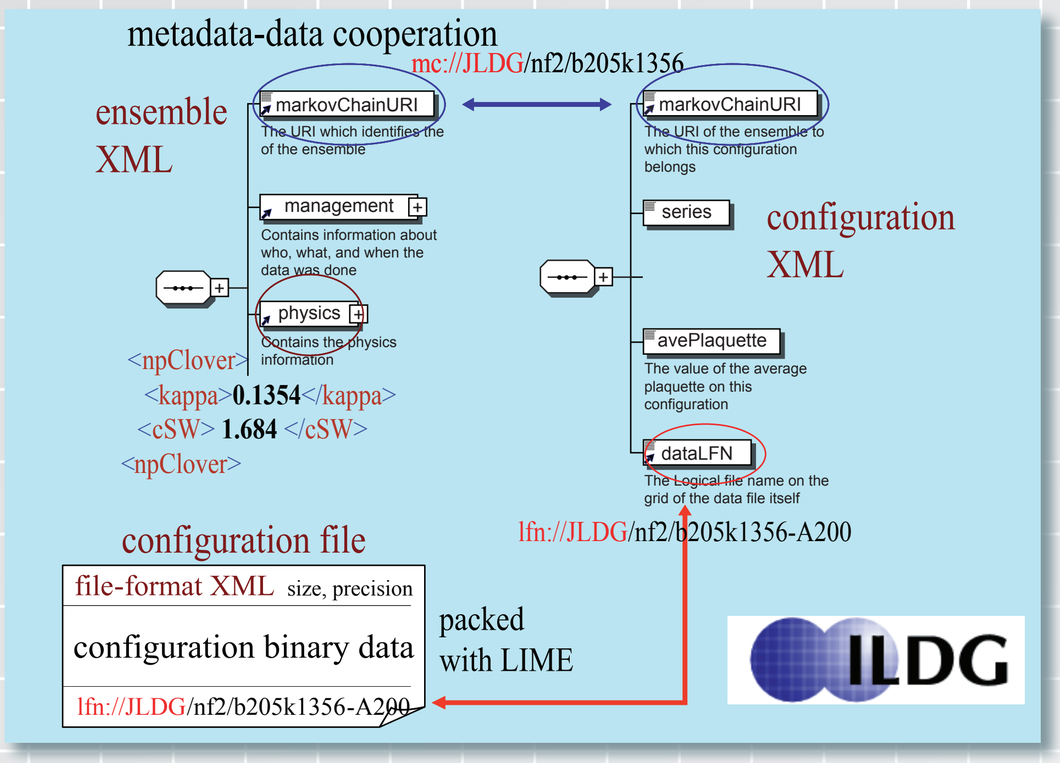
JLDG is a data-grid infrastructure for Lattice QCD (LQCD) community in Japan. Several large LQCD collaborations in Japan have been working on QCD simulations using supercomputers. Outputs of simulations called "QCD configurations" are valuable, because physicists can study various aspects of QCD using these configurations. JLDG enables the community to share configurations and other data distributed over distant sites. File sharing is realized with Gfarm Grid file system. GSI authentication is managed by VOMS. JLDG utilizes the NII SINET3 L3-VPN, HEPnet-J/sc, as a hardware infrastructure. Part of configurations can be accessed from all over the world through the ILDG interface. Full installation of the system was completed in FY2006. ***http://www.jldg.org***



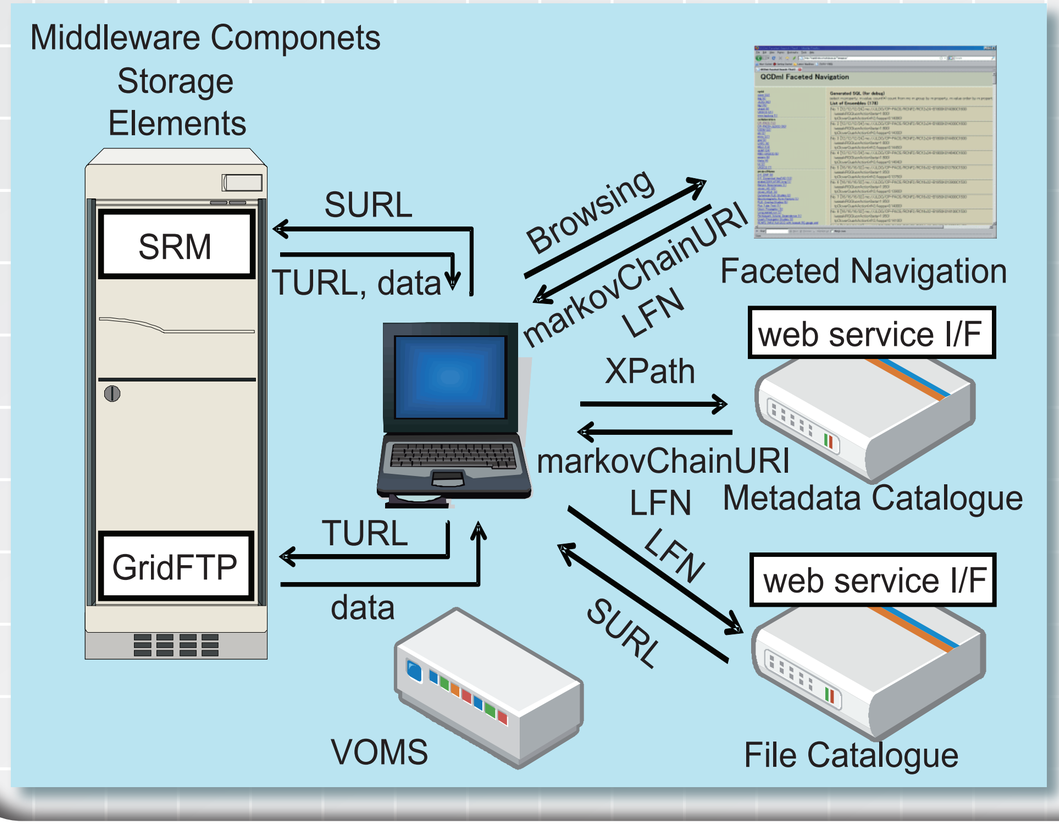
ILDG: International Lattice Data Grid



ILDG is an international project to develop a grid of datagrids for sharing lattice QCD configurations world-wide. An XML-based markup language, QCDml, describes metadata for QCD configurations and ensembles (sets of configurations with common physics parameters). Middleware interface among collaborating grids is defined with WSDL. Construction of regional grids was finalized in US, UK, Germany, Australia and Japan (JLDG works as the ILDG Japan grid). Interoperability of the regional grids has been achieved for download operations and valuable configurations have already been archived in the grid.

http://www.lqcd.org/ildg

Faceted Navigation Interface for QCDml



Faceted navigation interface for QCDml has been developed and experimentally provided by the Center for Computational Sciences (CCS) since Oct. 2008. The interface allows a user to browse 178 ensembles, collected from 7 regional grids, by choosing one or more values in 12 distinct facets, such as project name, lattice size, and miscellaneous parameters. It can be used, not only for searching particular ensembles which meet the user's demand, but also grasping the whole picture of the existing ensembles. The interface will be deployed as the replacement of LQA, a database of QCD configurations provided and maintained by CCS since Dec. 2003.

http://sigdd.kde.cs.tsukuba.ac.jp/~amagasa