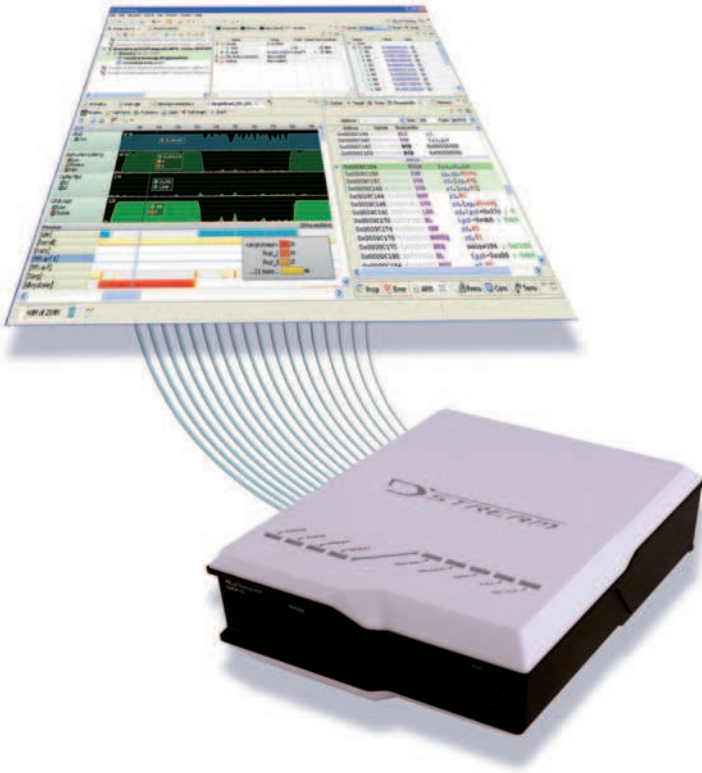


# DS-5

## Development Studio 5



### Overview

The ARM® Development Studio 5 (DS-5™) toolchain is the complete suite of software development tools for ARM processor-based standard devices as well as ASICs and SoCs. DS-5 accelerates your software development by providing an easy-to-use, integrated, and validated toolchain.

### Key Features and Benefits

- Support for all ARM processors
- Powerful C/C++ industry-leading compilation tools
- Multicore aware debugger for all development stages from bare-metal to RTOS to Linux and Android™ kernel user space
- Best-in-class system-wide performance and power analyzer for Linux and Android
- Instant correlation of performance-bottlenecks (e.g. cache misses & interrupts) and software execution
- Fast and accurate simulation enabling software development without the need for hardware
- Flexible C/C++ editor and project manager
- Large 3rd party plug-in ecosystem based on the Eclipse IDE
- Support and maintenance contract for one year.

### DS-5 Debugger

The DS-5 Debugger uses the most advanced ARM technologies to equip developers with a complete debug solution for software development projects, from hardware bring-up to application development and tuning.

The DS-5 Debugger provides:

- A broad database of preconfigured target connections, simplifying debugger connection and control of today's standard devices
- Advanced Session Control and System Views to control multiple simultaneous debug sessions, to one or more targets, from one debugger perspective
- System-wide debug control of complex single core and multicore SoCs
- Linux kernel and user space debug, including context awareness, process, and threads
- Cycle accurate non-intrusive instruction trace.

### DSTREAM

The ARM DSTREAM™ high performance debug and trace unit enables powerful software debug and optimization on any ARM processor-based hardware target.

DSTREAM enables the connection of DS-5 Debugger to ARM processor-based devices via JTAG or Serial-Wire Debug. It delivers high download speeds and fast stepping through code on single and multi-processor devices enabling:

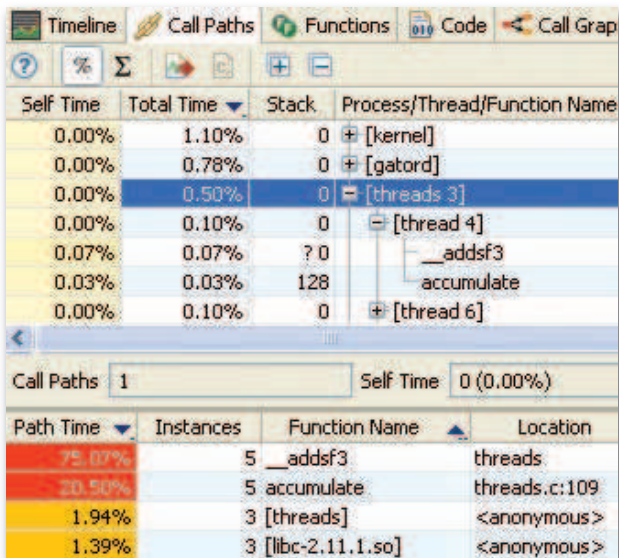
- Code download at speeds of up to 2,500 KBytes per second
- JTAG clocks of up to 60 MHz for fast software upload over the existing debug port
- Large 4GB trace buffer enables long term trace of fast targets
- 16-bit wide trace at 300 MHz DDR (600 Mbit/s per pin)
- USB 2.0 and Ethernet interface allows direct and remote connections from the host PC.



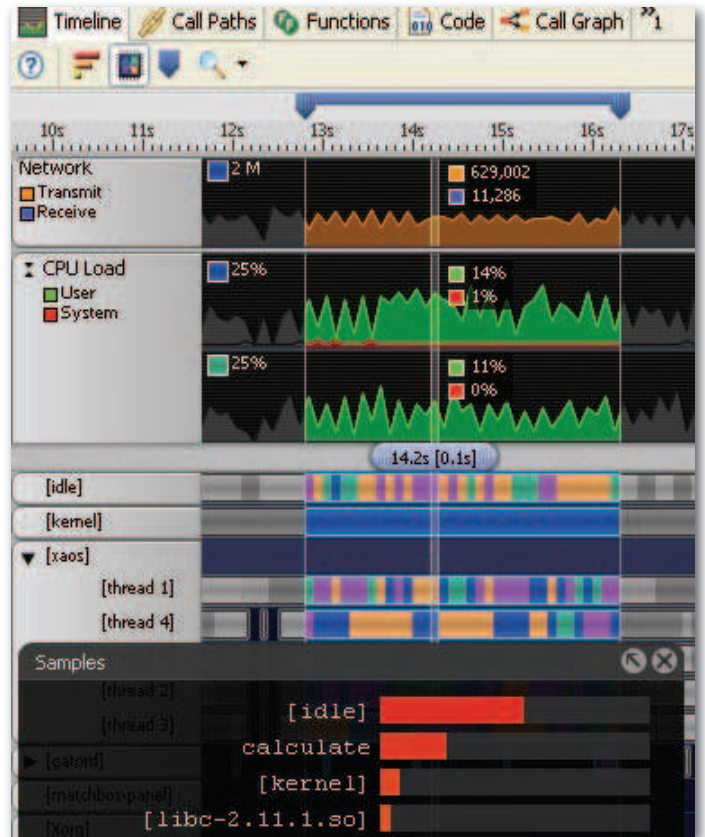
## Streamline

The ARM Streamline™ Performance Analyzer is the Linux and Android performance analysis tool in DS-5. Through a lightweight driver running on the target, Streamline captures the target's performance information from the ARM CPU, GPU and the OS, and displays it in a user friendly graphical interface. Streamline includes:

- Per core visualization of performance metrics and thread activity to allow optimal code parallelization
- System-wide performance counter analysis enabling developers to easily identify performance bottlenecks, multi-threading issues and inefficient resource usage
- Function call paths to show the processor time spent on each call tree
- Analysis of hot spots down to the source and disassembly level
- Configurable capture options enabling selection of the right balance between information detail, and intrusiveness
- Filtering capabilities to restrict the data set used by statistical reports over time and per process, thread or call path.



**Call paths view** shows the processor time spent on each call tree. A flat profiling report is generated for the selected call path, which enables users to focus the analysis on a process or thread.



**Timeline view** shows process and thread information over time, matched to SoC performance counters. This enables visibility of spot thread deadlocks and inefficiencies, as well as hot spots in time.

## ARM C/C++ Compiler

The ARM Compiler in DS-5 Professional Edition is the only commercial compiler co-developed with the ARM processors and specifically designed to optimally support the ARM architecture. It is the industry standard C and C++ compiler for building applications utilizing ARM instruction sets.

- Highly optimized for both code-size and performance
- Broadest support for ARM architectural features such as NEON™ autovectorization, hardware floating point operations, and DSP instructions
- Co-developed with the ARM architecture, providing confidence in accurate translation of source code to ARM instructions
- Supports building of Symbian OS, and ARM Linux applications and libraries, as well as bare-metal applications and all major RTOS.

[www.arm.com/ds5](http://www.arm.com/ds5)

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