

Report on Status of MTCA.4 Standards Extensions for Physics

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The two PICMG (PCI Industrial Computer Manufacturers Group) working groups have been successful in 2015 at completing comprehensive drafts for new hardware extensions based on the auxiliary Rear Transition Module Backplane and supporting modules, and near-completion of four Software Guidelines. The design features, status and next steps to PICMG approval will be described briefly.

Summary

The paper is presented on behalf of the PICMG Hardware and Software Technical Subcommittees (Working Groups) from Laboratories and Industry. The PICMG Hardware Working Group has documented the design extensions for a new auxiliary Rear Transition Module backplane, Rear Power Module, Rear Transition Modules and Module Covers for AMCs and RTMs. A significant section is given to RTM Classes to achieve maximum interoperability of the AMC-RTM interface. The document required very detailed design documentation of mechanical and electrical standards by the lab-industry teams. The hardware final draft is in process of submission to the PICMG management and membership for approval. The Software Working Group has developed four Software Guidelines which are in final draft form nearing submission also. These comprise a Standard Process Model, Standard Device Model, Standard Hot-Plug Procedure and Standard Applications Program Interface model. Only the Process Model lacks an interface section while the others are in final editing for submission. The team is also looking to establish a repository for sharing reference designs and use cases with the user community. When all Statements of Work are completed the working groups disband but xTCA for Physics will maintain a Coordinating Committee of lab PICMG members for maintenance and ability to form new working groups for future needs.

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