

Smart Integrator

Intelligent Integration Solution for Smart Grid

Driven by digital-age Smart Grid technologies, the utilities sector is going through a critical and complex transformation. Smart Grid – a confluence of information, communications and electrical/digital technologies – facilitates the seamless integration of business processes and systems across the entire power delivery chain. With a full-scale Smart Grid implementation, the core power infrastructure is information and communication enabled, innovatively positioned to operate with greater efficiency.

The principal advantage of Smart Grid integration is that there is exchange of information between core operational systems rather than mere exchange of data, allowing utility companies to optimize the distribution of power. Information exchange between heterogeneous sets of systems/ applications requires an intelligent integration platform based on a generic standard. With this requirement in view, Infosys has come up with just such an answer – the **Smart Integrator Solution** which can act like a Utility Nervous System.

Key Features of Smart Integrator



The Smart Integrator is a CIM-based (Common Information Modelbased) integration platform that uses powerful event-centric building blocks to generate, predict, deliver, integrate, query, and visualize information across the Master Data Management (MDM), CIS and Core Distribution Systems (SCADA/DMS, OMS, WAM, GIS).

The solution provides a comprehensive integration platform which can intelligently predict future events based on real-time event correlation and available historical data. It can support a high volume of transactions in the growing Advanced Metering Infrastructure (AMI)/ Smart Grid ecosystem. While the solution's predictive analytics feature makes the decision support systems more effective, its component-based architecture reduces time-to-market and brings cost benefits to utilities.

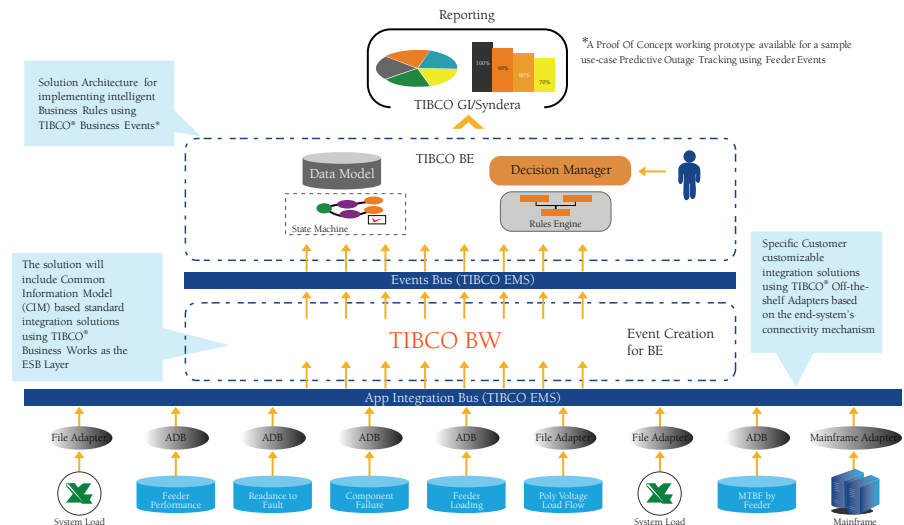
The Smart Integrator uses an enterprise interface, thus connecting via a common interface based on the CIM model. Security features like rolebased privilege grant and personalization of the contextual information summarization based on role, make it a secure solution. Predictive event correlation based on TIBCO's PEV framework captures and compares realtime events against baseline events of the past, in order to predict future events based on the learning model. Other solution features include orchestration, which summarizes data and creates information for the user in the dashboard, and the performance dashboard which allows alerts to be generated based on conditions detected in event correlation.

Smart Integrator Architecture

The solution's architecture, while simple, easy-to-implement and manage, is grand in the completeness of its vision to serve long-term needs. Given the rapid pace of change and the need to innovate and experiment, it allows for reuse – a must-have feature in this critical business area. This flexibility is achieved through component-based architecture.

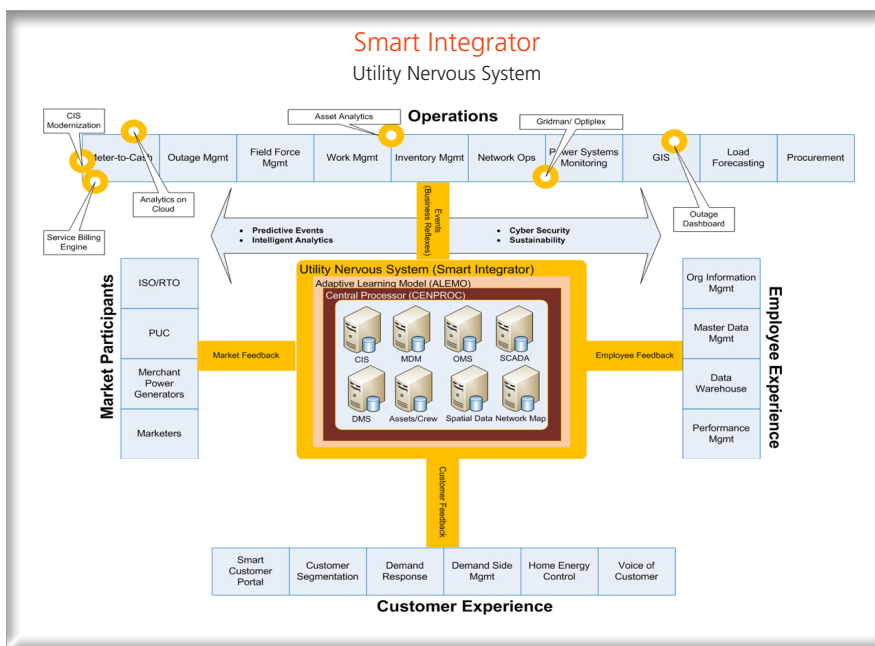
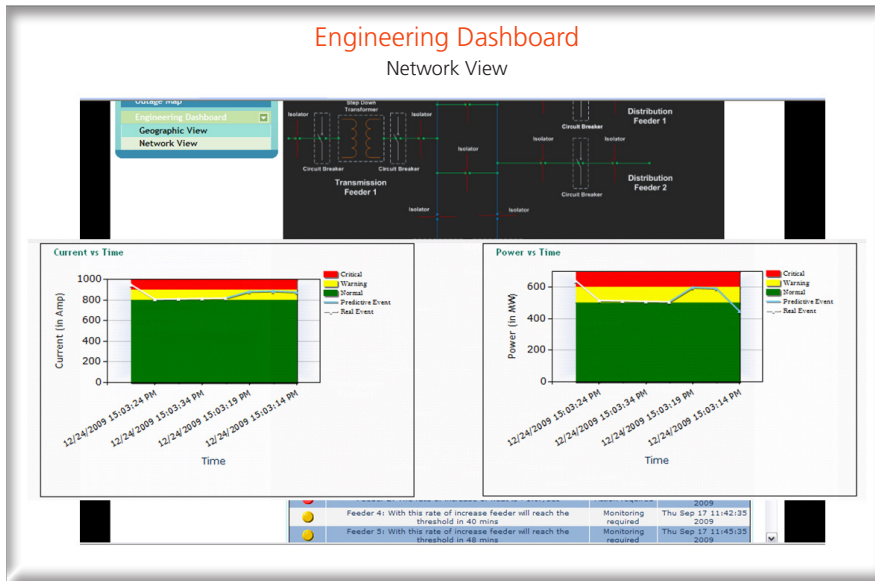
This provides an immediate and lasting value to the business while reducing the time-to-market and bringing cost benefits to utilities.

The picture shows the interactions and information flow between physical equipments, SCADA, decision support systems, CIM-based interface, and applications at the receiving end.



Smart Integrator - Sample Use Cases

The following are some of the functionalities built using Smart Integrator. The real-time events sent to SCADA from different field devices are compared against the past baseline/historical events and predictive alerts/alarms are then graphically displayed on the dashboard. The alerts can also be sent to control devices.



Benefits of Smart Integrator

Seamless integration of heterogeneous systems based on CIM

Alignment with the existing enterprise integration architecture

Effective decision making based on real-time data and learning model

Component-based architecture for need-based deployment



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For more information, contact askus@infosys.com

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