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## Usage statistics and usage patterns on the NorduGrid: Analyzing the logging information collected on one of the largest production Grids of the world.

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The Nordic Grid facility (NorduGrid) came into production operation during the summer of 2002 when the Scandinavian Atlas HEP group started to use the Grid for the Atlas Data Challenges and was thus the first Grid ever contributing to an Atlas production. Since then, the Grid facility has been in continuous 24/7 operation offering an increasing number of resources to a growing set of active users coming from various scientific areas including chemistry, biology, informatics. As of today the Grid has grown into one of the largest production Grids of the world continuously running Grid jobs on the more than 30 Grid-connected sites which offer over 2000 CPUs.

This article will start with a short overview of the design and implementation of the Advanced Resource Connector (ARC), the NorduGrid middleware, which delivers reliable Grid services to the NorduGrid production facility. This will be followed by a presentation of the logging facility of NorduGrid, describing the logging service and the collected information. The main part of the talk will focus on the analysis of the collected logging information: usage statistics, usage patterns (what is a typical grid job on the NorduGrid looks like?). Use cases from different application domains will also be discussed.

#### References:

- NorduGrid live: [www.nordugrid.org](http://www.nordugrid.org) -> Grid Monitor
- Atlas Data-Challenge 1 on NorduGrid: <http://arxiv.org/abs/physics/0306013>

**Authors:** KONSTANTINOV, A. (Vilnius University, Lithuania); WAANANEN, A. (Niels Bohr Institute, Copenhagen, Denmark); KONYA, B. (LUND UNIVERSITY, NORDUGRID PROJECT); OULD-SAADA, F. (University of Oslo, Norway); HANSEN, J R. (Niels Bohr Institute, Copenhagen, Denmark); NIELSEN, J.L. (Niels Bohr Institute, Copenhagen, Denmark); PAJCHEL, K. (University of Oslo, Norway); ELLERT, M. (CERN); SMIRNOVA, O. (Lund University, Sweden); EEROLA, P. (Lund University, Sweden); EKELOF, T. (Uppsala University, Sweden); ERKARSLAN, U. (University of Oslo, Norway)

**Presenter:** SMIRNOVA, O. (Lund University, Sweden)

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