

SRC SOLUTION INTEGRATES PILOT THINGS WITH CISCO IOX AND 829 IOT ROUTER

Pilot Things is a cutting-edge IoT software with the capacity to gather sensor data from different IoT protocols on a private network, thereby simplifying and centralizing device and data management. For this project, SRC Solution leveraged the CENGN Infrastructure to validate Pilot Things as a vendor agnostic IoT network software, using Cisco as a reference point.

IOT PROJECT OVERVIEW

SRC Solution is an international organization that provides cross-sector solutions in telecommunications interoperability and systems security. The company's flagship product, Pilot Things, is an Internet of Things (IoT) device and data management software that is agnostic to network connectivity and legacy assets. Pilot Things has been validated and fully integrated with Sierra Wireless, Dell, and Microsoft Azure. The next step for SRC Solution was to test the compatibility of their product with Cisco technology using CENGN's infrastructure.

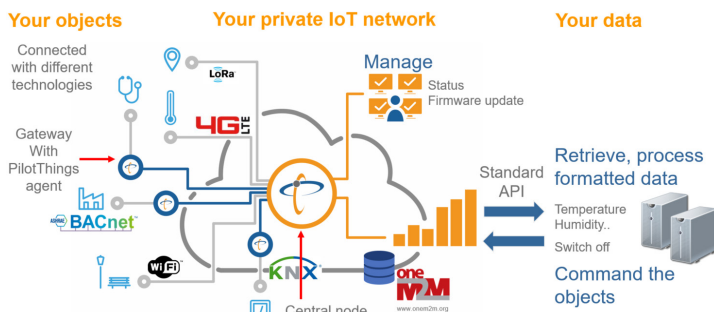


Figure 1. The Pilot Things Solution

THE SOLUTION

With Pilot Things, SRC Solution provides an innovative IoT virtual private network that centralizes data and device management. The Pilot Things software has two components, an Edge Agent and a Concentrator. Together, they are able to collect sensor data from different IoT protocols on a private network, and store them at a central location accessible to users. In essence, Pilot Things delivers an end-to-end solution to create a network of sensors, that allows users to deploy IoT solutions regardless of sensor technology. This software is becoming more and more important for developing solutions in the Smart City, Smart Building and Smart Factory innovation sectors, and is considered a crucial part of the Next Generation of IoT networks.

THE PROJECT

To complete this project, SRC Solution leveraged CENGN's cloud tenancy and hardware hosting services to validate Pilot Things. The project also required a Cisco 829 IoT Router which was received as an in-kind contribution from CENGN member, Cisco.

THE CHALLENGE

All large organizations have enterprise networks which connect several computers, mainframes and related devices across departments and working groups. To ensure a seamless flow of work processes, all systems in a network should be able to communicate and retrieve information from one another. However, given that these IoT systems use different communication protocols including Bluetooth, Modbus, Bacnet, or LoRa, it is becoming increasingly difficult to monitor and provision connections in a network. Companies therefore require a simple solution for managing their complex enterprise networks.

	Pilot Things Edge Agent, Pilot Things Concentrator, Cassia Bluetooth Hub, Bluetooth Playbulb Sensor, deployment and demonstration of Pilot Things
	Project space, Cisco 829 IoT Router, network and cabling, project management and support

INSTALLATION

- To create network connectivity between Pilot Things and the Cisco router, the Pilot Things Concentrator was deployed on a virtual machine (VM) within a cloud tenancy in the CENGN Infrastructure.
- To facilitate the integration, the Pilot Things Edge Agent was deployed on the Cisco IoT router as an IOx application via the Cisco Fog Director portal. An IoT VPN connection was set up between the Concentrator running in the cloud tenancy and the Edge Agent running in the Cisco router.
- To test the network connectivity between the Cisco router (via the edge agent) and the Concentrator, the Bluetooth hub was connected to the router via an ethernet cable, and the Playbulb was placed close to the hub.

CENGN MEMBERS



PROJECT TESTING

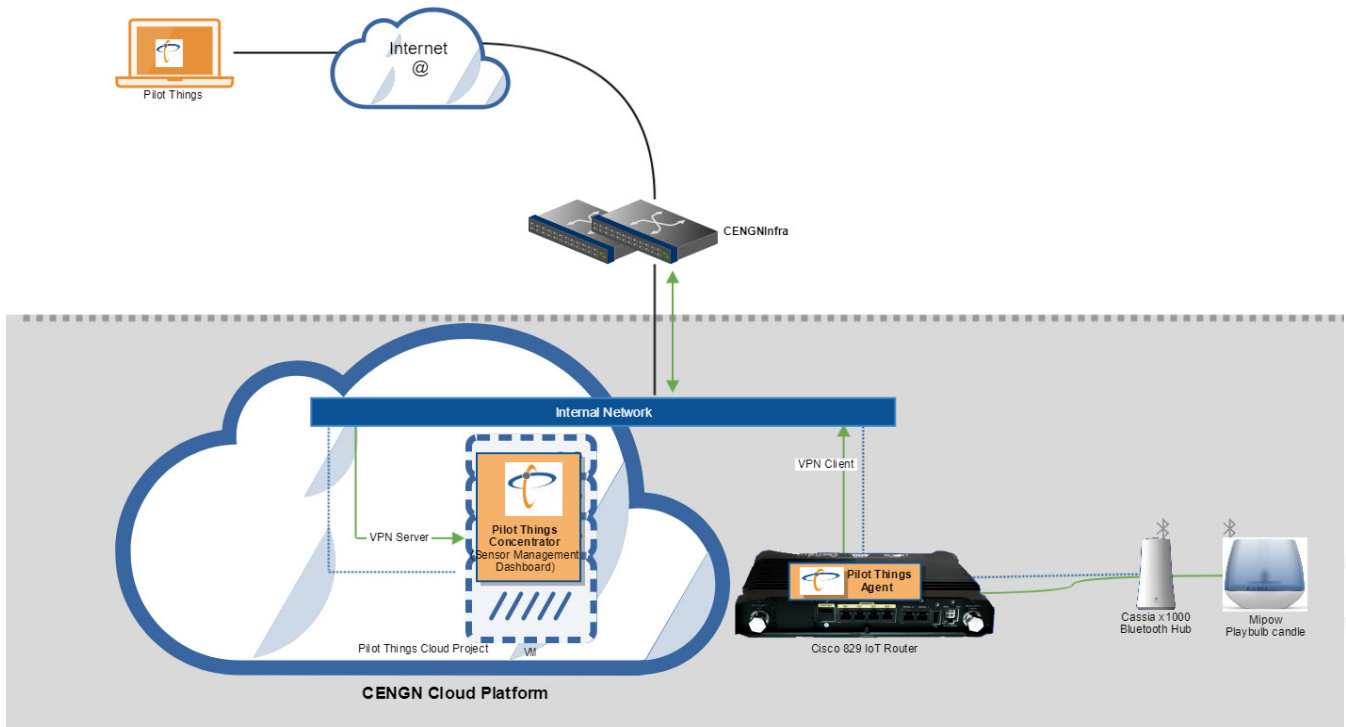


Figure 2. Pilot Things Concentrator and Agent integrated in CENG's Cloud Infrastructure

Pilot Things allows users to control their IoT devices using a Sensor 'Plug and Play' dashboard. The Playbulb sensor was used for end-to-end validation of the communication between the Pilot Things Agent and the Concentrator. After installing the hardware assets, the Edge Agent successfully collected and forwarded the information of the Playbulb sensor to the Concentrator, which in turn displayed it on the dashboard.

Name	Vendor	Product	Status	Technology	Data Session
Lamp	Mipow	Playbulb Candle	ACTIVE	Bluetooth	INACTIVE

Figure 3. Pilot Things sensor dashboard showing the Playbulb lamp

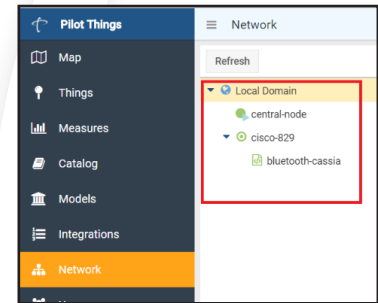


Figure 4. IoT Network

THE RESULTS

Upon completion of the integration, SRC Solution validated the compatibility of the Pilot Things software with the Cisco IoT router. They verified the software's ability to handle different IoT protocols, Bluetooth in this case, on a secure network, and its ability to centralize data and carry out device management. SRC Solution also showcased the functionality of Pilot Things via a navigable 'Plug and Play' dashboard.

CONCLUSION

This project demonstrates the successful integration of the Pilot Things software with Cisco's IoT technology. By utilizing CENGN's cloud infrastructure, SRC Solution has further validated Pilot Things as a vendor agnostic technology, opening up partnership possibilities and creating a bigger market potential for their solution.



Figure 4. Playbulb colour change demonstrating successful integration of Pilot Things software on a