

ARM launches streamline performance analyzer targeting Linux developers

November 10 2010

ARM has introduced Streamline Performance Analyzer, a powerful tool for optimizing Linux applications running on ARM powered devices. Streamline automates the collection of performance data and the generation of intuitive graphical reports, which enable software developers to easily locate application hot-spots, multi-threading issues, and inefficient usage of system resources.

Streamline only requires a TCP/IP connection (e.g. Ethernet, Wi-Fi, USB) to the ARM powered device to collect samples of the processor's program and performance counters. This low-cost link enables long-term analysis of the complete Linux software stack regardless of the target's memory resources. The performance data collected is processed in a matter of seconds to provide a system-level view of the software execution, and can be re-processed to focus the analysis on different areas of the software without having to run it multiple times.

Using an innovative graphical user interface, Streamline instinctively guides developers through the optimization of Linux drivers, libraries and applications. Profiling reports can be navigated from process to thread, function, source code and assembly code level, facilitating the identification of critical performance areas. Stack usage is reported for each call path in the code, enabling developers to target their efforts to the right functions in order to minimize dynamic memory requirements for each thread.

Streamline also includes a unique Timeline view that provides time

correlation between active processes, threads, functions and performance counter-related information such as cache misses and processor load. The Timeline view makes it simple for developers to identify inefficiencies in the implementation of multi-threaded applications, as well as the areas of code responsible for performance bottlenecks, sub-optimal cache usage, power-hungry idle loops, and many other system-wide performance issues.

Being compatible with ARM Linux systems based on kernels 2.6.32 or later, Streamline's exclusive kernel module collects an extensive set of performance-related data while also keeping the tool's average overhead below 5%. This open source driver is being integrated into the most popular ARM Linux BSPs, including those based on the Linaro™ Kernel, to ensure users can start optimizing the software from the moment that their system is brought up.

“ARM is committed to providing [software developers](#) with the best tools to increase their design efficiency and reduce time-to-market.” said John Cornish, executive vice president and general manager, System Design Division, ARM. “Streamline enables developers to easily gauge how code updates affect system performance. Thanks to Streamline, [performance](#) analysis becomes an integral part of software creation instead of an afterthought”.

“Freescale welcomes the release of Streamline, and plans to integrate the Streamline driver in its Linux BSPs to deliver the best out-of-the-box support for i.MX platforms,” said Chip O'Donnell, i.MX Ecosystem Development Manager, Freescale. “Freescale has also collaborated with ARM to enable full DS-5 Debugger [Linux](#) support for its new i.MX28 device, which was demonstrated at the Sept 2010 DFAE event.”

More information: www.arm.com/products/tools/sof.../ds-5/streamline.php

Source: ARM

Citation: ARM launches streamline performance analyzer targeting Linux developers (2010, November 10) retrieved 11 July 2024 from <https://phys.org/news/2010-11-arm-linux.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.