





Program Description

- ***LIPAedge* is an innovative energy conservation program that will help Long Island meet peak demand during the summer. The program is available for Residential Central Air Conditioning Customers and Small Business customers. Pool Pump controls are available as well.**
- ***LIPAedge* is the largest residential direct load control program in the United States utilizing a 2-way communications system.**
- **Internet-based Load Management solution, 2-way communications gives the utility the ability to quickly verify curtailment.**
- **Reduced energy demand during peak hours**
- **Comfort and control for residential and small business customers, and Convenience of remote thermostat programming via the internet.**

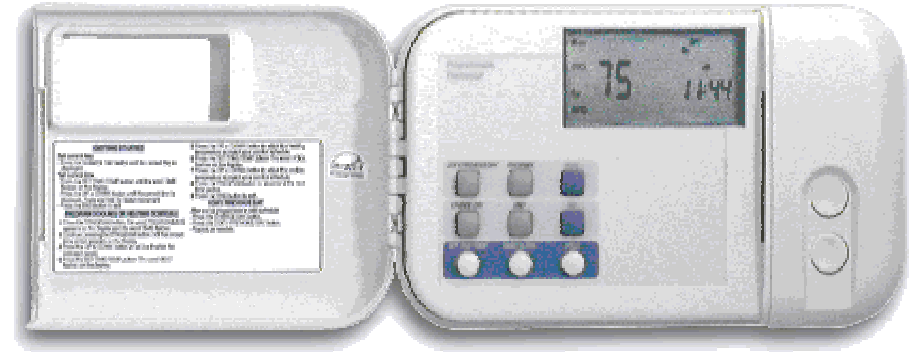


LIPAedge Team

- LIPA/Electric Sales & Marketing provides Program Management
- LIPAedge Thermostat produced by Carrier Corporation under the Comfort Choice system with Silicon Energy.
- Honeywell DMC - Installation Contractor
- Applied Energy Group - Implementation Consultant

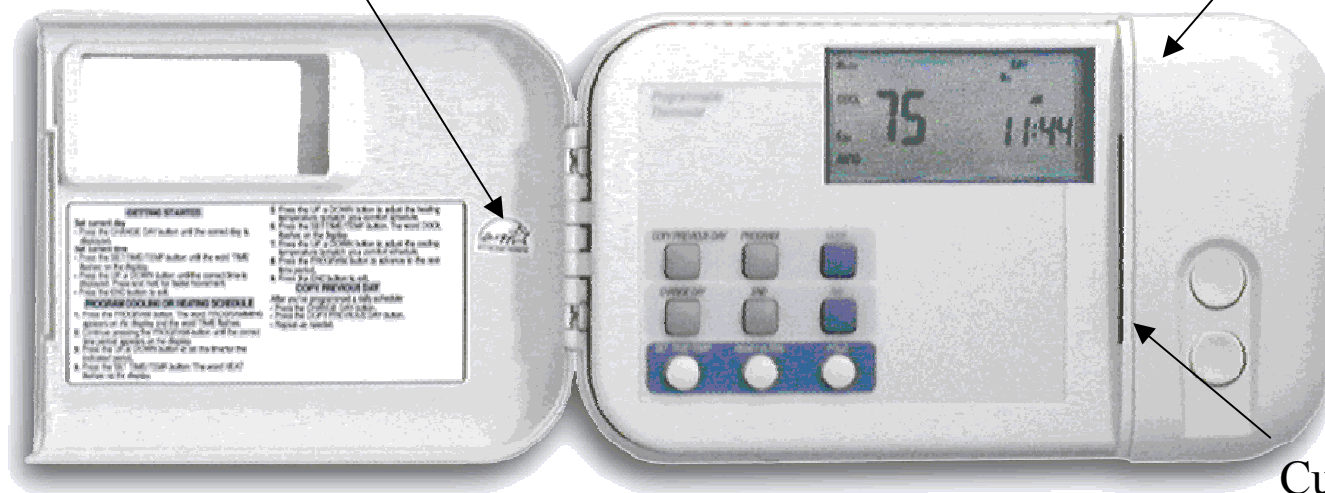
Customer Receives:

- ***FREE THERMOSTAT***
- ***FREE INSTALLATION***
- ***\$25 ONE-TIME BONUS RESIDENTIAL***
- ***\$50 ONE-TIME BONUS SMALL COMMERCIAL***
- ***ON-LINE ACCESS TO THERMOSTAT SETTINGS VIA THE INTERNET THROUGH THE LIPA WEBSITE 24 HOURS A DAY, SEVEN DAYS A WEEK***



7-day programming
4 periods per day

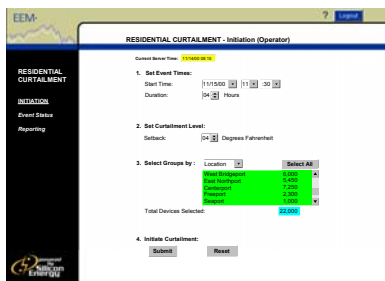
2-way
communications



Curtailment
override

Battery-Free





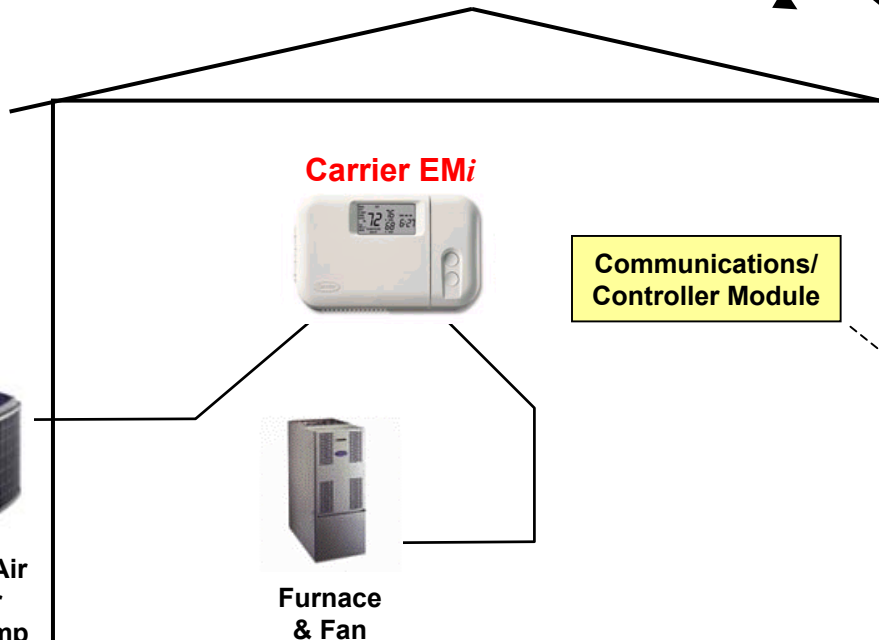
Utility Web Interface



Homeowner Web Interface



Central Air Unit or Heat Pump



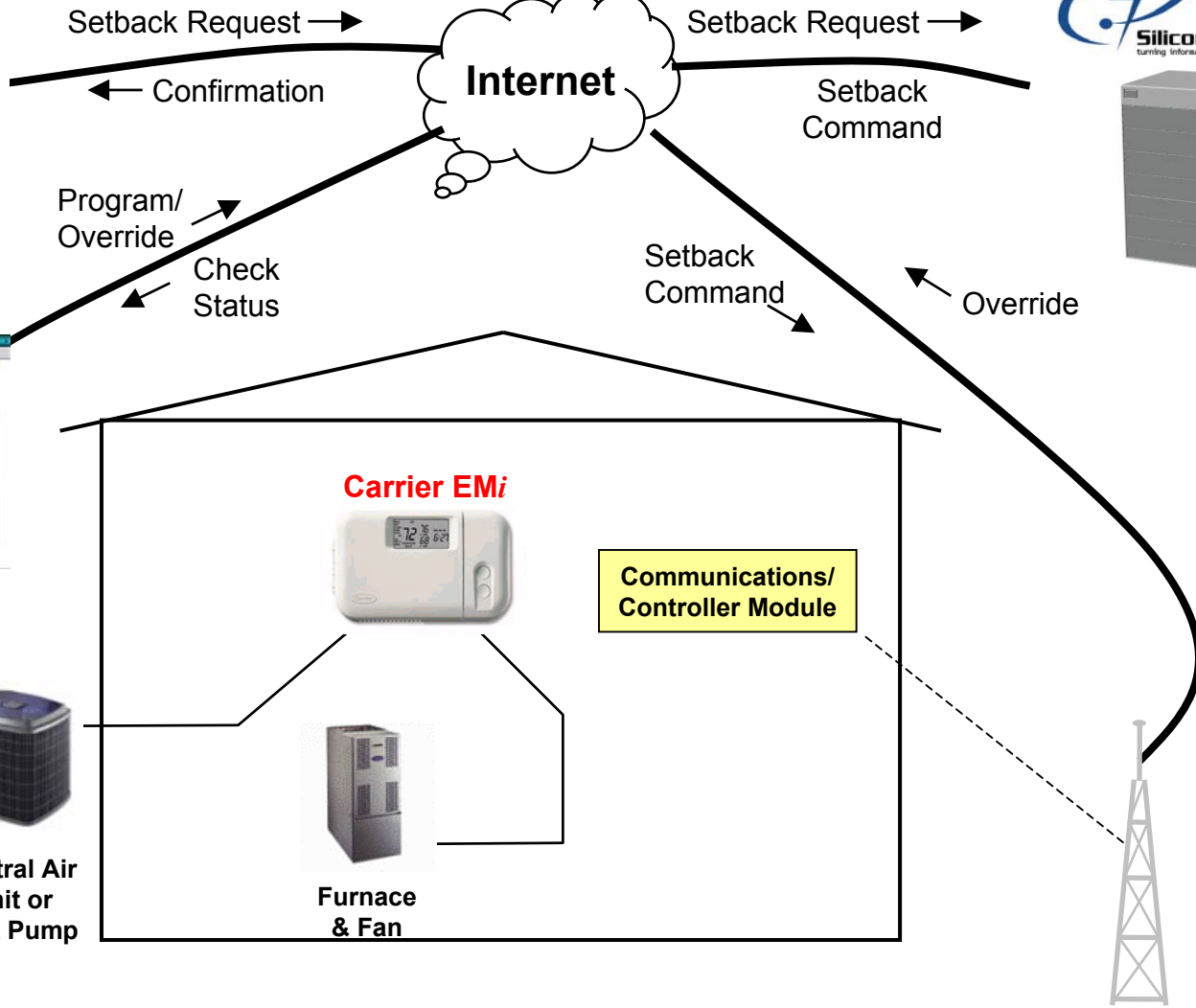
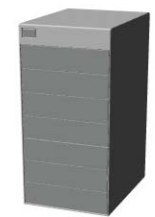
Carrier EMi

Communications/
Controller Module

Furnace
& Fan



Internet



Setback Request →

← Confirmation

Program/
Override →

← Check
Status

Setback Request →

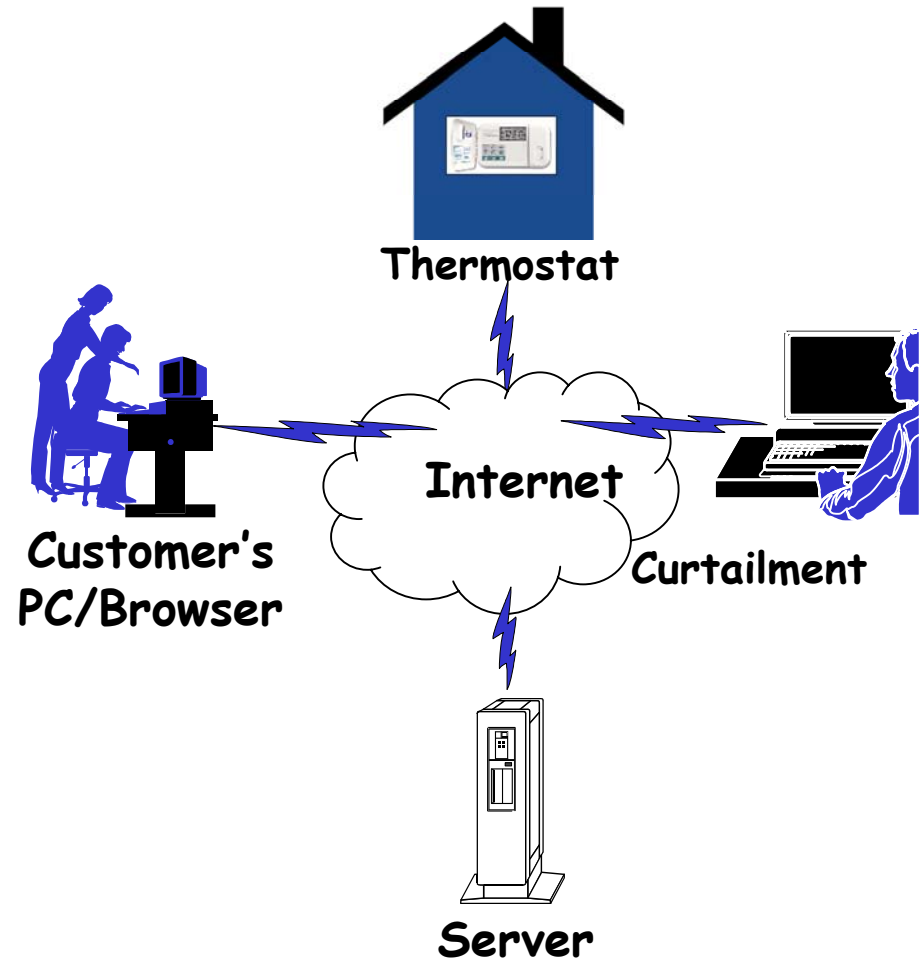
Setback
Command

Setback
Command

← Override

Curtailment Process

- 1) Curtailment process is initiated through a web browser. Decision is made on when to initiate control and for how long.
- 2) The message is broadcast via a wireless network to all *edge* Thermostats.
- 3) The thermostats acknowledge via a short wireless message and the messages get logged in a database for verification
- 4) The LIPA*edge* Thermostats are instructed to adjust A/C usage at the specified time and duration
- 5) If the customer decides to override the curtailment the change is recorded. A wireless message is then sent back to the Server.





Summer 2002 Curtailment Event Summary

Three (3) Curtailment Events Called in Summer 2002

	July 3	July 30	August 14
Participants (Units)	15,943	17,051	17,474
Load Reduction @ 5pm*	15,852	16,076	16,273
Energy Savings All Hrs *	65,883	66,493	67,463

* At the meter net free riders and overrides.



2003 Program Goals

July 1, 2003 Program Goals

	Units	MW Reduction
Residential	20,400	20.91
Small Commercial	3,000	4.04
Total	23,400	24.94



Program Cost / Participant

2002 Program Cost / Participant :

	Initial Cost	NYISO Incentive
Residential	\$515	\$1.82
Small Commercial	\$545	\$2.93



Impact Measurement Methodology

- Using LIPAedge's highly advanced two-way communications technology platform, run time data was downloaded for over 10,000 customers for each curtailment day and for another three baseline days.
- The runtime data, coupled with connected load information, produced very accurate impact estimates
- The NY ISO accepted this impact measurement methodology for EDRP.



August 14, 2002 Curtailment Event

		Connected				
	kW at	Load				
	time of	Adjusted				
End use	system	for Amp	Units	Signal	Units	Free
controlled	peak	Metering	Installed	propaga	controlled	Riders
Resid. CAC	4.52	3.84	15,687	97.6%	15,312	6.4%
Com. CAC	7.5	6.38	1,787	98.6%	1,762	4.9%

