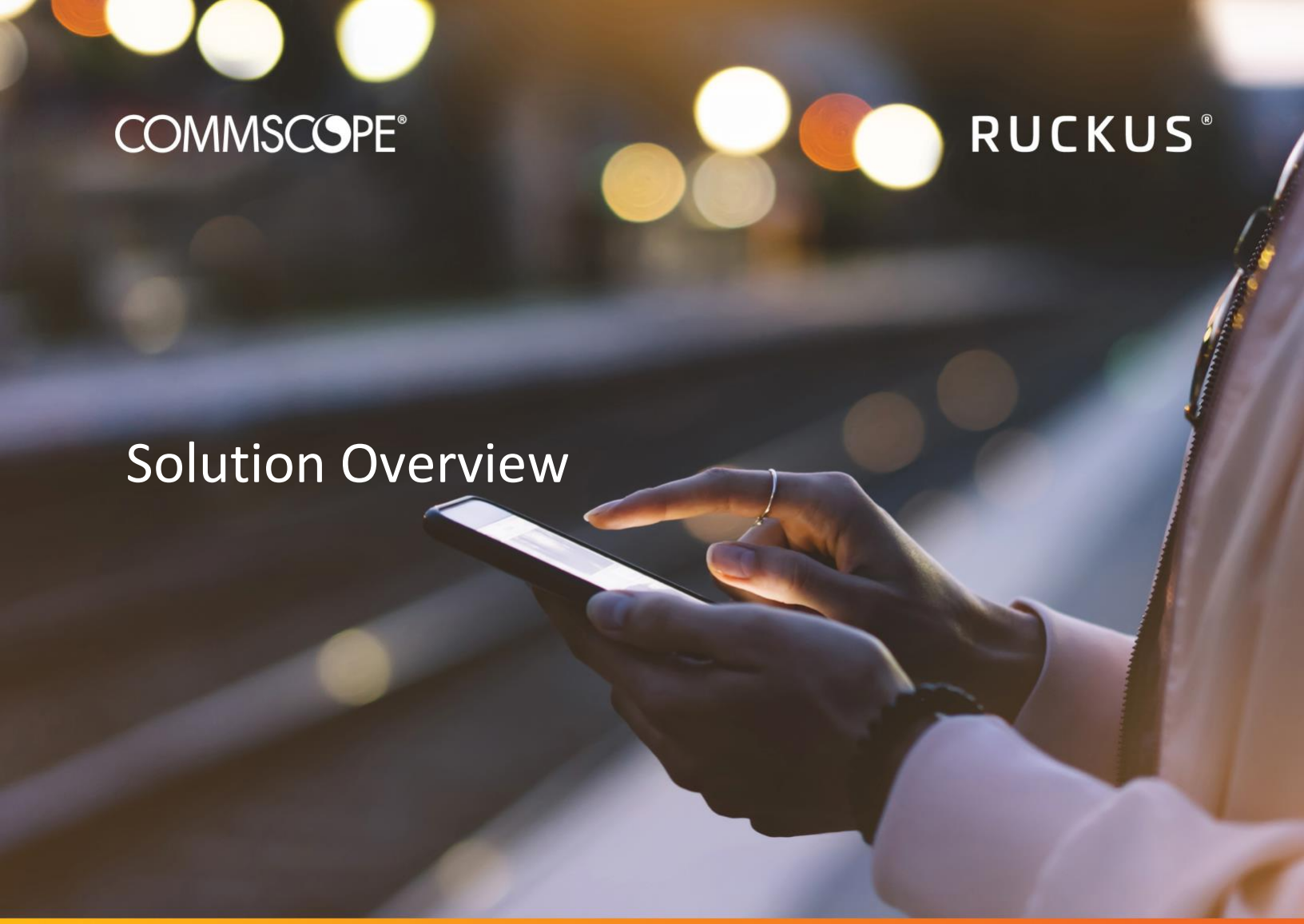

Solution Overview

Connected Entry: RUCKUS & dormakaba

February 2022

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Overview

This document covers an integration using the RUCKUS IoT Platform and dormakaba, a pioneer in access management software and electronic locking systems.

Hotels and MDUs around the world are striving to make their properties more welcoming and to enhance the overall customer experience, while addressing their functional needs by controlling and monitoring access at every point. RUCKUS and dormakaba have partnered to create solutions which satisfy those requirements.

The RUCKUS IoT Controller and RUCKUS IoT Insights provide the technology which allows the integration of dormakaba electronic lock solutions into a RUCKUS Wi-Fi infrastructure, resulting in reduced network investment and operational costs, while maintaining ease of use and the highest security level.

This solution uses RUCKUS access points working as a Zigbee gateway to establish a secure connection with the electronic locks. A software plug-in the the RUCKUS IoT Controller allows the configuration and management of the locks using dormakaba's access management software.

Who is dormakaba?

dormakaba is a global security group based in Rümlang, Switzerland. It employs around 15,000 people in over 50 countries. It formed as the result of a merger between former Kaba and former Dorma in September 2015, and is publicly traded on the SIX Swiss Exchange.

dormakaba is one of the top three companies for access control and security solutions in the global market, with over 150 years' experience and millions of products installed worldwide. dormakaba offers a comprehensive portfolio of products, solutions, and services for everything related to doors and secure access for hotels, healthcare, education, shops, lodging, entertainment facilities, sports centers, airports, at home or in the office.

dormakaba is driven to redefine locking systems to offer the highest level of control, safety and efficiency. dormakaba solutions merge security with convenience — creating a safer and more pleasant environment.

You can get more information at https://www.dormakaba.com/

dormakaba Lodging Solutions

True hospitality combines convenience at the front desk, smooth access to guest rooms, and end-to-end security in the back-of-house.

dormakaba focuses on all aspects of hotel operations to run more efficiently, increase guest satisfaction and reduce costs.

The electronic locks in the Lodging Solutions are managed by the Ambiance Access Manager software. Some examples are the RT Plus, the Saffire LX and the Saflok QuantumIV, which are equipped with RFID for guest access using a keycard, and with a Zigbee radio for secure communication with Ambiance.

RT Plus

Saffire LX

Saflok QuantumIV

DORMAKABA LOCKS MANAGED BY AMBIANCE

dormakaba Multihousing Solutions

Security, service, and amenities are important factors to residents when searching for a place to live.

By seamlessly integrating electronic apartment locks, perimeter access controls and access management software into a single system, dormakaba helps residents make the smart choice.

dormakaba's complete multihousing access control solutions are featured in market rate apartments, urban luxury or garden apartments, multi-family complexes, student housing & campuses, senior living facilities, camp workforce housing, and military housing.

The electronic locks in the Multihousing Solutions line are managed by the Community Access Management software. The Quantum Series is part of this solution. These locks are also equipped with RFID for guest access using a keycard, and with a Zigbee radio for secure communication with Community.

DORMAKABA LOCKS MANAGED BY COMMUNITY

Mobile Access Solutions

dormakaba mobile access solutions employs a secure end-to-end mobile credential system that streamlines guest processes - allowing them to access their room with their mobile devices using Bluetooth Low Energy (BLE).

GUEST ACCESS USING BLE

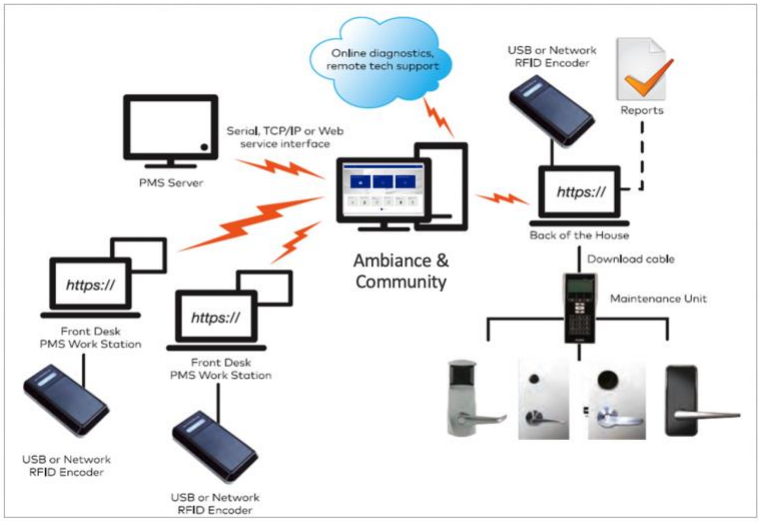
Access Management

Ambiance and Community are the dormakaba access management software, used to deploy, control and monitor the locks in the Lodging and MDU solutions.

Ambiance and Community use a web-based interface, allowing you to manage guest and tenant access, run reports, change door lock/unlock schedules or remotely monitor the locks.

The solution is scalable based on property requirements. It can manage from 5 to 5,000 rooms in a single or multi-building configuration.

Ambiance and Community use APIs to easily interface with hotel property management systems (PMS).



AMBIANCE & COMMUNITY ACCESS MANAGEMENT

Flexibility using APIs

Backed by a library of web services and Application Program Interfaces (APIs), Ambiance easily interfaces with hotel property management systems (PMS) to offer superior operational efficiency.

Advantages of the Electronic Locks

Secure, Flexible Unit Access

- Keys cannot be duplicated without access to the management system. Traditional mechanical keys can be copied in any hardware store.
- Multiple form factor and style choices for locks and access readers.
- Keys for electronic locks can be cards or software on a smartphone.
- If a key is lost, it can be deleted from the system and a new one will be generated by the front desk.
- The keys will be de-activated when the guest checks out, so there will be no security breaches if the guest forgets to return it when checking out.
- Keys and locks management becomes a front desk/back-end office function. Ambiance and Community can be integrated with the property PMS using a variety of APIs to monitor and control the locks.
- Auditing of lock access and PCI compliance.

RUCKUS and dormakaba Advantage

RUCKUS is a leader in enterprise networking and a top provider for the hospitality vertical, offering wireless access points with built-in Internet of Things (IoT) radios, which works together with the RUCKUS IoT Platform, to build the foundation for many new solutions.

RUCKUS partnered with dormakaba in the Hospitality and MDU business to control and monitor one of the most important guest touchpoints: the door lock on which every customer relies.

RUCKUS and dormakaba work in an integrated solution. The same access points will be used to forward IoT traffic and to provide wireless access to all guests and hotel employees, resulting in a network with much less complexity and costs to deploy and operate. There is no need to deploy a parallel IoT network, or specialized gateways to control the locks.

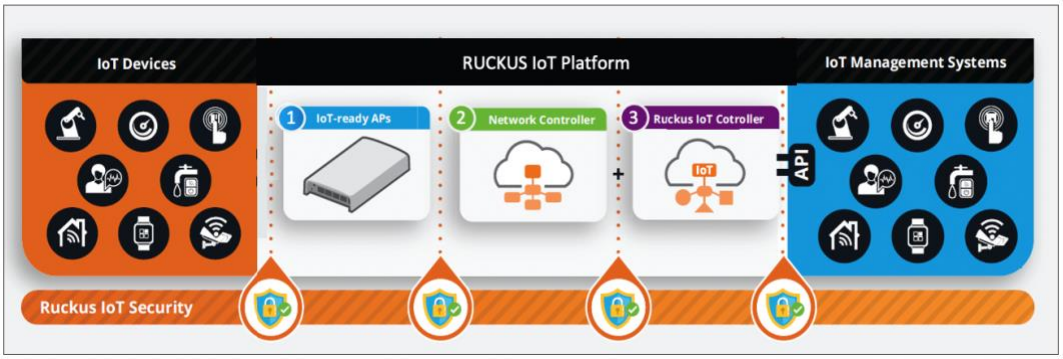
A Common Network for Wireless Guests and IoT

The emergence of the IoT technology has added a variety of new IoT devices and applications to hotel properties:

- Connected thermostats ensure the air conditioning system does not run all weekend.
- Connected door locks and personalized light control improve guest satisfaction
- Tray buttons can be used to summon hotel staff.
- Panic buttons can assure the safety of the hotel employees.

In the past, each suite of IoT devices required a separated data network, with additional cable runs to the IoT gateway for each system. That created complexity and added costs.

Using the RUCKUS IoT Platform, all IoT traffic is transported over the existing access network, without the need of additional cable runs. In addition, RUCKUS IoT Insights can be used to monitor the electronic locks managed by Ambiance or Community.



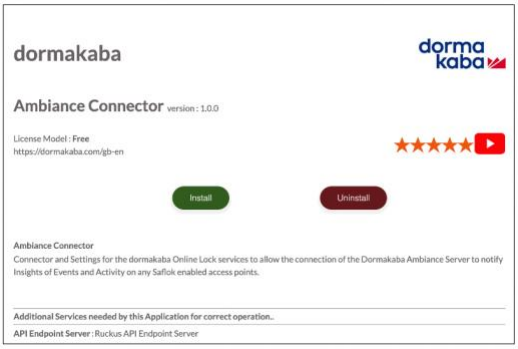
THE IOT TRAFFIC IS SECURELY TRANSPORTED OVER THE NETWORK

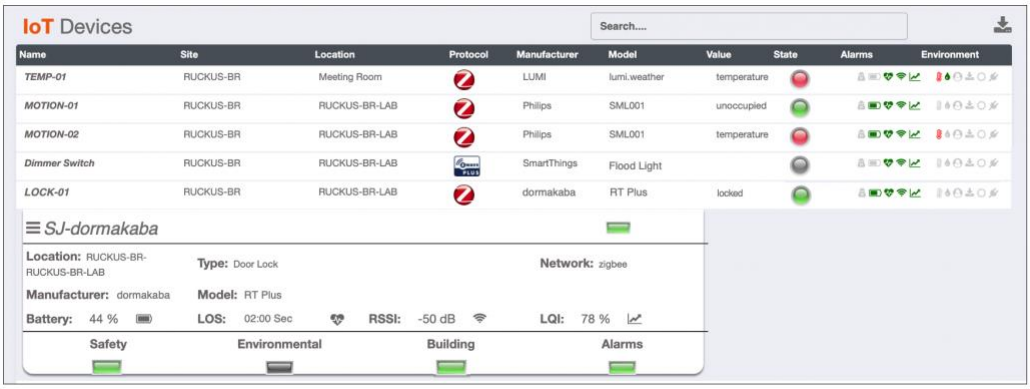
RUCKUS IoT Insights Integration

The Ambiance and Community Access Management software can be integrated with RUCKUS IoT Insights using the Ambiance Connector.

RUCKUS IoT Insights can be used to monitor the dormakaba locks. Any status changes are visible in the IoT Devices page or in the floor plans configured in RUCKUS IoT Insights.

It is possible to configure alarms for when a door is open, ajar or unlocked for an extended time.





AMBIANCE CONNECTOR AND RUCKUS IOT INSIGHTS INTEGRATION

RUCKUS & dormakaba Reference Architecture

The diagram to the right shows the components for the solution.

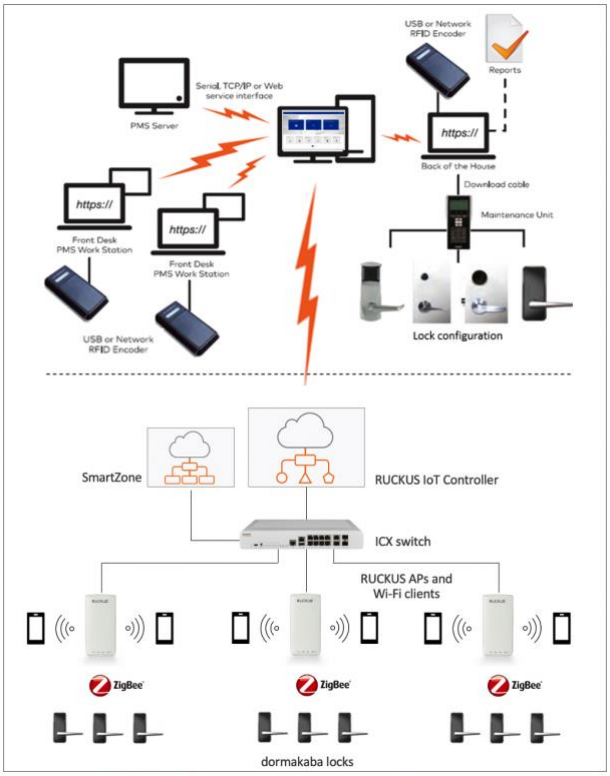
All the activities to deploy and control the locks and to configure the RFID keycards are performed using the Ambiance and Community Access Management software, the RFID encoders and the Maintenance Units from dormakaba.

RUCKUS access points are equipped with Zigbee and BLE radios and they act as IoT gateways.

SmartZone manages guest Wi-Fi access, and the RUCKUS IoT Controller manages the IoT gateways, and it is also responsible for the onboarding of the electronic locks.

The RUCKUS IoT Controller communicates with Ambiance or Community via a secure software plug-in.

Ruckus IoT Insights can be used to monitor the electronic locks managed by Ambiance or Community.



RUCKUS & DORMAKABA REFERENCE ARCHITECTURE

The RUCKUS IoT Platform

The RUCKUS IoT Platform is a collection of hardware and software components used to create a converged IoT access network:

- **RUCKUS Access Points:** Most Wi-Fi 6 models include built-in Zigbee and BLE radios: R550, R650, R730, R750, R850, T350d, T750, T750SE , H350 and H550. The following models can use an external IoT module connected to its USB port: H510, R510, R610, R710, R720, T310, E510, T610, C110, M510, R350
- **SmartZone Controller:** A network controller to manage the wireless network. It can be a physical appliance or a virtual controller.
- **RUCKUS IoT Controller:** A virtual controller to perform connectivity, security and management functions for the IoT devices. The RUCKUS IoT Controller includes a rules engine, based on Node-RED, for IoT device policy management, and it also offers open APIs that can be used by third-party management systems.
- **RUCKUS IoT Insights:** A platform for IoT data analysis and problem resolution, with an expandable eco-system. Besides being capable to monitor the dormakaba electronic locks, it includes solutions for Analytics, Video, Environmental, Occupancy and Safety

R550

SmartZone RUCKUS IoT Controller

dormakaba Lodging and Multihousing Solution Components

The dormakaba Lodging and Multihousing Solutions includes electronic locks, management software and accessories:

- **Ambiance & Community Access Management:** dormakaba lodging solutions use the Ambiance Access Management software, and the Multihousing solutions use Community,
- **RFID Encoders:** RFID encoders are devices connected to the front desk computers, used to write the access permissions in the RFID keycards the guests receive when they check in the hotel or tenant unit.
- **Keycards:** RFID keycards supporting ISO 14443-A, Mifare Classic, Mifare Plus or Ultralight C credentials.
- **Handheld or Maintenance Unit:** This is a portable device that is used to program the electronic locks. It downloads configuration information from the acsess management software and uploads it to each lock using RFID.
- **Electronic Hotel Locks:** They are equipped with RFID for guest access using a keycard, BLE for guest access using a smartphone and with Zigbee for secure communication with the access management software.

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RUCKUS

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- Design Guide - Building the RUCKUS & dormakaba Solution

dormakaba

- dormakaba web site - https://www.dormakaba.com/
- Lodging Systems - https://www.dormakaba.com/us-en/solutions/products/lodging-systems
- Multihousing Solutions - https://www.dormakaba.com/us-en/solutions/products/multihousing-solutions

RUCKUS solutions are part of CommScope's comprehensive portfolio for Enterprise environments (indoor and outdoor).

We encourage you to visit **commscope.com** to learn more about:

- RUCKUS Wi-Fi Access Points
- RUCKUS ICX switches
- SYSTIMAX and NETCONNECT: Structured cabling solutions (copper and fiber)
- imVision: Automated Infrastructure Management
- Era and OneCell in-building cellular solutions
- Our extensive experience about supporting PoE and IoT

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