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**Run-on-Device  
executes:**

- Automated test cases on actual real devices. No connection to a PC is required.

**Run-on-Device  
Supports:**

- Web-based applications
- GUI-based applications
- Wireless services
- Mobile OS verifications

**Business layer  
verification:**

*Run-on-Device can access the internal objects of .Net based applications so that the status of business objects can be verified.*

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## Run-on-Device: Execute test cases on a standalone mobile device.

### **Automated field testing of mobile applications and mobile devices**

Jamo Solutions provides tools that automate the testing effort for mobile applications running on the Windows Mobile platform. For some test cases it is important that the mobile device remains mobile, i.e. the test case needs to be executed in the field. Most of the time, these test cases involve data access, e-mail, SMS or MMS messages or location based applications.

For these kind of test cases, it might be important to execute the test cases on different locations or while moving the mobile device.

### **M-eux Test**

The mobile test case is created by using the tool M-eux Test. The tool M-eux Test creates test cases that can easily be re-used to test from different devices with different characteristics and to perform regression testing. The scripts created by M-eux Test are easy to create and to maintain.

The technology platform of M-eux Test ensures the above requirements by providing:

- Testing through the user interface of the application. Just like a manual tester will describe his test cases by using the user interface elements, the automated test script is verifying and driving the user interface elements of the mobile application under test. By recognizing the user interface elements, the script becomes hardware independent. If a new version of the application under test is released, then preserved functionality can be tested with the old scripts. The tool will take care of cosmetic changes like a menu item that is now in a new position. By using the user interface elements, the script becomes also readable for a non-technical tester and the script is easy to maintain.
- Extension of existing scripting environments. M-eux Test did not implement its own scripting environment. In order to ensure a fast learning curve and to ensure re-use of gained expertise, M-eux Test is an extension of existing scripting environments. M-eux Test extends Visual Studio from Microsoft and QuickTest Professional from Hewlett Packard.

### **Run-on-Device**

Once that the test script is created using M-eux Test as an extension of Visual Studio, the same script can be executed on a stand-alone-device using Run-on-Device. Run-on-Device is an execution environment whereby the script runs directly on the actual

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**M-eux Test – The mobile device test automation tool:**

*Extends well known tools like QuickTest Profession from HP and Visual Studio from Microsoft*

*Supports the real actual device for test script creation and replay.*

*One script can replay against multiple devices. For example one script can send a SMS from one device and check the correct arrival on a second device.*

*Supports access to devices located remotely using the WAN connector.*

*Contains a local scheduler to plan the execution of test cases against the connected devices.*

*Support the real device and the emulators. Create one scripts and re-use for all devices running the same Mobile Operating System.*

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device. The architecture of the tool is displayed in following figure:



The Visual Studio based script is download on the mobile device and executed by the Run-on-Device (RoD) component. The Run-on-Device (RoD) component enables execution of the scripts through a local scheduler. After each execution, a report is generated which indicates success or failure.

The Agent is a program that is running on the device. The Agent will execute the test command and will in case of recording, capture the action of the mobile device. The Agent contains the GUI recognition functionality. Jamo Solutions did take special care that the memory and CPU footprint of the Agent is very low so that the Agent does not influence the good working of the device when replaying a test script.

#### **Business layer verification**

In case of .Net Compact Framework applications, Run-on-Device supports access from the test script to the business objects inside the application under test.

#### **Mobile OS System verification**

Special functions are implemented to verify the mobile operating system. The tester can at any time verify for example:

- The number of processes running.
- The memory consumption
- The memory card space consumption
- The battery status

The tester can fill automatically the working memory or the space on the memory cards in order to verify if his application can run in extreme conditions.

Special functions are foreseen to launch and verify the mobile connections like data, phone calls, SMS messages, E-mail messages, MMS messages

#### **Supported editions**

<i>Device Operating System</i>	<i>Supported versions</i>
Windows Mobile	<ul style="list-style-type: none"><li>• Windows Mobile 2005 Pocket PC</li><li>• Windows Mobile 6.0, 6.1 and 6.5<ul style="list-style-type: none"><li>○ Classic, Standard and Professional</li></ul></li></ul>

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