Example and analysis: a codified-MR-based test has higher test coverage than an EvoSuite-written test

Project: eclipse/californium

Class under test: org.eclipse.californium.scandium.dtls.ClientHello, which is available at https://github.com/eclipse-californium/californium/blob/2c4376f59c4ed6e4964a9039a063ed15d7b59ff9/scandium-core/src/main/java/org/eclipse/californium/scandium/dtls/ClientHello.java#L56

* The EvoSuite-generated test case (figure 1)
* Test oracle: **assertNull(serverNames0)**

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Fig. 1 the EvoSuite-generated test case

* Codified-MR-based test case: the *newtest( )* in figure 2
* Test oracle: **getMessageLength() = clientHello.fragmentToByteArray().length**

图形用户界面, 文本, 应用程序

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Fig. 2 a codified MR based test case

* We can see that the oracle “**assertNull(serverNames0)**” generated by EvoSuite is much weaker than “**getMessageLength() = clientHello.fragmentToByteArray().length**” used by codified-MR-based test.