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## Grid2003 Monitoring, Metrics, and Grid Cataloging System

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Grid computing involves the close coordination of many different sites which offer distinct computational and storage resources to the Grid user community. The resources at each site need to be monitored continuously. Static and dynamic site information need to be presented to the user community in a simple and efficient manner.

This paper will present both the design and implementation of the Grid3 monitoring infrastructure and the design details and the functionalities of a new application called the Gridcat.

The Grid3 monitoring architecture follows a user-oriented design that specifies standard metrics and uses different underlying monitoring tools to collect them and build a very diversified framework. In the monitoring framework we integrated existing tools, extended their functionality and developed original new tools. The main tools used include ACDC Job Monitoring from University of Buffalo, Ganglia, a preliminary version of Gridcat, Globus MDS, the University of Chicago Grid telemetry MDViewer, and US CMS MonALISA. From the collected data is extracted information of interest for the VOs participating in the Grid, for example resources provided and used by all VOs and jobs submitted by each VO.

The Gridcat shows site status using a web interface that is simple and powerful enough to determine the site's readiness to accept grid applications by collecting and storing dynamic site information to a database. The status information displayed by the prototype Gridcat was used extensively by the Grid2003 project as a coordination point for the grid operations center.

**Primary authors:** ZAHN, A. (University of Chicago); KIM, B K. (UNIVERSITY OF FLORIDA); PRESCOTT, C. (UNIVERSITY OF FLORIDA); FISK, I. (FERMI NATIONAL LABORATORY); LEGRAND, I. (CERN); HICKS, J. (Indiana University); RODRIGUEZ, J. (UNIVERSITY OF FLORIDA); WEIGAND, J. (FERMI NATIONAL LABORATORY); GRUNDHOEFER, L. (Indiana University); GREEN, M. (University of Buffalo); MAMBELLI, M. (University of Chicago); AVERY, P. (UNIVERSITY OF FLORIDA); GARDNER, R. (University of Chicago); QUICK, R. (Indiana University)

**Presenters:** KIM, B K. (UNIVERSITY OF FLORIDA); MAMBELLI, M. (University of Chicago)

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