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Seamless IP Protocol Based Testing of Automotive Data Communication

RUETZ SYSTEM SOLUTIONS Presents Enhanced Test System TTsuite 1.3.0

Munich (Germany) April 23, 2013 – Test specialist RUETZ SYSTEM SOLUTIONS announces the availability of TTsuite 1.3.0, the newly enhanced version of the well-proven and easy-to-use test platform. The qualified system integrator for automotive data communication has added several features such as seamless IP protocol based testing and the creation of test cases out of capture files. In addition, an extended test development kit (TDK) is available. "With more and more IP based applications making their way into the car, we support car makers in adapting their in-car communication networks to the growing requirements," said Wolfgang Malek, General Manager and Co-founder of RUETZ SYSTEM SOLUTIONS. "The rising complexity of automotive networks and applications demands broader, improved testing in order to achieve high quality and compliance." The new TTsuite 1.3.0 allows IP based scenarios to be simply generated by using IP protocol stacks in parallel with the recognized MOST® protocol. The user-friendly and comfortable test system supports all commonly used IP protocols and description languages. Use cases in the automotive, consumer and telecommunication industries include, for example, Universal Plug and Play (UPnP) and Digital Living Network Alliance (DLNA) requirements.

Testing of Data Communication Based on IP Protocol

TTsuite 1.3.0 performs testing of the robust IP protocol stacks using the MOST Ethernet packet (MEP) and MOST data packet (MDP) channels of the in-car network. TTsuite offers several plugins for commonly used IP protocol support such as TCP, UDP, FTP, HTTP, and SOAP. IP based test scenarios can easily be created by using these protocol stacks in parallel with the well-known MOST protocol. Moreover, the support of common type description languages like IDL, Protobuf and ASN.1 adds various possibilities for managing complex communication scenarios in a very comfortable way. Since encoding and decoding is completely independent of the data transportation, the protocols can be easily combined and sent over ports such as the MDP or MEP channels in the MOST network.

Creating Test Cases out of Capture Files

A new feature of TTsuite 1.3.0 simplifies testing even further by adding an easy-to-use capture and replay wizard. It is now possible to easily create complete test scenarios out of Wireshark pcap (packet capture) capture files. The benefit for users is that no programming skills are required.

Multiple capture sources are supported. Test authoring is done quickly and easily. The simulation allows the analysis of real-world situations. Users may flexibly create their test configurations out of selected scenarios and decide which communication peers shall be tested or simulated.

Advanced Test Development Kit for Easy Testing

RUETZ SYSTEM SOLUTIONS provides an expanded Test Development Kit (TDK) with various opportunities for automation in the areas of physical layer, network, system behavior, and application for a smooth start to test projects. The added features ease the derivation of tests out of dynamic specifications. Whenever new test cases need to be derived out of message sequence charts (MSC), the Test Development Kit meets this challenge, providing an excellent solution. Performing default routines for error and timeout handling make test specifications purport to be like the original MSC but behave like a tester. With this behaviour being contrary to the ECU's target, the tester provokes a stress scenario for the ECU.

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Images

Image 1: Enhanced test system TTsuite 1.3.0 for seamless IP protocol based testing of automotive data communication
Image source: RUETZ SYSTEM SOLUTIONS
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Image 2: Wolfgang Malek is General Manager and Co-Founder of RUETZ SYSTEM SOLUTIONS
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With comprehensive expertise in data communication for automotive electronic systems, Ruetz System Solutions provides full service to carmakers and suppliers for a smooth and timely production start (SOP). The technology partner based in Munich offers engineering services for system specification and integration, Test Laboratories as a Service, compliance tests, technology assessment and training. Part of the test laboratory solutions are test systems and platforms. With broad competency in data bus systems for all in-car data transmission standards such as, amongst others, CAN, Ethernet, FlexRay, LIN, MOST, USB and WLAN are supported competently and reliably by the general contractor. More information is available at www.ruetz-system-solutions.com.

RUETZ SYSTEM SOLUTIONS GmbH
Walter-Gropius-Straße 17
81543 München, Deutschland

Media contact:
alvacon::pr
Mandy Ahlendorf
T +49 8151 555009 11
E pr|at|alvacon.com