



Case Study

Zonar takes the wheel with Machine-to-Machine solutions



About Zonar Systems

Based in Seattle, Washington, Zonar is a leading provider of electronic fleet management solutions for commercial vehicles of all types and sizes. From commercial trucking to pupil transportation, Zonar helps fleet operators improve vehicle inspection, safety and compliance – and save money. The company's innovative processes and devices use radio-frequency identification (RFID) technology, on-board diagnostics and analysis of multiple data streams to create and communicate near real-time reports of vehicle and driver performance.

Situation

Zonar's fleet management solutions collect, report and analyze data before, during and after a vehicle's trip. The company needed Machine-to-Machine (M2M) connectivity to enable communication between in-vehicle devices and back-end systems. To deliver high volumes of potentially sensitive information from and to moving vehicles – and keep pace with its rapid business growth – Zonar wanted a highly secure solution that it could easily manage and that had the required national and global reach.

Solution

Zonar chose AT&T to provide an M2M connectivity solution which includes a secure, reliable virtual private network connection that delivers a continuous stream of data in real time. An AT&T service management platform allows Zonar to easily manage the data, device provisioning, reports and services that support its customers. The extensive international roaming arrangements of AT&T also help Zonar meet its global expansion plans as well as those of its customers.

In the Zone

Long-haul trucking is a foundation of the U.S. economy. "The truckers always say, 'If you bought it, we brought it,'" said Mike McQuade, Zonar System's Chief Strategy Officer. A well-maintained, properly driven vehicle is the key to a safe and profitable trip. This is where Zonar steps in. "The company was founded in 2001 around a novel new concept for safety inspections for trucks. Our method ensures the driver walks around the truck."

It's simple but revolutionary. The Electronic Vehicle Inspection Report (EVIR®) uses the EVIR 2010, Zonar's proprietary handheld device, to scan a series of RFID tags adhered to critical inspection zones on the vehicle. At each site the driver enters the condition of the tires, brakes or other inspection subject. After electronically recording the driver's observations, the EVIR 2010 transmits the data to Zonar to analyze and report to the customer.

Zonar's solutions not only streamline vehicle inspections. Expanding upon the EVIR, Zonar has developed a wide range of products to serve a diverse customer base. The company provides fleet management solutions to school buses, utility and construction vehicles, private and

Zonar Systems Facts

Business Needs

Secure, rapid data reporting between in-vehicle devices and in-office systems; efficient, verified driver compliance and performance; improvement in self-service, predictive maintenance

Networking Solution

M2M solution with customized network access and self-service management platform

Business Value

Reliable, secure network helps deliver critical information to support customers and enhance operations; web portal puts control of network access, device management and report management of solution components in Zonar's hands

Industry Focus

Electronic fleet management solutions

Size

Nearly 400,000 devices installed

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for-hire fleets, transit buses, and waste and recycling vehicles. "Zonar is really unique. There's nobody that does the breadth of applications that we do," McQuade said.

Like its trucking customers, Zonar will go anywhere to deliver results. This includes a productive venture into the world of Big Data analysis. Already skilled at connecting with vehicles and collecting vast streams of information, Zonar has developed methods to analyze that data in ways their customers can act upon.

"We have the ability to fully diagnose what happens with the device through the AT&T network."

– Mike McQuade, Chief Strategy Officer, Zonar Systems

For Instance, the new ZFuel™ application brings together and analyzes masses of data about every aspect of vehicle operation – including speed, load, weather, terrain, engine rpm, gear selection, idle time, use of cruise control and more. "If you are just looking at MPG you are not getting an accurate picture," said McQuade. "You need to take into account other factors and shed light on which drivers are really performing the best."

This analysis enables fleet operators to understand how efficiently each driver copes with varying conditions. Dispatchers and managers can use the results to reward top performers, and help others improve their driving style. "We've been testing ZFuel with fleets that are getting tremendous returns," said McQuade. And it doesn't stop there.

The Zonar 2020™ Mobile Communications Tablet gives drivers an always-connected place to log service hours and vehicle inspections, send and receive messages, check navigation, photograph and document damaged freight, browse email, surf the web and receive instant feedback on their driving. The platform can be easily customized to suit the specific needs of fleet operators – customers can simply sketch out the fields that they want and Zonar takes care of the rest.

On top of that, the company won the prestigious Edison Award for Innovation for another breakthrough, its Z Pass solution, which tracks students traveling on school buses through scanned RFID passes. The solution gives parents peace of mind while improving ridership tracking for school funding reports.

Critical Mass

Zonar's M2M solutions require rapid, reliable and secure two-way transmission of large amounts of data. "We take what is similar to a phonebook of streaming data out of the truck as it's going down the road," said McQuade. And it's not just for one truck, but for tens of thousands of vehicles all across the country.

From business-critical performance data to student location, much of the transmitted information is sensitive, so Zonar needed to ensure secure access to a secure network. At the same time, the company wanted customers to have flexibility in how they access the data. For example, with the Z Pass student ridership reporting, Zonar is pushing data right to parents' smartphones.

Network reliability is another top priority as Zonar's customers expect the best. "Our customer retention rate is north of 99 percent, and we intend to keep it that way," said McQuade. From cost savings to regulatory compliance, the data Zonar provides to customers plays a critical role in the success of their customers' businesses. "Our systems are used by *Fortune* 100 companies to run their business processes. It can't be down," McQuade said. "For elite trucking companies, the savings to their fleet is sometimes as much as \$1,000 per truck per month."

The company has added thousands of devices at a time. Zonar needed a network that could keep up and scale up as needed. And the company's customers are growing as well. "A customer might one day decide they're going to pick up a new truck route or bus route and drive into Canada," said McQuade. A network with global capability and responsive to exponential growth was necessary.

Behind the Wheel

Zonar chose AT&T Enterprise on Demand service enablement platform to provide the connectivity for its M2M solutions. With years of experience, global roaming reach, a large and dedicated team of experts and state-of-the-art technology, AT&T is a leader in M2M solutions.

After listening to Zonar's needs, AT&T put together a solution using a custom Access Point Name (APN) wireless connection to the AT&T network linking to a highly secure IP-based connection to their backend systems. This helps ensure that Zonar's devices connect reliably to the AT&T network, creating a truly private network that enables two-way, real-time data communication between the in-vehicle devices and Zonar's in-office systems.

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– Mike McQuade, Chief Strategy Officer, Zonar Systems

The solution also provides redundant data paths and failover capabilities to help meet Zonar's high reliability requirements. "AT&T has helped by providing reliability and data security so we can generate data sets and utilize them in new ways to make the data actionable," said McQuade.

Access is managed through the Enterprise on-Demand (EOD) service platform. This platform puts Zonar in control and behind the wheel by providing a custom Web portal and a library of API's to directly manage its own data, devices and AT&T services.

AT&T is also supporting Zonar's migration to the expanded wireless capabilities of the 3G network. In terms of application development, 3G has larger, faster bandwidth to enable an increased range of services, and Zonar has led the way in converting customers from 2G to 3G. "We're one of the first heavy-duty telematics companies to come to market with a 3G-based device," said McQuade.

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Responding to the Road

For Zonar's customers, rapid communication of vehicle performance data promotes greater fleet oversight. The on-board devices transmit data to Zonar's cloud. Zonar correlates this data with other performance information and creates easy-to-understand reports, which are sent to the fleet manager or directly to the driver over the same network.

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The custom APN provides highly reliable network access for increased data security. "Only our servers can talk to our devices," said McQuade. And it's a lot of devices – currently about 400,000 and growing. "We also have the security of having highly scalable and redundant connections to AT&T data centers," he added.

The Enterprise on-Demand Web portal is easy to use. "I never hear about it," McQuade said. "There was a period last summer when we were activating 10,000 to 12,000 units a month and nobody in our operations ever had an issue with it. It just works." Through the portal, Zonar can activate devices, manage and track SIM card inventory, change service plans, and get usage alerts and detailed reports. "We have the ability to fully diagnose what happens with the device through the AT&T network," said McQuade.

AT&T provides the scalability and the wide reach Zonar needs. Because AT&T uses globally recognized technologies in its mobile phone network, Zonar's devices will work in other countries. The global

capability of the AT&T network through its roaming arrangements also helps Zonar accommodate its customers' own route expansion. "Not only is it a global friendly technology, but the network is massive and it's continually being built out ahead of us," said McQuade.

On the Horizon

Zonar shows no signs of slowing down. "The company is in a hyper-growth mode. It's like being in a tornado – there is so much velocity and power that you get caught up in it," said McQuade. And it continues to innovate and respond to new industry standards. Strict new emissions and compliance regulations are expected to eventually require all heavy-duty trucks to have electronic on-board diagnostics systems. "The only way that trucking companies are going to survive is to adopt technology to help them stay compliant. The days of truck drivers maintaining paper logs are gone," he said.

The AT&T commitment to investing in M2M is a commitment to Zonar's future. "They have never rested. Every time we turn around there's something new in the management or the tools," said McQuade. When Zonar runs into limitations, AT&T is right there to respond to its needs.

"Our growth rate has put us out there where the ice is thin, but we always have AT&T to guide us and help us make changes. They've been very good about putting senior management in the room to help chart the way. They've really been a partner for growth," McQuade explained.

As Zonar and its customers speed ahead, the future looks as bright and inviting as a truck stop at night. As McQuade put it, "We just have to keep showing up to work every day, keep executing and keep innovating."

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