



CURRENT Group, LLC
NYPSC EEPS Overview Forum

July 20, 2007



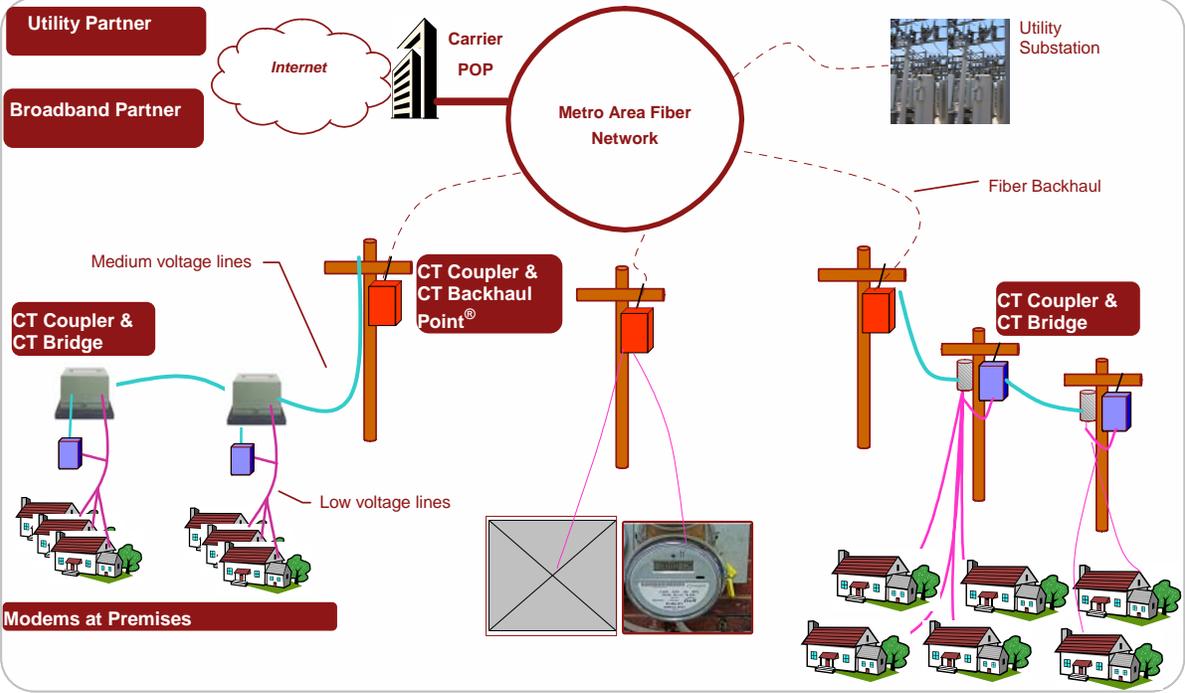
About CURRENT Group, LLC



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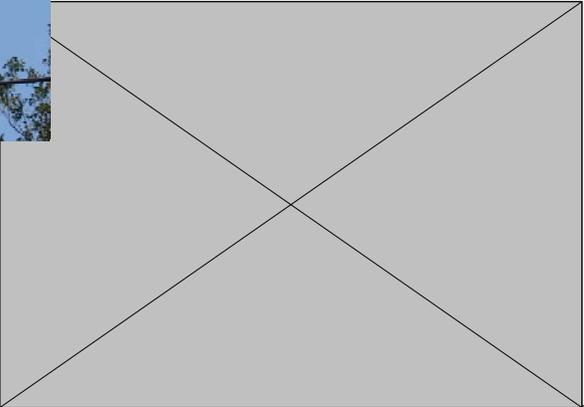
Network Architecture (In Network - US) Hybrid BPL-Fiber-Wireless Network



CURRENT® BPL installation



- Aerial
- Underground





SMART METERING

Electric AMR Module
Electric Gas & Water AMR Module
Data Collection and Aggregation



DISTRIBUTION MANAGEMENT

Outage Detection & Restoration
Voltage Monitoring
Equipment Deterioration
Transformer Overload



CUSTOMER ENERGY MANAGEMENT

Demand Response
Thermostat Control
Smart Home



SUBSTATION MANAGEMENT

Substation Connectivity
Substation Analysis

Smart Grid Services = Market Opportunity



Utilities require comprehensive intelligence and control over power distribution

21st Century Electric Needs

- Grid changed little in 50+ years
- Limited “network intelligence” for monitoring and control
 - Lacks real-time outage data
 - 60% equipment to be replaced in 10 years
 - 40% increase in electric demand by 2020
- Security of grid needs to be enhanced
- At least 50% of utilities’ tech workforce expected to retire in 5-10 years
- Consumer needs real-time usage and prices
- Climate change and environmental constraints

Smart Grid Services

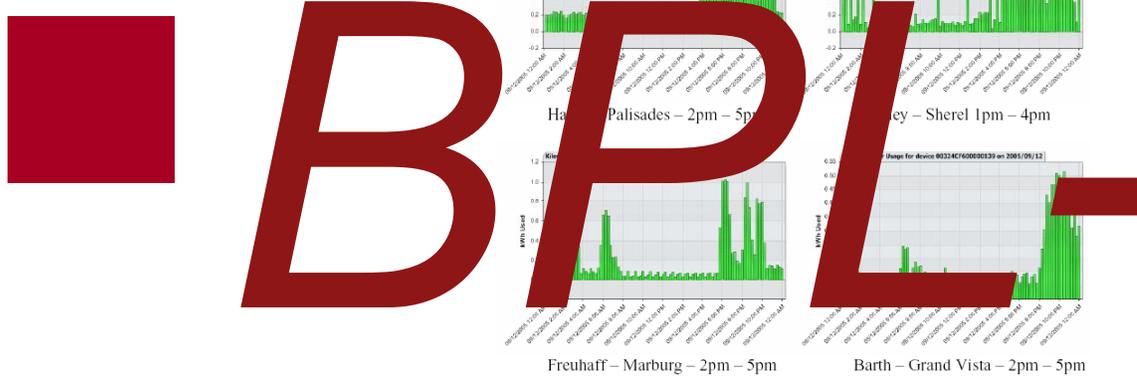
- Increase grid efficiency
 - Estimated 5 - 10% usage reduction
 - Eliminate \$125bn anticipated capital improvements (\$80bn new power generation)
- Enhance reliability and security
 - Alleviates burden of aging infrastructure
 - \$50bn saved from outage reductions by 2020
- Empower customers with real-time pricing to control usage at peak times of power consumption
- Address aging workforce through distribution network automation
- Improve environmental performance of electric utilities
 - Reduces need for new plants
 - Reduces CO₂ emissions up to 25%

Demand Response Capabilities



Event Data 9-12-2005 Event

Site #	Group A					Group B			
	1	2	3	4	5	6	7	8	9
Site Name	Demo House	Marburg	Grand Vista	Elywne	Palisades	Meriweather	Oak Crest	Paxton	Sheryl
Algorithm Used	7.5/15 RDLC								
Event Start Time	1:30	2:00	2:00	2:00	2:00	1:00	1:00	1:00	1:00
Event Stop Time	4:30 AM	5:00 AM	5:00 AM	5:00 AM	5:00 AM	4:00 AM	4:00 AM	4:00 AM	4:00 AM
Counter Before Event	21	22	48	23	16	38	17	15	27
Counter After Event	33	34	60	35	28	50	29	27	27
# of Cycles	12	12	12	12	12	12	12	12	12



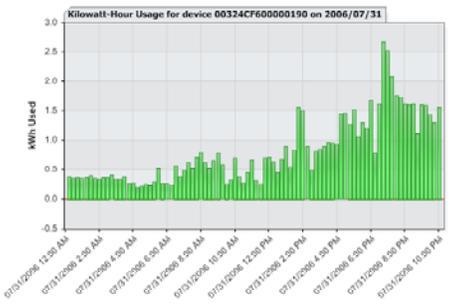
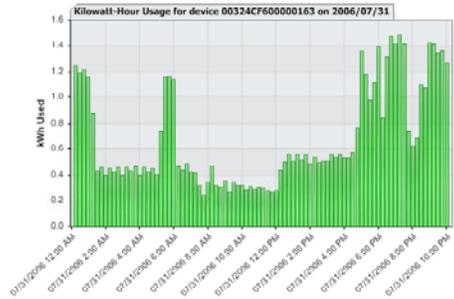
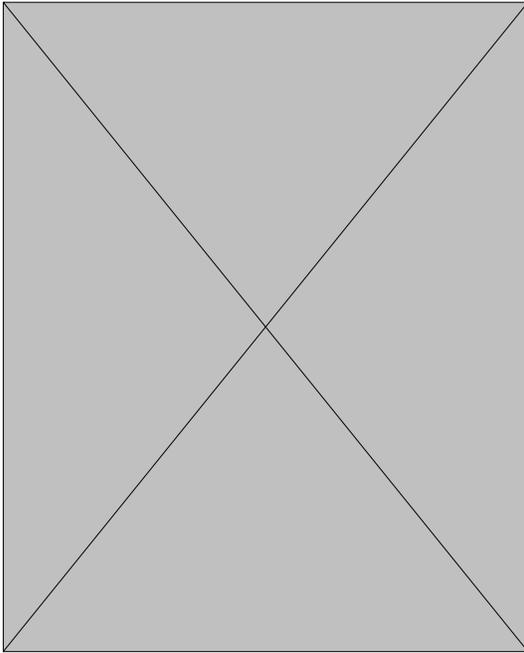
Select Features Available with BPL-Enabled Demand Response Solutions



- Dynamic load profiling of customer usage patterns
- Automated dispatching based on utility-selected criteria
 - Whether customers are using key loads
 - Where areas of grid may be overloaded
- Near real-time meter information to validate that load shed occurred
- Two-way communications with various devices in the home
 - DLC switches on water heaters, pool pumps or air conditioners
 - Thermostat control and monitoring
- Two-way thermostat control and information flow



Granular Results Available by Customer



Energy Portal: Customer Access To Information About Their Electricity Usage

