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Configuration and deployment of production level services for CODAC Operation at ITER

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ITER Instrumentation and Control System comprise all hardware and software required to operate ITER. CODAC (Control, Data Acquisition and Communication) provides centralized services to Plant Systems during installation, testing, integration and operation. Such CODAC Services include the Operator Interface BOY, Alarm System BEAST, Archiving System BEAUTY and Electronic Logbook OLOG.

For production level CODAC services deployment and configuration, the objectives are:

 Strict configuration control <ul> minimal human intervention in deployments capability for disaster recovery capability to inspect configuration version in production capability for reinstallation of a known/verified configuration Support incremental changes during integration and test Strict deployment procedure and reduced numbers of actors involved

ITER IC applications, developed world-wide, are designed to be structured and built in a similar manner and packaged in a compatible way to allow smooth integration. This design makes use of the following technologies:

 Red Hat Enterprise Linux as base platform Apache Maven for project structure, build system (and automation of IC tasks in the development workflow) RPM as packaging tool and YUM as manager of RPM software packages CODAC continuous integration infrastructure based on Jenkins connected to RH Satellite Channels for RPM distribution

The scope of this presentation will cover the following topics:

 CODAC servers and services for operation Structure of software units for Plant System IC Plant System IC distribution versus CODAC Core System distribution Software dependency management through RPM dependencies Jenkins build slave role for generation of deployable artefacts from version controlled sources Deployment workflow for production level systems at ITER in pre-production and production environments: ITER Control System Model and Temporary Control Rooms.

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