Demand Response Application

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Overview:

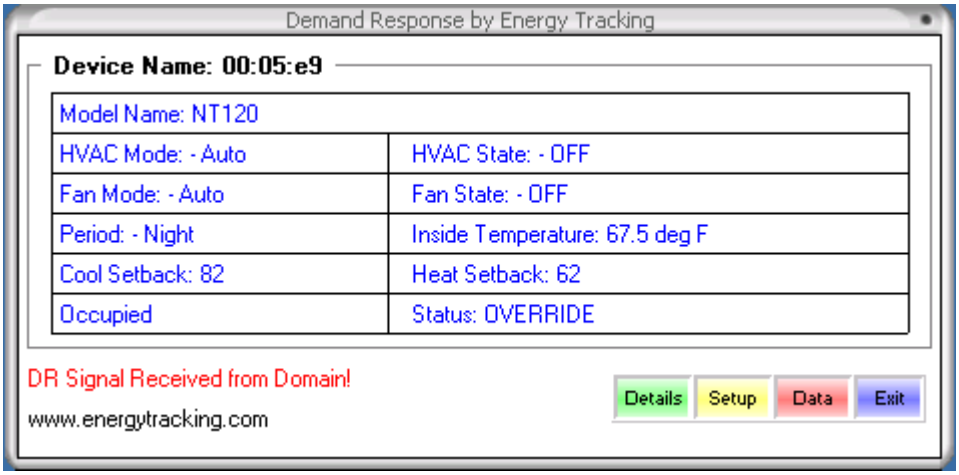
The DR@DeskTop was designed to allow end users to control their peak demand and better manage their energy consumption during the summer season when air conditioners add significant load on a facility.

The DR@DeskTop is ideally designed to work with Energy Tracking's web enabled meter and a web enabled thermostat from Proliphix Inc (http://www.proliphix.com). However, it can work independently by receiving a 'Demand Reduction' signal from a user defined domain. It can also be used by multi-site / multi-national corporations to manage demand and energy on multiple facilities using the domain setup option.

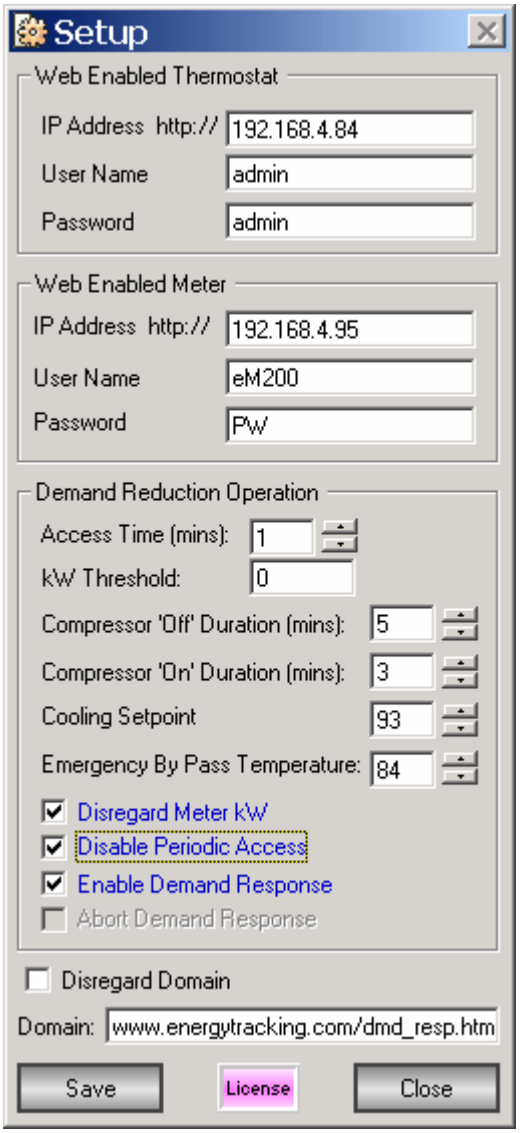
Operation:

The DR@DeskTop will poll the web enabled meter and thermostat periodically. Whenever, the demand (kW) matches or exceeds a set value, the application will raise the temperature on the thermostat thereby disengaging the air conditioner's compressor. The compressor will remain 'off' for a user defined period. At the end of this time period, the application will revert back to the original temperature and begin an 'on' cycle. This cycle is to prevent the application from constantly preventing the air conditioner from running.

Main Form:



Setup:



The setup is very straight forward. A few fields require a detailed explanation.

Access Time: This value defines how often the application will poll the meter and thermostat to check if demand reduction needs to be engaged.

kW Threshold: This value will be used as the trigger value to increase the temperature on the thermostat.

Compressor 'Off' Duration: This value defines the duration for which the a/c temperature is raised

Compressor 'On' Duration: Once the 'off' cycle is complete, the application will revert back to the original temperature. This value is the duration the application will wait before re-initiating a check if demand reduction is required.

Cooling Setpoint: This is the value that the application will set the thermostat setback temperature to when it initiates a demand reduction.

Emergency By Pass Temperature: If the inside temperature ever increases beyond this value, the demand reduction mode is aborted and the original temperature is updated to the thermostat.

Disregard Meter kW: You can use this application without an interface to the web enabled meter. The signal can be received by a domain on the local network or the Internet.

Disable Periodic Access: Select this checkbox to disable this application. This stops the application from periodically polling the meter / thermostat.

Enable Demand Response: You must select this checkbox to enable the application to execute its demand response module.

Abort Demand Repose: By selecting this checkbox if you can manually abort a demand reduction process that is in progress.

Disregard Domain: This is the domain that the application will access to see if demand reduction is to be engaged.

Miscellaneous Features and Notes:

System Tray: The application can be minimized to the computer's system tray by 'clicking' on it's icon in the system tray. To view the application again, 'click' on the icon again.

If you move your mouse over the icon, it will display the inside temperature and if demand reduction is in progress.

Notes:

1. Demand reduction module will not engage if the thermostat is in 'OFF' or in 'HEAT' mode.

2. If the thermostat's fan mode is 'AUTO', the application will set the fan mode to 'ON'. After the demand response cycle is complete, the fan mode will be reverted back to 'AUTO'.

3. Whenever the demand reduction module engages or disengages, a pop-up form will be momentarily displayed indicating the status of the demand response.

4. If a process is interrupted by selecting the 'Abort' checkbox, the periodic polling is also stopped. This checkbox is only enabled during a demand response cycle.

5. If demand response has been initiated by the application, you will see the icon blink in the system tray.

Operating System: Windows XP / 2000