Cisco Services for Business Energy Management

A business energy management (BEM) solution optimizes energy consumption and reduces costs by providing utility companies and businesses access to energy data and intelligence to better manage power use.

The Cisco® Business Energy Management solution supports utility and business energy management initiatives because it:

- Enables a utility's ability to gather power information and manage energy loads for automated demand response
- Balances primary elements in the energy management equation: building systems, IT, energy supply, and energy demand
- Uses Cisco EnergyWise and Cisco Network Building Mediator technologies to converge important energy data
- Is delivered using professional services that model energy requirements to develop energy management architectures, coordinate BEM solution integration and deployment, and deliver support through ongoing optimization services

Smart Buildings Enabling the Smart Grid

To accelerate the smart grid's growth and value, new and existing commercial buildings can be designed to be smarter: smarter in their ability to better utilize all the energy-consuming systems in the building and to measure and manage those systems. Traditional, standalone systems that manage various appliances (heating, ventilation, air-conditioning, and lighting) are now converging onto a common IT infrastructure, with the network serving as the platform for business energy management (BEM) solutions that help utility customers to:

- Access all of the energy-consuming systems in a building
- Analyze the data from these systems to lower energy usage
- Act to continuously improve the ability to lower energy usage.

The Cisco BEM solution provides a framework that provides greater visibility into energy consumption within a building, accelerating the convergence of disparate building systems. Cisco's BEM solution optimizes a smart grid's ability to gather demand information and manage energy loads from various sources, including commercial buildings, manufacturing plants, retailers, and office buildings.

Improved Management of Energy Use in Smart Buildings

Intelligent decision making about power usage requires access to granular energy data from within buildings, enabling automated demand response, improved load predictability, and reduced data center energy consumption. Cisco's BEM solution, which includes the Cisco EnergyWise and Cisco Network Building Mediator technologies, allows utilities to better meet and predict demand, from commercial customers during peak periods, to reduce brownouts and contain costs.

The Cisco BEM solution powers energy management and efficiency by enabling, converging, and balancing for crucial elements: building systems, IT, energy supply, and energy demand. The Cisco BEM solution provides:

- Simplified, policy-based energy management, including automated demand response
- Convergence of IT and facilities to reduce the overall energy budget
- Optimization of generation load management and profitability
- Flexible integration and connectivity of building IT and utility operational systems
- Professional services that speed the deployment of BEM solutions and help ensure optimized performance

Smart Grid and the Cisco Network Building Mediator

The smart grid, with the Cisco Network Building Mediator (Mediator) solution, provides information that allows utility companies to create a new sustainable, profitable business model. This business model is driven by greater intelligence in energy use in buildings, as well as more accurate and timely information about energy demand, allowing energy supply and demand to be better matched, and thereby increasing utility profitability.

The Cisco Network Building Mediator can access, measure, and help manage energy data from the building, IT, energy supply, and energy demand systems, all of which use different protocols and are otherwise unable to communicate. It then normalizes the data and provides this information through a standards-based, open platform that can integrate with enterprise applications, cloud services, and building/IT systems.

The Cisco Mediator can take a request sent from the smart grid and act on that request. The request can be for information about energy use, or it can be a request to lower energy use for a demand response program. Primary energy management features of the Cisco Network Building Mediator include:

- Support for energy meters, including pulse meters and smart meters (Modbus or IP)
- Flexible integration of energy-generating and energy-consuming devices
- Tools for monitoring real-time energy consumption
- Tools to create automated policies to control energy consumption
- Support for automated demand response and automated fault diagnostics

Cisco Services for the Cisco Network Building Mediator

Cisco Services for BEM deliver a comprehensive set of services that enable utilities to build solutions that proactively measure, report, and optimize energy for commercial buildings. These services define energy usage requirements and develop customized energy management solutions to meet unique smart grid requirements, coordinate the deployment and integration of the solution, and then deliver support through ongoing optimization services. These services, available from Cisco and smart grid ecosystem partners, are based on industry best practices and proven methodologies for planning, building, and running energy management solutions.

Planning Services

These services help organizations prepare a BEM transformational plan through assessments, requirements development, and architecture design and include:

- **BEM strategy and architecture assessment**: Provides a building energy management infrastructure strategy and plan that includes an assessment of your business's requirements for energy management and facilities operations and provides a BEM solution architecture and roadmap.
- **BEM technical requirements development**: Develops detailed technical requirements based on your business's strategy and architecture, including requirements for building information models, facility operational systems, HVAC and lighting control, and energy management.
- **BEM technical architecture design**: Develops an architectural design for the Cisco Network Building Mediator that meets your requirements for energy management, security, multiprotocol translation, remote management, and integration of third-party applications and services.

Build Services

These services help ensure the rapid deployment of mediator solutions within building environments that meet requirements for energy management, demand response, and integration of third-party applications and services and include:

- **BEM solution design**: Develops detailed designs for Cisco Network Building Mediator, including configuration and design of reporting, scheduling, event management, notification, and remote management as well as integration of third-party energy management applications and services.
- **BEM solution deployment**: Provides implementation plans and custom deployment and integration of Cisco Network Building Mediator and third-party energy management application and services.
- **Cisco Network Building Mediator implementation**: Provides detailed implementation plans and custom deployment and integration of the Cisco Network Building Mediator solution.

Run Services

These services can help utility companies and commercial customers operate and optimize their Cisco BEM solutions to lower operating costs while maintaining the highest level of energy control and include:

- **Operations readiness and optimization assessment**: Strengthens your energy management solution deployment through strategic planning, operational assessments, design, performance tuning, and ongoing optimization support.

Summary

Better access to energy systems within buildings provides the information that can create a sustainable, cost-conserving model for the utility industry. This new model is essential to meet the new demands placed on the utility infrastructure by the integration of alternate sources of renewable energy. The Cisco Business Energy Management solution provides flexible, standards-based integration of energy technologies that deliver energy and cost efficiencies and demonstrable energy and environmental stewardship.

Cisco and Smart Grid Ecosystem Partner Expertise

Engineers from Cisco and Cisco smart grid ecosystem partners are among the energy industry's elite in providing integrated, collaborative, adaptive BEM solutions. Cisco and partners work together closely to deliver services to support your BEM solution requirements. Cisco engineers typically hold one or more Cisco or industry certifications and have planned, deployed, secured, operated, and optimized the performance of many of the largest and most successful energy networks in the world. Cisco smart grid ecosystem partners are recognized for their prominence and expertise in the energy industry.

Availability

Cisco Business Energy Management solutions are available in the United States and Canada, with limited availability in other countries.

Further Information

For more information, contact your local Cisco account representative or visit www.cisco.com/go/smartgrid.

For more information about Cisco Services for Smart Grid, please visit www.cisco.com/go/smartgridservices.

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Printed in USA C22-559269-00 09/09