

Australian Synchrotron's motion architecture EtherCat extension

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Australian Synchrotron has a standardised motion system architecture based on pmac motion controllers and epics pmac support software stack, which is developed based on dls pmac driver.

To address current and future expansion requirements, we have drawn a concept to extend our existing platform to connect Motor Drivers, Encoders and IO terminals to the pmac controllers using CAN Over EtherCat and specifically using DS402 and DS406 profiles.

This architecture enables AS to use a broad variety of low-level motion devices using the existing software stack, with all of the developed features including special equipment protection functions, coordinated motion capabilities and templating toolsets.

Also, this architecture provides the necessary scalability without significant new developments nor change/configuration management.

Primary author(s) : Mr AFSHAR, Nader

Presenter(s) : Mr AFSHAR, Nader

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