
Wireless Virtual Private Network Technologies for Smart Distribution and Utilization Service (tentative)

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Abstract

The electric power wireless virtual private network epWVPN utilizes the tunnel technology and draws supports from the wireless network infrastructure and communication links provided by the telecom operators. The network has significant advantages in coverage, construction scale and operation cost. Aiming at the traditional services, such as distribution automation, measurement information collection, as well as the increasing services, such as distributed generators and electric vehicle charging points, this report focuses on the epWVPN technical architecture and deeply analyzes the spectrum resource, networking scheme, security policy, and operation mode. For the objectives of mobile interconnection, seamless coverage, safety and reliability, combining the completed pilot projects, the report proposed an overall planning and top-layer design for the network concerning its deployment model, access method, security protection, and IP address planning. Several key technologies are used to standardize the wireless communication services, ensure the safety and reliability of the virtual private network, and realize the intensive and efficient management of resource, real-time monitoring, and operation maintenance.