Cassia Networks
The Future of Connected Things

DATA SHEET

Cassia IoT Access Controller

Cassia IoT Access Controller (AC) is a powerful IoT network management solution. With the Cassia AC, businesses will now have unprecedented access, control and security over their IoT environments. The Cassia AC solution enables seamless deployment and management of hundreds of Bluetooth routers, and monitoring of thousands of connected devices in an enterprise environment from one centralized interface.

OVERVIEW

Until now, lack of standardization and interoperability across protocols has become a major impediment for IoT market growth. By improving the functionality of Bluetooth so that it can work across greater distances and a wide variety of products, Cassia Network is backing Bluetooth as the ubiquitous wireless technology. By doing so, the company is solving two of the most fundamental barriers to IoT market entry – the cost and difficulty for deploying large-scale IoT environments.

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From office to the factory floor, from sports arenas to hospitals, IoT is changing many industries. Together, Cassia's groundbreaking AC and Bluetooth routers will open the door for enterprise IoT applications and environments that have never been realized before.

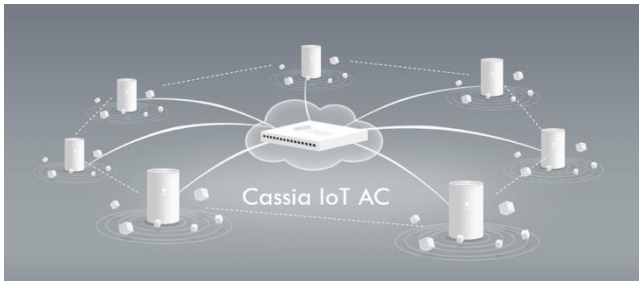

Figure 1 – Cassia IoT Access Controller

UNIQUE BENEFITS

Seamless Bluetooth Coverage

The Cassia AC and Bluetooth routers together provide seamless Bluetooth coverage for data collection and location tracking both indoor and outdoor, without requiring any changes to the Bluetooth end devices.

Centralized Management and Control

The Cassia AC solution enables easy deployment and management of hundreds of Bluetooth routers connected with thousands of devices in an enterprise environment from one centralized interface. Real-time router and device monitoring, automatic router discovery, one-click firmware upgrade, device locationing and security policies are all seamlessly integrated.

End-to-End Security

The communication from the client devices, to the Cassia Bluetooth Router, the Cassia AC and the application server can all be encrypted, providing end-to-end security.

Location Tracking

The Cassia AC, together with multiple Cassia Bluetooth routers, can track and report location of the Bluetooth LE devices within its coverage, providing location tracking of people and assets in real time.

Edge Computing

In order to reduce latency, support customized control, and provide better data management, Cassia supports 3rd party applications running inside a container within the Cassia routers. Cassia AC provides centralized management for the container and applications on individual or a batch of routers.

Flexible Deployment and Easy Access

The Cassia AC can be deployed on an on-premise server; in a private cloud; or in Cassia's public cloud. Administrators can access the Cassia AC from a web-browser, through a PC or a tablet, without any special training.

Expandable Scalability

Bluetooth wireless networks can be built as big or small as needed. The Cassia AC also offers flexibility to pay as you grow: it is possible to add additional routers when business requirements change.

FEATURES

Dashboard and statistics

The dashboard displays real-time data in the current state, including Throughput, System, Routers connected, Clients connected and Top 10 Used Routers. See Figure 2 for a screen shot.

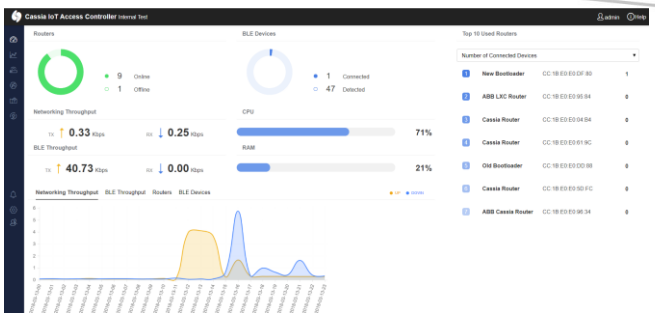

Figure 2 – Cassia IoT AC Dashboard

Router and Device Management

- Router auto discovery: The Cassia AC can auto-detect Bluetooth routers that are in the same local network or have been configured to talk to this AC. Administrator can add the routers without manually entering their MAC addresses.
- Fast configuration: Cassia AC can configure Bluetooth routers individually or in batch. The parameters include group, network settings, AC Domain/IP address, etc.
- One-click firmware upgrade: Administrator can upload multiple firmware images to the Cassia AC and select a version to perform an upgrade for one or multiple Bluetooth routers in the network.
- Router and Device Listing: Display the status of all Bluetooth routers and clients in its network in real-time.

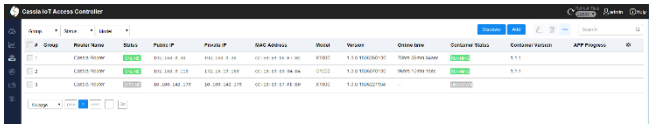

Figure 3 – Cassia IoT AC Router Management

- Fast relocation: If you need retire an AC and relocate the routers that it manages, you can export the router list into a file and import it from the new AC. Thus, the relocation process is speedy.
- Realtime logs: The Cassia AC's events page displays multiple types of logs, including HTTP API, Network Event, System Operation. The events are categorized into three severity levels: Info, Warning and Error.

Advanced Security

- The communication from the client devices, to the Cassia Bluetooth Router, the Cassia AC and the application server is all encrypted.
- The Cassia Cloud APIs use OAuth (Open Authentication) for user authentication
- The Cassia AC uses Docker architecture in the Cloud. The Docker Container isolates applications from one another and the underlying infrastructure, while providing an added layer of protection for the application.
- Use router whitelist to manage the access of Routers to AC
- Create and manage user accounts with different levels of access control
- Support Bluetooth 4.1 Secure Simple Pairing: Just Works, Passkey entry and OOB
- Support HTTPS (TLS v1.1) for AC webpage access
- Communication between the AC and Cassia router is based on DTLS v1.0 over UDP
- The AC and router firmware are signed by certificate to ensure authenticity

Map and Location Management

- Maps management: upload floor-plans for the space being covered
- Annotate the maps for Bluetooth routers deployed
- Support querying for the relationship between routers and devices

Room-based Positioning

The Cassia AC uses RSSI (signal strength) to locate a Bluetooth device. This feature is widely used at campus and senior facilities for people and asset tracking.

License

- Based on subscription time (monthly or yearly)
- Based on the number of managed Bluetooth routers
- Based on modules (whether advanced modules are used, e.g. advanced positioning, roaming)

Application Interface

The Cassia IoT AC provides RESTful APIs to application servers. The APIs are based on HTTP or HTTPS.

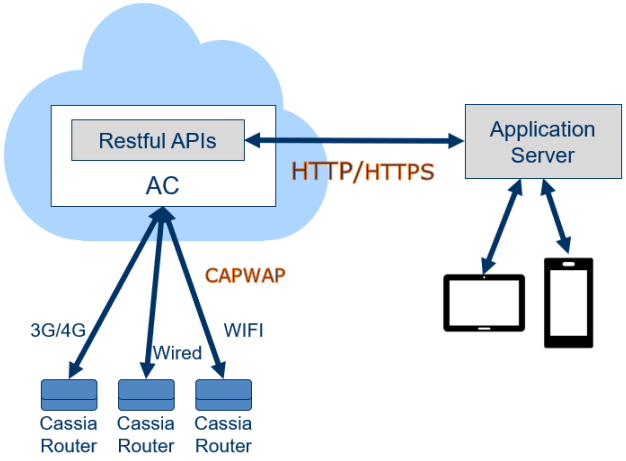

Figure 4 – Cassia IoT AC API

Deployment

Cassia IoT AC can be flexibly deployed at

- On-premise hardware box
- Private cloud: customer managed private or public cloud
- Cassia public cloud

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