

Aptiv Automotive Services: Auto Software Performance Optimization

MAXIMIZE EFFICIENCY AND RESPONSIVENESS ACROSS ANDROID AND LINUX PLATFORMS

Software performance is a key differentiator for automotive OEMs and suppliers. From in-vehicle infotainment (IVI) responsiveness to boot times and connectivity, a software stack's efficiency directly impacts user satisfaction, reliability and brand perception. Optimizing system performance requires deep expertise across kernels, middleware, containers and hardware acceleration. Without the right tuning, automotive platforms risk slow startup, wasted resources and inconsistent responsiveness.

Aptiv provides specialized services to assess, optimize and future-proof Android and Linux platforms, helping OEMs and suppliers deliver faster, leaner and more responsive in-vehicle experiences.

Performance Optimization



- Faster Linux boot time with kernel parameter tuning, initrd minimization and systemd parallelization
- Optimized Android IVI responsiveness with profiling, memory tuning and user interface rendering enhancements
- Tailored Linux kernel and middleware stacks for workload-specific performance gains

Resource Isolation and Containerization



- Linux containers to isolate Android and Linux subsystems
- Dynamic resource allocation and secure interprocess communication

System Profiling and Connectivity



- Advanced diagnostics (e.g., Perfetto, systemd-analyze) to identify and resolve bottlenecks
- Optimized Ethernet/IP networking performance, taking advantage of system-on-a-chip hardware acceleration where available

Business Outcomes



- Faster boot times and smoother IVI performance
- Optimized resource utilization and lower latency
- Future-ready platforms tailored for auto-specific workloads