## **Low Voltage Substation Automation**



#### **Affordable Remote Monitoring and Control Services**

Real-time remote monitoring and control provides substation operators access to customer-required substation data such as, phase amps, regulator voltages, single-phase feeder loading and bus voltages, providing real-time detection and alarming of outages, overloading, and phase imbalances.

Most low voltage substations are not equipped with SCADA systems because the capital cost of traditional systems is relatively high. M2M smart field Internet technology developments have changed all this by offering low-cost subscription-based SCADA services using the Internet.

M2M's iSCADA application for substation automation provides secure web-based remote monitoring and control, incorporating low-cost CTs and PTs to provide operational and historical data that helps minimize downtime.

- → Requires minimal or no capital; low, fixed monthly service fees
- Reduces lost revenue by eliminating or reducing operational down-time
- → Lowers overall operation costs
- Provides corporate-wide solution that integrates new and legacy SCADA equipment
- → Delivers data from any asset in any location
- Provides real-time 24X7 monitoring and alarming (cell phone, pager, PDA, email)
- > Reduces man-hours for roving electricians by providing automated monitoring
- → Scales quickly from a few assets/sites to thousands
- Provides historical data trending to aid in future system planning
- → Improves "Quality of Service"
- → Backed by Service Level Guarantees



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# **Substation Applications** include:

remote alarming of reclosure status, breaker status, and transformer condition

remote monitoring of equipment at circuits (condition, power quality, etc.)

remote reclosure IED and PLC control;

remote intrusion detection and surveillance;

remote troubleshooting/ diagnostics; data aggregation





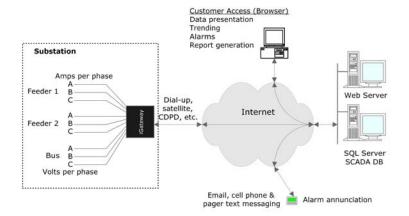
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M2M hardware connects to existing substation equipment or low-cost M2M provided current and voltage transducers for substations, with no existing auxiliary equipment.

iSCADA uses Internet, wireless, satellite, smart field devices, and a mix of proprietary M2M technologies to efficiently communicate operating data between people, devices, and systems.



- → Reliable; backed by service level guarantees
- → Fastest time-to-service; hassle-free, turnkey solution
- → Scalable; monitor one asset or numerous dissimilar assets
- Compatible; data ported directly to other back-office software applications
- → Alarm notifications; cell phone, pager, PDA, and email
- Real-time displays; rich, graphical screens, all automated operational parameters on demand
- Archived database; historical, trending, and operational data
- Broad communications options; radio, microwave, satellite, and terrestrial