



Intel® Software Development Products for Intel Platforms and Technologies

Intel® VTune™ Performance Analyzer for Linux*

Overview

Intel® VTune™ analyzers help locate and remove software performance bottlenecks by collecting, analyzing, and displaying performance data from the system down to the source level.

Intel VTune Performance Analyzer for Linux* does this through advanced profiling technologies. Key highlights include a fully native Linux command line interface with support for Intel Itanium® and IA-32 processor-based applications, as well as Java* applications executed on IA-32 processor-based Linux systems.

What's New in the Intel VTune Performance Analyzer 2.0 for Linux

The Intel VTune Analyzer for Linux provides event-based sampling and call graph output on the flow of control of Linux applications on Itanium as well as IA-32 processors. Source view is now available, allowing developers to drill down to the source code level.

Features and Benefits

- **Platform flexibility** — The latest Intel processors are supported including Intel® Itanium® 2, Pentium® 4 processors; Pentium M processor, a component of Intel® Centrino™ mobile technology[§]; and Intel® Xeon™ processors
- **This fully Linux*-based solution** eliminates the need for an Intel® VTune™ analyzer graphical user interface on a second, networked Windows* system, as required with Intel VTune Performance Analyzer 7.0 and its Linux remote agents
- **Event-based, system-wide sampling** provides developers with the most accurate representation of their software's actual performance, with negligible overhead
- **Call graph profiling** offers a graphical high-level, algorithmic view of program execution based on instrumentation of binary executable files that produce function calling sequence data
- **Command line capability** allows developers the flexibility to collect sampling and call graph data through a choice of scripting languages including PERL*

The new call graph viewer provides graphical capability for viewing call graph results. The viewer is a plug-in that installs on and works with VTune Performance Analyzer 2.0 for Linux.

Support for several new Linux distributions including their default versions of kernel, glibc, libstdc++, and glib, has been added to Intel VTune Performance Analyzer 2.0 for Linux. The new Itanium processor distribution supports Red Hat Linux* versions WS 2.1 and ES 2.1. Also, a newly supported distribution for IA-32 processor-based Linux applications has been added: SuSE Linux* 9.0 (see the product release notes for the most up-to-date list of supported operating systems).

VTune Analyzer Driver Kit has been updated. This kit allows you to compile the VTune analyzer driver for your custom kernel environment for the supported distributions. The kit includes open source driver sources, install scripts, documentation, and binaries for supported kernels. For more information see www.intel.com/software/products/opensource/vdk

Java* application profiling on supported distributions for IA-32 processor-based Linux applications has been added. Sampling and call graph profiling options can now be enabled for Java applications. Java Virtual Machines* (JVMs) from BEA, IBM, and Sun are supported.

The new *Getting Started* tutorial teaches the basic concepts and functionality of the VTune Performance Analyzer for Linux. It can export sampling data files for viewing to another VTune Analyzer system as well as to a VTune Analyzer 7.1 system.

Sampling Results on Linux* Screen

```

VTune Performance Analyzer for Linux*
Copyright (C) 2000-2002 Intel Corporation. All rights reserved.
Event Summary
Clockticks
694 = Samples collected due to this event
2392790 = Sample after value used during collection
1660596260 = Total events (samples*SAV)
Process View (all values in decimal)

Process
Event      PID      Events%  Samples  Events      Process Path
-----
Pid 0x0    0000
Clockticks 14.70%   102      244064580   vmlinux
gkrellm    18477
Clockticks 10.95%   76       181852040   /usr/local/bin/gkrellm
kdeinit    18394
[ ... ]
Clockticks 0.14%    1        2392790     /opt/sag/exx/v611/bin/paulad
kwrapper   18551
Clockticks 0.14%    1        2392790     /opt/sag/exx/v611/bin/rpcss
ntd        11495
Clockticks 0.14%    1        2392790     /opt/sag/exx/v611/bin/ntd

```

A high number of events in a particular process denotes high usage, which in turn indicates potential performance bottlenecks.

Sampling results help identify potential performance bottlenecks and hotspots.

PERFORMANCE

Expose Bottlenecks and Hotspots

VTune Performance Analyzer for Linux offers you a view into the Linux application, exposing bottlenecks and hotspots in the code, allowing you to easily pinpoint areas in the code that can be improved. Your Linux application can gain outstanding performance, providing a competitive advantage.

COMPATIBILITY

Supports Intel® Architecture-Compatible Processors

VTune Performance Analyzer for Linux supports the latest Intel processors including IA-32-based and Itanium-based systems as well as multiple Linux distributions and kernels. The tool includes the Intel VTune Performance Analyzer Driver Kit that allows you to compile the VTune analyzer driver for your custom kernel environment for the supported distributions.

[§] Wireless connectivity requires additional software, services or external hardware that may need to be purchased separately. Availability of public wireless access points is limited. System performance, battery life and functionality will vary depending on your specific hardware and software.

Intel provides both the tools and support to enhance the performance, functionality and efficiency of software applications.

Compatible with leading Windows* and Linux* development environments, Intel® Software Development Products are the fastest and easiest way to take advantage of the latest features of Intel processors. Intel Software Development Products are designed for use in the full development cycle, and include Intel® Performance Libraries, Intel Compilers (C++, Fortran for Windows and Linux), Intel® VTune™ analyzers, Intel® Threading Tools and Intel® Cluster Tools.

The Intel® Premier Customer Support Web site provides expert technical support for all Intel software products, product updates and related downloads. **For additional product information visit: www.intel.com/software/products**

SUPPORT

Intel® Premier Support

Every purchase of an Intel® Software Development Product includes a year of support services, which provides access to Intel® Premier Support and all product updates during that time. Intel Premier Support gives you online access to technical notes, application notes, and documentation. Install the product, and then register to get support and product update information.

REQUIREMENTS

Hardware and Software

Refer to Intel Software Development Products Web site for details on system requirements for VTune Performance Analyzer at www.intel.com/software/products/vtune



Intel, the Intel logo, Itanium, Pentium, Intel Centrino, Intel Xeon, Intel XScale, VTune, Celeron, Intel NetBurst, and MMX are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

*Other brands and names may be claimed as the property of others.

Copyright © 2004, Intel Corporation. All rights reserved. 0104/JXP/ITF/PDF

253138-005