

Designing and Building an Enterprise Beacon Network

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IT Professional Wi-Fi Trek 2015

#wifitrek



WiFi Nostalgia Trivia

What Year?



WiFi Nostalgia Trivia

What Year? **1999 – 2005**

At least 10 years ago!



Remember when...


CWNAv4 2008
7 Years ago....



And my favorite...

CWSPv3 2007

 **Mobile Endpoints = Moving Targets** 



Certified **Wireless** Network Professional

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Beacon Evolution

WiFi 1999 = Beacons 2015



Accent Systems

April Brother

BlueSense

Estimote



Gimbal Series 10

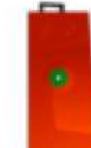
Gliworm

Kontakt.io

KSTechnologies

Minew

Roximity



Radius Networks

RECO Beacon

RedBear

Sensorberg

SensorTag

Tod

WiFi 1999

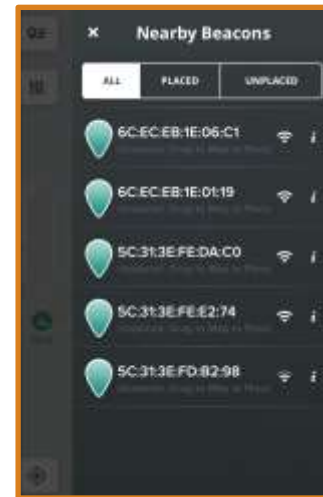
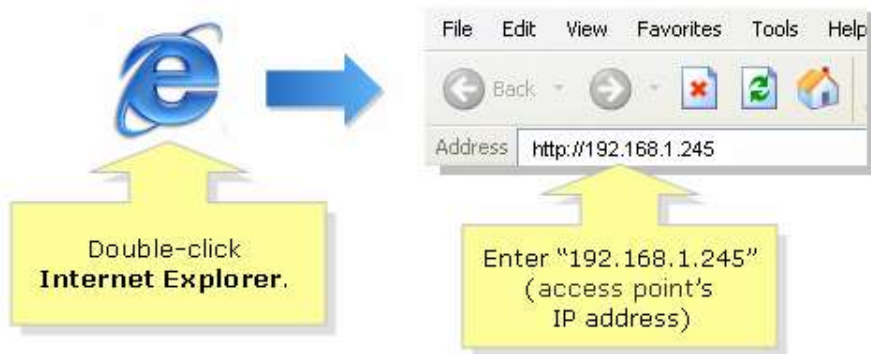


- FHSS vs DSSS 802.11
- AP Individually Managed
- Proprietary Security

Beacons 2015



- Beacon standards
 - iBeacons (Apple) vs Eddystone (Google)
- Individually Managed on Site
- Minimal Security



Aruba Beacons Power Indoor Location



Certified Wireless Network Professional



New Tools to Manage Beacons in the Enterprise

Aruba Sensor

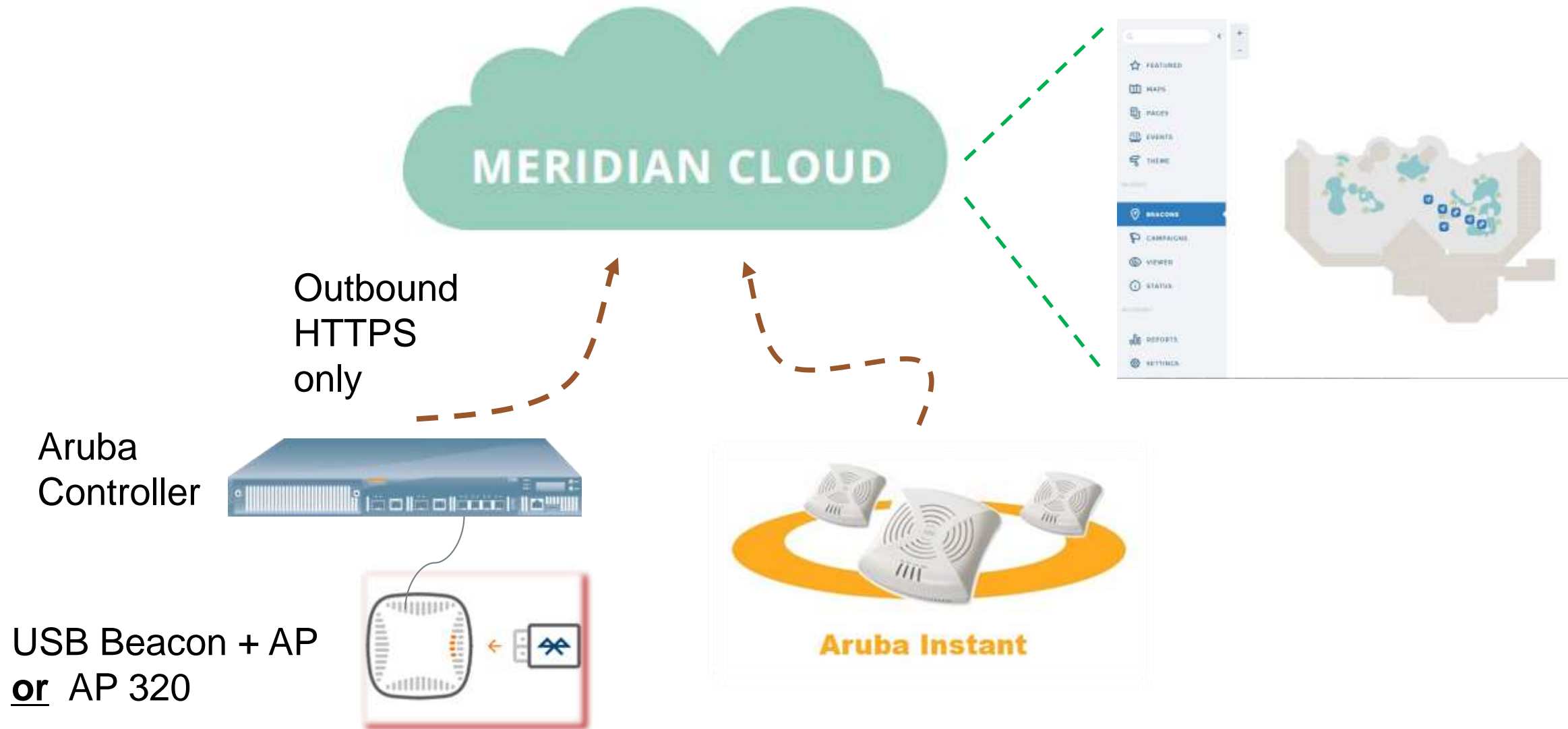
- Single radio 1x1 802.11n
- One BLE radio
- Powered by AC or USB



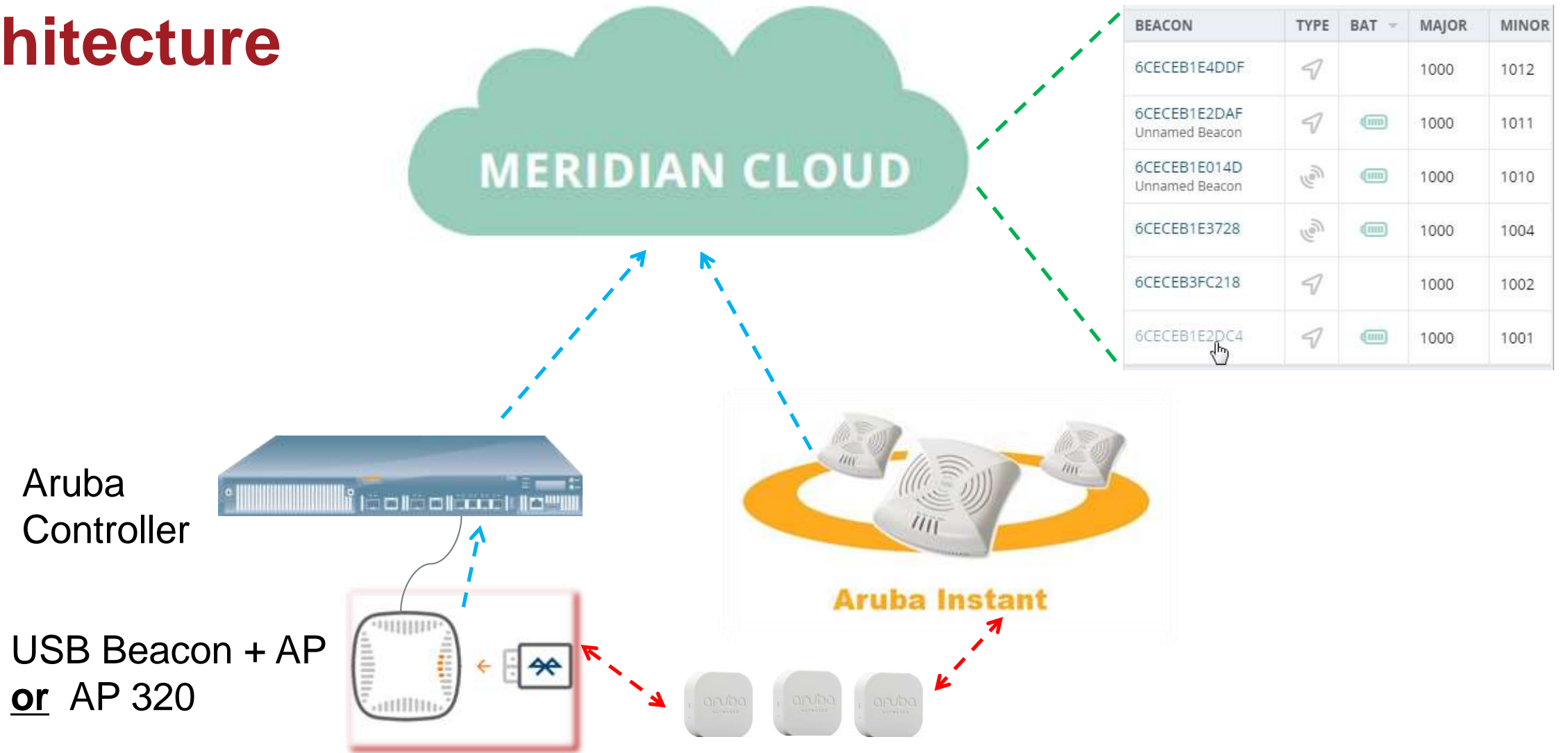
How do we make Beacons part of the enterprise?

- Remote off-site management
- Scalability
- Security
- New feature updates
- Upgrade software (firmware) to support new standards

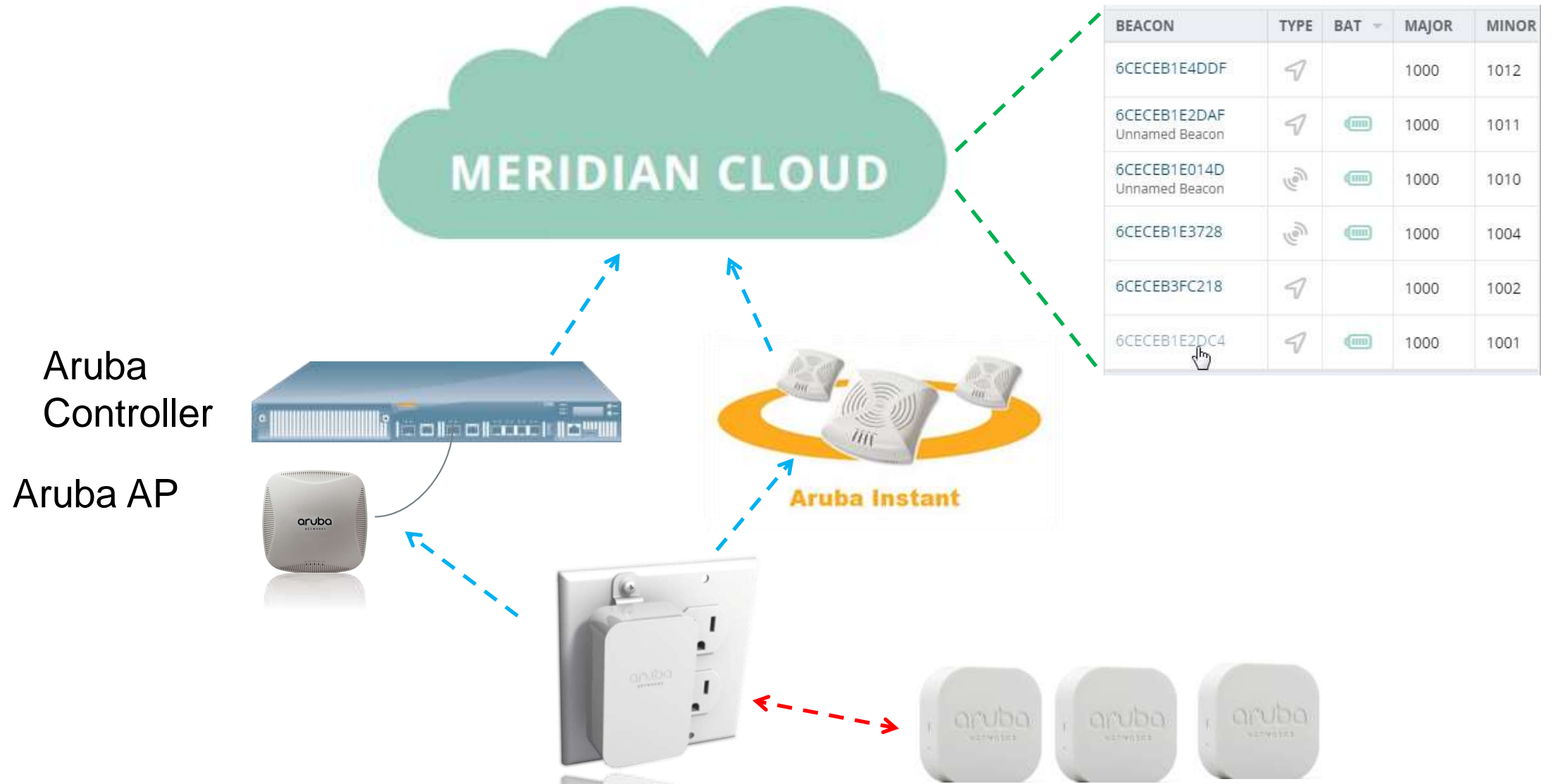
Aruba USB Beacon Management Architecture



Aruba Battery Powered Remote Beacon Management Architecture

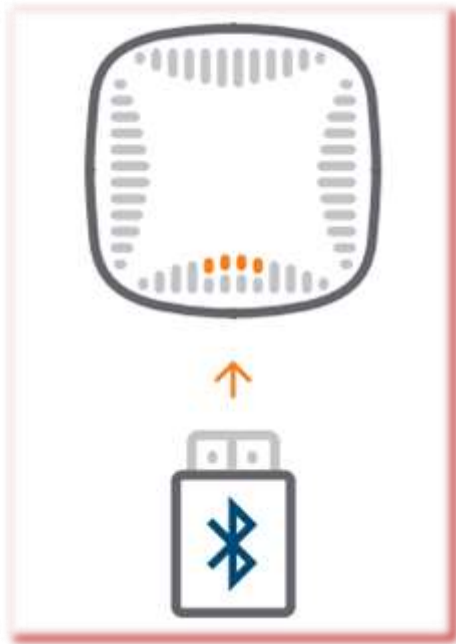


Aruba Remote Beacon Management Architecture



Aruba Beacon Management Options

Option 1: USB Beacon
+ Supported AP



Option 2: AP/IAP 320
series



Option 3: Aruba Sensor



Supported Aruba Controllers/AP models



Controllers: All



APs: AP-320,220,210 series

(+ Instant equivalent)

Model number



Minimum Code Versions

USB
solution



ArubaOS: 6.4.3.3

Aruba Instant: 4.2.0

AP 320
series



ArubaOS code: 6.4.4

Aruba Instant code: 4.3.0

Beacons



BP Beacons: 1.1-4

USB Beacons 1.1-24

Aruba Beacon Monitoring

The screenshot displays the Aruba Meridian Beacon Monitoring interface. The top navigation bar includes the Meridian logo, the location name "Training Location 1.1", and user information "kgraves@arubanetworks.com". The left sidebar contains navigation options: FEATURED, MAPS, PAGES, EVENTS, THEME, BEACONS (selected), CAMPAIGNS, VIEWER, STATUS, and REPORTS. The main area shows a map of the training location with several beacon markers. A table lists the beacons, with the entry for MAC 6CECEB1E0119 highlighted in red. An arrow points from this entry to a detailed view of the beacon on the right side of the screen.

Beacons

Filters: Level 1

MAC / NAME

LOCATION PROXIMITY

BEACON	TYPE	BAT	PWR	LAST HEARD
5C313EFEDAC0 Unnamed Beacon			8	a month ago
6CECEB1E06C1			14	a month ago
5C313EFDB298			14	a month ago
6CECEB1E0119			14	a month ago
C4BE8419595B			14	

Beacons > Detail

NAME: Unnamed Beacon

TYPE: Location

BLE MAC: 6CECEB1E0119

MAJOR: 1000 | MINOR: 1016

LAST HEARD: a month ago

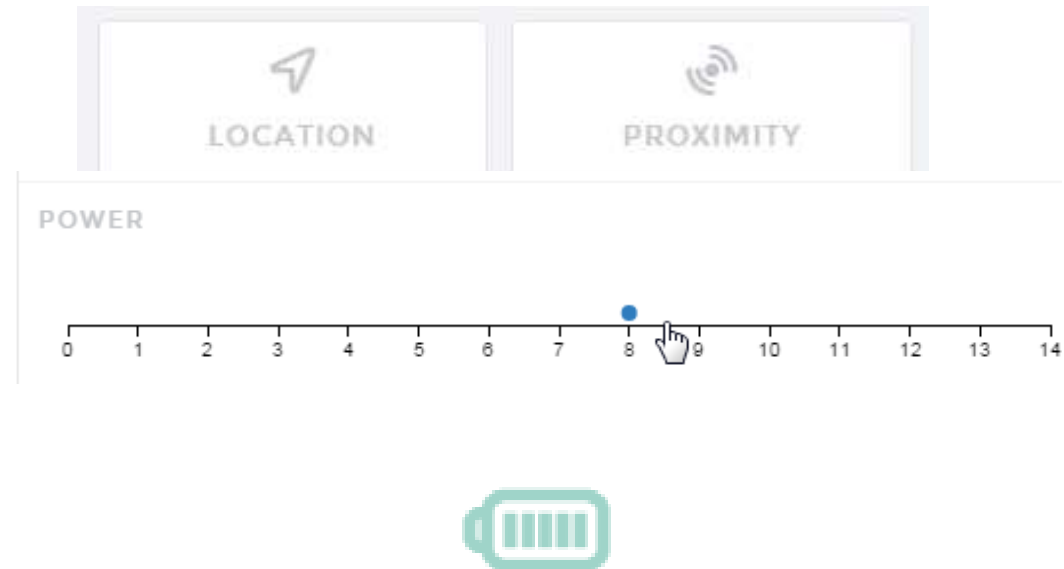
HARDWARE: LS-BT1

BATTERY LEVEL: 100 | RSSI (SIGNAL STRENGTH): -84

Aruba Remote Management Features

What can you manage?

- Beacon mode
- Beacon power (proximity)
- Monitoring battery life



Changes to Beacons

Beacons > Detail


Edit

NAME
Unnamed Beacon


TYPE
Location

MAC ADDRESS	MAJOR	MINOR
6CECEB1E06C1	1000	1019

LAST HEARD 5 minutes ago	HARDWARE LS-BT1
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BATTERY LEVEL  100	RSSI (SIGNAL STRENGTH) -72
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Beacons > Detail

Staged Update 

Type: Proximity

Edit

NAME
Unnamed Beacon

TYPE
Location

Beacon Management Design

Managed Limit:

AOS 6.4.3.3+

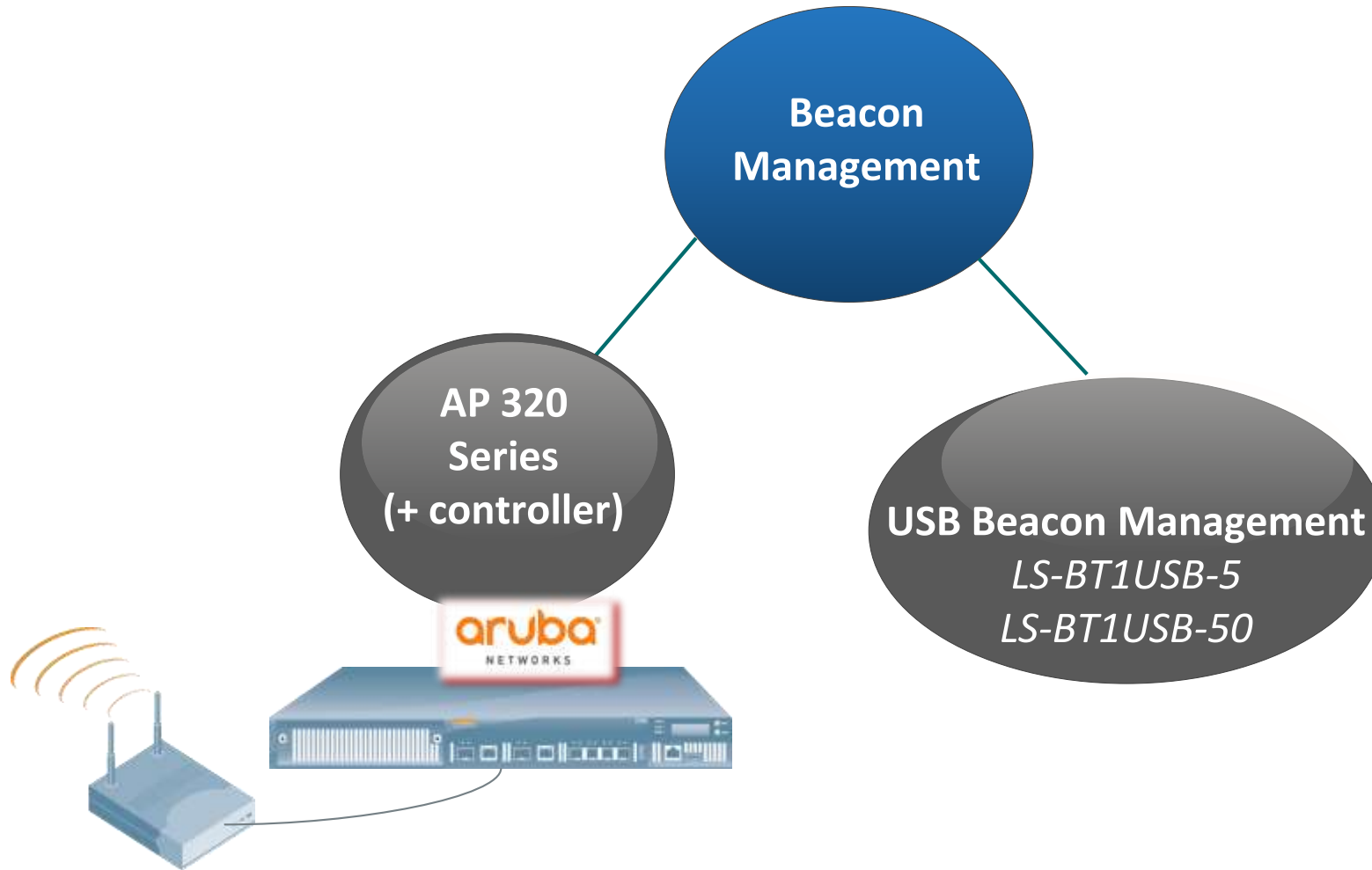
70 BP beacons per
1 USB beacon

AOS 6.4.3.2

20 BP beacons per
1 USB beacon



Sizing Beacon Management



**1 Mgmt. Beacon per
2500 sqft
(USB or AP 32x)**

Thank You

Questions?