

# ROBUST PROPERTY-WIDE NETWORK

Versatile Wireless Network for Hotels



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INNCOM Deep Mesh Network

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## NETWORK

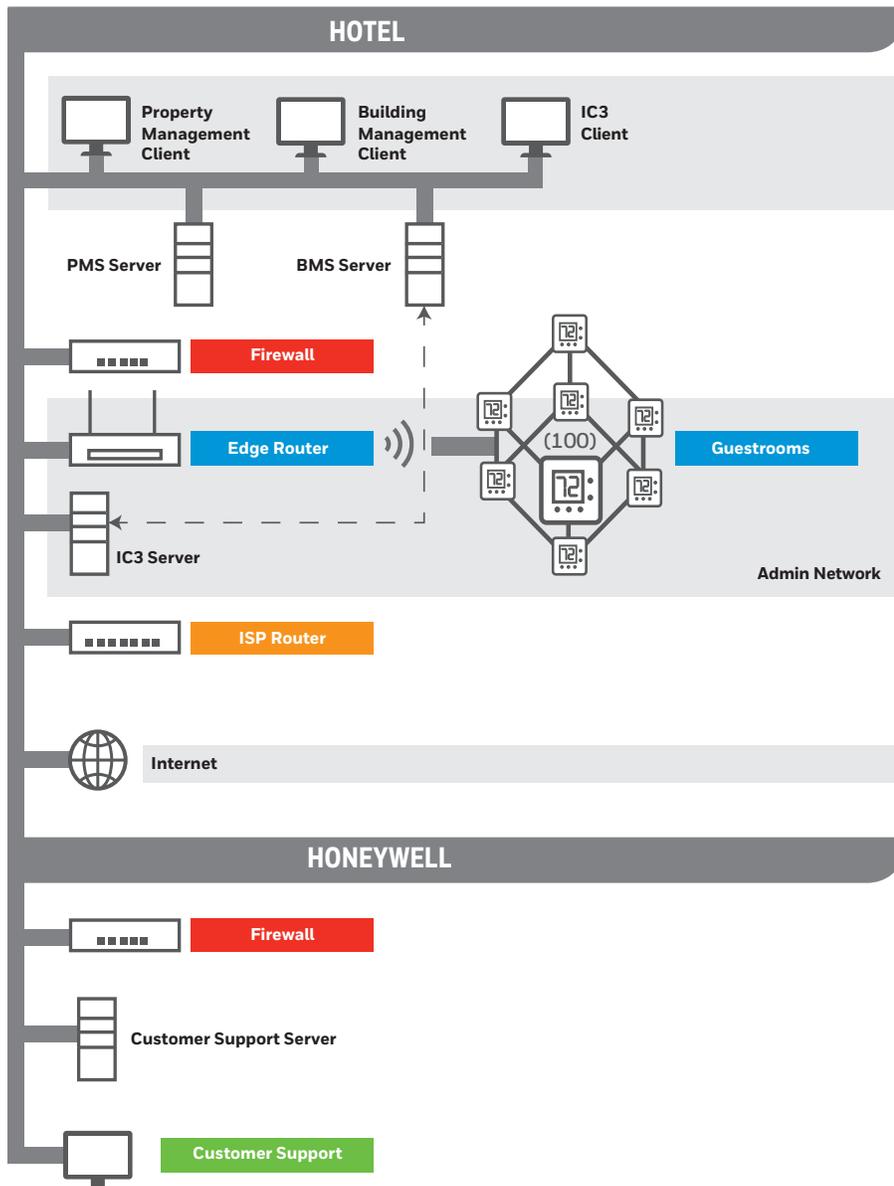
# Advantages

The INNCOM Deep Mesh Network (DMN) is a reliable, redundant, secure wireless network for hotel properties, which offers easier installation, lower costs, and greater scalability than other such hospitality networks.

Because DMN infrastructure is embedded in INNCOM thermostats, it provides a wireless mesh network that is self-forming and highly cost effective. This eliminates the need for multiple radios and densely populated networks of costly auxiliary routers and PAN coordinators that only support a limited number of rooms.

A typical INNCOM DMN network needs just one edge router for up to 250 rooms. Compared to traditional networks, the highly efficient DMN architecture reduces costs for both installation and maintenance.

Unlike other Property Network Systems, which require extensive installation, cabling, and electrical power, the INNCOM DMN requires minimal installation effort, since the network infrastructure is embedded in the thermostat. This mesh network also eliminates or greatly reduces the cabling and electrical power needed to install other systems.



## Network Architecture

Deep Mesh is a Radio frequency network capable of forming concurrent in-room and backhaul networks.

Scalable from one edge router per room to up to 100 rooms per edge router.

Because the network infrastructure is embedded in the INNCOM thermostat, additional network hardware is kept to a minimum. If there are several points of communication in a room, such as lighting controls or a thermostat, signals automatically follow the shortest, safest route through the building and to the server.

## DEEP MESH

# Network Overview

ZigBee® (IEEE 802.15.4) based, designed to work with ZigBee Pro, ZigBee 2006, and 6LoWPAN.

Supports INNCOM's Integrated Room Automation System message bus. Facilitates interoperability between RF, IR and wired room devices.

Multi-path packet routing for enhanced transport reliability.

Four AES128 encryption channels (VLAN) for data security.

102 bytes of data payload, including mesh, encryption and authentication.

Low cost network infrastructure is embedded in the thermostat and other room devices.

Every powered node contains a 4 kilobyte mailbox memory usable as a relay-buffer for battery operated devices.

Intrusion detection and warning on an attempted replay attack.

IP addressable devices. Edge router delivers IP packets directly between hosts and devices.

Long life for battery operated devices.

Patent pending solutions for enhanced battery life of RF motion detectors.

Enforcement of authentication certificates at edge router.

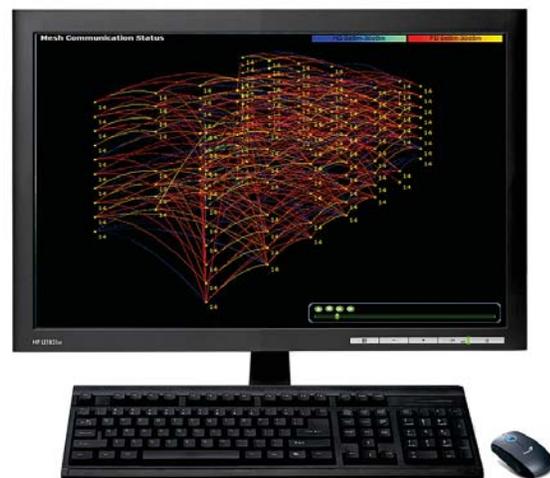
Supports Room Control protocol allowing for multi-vendor integration.

RF network qualification through packet accounting, data path capturing and background noise tracking.

Edge router options: RF-to-Ethernet (PoE option), RF-to-USB, RF-to-Set Top Box for Television control.

IPv6 edge router supports flat connectivity between devices and third party appliances such as tablets, allowing for an IPv6 ready environment for future expansion.

Real-time data transmission.



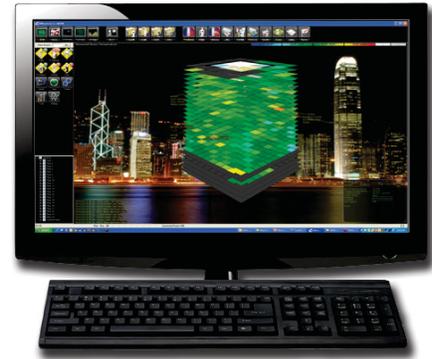
INNCOM Deep Mesh Screen

A Powerful Network Deserves a

# Robust Application

INNCOM INNcontrol™ 3 is a powerful, client/server application that provides a robust communications solution for properties with Honeywell's Wireless Energy Management Systems. It delivers innovative room monitoring and control capabilities and provides efficient information presentation to staff and management.

The INNcontrol 3 software communicates with INNCOM in-room intelligent devices such as the e4 Smart Digital Thermostat and a variety of light switches, controllers, and other communication devices.



INNCOM INNcontrol 3 Application

## Key Feature Comparisons and Benefits

INNCOM Deep Mesh Network Offers:	Other Networks:
Low cost network infrastructure is embedded in other room devices	Require separate RF radio devices for network transmission.
One edge router for up to 100 rooms.	Are limited to small number (as few as 4) of rooms per router and routers per PAN
ZigBee™ (IEEE 802.15.4) based designed to work with ZigBee Pro, ZigBee 2006 and 6LoWPAN	Are limited to one particular generation of ZigBee protocol
Supports Room Control Protocol allowing for multi vendor integration	Use single network protocols limiting or precluding future growth
Multi-path packet routing provides enhanced transport reliability	Are limited to ZigBee packet routing algorithms only
Edge router acts simultaneously as IP router and application gateway to provide multi-mode service	Are limited to only the traditional PAN coordinator services
Devices are IPv6 ready for future network services	Have undefined future upgrade path with unclear backwards compatibility
Real-time data transmission	Sample room activities on a periodic basis, as much as an hour between samples

### For more information

[www.inncom.com](http://www.inncom.com)

### Honeywell

277 West Main Street  
Niantic, CT 06357  
+1.860.739.4468

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