electric imp™

CASE STUDY

WorkplaceFabric

WORKPLACEFABRIC

Highlights

Requirements

- Reliable Wi-Fi connectivity to transmit data from sensor modules to the cloud for real-time analysis
- Comprehensive device-to-cloud security strong enough to support the requirements of enterprise customer IT departments
- A solution that seamlessly handles all the critical IoT connectivity functions so Workplace Fabric engineers can focus their time on core product features

Solution

- The Electric Imp IoT Connectivity Platform as the basis of their Freespace solution
- Embedded modules running Electric Imp's impOS on Freespace sensor devices for secure Wi-Fi connectivity
- Data from Freespace sensor modules is transmitted securely through the Electric Imp Cloud to the Freespace cloud for real-time analysis

Results

- Using Electric Imp's certified enterprise-grade secure IoT connectivity platform, Workplace Fabric was able to eliminate the security objections of IT departments
- Over 30,000 Freespace sensors have shipped to customers in offices in 47 cities worldwide due to the scalability of the Electric Imp platform
- As a result, Freespace users have reported 20% savings in real estate costs

Company Overview

Workplace Fabric helps businesses optimize how their office spaces are used; improving employee productivity, ensuring the best use of office assets, and reducing the overall cost of real estate.

Challenge

Office space is an area where companies are trying to simultaneously achieve savings and improve workplace efficiency. "Cube farms" have been popular for many years but assigned desks are an inefficient use of space. A chief way companies are trying to improve efficiency is by adopting agile work environments; replacing assigned desks with floor spaces designed to be suited for different types of work activity to foster greater individual productivity as well as better team collaboration.

While the cost reduction impact of these new environments is positive, fully utilizing those spaces is a challenge. An average employee may spend on an average 27 hours a year looking for conference rooms or other locations to work, and suboptimal utilization can carry a high cost.

Recognizing this tremendous market opportunity, Workplace Fabric developed Freespace, a device composed of sensor modules, which is fixed under office furniture and other discrete locations where it anonymously monitors conference rooms and other work areas. This solution provides companies with real-time insight into their office utilization, allowing them to maximize their space.

Sensors are a key component of Freespace. Workspace Fabric knew that an IoT solution would provide the best efficiency and functionality for their customers, but their customers were concerned about the perceived security risk of IoT.

What Workplace Fabric needed was an IoT platform that would allow them to send sensor data reliably over Wi-Fi to the cloud, with comprehensive security features to prevent hackers from compromising the broad attack surface inherent to any connected system, as well as strong enough to satisfy the requirements of their customer's IT departments. In addition, they needed a solution that could easily scale to support growing Freespace deployments.

Solution

Using Electric Imp's certified-secure platform, data is collected from Freespace devices and delivered over Wi-Fi to the Freespace cloud, which analyzes the status of each space in real-time. This information is displayed on prominently-placed digital signage so employees can quickly and easily identify the best available work space. As opposed to typical online calendar systems, Freespace can determine if a space is actually occupied — such as if a meeting has ended early and is available — further ensuring optimal use of workspace.

The wealth of sensor data collected by the Freespace modules — motion, temperature, humidity, air quality and light and noise levels — is also valuable for data-driven space management decisions. Companies can identify underutilized assets and make necessary adjustments, such as adding window blinds to a conference room that receives too much direct sunlight, further ensuring that an office's facilities are being fully maximized.

Workplace Fabric selected the Electric Imp IoT Connectivity Platform as a core component of Freespace due to its best-in-class security which spans from the impOS on the Freespace device up to and through the impCloud, protecting against a host of cyber attacks such as DDOS and MITM attacks. The platform is certified to UL 2900-2-2 Cybersecurity for Network-Connectable Devices making it easier for Workplace Fabric customers to appreciate the deep level of security that is provided.

> "We have leveraged Electric Imp's built-in security and device management to create a smart furniture platform to deliver contextual insights on availability, comfort and ambiance. Electric Imp has made it easier for us to hide the complexity from our customers while delivering the capability to scale globally."
>
> — Raj Krishnamurthy, CEO, Workplace Fabric

As a result, major global corporations that have implemented Freespace have reported up to 20% savings in real estate costs.

Benefits

COST SAVINGS

Cost savings is a primary selling point for Freespace, and several early customers have already verified that it delivers on this promise. Savings of up to 20% have been realized thanks to the real-time and historical insights provided by Freespace.

EASY TO DEPLOY

Deploying Freespace throughout offices is fast and easy. The industry standard Wi-Fi connection is the most universally accepted mode of secure wireless communication globally in Corporate environments. This enables Freespace to be deployed with ease around the world, a specific benefit for large global corporations. Further, the battery-operated sensor modules eliminate the need to add any type of wiring for power or communications.

ROBUST SECURITY

Workplace Fabric customers are confident that their connected Freespace system is secure from attack by hackers with malicious intent due to the UL-Certified security of Electric Imp.

EASY TO MAINTAIN

Replacing batteries is the only servicing a Freespace sensor module requires, and this is limited to once in two years as it consumes very little power thanks to unique algorithms that leverage multiple features of the embedded impOS.

Why Electric Imp?

The key reasons Workplace Fabric chose Electric Imp as the basis of its Freespace solution include:

- **Time-to-Market:** The engineering team at Workplace Fabric leveraged the connectivity and security capabilities of the Electric Imp platform rather than using precious time to develop them in-house
- **Security:** The comprehensive security features of the Electric Imp platform and the imp modules ensure a secure connection from the sensor modules to the Freespace cloud for the life time of the device
- **Flexibility:** The Electric Imp platform enables Freespace deployments to easily scale, ensuring the company's business growth is not limited

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