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Parallel control systems: an efficient and low risk approach for a migration from Vsystem to EPICS

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For over 30 years, the AGOR cyclotron control system at UMCG PARTREC has relied on Vsystem. However, the limitations of Vsystem's aging technology stack hinder efforts to improve reliability. To address this, we have decided to migrate to EPICS. Given the limited IT resources at PARTREC, a cost-effective migration strategy is essential. Additionally, planned and unplanned accelerator downtime must be kept to an absolute minimum. Instead of the conventional approach of a gradual transition, we have opted for a different method: running both Vsystem and EPICS concurrently as fully configured control systems. During migration, all controllers will communicate with both systems simultaneously, ensuring continuity and minimizing downtime. This paper outlines the feasibility of this approach, its cost-effectiveness, and the proofs of concept conducted to validate its implementation.

Footnotes

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