CYPRESS ENVIROSYSTEMS™

Wireless Pneumatic Thermostat (WPT) Upgrade Program:

WPT 1st generation
(2.4 GHz) to

WPT 2nd generation
(900 MHz LoRaWAN)

November 2025

WPT Upgrade Program: Background

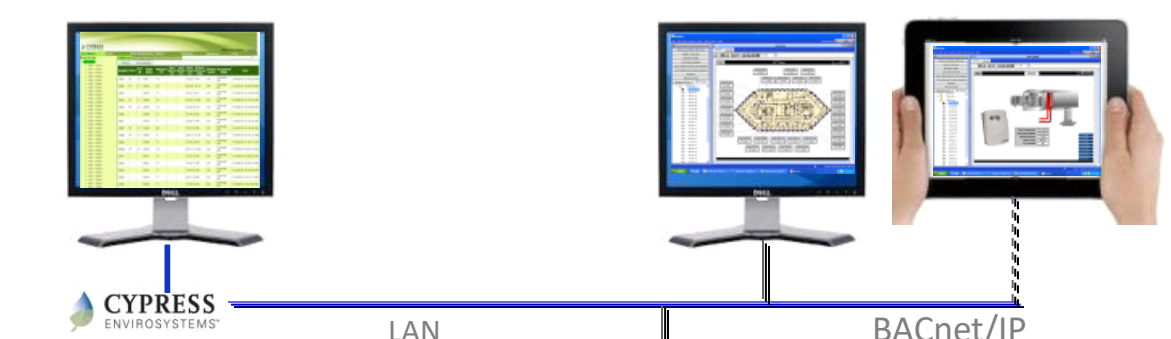
- WPT 1st Generation was introduced in 2010. It was the first patented non-invasive pneumatic upgrade technology available.
- WPT 2nd Generation was introduced in 2020. It incorporates many customer requested improvements.
- Support for WPT 1st Generation will end beginning of 2026.
- For users of WPT 1st Generation, Cypress has developed an upgrade path for continued seamless support.

Benefits of WPT 2nd Gen vs. 1st Gen

- **New wireless radio and network, longer range**
- **New microcontroller**
- **New battery, longer life**

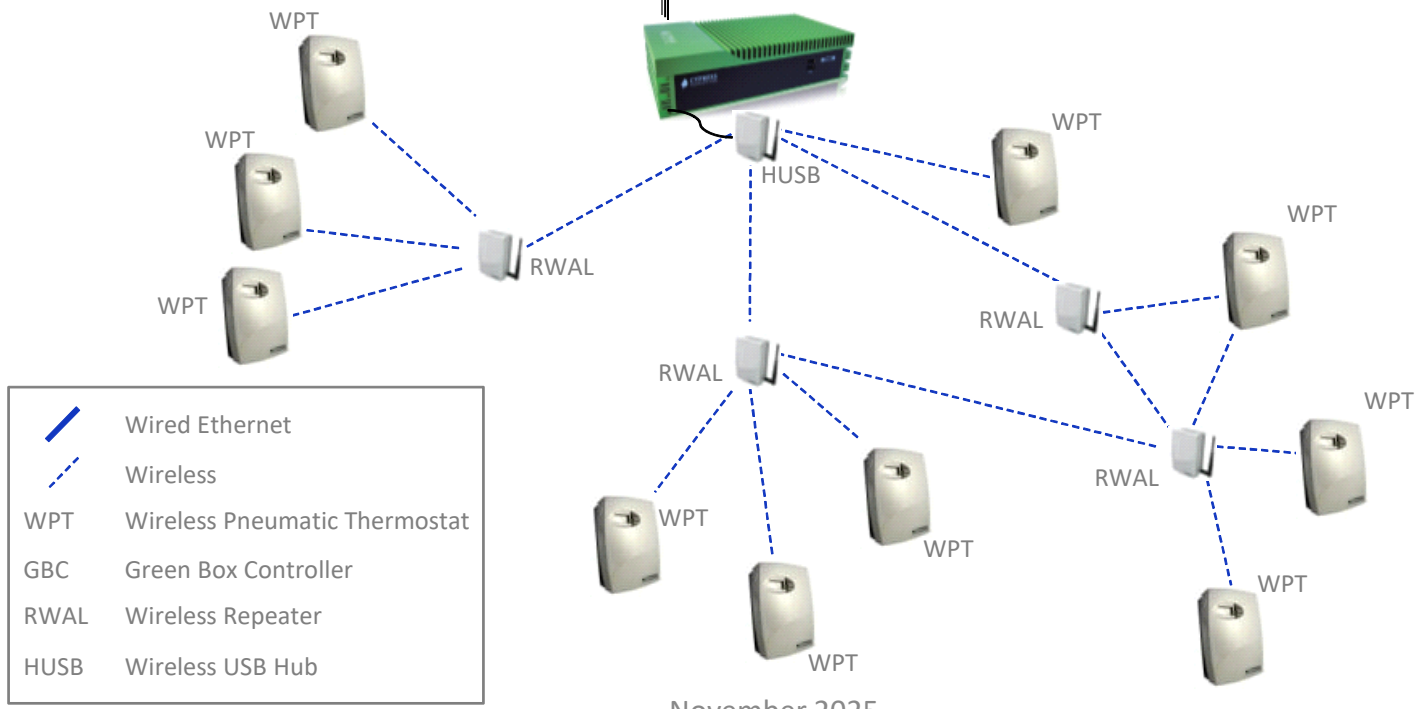
1. Longer wireless range, over 2x the distance - do not need repeaters. One Hub can serve typically 3 floors and up to 100 thermostats
2. Improved wireless security - encrypted and highly secure LoRaWAN protocol
3. Longer battery life (20% longer life)
4. Automatic calibration – continuous, no need for manual calibration.
5. Compatibility with SMARTPneumatics fault detection analytics - allow "AI" detection of leaks, calibration problems, stuck actuators etc.
6. Supports Discharge Air Temperature sensors
7. Supports occupancy, temperature, light level, humidity sensors.

WPT Architecture – 1st Generation



BACnet interface compatible with:

ALERTON · Johnson Controls · AUTOMATEDLOGIC CORPORATION · TRANE · Delta CONTROLS · Schneider Electric · Honeywell · SIEMENS



	Wired Ethernet
	Wireless
WPT	Wireless Pneumatic Thermostat
GBC	Green Box Controller
RWAL	Wireless Repeater
HUSB	Wireless USB Hub

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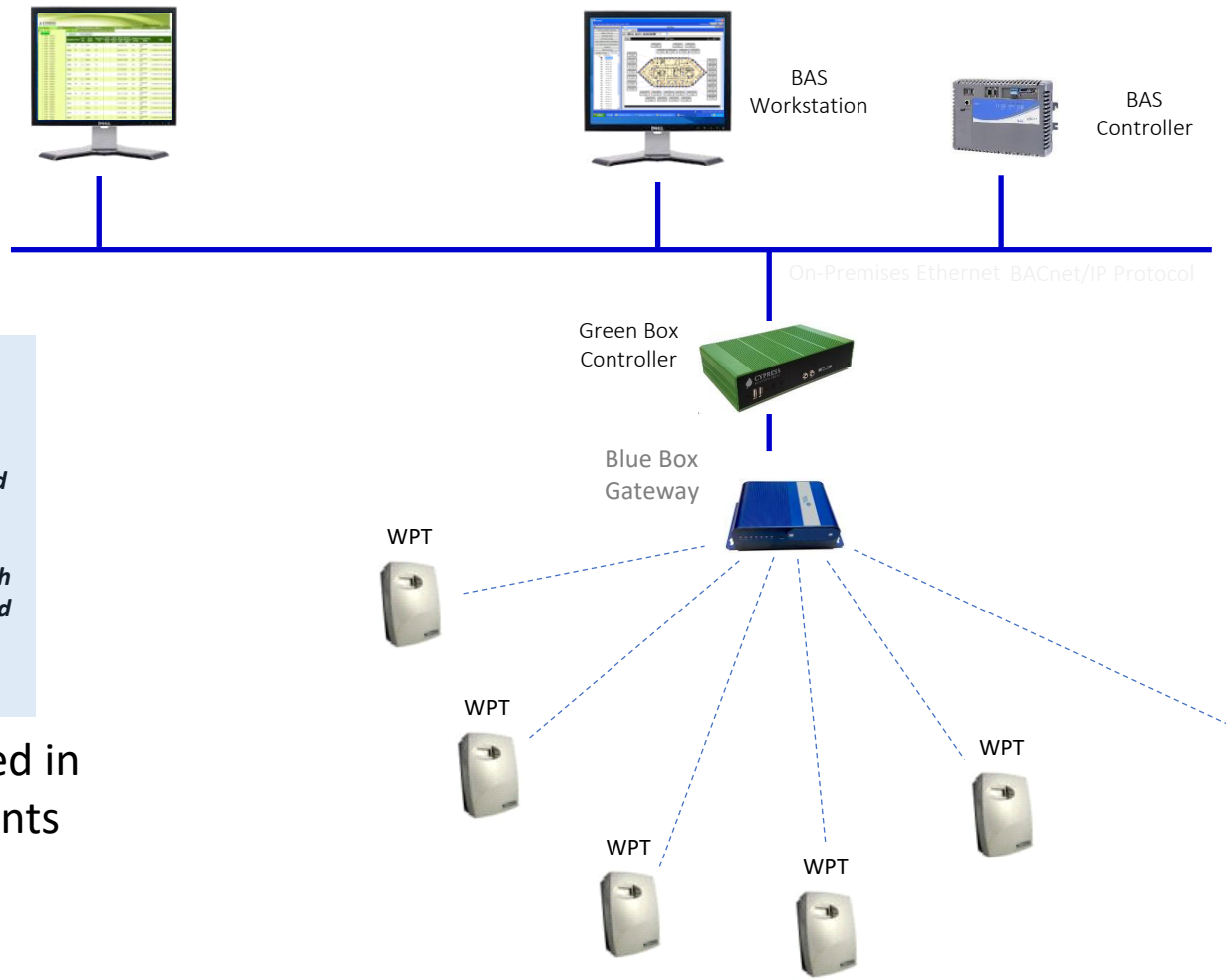
WPT Architecture – 2nd Generation



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NIST National Institute of Standards and Technology

Cypress solution tested by US Federal Government GSA IT Security to comply with NIST 800-53. Approved for use in all Federal buildings.

Same network used in nuclear power plants

Legend

- Wired Ethernet
- LoRaWAN Wireless
- WPT — Wireless Pneumatic Thermostat

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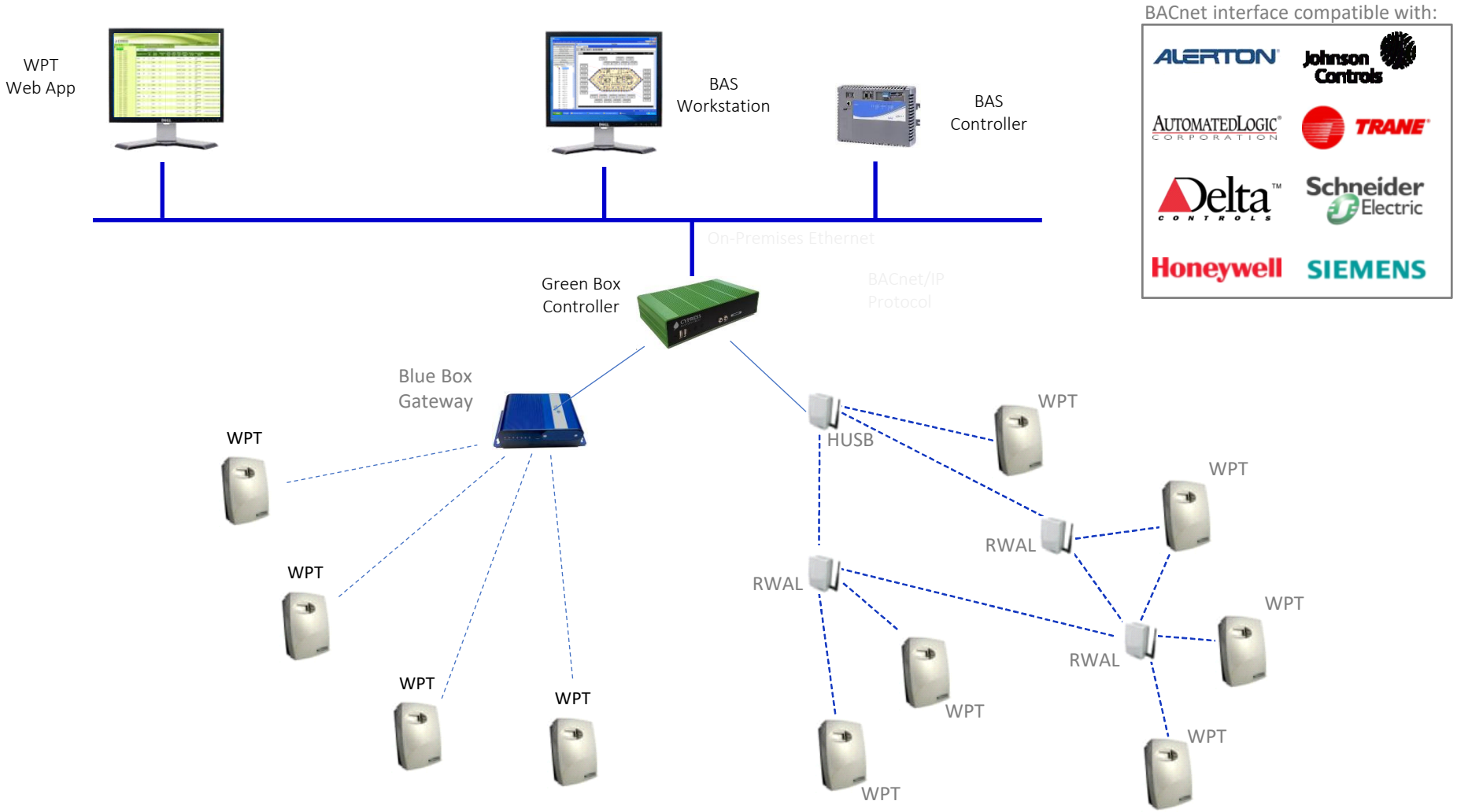
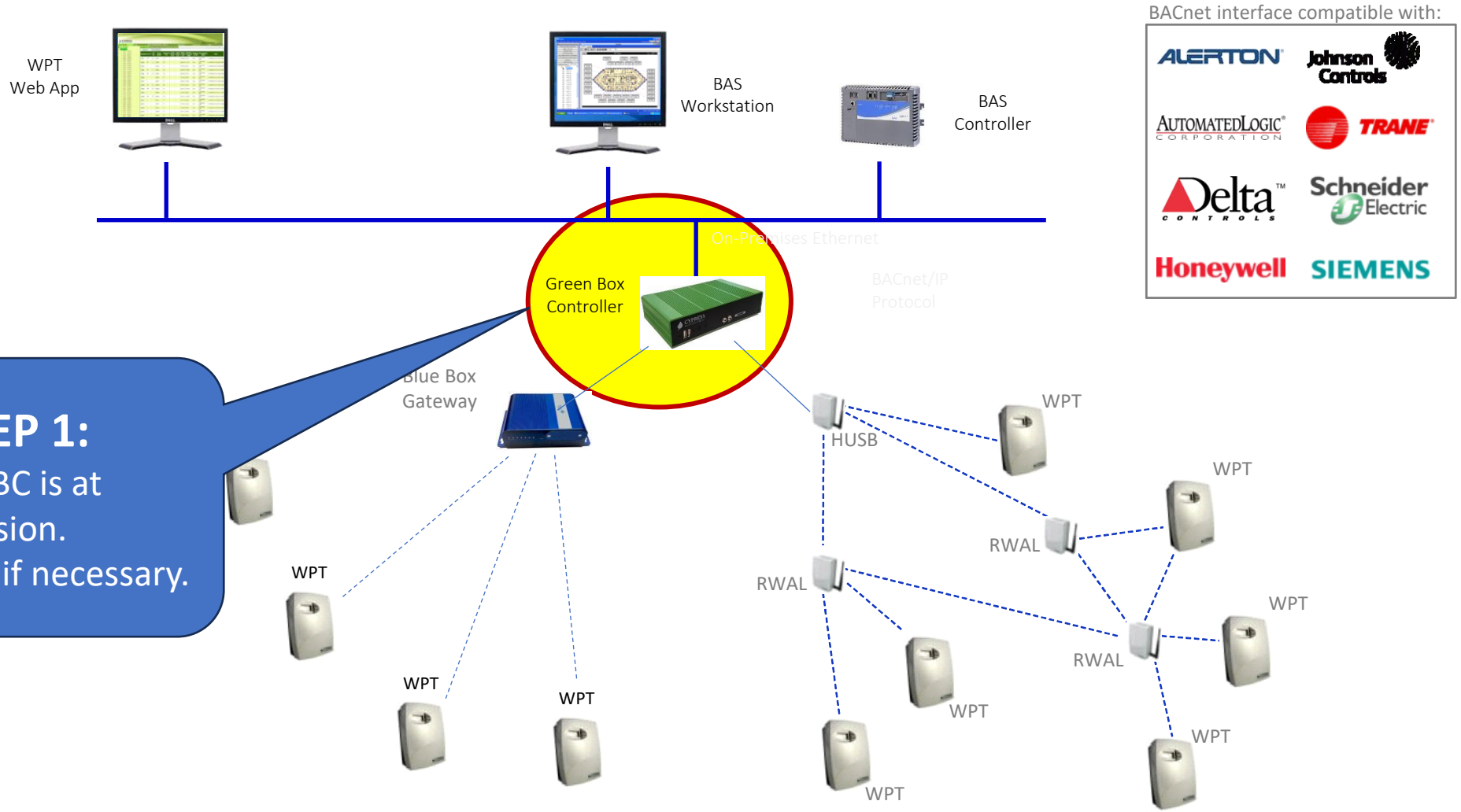
Continuing Support and Maintenance of 1st Gen

- Starting in 2026, only 2nd generation models will be available for WPT replacement or additions.
- If users of WPT 1st Generation need to replace faulty WPT's, or need to add new WPT's, they will use WPT 2nd Generation models.
- Cypress Envirosystems has enabled backward compatibility with 1st generation using a hybrid wireless architecture.

Hybrid 1st and 2nd Generation Architecture



Hybrid 1st and 2nd Generation Architecture



BACnet interface compatible with:

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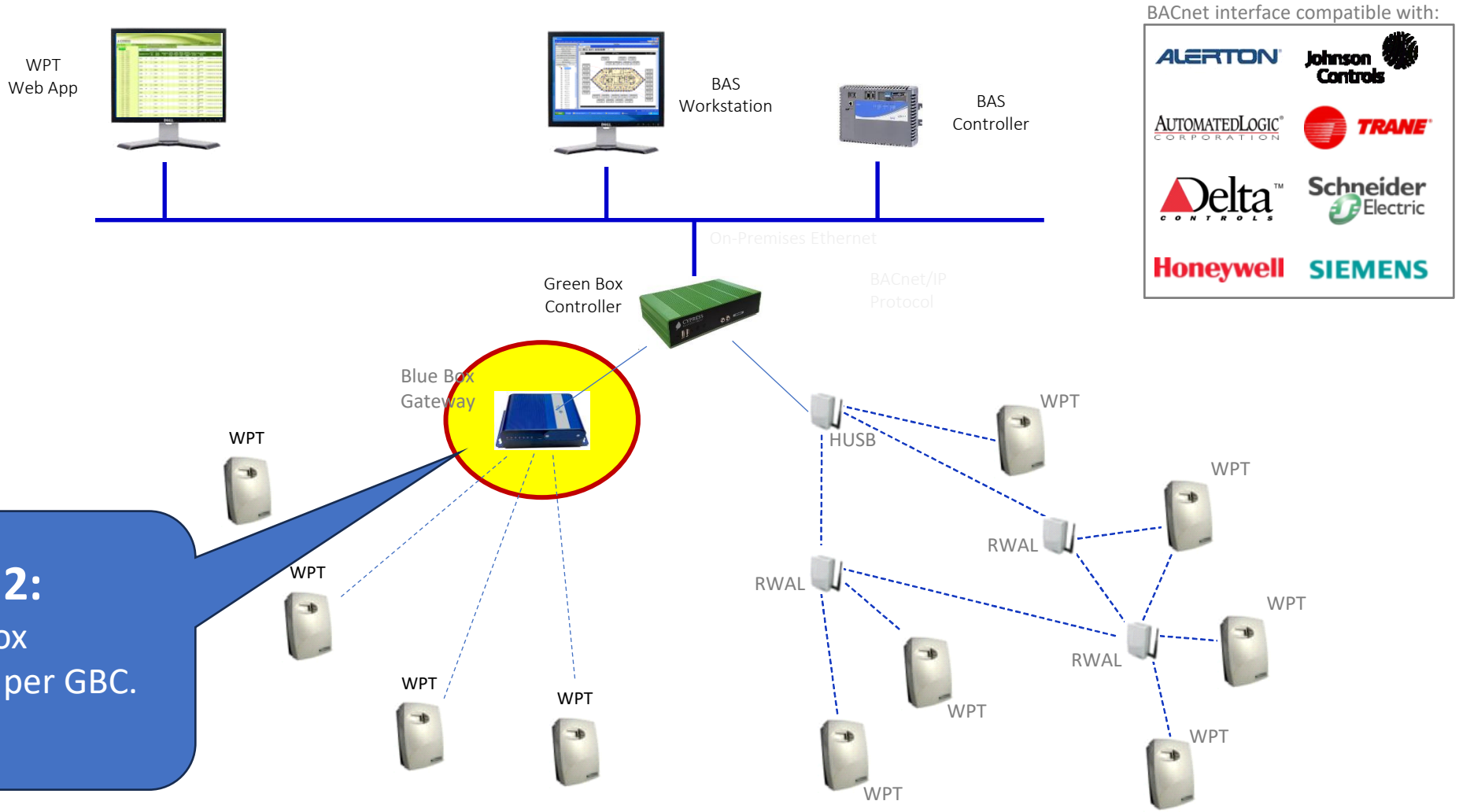
STEP 1:

- Ensure GBC is at latest version.
- Upgrade if necessary.

Hybrid 1st and 2nd Generation Architecture



BACnet interface compatible with:

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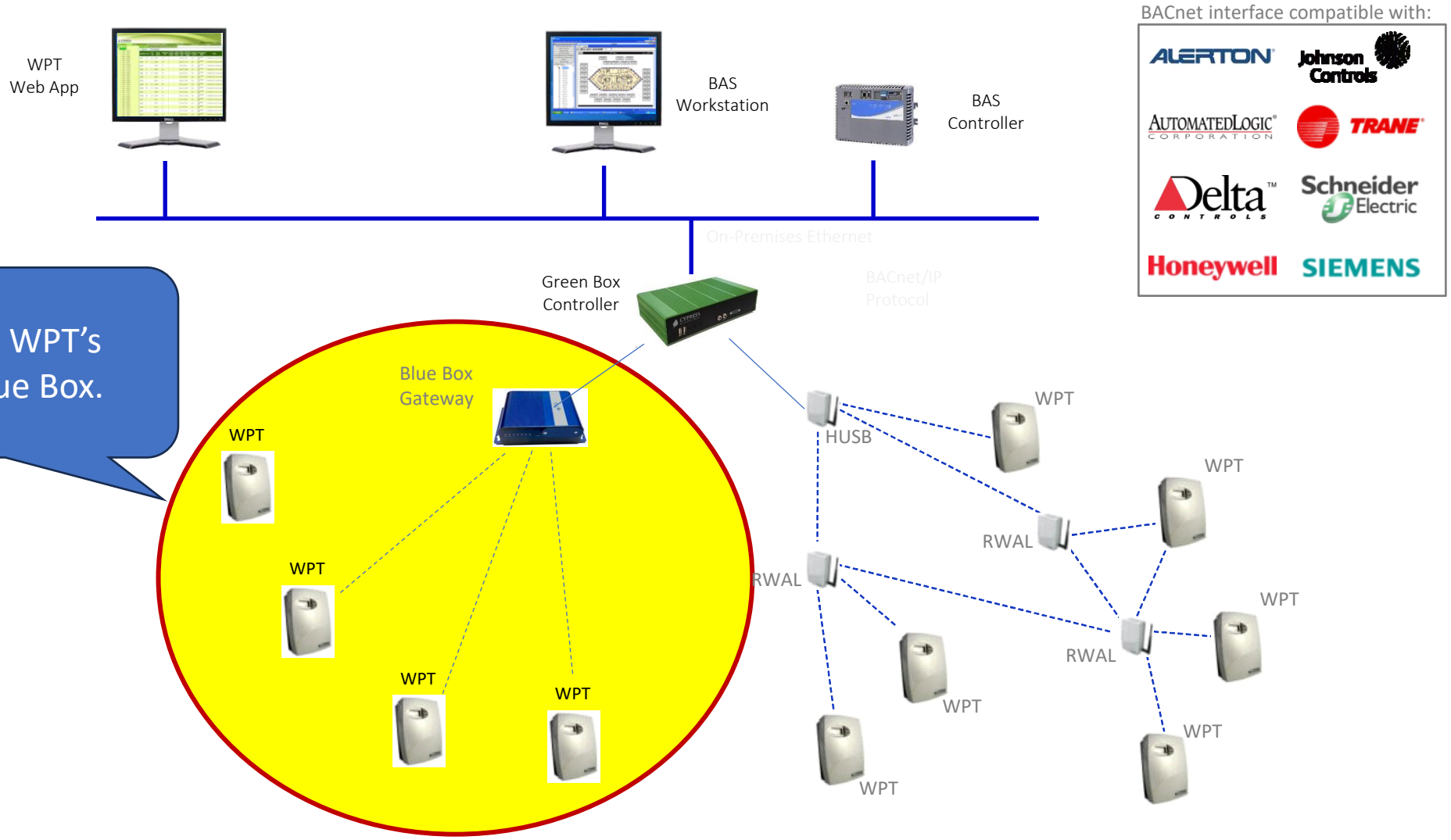
STEP 2:

- Attach Blue Box Gateway, one per GBC.
- $1,800 each

Hybrid 1st and 2nd Generation Architecture



BACnet interface compatible with:

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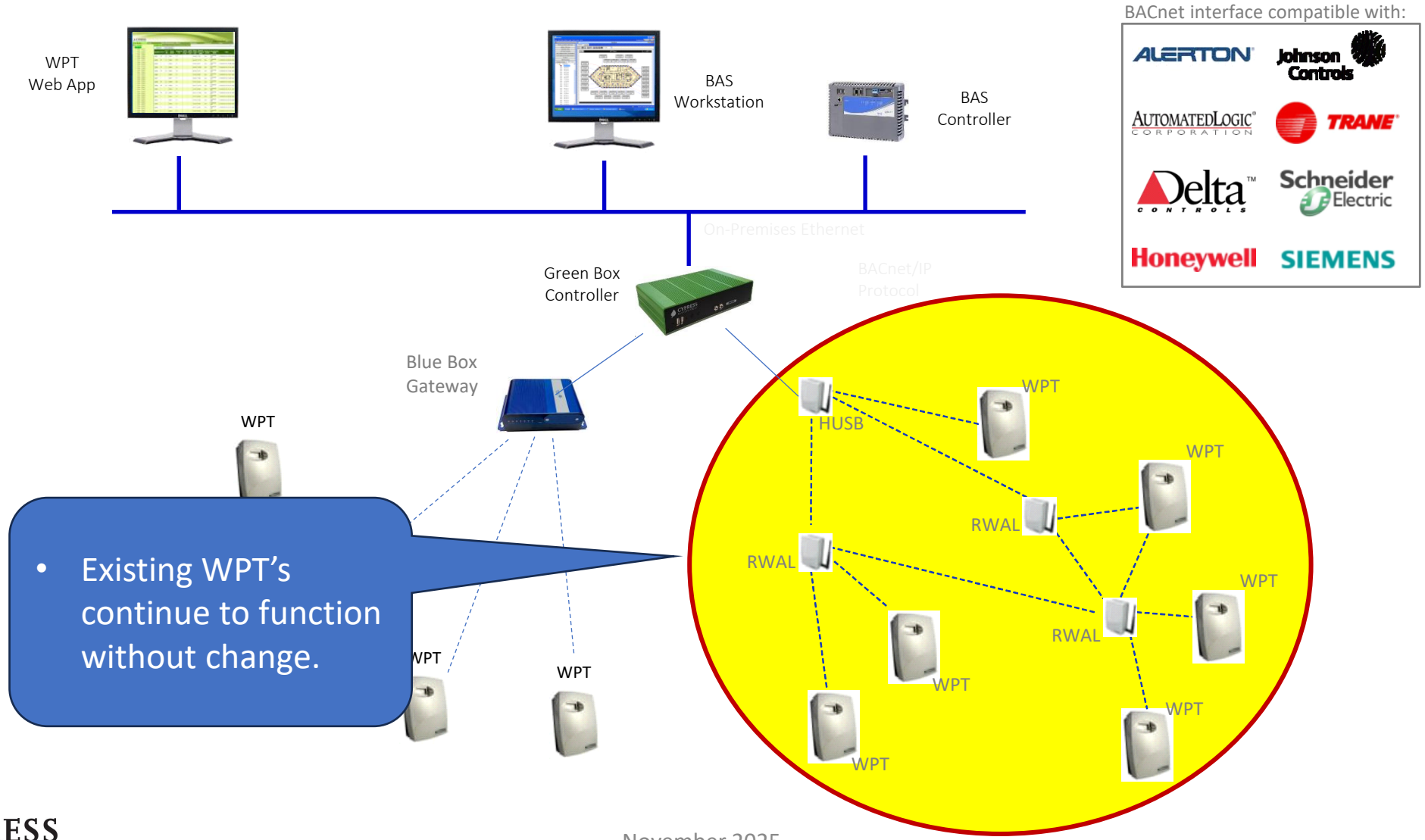
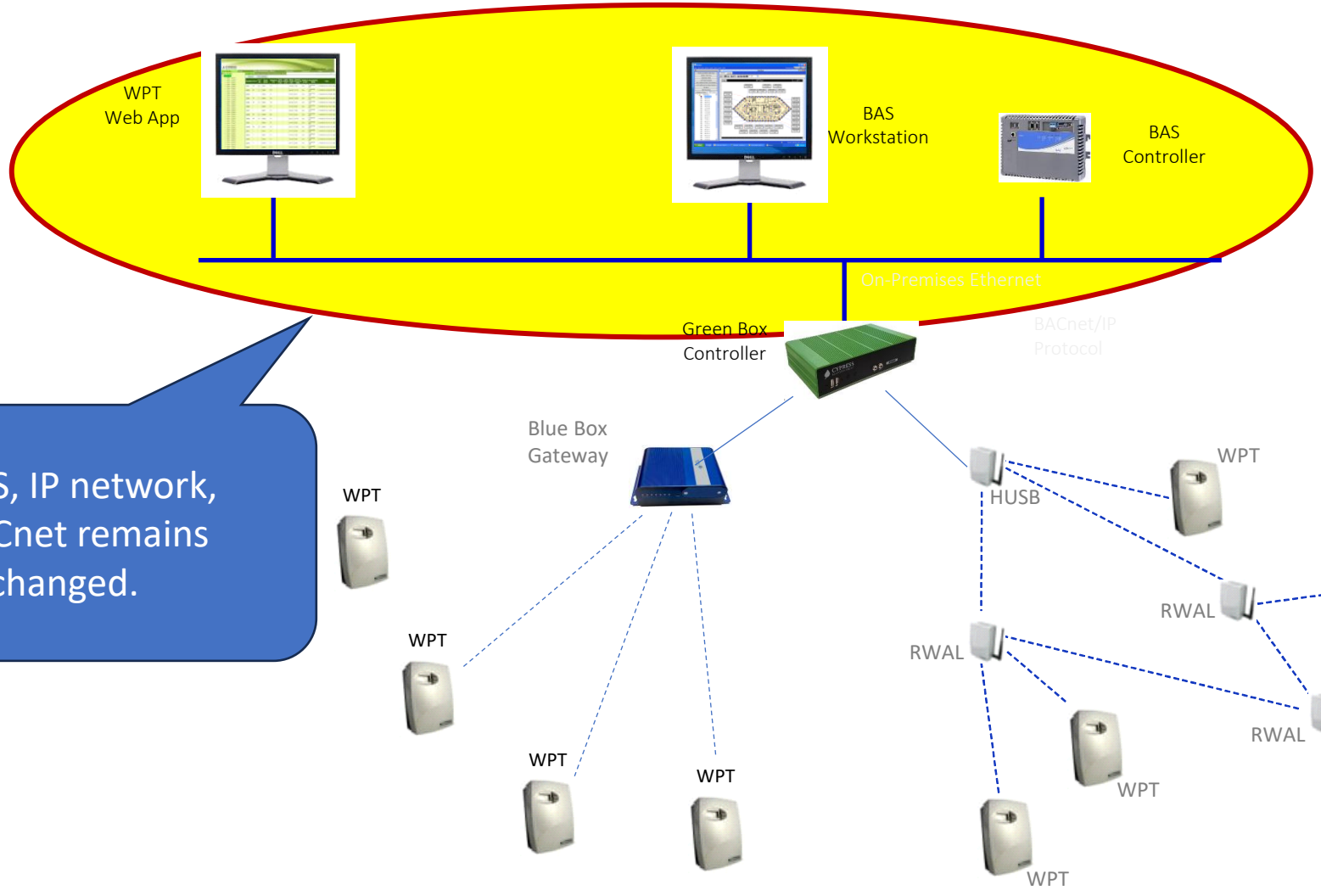
- New 2nd Gen WPT's added via Blue Box.

Hybrid 1st and 2nd Generation Architecture



Hybrid 1st and 2nd Generation Architecture



BACnet interface compatible with:

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- BAS, IP network, BACnet remains unchanged.

WPT Upgrade Program - Summary

- Hybrid migration path allows 1st Generation and 2nd Generation WPT's to co-exist with common GBC.
- No disruption to existing WPT's, no changes to BAS, BACnet, building network configuration.
- Adding new 2nd Generation WPT's will require:
  - Update of GBC to latest version (see GBC Upgrade Program)
  - Addition of Blue Box Gateway ($1,800 per GBC)