Low-Power Mote Technology
MMT Wireless Platform
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MMT Wireless Platform Overview

- IBM wireless sensor platform

- Unique advantages
  - Ultra low power consumption leveraging time-synchronization protocol
  - Flexible and modular design
    - includes radio chip, low power microcontroller, sensor boards
    - designed to support multiple sensors and expansion board
  - Very small footprint
  - IBM system design

- Applications
  - Business platform
    - Data Center Monitoring and Energy Management (MMT)
    - Telecom Central Office Monitoring (AT&T)
  - Research Platform
    - Art conservation management
    - Environmental Monitoring and Management
Measurement and Management Technologies (MMT)

- Measurement and Management Technologies (MMT) was originally designed for energy management in data centers
- MMT has repeatedly yielded more than 10% of energy savings for IBM customers world-wide
- Technology supports a large range of environmental sensing systems for temperature, humidity, pressure, corrosion, etc.
- Detailed physics-based modeling yields 3D thermal, humidity, etc, maps and physical insights to optimize environmental conditions
- JAVA based software platform provides real-time analytics and feedbacks
MMT Wireless Measurement Platform

- **Vision**
  - Flexible solution bridging remote and ubiquitous sensing
  - Integration with smart environments & internet of things

- **Technology**
  - Monitoring (sensors)
  - Controlling (actuators)

- **Endless Applications**
  - Environment, occupancy, asset tracking, water

![Diagram of MMT Wireless Measurement Platform](image-url)
Low-Power Mote Technology Deployment for Data Centers
Low-Power Mote Technology Devices

Motherboard and Radio

Corrosion Sensor

Humidity and Temperature Sensors
Temperature Sensors
Temperature and Humidity Sensors
Pressure and Temperature Sensors