

Tuner for PlayStation®2

Take a short cut to master the latent power of the PlayStation 2 Emotion Engine®!

SN Systems' Tuner lets you capture and visualize program behavior so that you can eliminate conflicts and bottlenecks in your code. High performance games can now be achieved with less guesswork.

Tuner gives you these real advantages:

- Improve code by removing bottlenecks and cache misses
- Developed specifically for the PlayStation 2 architecture
- Runs completely in software - no special hardware required

Real-time Data Capture

The Tuner captures data in real-time while you play the game. The captured data can then be analyzed frame by frame and saved for later comparison with your optimized code. Fill/Circular buffer modes are supported.

User Events

Further analysis is possible by adding user events to your code. Critical parts can be marked so that you can visualize the usage in each frame.

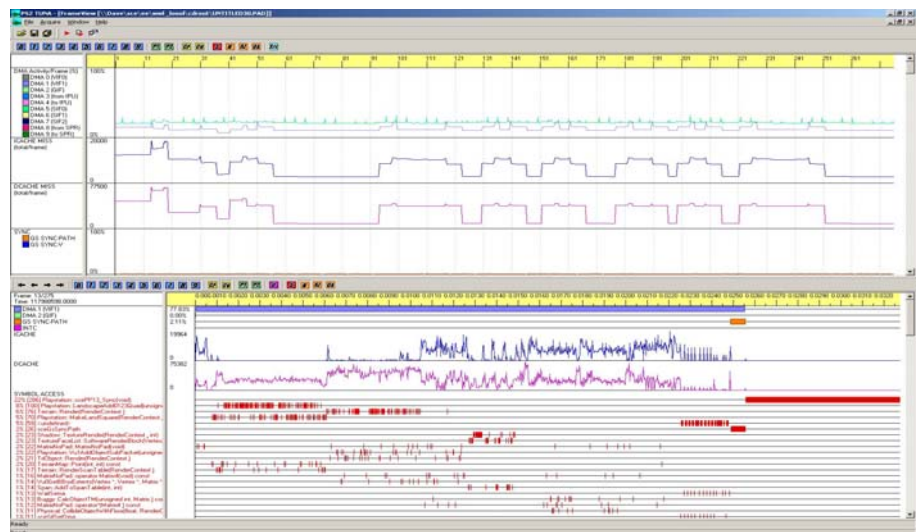
Advanced User Interface

Data can be viewed in the game view where all captured frames are visible and changes in frame rate are clearly displayed. Individual frames can then be selected to view the relationship between the captured events.

Detailed Metric Capture

The Tuner captures: DMA utilization (0-9); performance counter metrics (e.g. cache misses); interrupts generated; vertical blank and path synchronization; profile function usage, at a rate configurable between 2 and 80KHz (in game or video frames).

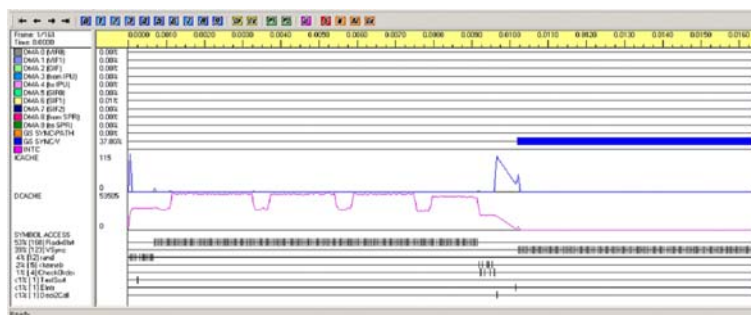
- ▶ *Sample trace of a game running at 30 frames / sec. Top part shows game view, lower part shows frame view.*



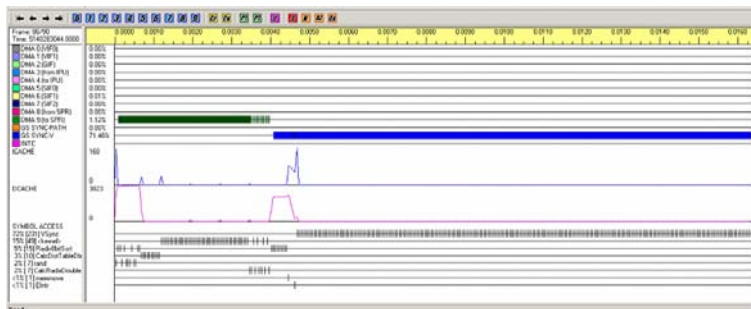
Benefits

- No modification of your release code required.
- Captures data to a host PC in real-time while you play the game.
- Instrumented Functions let you get accurate timing information for selected functions, as well as all child functions, without impacting on the normal running of your game.
- Analyze data frame by frame and save it for later comparison with your optimized code.
- Captured data includes: absolute cycle-count timing; instruction count; pipeline utilization; DMA utilization (0-9); I-cache and D-cache misses; address bus busy; total load/store accesses; low and high order branch count; write back buffer full; interrupts generated; vertical blank and path synchronization; profile function usage.
- Fill/Circular buffer support allows capture of frames that create greater than 64k of captured data (you can specify the buffer size via the Load ELF dialog)
- Multiple user markers enable you to zoom in on sections of your code so you can visualize the interaction between subsystems and performance metric data.
- Configurable data collection rates so that you can sample less frequently for low impact, or more frequently to obtain more data.
- Display different game frames or data sets side-by-side for direct comparison.
- ELF's built with debug info - both ECOFF/STABS and DWARF formats are supported.

- ▶ *Sort algorithm in frame-view, before memory optimization.*



- ▶ *Sort algorithm in frame-view, after memory optimization.*



System requirements

- Windows XP Professional
- Sony Computer Entertainment PlayStation 2 Development Tool DTL-T10000.
- Network interface adapter

For more information visit: <http://www.snsys.com/playstation2/tuner.asp>
To request trial versions of software e-mail: contact@snsys.com

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