

CASE STUDY

Next-Gen Automation Shrinks Test Times from 10 Weeks to 15 Minutes

Spirent's Holistic Lab and Test Automation Solution Enables Exponentially Faster Delivery of New Digital Media & Broadcast Services to Consumers



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Customer Overview

Consumers today expect the latest in technology and services from their communications providers. To maintain a competitive advantage, it's in providers' best interests to deliver innovative and compelling functionality and services that their customers demand in a timely manner. The media and broadcast services division of a major European telecommunications company's subscription IPTV and broadcast service serves nearly two million customers in a highly competitive market. Given the broad reach of the IPTV service, customer wanted to deliver new digital media and broadcast services, without disrupting the user experience.

The Challenge

Assuring uninterrupted digital media and broadcast services demanded extensive regression testing of new configurations, devices, firmware, architecture and services offered to customers throughout their complex global media and broadcast network. An internal team handled regression testing, but the process was entirely manual, making it inefficient, slow and resource-intensive. The team recognized that changes to the testing workflow were needed to optimize the processes.

Rethinking Test with Next-Gen Automation

With a new system, the customer required an innovative, yet proven approach that their engineers could fully trust to conduct continuous, 24/7 unsupervised testing. In addition, the engineers also needed a partner with solid credentials in both testing and automation.

The media and broadcast division's service encompasses a complex service chain running from content acquisition, production and post-production to distribution and audience interaction. Therefore, the media technology team required a test environment flexible enough to manage complex and varied technologies and environments to ensure that network and service outages would not occur. To reassure the customer's engineers that automated testing was viable, the Spirent lab and test automation experts needed to demonstrate its capability to implement a full CI/CD environment for all of the different technologies.



Highlights:

- With Spirent's lab and test automation solution, the telecom division saw a reduction in manual test sprints from 10 weeks to 15 minutes
- The solution expanded lab configuration capacity, from 8 hours per 5-day week to 24/7
- Spirent's solution created an optimized continuous testing environment which dramatically reduced firmware testing from 12 weeks to two days
- The customer gained significant capital and operational savings and set a new standard in reliability, improved agility and reduced testbed setup time



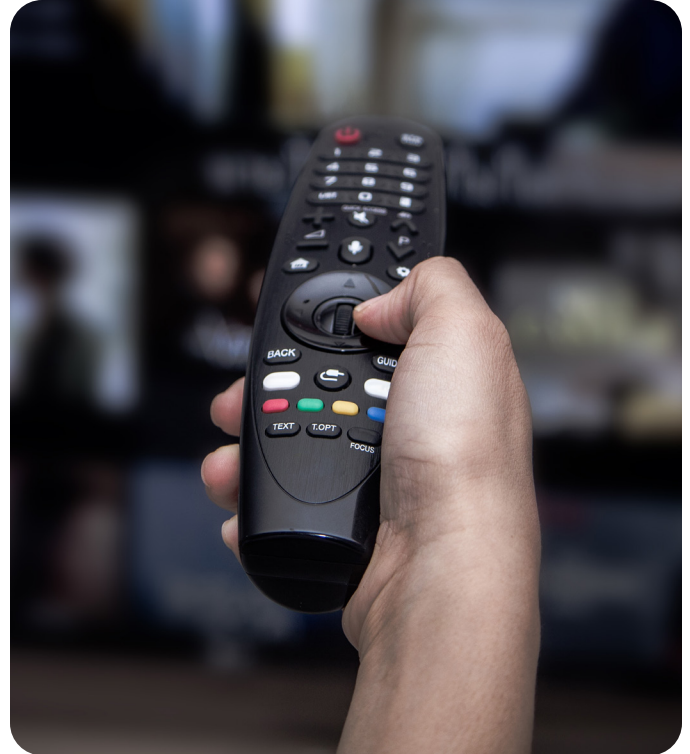
Key Requirements:

The customer team understood that an automated approach following a Continuous Integration/Continuous Delivery (CI/CD) workflow, delivering Continuous Testing (CT), could offer much faster regression testing. This would dramatically increase timely releases of critical services and upgrades. However, the team wanted to be absolutely certain that service to their media and broadcast customers would not be compromised.

Required: Multiple, Reliable and Flexible On-Demand Testing Models

The telecommunications company's network of media entities and broadcast providers are interconnected through a sophisticated global network of complex switching, hardware, encoders and video functions. Connecting and configuring this array of devices represented a complex, time-consuming and error-prone task. Beyond these connections, the customer's test team also needed a testbed that could handle channel creation, serial digital interface (SDI) encoding and analysis, video and audio switching and automated codec configuration. Once the environment was built, manual health checks and testing were also time-intensive and inefficient processes.

The customer's engineering team sought a solution where multiple testing models could be built and deployed quickly – a flexible test environment that could provide the required testbeds and automated testing on demand.



Spirent Solution

Working closely with the customer in a series of phases, the Spirent's team of lab and test automation experts designed, integrated and customized its Velocity solution to automate manual test processes and accelerate the development of test environments and models. These would be reusable across a myriad of network configurations and advanced digital IPTV services.

Using Velocity, the Spirent team produced automated and reusable tests quickly and efficiently. In their new state-of-the-art lab and test automation environment, and supported by Spirent's team of experts, the customer's test engineers created DevOps workflows with continuous testing across multiple testbeds, from new firmware, hardware and services, through production deployment. This dramatically improved the bug detection rates, service quality and time to market.



The Results

With Spirent's lab and test automation solution:

- Expanded configuration capacity, from 8 hours per 5-day week to 24/7, and provided flexibility to access and automate any device in the network
- Manual test sprints that once required 10 weeks of manual testing can now be performed in just 15 minutes
- Firmware testing, which previously took 12 weeks manually, can now be completed in two days
- 60 % CapEx and operating expense reductions were achieved by maximizing equipment utilization, increasing agility and reducing testbed setup time

With Spirent's lab and test automation solution, and ongoing support from Spirent's team of experts, the media and broadcast division significantly shortened the time to test and deploy new services and upgrades. This gave the operator a critical competitive advantage. In addition, software updates can be delivered around the clock and without service disruption. This capability provides a more consistent and reliable user experience for media and broadcast subscribers, while giving the customer more time to focus on high-value projects.

