



Snapdragon Performance Visualizer

Release Notes

Version 9.0

August 29, 2014

Submit technical questions at:
<https://support.cdmatech.com/>

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Revision history

Revision	Date	Description
A	August 2014	Release Note Generation for Snapdragon Performance Visualizer 9.0

Note: There is no Rev. I, O, Q, S, X, or Z per Mil. standards.

1 Introduction

1.1 Purpose

The Qualcomm Raleigh Tools Team is pleased to announce release 9.0 of the Snapdragon Performance Visualizer (SPV) tool suite.

The Software Installer is available through Agile as: Qualcomm CM DCN:HK11-N8928-1 Version 9

The User Guide is available through Agile as: Qualcomm CM DCN:80-N4717-1 Rev. J

1.2 Technical Assistance

Support for the tool is available by contacting your TAM/CE, online at CDMATech or email cdma-tech@qualcomm.com

1.3 Feature Requests

We are continually enhancing the tool suite from your requests. Please report defects, enhancement and feature requests through your TAM/CE online at CDMATech or email cdma-tech@qualcomm.com

2 New features

2.1 Features and Enhancements for 9.0

- Disconnect and stay running

Connecting the USB or other communication media can cause different power and performance profiles. To minimize the impact of connected communications devices, this feature provides the ability to start data collection, disconnect the communication media while test is running, reconnect the media, stop the test and analyze the data.

- Eclipse IDE interworking

SPV has added the feature to start Live View from Eclipse, access the target file system (Android and SPV chroot), ssh to target from within Eclipse and link profiling samples back to Eclipse projects or source code correlation.

- 8994 support

The tool supports 8994 for aarch64 and aarch32 based targets. Android Kit Kat and “L” releases are supported.

- Multi-monitor support

Using a tabbed web browser, such as Chrome or Firefox, sessions from multiple tools can be accessed simultaneously. For example, Live View Config and Live View in separate open browser windows or tabs.

- Android installer

An Android installer is now available for internal users only. The application provides a mechanism to install, start and stop SPV without Cygwin.

- Autostart feature in install script

The standard installation scripts for SPV now support an option to modify the vendor startup scripts in Android to automatically start SPV on device power up.

- Configmon core selection

Ability to select which core(s) to run configmon on has been added. A core mask can now be provided on the configmon command line.

- Move to openssh with sftp

The SPV chroot now uses openssh instead of dropbear adding support as a sftp server. Eclipse will automatically detect sftp when using the SPV Eclipse plug in, providing an easy mechanism to access files on the device.

- Usability

- The Time chart legend in Profile View is now a pop out so it can be seen with the other chart data and is more readily available.

- The tool now provides links to help videos, FAQ and Forum on QDevNet

- Thermal mitigation actions

The tool now can detect and show where and which Thermal mitigation actions occurred, helping engineers understand the impact on frequency, power and performance.

- QUSP enhancements

Qualcomm User Space Profiling added 64 bit support, more efficient and accurate overhead removal algorithms, reduced dependencies on C++ libraries and increased the inline function collection accuracy.

3 Known issues and restrictions

- DSP metrics are only supported on devices with Hexagon V5 LPASS
- QPST/QXDM USB connection is not available when DSP Metrics are in use
- Artifacts may appear in Profile View in Firefox on Linux when zooming into Live View traces. This issue does not affect Chrome on Linux.
- Temperature values read from the system are always shown. No check is performed to determine if the kernel software has enabled the monitor.
- Ribbons in ProfileView that do not change state during the recording period are not shown
 - For example, if the GPU power stat never changes, there is no way to detect and show the current state
- The GPU counters may show incorrect results if the GPU is in a sleep state. To mitigate this condition: `echo 1000000 > /sys/class/kgsl/kgsl-3d0/idle_timer`
- 8994v1 Performance Monitor interrupts are not wired properly removing performance monitor interrupts on cores 4-7. Removing the EDAC kernel feature restores performance monitor interrupts.
- The ggpm GPU performance collection application collects for two minutes before the kernel pipe hangs. A kernel solution is TBD.
- Profiling of aarch64 bit applications inside an aarch32 chroot running inside an aarch64 file system on an aarch64 kernel can result in missed samples. The recommended solution is to execute the 64 bit application in the aarch64 environment directly.
- The per-PID performance monitor collection in the kernel requires new patches to increase accuracy.
- Without proper kernel patches, MPDecision can misbehave when disabled for performance monitoring and consume 100% of the CPU.

4 Features considered for future releases

- Support for Android Run Time (ART)

- 1 ■ Conditional formatting of ProfileView data
- 2 ■ User configurable calculations in ProfileView
- 3 ■ Overlay ribbons in ProfileView
- 4 ■ 64bit Snapdragon Performance Visualizer binaries for increased performance
- 5 ■ Dynamic selection of system events to visualize
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