

Aston Martin Racing Accelerates LAN Testing with iTest

The Background

Aston Martin is one of the world's most historic automotive brands, but there's nothing old-fashioned about the way Aston Martin Racing manages the team's performance on the track.

Every practice day, qualification day and race day relies on a high-speed local area network (LAN) to connect the driver and the car with the pit crew, engineers and managers—allowing them to share critical data in real time.

The LAN is vital, but manually testing it was taking up a lot of time and resource. Aston Martin Racing turned to Spirent to automate the required tests with iTest; Spirent's Test as a Service (TaaS) platform—reducing verification times from one or more hours to just minutes.

Endurance racing is a high-performance motorsport in which every element must be working to perfection, including the network connecting the car and the trackside team. By automating onsite LAN testing with Spirent's iTest, Aston Martin Racing gained peace of mind that the network won't let the team down on race day.

The Challenge: Daily Manual Testing Took Too Much Time

For Aston Martin Racing, every day at the track relies on a high-speed local area network connecting the driver and the car with the pit crew, engineers and managers.

The LAN is the team's nervous system, carrying everything from radio communications between the driver and the crew, to telemetry and video data from the car to the garage and the onsite control room. Any failure in the network could cost the team its position in the race—or result in the loss of data needed to make vital engineering decisions.

The pit-lane LAN setup was designed and tested at the Aston Martin Racing factory, and is rebuilt at each circuit for practice days, qualification days and race days. Every time it's rebuilt, someone has to ensure it is set up and functioning properly. The team's engineers were spending an hour each day manually checking that each device—sometimes amounting to 150 endpoints—was properly connected and running the right software build, and that no alien devices were present.

That would be challenging enough on a straightforward network, but the Aston Martin Racing network comprises multiple VLANs for different activities, resulting in lengthy test times and making it harder to ensure that the configuration across the whole network is identical to previous days.

Doing the verification manually not only tied up hours that engineers could more usefully spend on other tasks, but also created a risk that something might be missed or overlooked.

"Testing the network manually used to take over an hour every day. With iTest, it only takes a couple of minutes." – Alistair Grimshaw, Senior Analysis Engineer, Aston Martin Racing

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The Solution: Automated Testing with iTest

Aston Martin Racing's network engineers were testing for the same things every time, so it made sense to automate. The most efficient way to do that was to use a proven network test automation solution and develop the tests needed to meet the team's specific requirements.

The team turned to iTest, Spirent's market-leading network Test as a Service platform, and Spirent Professional Services. Working with the Aston Martin Racing team, Spirent created a set of automated tests in iTest that the team could run each day and receive a report indicating whether the network is correctly configured.

That broke down into a set of three key tests:

- Is the network configured in the same way as the previous build?
- Are all the relevant devices connected?
- Are there any faulty segments, connections or devices?

iTest is designed to be easy to configure and use. Once the test scripts have been authored, they can be run with a single click or automatically, triggering an automated sequence of tests followed by a test report.

Since iTest is easy to master, Aston Martin Racing engineers are now in a position to author their own tests as needed. What's more, the team can run iTest on a little-used server in their existing onsite setup, removing the need to install further hardware in a space-constrained area.

Solution Spotlight: Spirent iTest

- Fully automated Testing-as-a-Service
- Enables rapid, reusable test script creation
- Simplifies automated testing
- Significantly improves test coverage



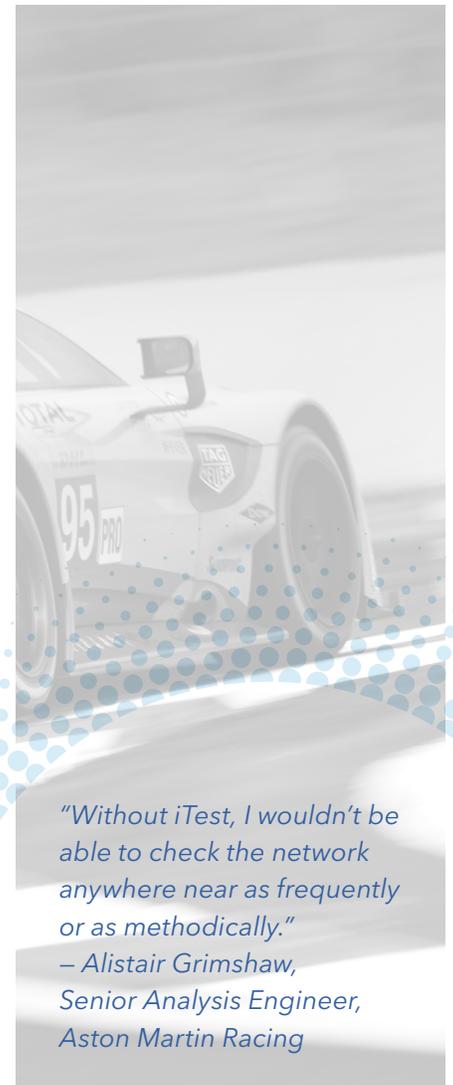
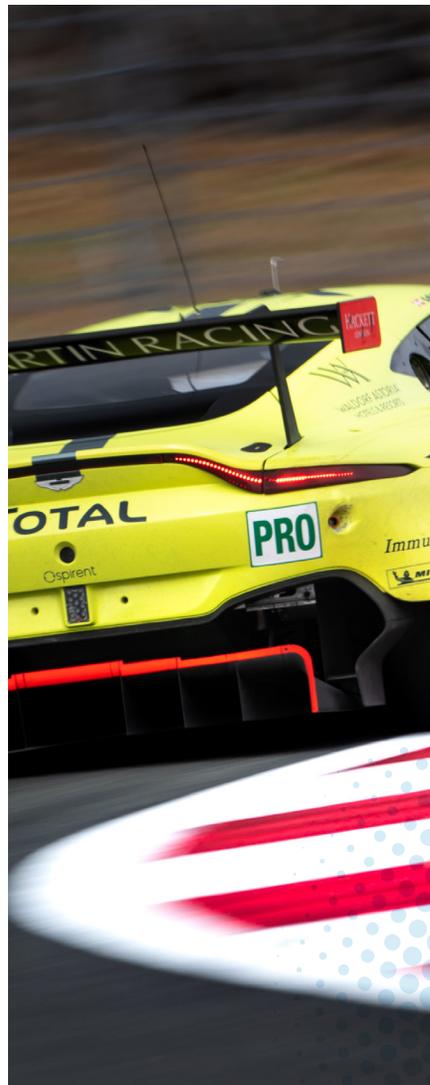
The Results: Fast, Automated Testing—Anywhere in the World

With the network configuration tests set up in iTest, the Aston Martin Racing team can quickly and easily verify the LAN setup at any event around the world—from the Le Mans 24 Hours to the 6 Hours of Fuji—saving time and minimising risk.

Fast Solution: Once the team had identified manual testing as a problem, it was a quick one to solve. Spirent spent half a day talking to the team about the test requirements and challenges and was able to produce a complete working test environment in just a few iterations.

Time Savings: Before using iTest, the team was spending around an hour at each race circuit, per day manually testing the network setup. Now the tests are automated, they can be run in around three minutes, with a report highlighting any problem areas for investigation.

Minimised Risk: The iTest sequence provides full test coverage across the LAN, covering multiple VLANs and up to 150 endpoint devices. That eliminates a common risk associated with manual testing; that something might be missed or overlooked. The team gains the reassurance that the LAN will be working as expected on every track day.



About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks.

We help bring clarity to increasingly complex technological and business challenges.

Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled.

For more information, visit: www.spirent.com

In Summary

Endurance racing is a high-performance motorsport in which every element must be co-ordinated to perfection. By automating network testing with iTest, Aston Martin Racing have gained peace of mind that the network won't let the team down on race day.

Spirent iTest delivers a fully automated TaaS authoring and execution solution suitable for all levels of network from a small LAN to enterprise and service provider networks. Using iTest, manual testers and automation specialists produce automated and reusable tests quickly and efficiently. This empowers continuous testing within the development cycle to dramatically increase bug detection rates prior to product release or service production deployment.

Read more about Spirent iTest and LaaS solutions here—
<https://www.spirent.com/Products/iTest>

About Spirent Professional Services

Timely, cost-effective test and engineering solutions based on seasoned industry expertise. The Spirent Professional Services group has developed a range of solutions to mitigate risk and maximize productivity, which includes lab and test automation solutions.

Spirent Professional Services adds test methodology and network expertise to your internal mix of resources so your company can focus on executing its core business strategy.

Read more about Spirent Global Service solutions here—
<https://www.spirent.com/Global-Services>

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