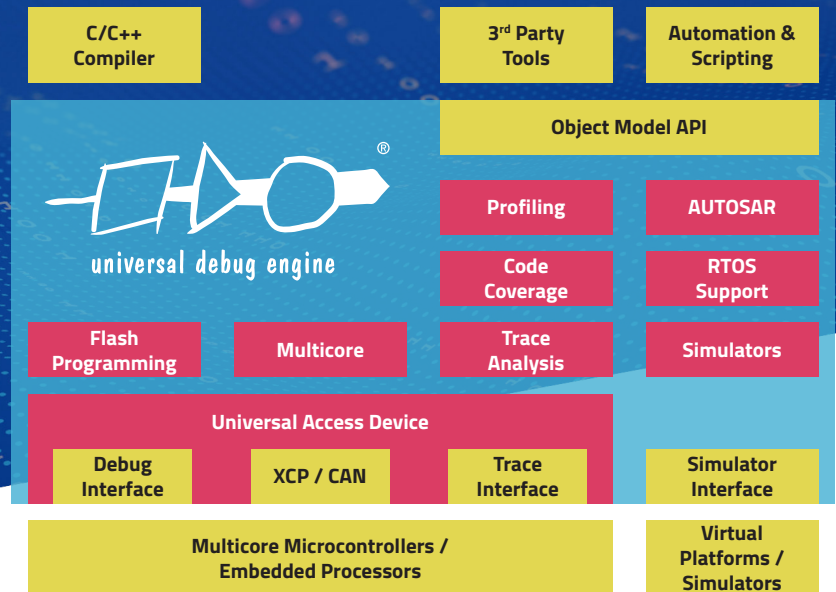




Debug ■ Trace ■ Test

UDE® Universal Debug Engine

The UDE® Universal Debug Engine is a technology leading tool for debugging, tracing and testing of multicore SoCs and microcontrollers. UDE® combines a comprehensive feature set for HLL and assembler level debugging, runtime observation, system visualization and system-level analysis with efficiency and ease of use.



MultiCore Debugging

- Debugging of 32 and 64 bit MCUs and embedded processors
- HLL Support for C, C++, Rust
- Comfortable multicore debugging and visualization
- Synchronous start, stop and single step
- Flexible core groups and multicore breakpoints
- Support for heterogeneous SoC architectures
- Support for all major cross compilers: HighTec/GNU, Tasking, Keil, Arm®, Wind River®, Green Hills®, etc.

Easy-To-Use Cross Debugger

- Intuitive user interface with »Perspectives« feature
- Support for multi-screen operation
- Easy-to-work home screen for quick access to previous workspaces
- Pre-defined target configurations for fast and convenient setup of debug session

MultiCore Trace

- Parallel capturing and visualization of multiple trace sources
- Visualization of task and code execution
- Non-intrusive Code Coverage
- Profiling functions for efficient detection of application bottlenecks
- UDE SimplyTrace® for easy configuration of every days trace tasks
- Global time base for trace-based analysis functions

RTOS & AUTOSAR

- RTOS awareness: FreeRTOS™, SAFERTOS®, Sciopta, OSEK, PXR0S, PXR0S-HR, CMX, µC/OSII, rcX
- AUTOSAR awareness
- ARTI and ORTI support for debugging and task trace

Debug & Test Automation

- Open and flexible software API
- Based on Microsoft Component Object Model (COM)
- Tool interface for third-party tools
- Debug and test automation by scripting
- Support for Python, PowerShell, Perl, Java, VB Script, etc.
- Integrated Python console with script debugger
- C++, .NET, etc.

Virtual Platforms & Simulators

- Support for Shift-Left and Pre-Silicon development
- Debugging and trace of virtual prototypes and simulator models
- Build-in instruction set simulator for TriCore™/AURIX™
- Support for 3rd party simulators and virtual platforms: Synopsys® VDK, COSEDA COSIDE®

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Development Tools

Universal Access Device Family

- Complements the full-featured UDE® debugging solution with fast and robust target access
- Proven adapter solution for fastest and reliable target access: JTAG, DAP, SWD, OnCE, LPD, H-UDI
- Galvanically isolated target adapters (option)

UAD2^{pro} – Base Device for Debugging

- High-speed USB 2.0 host interface
- Combined connector for CAN and serial interface
- Up to 50 MHz shift clock and 1,65 V - 5,5 V I/O voltage
- Support for on-chip trace buffer

UAD2^{next} – All-round Device for Debugging and Trace

- High speed host interfaces: USB3, Gigabit Ethernet
- ASC and CAN target interface, CAN FD available upon request
- Up to 160 MHz shift clock and 1,65 V - 5,5 V I/O voltage
- Range Extender to bridge distances up to 2 meters between UAD2next and target device
- Easy to expand using pluggable, target-specific Trace Modules
- AURORA serial high-speed trace with up to 1.25 Gbit/s
- Parallel trace with up to 12 bit @ 125 MHz DDR
- 512 Mbyte trace memory

UAD3+ – High-End Trace and Multi-Target Debugging

- Fast multi-target access – up to 8 debug interfaces
- Separate Debug Pods for up to 5 meters distance to the target
- High speed host interfaces: USB 2.0, Gigabit Ethernet
- Up to 160 MHz shift clock and 1,65 V - 5,5 V I/O voltage
- Serial high-speed trace with max. overall bandwidth 100 Gbit/s, up to 8 lanes @ 12.5 Gbit/s per lane
- Parallel trace with up to 20 bit @ 500 MHz
- Up to 8 Gbyte trace memory

Supported Microcontrollers and Embedded Processors

Infineon

AURIX™ TC4x, TC3xx, TC2xx, TriCore™
XMC7000, XMC4000, XMC1000
TRAVEO™ T2G, MOTIX™, PSOC™ 4
XC166 / XC2000, XE166

STMicroelectronics

Stellar SR6P, SR6G, SR5E
STM32 MCUs
SPC56, SPC57, SPC58

Reneas

RH850/U2A, RH850/U2B
RH850/C1, D1, E1, E2, F1, P1
RA, RZ/T2M, R-Car H3

NXP

S32G3, S32G2, S32V
S32N5, S32Z, S32E
S32K1, S32K3, S32K5
i.MX RT
MPC56, MPC57, S32R
Kinetis®

Texas Instruments™

Jacinto™ and Sitara™
MSPM0 G-Series, MSPM33

Synopsys®

ARC® EM, ARC® EV, ARC® HS
ARC-V™

Arm®

Cortex®-R52(+)
Cortex®-A5x, Cortex®-A7x
Cortex®-A8, Cortex®-A9
Cortex®-M0, M3, M4, M7
Cortex®-M33, M23, M55, M52, M85
Arm7™, Arm9™, Arm11™

IP Cores

Andes AndesCore™ D23
Bosch GTM, DFA

Various Vendors

RISC-V
AMD/Xilinx Zynq™ 7000
Hilscher NETX 90
Tongxin Micro THA6
Thinktech Alioth TTA8
NOVOSENSE
GigaDevice
C*Core
and more...

PLS Programmierbare Logik & Systeme GmbH based in Germany is the manufacturer of the debugger, trace and test tool UDE® Universal Debug Engine. Thanks to its innovative tools for embedded software development, PLS has become one of the technology leaders in this area and provides high-quality development tools to engineers worldwide since more than 35 years.

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