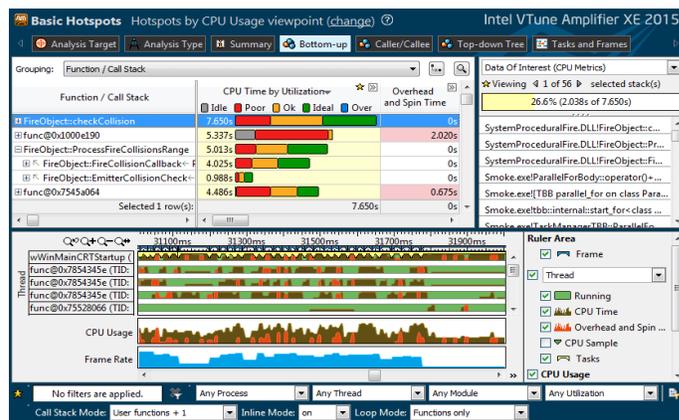


Tune applications for scalable multicore performance.

- Premier performance profiler for C, C++, C#, Fortran, Assembly, and Java*
- Low-overhead CPU, GPU, and thread profiling
- Available for Windows* and Linux*

What's New

- Analyze OpenMP* 4.0 threaded performance and scalability
- Analyze Windows or Linux data on your Mac*
- Tune OpenCL™ and GPU offload on Windows with accurate CPU and GPU data



Tuning Without Data Is Just Guessing

Whether you are tuning for the first time or doing advanced performance optimization, Intel® VTune™ Amplifier XE provides the data needed to meet a wide variety of tuning needs. Collect a rich set of performance data for hotspots, threading, OpenCL, locks and waits, DirectX*, bandwidth, and more. But good data is not enough. You need tools to mine the data and make it easy to interpret. Powerful analysis lets you sort, filter, and visualize results on the timeline and on your source. Identify serial time and load imbalance. Select slow Open MP instances and discover why they are slow.

Get the Data You Need

- Hotspot (statistical call tree), call counts (statistical)
- Thread profiling with lock and waits analysis
- Cache miss, bandwidth analysis
- OpenCL kernel tracing & GPU offload on Windows*

Easy to Use

- No special compiles: C, C++, C#, Fortran, Java*, ASM
- Visual Studio* or Eclipse* IDE integration or use standalone on Windows or Linux
- Graphical interface and command line
- Local and remote data collection
- New: analyze Windows and Linux data from OS X*

Find Answers Fast

- View results on the source/assembly
- OpenMP scalability analysis, graphical frame analysis
- Filter out extraneous data
- Organize data with viewpoints

Easy to Use

- Visualize thread and task activity on the timeline

“Intel® VTune™ Amplifier XE analyzes complex code and helps us rapidly identify bottlenecks. By using it and other Intel® Software Development Tools, we were able to improve PIPESIM performance up to 10 times compared with the previous software version.”

*Rodney Lessard
Senior Scientist
Schlumberger*

“We achieved a significant improvement (almost 2x) even on one core by optimizing the code based on the information provided by Intel® VTune™ Amplifier XE.”

*Alexey Andrianov,
R&D Director Deputy
Mechanical Analysis Division
Mentor Graphics Corporation*

Features

Quickly locate code taking a lot of CPU time.

Hotspots analysis gives you a sorted list of the functions using a lot of CPU time. This is where tuning will give you the biggest benefit. Click [+] for the call stacks. Double-click to see the source.

See the results on your source.

A double-click from the function list takes you to the hottest spot in the function.

Tune threading with locks and waits analysis.

Quickly find a common cause of slow performance in parallel programs waiting too long on a lock, while the cores are underutilized during the wait. *New OpenMP* 4.0 support.*

Visualize thread behavior.

See when threads are running and waiting, and when transitions occur. Balance workloads. Find lock contention.

Quickly find opportunities with highlight feature.

The cell is highlighted in pink when there is a potential tuning opportunity. Hover to get suggestions. This is especially helpful for advanced optimization of caching, bandwidth, etc.

Details

The screenshot displays several key performance analysis views from Intel VTune:

- Function / Call Stack:** A table showing CPU time by utilization for various functions. The top entry is 'FireObject::checkCollision' with 7.650s. A color-coded bar indicates utilization levels: Idle (grey), Poor (red), Ok (orange), Ideal (green), and Over (blue).
- Source:** A view showing the source code for a function. Line 85, 'mem_array [j*mem_array_j_max+i] = *fill_', is highlighted in pink, indicating a potential tuning opportunity. The CPU time for this line is 7.207s.
- Sync Object / Function / Call Stack:** A table showing wait times by thread concurrency. The top entry is 'Manual Reset Event' with a wait time of 71.808s and a spin count of 1,072.
- Threads:** A visualization showing thread execution over time. It includes a 'Threads' view with bars for 'wWinMainCR...', 'Thread (0x1364)', and 'Thread (0x136c)', and a 'Thread Concurr...' view showing concurrency levels. A legend on the right indicates 'Running' (green), 'Waits' (light green), 'User Tasks' (yellow), and 'Transitions' (orange).
- PMU Event Count:** A table showing performance metrics for various functions. The top entry is 'initialize_2D_buffer' with a CPU clock of 22,566,000,000 and a CPI of 0.441. A tooltip for the 'grid_bounds_intersec' entry suggests that the CPI may be too high, indicating instruction starvation or branch misprediction.

Specs at a Glance

Processors	Intel® and compatible processors/coprocessors.
Operating Systems	Windows* and Linux* (collect and analyze) and OS X (analyze)
Languages	C, C++, C#, Fortran, Java*, ASM and more. Works with compilers from Microsoft, GCC, Intel and others that follow standards.
Development Environment	Integrated with Microsoft Visual Studio* or Eclipse* or runs stand alone.

Para más información acerca de este y otros productos, ponte en contacto con nosotros en:

info@danysoft.com o visita www.danysoft.com

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