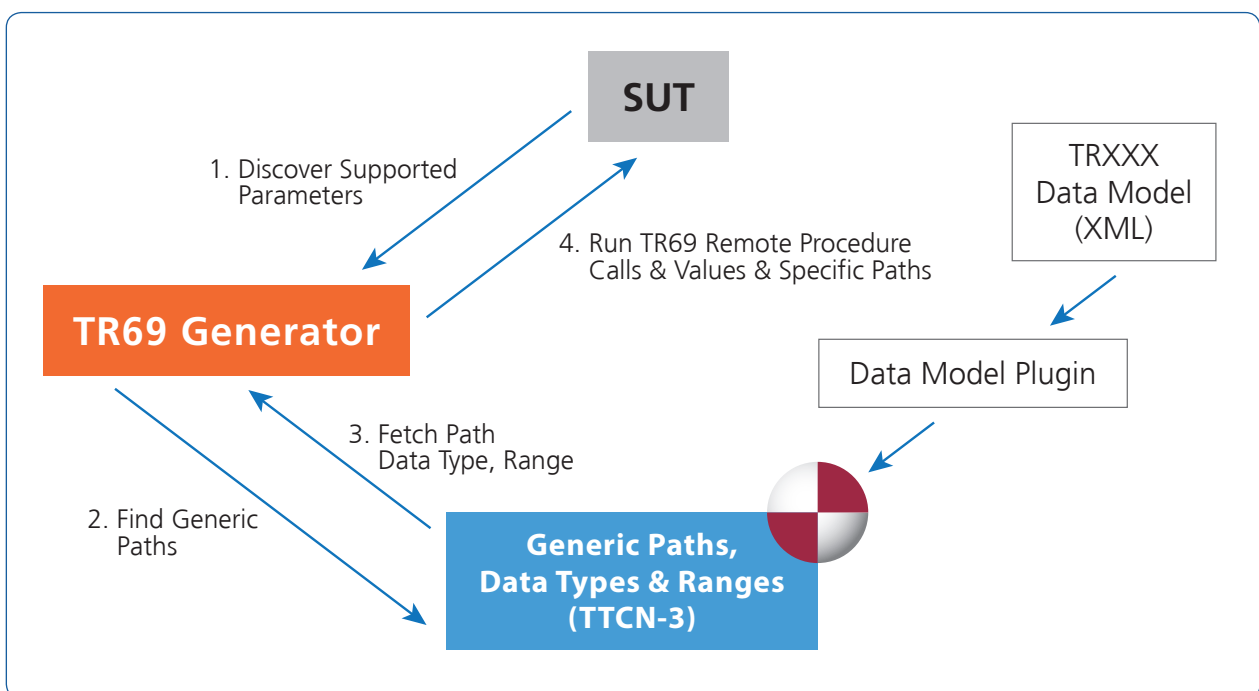# LTE eNB Test Framework

Host testing of LTE Femtocell eNodeB devices at the 3GPP RRC/S1AP including TR69 support

Features

- 660 test cases according to ETSI 3GPP LTE standard specifications
- Dynamic generation of test cases for O&M with smart discovery of supported parameters
- Adjustable test parameters for
  - Timers duration
  - Number of components
  - Product variants
  - Ports
  - IP addresses for remote testing
- Simulation of events such as Radio Link Failure, Inactivity Detections, new CRNTI assignments
- System Under Test fully driven by the test engine with automatic logs storage
- Ability to test remote or colocated System Under Test
- Modify existing test cases or add new test cases (optional)
- Porting on different data models as described in the Broadband Forum Technical Recommendation (optional, TRXXX in the graphic below)

Applications

- Extensive logging of data and signals throughout the whole testing cycle
- Verification and validation thanks to TTCN-3 matching mechanism
- Easy post processing and analysis with TTworkbench
- Protocol conformance testing of eNB applications

Fully automated testing of a CPE management interface

LTE eNB Test Framework

Host testing of LTE Femtocell eNodeB devices at the 3GPP RRC/S1AP including TR69 support

Benefits

- Approved test automation platform based on standardised TTCN-3 language
- Accurate compliance to the ETSI 3GPP standard
- Fast and simple test execution
- Large test library of negative scenarios, timeouts, rejects and failures
- Ability to control multiple components in order to guarantee full repeatability of test results
- Ability to fully test the CPE by configuring each parameter with any in range value
- Vendor specific behaviour of core network components (optional)
    - User equipment and Auto Config Server can easily be reproduced
- Extensible Tr069 generator can be customised to support (optional)
    - Broadband Gateway Devices
    - IPTV Set Top Boxes
    - VoIP Phones

Standards

- ETSI 3GPP TS 36.331 v.11.5.0 (2013-09):
  Evolved Universal Terrestrial Radio Access Radio Resource Control (RRC) Protocol specification
- ETSI 3GPP TS 36.413 v.11.5.0 (2013-09):
  Evolved Universal Terrestrial Radio Access S1 Application Protocol (S1AP) Protocol specification
- Broadband Forum Technical Report
    - TR-069 Amendment 3 Issue 1, November 2010
    - TR-196 Femto Access Point Service Data Model Amendment 1 Issue 1, May 2011

Requirements

- Reference platforms
    - Java 8
    - Microsoft Windows 7/8/10
    - Linux (GTK2, x86-32, x86-64)
- 230V 50/60 Hz power supply
- 19" or larger TFT display (full HD for best results)
- Internet connection

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