

~ v1.0.0 – v1.9.3

- **KernelSU-Next v3.3.0 (33219-2)**
- **SUSFS v2.2.0+**
- **High Touch Polling Rate Support**
- **Mountify Full Support**
- **BBR TCP Congestion Control**
- **Fair Queue (FQ) Default Queue Discipline**
- **Tuned Adreno TZ GPU Governor**
 - Faster GPU ramp-up under load
 - Improved sustained GPU performance
 - Better responsiveness without overclocking
- **Upstream Qualcomm FastRPC Stability Fixes**
 - Fixed DMA address corruption
 - Fixed RPMMSG NULL pointer dereference
- **Upstream Qualcomm ath11k Stability Fixes**
 - Fixed TX status double-free during unbind
 - Cleared SRNG shared pointer state on restart
- **Upstream Qualcomm Thermal Stability Fix**
 - Fixed thermal governor cleanup issues
- **Upstream Qualcomm QDSP6 Audio Stability Fix**
 - Improved q6asm-dai error handling and stream recovery

~ v1.9.4

- **Upstream Linux Memory Management Stability Fix**
 - Fixed blk-cgroup use-after-free during writeback cleanup
- **Upstream Linux Block Layer Stability Fix**
 - Fixed blk-cgroup statistics reset handling
- **Upstream F2FS Stability Fix**
 - Fixed use-after-free during writeback completion on unmount

~ v1.9.5

- **Updated KernelSU-Next v3.3.0 (33224-2)**
 - Synced latest upstream bug fixes
 - Improved APK signature verification
 - Added missing NULL allocation safety checks
 - Improved ksud process spawning
 - Improved tracepoint registration priority
- **Improved KernelSU-Next SUSFS Integration**
 - Optimized path flagging
 - Optimized syscall handling
 - Faster Zygote detection
- **Upstream Linux CPUFreq Schedutil Stability Fixes**
 - Improved policy limit update handling
 - Improved CPU frequency limit synchronization
- **Upstream Qualcomm RPMh-RSC Stability Fix**
 - Prevented false completion IRQ caused by stale AMC trigger state

~ v1.9.6

- **Added support for Xiaomi 12T Pro (diting)**
- **Added device verification during AnyKernel installation**
- **Updated KernelSU-Next v3.3.0 (33226-2)**
 - Synced latest upstream dev-susfs
 - Improved soft reboot module handling
 - Improved wireless debugging compatibility
 - Prevented stub_zygote from being unmarked
 - Improved throne_tracker processing
 - Updated AOSP integration support

~ v1.9.7

- **Updated Android LLVM Toolchain**
 - Upgraded to Android LLVM clang-r596125 (22.0.2)
 - Updated LLD to 22.0.2
 - Rebuilt entire kernel with latest Android toolchain
- **Updated KernelSU-Next v3.3.0 (33227-2)**
 - Synced latest upstream dev-susfs
 - Added resetprop timeout value validation
- **Cleaned Kernel Source**
 - Restored Qualcomm FastRPC driver to LineageOS baseline
 - Removed unused downstream FastRPC patches
 - Removed unused maintenance burden from disabled driver
- **Improved WALT Input Boost**
 - Extended active input boost during continuous touch input
 - Reduced dropped boost events while boost is already active
 - Improved touch responsiveness during scrolling and gestures

~ v1.9.8

- **Updated KernelSU-Next to v3.3.0 (33232-2)**
 - Synced latest upstream dev-susfs
- **Upstream Linux Binder Stability Fixes**
 - Fixed use-after-free in binder_free_transaction
 - Fixed use-after-free in binder_thread_release
- **Upstream Linux CPUFreq Stability Fix**
 - Fixed hotplug-suspend race during reboot
- **Updated AnyKernel3 Base to 20260704**

~ v2.0.0

- **Updated Kernel Base**
 - Backported selected upstream Linux 5.10.261 stability fixes onto the 5.10.256 base
- **Updated KernelSU-Next to v3.3.0.25 (33239-2)**
- **WireGuard Stability Fix**
 - Fixed packet trailer handling during encryption
- **Baseband Security Guard**
 - Added Baseband Guard integration
 - Added protection against unauthorized writes to critical partitions
 - Added optional boot partition protection
 - Added optional recovery partition protection
 - Integrated Baseband Guard with the kernel LSM framework
- **F2FS Stability & Integrity Improvements**
 - Improved section capacity handling with CAP_BLK_PER_SEC
 - Fixed inline inode xattr size validation
 - Fixed pinned file allocation alignment
 - Added ACL entry size validation against malformed data
 - Fixed inline inode FIEMAP address mapping for unwritten data
- **Bluetooth L2CAP Stability Fix**
 - Improved outstanding TX identifier tracking
 - Reworked L2CAP identifier allocation using IDA
 - Improved handling of identifier reuse and response tracking
- **Linux Scheduler Stability Fix**
 - Fixed scheduler statistics handling for allowed CPUs
- **Linux Thermal Stability Fix**
 - Fixed thermal hwmon critical temperature attribute cleanup
- **Upstream Qualcomm / MSM Stability Fixes**
 - Fixed Qualcomm A53 PLL 1152MHz frequency multiplier
 - Fixed Qualcomm Venus NV12 raw buffer size calculation
 - Fixed Qualcomm MSM DisplayPort ISR enum values
 - Fixed Qualcomm MSM DisplayPort HPD state bit shift
 - Fixed Qualcomm A6XX HFI queue synchronization
 - Fixed Qualcomm A6XX HLSQ register dumping
 - Corrected Qualcomm MSM8998 DSI version identification
 - Fixed Qualcomm AOSS cooling state comparison
 - Fixed Qualcomm OCMEM probe deferral handling

~ v2.1.0

- **Added Vorpai Governor**
 - Integrated Vorpai CPU governor v2.1
 - {Thanks to **Steambot12** for the governor implementation}
- **Updated TCP BBR to BBRv3**
 - Updated TCP congestion control implementation to BBRv3
- **Added ADIOS**
 - Added ADIOS CPU scheduler
 - Synced ADIOS with balanced UFS/eMMC tuning for improved power efficiency
- **Added SSG**
 - Added SSG CPU scheduler
- **Updated KSUN-SUSFS**
 - Updated KernelSU-Next to v3.3.0.34 (33248-2)
 - Synced latest upstream SUSFS-dev changes
- **Fixed Legacy AlphaCore Implementations**
 - Fixed incorrect implementations carried over from AlphaCore v1.0.0--v2.0.0

~ v2.1.1

- **Update Vorpai CPU Governor**
 - Updated Vorpai from v2.1 to v2.2
 - {Thanks to Steambot12 for the governor implementation}
- **Updated KSUN-SUSFS**
 - Updated KernelSU-Next to v3.3.0.35 (33249-2)
 - Synced the latest upstream SUSFS-dev changes
- **Updated Kernel Base**
 - Backported selected upstream Linux 5.10.267 stability fixes onto the 5.10.256 base

~ v2.2.0

- **Updated Kernel Base**
 - Merged kernel base from 5.10.256 to 5.10.264
- **Updated KSUN-SUSFS**
 - Updated KernelSU-Next to v3.3.0.35 (33253-2)
 - Updated SUSFS to v2.3.0
- **Fixed KernelSU-Next version implementation**
- **Added NoMount v2.0 (Built-in VFS Redirection) support**

~ v2.3.0

- **Updated KSUN-SUSFS**

- Updated KernelSU-Next to v3.3.0.56 (33270-2)
- Synced the latest upstream SUSFS-dev changes

- **ReUpgrade Vorpal Governor to v2.2 (upstream from Templar Kernel by Steamboat12)**

- Gaming Mode: Removed per-cluster caps for smoother high-load tracking up to thermal ceiling, tuned resting floors, and halved descent slew rate to eliminate frame dips.
- Daily Mode: Dropped legacy touch/UI boost input handlers for better idle battery life, relying on native PELT tracking.
- Schedutil: Dropped RT-runnable max shortcut so SCHED_FIFO render threads don't needlessly peg fmax.
- DVFS worker migrated to SCHED_DEADLINE + SUGOV for faster frequency scaling response.
- Improved thermal cool-down net and power-efficient polling.

- **Added full support for DroidSpaces**

- **Upstream Linux 5.10-LTS & Qualcomm Stability Fixes**

- Fixed use-after-free in F2FS storage I/O bio merge (f2fs_merge_page_bio)
- Fixed Qualcomm FastRPC channel context refcount and IDR memory leaks
- Fixed timer race condition in Pressure Stall Information (PSI) during Android LMKD cleanups
- Fixed network kernel panic during Wi-Fi hotspot tethering / GRO packet forwarding

- **I/O Scheduler Optimization**

- Set default boot-time I/O scheduler to SSG (with ADIOS fallback) for UFS storage

- **ZRAM & Memory Subsystem Tuning**

- Switched default ZRAM compressor to LZ4 for ultra-low latency
- Selected CRYPTO_LZ4 dependency for built-in ZRAM support
- Defaulted page-cluster to 0 for optimal single-page ZRAM/flash swap
- Optimized VM dirty ratios (dirty_background_ratio=5%, dirty_ratio=10%) to eliminate I/O writeback stalls and micro-stutter
- Decreased vfs_cache_pressure to 50 to preserve dentry and inode caches in RAM for faster app launches

- **Android IPC & System Responsiveness**

- Expanded default pipe buffer capacity to 32 pages (128KB) to boost IPC throughput and reduce context switches
- Bypassed interrupt entropy mixing once CRNG is initialized to reduce unnecessary CPU overhead on 120Hz displays

- **Network TCP Fastpath Enhancement**

- Enabled TCP Fast Open (TFO) by default (Client & Server mode = 3) on top of BBRv3
- Configured tcp_notsent_lowat to 16KB to eliminate local bufferbloat and lower RTT latency in gaming

- **Added support for Xiaomi 12S (Mayfly)**

~ v2.4.0

- **Fixed Reboot Recovery Bootloop (since v2.3.0)**

- Fixed 10-second watchdog bootloop when rebooting into TWRP / Recovery mode
- Restored modular ZRAM/ZSMALLOC to prevent early-init ramdisk conflicts (-EEXIST)

- **Updated KSUN-SUSFS**

- Updated KernelSU-Next to v3.3.0.57 (33271-2)
- Synced the latest upstream SUSFS-dev changes

- **Battery & Power Subsystem Tuning**

- Implemented periodic in-kernel SOC fallback sync (optimized to 10s interval) directly in core power supply subsystem to actively query fuelgauge capacity and status
- Added 60s periodic heartbeat keep-alive to ensure Android BatteryService never misses state updates under heavy gaming load, eliminating battery indicator freeze/desync when bypass thermal or thermal disabler is active
- Full support for bypass charging control via kernel sysfs nodes (input_suspend, charging_enabled, constant_charge_current), compatible with ACC and gaming bypass modules

- **Memory Anti-Stutter & Kernel Shielding**

- Defaulted watermark_boost_factor to 0 to prevent premature kswapped page evictions and eliminate micro-stutter during gaming
- Hardened sysctl write handlers against Android vendor init overwrites to permanently lock VM tunables (watermark_boost_factor, vfs_cache_pressure, dirty_ratio, dirty_background_ratio) from early boot
- Preserved full root and user-space tunability (AlphaCore App / su can still dynamically adjust parameters)

- **Kernel Bloat & Debug Cleanup**

- Stripped unused Qualcomm vendor debug modules (CPUFREQ_HW_DEBUG, INTERCONNECT_DEBUG, IOMMU_DEBUG, BATTERY_GLINK_DEBUG, SPMI_DEBUG) to save RAM and CPU cycles

~ v2.5.0

- **Updated Kernel Base**

- Merged kernel base from 5.10.264 to 5.10.269

- **Updated KSUN-SUSFS**

- Updated KernelSU-Next to v3.4.0.4 (33298-4)
- Synced the latest upstream SUSFS-dev changes

- **Updated Adios Scheduler**

- Port upstream to v3.3.0 (from v3.2.2)

- **Updated SSG Scheduler**

- Prevent self-throttling on heavy readers via TGID cap
- Cut read-ahead-of-write quota for long-session write drain
- Retune parameters for sustained gaming I/O stability

~ v2.5.1

- **KernelSU-Next & SUSFS**

- Updated KernelSU-Next to v3.4.0-16-g32e897e2 (33310)
- Synced latest upstream SUSFS-dev patches

- **Thermal & GPU Frequency Scaling**

- Retuned Adreno TZ governor parameters (CEILING = 50ms, FLOOR = 3.0ms, mod_percent = 100%) to mitigate sudden thermal spikes caused by aggressive GPU upclocking, without sacrificing sustained gaming frame rates
- Realigned KGSL idle timeout to 80ms and tuned gpubw_mon memory bandwidth targets to prevent memory bus saturation and excessive power draw

- **CPU Scheduler (WALT)**

- Increased min_task_util_for_boost to 100 and adjusted colocation threshold to 70 to filter out background micro-tasks from unnecessarily waking up the power-hungry Cortex-X2 Prime core

- **CPU Idle & C-States (LPM)**

- Backported upstream Qualcomm low-power mode (LPM) fixes for qcom-lpm and qcom-cluster-lpm, resolving data races and ensuring reliable core and cluster power collapse during idle

- **Storage & I/O Scheduler (SSG)**

- Rebalanced SSG I/O scheduler thresholds (read_expire = 400ms, write_starvation = 4) to eliminate excessive storage queue thrashing and UFS bus heating during sustained workloads

- **Standby & Deep Sleep**

- Relaxed battery state sync interval to 30s with a 60s periodic heartbeat to allow longer uninterrupted CPU deep sleep windows

- **Cleanups**

- Removed high-frequency debug printk logging in devfreq_cooling to eliminate dmesg spam and kernel interrupt overhead

~ v2.6.0

- **KernelSU-Next & SUSFS**

- Updated KernelSU-Next to v3.4.0-27-g27f891bf (33321)
- Synced latest upstream SUSFS-dev patches

- **Added Reflex Governor** (*Inspired by the [DoraCore](#) kernel*)

- Integrated Reflex CPU governor v0.3.3 (Latest Version)
- Set Reflex Governor as the default on all CPU clusters
- Optimized for daily battery life, responsiveness, and gaming
- **Vorpal Governor v2.2-1 & Dwell Engine** (*Thanks to [Templar](#) Kernel*)
- Upgraded Vorpal to v2.2-1 with native touch event tracking & kernel tracepoints
- Added dwell-filtering to gaming idle gate to eliminate mid-game FPS dips during frame lulls
- Implemented dwell-based exit from idle gate to restore peak clocks immediately under load
- Tightened daily park-exit dwell to 2 evals (~70ms) for instant UI swipe response from idle
- Stretched light-load eval cadence to reduce kthread wakeups and save idle battery

- **ADIOS I/O Scheduler Startup Optimization**

- Accelerated latency-model stabilization by ~3x during initial app/game startup
- Eliminated storage reordering freezes and stuttering during game asset loading
- Expanded burst batch limits (48 read / 96 write) for faster UFS response

- **Qualcomm Adreno Gen7 KGSL & GMU Optimizations**

- Enabled GMU-based Average Bandwidth (AB) voting via HFI for more efficient GPU memory bus scaling
- Made GPU memory descriptor tracking atomic to prevent data races and crashes
- Hardened Adreno IOCTL and GMU VMA bounds checking against potential memory corruption

- **Qualcomm I2C Geni Bus & Peripheral Reliability**

- Added hardware memory barriers to eliminate spurious interrupt races
- Prevented false I2C error states to ensure smooth touchscreen and sensor communication

- **Qualcomm Wi-Fi (CNSS2) Shutdown Failsafe**

- Added a 30s failsafe timer to prevent Wi-Fi from hanging if system shutdown is interrupted

- **Display Wake & Upstream Stability Fixes**

- Reverted problematic upstream patch to prevent screen-on freeze/lag when resuming from sleep
- Fixed Use-After-Free (UAF) and buffer overflow risks in ADSP RPC invocations
- Upstream fixes for Android FUSE-BPF and USB Type-C audio accessory switch

- **Added support for Xiaomi 12S Pro (Unicorn)**