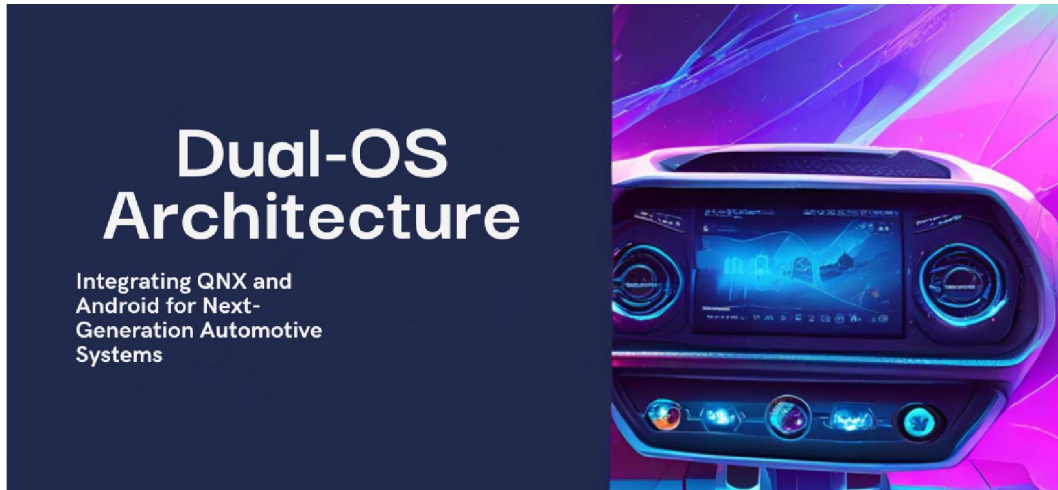# Dual-OS Architecture: Integrating QNX and Android for Next-Generation Automotive Systems

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Abstract: *This technical article explores the innovative architecture that seamlessly integrates QNX and Android operating systems for next-generation automotive applications. By leveraging hypervisor technology, the proposed design creates a dual-environment system where QNX handles safety-critical functions with real-time performance while Android delivers rich infotainment experiences. The article examines the foundational virtualization technology, implementation specifics for both operating systems, inter-OS communication protocols, and practical challenges. This article allows automotive manufacturers to consolidate hardware, maintain safety certification requirements, and enhance user experiences while providing the flexibility to adapt to evolving technology standards. The resulting architecture represents a significant advancement in embedded automotive systems, balancing the competing demands of safety, performance, and user experience.*

Keywords: Hypervisor Virtualization, Real-Time Operating Systems, Automotive Infotainment, Safety-Critical Computing, Inter-OS Communication