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EI3 –The ATLAS EventIndex for LHC Run 3

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The ATLAS Event Index provides since 2015 a good and reliable service for the initial use cases (mainly event picking) and several additional ones, such as production consistency checks, duplicate event detection and measurements of the overlaps of trigger chains and derivation datasets. LHC Run 3 will see increased data-taking and simulation production rates, with which the current infrastructure would still cope but may be stretched to its limits by the end of Run 3. This talk describes a new implementation of the front and back-end services that will be able to provide at least the same functionality as the current one for increased data ingestion and search rates and with increasing volumes of stored data. It is based on a set of HBase tables, with schemas derived from the current Oracle implementation, coupled to Apache Phoenix for data access; in this way we will add to the advantages of a BigData based storage system the possibility of SQL as well as NoSQL data access, allowing us to re-use most of the existing code for metadata integration.

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