J-Link is Fastest in Flash Programming

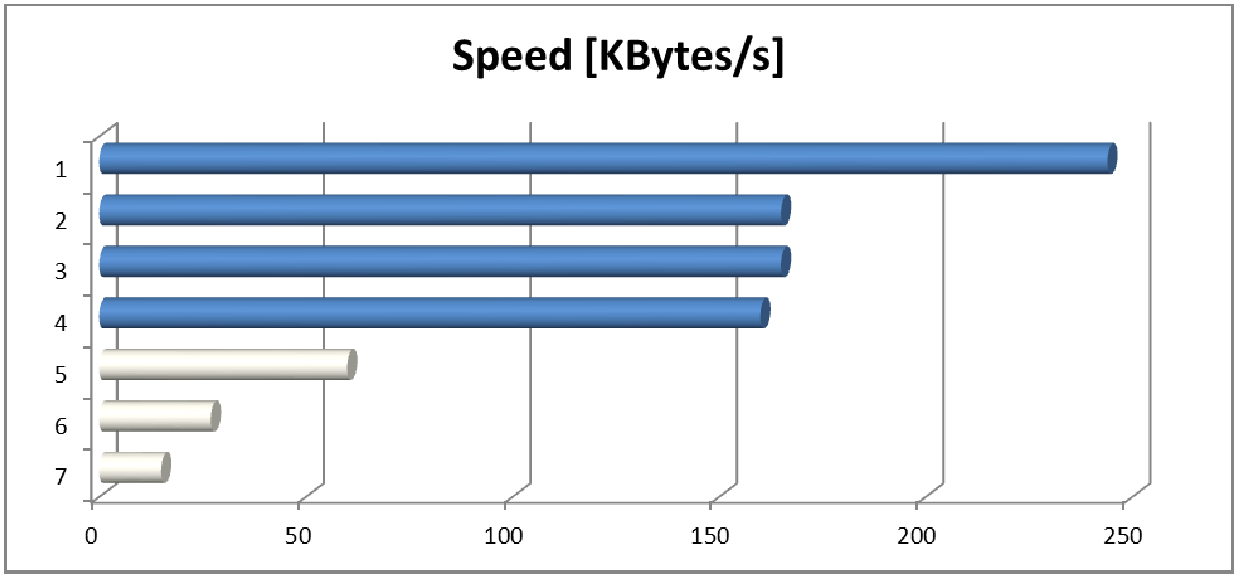
Hilden, Germany – December 21st, 2012 – After a recent upgrade to the J-Link hardware and further improvements to the software, the industry leading J-Link has been subjected to a flash programming speed comparison against various debug probes. The results show, that even the base model of the J-Link outperforms the competition. All tests have been performed on the same target chip, STM32 with blank flash memory.

Test Scenario

The speed tests have been made with different debug probes and software under the same test conditions. The I-jet and ST-Link V2 were tested with IAR Embedded Workbench for ARM. The ULINKpro was tested with KEIL uVision. The J-Link base model of the 2013 hardware (v9) was tested with the IAR Embedded Workbench for ARM, KEIL uVision, and the J-Link Commander version 4.59a (test utility included freely with the J-Link related software package). All tests have been performed by placing a 512 KB program into the flash memory of a blank STM32F417IG microcontroller connected via SWD interface. Tests via JTAG interface gave similar results.

Test Results

#	Probe	Configuration	Time [s]	Speed [KB/s]
1	J-Link	J-Link Commander (v4.59a)	2.1	244
2	J-Link	IAR EWARM (v6.40.2)	3.1	165
3	J-Link	KEIL uVision (v4.60)	3.1	165
4	J-Link	emIDE (v120814)	3.2	160
5	ULINKpro	KEIL uVision (v4.60)	8.6	60
6	I-jet	IAR EWARM (v6.40.2)	18.8	27
7	ST-LINK	IAR EWARM (v6.40.2)	35.1	15



"Flash Download performance has a significant impact on debug turn around times. This Flash-Download performance comparison shows once again that J-Link plays in a league of its own, as even our base model clearly outperforms every other emulator we have tested with", says Rolf Segger, Founder, and CTO of SEGGER.

More details on the performance comparison can be found at the address:

http://www.segger.com/jlink-flash-download.html

J-Link Model Overview

J-Link Model		Unlimited Flash Breakpoints	J-Flash	RDI	Price (Euro)
J-Link PRO(*)	Software Enhanced Ultra-Fast JTAG Emulator with Ethernet Interface	✓	✓	✓	798 €
J-Link ULTRA+(*)	Software Enhanced Ultra-Fast JTAG Emulator	✓	✓	✓	598 €
J-Link ULTRA(*)	Ultra Fast JTAG Emulator	(✓)	(✓)	(✓)	498 €
J-Link PLUS(*)	Software Enhanced JTAG Emulator	✓	✓	✓	498 €
J-Link(*)	Basic JTAG Emulator	(✓)	(✓)	(✓)	248 €
J-Link EDU	Non-commercial, educational use	✓	×	×	42 €
J-Link Lite	Lite Version	×	×	×	Bundled with Eval-Boards
J-Link OB	On-Board Solution	×	×	×	Soldered on Eval-Boards

(*) NEW hardware platform – × not available – (✓) optional – ✓ included

About J-Link

The SEGGER J-Link is the industry-standard for ARM debug emulators, supported by all major tool chains for ARM cores. The SEGGER J-Link is tool chain independent and will work with IDEs from: Atmel, Atollic, Freescale, IAR, KEIL, Mentor Graphics, Rowley, Renesas, Tasking, Phyton and others. In addition to those listed above; any RDI compliant debugger can be used with the optional RDI module, and any GDB compliant debugger with the free GDB-Server. Therefore; as projects change, a different compiler/debugger may have to be used. With the J-Link family, investments (monetary and learning curve) in development/ production tools are preserved. Setup of a J-Link is done in mere minutes.

J-Link supports multiple CPU families, such as ARM 7, 9, 11, Cortex-M0, M1, M3, M4, R4, A5, A8, A9, Renesas RX in a single model; there is typically no need to buy a new J-Link or new license when switching to a different CPU family or tool-chain. SEGGER is also continuously adding support for additional cores, which in most cases, only requires a software/firmware update. Unlimited free updates are included with even the baseline model of the J-Link. SEGGER is excited to continue advanced development of its cutting edge embedded tool solutions to be utilized with pretty much any development environment you choose. All J-Links are fully compatible to each other, so an upgrade from a lower-end model to a higher end model is a matter of a simple plug-and-play.

Full product specifications are available at: http://www.segger.com/jlink.html

The J-Link-Software is available at: http://www.segger.com/download_jlink.html

U.S. On-Line Web Shop: http://shop-us.segger.com

Online Shop (Europe, Asia, Africa): http://shop.segger.com

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About SEGGER

SEGGER Microcontroller develops and distributes hardware and software development tools as well as software components for embedded systems. An "embedded system" is one in which a microprocessor and associated components are incorporated into a device helping to accomplish difficult and complex tasks in products such as cell phones, medical

instruments, instrument clusters, measurement instruments, satellite radios, digital cameras etc.

SEGGER was founded in 1997, is privately held, and is growing steadily. Based in Hilden with distributors in all continents and a local office in Massachusetts, SEGGER offers its full product range worldwide.

SEGGER software products include: embOS (RTOS), emWin (GUI), emFile (File System), emUSB (USB host and device stack) and embOS/IP (TCP/IP stack). With the experience in programming efficiently on embedded systems, SEGGER created highly integrated, cost-effective programming and development tools, such as the Flasher (stand-alone flash programmer) and the industry leading J-Link/J-Trace emulator.

SEGGER's intention is to cut software development time for embedded applications by offering affordable, high quality, flexible and easy-to-use tools and software components allowing developers to focus on their applications. Find out more at http://www.segger.com.

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