

Architecture and Quality Standards for Modular Open Source Software in Power Grid Distribution Management Systems

Regulatory effects, business pressure and the transformation to smart grids foster the need for up-to-date software systems for managing and operating the grid operators' electric power grids. The complexity of these systems has grown over decades. This makes enhancements and development of new functionalities in existing systems cost intensive, vendor/system specific and often prevents meeting time to market and quality requirements. Public interfaces and open data formats allow development of enhancements and new functionality as re-usable modules by 3rd parties, thus allowing the integration of best-of-breed systems in the system landscape at grid operators. A significant reduction of system complexity is a precondition to develop such re-usable modules while meeting time to market and quality requirements in critical infrastructure. This is accomplished by defining a common architecture framework, common processes and quality standards. The presentation gives an overview over the openKONSEQUENZ consortium – an initiative started by German grid operators to overcome the current status as briefly described above – and shows core concepts of the developing architecture and quality frameworks.