



Virtual commissioning of holonic manufacturing systems

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Short presentation:

Virtual commissioning, also referred as Emulation for Logic Validation, is a powerful tool for designing and evaluating offline the performance of classical industrial systems. In parallel, the evolution towards next generation industrial control systems encounters many issues regarding the performance evaluation of the control software. Indeed, the emerging behaviour of the agents/holons composing the architecture makes it difficult to formally estimate their reaction in complex scenarios. Furthermore, the growing importance of IA based algorithms in the control loop could bring even more difficulty in this evaluation.

Therefore, the virtual commissioning phase is therefore becoming an essential step in the implementation process, regularly expressed as the simulation ability of the cyber-physical production systems. However, there are obstacles which make difficult the design of these emulation models, among which:

- Plug-and-play communication interface between emulation and control;
- Integration of scenarios to fit literature benchmark;
- Time synchronization;
- Difficulty in the access to the physical system...

This session intends to foster researchers and practitioners to discuss their theoretical and practical works in the subject in order to share designers experience, emphasize best practices and identify major trends towards a generic design methodology for virtual commissioning models.

Keywords: virtual commissioning, emulation, performance evaluation, benchmarking, simulation.

Important dates:

- Full paper submission: June 17
- Notification of acceptance: July 15
- Final, camera-ready paper submission: September 10
- Early registration and fee payment: September 15