

## **The Intelligent Thermostat for Multifamily Apartment Buildings – a CABA white paper proposal**

Smart thermostats are widely available from several manufacturers including NEST, Honeywell, ECOBEE, Emerson, Allure+, etc. They offer connectivity to the web so occupants can use web and phone apps to program their thermostats, monitor their home temperature, and send commands remotely. Also, some thermostats such as the NEST can program themselves to save HVAC related energy to optimize performance.

To act as a substitute for standard and stock thermostats provide by HVAC manufacturers, the smart thermostats must have the following minimal attributes:

- Requirements
  - Operated by the standard 24v power provided by the HVAC system
  - Capable of heating/cooling/off modes
  - Capable of fan on/auto modes
  - Capable of operating heat pumps/conventional splits/VRF systems
  - Offer 7-day programmable functionality
  - Ability for resident to view/control from mobile device
  - Wireless
- Preferences
  - Building management able to view/control remotely
  - Thermostat system able to sense occupancy
  - Minimal user-interaction necessary to program schedule
  - Ability to receive and display digital messaging
  - Ability to display custom graphics
  - Ability to communicate over mesh self-healing network
  - Wired option available

This proposed white paper would answer the following questions that face developers of multifamily apartment buildings:

- What are the current capabilities of top selling smart thermostats?
- How widely are smart thermostats used in new multifamily apartment buildings?
- How well do 3<sup>rd</sup> party smart thermostats work as a substitute for manufacturer provided stock thermostats?
- What is the price difference between manufacturer-provided stock thermostats vs. smart thermostats?
- Are utility rebates commonly available for smart thermostats?
- Are smart thermostats perceived by residents as an upgrade that would impact their decision to rent in a building?