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“Enterprise Architecture: tool support to reach the Smart Grid ”

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Abstract

The electric power management of Comisión Federal de Electricidad (CFE) in Mexico manages its way to the Smart Grid (SG) through its Enterprise Architecture to meet the requirements of maturity model Smart Grid Maturity Model (SGMM) of Carnegie Mellon University.

Models like SGMM establish a series of requirements, which are classified into a set of domains that a company for the electricity sector must meet to determine their maturity level in each of the domains. Once the utility knows its current maturity level in each domain, decides the maturity level that it wants to get and it makes plans for transformation. The problem of applying these maturity models is that the requirements established in each domain are not integrated and the responsibility persons to implement these requirements in the utility usually see them as isolated functions or activities and not in a holistic manner which integrate all requirements as part of the strategy of the company.

The electric power management (transmission) of CFE developed its plans to transform its basic electric power grid in a Smart Grid based on its Enterprise Architecture (EA), which is composed of two major architectures: The Business Architecture (BA) and the Information Technologies Architecture (ITA). The BA describes the strategy, capabilities and business processes of the transmission management, which serve as a government for Information Technology. While the ITA describes the data, applications and technology used in business as well as their alignment that there has with business processes.

The result of building the EA for electric power management allowed understanding the current situation of its processes, systems and information technology. Besides allowing to establish what is necessary to build an EA that comprehensively fulfill the requirements of the desired smart grid maturity level by the organization.

The article describes a methodological proposal that was held in the electric power management to manage the path of transformation, holistically, that allowing it to reach a meeting three level of SGMM.