accenture

StormTest

High performance. Delivered.

Accenture StormTest Development Center

Improving Release Throughput and Viewer QoE

Quicker, More Efficient Innovation

The "product" that is television is rapidly changing, driven by both engineering innovation and consumer demand for better ways to find, access and view content on an increasing range of connected devices.

Core to the future of television is software. Video Service Providers that can rapidly develop, test, and integrate software-driven services and features gain significant differentiation and competitive advantage. Operators are accelerating device and application release cycles by supporting builds on multiple device platforms in parallel and generally introducing new features and services more quickly.

Accenture StormTest Development Center plays a key role in this quest for greater innovation and efficiency. Operators that use StormTest claim to have achieved:
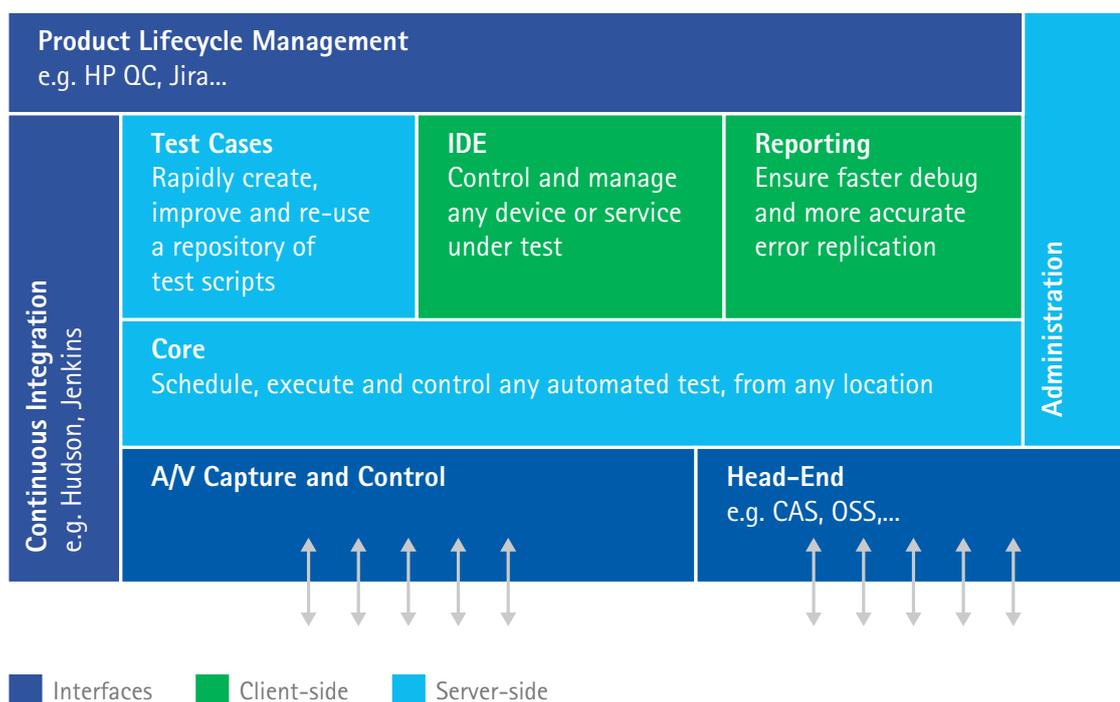
- Improved throughput: They can complete a full test-cycle in one day by automating 80 percent of manual tests.

- Higher productivity: With the same number of engineers, they've achieved a 600 percent increase in number of releases supported

- Added value: They free up an extra half-day per week per tester for exploratory testing

- Significant time savings: They've slashed the time required for performance testing by 89 percent

A Video Testing Platform

StormTest Development Center from Accenture Digital Video, automates testing for video platforms. In doing so, it helps enable organizations to scale testing to improve throughput, meet release deadlines, and improve the Quality of Experience (QoE) for services. It also helps reduce the pressure on manual testing, replacing time-consuming, difficult-to-execute, and tedious manual tests with a more accurate and efficient alternative—thus freeing up teams to analyze and diagnose problems.

With a powerful and easy-to-use development environment, StormTest Development Center simplifies the creation, and maintenance of test scripts. It streamlines test execution with efficiency features that include automated navigation map validation, synchronized A/V logs for accelerated error resolution, and flexible scheduling. And it uses intelligent features to support enhanced manageability, such as using a common test script interface, aggregating tests into a test library, and simplifying the maintenance of test artifacts.

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Product Lifecycle Management e.g. HP QC, Jira...			
Test Cases Rapidly create, improve and re-use a repository of test scripts	**IDE** Control and manage any device or service under test	**Reporting** Ensure faster debug and more accurate error replication	**Administration**
Core Schedule, execute and control any automated test, from any location			
A/V Capture and Control		**Head-End** e.g. CAS, OSS,...	

Continuous Integration e.g. Hudson, Jenkins

■ Interfaces   ■ Client-side   ■ Server-side

Solution Details

Integrated Development Environment (IDE)

A powerful development environment provides the tools both experienced and novice programmers need to design, script, debug, and manage test development. The IDE makes it easier for users to manage and edit artifacts in the core database, shared by all users.

- Write tests using a drag-and-drop "flow chart" graphical tool

- Easily configure a test's validation criteria with a simple-to-use trainer that can automatically populate the correct values for image/color and Optical Character Recognition (OCR) comparisons

- Easily and quickly introduce a new remote control into the facility, training the Infrared (IR) blaster and creating a remote-control skin

- Simplify navigation map creation and maintenance with Navigator, an intuitive GUI

- Maximize the use of devices and slots to add, reserve, and schedule slots for test

- Show the video output of individual Device Under Test (DUT) via Video Mosaic

- Control one or more devices in the test facility with an on-screen remote control applet

Core

Centralized management and administration features increase work efficiency and quality while helping in ensuring access to test automation for more team members.

- Perform video and audio analysis on an input with a pass or fail indication.

- Capture full-resolution images from the live video stream from each DUT and compare them against either images taken from other boxes or references images

- See highly accurate onscreen text capture and compare with character string block via OCR

- Capture and compare onscreen image with reference images or colors

- Capture video and audio up to full HD

- Support numerous types of scheduling—from one-off to regular to 24x7x365—with granular, integrated, scheduled execution of tests across all test automation units

- Manage test artifacts and reference images such as colors, images, OCR streams in a central database

- Achieve frame-accurate channel change timing with Zap timer

- Detect encoding and decoding A/V problems that affect the customer QoE

- Store tests in a central repository

- Use TCP/IP connections, over a device's IP connection, to control inputs to individual devices under test DUTs that do not use Infrared input

Test cases

Operators can boost productivity to keep pace with development while making test execution more consistent and efficient.

- Run Python- or GUI-authored scripts on any other StormTest model without change

- Easily maintain scripts when User Interface screen elements change, and improve test case portability between devices under test, with Screen Objects

- Use standard documented API suitable for every scripter from beginner to advanced programmers

- Remotely monitor and control tests by using client/server architecture to stream A/V output from DUT over a network to any location

- Scale up tests from 50 tests to 5000 using an extensible test automation framework that responds rapidly to changing development needs

- Save time with reusable test libraries

Reporting

StormTest Development Center's advanced test result reporting helps enable operators to easily identify trends, pinpoint problem areas, and speed-up analysis.

- Combine and synchronize video file, serial log and test script

- Using Video Log Player, play back logs from test runs in offline-review mode to boost manual post-analysis review efficiency

- Use Video Review Buffer to specify trigger-based saving of a video buffer, such as when a test step fails, to save disk space and ensure important video is available for debugging

- View results using criteria such as long-term trends, script, DUT type, schedule, or slot

- Integrate the StormTest Development Center database with existing business applications via its web services API to access test results from other tools.

A scalable and modular platform, StormTest Development Center is deployed in a range of sizes, with hardware options available for simultaneous testing of one, four and 16 devices. These StormTest Development Center systems can be combined to create larger test environments that operate seamlessly as a single facility. With its client/server based architecture, it can be used for local and remote testing.

Integration with other Quality Assurance and Agile tooling is one of StormTest Development Center's most important attributes. Operators can seamlessly integrate StormTest with defect management, continuous integration, and management reporting systems, including HP Quality Center, Hudson/Jenkins, and IBM Rational. They also can integrate StormTest scripts with external devices such as transport stream players and analyzers from Dektek by using python bindings to those devices' published APIs.

Comprehensive, Accurate, and Faster Testing

StormTest Development Center delivers powerful benefits to Engineering and Quality Assurance departments by:

- Accelerating build and release cycles. StormTest Development Center assists integration and QA to keep pace with organizations' more rapid development. It does so by automating the preparation, execution and documentation of tests—thus delivering faster results and increasing the number of builds and platforms under test.

- Improving product and service reliability. A functional and stable service requires an adequate level of testing. StormTest Development Center supports all major test types, functional and non-functional, using a common test script interface. Plus, it enhances test coverage by enabling operators to schedule these tests to run for a longer period of time.

- Validating the multiscreen customer experience. StormTest Development Center conducts advanced A/V analysis, validates customer entitlements, and measures system performance from a customer perspective. It manages the complexity of synchronization between primary and secondary screens, as well as other inter-device interactions between companion devices and STB.

- Supporting strong manageability and usability. StormTest Development Center is an enterprise-grade product. Its test environment is designed for ease of operability and maintenance while enabling teams to not only scale, but also maintain tests. And its synchronized A/V logging simplifies error scanning, which helps operators quickly analyze large amounts of test data.

HV01HD

Suitable for deployment on a desktop for a single user, making it an excellent tool for a software developer or a StormTest test developer. Also ideal for deployment into nodes within a network to perform continuous service testing. Tests one device at a time.

HV04HD

Ideal for both a desktop deployment where multiple devices need to be tested in parallel, as well as for rack mounting in a lab where the quantity of devices for test is quite low. It can be shared by multiple users. Tests up to four devices at a time.

HT01HD

Allows testing of any digital TV. Operates as a standalone unit or can be linked with existing StormTest hardware to extend the range of devices to be tested. Tests one device at a time.

HV16HD

Allows simultaneous independent testing of large numbers of devices with access from multiple developers and testers. Tests up to 16 devices at a time.

A True End-to-End Validation Platform

Accenture StormTest uses advanced automation technologies to continuously and actively test new service releases across platforms and devices, in development and deployment. The insights it provides helps organizations to accelerate service innovation, optimize development processes and ultimately improve the viewer Quality of Experience.

Integration with other Quality Assurance and Agile tooling is one of StormTest Development Center's most important attributes.

About Accenture Digital Video

Accenture Digital Video is a business unit within Accenture. We deliver business results for companies where video is of strategic importance, helping them pivot to capture new growth opportunities in an ever changing market. Partnering with clients, we use our agile methodologies, deep skills, and open technology platforms and apply them in every phase of a change journey—from thinking to doing. The end result: more predictability in the face of a complex and volatile landscape. Accenture Digital Video has a 20 year track record in driving video innovation through a global workforce of more than 2,000 dedicated professionals across strategy, delivery, business services and operations, all dedicated to helping clients grow profitably.

About Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network— Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With more than 375,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.