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EVIO - A Lightweight Object-Oriented Event I/O Package

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EVIO is a lightweight event I/O package consisting of an object-oriented layer on top of a pre-existing, highly efficient, C-based event I/O package. The latter, part of the JLab CODA package, has been in use in JLab high-speed DAQ systems for many years, but other underlying disk I/O packages could be substituted. The event format on disk, a packed tree-like hierarchy of banks, maps directly to XML, so notions such as stream and DOM parsing directly apply. The EVIO package transparently maps the packed binary representation on disk to/from an object hierarchy or DOM tree in memory. The in-memory tree can then be queried or modified using STL-like algorithms, function objects, etc. Utility programs can transform between binary and real XML (ASCII) format. EVIO will be used by the next generation of JLab online and offline software systems.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

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