

Integration of Maestro Software Client and Server Components for Hardware Control of the Synchronization System Segment for the Booster Injector at LHEP JINR Using Tango Controls and WebSocket

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This paper discusses the integration of the client and server components of Maestro Software, designed for controlling the equipment of the Synchronization System Segment for the Booster Injector at the LHEP, JINR. The primary focus is on the application of the Tango Controls technology for building a distributed control system and the WebSocket protocol to ensure efficient real-time communication between the user interface and the server. The architectural solutions implemented during the integration process are presented, and the details of customization existing software modules to meet the requirements of a distributed control infrastructure are described. A generalized configurable Tango device, DeviceProxy, has been developed, its operation established in conjunction with the WebSocketDS and ModbusDS modules.

Author: BUKHARIN, Alexey

Co-authors: NOSKOV, Artyom; ZHABIN, Ilya; SHIRIKOV, Ilya (JINR); ELKIN, Vladimir (JINR); КОЗЛОВСКИЙ, Алексей (JINR LHEP); СЕДЫХ, Георгий (jinr); ИВЛИЕВ, Денис

Presenter: КОЗЛОВСКИЙ, Алексей (JINR LHEP)

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