Ford Motor Company
Connected Vehicle Protocol Test Harness

Ford Motor Company designs and manufactures Ford and Lincoln vehicles across six continents and employs more than 220,000 employees in 90 plants worldwide.

Many Ford vehicles that roll off the assembly lines have complex infotainment systems. The performance demands on these systems varies with the customers' desires such as streaming audio and video directly to their car or truck.

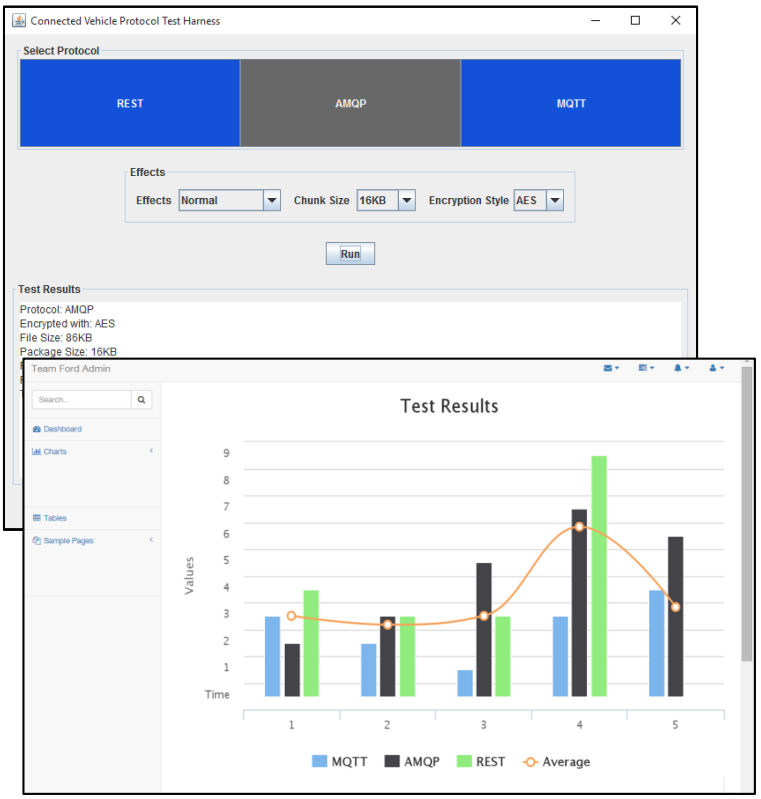
Infotainment systems send and receive a wide array of messages around the vehicle which include things like media files and system updates. As these messages are transmitted, they must arrive at their destination quickly and accurately.

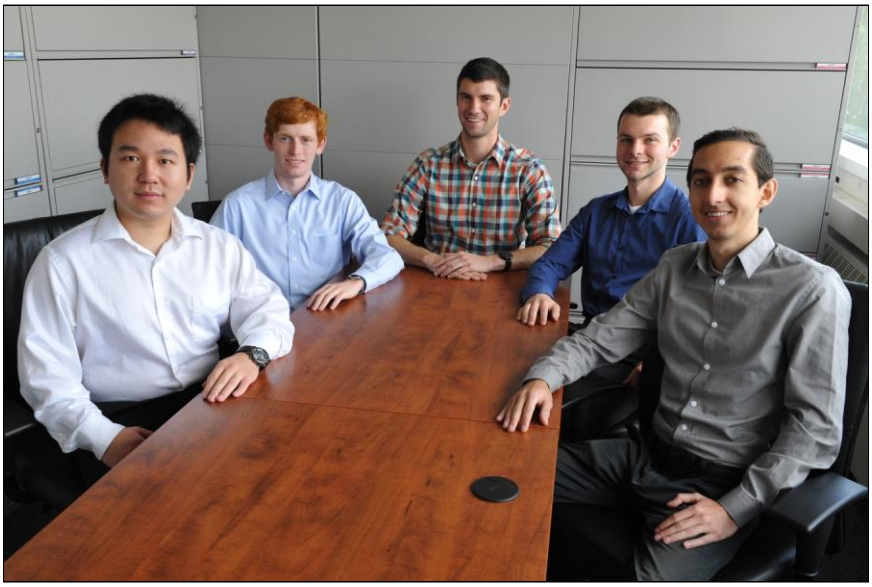
Ford engineers use our *Connected Vehicle Protocol Test Harness* to evaluate the performance of a variety of messaging protocols. Engineers use the results of these evaluations to choose the best protocols for their designs.

Our test harness transmits various encrypted file types from the Ford Discovery Box, which simulates a vehicle, to a server. The test harness monitors and measures these transmissions, and collects data about a protocol's performance.

Ford engineers visualize the test results with graphs and tables using our companion web application, which enables them to compare and analyze various messaging protocols to determine the optimal performance.

Our *Connected Vehicle Protocol Test Harness* is written in Java and uses RabbitMQ as a message broker. The web app uses HTML/CSS and JavaScript with PHP and SQL to store data.





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