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Evolution of grid-wide access to database resident information in ATLAS using Frontier

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The ATLAS experiment deployed Frontier technology world-wide during the the initial year of LHC collision data taking to enable user analysis jobs running on the World-wide LHC Computing Grid to access database resident data. Since that time, the deployment model has evolved to optimize resources, improve performance, and streamline maintenance of Frontier and related infrastructure.
In this presentation we focus on the specific changes in the deployment and improvements undertaken such as the optimization of cache and launchpad location, the use of RPMs for more uniform deployment of underlying Frontier related components, improvements in monitoring, optimization of fail-over, and an increasing use of a centrally managed database containing site specific information (for configuration of services and monitoring).
In addition, analysis of Frontier logs has allowed us a deeper understanding of problematic queries and understanding of use cases. Use of the system has grown beyond just user analysis and subsystem specific tasks such as calibration and alignment, extending into production processing areas such as initial reconstruction and trigger reprocessing. With a more robust and tuned system, we are better equiped to satisfy the still growing number of diverse clients and the demands of increasingly sofisticated processing and analysis.

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