



**WebGate® System Overview**

**March, 2003**

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## *muNet® WebGate® System*

*- WebGate System Overview*

*- WebGate Products*

*- Residential: WebGate iRIS™ IP Interface*

*- Commercial: WebGate iCIS™ IP Interface*

*- Back-Office: WebBot™ Software*

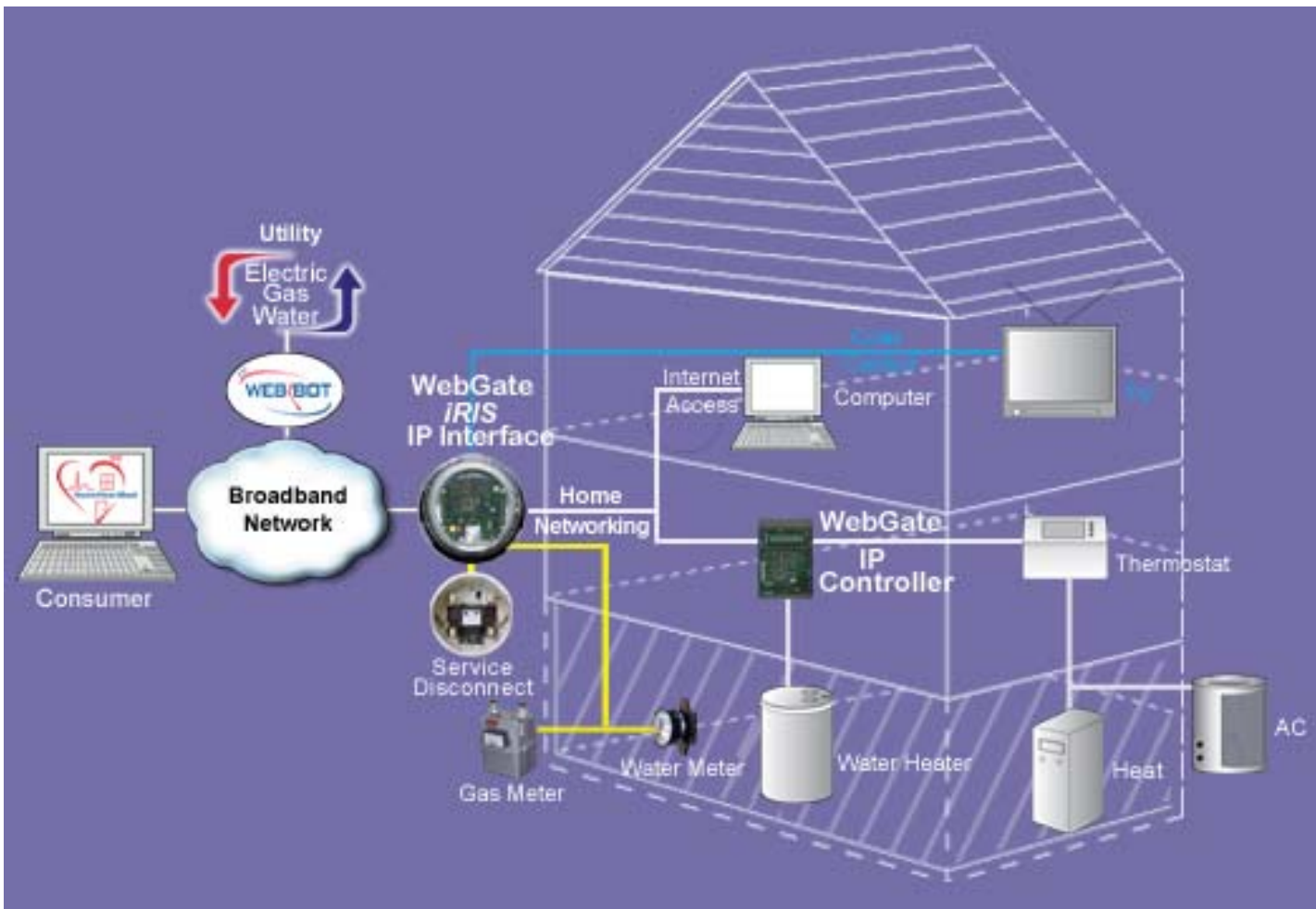
*- Load Management: WebGate IP Controller*

*- WebGate System Value Proposition*

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# *WebGate System Overview*

## *A Business-Ready IP Interface Located at the Electric Meter*



### Applications

- Advanced AMR
- Device control
- System monitoring
- Appliance monitoring
- Event notification

### Derived Services

- Energy auditing
- Load curtailment
- Real-time pricing
- Energy management
- Remote servicing
- Failure prevention
- Remote upgrades
- Remote provisioning

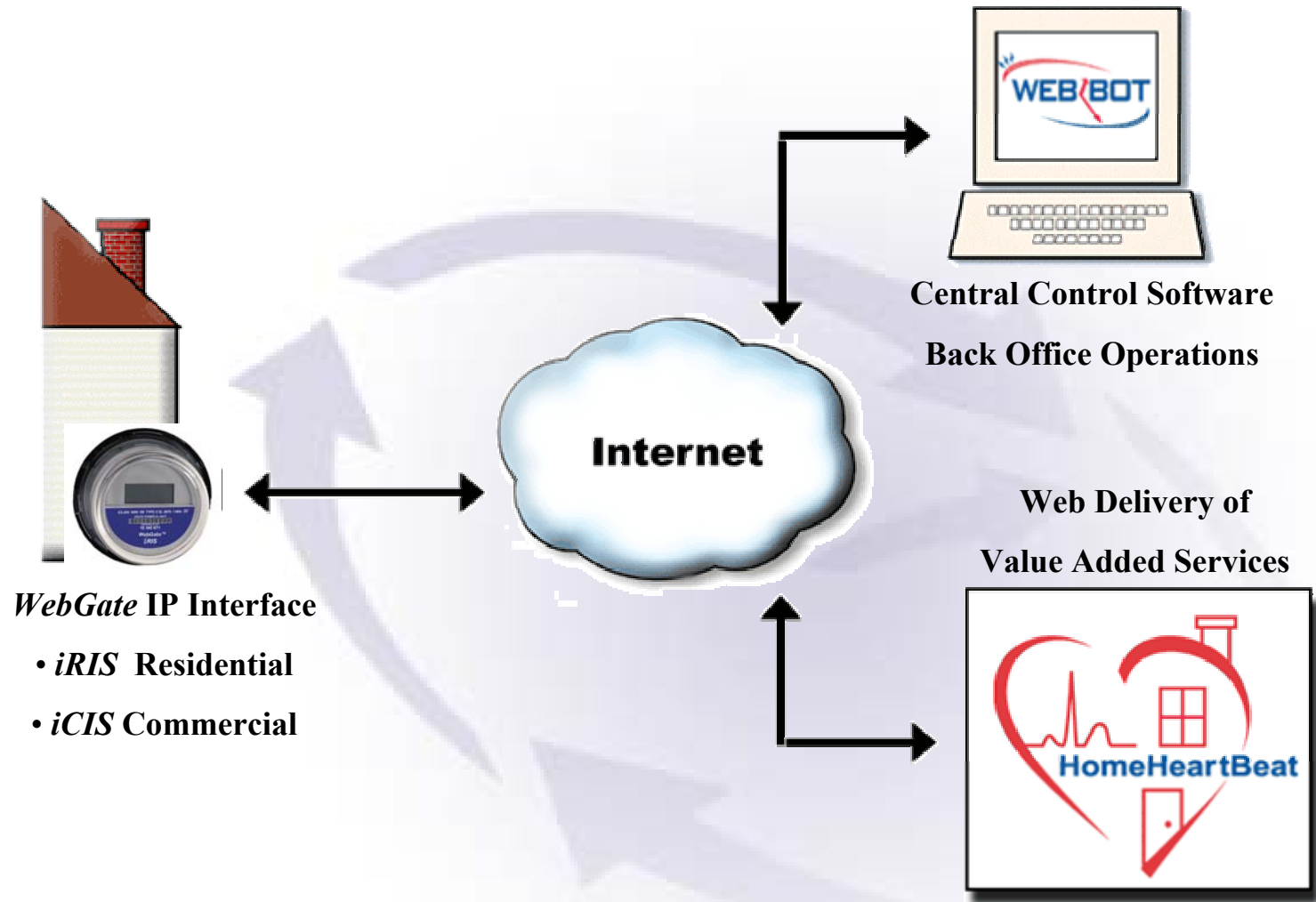
### Cable Applications

- Internet access
- Installation efficiencies
- Network Management
- Coax disconnect

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# *WebGate Products*

## *muNet WebGate System Components*

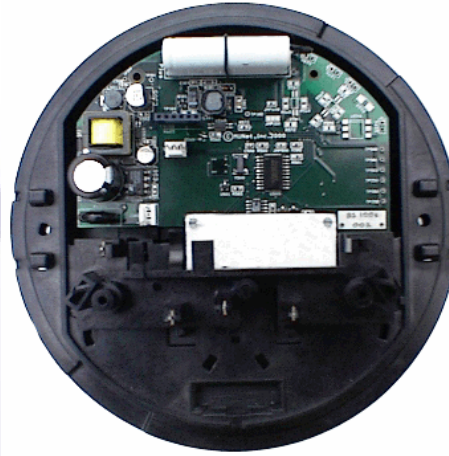


## WebGate iRIS Under-the-Glass Technology



### Metrology

Off-the-shelf



### WebGate Unit

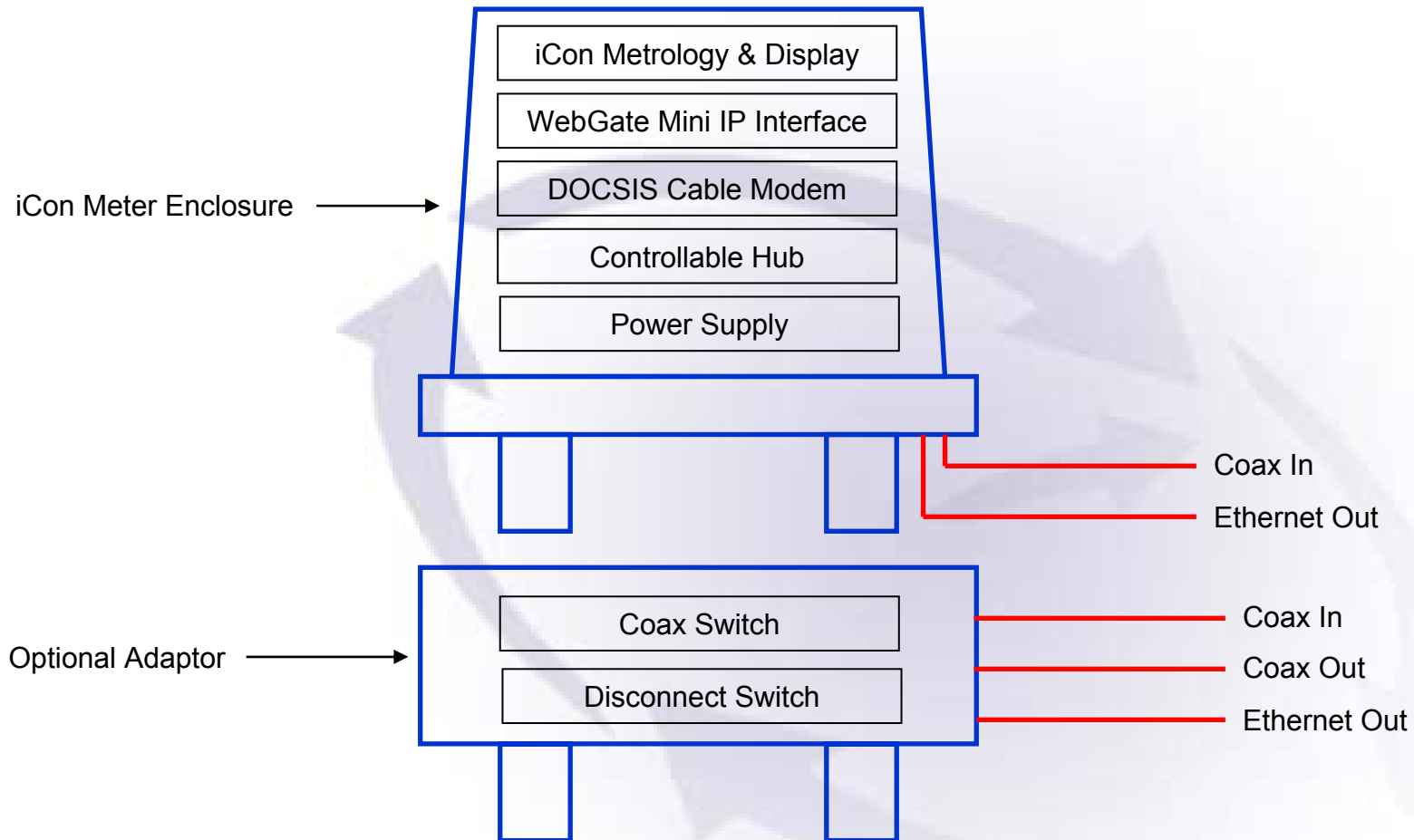
- Open standards
- IP-based
- Expandable



### Installation

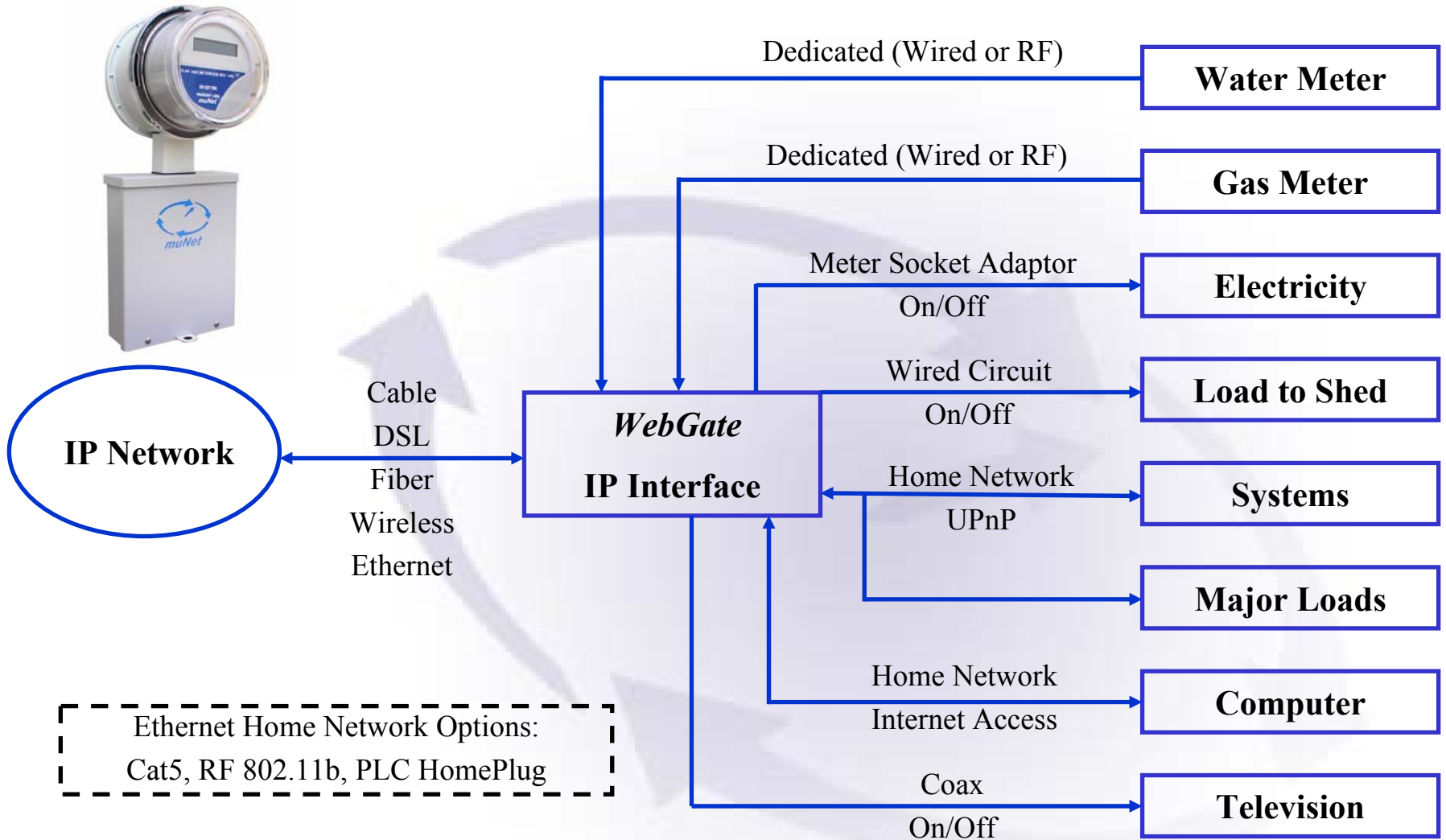
Under the electric  
meter glass

## *WebGate Mini IP Interface iCon Meter Based Target Configuration*

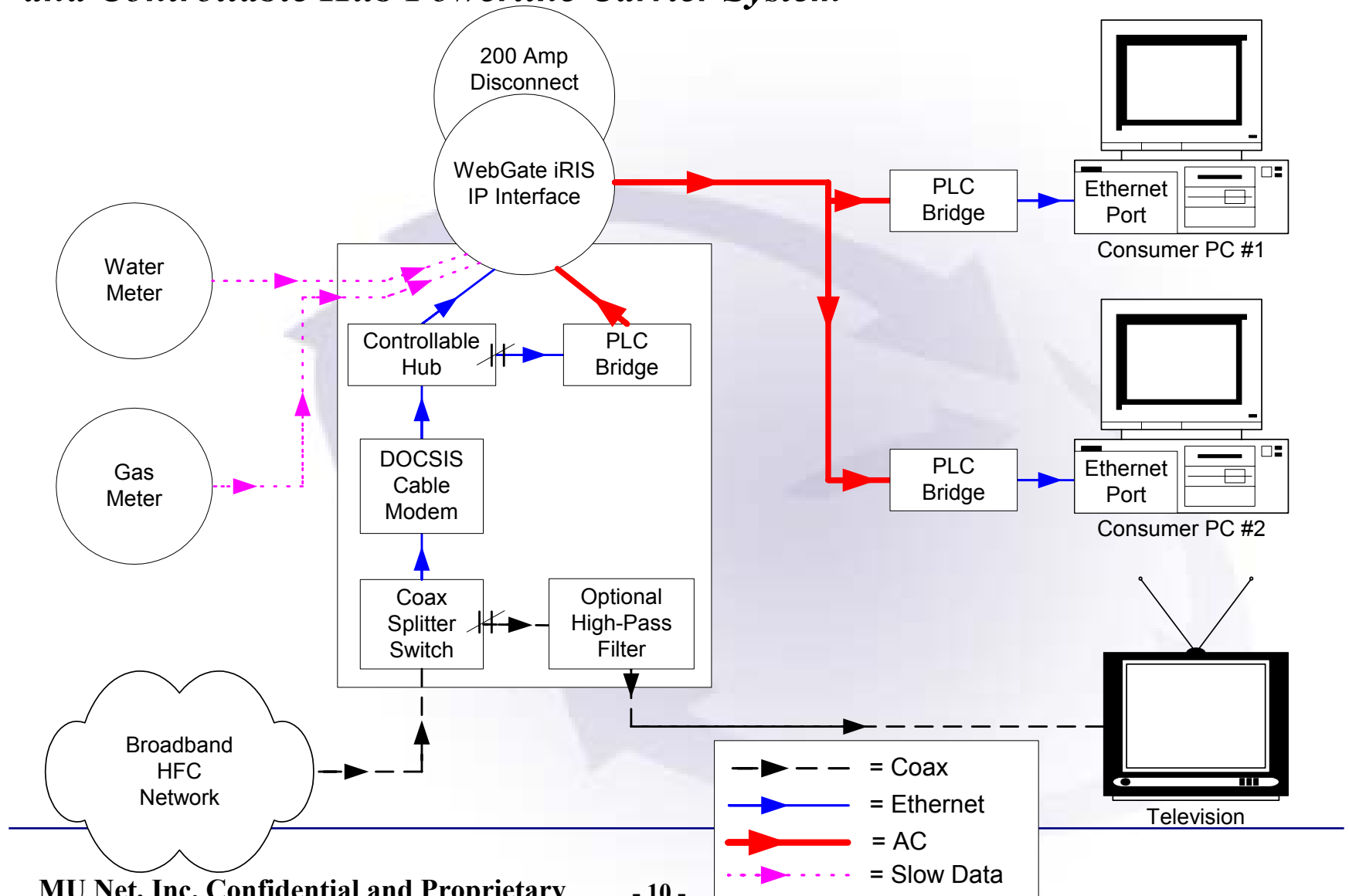




## WebGate iRIS IP Interface Home Connectivity Options



# WebGate iRIS, 200 Amp Disconnect, Water and Gas Meter, Coax Switch and Controllable Hub Powerline Carrier System



# WebGate iRIS Multi-Dwelling Unit Powerline Carrier System

WG-iRIS-MDU-IPI #1

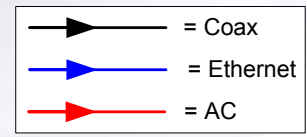
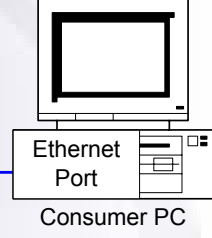
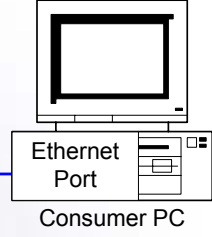
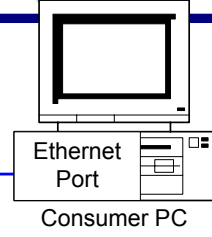
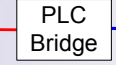
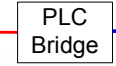
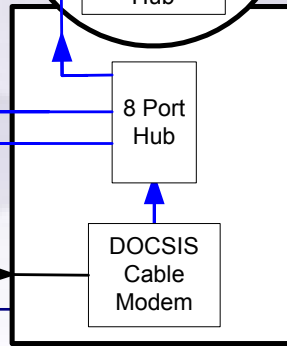
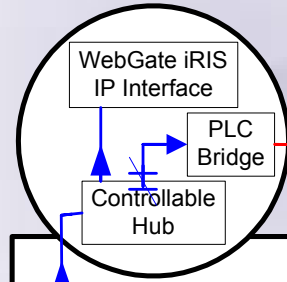
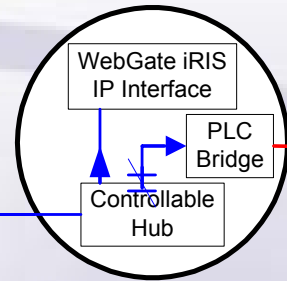
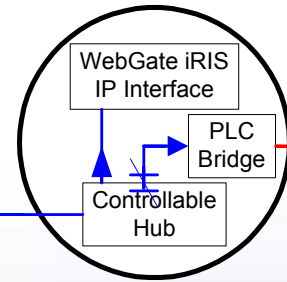
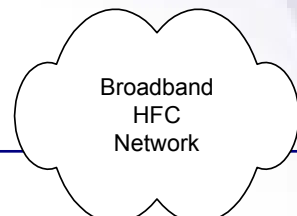
WG-iRIS-MDU-IPI #6

WG-iRIS-MDU-HUB

Dwelling Unit #1

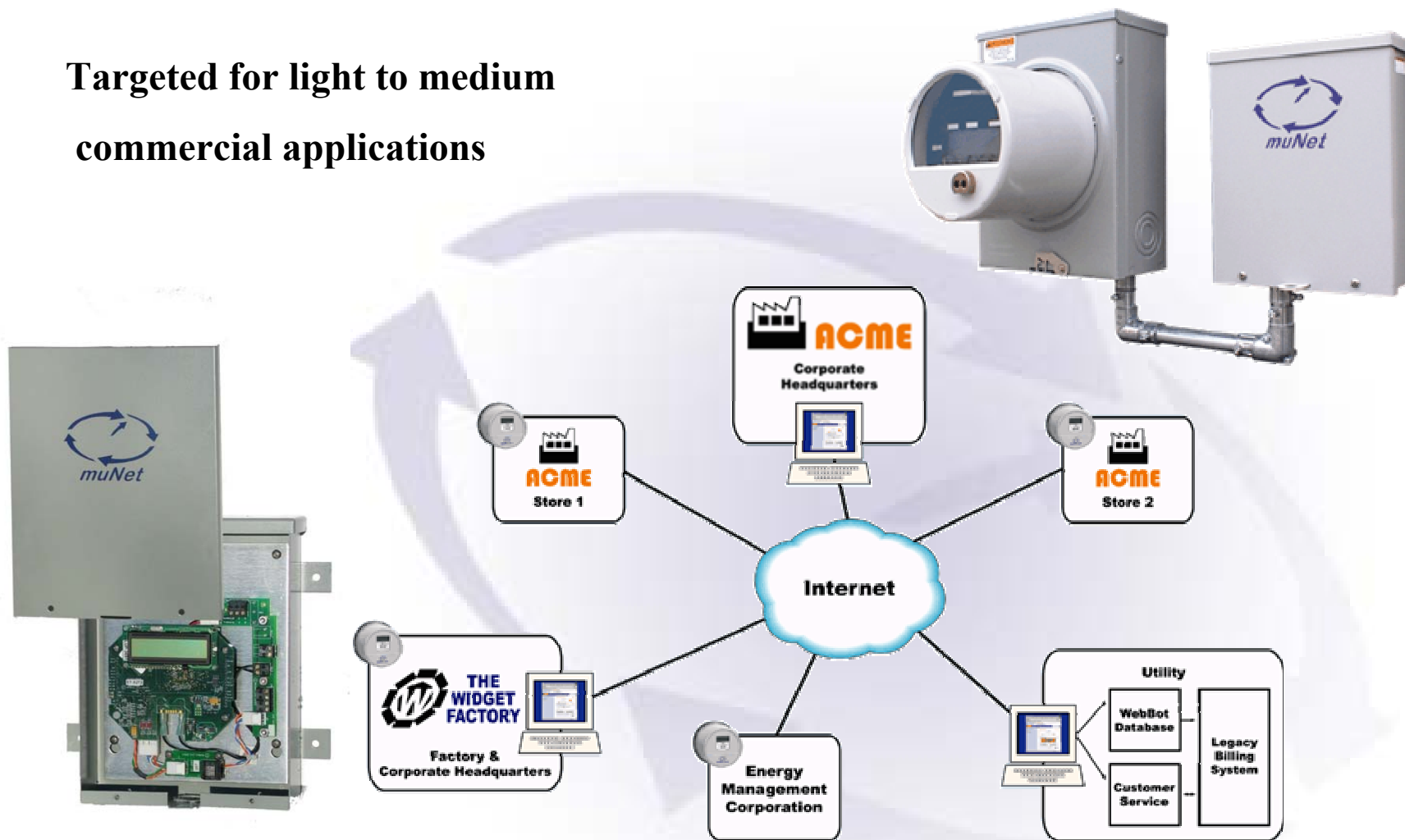
Dwelling Unit #6

Dwelling Unit #7

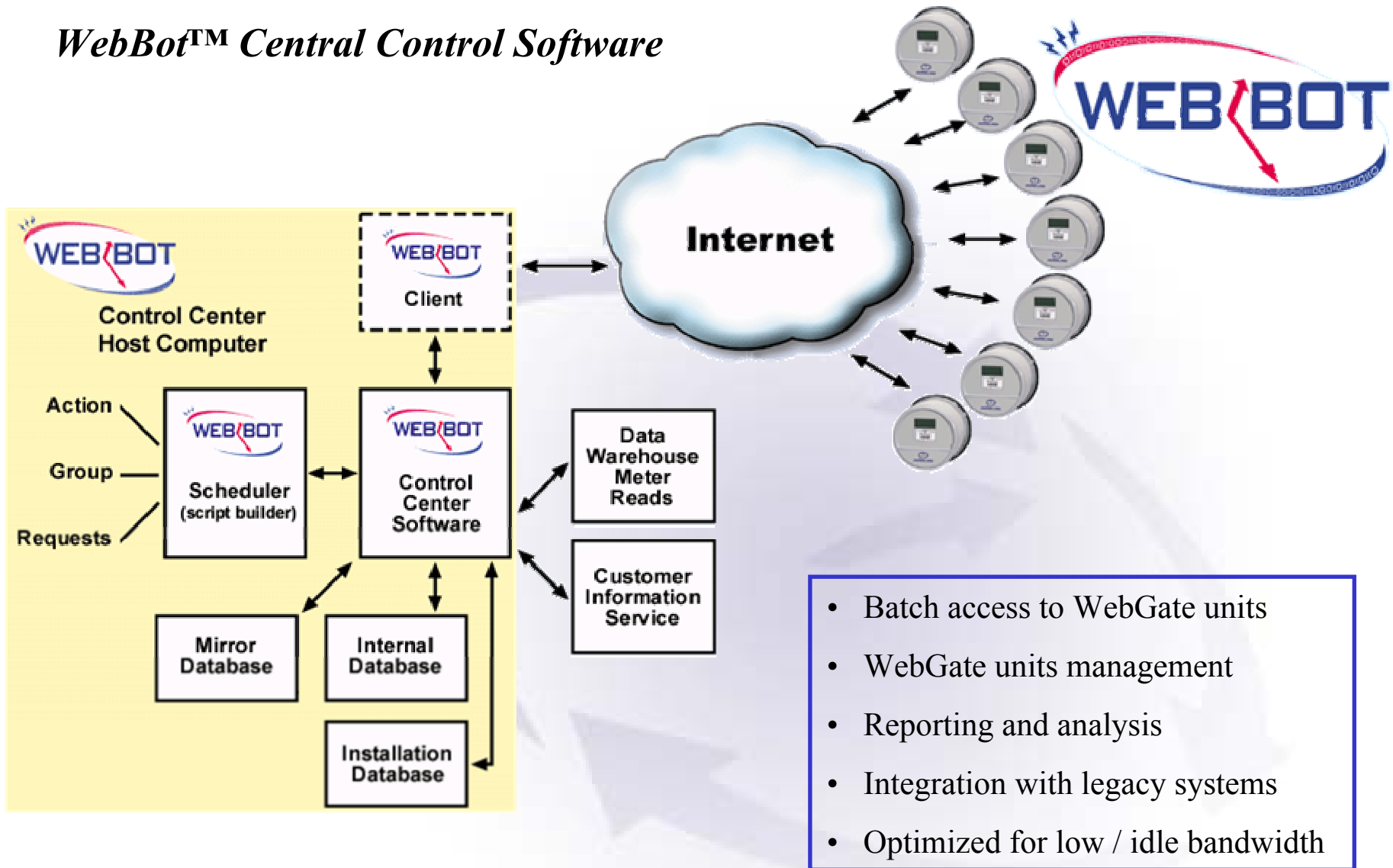


## *WebGate iCIS Internet Commercial Information System*

**Targeted for light to medium  
commercial applications**

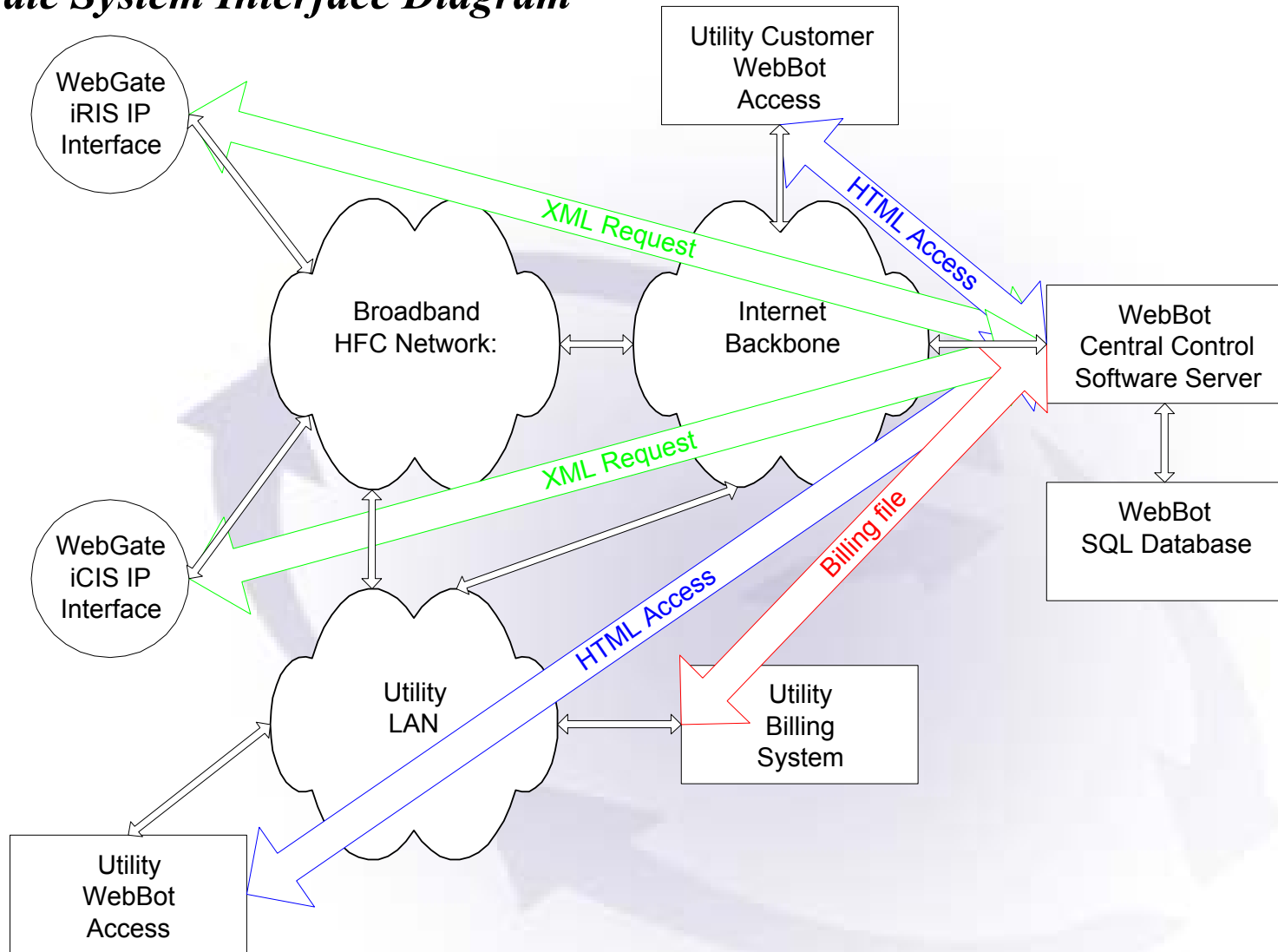


## WebBot™ Central Control Software



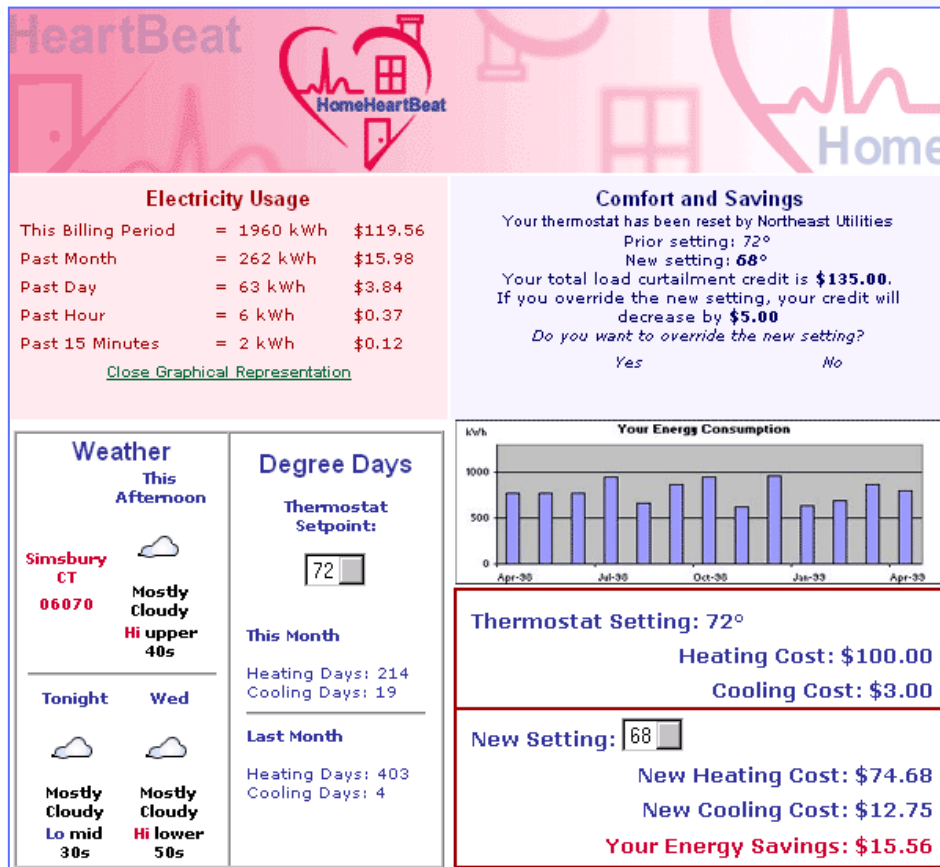
- Batch access to WebGate units
- WebGate units management
- Reporting and analysis
- Integration with legacy systems
- Optimized for low / idle bandwidth

## WebGate System Interface Diagram



## HomeHeartBeat™ Web Delivery of Value Added Services

HomeHeartBeat connects the utility to the source of its income by connecting consumers to the pulse of their home



**Electricity Usage**

This Billing Period	=	1960 kWh	\$119.56
Past Month	=	262 kWh	\$15.98
Past Day	=	63 kWh	\$3.84
Past Hour	=	6 kWh	\$0.37
Past 15 Minutes	=	2 kWh	\$0.12

[Close Graphical Representation](#)

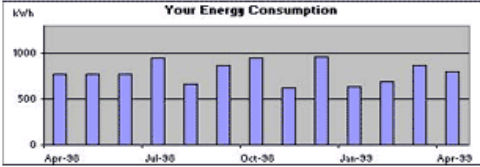
**Comfort and Savings**

Your thermostat has been reset by Northeast Utilities  
 Prior setting: 72°  
 New setting: 68°  
 Your total load curtailment credit is **\$135.00**.  
 If you override the new setting, your credit will decrease by **\$5.00**  
 Do you want to override the new setting?  
 Yes                      No

**Weather**  
 This Afternoon  
 Simsbury CT 06070  
 Mostly Cloudy  
 Hi upper 40s  
 Tonight Wed  
 Mostly Cloudy  
 Lo mid 30s  
 Hi lower 50s

**Degree Days**  
 Thermostat Setpoint: 72  
 This Month  
 Heating Days: 214  
 Cooling Days: 19  
 Last Month  
 Heating Days: 403  
 Cooling Days: 4

**Your Energy Consumption**

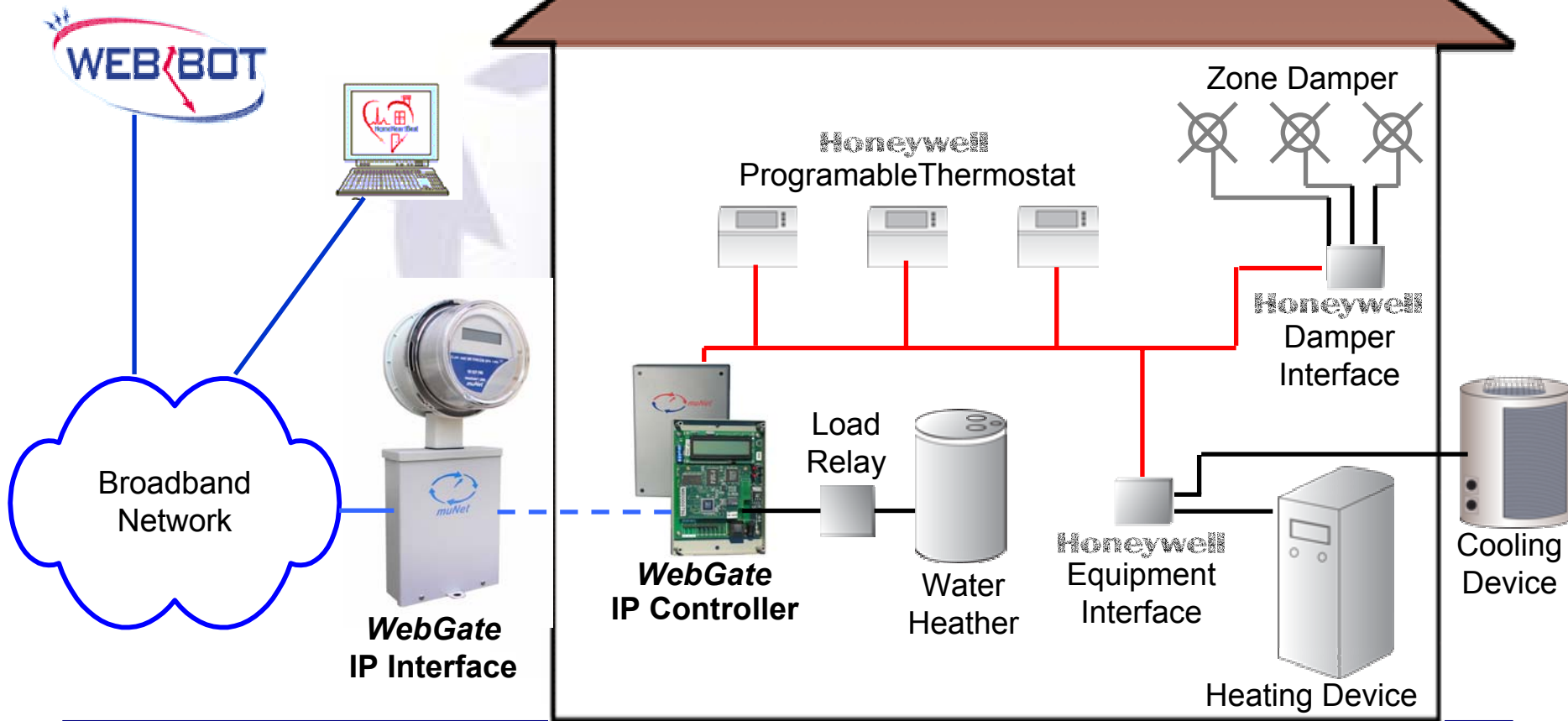


**Thermostat Setting: 72°**  
 Heating Cost: \$100.00  
 Cooling Cost: \$3.00

**New Setting: 68**  
 New Heating Cost: \$74.68  
 New Cooling Cost: \$12.75  
**Your Energy Savings: \$15.56**

- Real time / historical service data
- Consumption / savings information
- Event notification
- Customer feedback / override
- Energy management
- System / appliance monitoring
- Home / system improvement

# WebGate Load Management System components





		Winter		Summer	
		October - April		May - September	
	Rate	Weekdays	Weekends	Weekdays	Weekends
<b>Low Rate Period</b>	4.191 cents / kWh	10 pm - 6 am	10 pm - 6 am	10 pm - 10 am	10 pm - 10 am
<b>Medium Rate Period</b>	5.442 cents / kWh	9 am - 5 pm	6 am - 10 pm	10 am - 2 pm	10 am - 10 pm
		8 pm - 10 pm		8 pm - 10 pm	
<b>High Rate Period</b>	9.418 cents / kWh	6 am - 9 am	None	2 pm - 8 pm	None
		5 pm - 8 pm			
<b>Critical Rate Period</b>	28.253 cents / kWh	Real-time when power supply conditions are critical 80 hours maximum per year			
<b>Regular Rate</b>	6.053 cents / kWh				
Regular monthly fixed charge of \$7.85 still applies					

Logout

▲ WebGate IP Controller

▲ Customer Setup

✎ Price Tier Manager

▲ Customer Status

📄 HVAC System

▲ Customer Control

✎ Load Management

## ✎ Load Management Price Tier Manager

Control System When Cooling

Control System When Heating

Allow All Loads If Thermostat Override

### Setup For Heating Season

I	D	Tiers Label	Temp Limits		Allow Loads	
			Type	1	1	2
0	L	Low	TempMax	Prog	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	M	Medium	TempMax	60	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	H	High	TempMax	70	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	C	CRITICAL	TempMax	60	<input type="checkbox"/>	<input type="checkbox"/>

### Setup For Cooling Season

I	D	Tiers Label	Temp Limits		Allow Loads	
			Type	1	1	2
0	L	Low	TempMin	Prog	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	M	Medium	TempMin	65	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	H	High	TempMin	75	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	C	CRITICAL	TempMin	80	<input type="checkbox"/>	<input type="checkbox"/>

## WebGate Load Management System: Status Monitoring

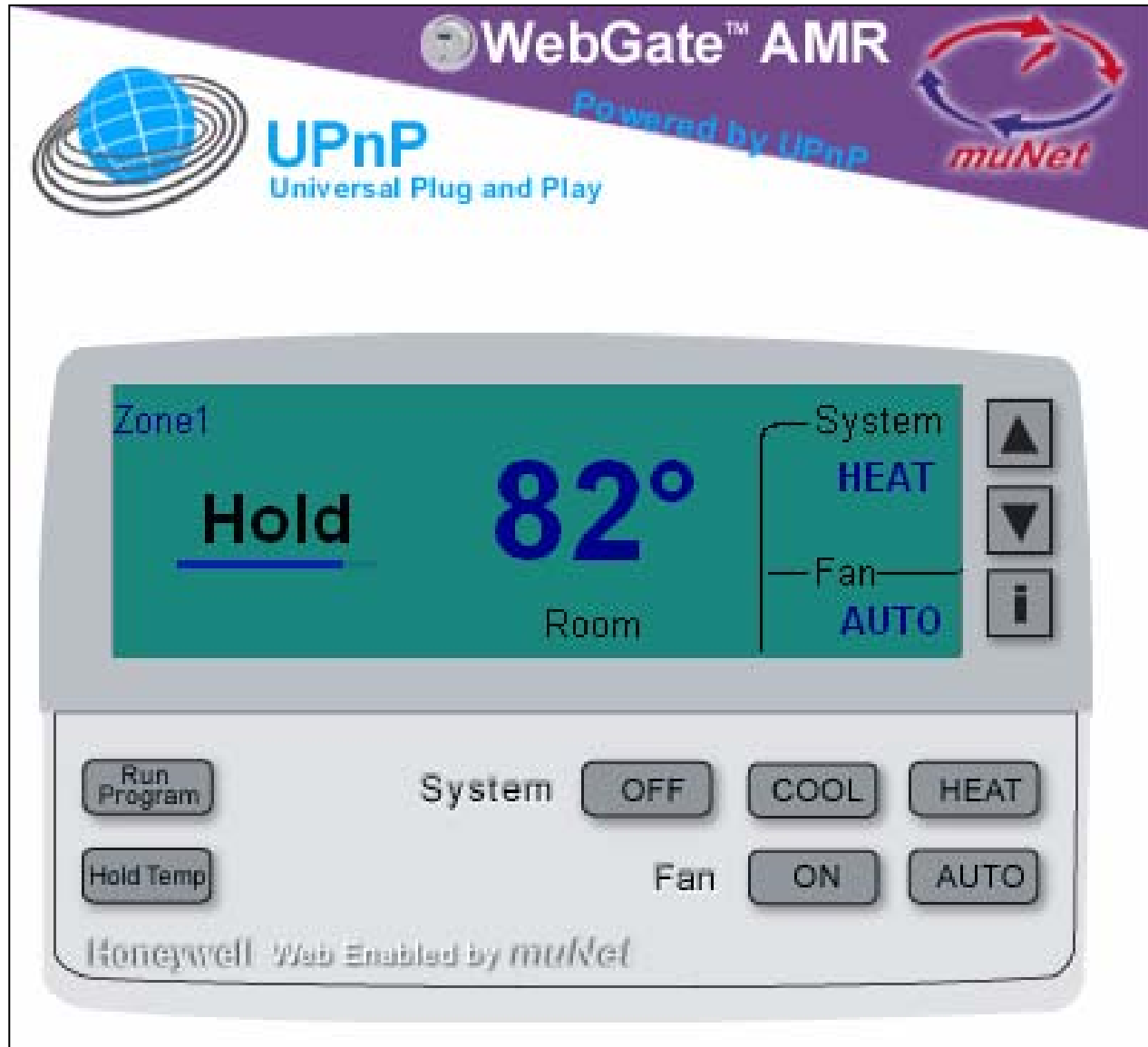
**Logout**

- ▲ WebGate IP Controller
- ▲ Customer Setup
  - ✎ Price Tier Manager
- ▲ Customer Status
  - 📄 HVAC System
- ▲ Customer Control
  - ✎ Load Management

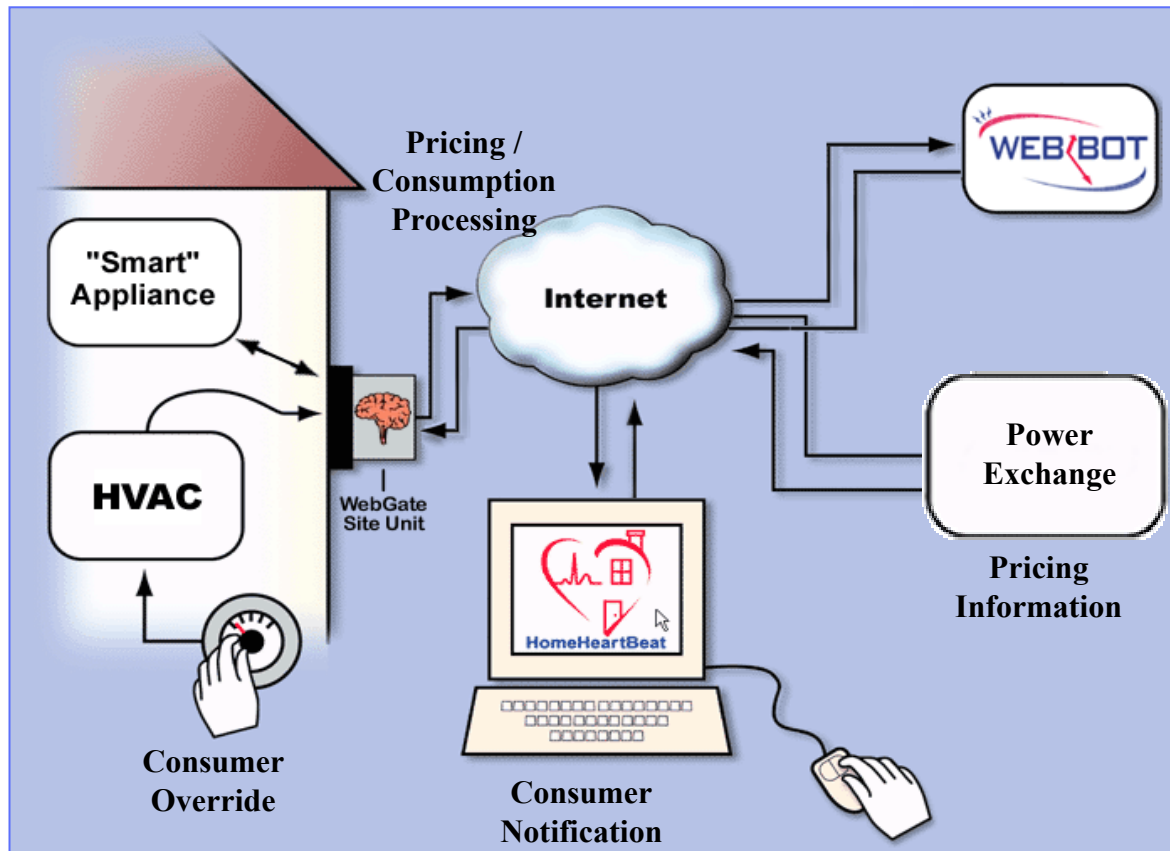
### 📄 State Variables

Variable Name	Zone 1
OutdoorTemperature	70
OverrideMode	HOLD
SystemDemand	HEAT
Temperature	82
ThermostatMode	HEAT
Time	10/21/2002 16:32:24
ZoneName	Zone1

WebGate.V03.020.Addr:10.0.2.1:80.At:10/21/2002 14:10:10 EST.



## *muNet Internet Information Utility Real-Time Pricing and Energy Management*



- WebGate unit monitors consumption and energy prices
- WebGate unit computes optimum consumption model
- WebGate unit controls system and appliance settings to optimize consumption
- Consumer is notified of new settings and savings
- Consumer may override settings

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# *WebGate System Value Proposition*


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## *muNet Offers a Compelling Value Proposition to Utilities and Network Providers*

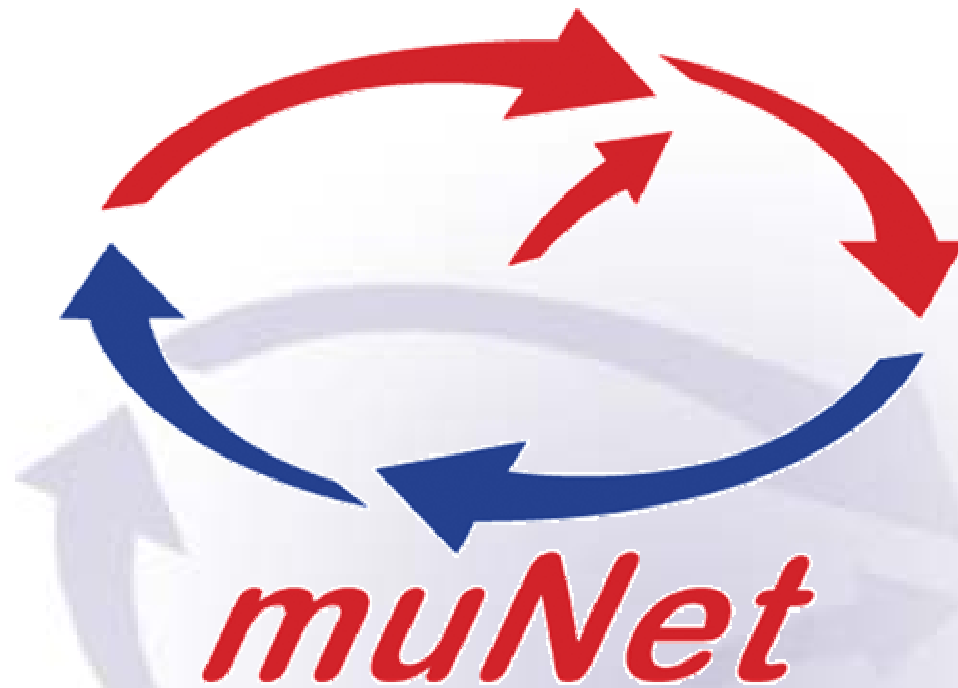
- **Utilities**
  - Operational Efficiencies
  - Load Management
  - Real Time Pricing Readiness
  - Improved Customer Relationship
  - New Unregulated Revenue Opportunities
  - Brand Promotion
  
- **Network Providers**
  - New Revenue Sources for Idle Bandwidth
  - Infrastructure Efficiencies via a Subsidized Gateway
  - Operational Efficiencies (Network Management, Analog Coax Control)
  - Second Tier Broadband Access Up-sell to Consumer via WebGate Gateway
  - Partnerships with Non-competing Service Providers

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## *muNet Offers a Compelling Value Proposition to Service Providers and End-Users*

- **Service Providers**
    - Stable entry point for connectivity
    - Cost effective platform for narrow band service providers
    - Simplified integration with back office systems
  - **End-Users**
    - Increased savings
    - Enhanced safety
    - Improved comfort
    - Availability of new and advanced services
- 
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