RaceTrac is raising the bar for roadside experiences by understanding its customers better. With a “Store of the Future” initiative, the Southern US gas station chain is modernizing its approach to deliver a 360-degree view of its 12-state business needs. By enabling data analytics at the edge at 750 roadside pit stops, RaceTrac is leveraging insights to offer personalized store experiences with the goal to keep customers coming back.

**On the road again**

What began in the early 20th century as a small chain of gas stations has now evolved into an expansive network of roadside stops for motorists across the American Southeast.

Headquartered in Atlanta, RaceTrac is now the third largest business in the state of Georgia — and one of the largest family-owned businesses in the US, with annual revenue of $9.1 billion. Its motto — Better Than Average Joe — is a testament to its investment in the quality of service, food, and the entire roadside experience.

“RaceTrac has typically been the neighborhood gas station and convenience store,” says Jay Richardson, director of guest-facing technology for RaceTrac. “Over the last few years we’ve started to roll out RaceTrac Travel Centers, which are a much larger footprint store. And that’s where we see the future: Travel Centers that can serve the guest any way that the guest wants to be served.”

**More tech than meets the eye**

With each new store, RaceTrac was adding complexity to its technology footprint. “There’s a lot of technology behind a convenience store of this size,” Richardson explains. “Every one of our fuel pumps has an IP address and its own credit card terminal that interfaces with our customer rewards program.”
And that’s just the technology outside. Inside the convenience store, RaceTrac has two separate point-of-sale systems to handle the growing choice of payment methods its cashier counters and self-checkout stations need to process.

“We want the guest to be able to interact with us any way they want to,” Richardson says. “That means offering different ways for customers to pay for service, whether it’s a digital payment from their phone, a credit card, or even our RaceTrac mobile app.”

**Outgrowing the data closet**

As it grew organically over the years, the in-store technology became unpredictable. “Our infrastructure was totally different at just about every location, which was a challenge for the IT team,” Richardson recalls.

Eventually, the age and variety of those systems started affecting the customer experience. “Visitors need these systems to work every time they drive up,” Richardson says. “All they’re thinking about is swiping a card, filling their tank, grabbing a snack, and getting back on the road.”

When it doesn’t, it’s more than just inconvenient. “We started having hardware failures. Every day and a half, we would be down for about eight hours at a store,” Richardson recalls. “About 80% of our business is done by credit and debit card, so that was a huge impact for RaceTrac.”

**A new strategy at the edge**

Richardson knew RaceTrac needed to modernize and standardize the technology at its stores to regain the reliability its customers expected. But the RaceTrac team also saw an opportunity to transform its edge strategy and do more with its data.

“We needed 24x7 reliability because we’re a 24x7 store,” Richardson says. “We also wanted more ways to serve and engage with our customers, and a better way to see how our stores are performing.”

So, RaceTrac engaged with its longtime technology partner, Technical & Scientific Application, to design an edge environment to take its stores to the next level. “One of the first decisions we made was to remove as much hardware as we could and virtualize our core applications,” Richardson says.

That meant investing in an edge compute architecture that would support the application load, as well as delivering the data analytics and insights RaceTrac needed to transform the in-store experience for customers.

“We did a bake-off between five different manufacturers in a 30-store pilot program, and determined, based on performance and scalability, that HPE ProLiant servers were going to be the platform of choice for all of our nearly 800 stores,” Richardson says.

**More performance and opportunity on tap**

Loaded up with pump monitoring systems, customer rewards software, and crucial point of sales systems, the new edge infrastructure now has the capacity to spare. “We’re running them at about 30% right now, and we haven’t had a single failure on our point of sale system since we started installing them,” Richardson relates.

And that’s only the beginning. “By bringing on this new technology at the edge, we’re now able to support our stores and our customers in a much more efficient manner,” Richardson explains. “We have a lot of data coming off those ProLiants. Today, we are able to stream data out of the store at a much quicker pace.”

“Now we’re getting data within 15–20 minutes instead of the next day, and we can make real-time decisions about what’s going on in our stores.”

— Jay Richardson, Director of Guest-Facing Technology, RaceTrac
Previously, executives at the Atlanta headquarters weren’t getting access to business data fast enough to make critical decisions. “Now we’re getting data within 15–20 minutes instead of the next day. We can make real-time decisions about what’s going on in our stores,” Richardson says. “If we see a store that’s really busy, or running low on fuel, we can add more staff or dispatch a fuel truck right away.”

**Streaming data that transforms business**

Point-of-sale data is no longer confined to a physical server in a data closet. “We process about 7,000 transactions a day, and if the server goes down, we lost that data for the whole day,” Richardson recalls. “Today, we’re streaming that data to the cloud. So even if we did have a catastrophic failure, we would only be missing five or 10 minutes of transaction data.”

Before the project kicked off, there was no way for executives to know how many fuel pumps were operational across its 12-state territory. “Let’s face it. There’s nothing worse than pulling into a gas station and seeing that yellow bag on the handle. Now we have a dashboard that lets us know how many pumps are down at any given moment at a store in real time,” Richardson says. “We’re leveraging data to tell us when there’s a problem at the store or when there’s about to be a problem. We can monitor at a much more granular level now.”

And by leveraging the HPE Integrated Lights-Out (HPE iLO) features, the IT team also gets its own data stream from the edge. “HPE iLO really gives us a lot of remote support opportunities we never had before,” Richardson says. “Now we can remotely monitor the temperature, and the overall health of our edge infrastructure.”

**Keeping customers engaged**

That data stream also applies to customer loyalty programs. “From a customer data perspective, it allows us to know more about what our customers want. We are looking at how we can help the customer engage not only with our mobile app but also give discounts where appropriate,” Richardson relates. “We want to be able to notify any customer that’s already at the fuel pump: ‘Hey, I can give you a dollar off for a sandwich or a slice of pizza inside the store.’”

For Richardson and team, it’s all leading to making RaceTrac a Store of the Future. “Our end goal is really to build a store where everything is driven by the customer experience.”

Sure, motorists need to refuel, but they also need to stay fed and awake. “To make sure our coffee is making the grade, RaceTrac went the extra mile and bought a coffee plantation in South America. We hired a Michelin-star chef to design our menu. And we licensed our fried chicken recipe from a popular Louisiana-based franchise known for its fried chicken fingers,” Richardson says. “RaceTrac is serious about its commitment to serving the customer, and the next step could be using artificial intelligence to make those customer experiences even more convenient and enjoyable.”

**Better experiences with AI**

With AI, RaceTrac’s Store of the Future could become more responsive, safe, and convenient. “We’re exploring the idea of creating a heat map within our stores to better understand what customers are looking for and what they ultimately end up buying. We’ll be able to stock our shelves with more of the products our customers already want,” Richardson explains.

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The convenience store industry is extremely competitive, and now we're ready to take RaceTrac to the next level.”

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The same tech could extend to food safety and freshness. “With smart cameras, we would be able to send an alert to an employee to let them know it’s time to restock the pizza,” Richardson says.

Store security is another opportunity, Richardson says: “Our stores are not small. So being able to have a safe environment for our customers is crucial. Keeping an eye on the environment in and around our stores is a great AI use case for RaceTrac.”

It’s a major reason Richardson and the team chose HPE Compute as their preferred edge platform. “We specifically chose HPE ProLiant servers with extra SSDs to give us room to grow. We wanted a platform to scale with us because there’s a lot of innovation we want to bring to our stores. The convenience store industry is extremely competitive, and now we’re ready to take RaceTrac to the next level.”

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