

Automotive Services Catalog: 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 IVI responsiveness to boot times and connectivity, a software stack's efficiency directly impacts user satisfaction, reliability, and brand perception. Yet 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 UI 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 inter-process 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 SoC 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