

# The Vision of a Complex Technology: Testing Mobile Services

**To ensure the availability of mobile services, comprehensive tests are necessary. Vodafone realises these automated tests by means of a Web based testing portal.**

Subscribers have very simple expectations: Their terminals and the related services must always function. These expectations require a highly sophisticated technology whose smooth operation can only be ensured by means of continuous testing.

In the past, such tests have been performed manually, but according to Oliver Pohlschmidt, Group Manager of the "Test Solutions" department at Vodafone D2 in Düsseldorf, this is not sufficient. "Due to the increasing complexity of the systems to be tested, it is not possible anymore to achieve a constant coverage with manual tests". This can only be reached by means of automated tests via a Web portal which in addition allows a shorter testing period, cost savings as well as an optimised utilisation of the testing resources.



*Mobile phone testing: Automated simulation of the behaviour of average users*

## 24/7 Monitoring

Vodafone has decided to introduce Devoteam Group's Web based portal for automated testing. It allows for an enhanced documentation of the test results and an easier comparison with results of older testing periods.

Moreover, the testing platform allows an unsupervised 24/7 monitoring of frequently used functionalities within the scope of regression tests which plays to the quality of mobile communications services. "At the same time, we have free resources for testing new technologies", adds Pohlschmidt.

## Testing the Technology Chain

"Realistic results can only be achieved by end-to-end tests that monitor all functionalities from the subscriber's perspective, i.e. every single activity has to be tested and recorded," explains Thilo Lauer, Solution Architect at Devoteam Group. Testing the interaction of the components with the entire network is only possible on-site at the carrier. Only there, overall functionalities as well as the continuous availability of single services can be tested. To this aim, Devoteam Group's test automation platform contains complex end-to-end testing scenarios. They include a SIM card multiplexer by means of which different SIM cards can be virtually inserted and the respective services can be tested. The same applies more or less to testing and monitoring the quality of multimedia services such as mobile TV as well as WAP/Web portals.

The transmission between the cells is checked and recorded by means of a handover simulator for video telephony. Thus, a gapless recording of the availability of the different services via virtual tests of different transmission landscapes with varying signal intensity is possible.

## Simplicity meets Quality

The testing portal enables even users without programming skills to set up their individual testing scenarios and to perform tests. Though there is an additional effort prior to running new tests, because they have to be defined as well as set up and checked for the programmers, in the end, the automated tests represent a considerable added value, because they can be performed on demand, as often as needed. The Web test portal has advantages for the testers as well: Simplified testing, higher quality, enhanced results documentation and evaluation as well as the easy recording of error images. The Web based portal of the test automation platform can be accessed from anywhere. The complex testing technologies can be applied across the group and countries, thus optimising the resource utilisation.

# Testing Portal for Mobile Services

Another benefit is the user or division based capture and activation of key performance indicators (KPIs). Thus, measurements with regard to the quality of the different services are possible in an easy way, including audio and video content such as mobile TV or WAP/Web portals. The monitoring test results can be recorded and evaluated via statistics 24/7, thus allowing the monitoring and documentation of a trouble-free operation.

Automated tests have become an integral part of the testing environment at Vodafone. "The platform is subject to continuous improvement and is adapted to the requirements of the testers in line with the evolving communication technologies", explains Manager Pohlschmidt.



*Mobile phone in the field: Subscribers expect continuous availability of networks and services.*

## About Devoteam

Devoteam is a leading IT consulting group in Europe and was created in 1995. Combining consulting and technical solutions offers enables Devoteam to provide its customers with independent advisory services and effective solutions that meet their industrial objectives. Headquartered in Levallois-Perret (Paris, France), the Group counts more than 4,500 employees in 23 countries. Devoteam achieved in 2008 a turnover of 460M Euro.

In January 2009 Devoteam Danet was integrated into Devoteam. The company offers business and IT consulting, IT solutions and IT services – especially in the sectors automotive industry, financial services, telecommunications & medias and transport & logistics. Devoteam Danet counts 390 employees and achieved in 2008 a turnover of 42.5 M Euro in Germany.

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