# Smart Rooftops
With Daikin Applied™
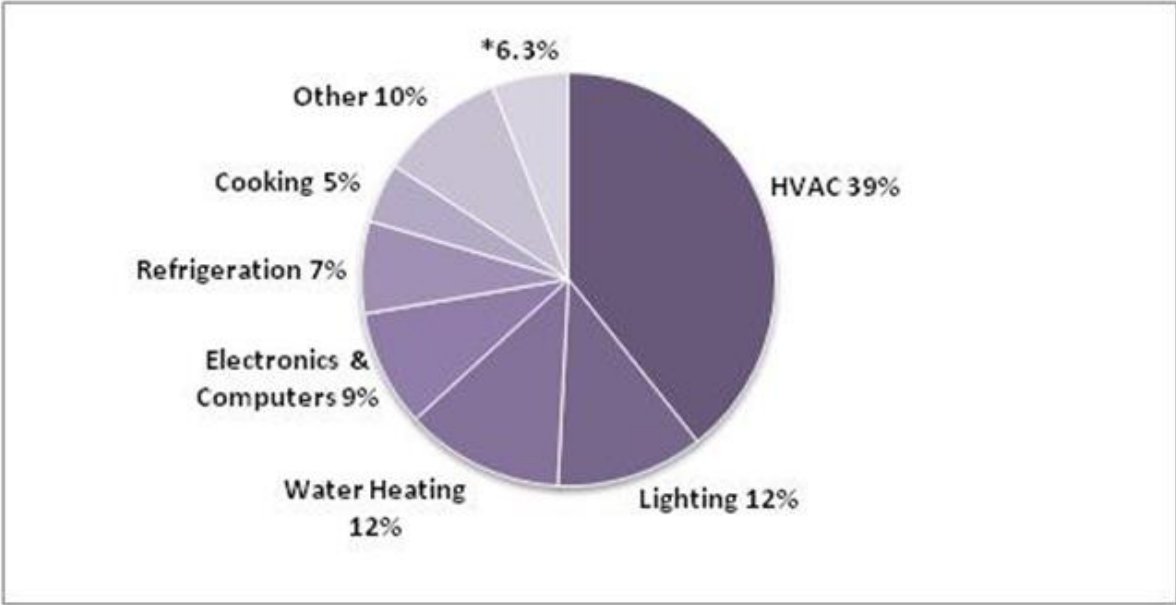
and Intel's Gateway Solutions for the Internet of Things

# What *Is* The Challenge?
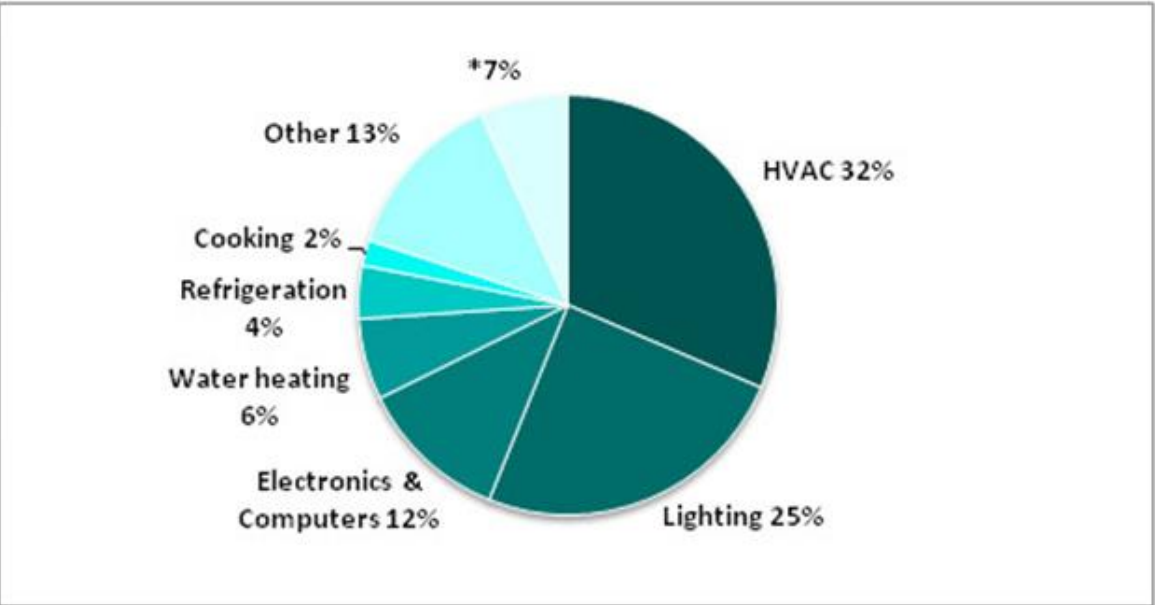
## If You Could Make One Thing Smarter and More Efficient…   What Would it Be?

US Residential Energy Consumption-

US Commercial & Industrial Energy Consumption-



Other 10%
*6.3%
Cooking 5%
HVAC 39%
Refrigeration 7%
Electronics & Computers 9%
Water Heating 12%
Lighting 12%

Source: DOE, *2008 Buildings Energy Data Book*, Section 2.1.5, 2008.
This pie chart includes an adjustment factor used by the EIA to reconcile two datasets.



*7%
Other 13%
Cooking 2%
Refrigeration 4%
HVAC 32%
Water heating 6%
Electronics & Computers 12%
Lighting 25%

Source: DOE, *2008 Buildings Energy Data Book*, Section 3.1.4, 2008.
Note: This pie chart uses an adjustment factor (*) used by the EIA to reconcile two datasets.

Source DOE

## Yet… Most HVACs Are Islands

(intel)

# Daikin Applied™ and Intel Corporation

**Paul Rauker**
Vice President & GM
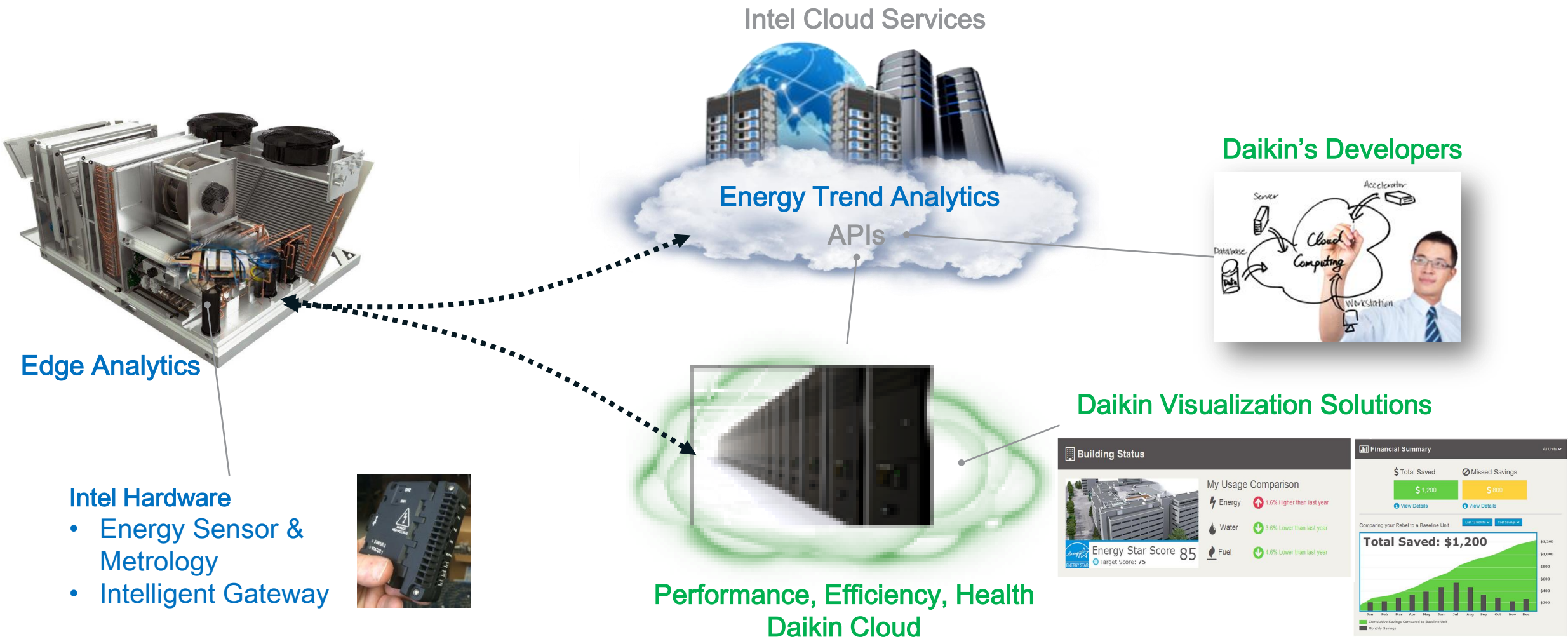Daikin Applied

Minneapolis, MN

**Scott Shull**
Strategic Business
Development
Intel Corp

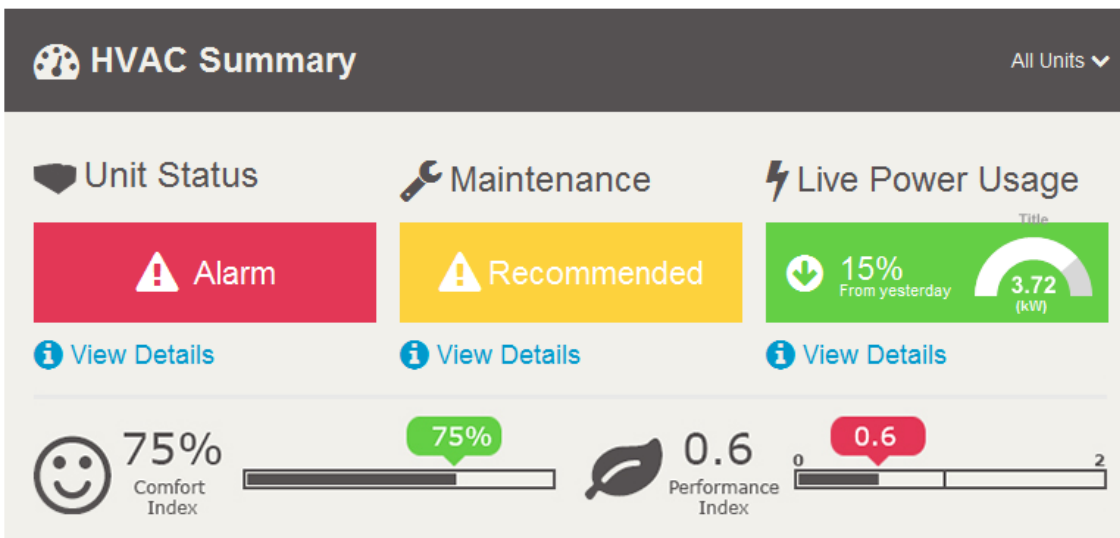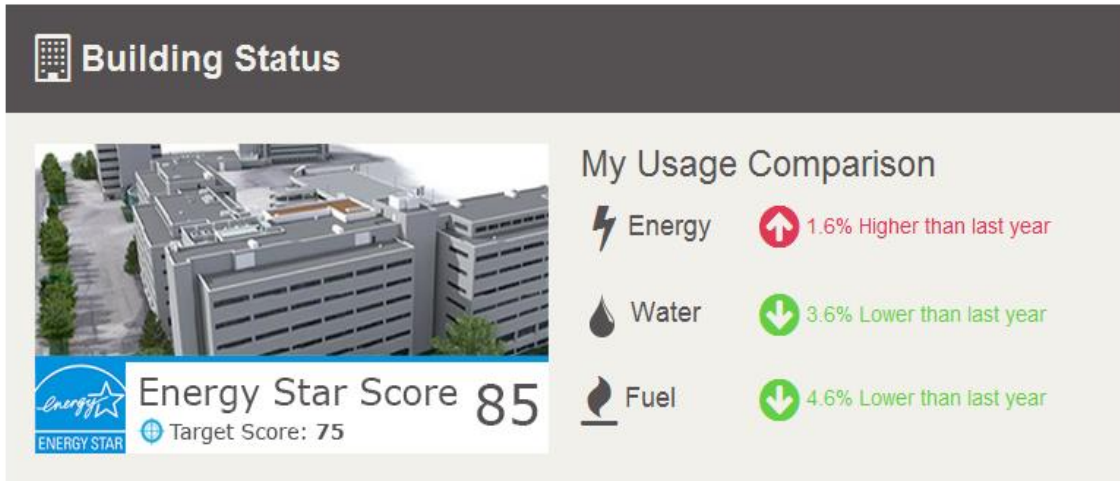Portland, OR

## Smart Connected Rooftops
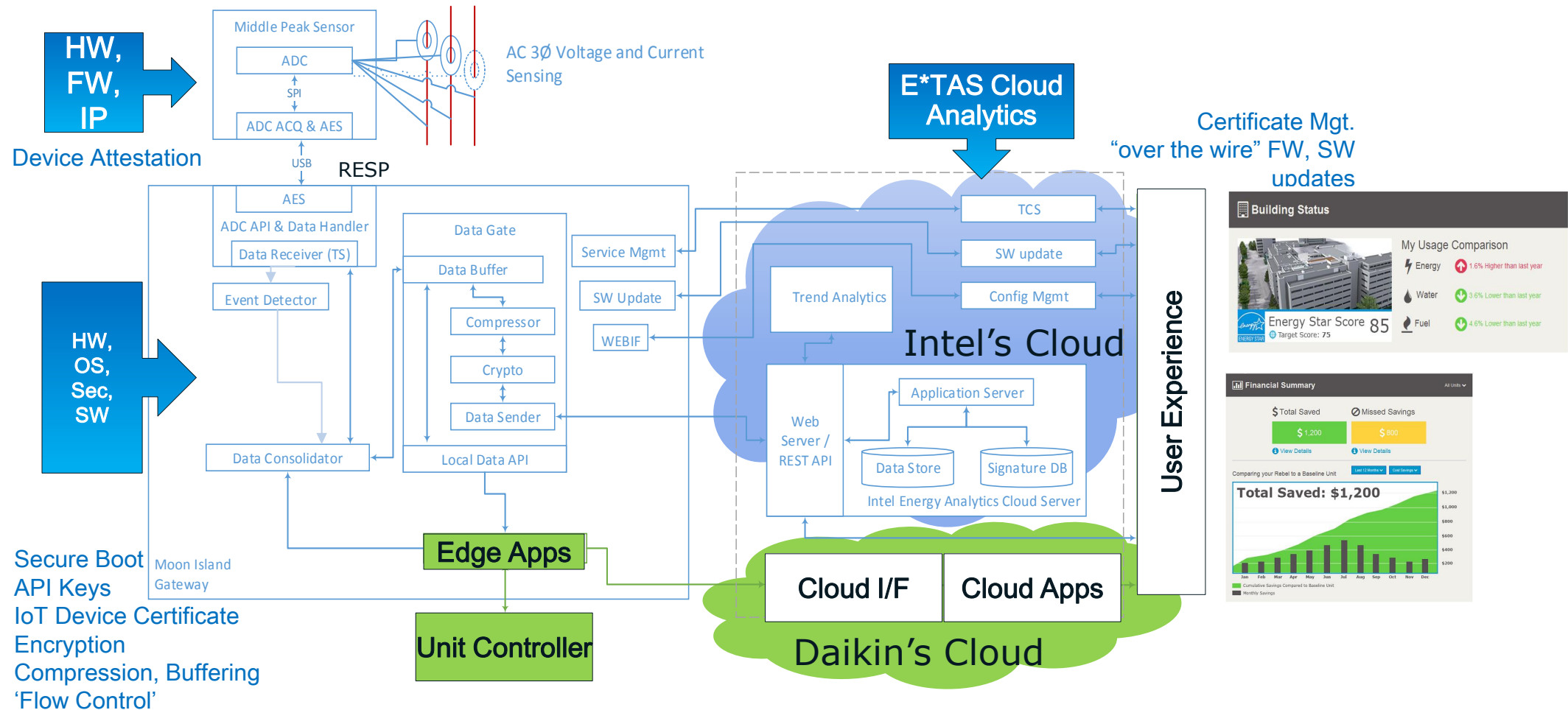
# Remotely Monitoring, Continuously Provisioning

Intel Cloud Services

**Daikin's Developers**

Energy Trend Analytics
APIs

**Edge Analytics**

**Intel Hardware**
- Energy Sensor & Metrology
- Intelligent Gateway

**Daikin Visualization Solutions**

Building Status

My Usage Comparison

Energy — 1.6% Higher than last year

Water — 3.6% Lower than last year

Fuel — 4.6% Lower than last year

Energy Star Score 85
Target Score: 75

Financial Summary                          All Units

$ Total Saved        ⊘ Missed Savings
$ 1,200                  $ 800
View Details            View Details

Comparing your Rebel to a Baseline Unit

Total Saved: $1,200

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Cumulative Savings Compared to Baseline Unit
Monthly Savings

**Performance, Efficiency, Health
Daikin Cloud**

## Secure, Connected, Managed HVAC Assets

intel

# Transformational Services

# Solution Architecture…



Bringing Advanced Security, Encryption, Metering & Energy Analytics to the HVAC Solution

# Aggregating Fleets of Rooftops

**Transformational…**

**DAIKIN**

COORDINATED
FLEET of RTUs

**DAIKIN**

ENERGY
ORCHESTRATION

OPTIMIZE & AGGREGATE
RTU FLEET
PERFORMANCE

Among the Worlds Most Efficient RTUs
Now Daikin Enables Energy Services for Their Customers

## With Daikin Rebel Alone…
## over 689 MW under Energy Orchestration!

(intel)