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Experience of a low-maintenance distributed data management system

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In this paper we report on the setup, deployment and operation of a low-maintenance, policy-driven distributed data management system for scientific data based on the integrated Rule Oriented Data System (iRODS). The system is located at KEK, Tsukuba, Japan with a satellite system at QMUL, London, UK. The system has been running stably in production for more than two years with minimal management overhead. We also report on the experience gained and lessons learnt during the setup and operation.
The management tools that were developed to support the production system are also described. In addition we describe a simple XOR-based approach to file replication that reduces the amount of storage space consumed. In situations of large data volumes this approach can be of great benefit.

Authors: Dr HASAN, Adil (University of Liverpool, UK); Prof. DI LODOVICO, Francesca (Queen Mary College, University of London, UK); Mr TAKASE, Wataru (High Energy Accelerator Research Organization (KEK), Japan); Ms MATSUMOTO, Yoshimi (High Energy Accelerator Research Organization (KEK), Japan)

Co-authors: Prof. SASAKI, Takashi (High Energy Accelerator Research Organization (KEK)); Prof. WATASE, Yoshiyuki (High Energy Accelerator Research Organization (KEK))

Presenter: Mr TAKASE, Wataru (High Energy Accelerator Research Organization (KEK), Japan)

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