

Architecture of Dispatching and Control Cloud and Its Application Prospect

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Abstract

State Grid Corporation of China (SGCC) has issued that, with overall speeding-up of UHV AC/DC interconnected large-scale power grid construction, centralized integration of large-scale renewable energy and in-depth advancement of power market reform, subsequently features of integrated power grid operation have become more and more obvious; currently existing dispatching automation systems have been built in a multi-layer structure, i.e. in national (regional), provincial and district layers, the support capabilities of whole network in comprehensive information utilization and centralized analysis and decision-making need to be further improved. In order to meet the feature of power grid integration operation, this report has oriented the demand of power grid operation and dispatching control management business, then proposes the construction of dispatching and control cloud (dCloud) based on advanced IT technologies such as cloud computing and big data technologies, to form dispatching control technical support architecture of "resource virtualization, data standardization and application servitization". This architecture can enhance capabilities of coordinated processing, information support and global resource sharing for multi-level dispatching control system, so as to fully guarantee safe and high-quality operation, and efficient work of dispatching management for the entire power grid.