SPIRENT

Faster development of connected car applications

A Customer Success Story

A software development firm in Romania was creating software applications for automobile head units for one of the best-selling car brands in North America. Connectivity to the associated North American wireless carrier was key to successful development, but was initially not attainable without planning for extensive travel onsite.

The advent of the connected car is bringing the development of new cellular-enabled software applications all over the world. The ability to test these applications on the network in the region where their host vehicles will be resident is crucial to the success of the application, but can be a major expense for the development firm.

In this particular case, the software applications provided connected services within the vehicle (e.g., audio streaming) that required connectivity to a corresponding application server in the cloud. There was a requirement from the ultimate customer that the software be developed and validated on the target hardware platform (i.e., the selected head unit with its embedded cellular mode connectivity).

To complete end-to-end connectivity and verify their applications' performance and functionality with the server, the target hardware platform (head unit) must be able to complete a cellular data connection using the wireless network of the North American service provider partnered with the car manufacturer.

> **"The Spirent Elevate system enabled our customer to work continuously without the need for onsite travel, allowing them to discover and fix issues in minutes versus days to weeks with previous processes."**
> — *Mike Keeley, Spirent Senior Solutions Architect*

Spirent services

Spirent Global Services provides a variety of professional services, support services and education services—all focused on helping customers meet their complex testing and service assurance requirements. For more information, visit the Global Services website at www.spirent.com or contact your Spirent sales representative.

The problem

Since software development was primarily in Romania, the head units in the development locations were unable to acquire cellular service due to unavailability of the appropriate bands and channel from the partner North American service provider.

In order to do their design verification and validation, the firm could have opted to fly one or more engineers from Romania to the United States with a head unit and software to do their testing. This was unattractive for at least two reasons:

- Cost of both the travel expenses and loss of productivity while engineering team members are traveling between Romania and the United States
- Greatly limited testing and debugging opportunity (engineers, hardware and software must all be present in the United States)

The solution

To keep travel costs in check and maximize productivity and efficiency, the development firm approached Spirent. The Spirent Elevate® system was the perfect solution, providing the ability to emulate the partner North American service provider's wireless network in a compact, portable desktop system. This allowed the target hardware platform head unit to acquire the North American operator's emulated cellular data services while residing in the lab in Romania. Further, the Spirent Elevate system greatly simplified the configuration of the wireless network by requiring the development firm to do nothing more than select the partner service provider from a list. Within 10 minutes of receipt of their Spirent Elevate system, the firm had their target hardware platform connected to the emulated cellular network, and application testing was underway.

The results

In an accelerated four-month window, the development firm used the Spirent Elevate system to conduct continuous development, integration and test. This allowed them to find and fix their issues quickly, and deliver the full complement of software applications to their automobile OEM customer on time and within plan.

Continuous development, integration & test
to find and fix issues quickly.