Wi-Fi for Arenas & Stadiums

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Wi-Fi Enables More Revenue, Greater Efficiencies and Better Experiences

OVERVIEW

In 2014, 35 percent of the arenas, stadiums and similar venues in Mobile Sports Report’s “State of the Stadium” survey had Wi-Fi coverage in all seating areas. One year later, 65 percent did. Why? A major reason is that venue owners and their tenants increasingly see Wi-Fi as a must-have for enabling new services that maximize revenue, staff productivity and the patron experience.

 Arenas and stadiums historically used Wi-Fi for a wide variety of internal applications, such as surveillance camera backhaul, feeding content to digital signage and supporting point-of-sale terminals. Increasingly they’re extending Wi-Fi to patron-facing applications, too, such as enabling fans to order refreshments from their seats, watch instant replays on their mobile devices and get in-depth stats for athletes on the field. Venue owners and tenants also need analytics and management tools, such as to understand how patrons are using the WLAN and to support interaction with them over digital signage, social media and more. And for venues that also host non-sporting events such as trade shows, facility-wide Wi-Fi is now a must-have for supporting exhibitors and organizers – to the point that it can sway their decision to return.

All of these internal and patron-facing applications have one thing in common: Their user experiences are only as good as the Wi-Fi infrastructure enabling them. If the WLAN is vulnerable to interference and doesn’t include features for ensuring each application gets the right resources, the potential consequences include frustrated fans, less productive employees and fewer revenue opportunities.

Read on to learn:

• Why leagues such as the NBA have made venue-wide Wi-Fi a top priority.

• Which types of internal and patron-facing applications are using Wi-Fi.

• How Samsung Wi-Fi products meet the unique requirements and challenges of arenas, stadiums, amphitheaters and similar venues.

• Why Samsung is the ideal partner for venue owners and tenants that want a comprehensive, turnkey package of Wi-Fi infrastructure, digital signage, virtual reality wearables, video surveillance, as well as a software platform capable of hosting the latest and greatest revenue-generating services.

“The most important thing facing sports franchises in the next several years is Wi-Fi and connectivity for the fans.”

-Orlando Magic CEO
What’s Driving Wi-Fi Deployments and Upgrades

Several factors are prompting venue owners, sports franchises, colleges and other organizations to deploy or upgrade Wi-Fi in their arenas, stadiums and similar venues:

• Leagues are pushing franchises to implement patron-facing Wi-Fi. Major League Baseball (MLB) is one of the most aggressive, with a $300 million initiative to bring Wi-Fi and cellular/mobile distributed antenna system (DAS) infrastructure to all stadiums. Today, only two MLB ballparks lack Wi-Fi service.

• Patrons increasingly expect Wi-Fi. Initiatives by the NBA and others have an up-the-ante effect because when people are fans of multiple sports, their connectivity and interactivity expectations are set by the facility that offers the most. These expectations help prompt others to step up their game. As the CEO of the Orlando Magic put it, “The most important thing facing sports franchises in the next several years is Wi-Fi and connectivity for the fans.”

Fans’ Expectations of In-Stadium Experience are Changing

69% of fans would like to watch multi-angle replays on mobile devices during the event in-stadium

48% of season ticket holders would pay to access multi-angle replays and informative game data through their mobile devices

83% would accept advertising on an application to view live sports content

65% of in-stadium mobile users consume content and monitor activity on social media platforms

Source: Live Production TV
Also, fans aren’t the only people who patronize arenas and stadiums. Many facilities also support trade shows and other non-sports events. A WLAN that is fast, reliable and offers seamless coverage is a must-have for exhibitors – to the point that it can sway an event’s decision whether to return to that venue.

• **Mobile operators depend on Wi-Fi.** Cellular spectrum is expensive and scarce, which is why most mobile operators are incentivizing customers to use Wi-Fi whenever possible. As a result, customers are increasingly seeking out Wi-Fi in public places, including arenas and stadiums. Even without operator incentives, many consumers still look for Wi-Fi first because they believe it’s faster than cellular, especially for uploading photos and videos from games.

In about one-third of the facilities surveyed by Mobile Sports Report, mobile operators paid, or helped pay for, the WLAN’s installation and operation. But some venue owners and franchises prefer to shoulder those costs because doing so gives them exclusive access to all of the usage data the WLAN provides. Those deep insights enable them to identify new revenue opportunities and understand which services and applications are resonating with patrons.

• **Wi-Fi complements and enables other digital investments.** For example, most franchises now have an app. If patrons find Wi-Fi service too slow during an event, they’ll reduce or stop using the app, thus undermining its return on investment (RoI). The same applies to internal applications, such as a Wi-Fi-based walkie-talkie service for venue staff. If it’s not usable throughout the facility, its RoI plummets, as does employee productivity. So when comparing WLAN solutions, venue owners and tenants should scrutinize how each vendor’s product would support their other digital investments, both existing and planned.

• **Changing business models demand enterprise-class Wi-Fi.** Franchises and venue owners are steadily reducing their reliance on vendor sponsorships when it comes to funding new initiatives. That’s because they want solutions that provide greater profitability, unlike sponsorships, where most of the revenue flows to the vendor. Deploying a scalable, secure and reliable WLAN is the first step that savvy venues and franchises increasingly take when they want to control their destiny.
Self-organizing networks (SON) and Intelligent Beam Selectable Antenna (IBSA). These two technologies neutralize concrete walls, steel beams and other common architectural features that undermine coverage. SON automatically optimizes access point (AP) configurations and coverage to meet each venue’s unique requirements and layout – an approach that also significantly reduces the cost and time of designing a WLAN. Meanwhile, IBSA uses 15 antennas in each AP to minimize dead zones, extend service coverage and achieve a receiving sensitivity 2 dB higher than competing APs.

Decades of cellular experience. Unlike most Wi-Fi vendors, Samsung also provides mobile network infrastructure and smartphones. In fact, mobile operators worldwide use Samsung solutions to launch complex, industry-first services such as Voice over LTE (VoLTE). This experience directly benefits Samsung WLAN customers by, for example, ensuring that Wi-Fi calls can seamlessly hand off from one AP to another as staff walk around a venue.

Voice Aware Traffic Scheduling (VaTS). This patented technology efficiently sends voice frames to multiple devices using traffic scheduling techniques that Samsung perfected over decades of serving mobile operators. As a result, VaTS ensures that voice quality never degrades as the number of concurrent calls increases.

AirEqualizer. This traffic scheduling technology optimizes Wi-Fi service by allocating equal airtime to multiple devices, so all simultaneously connected users get the resources they need. AirEqualizer also can maximize the AP's total cell throughput by more than 50 percent compared to competitors’ products by adapting to the Wi-Fi standard (a/b/g/n/ac) in use and by the signal intensity characteristics.

Built-in security. Samsung APs feature a dedicated security RF monitoring chip embedded independently of the RF service chip for continuous real-time monitoring. This approach reduces the amount of standalone security equipment, helping keep the total WLAN system cost within the customer’s budget.

Forward-thinking architecture. Samsung Wi-Fi solutions such as the Series 400 APs are designed to accommodate emerging applications and requirements, including the Internet of Things (IoT). This flexibility extends the WLAN’s service life and enables venue owners and tenants to take advantage of new applications and devices to further increase productivity, efficiency, safety and patron satisfaction.

Samsung’s relationships with mobile operators, as well as its work with cellular and Wi-Fi standards bodies, gives it unique insights into how wireless technologies, devices and applications will evolve over the next decade. This vision enables Samsung to design its Wi-Fi solutions to accommodate many of those changes. That flexible, forward-thinking architecture helps venue owners and their tenants extend the life of their WLAN investment and quickly, cost-effectively capitalize on emerging trends.

Venue owners, tenants and patrons don’t like it when a WLAN is slow, has spotty coverage or struggles to keep up as seats fill up. Overcoming those and other quality-of-service (QoS) challenges requires Wi-Fi infrastructure that's not only enterprise grade, but also designed to accommodate the unique architectural environments of stadiums and arenas. In independent tests, Samsung’s 802.11ac solution provided 30 percent better coverage and 40 percent more data throughput than competing systems. Here are eight ways Samsung delivers a superior experience and more:

1. Available with access points deployments with controller only
2. Availability depends on smartphone model
Many vendors offer WLAN products. But only Samsung can provide a total solution that includes best-in-class Wi-Fi infrastructure and an extensive portfolio of other devices and software designed to meet the unique needs of arenas, stadiums and similar facilities. Some examples:

- **A total solution.** Only Samsung offers an end-to-end solution, including a stadium-ready wireless platform, enterprise-grade Wi-Fi infrastructure, digital signage, consumer electronics and mobile payment systems. It’s the first and only total software and hardware solution designed expressly to help stadiums identify new revenue opportunities and business models while engaging fans in new and exciting ways.

- **A broad, deep portfolio of professional AV and mobile products.** Samsung’s tablets, smartphones, wearables, interactive white boards and other AV and mobile products enable venue and tenant staffs to work more efficiently. Samsung’s digital signage and other display products let venues provide patrons with the kinds of multimedia, immersive experiences that drive loyalty, as well as wayfinding guides. Samsung also offers a variety of surveillance cameras, DVRs and other security products to help maximize the safety of patrons, staff, athletes and exhibitors.

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**In-Stadium Wi-Fi is Becoming a Must-to-Have to Facilitate Greater Fan Participation**

72% of fans use mobile devices inside the stadium

38% of fans used in-stadium Wi-Fi during Super Bowl 50

In 2014, 35% of public venues had Wi-Fi; Increased to 65% in 2015

Sources: EVS, Levi’s Stadium, Mobile Sports Report “State of the Stadium”
• **Virtual reality.** With products such as headsets and a partnership with Oculus Rift, Samsung is making VR a reality for sports franchises and venue owners. VR enables a wide range of new applications that patrons can enjoy both in venue and at home, thus maximizing loyalty and revenue applications. Examples include virtual tours of stadiums, arenas and halls of fame, previewing a seat’s or box’s view when buying tickets and experiencing a game from an athlete’s perspective.

These and other VR applications can create new revenue in several ways, such as by making them available exclusively to fans who buy certain ticket packages, thus driving upsales and renewals. Another example is sponsorships by brands that have a direct relationship to those VR experiences, such as the provider of the shoes or jerseys that the athletes wear.
**Actionable analytics.** Some franchises and venue owners see so much value in patron data that they choose to shoulder their WLAN’s entire cost rather than having to share that information with a partner. These insights are key to unlocking revenue and loyalty opportunities that lie in the fact that venues and franchises typically know nothing about 80 percent of fans watching their games or attending their concerts.

Using big data generated by the WLAN and infrastructure, venues and franchises can understand how patrons use – or don’t use – their apps and other digital offerings, both on site and at home. One example is a single sign-on (SSON) that patrons can use to order tickets, access the WLAN, view content at games, order beverages from their seat and purchase tickets at home. This SSON enables the venue, franchise or both build a database of information about patrons so they can be served in ways that maximize loyalty, satisfaction and spending.

**Predictable, affordable total cost of ownership, with no gotchas that limit future opportunities.** Unlike many other vendors, Samsung doesn’t charge recurring license fees for its enterprise Wi-Fi, doesn’t make security features into standalone products and doesn’t charge for updates that enable additional features. Those are just three examples of how Samsung minimizes the upfront and ongoing costs of a WLAN and the digital solutions that rely on it.

**Ease of implementation and training.** Samsung and partners including Dasdak have done the engineering and product development, which ensures that the solution is easy to use and implement.

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**In-seat food and beverage ordering, with delivery or pickup**

| 8.23 times average sale increase for stadiums having in-seat ordering | Average wait time decrease to 9 minutes from 15 minutes | 35% Average increase in value of a pick-up order | 46% Fans order second time |

Source: Data from MasterCard’s mobile-ordering app (Qkr)

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Some arenas and stadiums built over the past decade didn’t include Wi-Fi because their owners and tenants didn’t see enough value. Now the consensus is clear: A WLAN that serves staff, tenants and patrons is something no venue can afford not to have.

That importance is why venue owners and franchises turn to Samsung when they need to add or replace a WLAN. Only Samsung offers an end-to-end solution, including enterprise-grade Wi-Fi infrastructure, digital signage, smartphones and mobile payment systems. Just as important, Samsung works with partners and value-added resellers to help venues and franchises identify new revenue opportunities and business models, and then implement the technologies that enable those.

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