

JENEsys™ snap!

Simple Network Automation Platform



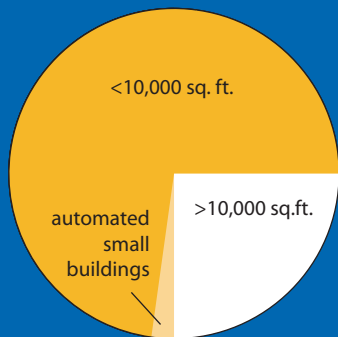
Powered by
niagara AX
FRAMEWORK®

JENEsys™
by Lynxspring

Market Size

In the U.S., there are 66 billion square feet of commercial office spaces of less than 10,000 sq. ft. in 4.2 million buildings. This represents 75% of all U.S. commercial buildings. Less than 3% of these buildings are automated and, if automated, most HVAC is via non-communicating, programmable thermostats with manual controls.

- U.S. Department of Energy



US Commercial Buildings

Small Building Energy Costs

According to the U.S. Department of Energy, small commercial buildings typically spend about 27% more per square foot in energy costs than larger buildings. Most companies are finding saving opportunities in large properties. Smaller properties have traditionally been ignored since the cost of installation and control has been greater than the benefits produced. Until *JENEsys™ snap!*, payback and ROI for small building control systems have not competed well against other uses of funds for small building owners.

JENEsys™ snap! (Simple Network Automation Platform) - powered by Niagara^{AX} - automates the setup and operation of a web-based temperature control application for light commercial buildings.

JENEsys snap! generates a site-specific set of web pages, eliminating the need to buy or install any additional software on a computer or, as contractor, spend time creating a user interface. Just install and wire the equipment, log into *JENEsys snap!*, "discover" the system and easily and quickly set up the building.



JENEsys snap! is designed for national account, commercial, institutional or high-end residential property owners with DX-based split systems, rooftop units, air-handling units, or heat pumps. A *JENEsys snap!* network supports 1-120 thermostats.

JENEsys snap! produces an excellent return on investment for property owners by:

- Reducing energy costs
- Achieving utility savings through better building management and demand limiting
- Reducing maintenance costs through simplified operations
- Eliminating field installation and high labor cost issues – the system installs itself

JENEsys snap! Executive Overview

Today's competitive market and high energy costs have put increased stress on facility and energy managers, as well as national restaurant and retail organizations. Change occurs on a daily basis, and managers feel its effect:

- Utility rate increases and the need for corresponding energy savings
- Expanding use of broadband
- Reducing capital expenditures
- Need to override HVAC default and stagnant settings
- Preventative and predictive equipment maintenance
- Property-to-property comparison analyses – best practices
- Month-to-month comparison analyses on the same property

JENEsys snap! uses the JENEsys PC Internet controller and JENEsys thermostats, and is optimized to perform the following functions:

- Web interface with automated screen graphics and site-specific content
- Default scheduling with the ability to modify
- Group HVAC equipment for global control
- Alarm defaults, custom definition and management
- Trend logs definition and management, including ad hoc energy analysis
- Export and interface options
- Roles-based security
- Demand limiting
- Daily reporting of operations
- Email alarms

Disruptive Technology

JENEsys snap! meets customer needs by providing scaled down, high value function for HVAC automation. Internet protocols are supported to enable cost-effective communication to remote sites. This combination is a "disruptive technology" which allows our customers to address market segments currently not met by control incumbents.

JENEsys snap! Architecture

The *JENEsys snap!* architecture consists of the JENEsys controller, *JENEsys snap!* appliance and JENEsys thermostats. The JENEsys controller serves as a web server, scheduler, alarm generator, and report generator, and it hosts the *JENEsys snap!* appliance and load-shedding modules.

The controller is connected to a network of between 1 and 120 BACnet MS/TP JENEsys thermostats. Electricians, service contractors or the owner can perform the physical installation by following simple documentation and connecting the thermostats to a mix of mechanical equipment – DX based split systems, rooftop units, and heat pumps.

The *JENEsys snap!* appliance automatically generates the customized user interface for individual sites based on the type and number of thermostats on the network. It creates the graphics, and populates trends, alarms and schedules with default values that can be easily modified during commissioning. This application includes:

- Graphics pages, including equipment cutaways
- Default set points for equipment
- Schedules with defaults
- Alarm page with defaults
- History (log) page and default reports
- Administration page
- Export tool
- Daily reports

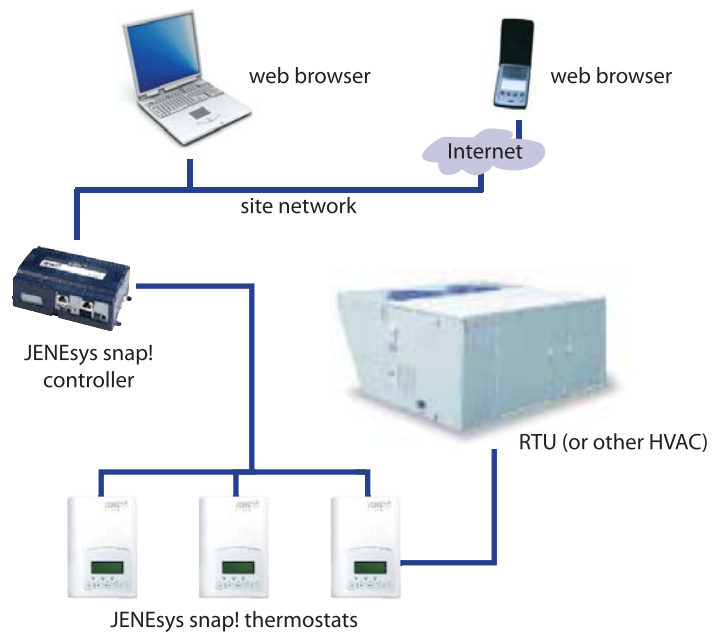
The installer may then modify the system for local use:

- Create users and select their security levels
- Provide custom names for thermostats
- Modify default set points and schedules
- Modify default alarm settings
- Globally zone and group thermostats for shared schedules
- Import site picture or floor plan
- Define demand limiting actions
- Specify special alarm requirements, such as email notification

Peripherals

Lynxspring can provide NEMA panels to enclose the controllers, repeaters to extend the BACnet MSTP network and IP hubs for the *JENEsys snap!* system.

Low-cost sensors can be added to monitor supply air temperature, mixed air temperature, and outside air temperature. These temperature sensors provide owners with additional diagnostic and energy use information, as well as HVAC control. Using remote space sensors, owners can average the space temperature, or can mount the thermostat remotely, away from the public area.



Sell your customers on *JENEsys snap!*

Savings:

- Reduces operating expenses
- Pays for itself through savings
- Improves the building environment and safety
- Demonstrates environmental sensitivity
- Easily implement demand limiting in your building

Efficiencies:

- Reduce operating costs of HVAC assets by proactively addressing the operational and energy issues of equipment
- Ensure that HVAC systems are properly maintained and operating at optimal efficiency
- Energy monitoring and profiling to ensure efficient usage
- Centralized access to managed building

Cost Effectiveness:

- *JENEsys snap!* practically "installs itself"
- No graphics development or special software needed
- Defaults provided for schedules, trends, alarms and reports
- Low total installed cost

HVAC Control from your Web Browser

To access any building, simply direct a standard web browser to the JENEsys controller on the network, log in, and view it on screen. It's that easy! If the owner has more than one location with the system installed, they can access, monitor and control each using the same, standard web browser.

JENEsys snap! Schedules

Schedules are group-based and can be edited globally or individually. Users define normal weekly or daily schedules and special days, and can see a graphic display of the schedule settings using the complete "schedule at a glance" function.

Demand Limiting

Demand Limiting saves energy by reducing consumption when peak charges are in play. JENEsys snap! contains a Demand Limiting module allowing users to define parameters that reduce stages of heating or cooling, turn off equipment, and/or move the system from occupied to unoccupied mode. Demand Limiting can address an individual piece of equipment, a zone, multiple zones or the entire building.

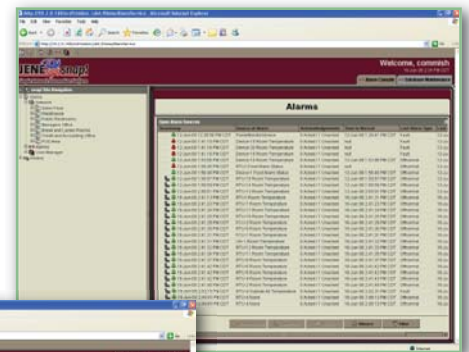
Energy Calculator and Reports

JENEsys snap! incorporates an energy calculator with a set of predefined reports. Input tonnage ratings for compressors, horsepower of the fans, efficiency ratings, and the blended kWh rate, and the energy calculator can determine energy use and utility costs for the equipment.

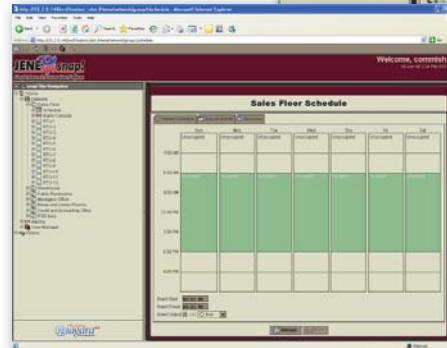
JENEsys snap! contains a set of predefined daily reports that accumulate and display:

- Current alarms
- Overrides in place
- Schedules in use
- Special events in use
- Minimum, maximum and average temperature for the day

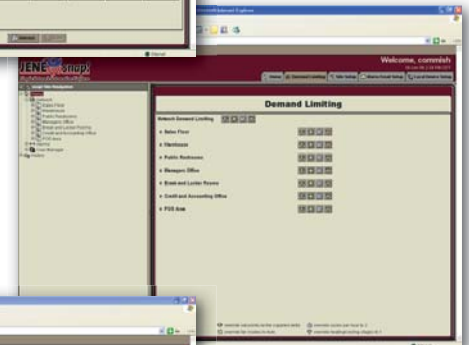
Reports can be based on individual thermostats, on a group (zone), or on the total network. Reports interface with the Energy Calculator to produce estimated energy use by the HVAC equipment, and can be exported to PDF, CVS or TXT formats.



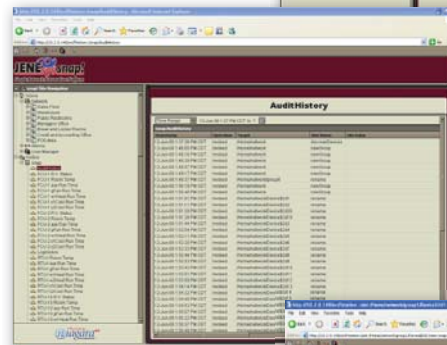
Alarms



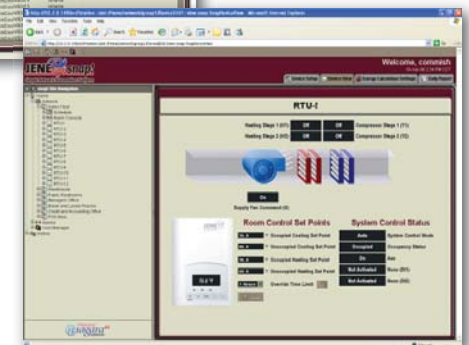
Schedules



Demand Limiting



Audit History



Thermostat View



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