



# Making Sense of the ENERGY STAR SHEMS Program

**For Retailers**  
**October 30, 2019**

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## Welcome! We will begin shortly

- **Login or Audio Troubles**
  - Please type questions in the chat window for help
  - If you cannot hear the audio through the computer, you can listen in by calling:
    - US/Canada Toll Number: +1-415-655-0002
    - Access code: 293 153 002
- **Questions**
  - There will be a Q&A session at the end of the presentation
  - Submit questions to the organizer and panelists via chat to “All Panelists”
- **Presentation Slides & Recording**
  - Presentation slides will be sent to all participants
- **Notes**
  - To improve audio quality, all attendees are muted upon entry



## Introductions



**Abigail Daken**

EPA  
*ENERGY STAR HVAC Product  
Manager*

- ENERGY STAR technical lead for connected product criteria, smart thermostats, and many other product categories. Focus areas include HVAC, water heating and connected.
- SHEMS Co-lead with Taylor Jantz-Sell, who is currently out on maternity leave, returning January 2020.



## Agenda

- Program Overview
  - Why ENERGY STAR?
  - What's an ENERGY STAR SHEMS?
  - Roles in the SHEMS Program
    - Who can be a partner?
    - How might retailers get involved?
  - How might SHEMS be sold and installed?
- Questions and Discussion

Our goal today is to answer questions – please stop us and ask!

## The ENERGY STAR Brand

EPA's ENERGY STAR identifies the most energy-efficient **products, buildings, plants,** and **new homes** – all based on the latest government-backed standards.

Today, every ENERGY STAR label is verified by a rigorous third-party certification process.





# In American Households:

**Brand Preference and Loyalty**



MORE THAN

**90%**

RECOGNIZE THE ENERGY STAR® LABEL



NEARLY

**85%**

UNDERSTAND WHAT IT MEANS



IN THE PAST YEAR,

**45%**

PURCHASED ENERGY STAR-LABELED PRODUCTS

OF THESE PURCHASERS

**74%** were influenced by the label in their decision

**80%** are likely to recommend ENERGY STAR to a friend

U.S. EPA  
2017

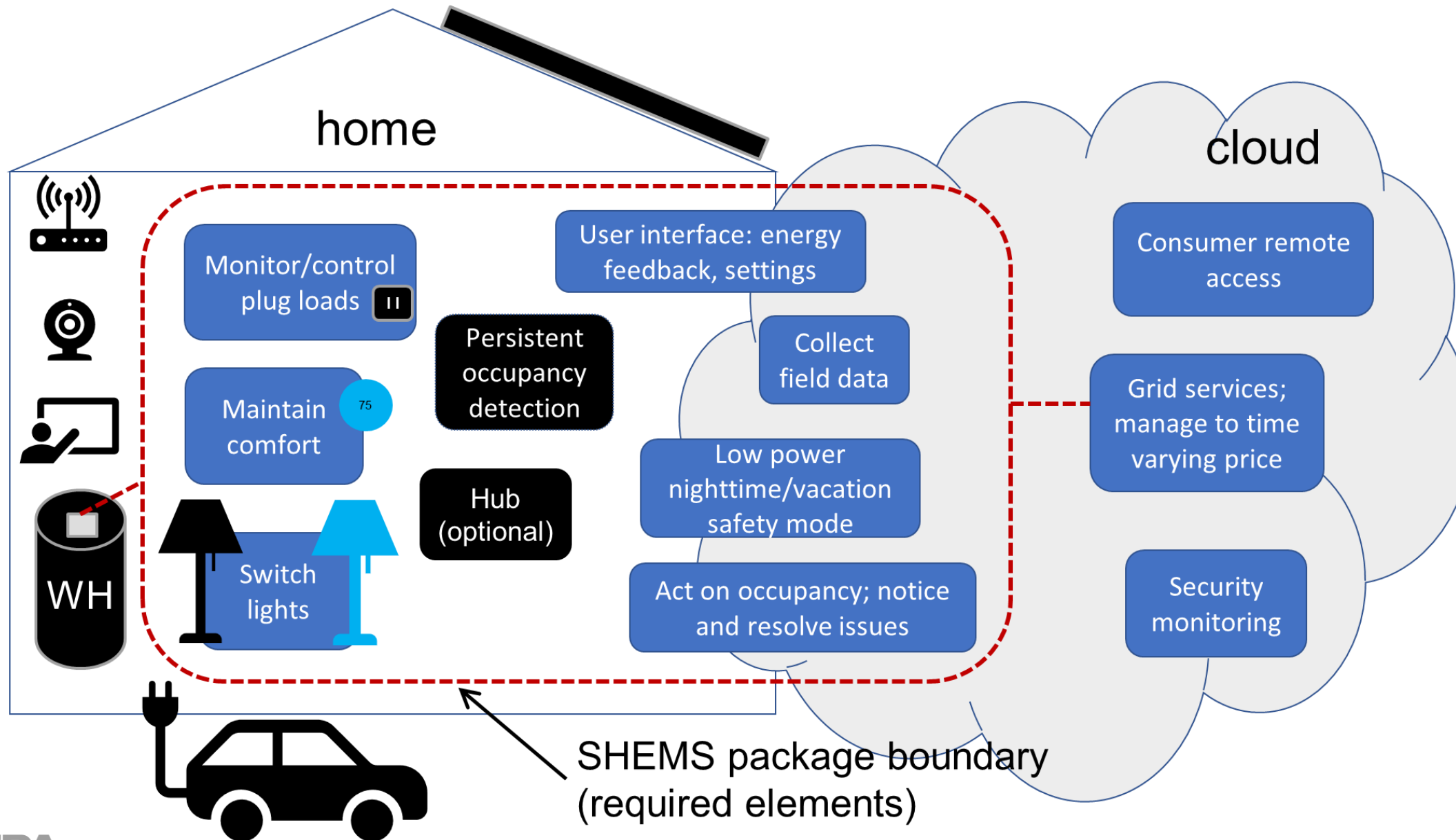


## Why ENERGY STAR?



- **Consumers and utilities are interested in the smart home**, as shown with smart thermostat adoption
- **ENERGY STAR is a known and trusted label**, backed by impartial, publicly available specifications and test methods, and a powerful branding tool
- Part of the ENERGY STAR brand promise is to **make difficult decisions about energy savings simple**, as with automated SHEMS energy savings
- Offering a **uniform national platform** allows for smoother, more coordinated, deployment of incentive programs
- ENERGY STAR SHEMS can be a win for the companies that offer them, for the consumers that want them, and for the environment

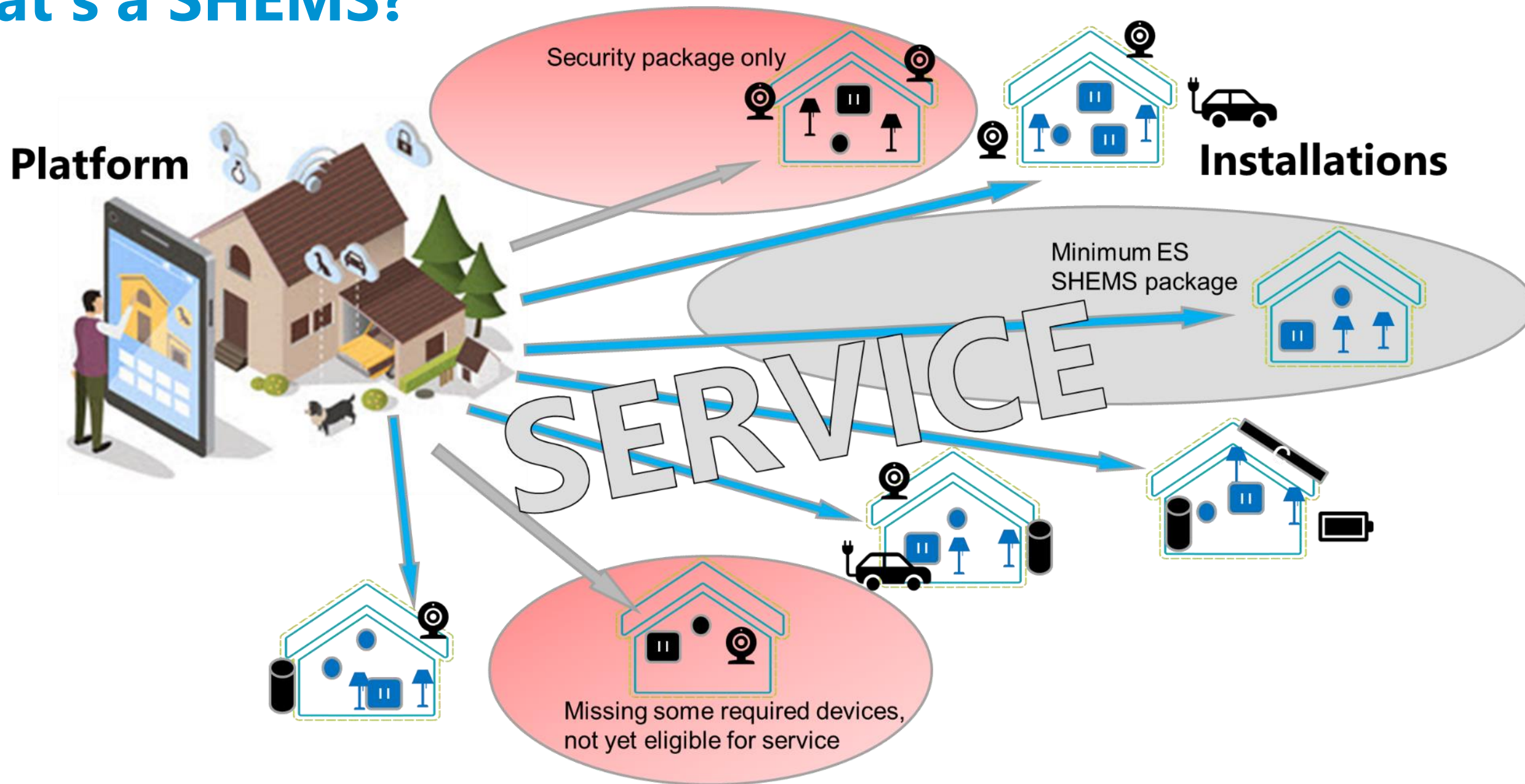
# A SHEMS is a Package of Devices and Services

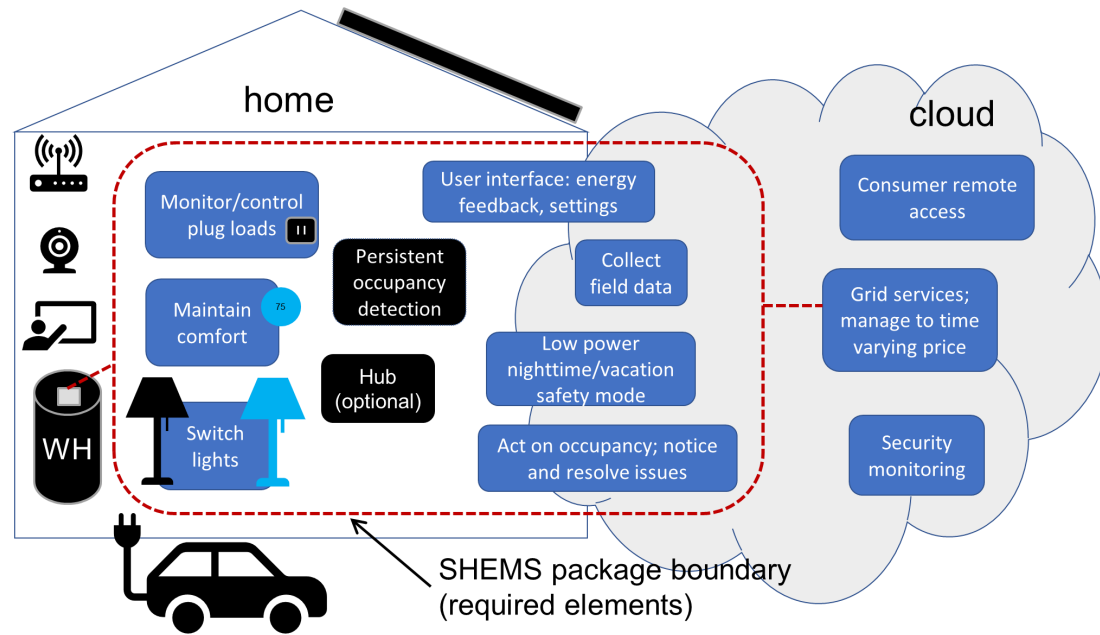


$$\begin{aligned} &\text{Hardware} \\ &+ \\ &\text{Occupancy Info} \\ &+ \\ &\text{Automated Services} \\ &= \\ &\text{Energy Savings} \end{aligned}$$

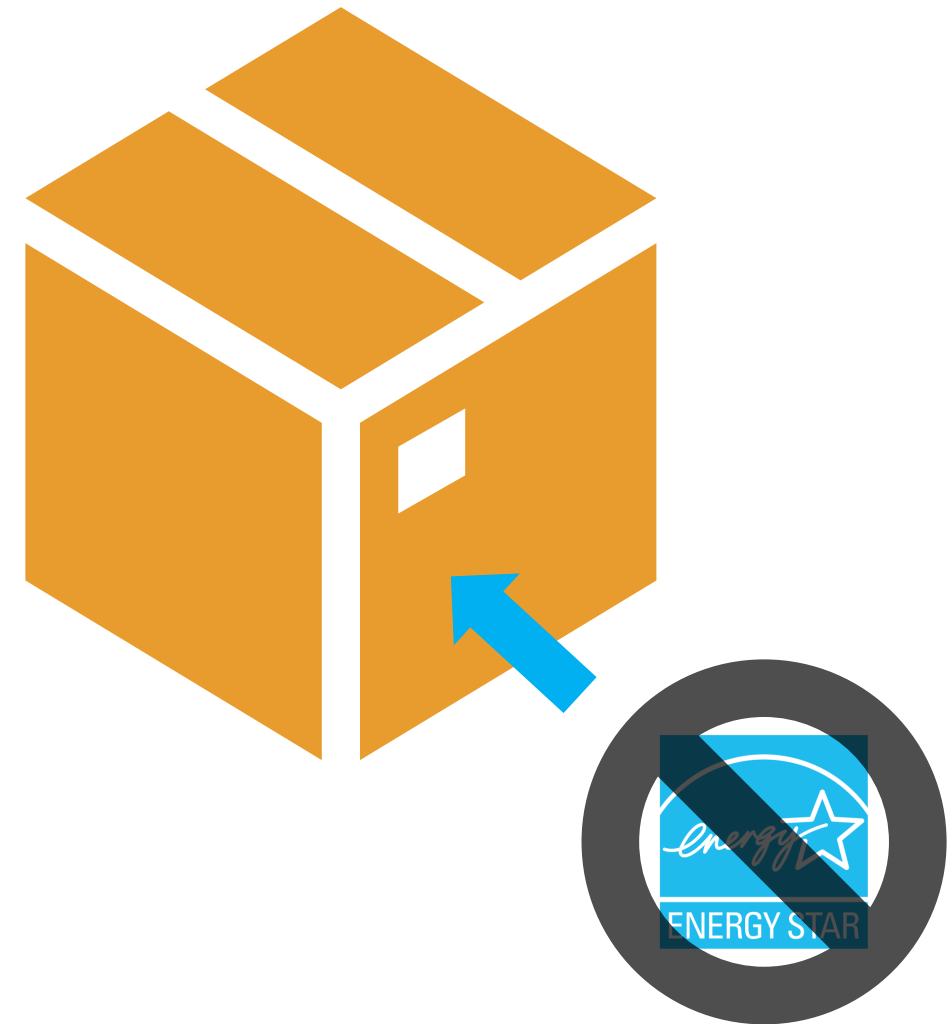


# What's a SHEMS?





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# SHEMS Package



+



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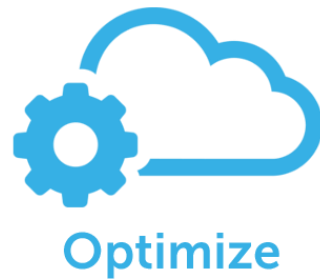
**Device Bundle**

**Services**

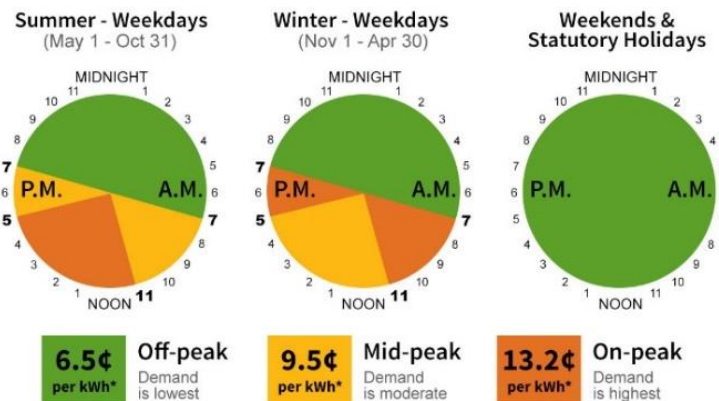
**ENERGY STAR  
Certified Product**

# What is required of an ENERGY STAR SHEMS?

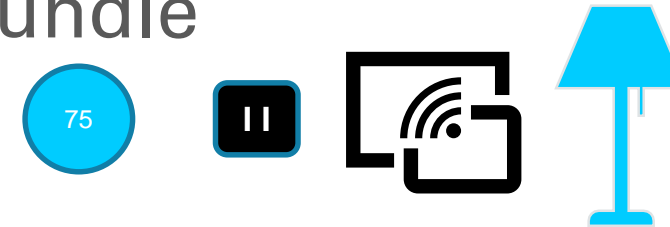
## 4.1 Service Capabilities



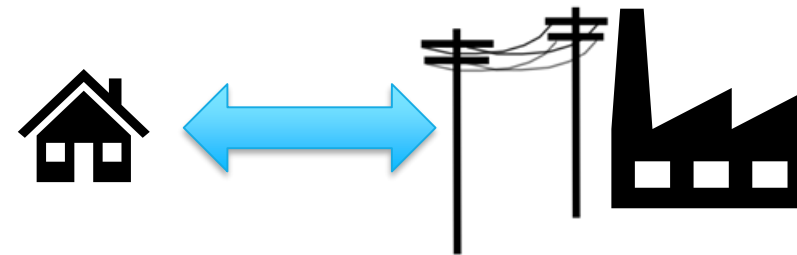
## 4.2 Additional Required Platform Capabilities



## 4.3 Minimum Required Device Bundle



## 4.4 Grid Services



## 4.5 Field Data Reporting



## 4.1 Service Capabilities

- Occupancy detection
- Scheduling and automatic device control based on occupancy
- Remote user access



## 4.2 Additional Required Platform Capabilities

- Ability to **connect** to a smart WH or WH controller
  - Connection enables occupancy-based control using occupancy information from the SHERMS
- Ability to optimize system for time of use electricity prices





**Compatible (primary connectivity):** streamlined pairing process and access within user interface  
*(required devices, encouraged devices)*

**Can connect (secondary connectivity):** enables direct occupancy-based control without third-party service, but pairing process and user interface may be less streamlined  
*(water heater controller/connected water heater)*

**Not sufficiently connected (tertiary connectivity):** device requires enabling a third-party service (such as IFTTT or Works with Apple HomeKit)



## 4.3 Minimum Compatible Device Bundle

Device	Examples	Capabilities/Requirements
Connected Thermostat (1)		<ul style="list-style-type: none"> <li>Automated based on occupancy detection</li> </ul>
Connected lighting (2)		<ul style="list-style-type: none"> <li>Report lighting energy/power</li> <li>Automated based on occupancy detection</li> <li>Vacation safety mode</li> </ul>
Connected Plug Load Device		<ul style="list-style-type: none"> <li>Disaggregate whole-home energy usage to individual circuits OR measure and control a single plug/power strip</li> <li>Energy data communicated to central service</li> <li>Plugs/outlets only: automated based on occupancy detection</li> </ul>
Hub (optional)		<ul style="list-style-type: none"> <li>May be necessary to provide connectivity to other devices</li> </ul>

May be compatible with:



Connects to:



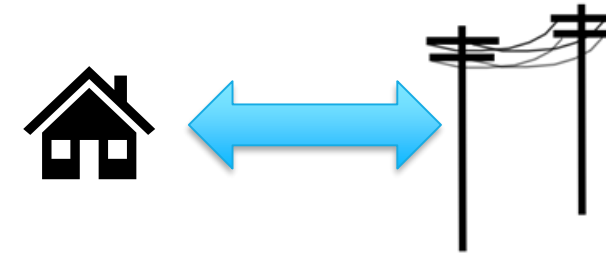
Minimum device bundle:





## 4.4 Grid Services

- Capability to implement a demand response event to at least one device
- User override available; duration 72 hours or less



## 4.5 Field Data Reporting (to EPA)

- Unlike typical ENERGY STAR products, SHERMS save energy by affecting how people use *other* products
- Only statistical data from real users shows effect of complex behavioral interactions with tech, evens out variation
- Partner must submit aggregated statistical data every 6 months, covering a 6-month period, to EPA contractor

## What does EPA certify?

- ✓ The package (service + device bundle) meeting the requirements which is marketed to consumers
- ✗ Is the Service Provider's Platform certified?
  - No – runs many other packages (e.g. security)
- ✗ Are Individual Devices certified?
  - Only insofar as they have their own, separate ENERGY STAR specification, e.g. connected light bulbs and smart thermostats
- Is an Individual Installation certified?
  - Not all homes that purchase the SHERMS package will set it up in accordance with the SHERMS specification
  - Installations that include all elements of the basic SHERMS are considered part of the population for field data analysis

## Who can be a partner?

- The Service Provider is the ENERGY STAR Partner
  - ✓ Brands the interface with which the end user interacts
  - ✓ Brand name appears in consumer-facing marketing information
  - ✓ May or may not manage service algorithms
  - ✓ Responsible for ensuring that field data is submitted to EPA
    - Data may be submitted by service OEM
  - ✓ May or may not brand any of the package devices
  - ✓ Must comply with the ENERGY STAR [Partner Commitments](#)
    - Use the logo in accordance with our [Brand Book](#)

## How can retailers participate?

1. Sell devices and/or bundles of devices
2. Sell devices and market certified ENERGY STAR services
3. Sell devices and provide installation assistance
4. Partner with a service provider to offer their package
5. Become a [service provider](#)



## How might SHEMS be sold and installed?

### Option 1: Professional install

- An installation professional manages device procurement, installation and connection
- May or may not be employed by the SHEMS service provider
- The home may or may not have some devices installed previously
- In new construction, device installation may occur before the home is occupied, SHEMS is complete when occupant enrolls in service



Installation contractor is generally **not** the ENERGY STAR Partner

## How might SHEMS be sold and installed?

### Option 2: Package self-install

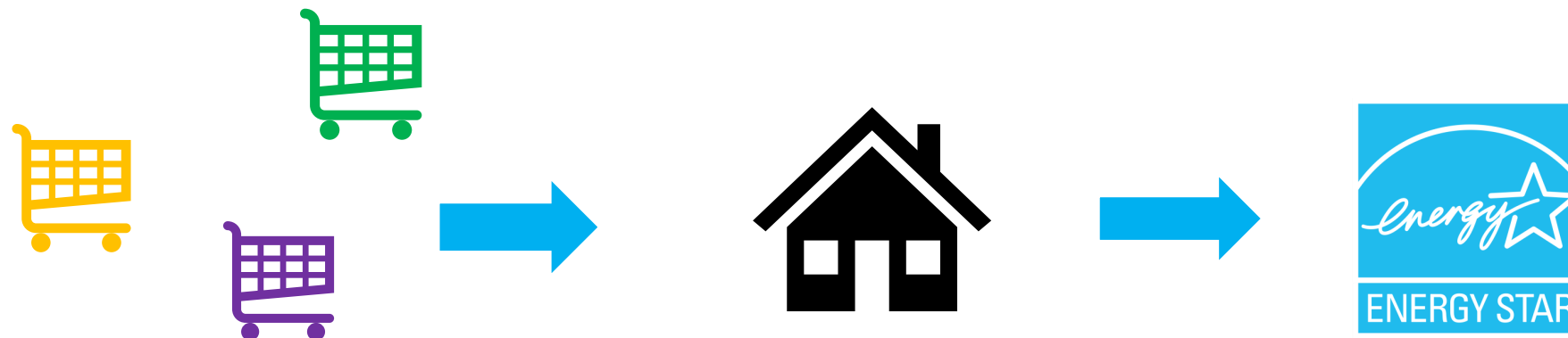
- Package of devices is offered through a retailer, service provider's online store, or utility's online marketplace
- Homeowner follows instructions to install and connect devices themselves
- SHEMS is complete when homeowner enrolls for service



## How might SHEMS be sold and installed?

### Option 3: Piecewise self-install

- The homeowner purchases different devices at different times, not necessarily from a single marketplace
- The homeowner chooses a service provider (and may need to acquire additional equipment such as a hub) to establish the ENERGY STAR SHEMS service





## EPA Matchmaking Service

- EPA expects that most services providers will need to develop additional capabilities in order to certify their SHEMS
  - Certified SHEMS packages will likely start appearing in Q2 2020
- To facilitate getting the program off the ground, EPA will be hosting a matchmaking service to share contact information between mutually interested parties looking to establish business partnerships
  - Follow this link to participate in the service:  
<https://forms.gle/jW7vnVz8QvWMNXoi6>  
(will be posted after the presentation is over)



## Contact Information

Specification Questions:

[SmartHomeSystems@energystar.gov](mailto:SmartHomeSystems@energystar.gov)

Jason Warner, ICF (Retail questions):

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Taylor Jantz-Sell, U.S. EPA

[Jantz-Sell.Taylor@epa.gov](mailto:Jantz-Sell.Taylor@epa.gov)

Taylor concentrating on her other job,  
back in the office January 2020





## Next Steps

Join the upcoming webinars:

- **November 13, 2019, 1-2pm ET:** [Working Toward Smart Efficiency: an Overview of the SHEMS Specification for Energy Efficiency Program Sponsors](#)
- **December 4, 2019, 1-2pm ET:** [Making Sense of the ENERGY STAR SHEMS Program for Home Builders](#)

Sign up for the matchmaking service: <https://forms.gle/jW7vnVz8QvWMNXoi6>



# Questions and Discussion