

# 高通Android性能优化 技术期刊

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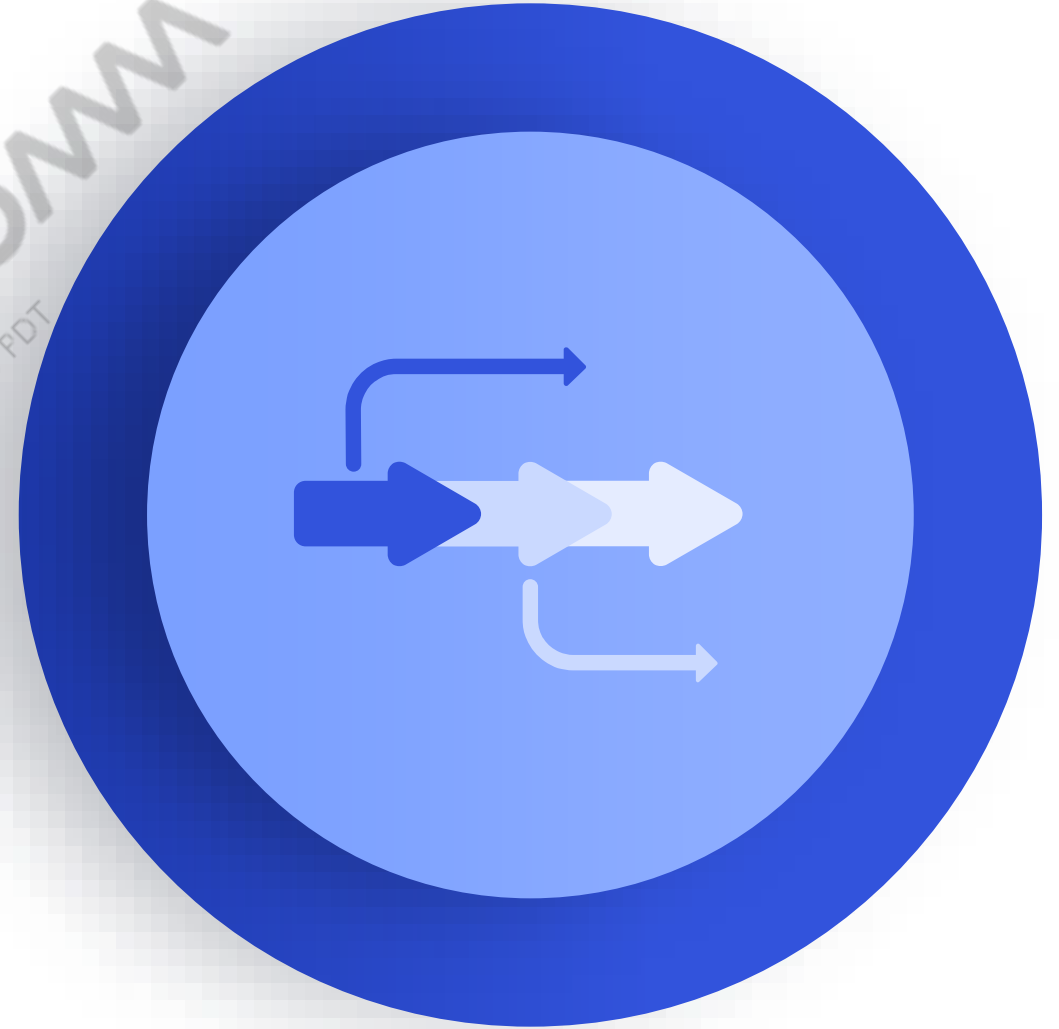
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- ① System Performance
- ② User Experience
- ③ Performance Debugging Tools
- ④ Platform Tuning Guide and Dashboard

# System Performance



# CPU

	DCN#	Document name	Targets	Kernel
Governor	80-NR256-3	APPLICATION NOTE: CPU GOVERNOR PARAMETERS	All expect SDM845 and SDM670	Before Kernel 4.9
	80-NT384-2	PERFLOCK IN ANDROID O	All	All
	80-NT384-1	PERFLOCK API OVERVIEW	All	All
Boost	KBA-170823030536	explain for qualcomm predefined perflock	All	All
	KBA-170823005051	how to debug perflock issue	All	All
	KBA-170523012205	how to configure perflock based on resolution	All	All
	KBA-170815005729	How to enable touch boost and verify it	All	All
CPUSET	KBA-170409185902	How to debug CPUSET on QCOM platform	All	All
	KBA-170606023629	Detailed CPUSET configuration explain	All	All
Core Control	80-P0106-2	CORE ISOLATION	SDM845/SDM835/SDM670/SDM660	Kernel 4.9/Kernel 4.4
	80-P0106-1	CORE Control FEATURE	All	All

# Scheduler

	DCN#	Document name	Targets	Kernel
EAS	80-P9301-86	ENERGY AWARE SCHEDULING AND SCHEDUTIL OVERVIEW	SDM845/SDM710/SDM670	Kernel 4.9
QHMP	80-P2484-47	MSM8998 LINUX SCHEDULER OVERVIEW	SDM835/SDM660	Kernel 4.4
	80-PA300-7	SDM630 LINUX ANDROID SCHEDULER OVERVIEW	SDM630	Kernel 4.4
Zone	80-NV396-18	POWER MANAGEMENT AND HETEROGENEOUS CLUSTER ARCHITECTURE OVERVIEW FOR MSM8996.LA	MSM8996	Kernel 3.18
	80-P3255-20	MSM8953 SCHEDULER OVERVIEW	MSM8953/MSM8940/MSM8937/MSM8917	Kernel 3.18
HMP	80-NM328-13	Power Management and Heterogeneous Cluster Architecture Overview	MSM8994/MSM8992/MSM8976/MSM8939	Kernel 3.10
Tuning	KBA-170329001516	How to use sched_boost	All	Kernel 4.4
	KBA-170606232259	New tunable on SDM660 MSM8998	SDM835/SDM660	Kernel 4.4
	KBA-170920193834	Big-Little CPUSS Chipset little core governor and scheduler parameters tuning	MSM8953/MSM8940/MSM8937	Kernel 3.18

# Memory

	DCN#	Document name	Targets	Kernel
Memory Management	80-NJ395-1	PRESENTATION: LINUX MEMORY MANAGEMENT OVERVIEW	All	All
	80-NR256-6	APPLICATION NOTE: DEBUGGING COMMON MEMORY PERFORMANCE ISSUES	All	All
Low Memory Killer	KBA-161107014625	What is Adaptive LMK	All	All
	KBA-170501211224	extreme low memory issue due to LMK blocked by improper mutex usage	SDM835/SDM660/SDM630	Kernel 4.4
Memory Optimization	80-NV303-1	Memory Optimization Guidelines	All	All
	80-Y8950-78	REDUCING MEMORY FOR LOW COST DESIGNS APPLICATION NOTE	All	All
	KBA-170404214811	How to analyze and debug kernel static memory size.	All	All
	KBA-170326205035	How to configure retained surface on Android N	All	All
	KBA-161226222454	How to configure SLUB related kernel config	All	All
	KBA-161020010256	MALLOC_IMPL configuration	All	All
	KBA-170915001432	Low memory issue debug and related parameter tuning	All	All

# Memory

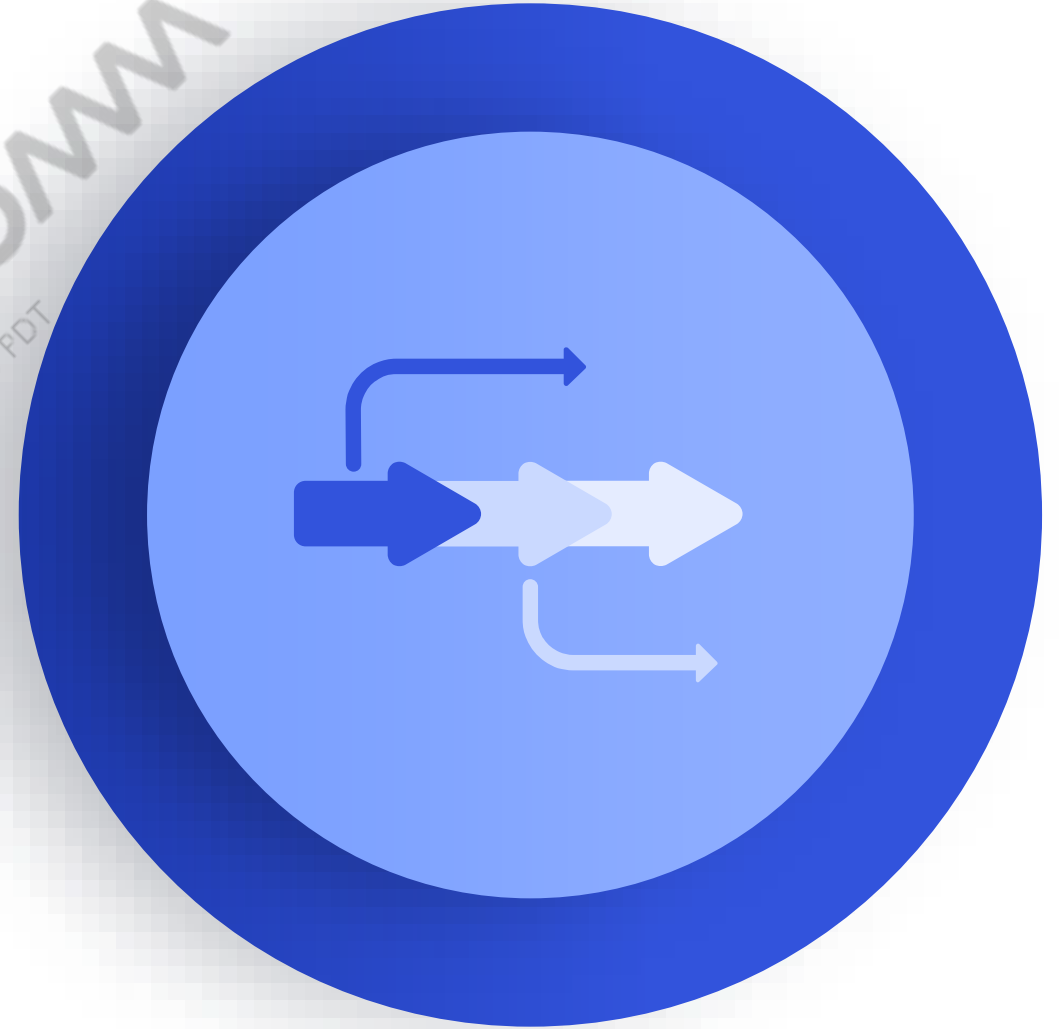
	DCN#	Document name	Targets	Kernel
Memory Optimization	KBA-170910232617	QCOM related background process tailoring	All	All
	KBA-170802002101	QCOM PROPRIETARY Applications Introduction	All	All
	KBA-170920193647	Guide for reserved memory check	All	All
	KBA-180128223039	Memset latency on Android O	All	All
	KBA-180129014953	How to optimize memcpy() in Camera app cost process	All	All
	KBA-170911195656	Explain for GL/EGL mTrack when dumpsys meminfo of Process	All	All
ION	80-N9225-1	APPLICATION NOTE: INTRODUCTION TO ION AND APIS	All	All
Memory Map	KBA-170114011739	Android memory map generation and debugging	All	All
Memory Leak	KBA-170114011858	how to customize splash logo without mem leak	All	All
	80-NJ221-1	ANDROID MEMORY LEAK ANALYSIS GUIDE	All	All



# I/O Performance

	DCN#	Document name	Targets	Kernel
Debugging	KBA-160726183346	How to debug IO performance issue	All	All
Data throughput	80-NV852-1	DATA THROUGHPUT TROUBLESHOOTING	All	All
	80-N2340-23	PRESENTATION: DEBUGGING WLAN THROUGHPUT ISSUES	All	All
	80-NH569-1	PRESENTATION: DATA THROUGHPUT ISSUE CHECKPOINTS	All	All
File Copy	KBA-170606202440	MTP performance optimization	All	All

# User Experience



# Launch Latency

	DCN#	Document name	Targets	Android
App Launching	80-P3301-1	ANALYZING AND OPTIMIZING APPLICATION LAUNCH LATENCY	All	All
	80-P4007-1	IO PREFETCH FEATURE OVERVIEW	SDM835/SDM845	Android N and above
	KBA-170521194510	Android N app launch latency regression	All	Android N
	KBA-171026223658	Android O IO-Prefetch feature related CR	SDM845/SDM835	Android N and above

# FPS

	DCN#	Document name	Targets	Android
Scrolling	KBA-170518235211	Condition::waitRelative() to timeout early or delayed issue	All	All
	KBA-161207172441	How to calculate FPS	All	All
	KBA-170608023831	one example of wrong property set usage which impact UX performance		
Touch Latency	KBA-170527011046	Touch response improvement on android-N	All	All
Animation	KBA-170527022128	Animation FPS improvement on android-N	All	All

# Boot Up and Shut Down

	DCN#	Document name	Targets	Android
Boot Up	KBA-160720223639	Bootanimation FPS optimization	All	All
	KBA-170815025505	Solution of bootanimation begin too late	All	All
	KBA-161207171534	Multi task package scan	All	All
	80-P7202-2	BOOT FLOW AND DEBUG OVERVIEW	All	All
	KBA-161122000928	1st boot become longer after OTA	All	All
	KBA-160919232945	How to debug boot time performance issue	All	All
	KBA-161112022251	method to capture device boot up ftrace logs	All	All
	KBA-161027185718	bootchart usage	All	All
	KBA-170728080451	how to capture bootchart logs in android device	All	All
	KBA-171221001026	LK(Little Kernel) Breakdown	All	All
Shut Down	KBA-170715205908	how to debug shutdown time	All	All

# Camera Performance

	DCN#	Document name	Targets	Android
Camera	KBA-180828022719	Camera performance profiling precondition	SDM845/SDM710/SDM670	Android O and above
	KBA-180828023112	Camera performance patch list	SDM845/SDM710/SDM670	Android O and above
	KBA-180828023357	Camera launching time tuning guide	SDM845/SDM710/SDM670	Android O and above
	KBA-180828023529	Camera preview FPS tuning guide	SDM845/SDM710/SDM670	Android O and above
	KBA-180828023640	Camera video recording FPS tuning guide	SDM845/SDM710/SDM670	Android O and above

# Common Issues

	DCN#	Document name	Targets	Android
Image processing	80-PD503-1	App Optimization Guide Based on Tile Decoding for Android N&O	All	Android N and above
	KBA-160724222150	How to disable QCOM skia and ART optimization patches	All	Android N and O
ART	KBA-161129001518	How to enable Dex optimize for 3rd APPs in Android N OS	All	Android N and above
	80-P1017-1	CONFIGURING ART FOR PRE-OPTIMIZATION	All	Android N and above
	KBA-161023190436	linker debug tip	All	Android N and above
	KBA-160714021055	[ART][How to disable QC ART change.]	All	Android N and above
Wake up/Resume	KBA-161215230811	Latency of system waken up by proximity sensor	All	Android N and above
	KBA-161002045417	device wakeup time analysis and breakdown	All	Android N and above

# Common Issues

	DCN#	Document name	Targets	Android
Performance Regression	KBA-180828002811	Android P Performance Regressions	All	Android P
	KBA-171207004924	Android O Performance Regressions	All	Android O
	KBA-170710233701	Android N Performance Regressions	All	Android N
VTS	KBA-171107184807	How to run and analyze VTS-performance issue	All	Android O and above
Tuning Guide	KBA-180720005030	Qualcomm Android GO Performance Tuning Guide	MSM8909/MSM8917	Android O-Go
Perflock	KBA-180821003246	How to add perflock resource on SDM670	SDM670/SDM710	Android O and above



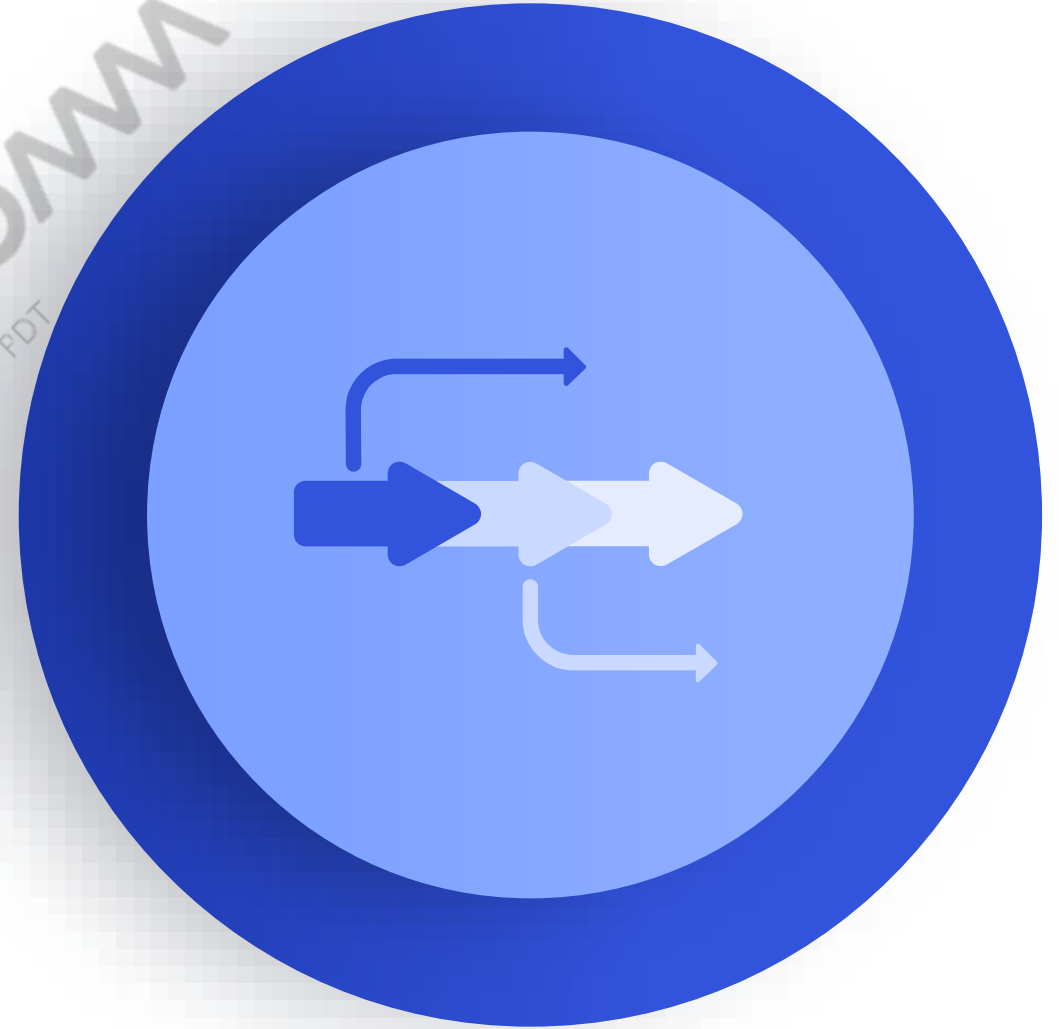
# Performance Debugging tools



# Performance Debugging Tools

	DCN#	Document name	Targets	Android
systrace	KBA-160803171155	How to collect offline systrace	All	All
	KBA-161001235906	Systrace tips	All	All
	KBA-161122014243	How to add systrace in java and native code	All	All
	KBA-170705214943	How to add private systrace event in kernel	All	All
	KBA-180821003408	How to make your kernel trace point shown in Chrome	All	All
Perf/Simple Perf	KBA-170821011435	How to build and use perf tool on android	All	All
Traceview	KBA-170810015921	Traceview collecting and configuration	All	All
Perfdump	80-P8754-73	PERFDUMP OVERVIEW	All	All
Sanity Test	KBA-180207010440	Optimizing kernel config for perf-defconfig Perf builds	All	All
Debugging Guide	KBA-161123204012	common performance issue and debug	All	All

# Performance Tuning Guide and Dashboard



# Performance Tuning Guide and Dashboard




	DCN#	Document name	Targets	Android
Performance Overview	80-PD126-30	SDM670 Android Performance Overview	SDM670	All
	80-P8754-13	SDM660 Android Performance Overview	SDM660	All
	80-PA300-2	SDM630 Android Performance Overview	SDM630	All
Tuning Guide	KBA-180128232957	SDM845 Performance Tuning Checklist	SDM845	All
	KBA-180129014006	SDM670 Performance Tuning Checklist	SDM670	All
	KBA-170710191214	MSM8998 Performance Tuning Checklist	SDM835	All
	KBA-170710194511	SDM660 Performance Tuning checklist	SDM660	All
	KBA-180716025146	SDM439 Chipset Performance Tuning Checklist	SDM439	All

# Performance Dashboard

DCN#		Document name	Targets	Android
SDM845	RN0-171031175636-1001	Release notes of SDM845	SDM845	Android O
MSM8998	80-PC541-1A	PERFORMANCE DASHBOARD FOR MSM8998 ANDROID O-MR1 RELEASE	SDM835	Android O-MR1 Android O
SDM670	80-PE565-5A	SDM670 Device CS O-MR1 performance dashboard report	SDM670	Android O MR1
SDM660	80-PC832-5A	SDM660 O-MR1 performance dashboard report	SDM660	Android O MR1
SDM636 SDM630	80-PD837-5A	SDM636/SDM630 O-MR1 Performance dashboard report	SDM636/SDM630	Android O MR1
SDM450	KBA-180122214855	SDM450 Performance dashboard	SDM450	Android O MR1
MSM8996	KBA-180308012137	MSM8996 Performance dashboard	MSM8996	Android O MR1
MSM8953	KBA-180122214647	MSM8953 Performance dashboard	MSM8953	Android O MR1
MSM8940	KBA-180122215029	MSM8940 Performance dashboard	MSM8940	Android O MR1
MSM8937	KBA-180122215206	MSM8937 Performance dashboard	MSM8937	Android O MR1
MSM8920	KBA-180122213952	MSM8920 Performance dashboard	MSM8920	Android O MR1
MSM8917	KBA-180122215346	MSM8917 Performance dashboard	MSM8917	Android O MR1
MSM8909	80-PD535-1A	MSM8909 O-GO Android 3.0.1 Performance	MSM8909	Android O



# Thank you!

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