Solution House GAIO TECHNOLOGY

Verification Solution

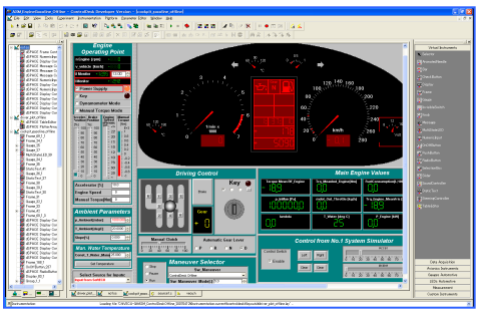
No.1 SYSTEM SIMULATOR

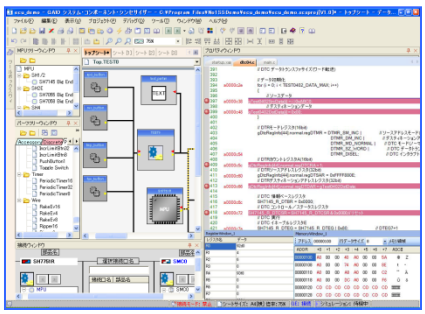
VECU-G

Virtual ECU Verification Solution

Detects ECU software errors during the initial design phase
Simulates a single ECU system without the need for actual hardware
Reduced cost and space requirements compared to HILS

VECU-G is a virtual ECU software verification environment that uses 'SPILS' (Simulator-based processor In the Loop Simulation) to simulate a single ECU system. The ECU system simulation is performed by executing the ECU target code with GAIO's ISS, and the vehicle models with MATLAB/Simulink. As an optional feature dSPACE's ControlDesk can be used to configure and monitor the vehicle parameters.



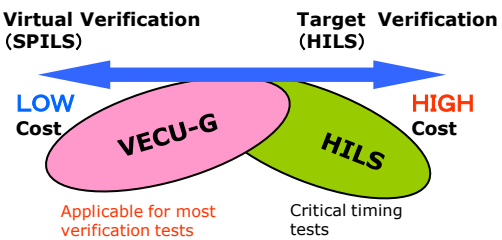


Can Perform ECU Software Testing in the Early Stages of Development using the Target Code

Currently ECU software is tested using actual hardware or the HILS environment, both of which are usable only after the ECU hardware development has been completed. In comparison, GAIO's VECU-G is a virtual ECU software verification environment that instead uses the target code, so it can be used in the early stages of development.

Replaces HILS for all but the Critical Timing Test

Because HILS verification equipment is expensive in terms of purchase price and maintenance, it is difficult to install a sufficient number to meet developer's needs. GAIO's VECU-G can replace the HILS equipment for executing all but the critical timing test, which requires actual target hardware to be performed. Thus by using VECU-G for performing tests on the functional level, costs can be significantly reduced.

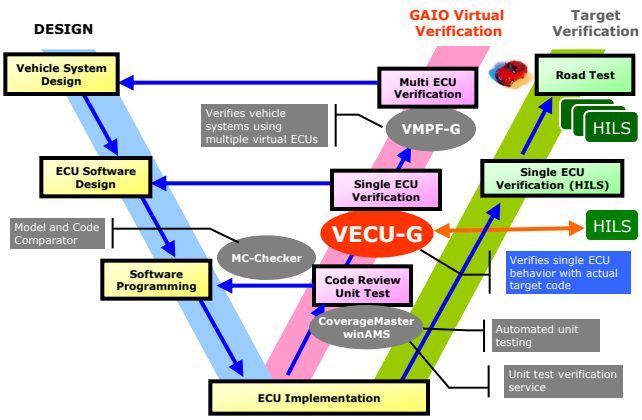


Quality Source Level Debugger Included

VECU-G is configured with a source level debugger capable of break-point debugging and step execution. While possible using GAIO's ISS, these kind of debugging operations are not possible using the HILS environment. In addition, GAIO'S ISS comes with an interface to connect and synchronize with MATLAB/Simulink vehicle models.

Position of VECU-G in Automotive V-Based Dev

GAIO promotes the virtual verification environment as portrayed on the pink-colored line of the following automotive V-based development figure. By using a virtual testing environment embedded software can be tested for errors before the target hardware is completed, resulting in faster development and higher quality.



GAIO TECHNOLOGY CO.,LTD.

Headquaters (Tennouzu Office):
Tennouzu First Tower 25F
2-2-4 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002 Japan
Tel: +81-3-4455-4767

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