



Business challenge

As competition grew from big-screen TVs at home and fans expected more interactive and connected experiences at the stadium, AMBSE saw that delivering a more engaging and digitally-empowered fan experience was essential to Mercedes-Benz Stadium's success.

Transformation

To give fans a more immersive and best-in-class experience, AMB Sports and Entertainment (AMBSE), owner and operator of Mercedes-Benz Stadium, chose an integrated stadium technology platform from IBM. The solution included a high-performance data infrastructure, mobile apps with a digital concierge powered by IBM® Watson® technology and critical operational applications hosted by IBM Cloud™.

Results

4,800 miles of fiber optic cable

wired to every port and access point and ready for future technologies

1,800 Wi-Fi access points

to optimize wireless connectivity and enable greater fan engagement

100 TB of data

generated by stadium operations each month and backed up by IBM Cloud

Mercedes-Benz Stadium Wired for wow! Transforming the fan experience with game-changing technologies

Mercedes-Benz Stadium is a world-class sports and entertainment facility located in the heart of downtown Atlanta, Georgia. Opened in August 2017, the stadium is home to the Atlanta Falcons football and the Atlanta United soccer teams, and it is operated by AMB Sports and Entertainment (AMBSE). The USD 1.5 billion, multipurpose stadium also hosts marquee sports, civic, cultural and private events, including championship games for professional football, college football and college basketball.

“It’s the finest sports entertainment facility, not only in the United States, but potentially the world.”

—Arthur M. Blank, Chairman, AMB Group, Owner, Atlanta Falcons, Atlanta United and Mercedes-Benz Stadium

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Competing against the couch

In an era of giant-screen, ultra-high definition home TV sets and constant engagement with “second screen” mobile devices, how do you entice sports fans to leave their couches and see major sporting events in person?

To fill their seats, stadium operators must raise their own game and present a superior live event experience. When construction started on Mercedes-Benz Stadium, the goal was to deliver a highly entertaining and hassle-free guest experience. In addition to awe-inspiring architecture and a full range of amenities, the stadium operators wanted to provide a compelling array of digital services to energize the fan experience.

After considering traditional approaches of using multiple technology providers, AMBSE decided to look for one partner that could design and build all of the technology in the new Mercedes-Benz Stadium and grow with it 10-15 years down the road. It was clear that IBM was able to meet the requirement to deliver the performance and cost-saving advantages of an integrated technology platform, and AMBSE chose IBM as the overall IT systems integrator.

Weaving an IT infrastructure into a complex building environment, such as a sports stadium, is a formidable technical challenge—but AMBSE saw it as an opportunity to make its new venue a much more attractive destination for guests. AMBSE participated in IBM Enterprise Design Thinking™ sessions, a design development approach that rigorously focuses on each aspect of the customer experience.

With input from fans and stadium operators, an IBM iX® team from IBM Services™ created a detailed “journey map” of how fans would interact with the stadium, plotting each touchpoint of the fan experience to orchestrate fan-friendly digital and mobile services. IBM also set up an offsite design laboratory to build prototypes and test IT components and systems before installing them at the stadium.

In addition to ensuring that technology systems performed to specifications on the stadium’s opening day, IBM designed the IT system architecture to be “future-flexible.” As digital technologies evolve over the next several decades, the stadium’s technology infrastructure has the capacity to grow, adapt and stay current with fan expectations and operational requirements.

Writing a new playbook for smart stadiums

Everything a fan sees on the stadium’s 2,500 TV displays and hears over its 4,200 speakers is powered by a city-scale digital infrastructure, designed and built by IBM.

The backbone is a Gigabit Passive Optical Network (GPON), which has a decades-longer life span than conventional, copper-based Ethernet wiring. End-to-end, the GPON network includes 4,800 miles of fiber-optic cable connected to 15,600 Ethernet ports. Installing GPON requires half as many wiring closets as copper cabling, reduces power consumption and frees more space for revenue-producing activities.

GPON delivers data and power to more than 700 point-of-sale (POS) registers, 590 security cameras and 400 door security access points. As new technology becomes available and demand for bandwidth grows, GPON fiber has the capacity and flexibility for new technology upgrades so AMBSE can avoid the significant cost of installing new cabling.

Even with a full house of more than 70,000 spectators, data-devouring fans don’t have to worry about Wi-Fi dead zones at Mercedes-Benz Stadium. More than 1,800 Wi-Fi access points, many housed in IBM custom-designed enclosures under the seats, are GPON-connected and embedded throughout the building. At a recent big game event, this ultra-high-speed network supported a record 24 TB of data traffic and peak throughput of 13.06 Gps for 48,845 attendees.

Equipped with a 4 PB storage area network (SAN) and 7 TB of RAM, the IBM Data Center also serves as Mercedes-Benz Stadium’s gateway to IBM Cloud, which hosts three fan-facing mobile apps. In addition, IBM Cloud serves as the primary backup and recovery system for more than 100 TB of operational data produced and used each month

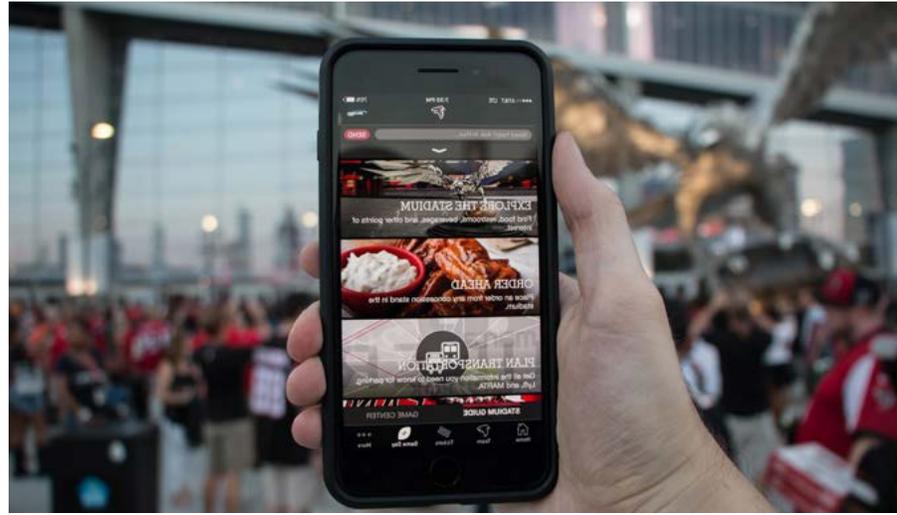
“As we started this pathway to a new stadium, we realized we were going to need a systems integration partner. IBM played that role for us and did a tremendous job”

—Danny Branch,
Chief Information Officer,
AMB Sports and Entertainment

Scoring fan points with high performance

From the day its iconic roof opened, Mercedes-Benz Stadium took its place as one of the most technologically advanced sports and entertainment venues in the world. With detailed input from fans and stadium operators, the iX team developed a suite of fan-friendly mobile apps designed to engage guests before, during and after each stadium visit. The apps, which have been downloaded more than 800,000 times, include versions for fans of the Atlanta Falcons football and Atlanta United soccer teams, and for guests attending other stadium events. More than 45,000 people use the Falcons app on game day.

Before a game, fans can use an app to buy and transfer tickets, plan a trip to the stadium and find and pay for parking spaces. During the game, fans can use apps for ticketless entry, shopping, navigating the stadium and engaging with team-related content. After the game, the apps enable fans to book ridesharing services, buy more merchandise and check



game highlights. With the IBM mobile app platform, AMBSE is able to improve speed of service, which in turn increases efficiency and improves the overall fan experience.

To locate concessions and access guest services, fans can turn to “Ask Arthur,” a virtual assistant named after Arthur Blank, the owner of the Atlanta Falcons and Atlanta United teams. Ask Arthur relies on Watson™ AI and converses with users in natural language to answer questions about the stadium and game day experiences. The result is a better fan experience with insights to improve overall operations for AMBSE.

In addition to Mercedes-Benz Stadium, other sports stadiums, arenas and large venues such as airports, transportation hubs, hospitals, and university and corporate campuses can benefit from IBM experience and expertise with large-scale, integrated technology platforms. “Venue operators are continually challenged by fans to innovate,” says Ben Brillat, Chief Architect of Network Services at IBM. “The next stadium must be more interactive, more engaging, more amazing. IBM is always evolving technology to keep up with expectations.

Solution components

- IBM® Cloud™
- IBM Enterprise Design Thinking™
- IBM iX®
- IBM Services™
- IBM Watson®

Take the next step

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