



Now the Cloud's in Your Coffee: Improving Beverage Service with Real-Time Data

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Hy Bunn, CEO and President, BUNN



When Jacob Bunn opened his grocery store 175 years ago in Springfield, Illinois, the world was a very different place. But whatever social and technological changes have happened since then, one thing hasn't changed—people still enjoy a good cup of coffee. This simple pleasure, like so many things, has grown increasingly specialized and complex. Today, coffee shops are on virtually every street corner, luring customers with a menu of high-quality espresso drinks made to order. Hotels and restaurants are taking notice, vying with coffee shops to provide the personalized attention and superior products that coffee drinkers now expect.

Connecting the dots between good data and great coffee

Jacob Bunn's legacy of entrepreneurial, customer-centric service has evolved as well, and today the Bunn-O-Matic (BUNN) Corporation's beverage equipment caters to the new generation of coffee aficionados and the businesses that serve them. BUNN's product portfolio ranges from home brewer machines to a line of commercial automated espresso machines used worldwide.

If individual consumers put time and thought into their coffee-making investment, the same is even more true for commercial owners whose machines typically cost thousands of dollars and are expected to last seven or more years. However, the true value isn't reflected in the price of the machine but in the quality of each drink that keeps customers returning cup after cup. BUNN, which builds, sells, and services the machines, works hard to ensure that its machines run smoothly and coffee drinkers stay happy. However, that can be easier said than done when a frantic barista is trying to troubleshoot a problem over the phone during the 8 A.M. coffee rush.

Frequently, the only thing the employee knew was that the drink wasn't turning out correctly. And on the other end of the conversation, the BUNN technician tried to get to the root cause of the problem by putting together incomplete diagnostic

data from the verbal description. "When we set up the equipment, most of our customers lock into a recipe," explains Karalynn McDermott, Senior Vice President of Market Development at BUNN. "There can be a lot of sophisticated technology involved in producing beverages, especially with espresso machines. So our challenge would be to understand if the equipment wasn't operating correctly, or if perhaps someone had inadvertently changed the recipe."

Real-time diagnostics and proactive maintenance

In 1995, BUNN had taken a big step forward when it conceived its automated monitoring BUNNlink program, a proactive service tool that connected its espresso makers to datacenters for remote diagnoses. Machine status information was collected and reports were created to view later with the customer.

Although BUNN was an industry leader in providing both high-quality equipment and support, it strived to deliver even higher levels of quality and service. With a goal to decrease its number of onsite visits and increase its number of first-time fixes, the company needed to improve remote insight into equipment performance. BUNN decided to move to a cloud-based system to gain information in real time, so it turned to Mesh Systems and Microsoft Azure for a solution. "Oftentimes, what an employee describes isn't what's actually happening," says

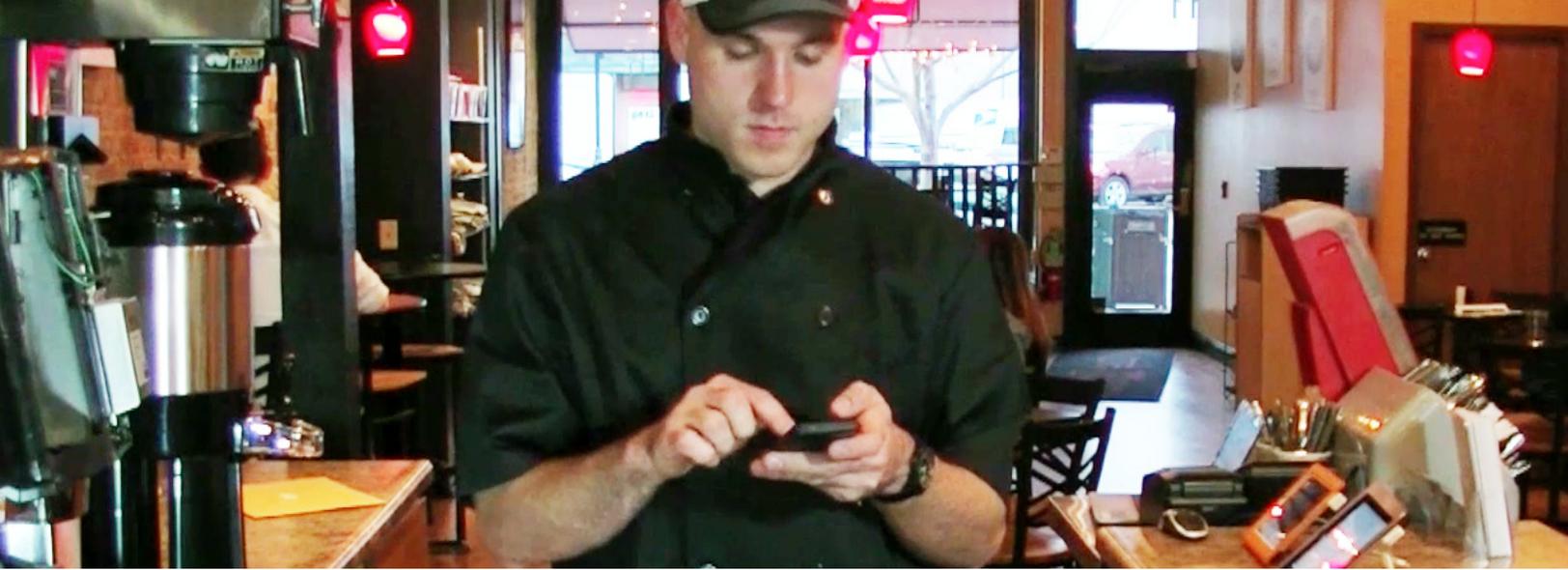
"A service technician for a quick-service customer got an alert on a Friday night, so he just grabbed the part he needed for the repair and headed into the restaurant at 6 A.M. the next morning.... With this solution, we know exactly which component to fix before we get there."

Kurt Powell, Executive Vice President,
BUNN

Customer Name: Bunn-O-Matic Corporation
Industry: Manufacturing
Country or Region: United States
Customer Website: bunn.com
Partner Name: Mesh Systems
Partner Website: mesh-systems.com

Customer Profile:
A leading global manufacturer of dispensed-beverage equipment, Bunn-O-Matic (BUNN) Corporation is known worldwide for the high quality of its products and extensive post-purchase support. BUNN has a loyal global network of commercial and home customers.

Partner Profile:
Mesh Systems is an IoT software, services and solution provider that delivers turnkey systems that include hardware, software and networking frameworks for Smart products. Using the latest IoT services and components as the cornerstone, we help companies get new Smart products to market faster, with more scale and reliability, than ever imagined.



McDermott. “We wanted to be able to see exactly what they were seeing.”

Mesh Systems played an integral role in the development and implementation of the project, including connecting remote sites to Azure via a cellular network and deploying the web application used by BUNN employees to remotely manage all espresso machines in the field. To meet its goals, BUNN and Mesh Systems enhanced the BUNNlink Wellness Program using IoT services provided by Microsoft Azure, which includes preconfigured solutions that enable organizations to capture and analyze data from any source. “It’s about data, and being able to ingest and manage data at scale when you have thousands of machines sending hundreds of data points at regular intervals,” says Doug Brune, Chief Operating Officer at Mesh Systems. “The cloud-based services running in Azure provide unparalleled scalability. As thousands of machines are brought online, the inbound data to the cloud grows exponentially over time. Azure provides best-in-class cloud services to support continued growth of the application.”

In the BUNNlink Wellness program, technology embedded in automated espresso machines connects to the cloud, providing insight directly into each machine’s performance and maintenance needs. From the remote BUNN control center, service technicians have real-time insight into machine performance through a web-based portal that provides device software management, configuration, interactive dashboards, notifications, and reporting.

Its target customers include quick-service restaurants, universities, leading hotels, and some of the finest restaurants in the world. “The ability to maximize optimal operating conditions, minimize downtime and lower lifetime ownership costs supports our belief in offering customers the highest quality beverages and best overall value in dispensed beverage equipment,” says McDermott.

Besides providing reporting and diagnostic tools, the solution also issues “red alerts” for proactive maintenance. “For example, a service technician for a quick-service customer got an alert on a Friday night, so he just grabbed the part

he needed for the repair and headed into the restaurant at 6 A.M. the next morning,” says Kurt Powell, Executive Vice President at Bunn. “He was able to service the equipment before the customer even noticed a problem. With this solution, we know exactly which component to fix before we get there.”

Recently added to all BUNNlink managed machines is a new feature that automatically sends a text message alert to customers letting them know that the machine is out of a beverage product or that cleaning is needed.

Increasing profits while meeting today’s expectations

Pinpointing the source of the problem minimizes downtime and reduces services costs, which can rack up to the tune of US\$250 for the first hour of an onsite visit. Service calls that are outside the scope of the warranty—for example, when the problem is user error and not equipment malfunction—erode profits. “It could be a grounds drawer that wasn’t completely closed or a bean hopper

that was misplaced,” says McDermott. “Now, we can see all of that through our remote management solution and solve the problem by phone or text.”

BUNN continues to enhance the new service, and one of the upcoming features will include the ability to bypass the phone and send a message to a service center directly from the equipment’s touchscreen interface. By reducing unnecessary service visits, customers can enjoy bigger profit margins when they purchase BUNN equipment, which gives everyone a business advantage. “It does tie in to how many drinks they produce,” says McDermott. “But if a customer were to make 35 to 40 drinks a day, it could pay for the equipment within four months.”

That’s a very good return on investment for a machine expected to last at least seven years. Even more importantly, BUNN’s customers can deliver on their own promises. “It’s a very competitive marketplace,” notes McDermott. “If a beverage is listed on the menu, it needs to be available. Twenty years ago, having espresso on the menu was a novelty. Today, it’s an expectation. And no server or barista can ever say that a drink can’t be delivered because the equipment isn’t functioning.”

Delivering next-generation services

Going beyond troubleshooting and predictive maintenance, future goals include using the machine to monitor and remotely adjust drink recipes. The company also plans to add a built-in payment system to equipment, so that each espresso

machine becomes a point-of-sale device as well as a beverage dispenser. The capabilities will open the door to providing fully automated, self-service machines, so people can make their own espresso drinks when it isn’t feasible to have an on site barista. For example, BUNN envisions the machines installed on college campuses, in hotel lobbies, and at convention centers.

For today’s coffee drinkers it’s about personalization as much as it is convenience. They want it their way any time of day: “Consumers are so excited by this self-service technology,” says McDermott. “They love the idea of making their own drinks. Just imagine traveling, waking up in a hotel before the restaurant is open, and then walking up to a piece of equipment and making your favorite espresso drink.”

With Microsoft Azure and Mesh Systems, BUNN is staying true to its roots of providing exemplary service and fine coffee, while delivering innovative services and products to the next generation of espresso drinkers. “We started in 1840, and we’re a fifth-generation, family-owned business. We’re moving forward with increasingly sophisticated equipment, and, as part of that strategy, we want to provide the support that we’ve always been known for. Our BUNNlink system on Azure is the backbone for enabling us to do that.”

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Karalynn McDermott, Senior Vice President of Market Development, BUNN

Products

- Microsoft Azure API Management
- Microsoft Azure App Services
- Microsoft Azure IoT Suite
- Microsoft Azure Event Hubs
- Microsoft Azure SQL Database
- Microsoft Azure Storage
- Microsoft Azure Virtual Machines
- Microsoft Azure Cloud Services
- Microsoft Visual Studio Online