

To better supervise quality of multimedia

Following the motto ‚push and look,‘ and with its end-to-end (E2E) test solutions for continuous, automated quality tests for mobile phones, Danet is one of the first providers to make a close-to-reality procedure available from the view of the end user.

To the joy of mobile and fixed value added service providers, the market for video downloads and TV reception is a booming one, but at the same time users are coming to expect more and more: The customer who spends money on digital media, wants data at high speed, good quality and to receive them securely. For providers, this means that they must permanently monitor their services in order to be able to react in time to weak points and service outages.



New test procedures enable an end user oriented test environment.

At present, a paradigm shift is occurring in testing these kind of added-value services: Mobile phone carriers, broadcasters and web portals have recognized that meaningful test results can only be obtained from the customer perspective, as Wolfgang Dobbertin, Vice President at Danet explains: „When it comes to monitoring, traditional test procedures limit themselves to the service infrastructure, i.e. individual network ele-

ments and terminals. Therefore, problems which result when these many components interact remain for the most part undiscovered.“

Danet therefore looked for alternatives and at the same time, as one of the first providers, developed solutions which faithfully map what the customer sees. Using test scenarios, E2E (End-to-End) was able to be monitored around

the clock – to see whether downloading ring tones also works at peak usage times, to see whether video film distribution reaches the set-top box without interruption or, in addition, to see whether the portal is put together fast enough on the smartphone via the UMTS network.

The advantage for mobile phone service providers and providers of added-value products lies in the fact that, for the first time, they have a quality testing method to perform constant tests of their entire range of services.

Different test variants

In principle, in developing the structure of end user oriented test environments there are several variants. For mobile phones, Danet offers the ‚SoftRobot‘ solution. Here, an ordinary commercially available mobile phone is connected by serial interface to the test system and via this, is controlled using remote-control. A test script sends user inputs and with it, simulates every-

SoftRobot: Test Automation

The market for mobile terminals is fast moving: New models are often modified after a few months or disappear from the market. Under these conditions, in order to get a realistic picture of the quality of services offered, added-value service providers increasingly invest in test procedures, which map the perspective of the end user. With the SoftRobot test automation, Danet offers test monitoring solutions which comprise terminal operation. This way, multimedia services can be monitored closer to reality, in order to gain meaningful data relating to actual customer service quality.

day operational sequences such as game downloads, whilst a camera films the display and at the same time registers and stores the feedback of all interactions. The test system digitalizes the recorded screen contents, wherein control steps, control elements and text instructions are familiar for the user. The system records error messages as proof images and all remaining test procedure data is put into a database, in order to be evaluated when concluding the test report.

A further variant is the mechanical ‚Mobile-Robot‘: a robot, which simulates a user’s fingers, and which, around the clock, mechanically presses the keys of a mobile phone clamped into a holding device, or of a remote control unit. The advantage is that test conditions are closer still to genuine user behaviour and take into account possible idiosyncrasies in key allocation, which cannot be implemented using internal AT commands.

An access solution for mobile terminals which is further sophisticated still is the ‚Device-Robot‘ variant. On a modified mobile telephone the internal wiring of almost all input and output interfaces is put on the outside and is attached directly to a test PC. This way, filming the screen contents is unnecessary, as the optical feedback is directly converted from the graphic chip into a digital form on the test system computer. In a different way to key control via AT commands, the DeviceRobot can also activate telephone-independent switches e.g. an on/off button or push the flap of a mobile phone up or down.

In certain more complex simulations a wide range of different terminals should be included in the tests in order to imitate all conceivable end user scenarios. It is the operating differences in the different models which represent a particular hurdle. For this sort of tricky quality control situation there is also an approach, which is derived from the specific differences in the equipment. The magic word here is service orientation. With it, the test procedures set a higher interface level and focus on service supply interfaces. For the level which it is subjected to, the test system administers each kind of relevant terminal, without having to change the test configuration with each newly added menu navigation.

Danet GmbH
Wolfgang Sachse
Gutenbergstraße 10
64331 Weiterstadt
Germany
Phone +49-61 51-868-100
Fax +49-61 51-868-130
<http://www.danet.com>

