

## AT A GLANCE

# IOT OPERATIONS

Reduce IoT infrastructure complexity

Digital transformation driven by the Internet of Things (IoT) is coming from seemingly everywhere within the enterprise. IT is being bombarded with requests to connect all manner of IoT devices to the corporate network including sensors, tracking tags, door locks, handheld scanners, and even air quality monitors.

This proliferation of IoT devices at the edge creates a new set of challenges for IT. IoT devices leverage a variety of different physical layer connectivity types and communication protocols. Vendor-specific IoT gateways are often required to manage those devices and collect their data. IoT gateways obscure IoT devices on the network, making it difficult—if not impossible—to understand, at a granular level, what is connected to the network and where device data is going. Security is always front-and-center when it comes to IoT because many IoT devices are fundamentally untrustworthy, and the lack of visibility creates greater risk.

Digital transformation requires more than simply connecting devices to the Internet. IoT data must be processed and integrated with business processes or applications. This requires deep knowledge of IoT, data transport, data security, and business applications. The complexity of this process is often farmed out to third-party integrators, a costly and time-consuming proposition that can leave IT teams dependent on a third party for business-critical functions.

The Aruba Edge Services Platform (ESP) helps you adapt to changing business requirements in hyperaware facilities with a future-proof network foundation. Today the focus might be on temperature and humidity monitoring, tomorrow on back-to-work hotel space cleaning, and next month on air quality monitoring. With Aruba ESP, you can prepare for whatever technology transition comes next with unified IT and IoT infrastructure across branch, campus, data center, and remote worker locations—all in a single pane-of-glass and platform.

## KEY FEATURES

- Unifies visibility of IT and IoT infrastructure within Aruba Central
- Provides an at-a-glance view of IoT applications and BLE and Zigbee devices on the network
- Streamlines BLE and Zigbee device onboarding and data collection by allowing you to install IoT application plugins with just a few mouse clicks
- Provides seamless edge computing capabilities with speed and ease

## IOT BY THE NUMBERS

- 55B+ devices will be connected worldwide by 2025.<sup>1</sup>
- 80% of IT organizations report they've found IoT devices on their networks that they did not install, secure, or manage.<sup>2</sup>
- Line of business owners or facilities management typically want their devices on the network within 24 hours of request. This explains why some will put devices on the network and fail to inform IT of their actions.<sup>2</sup>

## UNIFY VISIBILITY OF IT AND IOT INFRASTRUCTURE WITH IOT OPERATIONS

The **IoT Operations** service lets you simply, efficiently, and securely deploy new applications that leverage IoT data with minimal effort and without ripping and replacing infrastructure. Available within Aruba Central, IoT Operations extends your view beyond your IT network infrastructure into IoT devices and applications connected to the network. Now you can gain critical visibility into previously invisible BLE and Zigbee devices, as well as reduce costs and complexity associated with deploying IoT applications.



IoT Operations comprises three core elements:

- IoT Dashboard, which provides a granular view of BLE and Zigbee devices connected to Aruba access points (APs), as well as IoT connectors and applications in use.
- IoT App Store, a repository of click-and-go IoT applications that interface with IoT devices and their data.
- IoT Connector, which provisions multiple applications to be computed at the edge for agile IoT application support.

## IOT DASHBOARD

The IoT Dashboard provides at-a-glance visibility into IoT infrastructure—connectors, devices, and applications. See the IoT connectors in your environment, how many BLE and Zigbee devices are sending data to those connectors, which APs are sensing those BLE and Zigbee devices, and which applications are receiving the data so you can monitor and control the stream of data from devices to applications.

The IoT Dashboard gives you a view of BLE and Zigbee devices that would otherwise be obscured by vendor- or device-specific hardware. Monitor these devices from the first moment they connect to APs anywhere in your environment and see exactly to which AP each device is connected. After the appropriate IoT application is installed on the IoT Connector, previously unknown devices can be automatically and accurately classified, so you know exactly what they are, and where they are, with confidence.

### ARUBA ACCESS POINTS AS AN IOT PLATFORM

From their unique vantage as ceiling furniture, APs have an unobstructed, bird's-eye view of all nearby devices. BLE and Zigbee IoT radios let you address a broad range of IoT applications with the infrastructure you already have, eliminating the cost of gateways and IoT overlay networks while enhancing IoT security.

## IOT APP STORE

The IoT App Store takes the complexity out of deploying new IoT use cases within your organization. Simply visit the IoT App Store—located within Aruba Central—and use the store's intuitive interface to browse ArubaEdge IoT applications certified to integrate seamlessly with your Aruba network. Unlike directory-style marketplaces that simply provide pointers to compatible applications, the IoT App Store lets you download plugins immediately and activate applications with just few clicks of the mouse.

Using the IoT App Store also simplifies the complex and often confusing task of IoT device-application configuration. After the application is installed on the IoT connector, the AP can be easily configured to securely transport the device's telemetry data to the appropriate destination, whether an on-premises server or the cloud. From BLE location tags, beacons, and sensors to Zigbee door locks, IoT deployment is simple—so you no longer need to rely on third-party integrators for custom development.

### ARUBAEDGE TECHNOLOGY PARTNERS

Aruba's technology partner programs ensure interoperability between Aruba infrastructure and technology partners' solutions, giving you easier installations and operations. These certified solutions help you embrace digital transformation and extend the capabilities of your Aruba infrastructure.

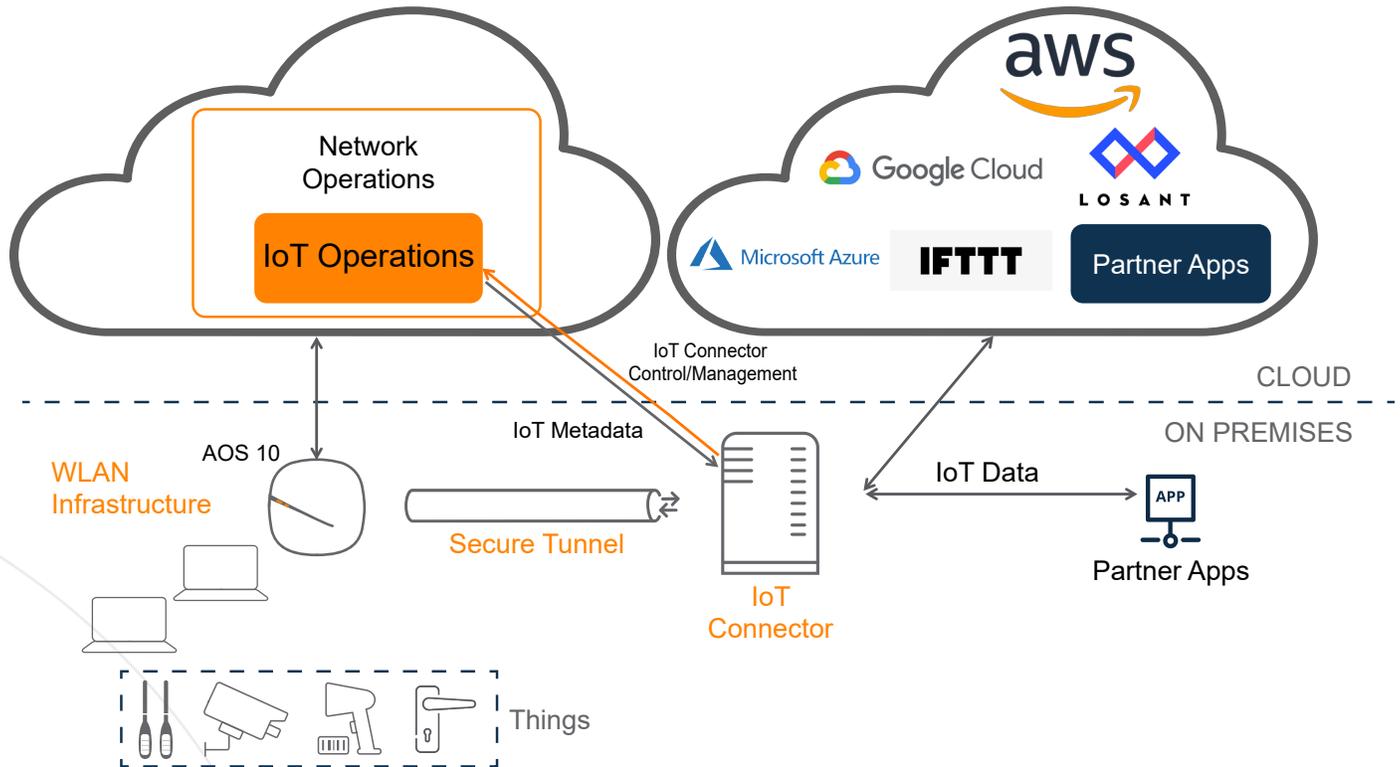
## IOT CONNECTOR

Intelligent Edge applications which require edge computing of IoT data have historically been some of the most difficult for IT to implement and manage. The challenges are particularly acute when it comes to processing IoT data. IoT connectors are needed to parse/decode IoT telemetry data from Aruba APs and make the data available to IoT applications, whether hosted on premises or in the cloud (e.g., Microsoft Azure IoT Hub.)

The IoT Connector puts Intelligent Edge applications within reach—so you can be prepared to accommodate whatever technology transition comes next with the speed and ease of deploying a virtual machine using your existing Aruba infrastructure. With the Aruba IoT Connector component, you can provision multiple ArubaEdge IoT application connectors within your environment with just a few clicks. Add the IoT Connector virtual appliance as a new Data Connector within Aruba Central and install it on your VM instance. Enable new connectors through the IoT Operations app store and see connectors in use—all within Aruba Central.



# ARUBA CENTRAL



IoT Operations reduces the complexity associated with IoT by extending visibility to IoT applications and BLE and Zigbee devices connected to your wireless LAN infrastructure.

## ARUBA CENTRAL

IoT Operations is available as part of Aruba Central, a cloud-native, microservices-based platform that provides the scalability and resiliency needed for mission-critical environments across the distributed edge. Compared to competitors' solutions that require up to five different platforms and interfaces, Aruba Central and Aruba ESP unify your network operations across wired, wireless, and WAN. This capability allows you to eliminate the time-consuming and manual process of moving information from place to place or trying to correlate information across multiple views.

IoT Operations is a service available for APs running Aruba Central with ArubaOS 10, our next-generation distributed operating system software for wireless infrastructure. With AOS10, you can achieve seamless, high-performing connectivity with AI-powered automation and machine learning insights, as well as provide the highest levels of security with policy enforcement across wired and wireless networks.

## SUMMARY

Aruba ESP helps you unify infrastructure for the era of the Intelligent Edge. With the IoT Operations service, you can have the assurance that comes from knowing exactly what's on your network, from BLE sensors to Zigbee door locks. Simplify deployment of novel IoT use cases in your organization and accelerate time to value for your business objectives.

To learn how Aruba ESP and IoT Operations can help you simplify IoT-driven initiatives in your organization, please visit [arubanetworks.com/iot](http://arubanetworks.com/iot).



## REFERENCES

<sup>1</sup> "IoT Growth Demands Rethink of Long-Term Storage Strategies, says IDC." (2020, July 27). IDC. <https://www.idc.com/getdoc.jsp?containerId=prAP46737220>.

<sup>2</sup> Zimmerman, T. (2021, February 16). Segmentation or Isolation: Implementing Best Practices for Connecting 'All' Devices. Gartner. <https://www.gartner.com/en/documents/3969768/segmentation-or-isolation-implementing-best-practices-fo>.