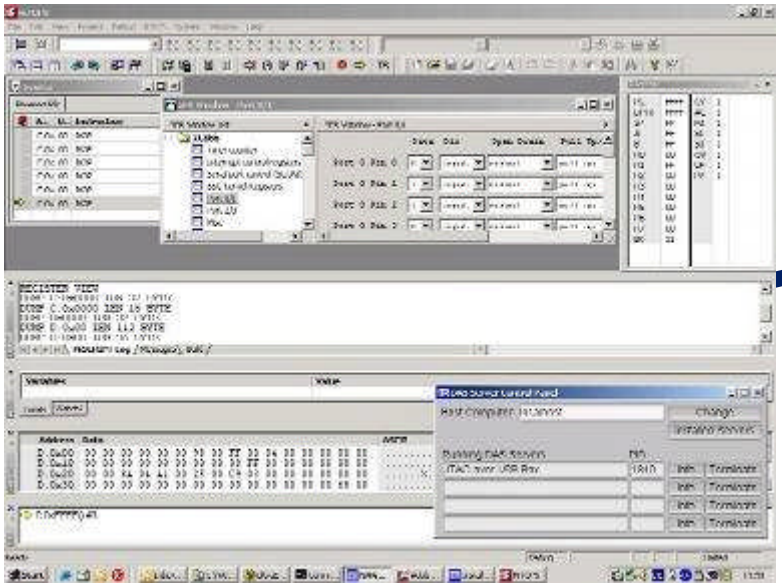
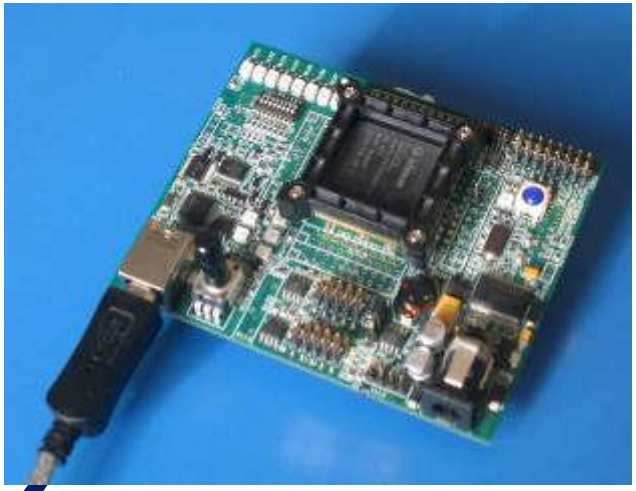
Device Access Server Introduction

http://www.infineon.com/DAS

DAS Device Access Server



Tool
to
Device



DAS
=
Abstraction
of physical
connection

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DAS Mission

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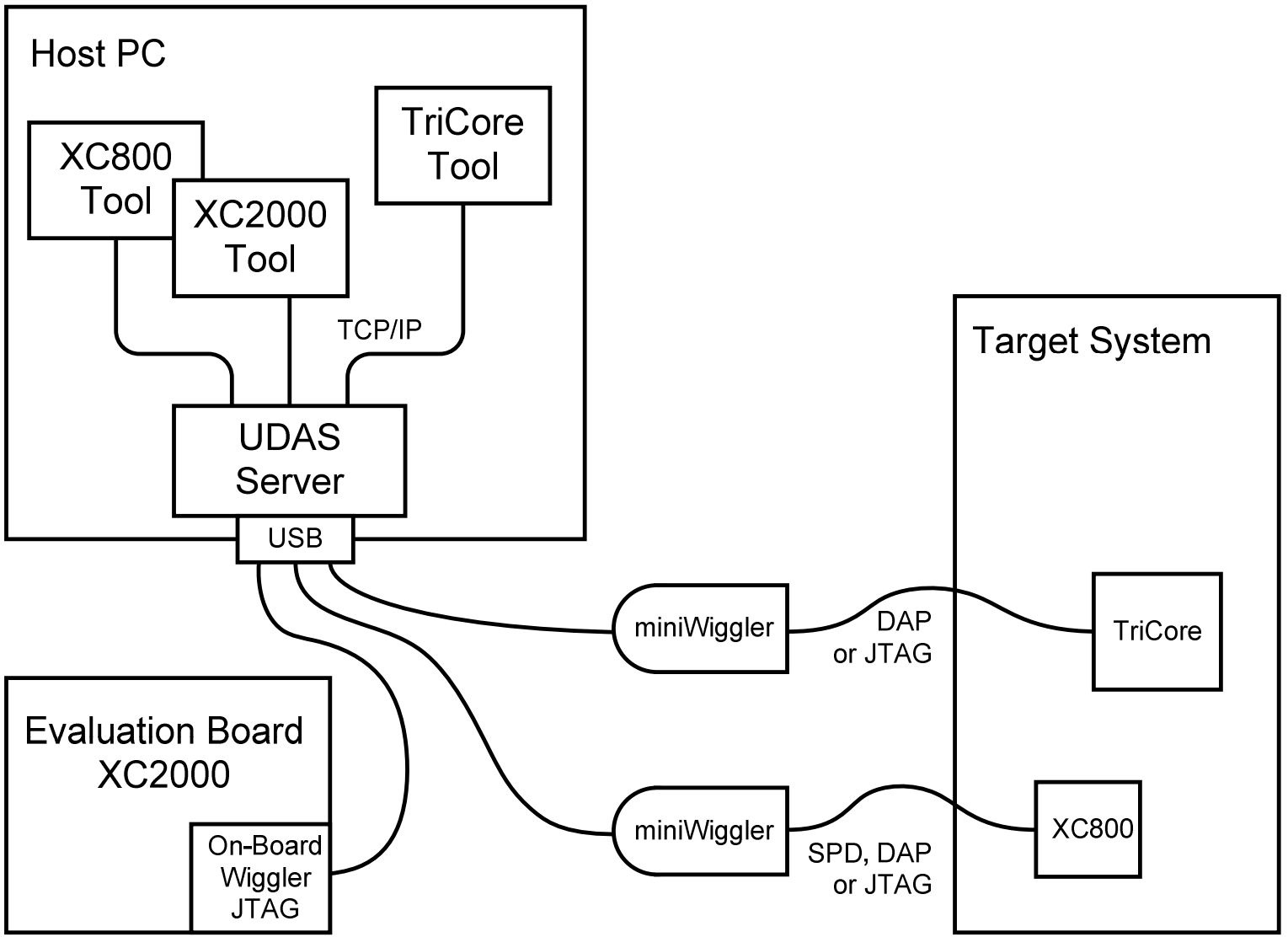
DAS Use Case



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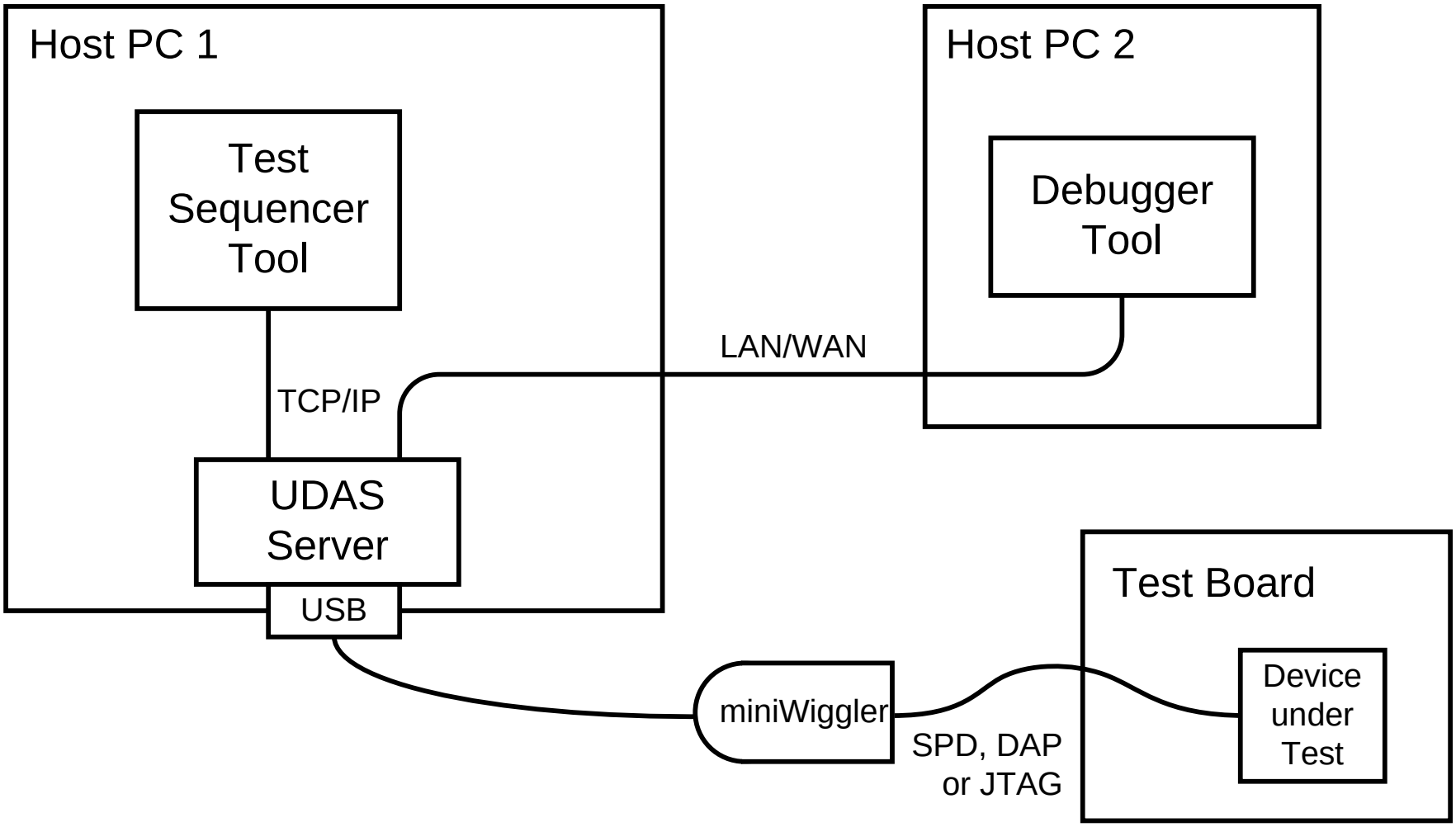
DAS Multi-Tool Operation



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DAS Implementations with UDAS Server

Interfaces

- JTAG
- DAP
- SPD
- ARM SWD
- Simulator (C-Models)

Supported Devices

- XC800
- XC166, XE166/XC2000
- TriCore™, AURIX™
- XMC4000, XMC1000

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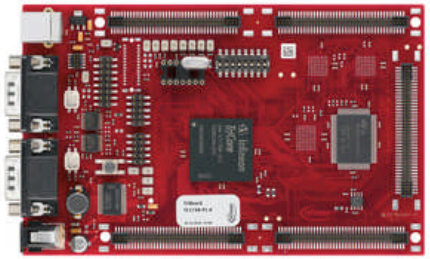
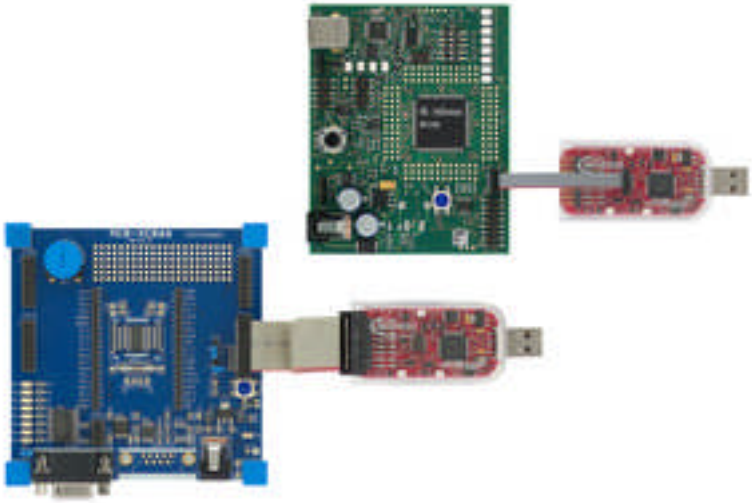
DAS Hardware





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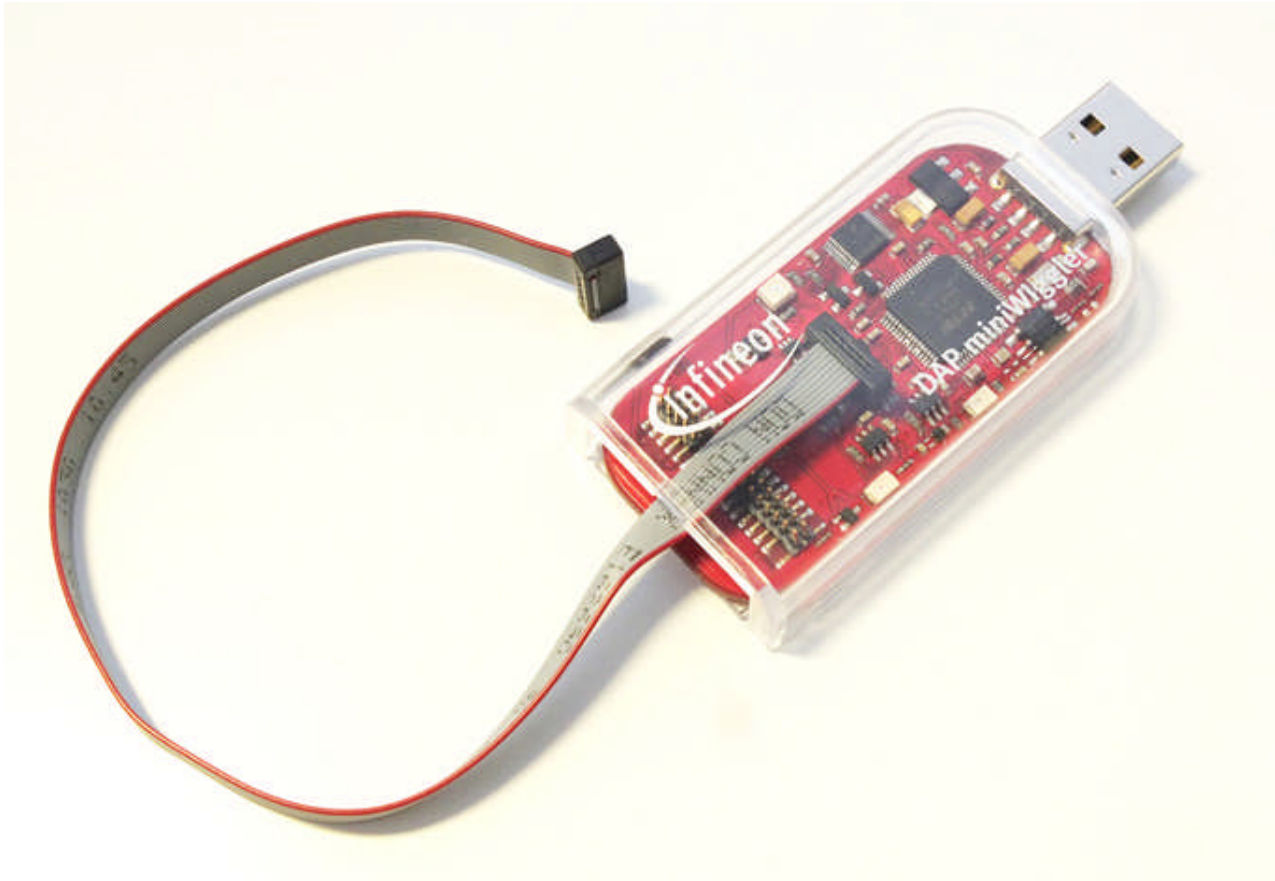
DAP miniWiggler V3



- Up to 2 MByte/s, low latency (< 150 µs for single access)
- More information www.infineon.com/DAS

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DAS Tools

- Part of DAS Installation
- Allow to demonstrate and check the DAS operation
- All tools are fully generic
  (no interface type or device type specific adaptation code inside)
- MCD Basic Client uses the MCD library on top of DAS
  - MCD implements run control (start, stop, breakpoints, etc.)
  - MCD API is core centric and generic
  - MCD implementation is device specific
- MCDS Trace Viewer for AURIX™ Emulation Devices

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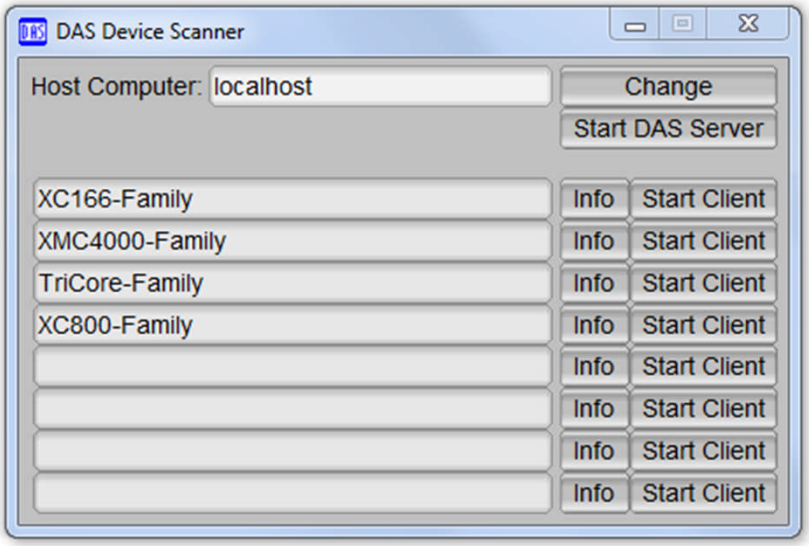
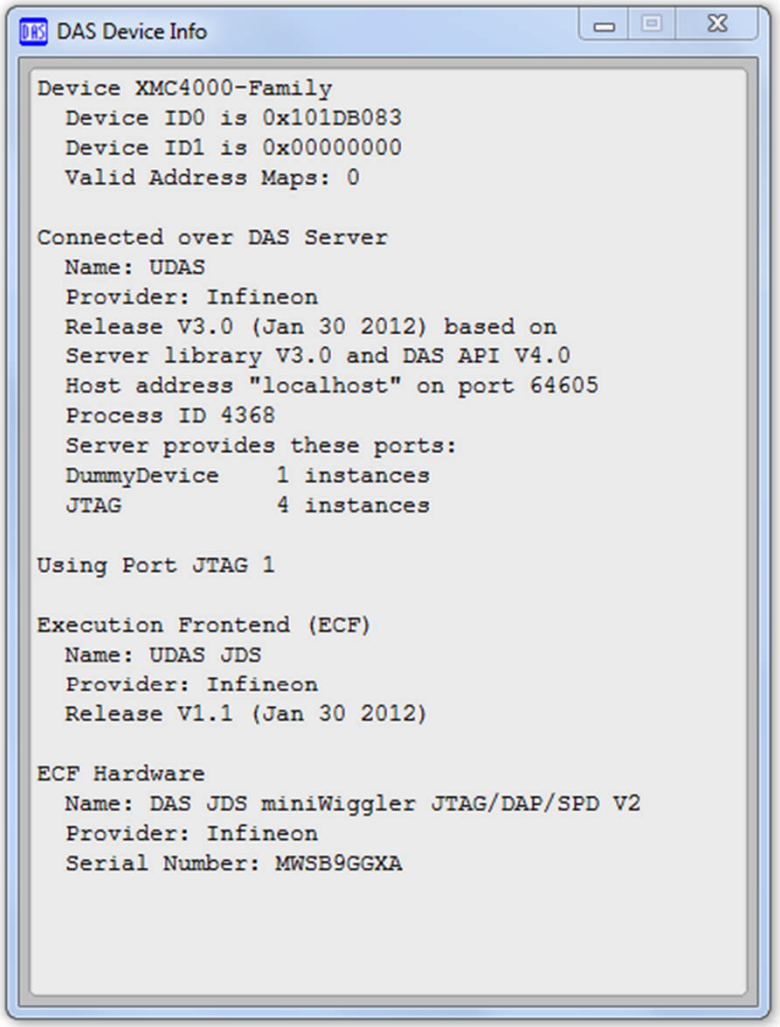
DAS Tools
Device Scanner for Multi Device





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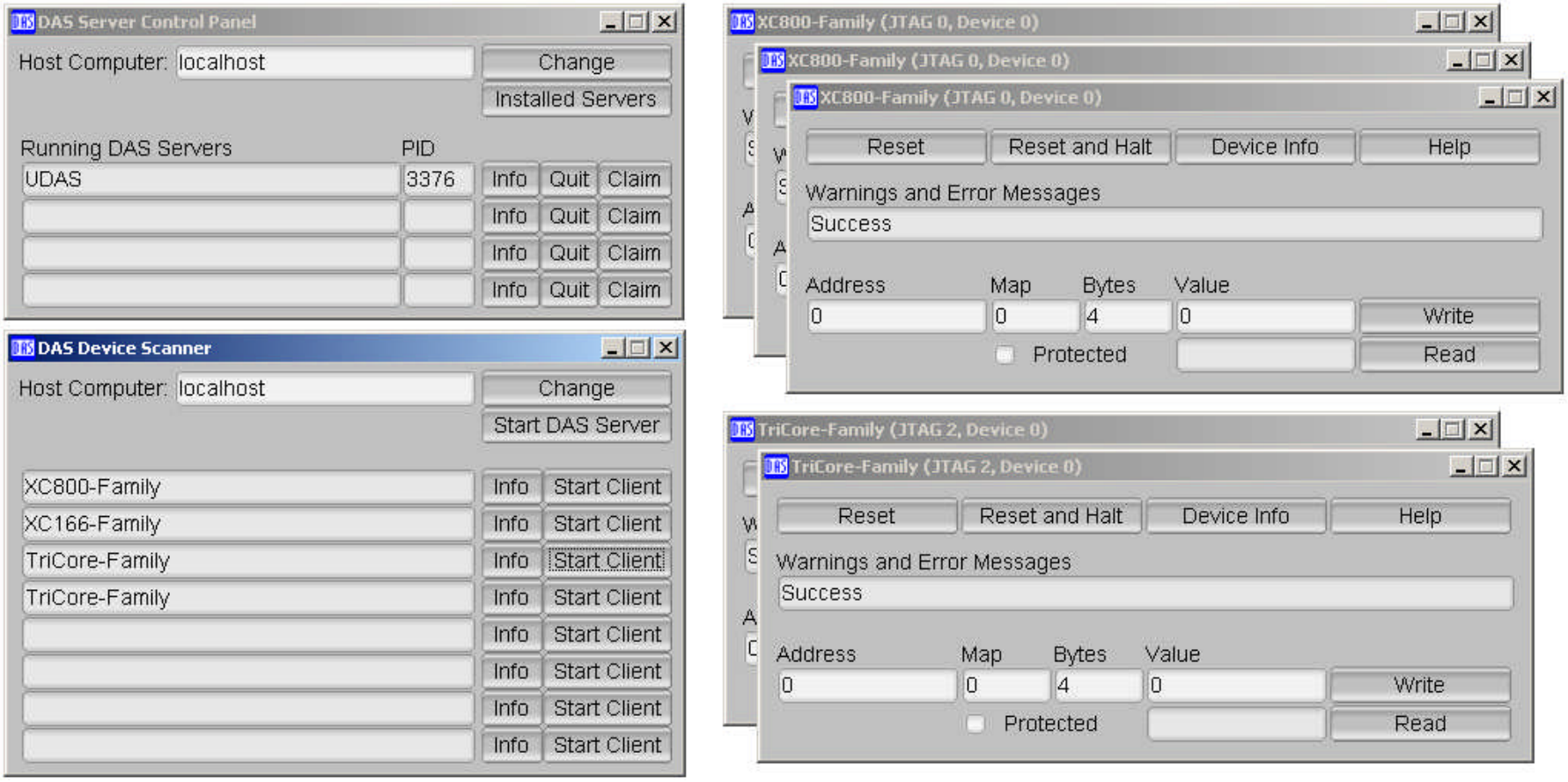
DAS Tools: Multi Client



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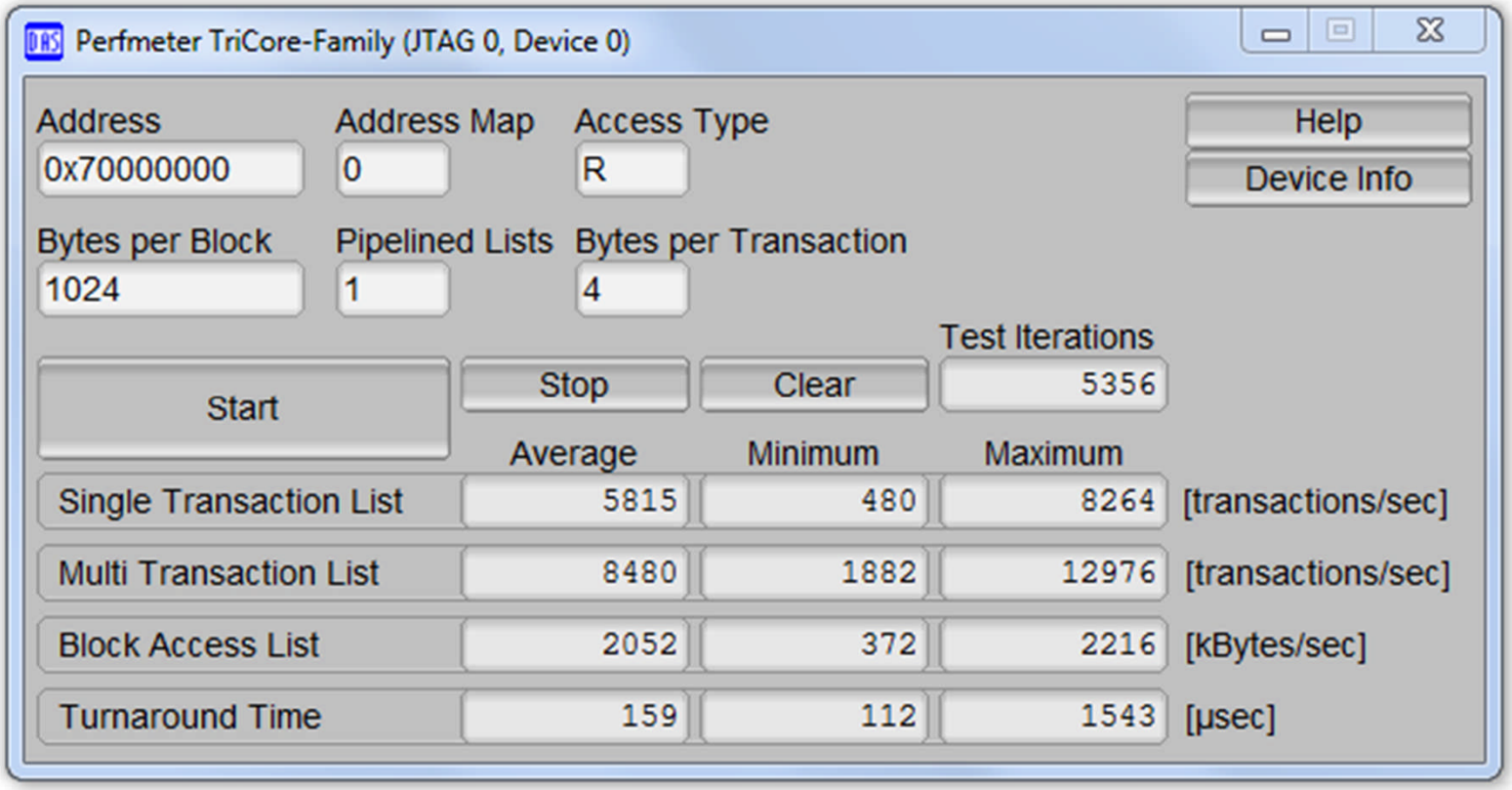
DAS Perfmeter



- Measures key performance figures
- Allows quantitative comparison of DAS implementations
- Part of the standard DAS installation

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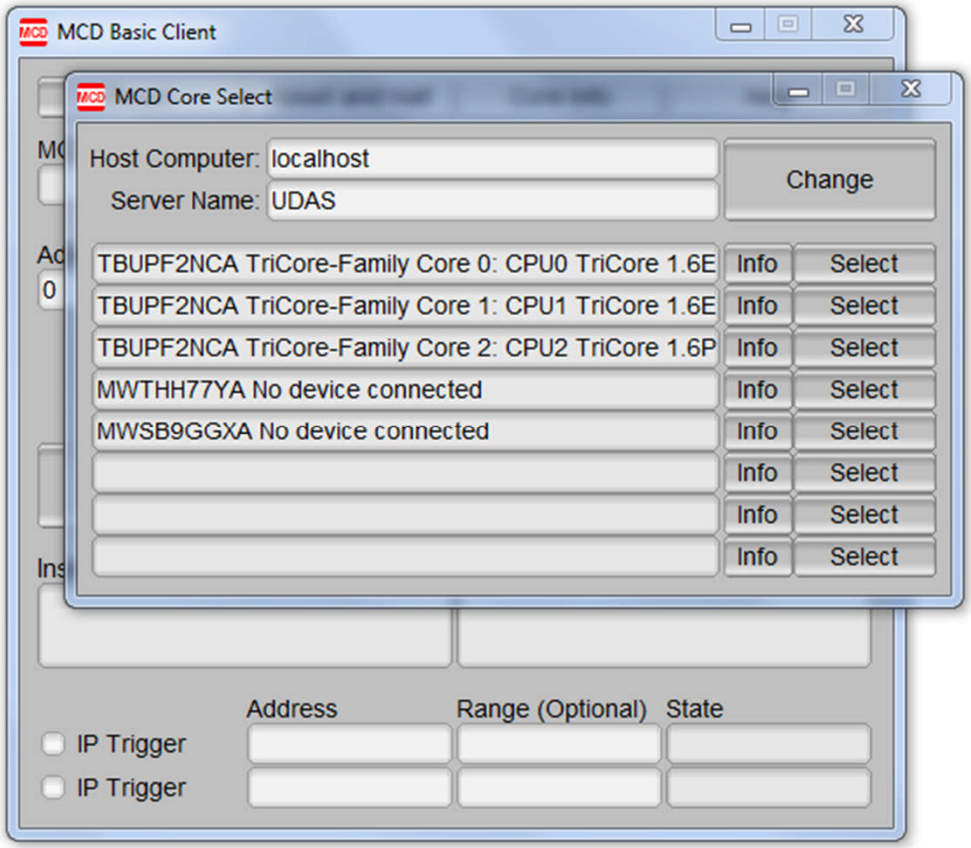
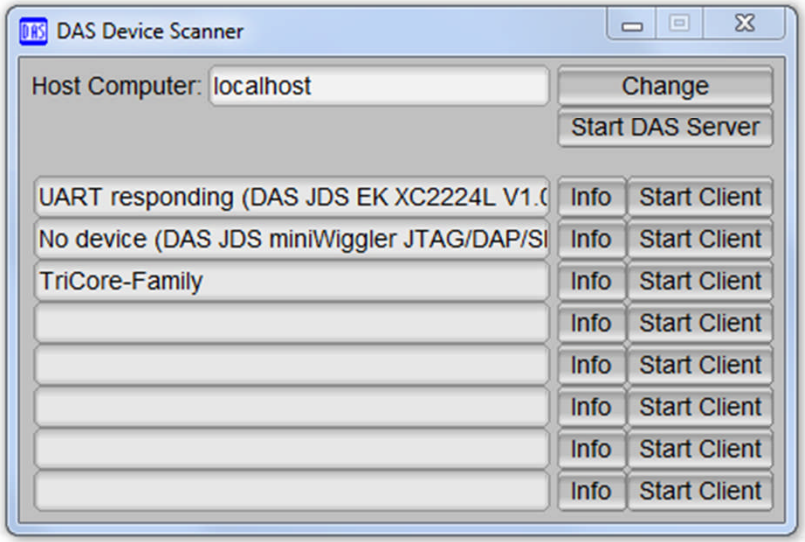
Parallel View with DAS and MCD Basic Client





- MCD API is core centric
- DAS is device (access HW) centric

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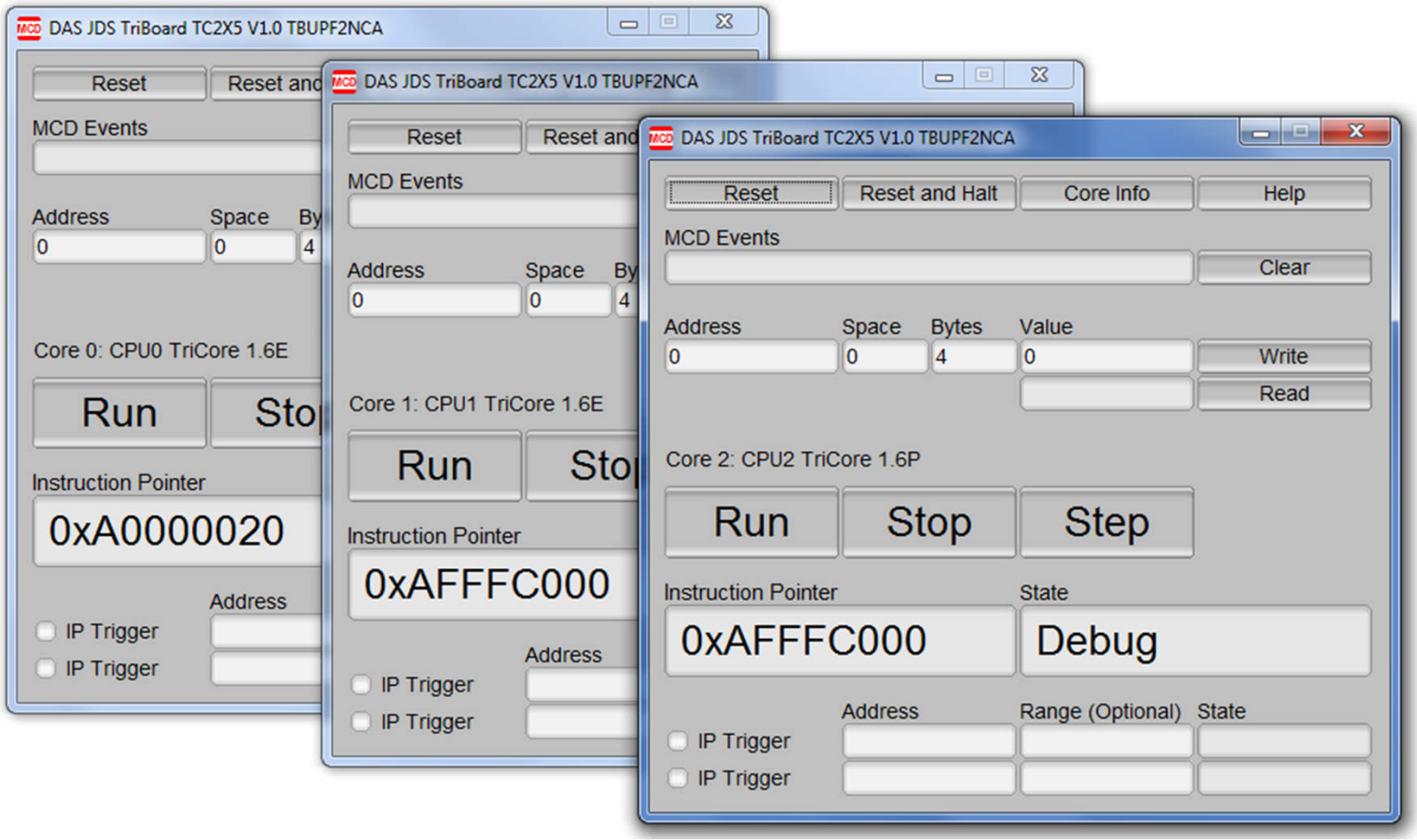
MCD Basic Client



- Open one instance per core
- Supports remote connection via TCP/IP

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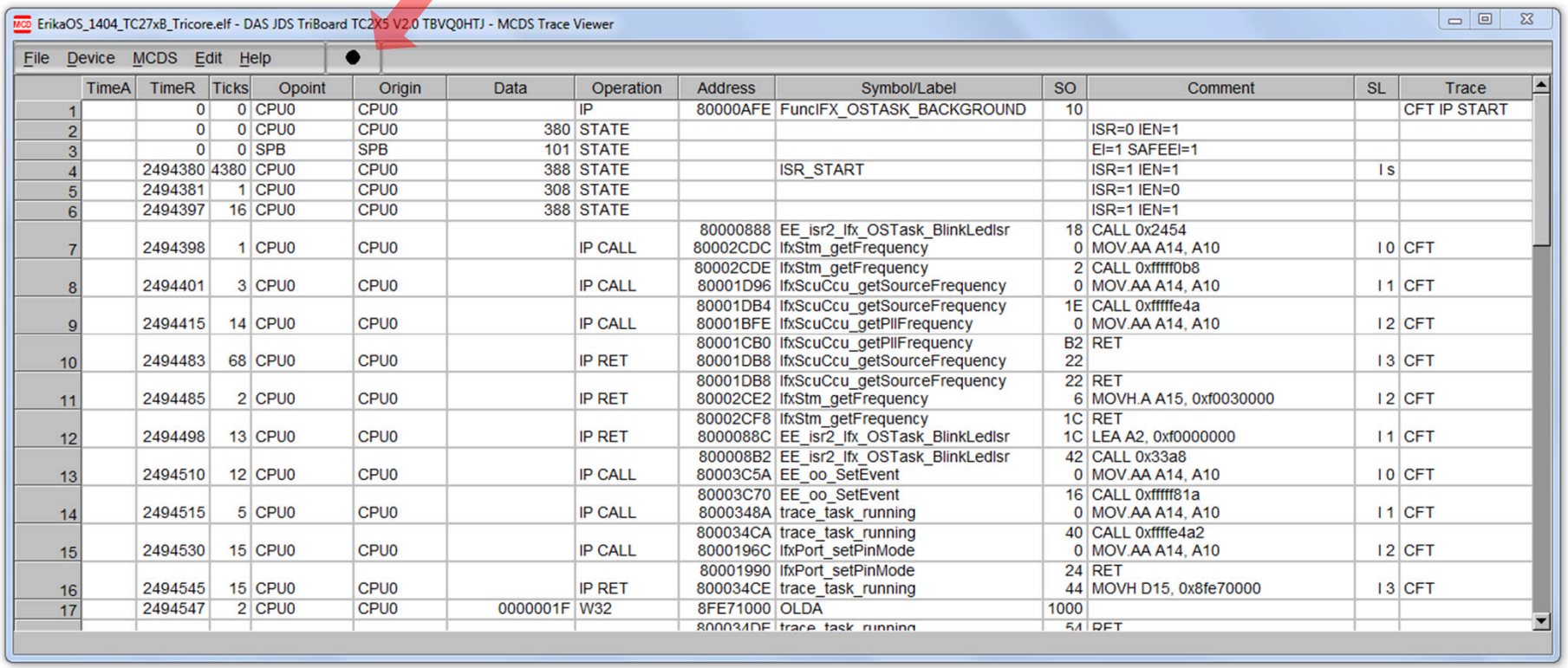
MCDS Trace Viewer
One Touch Trace

Click Here



	TimeA	TimeR	Ticks	Opoint	Origin	Data	Operation	Address	Symbol/Label	SO	Comment	SL	Trace
1		0	0	CPU0	CPU0		IP	80000AFE	FuncIFX_OSTASK_BACKGROUND	10			CFT IP START
2		0	0	CPU0	CPU0	380	STATE				ISR=0 IEN=1		
3		0	0	SPB	SPB	101	STATE				EI=1 SAFEEI=1		
4		2494380	4380	CPU0	CPU0	388	STATE		ISR_START		ISR=1 IEN=1	I s	
5		2494381	1	CPU0	CPU0	308	STATE				ISR=1 IEN=0		
6		2494397	16	CPU0	CPU0	388	STATE				ISR=1 IEN=1		
7		2494398	1	CPU0	CPU0		IP CALL	80000888 80002CDC	EE_isr2_Ifx_OSTask_BlinkLedIsr IfxStm_getFrequency	18 0	CALL 0x2454 MOV.AA A14, A10	I 0	CFT
8		2494401	3	CPU0	CPU0		IP CALL	80002CDE 80001D96	IfxStm_getFrequency IfxScuCcu_getSourceFrequency	2 0	CALL 0xfffff0b8 MOV.AA A14, A10	I 1	CFT
9		2494415	14	CPU0	CPU0		IP CALL	80001DB4 80001BFE	IfxScuCcu_getSourceFrequency IfxScuCcu_getPllFrequency	1E 0	CALL 0xffffe4a MOV.AA A14, A10	I 2	CFT
10		2494483	68	CPU0	CPU0		IP RET	80001CB0 80001DB8	IfxScuCcu_getPllFrequency IfxScuCcu_getSourceFrequency	B2 22	RET	I 3	CFT
11		2494485	2	CPU0	CPU0		IP RET	80001DB8 80002CE2	IfxScuCcu_getSourceFrequency IfxStm_getFrequency	22 6	RET MOVH.A A15, 0xf0030000	I 2	CFT
12		2494498	13	CPU0	CPU0		IP RET	80002CF8 8000088C	IfxStm_getFrequency EE_isr2_Ifx_OSTask_BlinkLedIsr	1C 1C	RET LEA A2, 0xf0000000	I 1	CFT
13		2494510	12	CPU0	CPU0		IP CALL	800008B2 80003C5A	EE_isr2_Ifx_OSTask_BlinkLedIsr EE_oo_SetEvent	42 0	CALL 0x33a8 MOV.AA A14, A10	I 0	CFT
14		2494515	5	CPU0	CPU0		IP CALL	80003C70 8000348A	EE_oo_SetEvent trace_task_running	16 0	CALL 0xfffff81a MOV.AA A14, A10	I 1	CFT
15		2494530	15	CPU0	CPU0		IP CALL	800034CA 8000196C	trace_task_running IfxPort_setPinMode	40 0	CALL 0xffffe4a2 MOV.AA A14, A10	I 2	CFT
16		2494545	15	CPU0	CPU0		IP RET	80001990 800034CE	IfxPort_setPinMode trace_task_running	24 44	RET MOVH D15, 0x8fe70000	I 3	CFT
17		2494547	2	CPU0	CPU0	0000001F	W32	8FE71000	OLDA	1000			

Connect AURIX™ TriBoard and click on button

This powerful tool is free of charge but also without support

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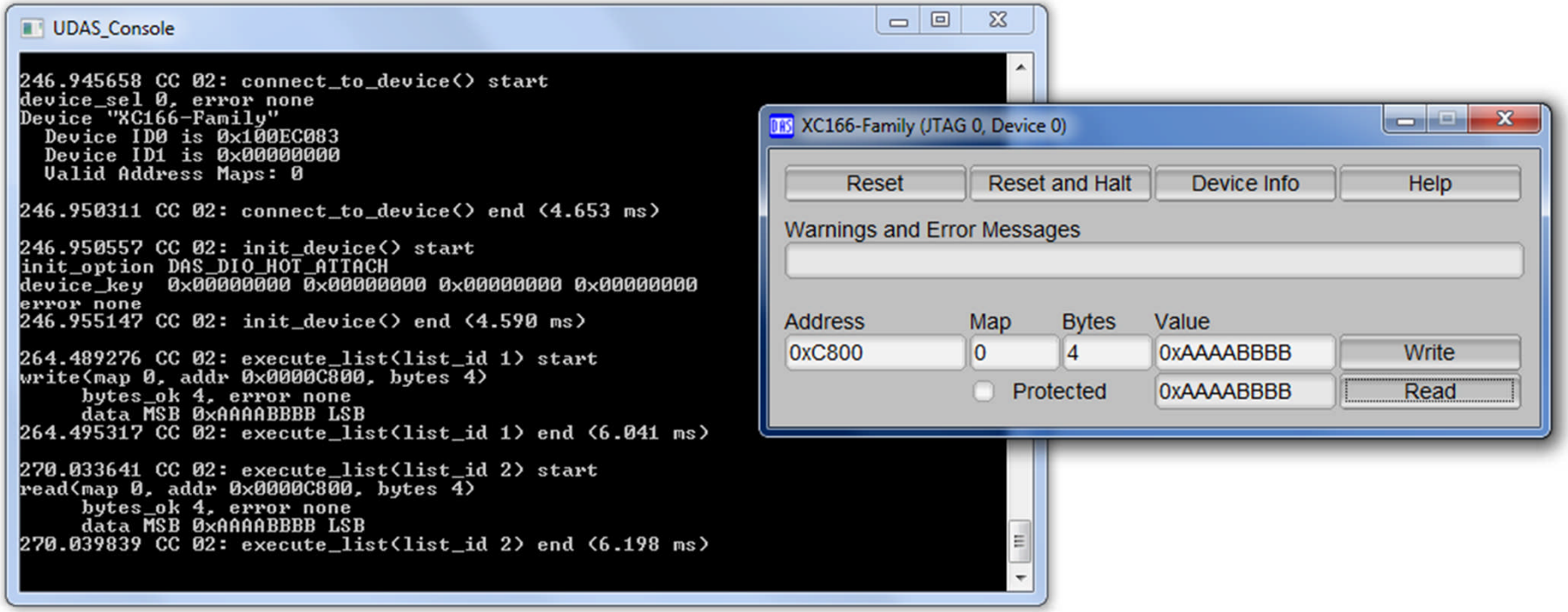
UDAS_Console Server



- Allows analysis of tool and device behavior
  e.g. for debugging of the multi-tool setup itself
- Needs to be started manually from DAS installation directory
- Factor 10x-40x for DAS latency between visible and minimized console window → Tool becomes slow when not minimized

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DAS Installer

- Removes automatically old USB drivers
- Configures firewall

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Summary

- DAS as tool connection is a standard for Infineon
  - On-board wiggler for evaluation boards
  - miniWiggler for customer boards
- Supports JTAG, DAP, SPD and SWD
- DAS hides the details of the device connection from the tool
- Proven technology broadly used internally and by customers

http://www.infineon.com/DAS

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