PAYCOM CENTER
RUCKUS Networks elevates Paycom Center's Wi-Fi into a league of its own

Paycom Center is home to the NBA's OKC Thunder basketball team as well as large concerts and entertainment. It's an arena that offers a flexible, dynamic seating configuration that can hold more than 18,000 fans across its 586,000-square-foot facility.

Customer
Paycom Center

Location
Oklahoma City, OK

Requirement

Upgrade to the latest wired and wireless large public venue (LPV) standards

Solutions

- 250 indoor and outdoor access points (APs)
- 349 ICX® switches (7550, 7650, 7850 and 8200 series)
- RUCKUS SmartZone™ controller
- RUCKUS AI™

Benefits

- The new RUCKUS® wireless and wired network now handles terabytes of data during each event

- Arena stakeholders can now make the connections they want with anyone from anywhere
- Entire arena speeds average 51 Mbps download and 49 Mbps upload during peak usage
- Supports services for vendors and guests like Bypass/Clover POS and ticketing services provider TM Presence
- In March 2020, Paycom Center became one of the NBA's first areans to deploy Wi-Fi 6

Background

It wasn't long after the Thunder arrived in Oklahoma City that the arena's wired and wireless network was challenged to the brink due to the sold-out games. The arena had originally been fitted with a competitor's APs at gates for ticket scanning and ran on their wired network. But the capacity of the previous switches was too low and support costs grew too high. In addition, there was no Wi-Fi® for fans or staff.

To operate efficiently, many vendors and arena staff such as Thunder's management, food and beverage distributors, and ticketing services provider required network services. "Our stakeholders had constraints and limitations placed on them due to not having the correct infrastructure in place," said Johnathan Dodd, Senior Director of Facility Operations & Capital Projects for ASM Global OKC, Paycom Center's venue management company.

"We had to get ahead of the game."

Giving power to the people

The first step to redesigning the wired network and creating a new wireless network was hiring Rectitude369—a national LPV-focused service provider. In turn, Rectitude369 selected RUCKUS Networks as their preferred partner. "Selecting RUCKUS Networks as our solutions partner made complete sense for us here. Their cutting-edge technology helped us stand apart from the competition, said Seth Bailey, CEO for Rectitude369; "their professional services team helped us really deliver an excellent product."

To give Paycom Center's network more speed, one of the first things Rectitude369 did was replace all of the previous switches with RUCKUS ICX switches at the distribution and access layers.

"We went from 20 GB backbone to 200 GB," said Dodd. "Network performance went through the roof. The stability was rock-solid. But, even with all that power, the network was incredibly easy to manage. RUCKUS Networks solutions were simply in a different league from what we had before."

Today, Paycom Center utilizes RUCKUS ICX7850-32Q switches for their distribution to three siloed networks: audio-visual to support IP-TV, a general network that supports point-of-sale (POS) equipment, and a public wireless network that supports guest traffic. By revamping the entire network infrastructure, Paycom Center can now reach speeds of 200 GB between the independent distribution frame (IDF) and main distribution frame (MDF) backbones. Each networking closet has 2x 100 GB uplinks to each of the isolated network stacks, resulting in 600 GB worth of bandwidth to each IDF.

Innovating arena Wi-Fi network deployment

The next step involved was deploying an arena-wide Wi-Fi network. Paycom Center and Rectitude369 evaluated vendors based on price, security and ease of management, to name a few. But the ultimate test was actually installing APs in the arena to see what each vendor's equipment could handle. Since the arena has to be able to add or remove seating depending on the event,

installing APs behind the seats wasn't possible.

"Our lower bowl seating is made of both retractable seating and concrete mounted seating. Instead of mounting APs behind the seats, we needed to provide a different type of solution, which included hanging and mounting the APs to the truss and beams above the arena," stated Dodd. "Only RUCKUS could span from the top of the arena to the floor level without the assistance of external antennas—a distance of almost 100 feet."

Since Paycom Center wanted to create a blanket of coverage, they utilized RUCKUS to provide a high-density Wi-Fi solution encompassing the arena. To build a Wi-Fi network that can work in any arena seating configuration, Rectitude369 designed a three-dimensional heatmap that could perform in a variety of venue configurations.

This design encompasses about 70 VLANs that secure different traffic segments, like POS transactions, security cameras, multi-cast traffic and so on. "It's a modernized design that provides us unique visibility and control," reports Dodd. "In addition, there are stringent requirements being a world-class arena. We've been able to ensure compliance and even go beyond that requirement with RUCKUS. It's easy to use and administer."

Dodd prefers utilizing the same vendor for his wired and wireless needs. "That's only if you're getting best-of-breed solutions in each area," he said. "We got that with RUCKUS. Paycom Center evaluated switching and wireless technology independently, and RUCKUS was the best choice in both areas."

To build the network of tomorrow, Paycom Center deployed 802.11ax APs along with the multigigabit switches to become one of the first NBA arenas to deliver Wi-Fi 6 to vendors and fans. "This allows us to take advantage of the Wi-Fi speeds and positions us to deliver 4K video streaming and technologies like virtual reality in the future," said Dodd.

Once the network was up and running, Paycom Center relied on RUCKUS AI to receive service assurance for IT and business intelligence to line-of-business stakeholders. This cloud service simplified troubleshooting issues by automatically classifying service incidents by severity using artificial intelligence (AI) and machine learning (ML) algorithms. Plus, it enables stakeholders to define and monitor business key performance indicators (KPIs) to produce better business outcomes.

With Paycom Center's ability to hold over 18,000 fans, network security was also top of mind. To do this, Paycom Center uses NetRaven, a Rectitude369 managed network service. NetRaven provides a network operations center (NOC) and a security operations center (SOC) that are instrumental in keeping Paycom Center's infrastructure continuously monitored and fully managed—keeping the burden of day-to-day management off their internal staff.

Paycom Center courts fans with exciting Wi-Fi enabled services

Since the network refresh, the Oklahoma City Thunder has consistently ranked in the top five for in-game experience of all NBA teams. "Keeping those metrics high and our fans happy is a top priority," said Tyler Lane, Vice President of Technology for the Thunder. "In order to enhance the fan experience, we needed reliable, high-performance Wi-Fi inside and outside [the] arena. We needed end-to-end connectivity, which would give us the ability to engage fans whether they're walking to the arena, in their seats or visiting concession stands."

The Thunder Mobile App is a major channel for communications and engagement with fans. Once the RUCKUS Wi-Fi was deployed, Lane

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> **Tyler Lane**
> **Vice President of Technology**
> **Oklahoma City Thunder**

revealed that there's been a notable increase in fan engagement using the app.

There has also been a welcomed drop in complaints about lost connections and slow speeds. "Fans are obviously happier, and so are we," said Lane. "We asked for comprehensive connectivity and we got it. We now have reliable connectivity in every part of the Arena."

Lane also stated that the RUCKUS Networks solutions have increased confidence in adding features they expect fans will love, such as interactive in-game promotions, loyalty cards (to earn points at concession stands) and increased fan engagement on social

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> **Senior Director of Facility Operations & Capital Projects for ASM Global OKC**

media while watching the game. "Now that we have this network, we're just getting warmed up," he said.

Ticketing services provider's TM Presence, Bypass POS and other monetization opportunities

In the past, reliability problems affected POS connections and there was no Wi-Fi in the arena to support mobile POS terminals. Today, Paycom Center offers more than 10,000 network ports that support 330 wired and wireless tablets running Bypass POS. The arena can now use auto-ticket generation for network events and proactive response.

Because of the network redesign, Paycom Center's ticketing services provider was able to bring TM Presence to the arena. "We were actually one of the pilot sites [for TM Presence], which wouldn't have been possible before we deployed RUCKUS," said Dodd. "Having digital ticketing gives us another source of information to get closer to our visitors, as well as helping to eliminate ticket fraud."

"Our guest Wi-Fi is handling terabytes of data during any given event," noted Dodd. "And our wired network pulls an insane amount of data for all the video, streaming, ESPN, TNT and other networks who come here for games." The network, as Dodd had hoped, will take them a long way in supporting new services.

> "Our experience with RUCKUS has been absolutely fantastic," said Dodd. "We liked RUCKUS before, but this is the largest deployment we've ever done—and the most ambitious in terms of our vision for the future. [The Paycom Center] arena is the home of champions and remarkable performances. RUCKUS fits in perfectly here."

About RUCKUS Networks
RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

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