



Cisco Business
Energy Management
Helping Customers
Grow Their Business
Sustainably



Business Energy Management Challenges

Infrastructure

Operation

Costs

Regulation



- Proprietary
- Aging
- Siloed



- Complexity: Multiple buildings, locations and systems
- Lack of visibility
- Lack of response to energy costs, supplies, and peak loads



- Complex infrastructures
- Costs related to higher energy rates and energy waste
- Operation



- Environmental footprint
- Standards and interoperability
- Network security

Cisco Business Energy Management Strategy

Any-to-Any Connectivity



Building and IT systems
Energy supply and demand
Cisco® EnergyWise

End-to-End Management



Efficiency and conservation
Sustainable growth
Smart and connected energy management

Extensible Platform



Open API and standards
Ecosystem partners and applications
Green technologies

Cisco Smart Connected Buildings

Cisco Business Energy Management (BEM) Solution

Transform Power Management Experience

Building Energy



Elevators



HVAC



Alarm and Access Control



Video



Interactive Communication Systems



IP Communications



Lighting



Fire



Surveillance



Cisco Smart Grid Solutions

Business Communications Solutions

Cisco® and Partner Services

Plan

Build

Run

T&D
Automation

Optimize asset utilization and improve efficiency and reliability

Smart Grid
Security

Provide threat defense and cyber and physical security

Smart Meter
Communications

Increase transparency and improve billing service

Business
Energy
Management

Optimize energy use and reduce costs and carbon footprint

Home
Energy
Management

Cisco and Partners Integrated End-to-End Smart Grid Solutions

Cisco BEM Solution

Intelligence Powering the Energy Intranet

Energy Supply

Analytics

Green dashboard

Demand response

Curtailed rate

Information
Technology

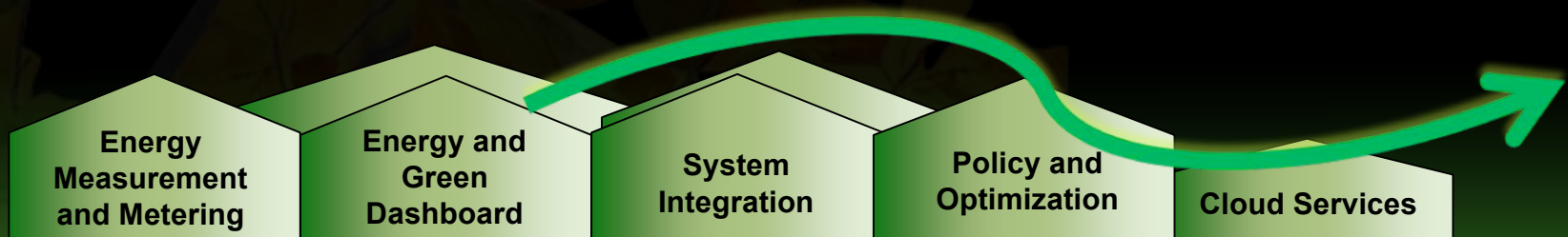


Building
Systems

Energy Demand

Cisco BEM Value Proposition

- Sustainable energy management
Facility and IT **convergence** and energy supply and demand **correlation**
- Solution that will function into the future
A **flexible** platform for “implement-as-you-go”
- Extensible architecture
An **extensible** open platform of “services-as-you-need” from partner applications and cloud services
- Professional services
Accelerated deployments and scalable, secure, and reliable infrastructures

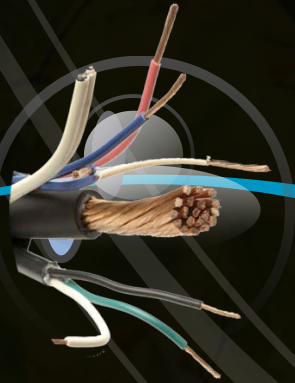


Cisco BEM Solution Benefits

Eliminate standalone gateways ~50%

Reduced installation and integration costs ~20%

CapEx



\$

OpEx

Decreased energy costs ~20%

Reduced operations and maintenance costs ~30%

Cisco BEM Product Portfolio

Cisco Network Building Mediator 4800

- Enterprise and Campus
- Supports 2000 to 5000 Points
- Supports Base, Intermediate, and Advanced Protocols

Cisco Network Building Mediator 2400

- Branch and Retail
- Supports 250 to 1000 Points
- Supports Base and Intermediate Protocols



Cisco Switches and Routers

- Cisco Catalyst® Fixed Switches
- Cisco Catalyst Modular Switches
- Cisco Integrated Services Routers

Cisco Business Energy Management Services

Plan

- **Cisco BEM business architecture assessment**

Business requirements, future state architecture, business case, and roadmap

- **Cisco BEM technical requirements development**

Building information model
 Communications infrastructure
 Facility operations systems
 HVAC and lighting control
 Energy management

- **BEM technical architecture design**

Grid infrastructure
 Network core, access, and distribution
 Advanced technologies
 Utility technology
 Partner solutions

Build

- **Cisco BEM detailed solution design**
- **Security design**

- **Cisco BEM deployment**

Assess
 Design
 Stage
 Implement and integrate
 Configure and commission
 Test
 Migrate
 Knowledge transfer

- **Cisco Network Building Mediator implementation**

Includes system integration

- **Security deployment**

Run

- **Operations readiness and optimization assessment**

- **Technical support**

IP Network

Unified Communications

Wireless

Data Center

Security

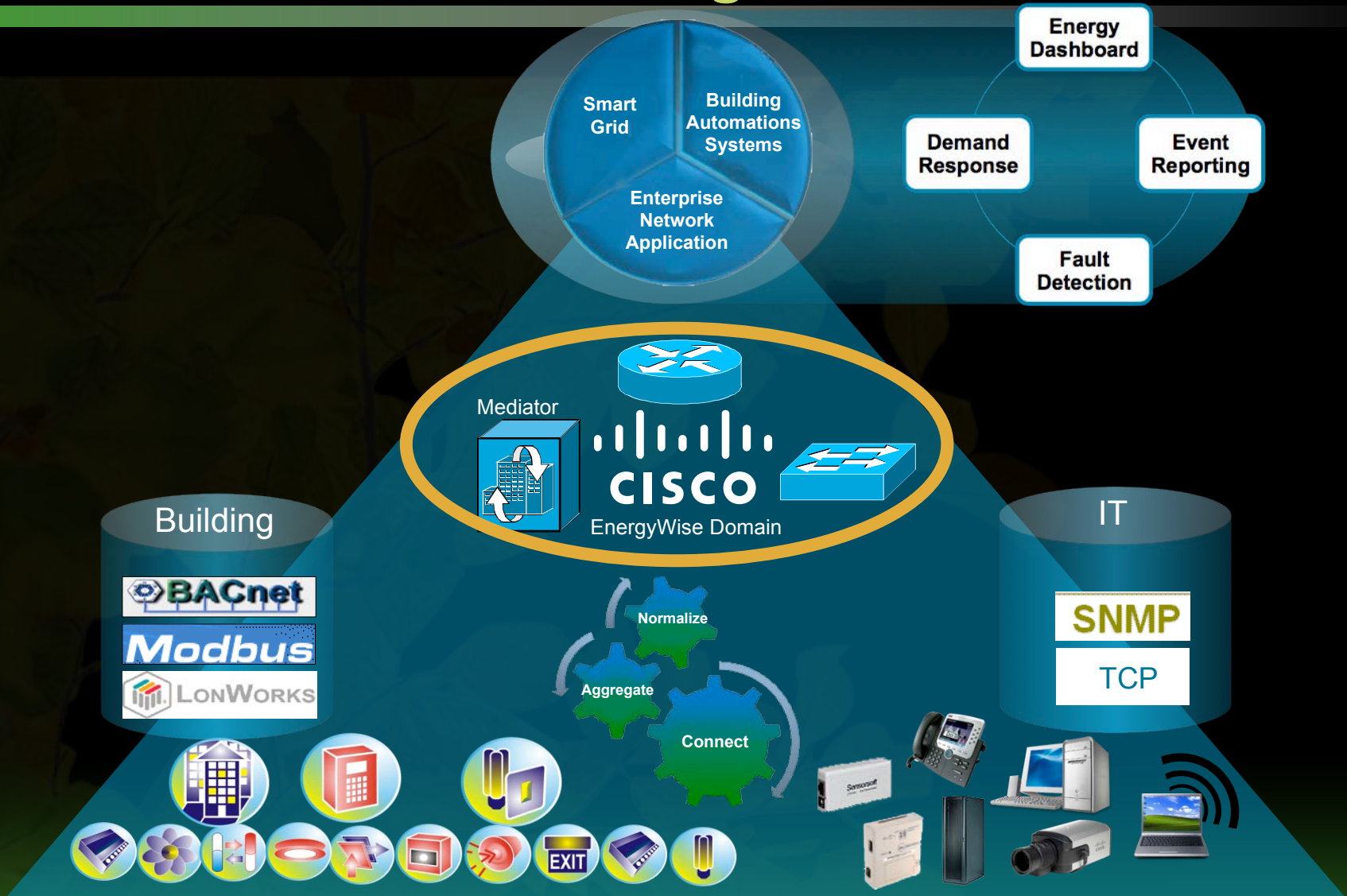
Cisco EnergyWise Technology

- Innovative software added to Cisco Catalyst switching portfolio
- Available to customers for download now or with technology refresh
- Enables reduction of greenhouse gas emissions, affecting other 98% beyond IT
- Enables significant cost savings
- Network intelligence monitors, reports, and reduces energy use across entire infrastructure
- Open technology for greater partnering

Collaborative Cross-Industry Effort



Cisco EnergyWise Integrates with Cisco Network Building Mediator



Cisco Network Building Mediator Benefits

- Transforms the way buildings are **built, operated, and experienced**
- Enables energy reduction across **global operations**
- Uses Cisco expertise in **collaboration, convergence, and security** to promote sustainable practices
- Provides infrastructure to deliver energy efficiency, clean energy, and environmental stewardship **into the future**

Current Cisco Network Building Mediator Customers



Google Campus

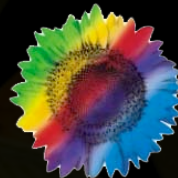
Objective is **energy control** and **demand response** across entire campus—25% reduction achieved



NetApp®

NetApp Campus

Objective is **automated demand response** system from PG&E system successfully shed 1 megawatt in 10 minutes



WIPRO

Wipro Campus (India)

Goal is converged systems management **over IP**

Enterprise



Walgreens Retail

Reduced energy consumption more than 30%+ in Austin, Texas, store through monitoring and automated intelligence



Circle K

Remote energy management deployment in progress for initial 300 stores



Simon Mall

Automated Meter Reading of thousands of check meters for energy use

Branch and Retail

Summary of Cisco BEM Benefits

Transforms the Way Buildings are Built, Operated, and Experienced

Helps Ensure Sustainable Growth through Corporate-Wide Energy Management and Cisco EnergyWise

Supports an Energy-Efficient, Smart Grid

Builds on Cisco's Expertise in Collaboration, Convergence, and Security

