

Applus+ is a leader in developing, implementing and managing vehicle inspection programs and electronic solutions to serve the DMV community.



## CHALLENGE

*Applus+ Technologies entered in to an agreement with the State of Illinois' Environmental Protection Agency to implement and operate its next generation vehicle emissions test program. They needed to provide motorists with testing facility addresses, hours of operations and current wait times 24/7/365.*

## SOLUTION

*The Incendonet SpeechBridge Pro speech recognition appliance and their professional services team was delivered to provide motorists with automated, advanced customer self-service applications.*

## BENEFITS

- *Plug and play integration into their existing IP-based phone system via SIP trunks.*
- *With support of leading industry standards, the development time and cost was greatly reduced.*
- *With the state having passed hands-free cell phone usage legislation, motorists can get information using simple, spoken commands.*
- *Applus was able to recoup their investment in SpeechBridge in just over one month from deploying.*

**SpeechBridge is an enterprise-grade, fully featured speech application solution for IP-PBXs with integrated end user applications. Giving employees and customers access to information through simple, straight forward conversational commands 24/7/365 can greatly improve customer service and employee productivity throughout an organization.**

## Company profile

Applus+ Technologies, headquartered in downtown Chicago, is a leading provider of government and automotive solutions for vehicle testing in the United States. Applus+:

- Is a leading provider of vehicle emission test programs
- Creates custom self-service offerings
- Was awarded a contract for emissions testing program for Illinois in 2007
- Is expected to perform more than 9,000,000 emissions tests through 2012

## Business situation

Applus+ Technologies is working with the State of Illinois' Environmental Protection Agency to implement and operate its next-generation vehicle emissions test program. As a result of this new program, Applus+ is inspecting approximately 1.8 million vehicles each year for five years (beginning in May 2008).

Applus+ has designed a hybrid network of centralized and decentralized inspection facilities which include 17 high-throughput on-demand test-only locations, which has been reduced from 27, and 38 appointment-only privately-owned test and repair locations.

"We needed to re-configure our network and make it more convenient for people to use," said Maggie Carson, spokeswoman for the Illinois Environmental Protection Agency, which oversees the air pollution emissions and testing laws. "The closures and addition of new technology to make the testing quicker will save the state about \$30 million a year."

***“Implementing the SpeechBridge solution at our call center has allowed us to service a high volume of inquiries from motorists needing wait times and address information without having to add a significant number of live agents.”***

**- Richard Fitzherbert**

Executive Implementation Manager,  
Applus+ Technologies

***“ShoreTel’s support of open standards means that customers like Applus can enhance their ShoreTel UC solution with advanced speech recognition applications from Technology Partner Program member Incendonet. As a result, they benefit from best-of-breed solutions and have the peace of mind that the offerings have been certified to be interoperable and deliver tight integration.”***

**- Kevin Gavin**

VP of Marketing,  
ShoreTel



The challenges Applus faced included:

- On Board Diagnostics-only stations can perform only OBD tests on vehicles equipped with an on-board computer. Vehicles that are model year 1996 and newer can be tested here.

*Applus needed a solution for motorists to find the closest testing facility.*

- For the 17 high-throughput on-demand test-only locations, motorists cannot make appointments as these facilities operate on a first come, first served basis.

*Applus needed an automated solution for motorists to check the wait times at various facilities and access address and hours of operation information.*

- Full-service stations can perform all vehicle inspection services, including idle exhaust tests, gas cap tests, OBD testing and waivers, on all eligible vehicles, including light-duty trucks and older cars that may have to re-test due to a previous failure.

*Applus needed a solution for state motorists to instantly find out if their vehicle is eligible for a test or retest.*

### Technical situation

Applus needed to expand their contact center capabilities and implement new technologies to deliver the State of Illinois' Environmental Protection Agency a next-generation vehicle emissions test program. After having previously chosen a ShoreTel IP-based phone system for its ease of use, ease of management, and full-featured IP capabilities, Applus turned to Incendonet and its SpeechBridge platform to develop an interactive speech self-service solution. Since Incendonet is a ShoreTel Certified Technology Partner, and SpeechBridge fully supports Web Services for vehicle testing queries, application integration into Applus' network was very straightforward.

Motorists in the State of Illinois needed to be able to:

- Find the location of the closest facility
- Get the latest wait time at an on-demand facility
- Hear the address information for a particular test facility
- Check eligibility for an emissions test

These services had to be delivered in an automated fashion, 24 hours a day, 7 days a week, 365 days a year.

### The Solution

Applus worked with Incendonet to offer automated, advanced customer service applications that deliver real-time information with a VoiceXML-based speech recognition solution deployed on the SpeechBridge platform. SpeechBridge integrates with the ShoreTel unified communication solution previously implemented by Applus+ Technologies Call Center in a plug-and-play manner via Session Initiation Protocol (SIP) trunks. SIP is a VoIP standard that enables IP communications-based solutions to easily interoperate. Callers now listen to pre-recorded audio prompts that direct them through an automated conversation with SpeechBridge to retrieve the desired information.

Motorists call a toll-free number and are greeted by a pre-recorded audio prompt that presents them with a small number of options. The spoken request is recognized by the embedded speech recognition engine and SpeechBridge plays back an appropriate audio prompt. In the background, a query is made to an Applus+ database via Web Services and the information is spoken to the caller with the embedded text-to-speech engine. SpeechBridge acts as a virtual customer service agent and motorists engage in a conversation with the system as they would a live person through spoken requests.

*“SpeechBridge’s integration with ShoreTel via SIP trunks, support of Web-services via SOAP and professional engineering services support for our custom speech applications made Incendonet an easy choice for us. We just passed our first anniversary since deploying SpeechBridge and serviced hundreds of thousands of inquiries with zero downtime.”*

**-Andrew Jones**

Director of Technology,  
Applus+ Technologies

**The Benefits**

As a result of deploying the SpeechBridge platform to provide its callers with speech-driven self-service applications, Applus realized the following benefits:

- **Plug-and-play integration into the existing ShoreTel phone system:** SpeechBridge was developed from the ground up to offer a standards-based, native SIP, VoIP network appliance that works with any SIP-based VoIP solution. It was integrated into the Applus phone system via SIP trunks. With an emphasis on ease of installation, Applus was able to physically install the turn-key appliance and have the solution up and running in less than an hour without the need for costly additional professional services.
- **Flexible speech recognition platform:** SpeechBridge’s support of VoiceXML applications and industry standards, such as SOAP for Web Services, helped simplify the development and deployment of Applus custom speech applications, which significantly reduced costs.
- **Safe, hands-free interaction for callers:** Since Illinois previously passed legislation requiring hands-free cell phone usage while operating a vehicle, Illinois motorists now can interact with the Air Team information center using simple, spoken commands with-out using a telephone key-pad.
- **Quick return on investment:** Applus was able to recoup their investment in SpeechBridge in just over one month from deploying when compared to the costs of using live customer service agents.

**ROI Analysis**

The following chart shows an analysis of the cost to deploy SpeechBridge versus live customer service agents to service motorists’ inquiries:

<b>Scenario A: SpeechBridge</b>	<b>Scenario B: Live Agents</b>
SpeechBridge Pro 8 port system	8 customer service agents
Applus Database Development/Web services definition	Annual salary per agent = \$36,000
Incendonet Professional Services	Business work station per agent = \$5,000
Approx. 250,000 calls serviced year 1	Annual PTO/Benefits per agent = \$6,000
Approx. cost of deployment = \$31,000	Annual cost of live agents = \$ 376,000
<b>Cost per call = \$0.125</b>	<b>Cost per call = \$1.504</b>

In year one, Applus was able to service calls for 12.5 cents per call with SpeechBridge versus an estimated cost of \$1.50 per call using live agents. This analysis did not take into account additional labor costs involved in staffing the call center off-hours, whereas SpeechBridge is always available, 24/7/365. Applus was able to recoup their investment in SpeechBridge in just over one month after deploying and saved approximately \$345,000 versus the alternative of using live operators. Applus can expect an even greater rate of return in year two and beyond as only minimal support costs for SpeechBridge will be necessary.

*“Speech recognition-based solutions like SpeechBridge are ideal for organizations that need to provide information to large groups of individuals without having to add a significant number of call center agents.”*

**- Nancy Jamison**

Principal Analyst,  
Jamison Consulting

**“Thank you for calling the Air Team Information Center, please say the name of the station you are calling about, for a list of stations, please say station list.”**

**- SpeechBridge**

Greeting prompt

## Products and services used

- ShoreTel Shore-Gear Voice Switch, ShoreWare Director administration software
- SpeechBridge Pro, enterprise speech recognition platform
- Oracle database
- Cisco IP networking infrastructure
- Incendonet Professional Services
- B2B Telephony Support Services

## Summary

SpeechBridge's straight forward SIP integration with ShoreTel and its support of open standards, help simplify integrating automated speech recognition based solutions into Applus' existing IT network and VoIP communications solutions. This enabled Applus to leverage existing infrastructure investment and bring advanced customer self-service solutions to the state of Illinois' Environmental Protection Agency's next generation vehicle emissions test program.

The Applus and Incendonet engineering teams worked together to design, develop, and deploy the customer self-service speech applications. Applus was able to perform queries for callers by connecting to its Oracle database with SpeechBridge's support of Web Services using SOAP. Incendonet created the VoiceXML to drive the speech interactions and also provided its expertise for the integration of the SpeechBridge platform into the ShoreTel UC system. The entire process from initial discussion to live customer deployment was completed in less than ten weeks.