BETTER NETWORKING EXPERIENCES: ASSISTED LIVING AND NURSING CARE

LOCATION ANALYTICS WITH RUCKUS NETWORKS AND KONTAKT.IO

SOLUTION OVERVIEW

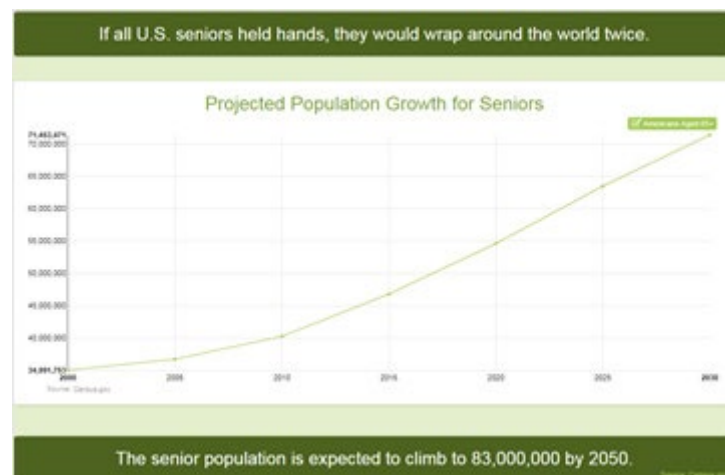## TABLE OF CONTENTS

THE PURSUIT OF CARE

There is nothing more important than family. With the senior population growing at an unprecedented rate[1] and living longer, the need for post-retirement care has surged. Continuing Care Retirement Communities (CCRC) provide multiple levels of care, including assisted living and independent living arrangements. CCRCs offer a compassionate way to preserve as much independence as possible while ensuring the physical and mental wellbeing of seniors are met. Unlike some markets, this is a very human-oriented and humane business built on the understanding that we are more than numbers on a chart or a bottom-line cost.

According to a recent study by the United Nations[2], the global population aged 60 and over is growing faster than all other age groups. For assisted living operators, this represents an incredible opportunity to serve a key group of individuals and the families who cherish them. It also brings the risk of falling behind in a booming and competitive market that is evolving by the day.

Residents and their families are growing more knowledgeable and internet-savvy and this impacts their decision-making when it comes to long-term care. When they join a community, they desire the latest innovations in high quality care. They also expect to bring their smartphones, tablets, e-readers, gaming stations, and more with them. Industry operators must adjust their services and communities to stay attractive to this increasingly digital population.

If all U.S. seniors held hands, they would wrap around the world twice.

Projected Population Growth for Seniors

The senior population is expected to climb to 83,000,000 by 2050.

[1] https://www.seniorcare.com/featured/aging-america/

[2] https://www.un.org/en/sections/issues-depth/ageing/

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When done right, technology can be transformative for both residents and staffing. It can touch multiple aspects of the business beyond simple connectivity: from improved care and operational efficiency through the use of network-enabled solutions for patient care, to improved staff retention, greater on-premise security, and an expanded IT ability to provision and support increasingly complex property networks without a commensurate scaling in support burdens.

Smart operators are making the investment now in networks and applications to drive future expansion in key aspects of the business. In order to do this, they are looking beyond consumer-grade equipment to enterprise-class solutions that are designed to meet these critical needs.

KEY FACTORS DRIVING SENIOR LIVING TECHNOLOGY: CHALLENGES AND OPPORTUNITIES

Operators that previously experienced little competition, find themselves with a growing need to differentiate to residents with increasing choice and requirements. Many operators are also citing other issues such as a need to improve staff retention and lower IT and facility management burden while increasing services. The network, once seen as a nice to have, is a compelling target for innovation and a way to stand out in a crowded market.

Opportunities and challenges exist in the following areas:

- Better and more reliable connectivity to support more devices, higher bandwidth loads, and 24x7 availability
- Stronger network security to move beyond open networks that have little to no protection for users or devices
- Kontakt.io brings new devices and applications for Internet of Things (IoT) that can provide actionable information leading to better care

The Ruckus and Kontakt.io advantage

Ruckus Networks is a leader in enterprise networking and the number one provider for hospitality and multi-dwelling units (MDU) communities. Ruckus builds access networks that get people and machines on the network easily and securely, keep them on reliably, and deliver the highest capacity and scalability without requiring extensive user or IT knowledge. These advantages can drive staff efficiency, resident safety and satisfaction and improved care:

- Location tracking and converged IoT support enables a wealth of new applications for improved care, services, and security
- Secure device onboarding that streamlines the process of getting new devices onto networks through a self-service portal that dramatically reduces the number of helpdesk calls without compromising on security
- Innovation and a relentless drive to build networks that "just work" brings carrier-grade performance, reliability and scalability to critical network needs
- Smart algorithms and heuristics allow the network to make optimization decisions without requiring constant IT attention—reducing overhead costs to deploy and manage as well as reducing troubleshooting needs

All of these advantages, and more, are why operators have made the switch to Ruckus Networks and Kontakt.io for an elevated and transformative networking experience that eases day-to-day operations, attracts quality staff, and delights residents. With IoT, a new world is opened that takes the networking experience even higher.

DIGNITY FOR ALL: THE ROLE OF LOCATION ANALYTICS IN SENIOR CARE

Hugs. Warmth. Great Memories,

These are just a few of the things that our elders are known for across the world. They've lived a life worth remembering: stories told around the kitchen table about work and life experiences, about children, and laughter. But, even the strongest must bow to the test of time. Memories get foggy. The stories fade. That "spark" that made them the life of the party gets just a little dimmer. Sometimes, our seniors need a little help.

This is where continuing care and assisted living comes in, helping on those days where seniors need a hand with little chores and all the way through the rest of their life. The role of senior living operators is a unique business based around care and conscience for their residents. One that caregivers and nurses perform 24 hours a day to make sure our cherished elders live with the respect and dignity they deserve. Unfortunately, the explosive growth in elderly resident populations often leaves operators understaffed and over worked. Locked doors, private wings and surveillance tools seem more like prison features than care, but they are how operators have been forced to manage the increasing load of population growth, longevity, and higher levels of care.

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Technology can help our seniors and the people who help them maintain the highest possible quality of living and care. Location and asset tracking solutions like those provided by Ruckus and Kontakt.io brings devices and software that provide actionable information and lead to better care. As such, they represent a leap forward for senior care and nursing that goes beyond improving existing applications and introduces new capabilities, such as fall detection bracelets and heart monitors that can aid a resident in distress. Wireless tracking makes sure residents are accounted for and looked after without requiring intrusive surveillance and locked doors. With the use of IoT solutions, nurses and staff members can respond faster and potentially save lives with greater efficiency than ever before, while reducing their own workload and improving their job satisfaction and ability to help others.

DEPLOYING KONTAKT.IO IN ASSISTED LIVING

There are many ways in which technology, specifically Kontakt.io, can aid assisted living residents and staff. But each IoT system brings challenges. Other non-Ruckus/Kontakt.io systems typically work in isolation from each other. This creates an obstacle for one of the greatest potentials of IoT—the ability to combine information from multiple IoT systems into a single process. For example, analytics could be used to determine what a typical day looks like for each resident—based on where they go, how long they spend there, and so on. This information could be used to monitor for deviations. Maybe a resident has not moved from their location in a long period of time. This could be used to trigger an alert for caregivers, so they can provide targeted support when and where it's needed rather than rely on obtrusive surveillance.

Common challenges to deploying IoT solutions include:

- Additional gateways are required
- Multiple management platforms for each manufacturer
- No visibility into the interaction or interference between the Kontakt.io network and Wi-Fi networks
- Additional cabling infrastructure to create a parallel IoT network is labor intensive and consumes additional switch ports and power

IOT REDEFINED: THE RUCKUS IOT SUITE AND KONTAKT.IO

The Ruckus IoT Suite solves these problems by converging IoT with the access network to create a single pane for visibility, cabling infrastructure, and a way to generate actionable data.

Consolidated IoT Device Management— the Ruckus IoT Suite management system eliminates the need for additional gateways and separate management systems. A single IoT pane of glass makes management and troubleshooting simpler and more intuitive for what would otherwise be a dauntingly complex task.

Reuse Existing Infrastructure—Kontakt.io can be deployed across the existing LAN and WLAN infrastructure, saving on deployment time and reducing costs. By providing a common point of management and cabling, multiple physical layer networks are consolidated into a single converged network. This simplifies IoT device onboarding and establishes uniform security protocols and policy.

Multi-layered Protection—data transmitted between IoT Suite components is protected via standards-based security such as over-the-air encryption, SSL-secured MQTT and HTTPS REST communication.
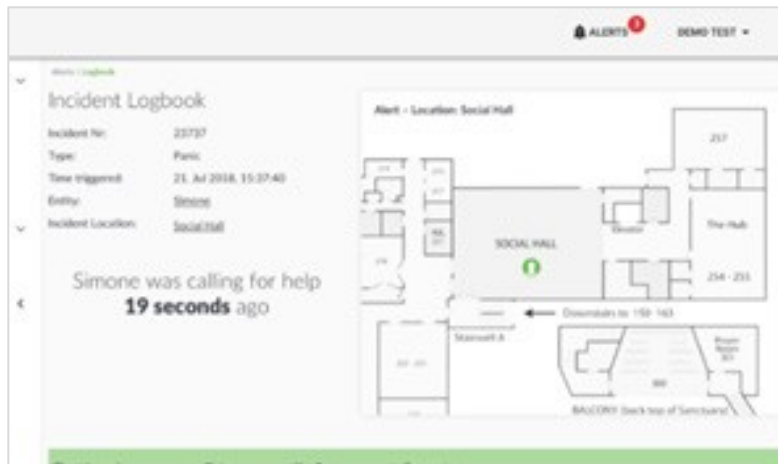
Simplified Device Onboarding—Ruckus IoT Suite quickly connects Wi-Fi and Kontakt.io devices simply and easily.

Expedited Deployment—connect an IoT Module to an IoT-ready Ruckus AP to quickly upgrade the WLAN to support new wireless technologies such as Kontakt.io BLE tags and wristbands.

Easily deployed and managed IoT—The Kontakt.io Smart Platform provides a real-time view of all assets and offers use case specific reports; furthermore, hardware and software programming are seamlessly controlled through over the air updates.

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Better Together: Ruckus Networks and Kontakt.io

A great IoT deployment is only as great as the foundation it is built upon. This is particularly true when quality of care applications depend on the network. The Ruckus portfolio is designed from the ground up to deliver better experiences: to get devices on the network quickly and easily, keep them on reliably, and deliver the capacity and scalability needed to support new applications and devices. Kontakt.io is a leading Bluetooth Low Energy (BLE) Location based solution provider with the mission to simplify IoT. The Kontakt.io Platform and BLE tags are proven in healthcare, supply chain, and public space use cases. The company was founded in 2013 and has many referenceable customers. Kontakt.io's modular Platform is versatile and provides a robust API to be integrated with other systems. This helps to reduce the overall costs and complexity of deploying and managing wireless asset tracking and condition monitoring solutions.
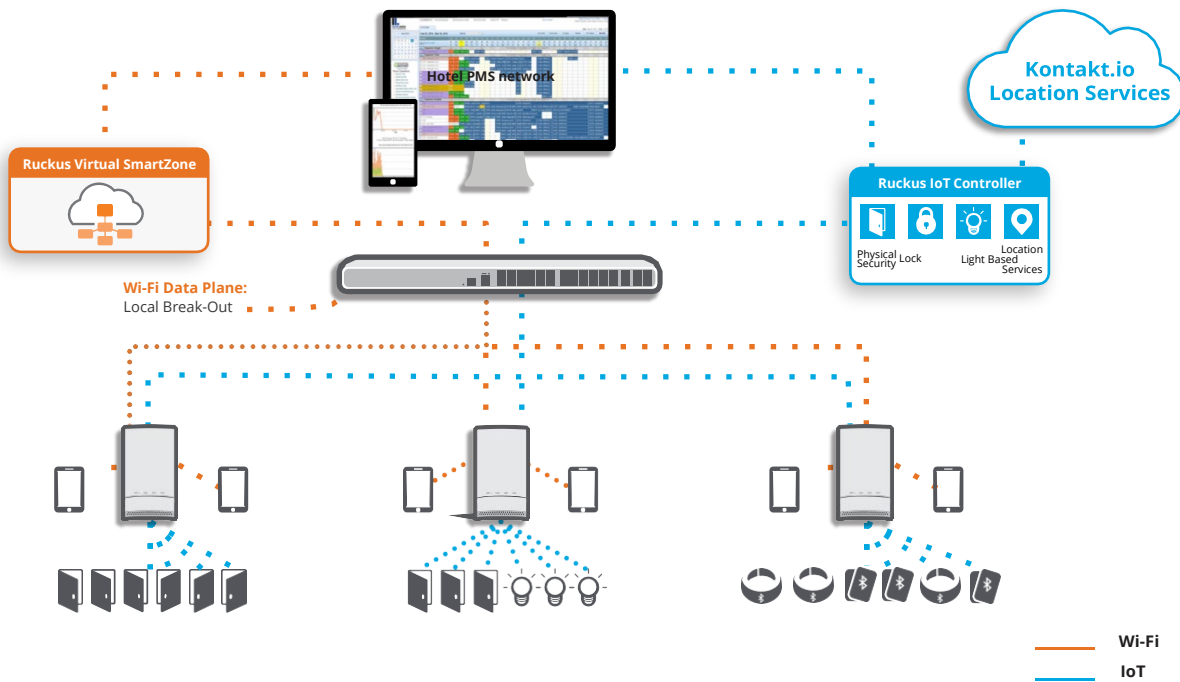

Better User Experiences

Ruckus' patented technologies such as [BeamFlex+,](#) [Channelfly,](#) and other RF innovations deliver a high quality of service (QoS), no matter how challenging the environment. [Ruckus Cloudpath](#) provides self-service registration of wired and wireless devices and onboarding without compromising security and reducing helpdesk calls. All this combined with Kontakt.io's best in class IoT technology solves many problems faced by operators today.

Powerful Network Insights and Simplified Deployments for Better IT Experiences

Self-forming, self-healing Ruckus [wired,](#) and [Wi-Fi access points](#) simplify deployment. [Visual troubleshooting tools](#) and predictive analytics shorten the break-fix cycle. The Kontakt.io Environmental Monitoring Module and wireless BLE tags record and track location, environmental and temperature data remotely, eliminating human errors and the need for manual reporting. The items that require strict, temperature-controlled conditions are properly tagged, and constantly monitored via [wall mounted Ruckus access points](#) to ensure that their quality is maintained. When measurements are sensed above or below set parameters an alert is sent to specified responders. A variety of LAN and [WLAN architectures](#) ([appliance-based or virtual SmartZone,](#) cloud-managed [Cloud Wi-Fi,](#) controller-less [Unleashed](#)), offers different cost points; allowing IT to choose the right-sized deployment model and features that best meet their needs.

- Reduced asset search time
- Reduced temporary or permanent loss of equipment
- Increased staff safety by instantly locating them in times of duress
- Improved communication by locating any person in real-time from your mobile phone or computer
- Meet compliance and prevent product loss with accurate temperature and condition monitoring

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Premium Network Connectivity Without the High Price Tag

Ruckus offers the best in access networking for assisted living and does it affordably, bringing premium enterprise features and connectivity within reach of any facility. We do it through a relentless obsession with:

- **Performance**—a typical Ruckus Wi-Fi deployment often requires fewer APs to provide the same, or better, performance than competing vendors[3]

- **Fewer IT Helpdesk Calls**—self-optimizing networks and self-service onboarding reduce helpdesk calls. Accurate, Automated, 24/7 Monitoring with Real-Time Alerts

- **Ease of Use**—intent-driven user interfaces reduce the risk of misconfigurations and the need for extensive training

- **Reliability**—carrier-grade reliability and redundancy options reduce downtime and truck rolls

- **Scalability**—Ruckus switches and APs offer flexibility and modularity to minimize rip-and-replace network upgrades. Multi-tenant access network controllers and Cloud easily scale manage thousands of sites and tens of thousands of APs and switches

- **Integration with Kontakt.io systems**—integration Kontakt.io reduce redundant spending costs and add new capabilities

- **A Vision of the Future of Connectivity**—the newest Ruckus APs go beyond LAN and WLAN, with integrated LTE radios that can be deployed for private LTE today and, soon, neutral host systems that will offer an affordable alternative to in-building DAS

RUCKUS NETWORKS AND KONTAKT.IO: TRANSFORMING ASSISTED LIVING

Continuing care is more critical than ever before. With the help of technology, operators can play a greater and more meaningful role in the lives of the elderly, maintaining resident dignity while providing caregivers more tools for greater levels of care. Until now, many operators have viewed the network as a nice to have rather than a valuable asset able to transform both business and lives. Kontakt.io, in particular, is changing this perception and demonstrating the value of networking and technology to continuing care.

A Ruckus deployment provides enterprise-class networking with the performance to handle the toughest challenges and an ease of use that gives IT, staff, and residents greater satisfaction with improved reliability and the ability to add new and differentiated services.

[3] https://www.ruckuswireless.com/ap-performance-testing

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ABOUT RUCKUS NETWORKS

Ruckus Networks enables organizations of all sizes to deliver great connectivity experiences. Ruckus delivers secure access networks to delight users while easing the IT burden, affordably. Organizations turn to Ruckus to make their networks simpler to manage and to better meet their users' expectations. For more information, visit www.ruckuswireless.com.

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ABOUT ARRIS

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