Device Access Server
Introduction

http://www.infineon.com/DAS
DAS Device Access Server

DAS = Abstraction of physical connection
DAS
any tool
any wire
any device
DAS Implementations

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

Supported Devices
- XC800
- XC166, XE166/XC2000
- TriCore
- XMC4000
DAS Hardware
DAS Hardware

JTAG/DAP/SPD On-Board Wiggler
- UCAN Stick, XC800 Sticks
- Easykit boards, TriBoards

JTAG Wiggler
- Old miniWiggler
- JTAG over USB wiggler box (phased out)

JTAG/DAP/SPD/SWD
- DAP miniWiggler V2.0
- Hitex Tantino
DAP miniWiggler

- Up to 1 MByte/s, low latency (< 200 µs for single access)
- For buying google “DAP-miniWiggler” → Hitex web shop
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
DAS Tools
Device Scanner for Multi Device

**DAS Device Scanner**
- Host Computer: localhost
- XC166-Family
- XMC4000-Family
- TriCore-Family
- XC800-Family

**DAS Device Info**
- Device XMC4000-Family
  - Device ID0 is 0x1001DB083
  - Device ID1 is 0x00000000
  - Valid Address Maps: 0

  Connected over DAS Server
  - Name: UDAS
  - Provider: Infineon
  - Release V3.0 (Jan 30 2012) based on
  - Server library V3.0 and DAS API V4.0
  - Host address "localhost" on port 64605
  - Process ID 4368
  - Server provides these ports:
    - DummyDevice 1 instances
    - JTAG 4 instances

  Using Port JTAG 1

  Execution Prontend (ECF)
  - Name: UDAS JDS
  - Provider: Infineon
  - Release V1.1 (Jan 30 2012)

  ECF Hardware
  - Name: DAS JDS miniWiggler JTAG/DAP/SPD V2
  - Provider: Infineon
  - Serial Number: MD5B9GGXAX

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# DAS Tools: Multi Server

![DAS Server Control Panel](image)

<table>
<thead>
<tr>
<th>Running DAS Servers</th>
<th>PID</th>
<th>Info</th>
<th>Quit</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDAS</td>
<td>3376</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-Model TC1234 Dummy</td>
<td>5212</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDT</td>
<td>5232</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Installed DAS Servers (IDS)](image)

<table>
<thead>
<tr>
<th>Installed DAS Servers</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DummyDevice only</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>JTAG over USB Chip</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>C-Model TC1234 Dummy</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>JTAG over Tartino</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>JTAG over USB Box</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>JTAG over USB S5CMBox</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>MDT</td>
<td>Info</td>
<td>Start</td>
</tr>
<tr>
<td>UDAS</td>
<td>Info</td>
<td>Start</td>
</tr>
</tbody>
</table>
DAS Perfmeter

- Measures key performance figures
- Allows quantitative comparison of DAS implementations
- Part of the standard DAS installation
MCD API is core centric

DAS device/access HW centric
MCD Basic Client

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

- Removes automatically old USB drivers
- Configures firewall
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 directory

- Factor 10x-40x for DAS latency between visible and minimized console window → Tool becomes slow when not minimized
DAS Installer and Support

Installer Edition V4.0

DAS Tools
- Server Control Panel
- Device Scanner
- Basic Client
- Perfmeter
- MCD Basic Client

http://www.infineon.com/DAS
DAS 3.3 → DAS V4.0

- Robustness and responsiveness improved
- DAS Device Scanner shows Access HW name if no device is responding
- Support for latest devices added, including XMC4000 family
- Supports Windows 7, Vista and XP.
  - Windows 2000 is not supported anymore.
  - Windows XP and Vista will show warnings during the USB driver installation
- Latest USB drivers and libs for FTDI chip are used in UDAS
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
ENERGY EFFICIENCY
MOBILITY
SECURITY

Innovative semiconductor solutions for energy efficiency, mobility and security.