

Enterprise-Grade Wi-Fi Connectivity

The dB Performance® KRAVE® Suppliant provides OEMs with a robust software solution for enabling Wi-Fi network connectivity across a broad range of mobile devices. The KRAVE® Suppliant runs in the application space of a device's operating system, and handles the Wi-Fi provisioning, connection, authentication, encryption, fast-roaming, and load-balancing management.

With the KRAVE® Suppliant and industry-leading expertise from dB Performance®, you are assured of the smoothest integration, fastest time to market and best possible Wi-Fi connectivity experience. In fact, the KRAVE Suppliant is used as the golden reference suppliant for selected AP OEMs and test bed manufacturers.



Point Mobile PM90 powered by dB Performance®

Multiple Provisioning Options

The key to a frictionless user experience is a simple, intuitive, onboarding process to connect to the Wi-Fi network. The KRAVE® Suppliant supports the following methods:

WPS (Wi-Fi Protected Setup) v1 and v2

Connecting a device to a home wireless router is as easy as pushing a button or entering a PIN code.

Wi-Fi EasyConnect

Extends WPS with enhanced security, and introduces the easiest provisioning method yet - scanning the wireless router QR code with your smartphone.

Wi-Fi Direct

For secure, peer-to-peer walk-up connections between smartphones, and between smartphones and printers or other accessories.

Wi-Fi Passpoint

For an automated, secure connection at your favorite coffee shop and other public venues.

Comprehensive Security

The KRAVE® Suppliant supports the entire suite of Wi-Fi security mechanisms including WPA/WPA2/WPA3-Personal, WPA/WPA2/WPA3-Enterprise, Mesh Networking, WPS v1/v2, Wi-Fi EasyConnect, Wi-Fi Direct, Passpoint, FILS, Management Frame Protection, and CCXv4. A full range of 802.1X Extensible Authentication Protocol (EAP) methods are supported to enable deployment in any type of enterprise security environment. Integrators can add or remove features as desired for a fully tailored solution.

Standards-Based Fast Roaming and Load Balancing

With appropriate WLAN hardware support, the KRAVE® Suppliant supports IEEE 802.11k, 802.11r, and 802.11v for standards-based Wi-Fi fast roaming, band steering, and load balancing.

Mesh Networking Support

An important part of many home networks, mesh networking offers flexibility and redundancy for high-availability network access.

Wireless Bridge Support

The KRAVE Suppliant includes AP-side features that enable wireless bridge and wireless extender features.

Optional Cisco Compatible Extensions (CCX)

CCX provides carrier-grade fast roaming performance, expedited access, load balancing, location services, and network management for today's large installed base of Cisco Access Points.

Device Design Flexibility

The KRAVE® Suppliant is written in thread-safe ANSI C, and a full source code license is available. This gives device developers complete flexibility in porting the KRAVE® Suppliant to the device operating system, processor, and wireless chipset of their choice. A sample CLI and sample GUI are available on most platforms for rapid prototyping and development. In addition, dB Performance can provide Professional Services to deliver a turnkey solution.

KRAVE Suppliant Specifications

WIRELESS STANDARDS

(with supported H/W)

IEEE 802.11a/b/g/n/ac/ax
IEEE 802.11k Radio Measurements
IEEE 802.11r Fast Roaming
IEEE 802.11s Mesh Networking
IEEE 802.11u Network Discovery
IEEE 802.11v Network Management
IEEE 802.11w MFP (Management Frame Protection)
IEEE 802.1X Authentication
WPA/WPA2/WPA3 Personal/Enterprise with SAE
WPS (Wi-Fi Protected Setup) v1 and v2
Wi-Fi EasyConnect with QR code provisioning
Wi-Fi Direct
Wi-Fi Passpoint
FILS (Fast Initial Link Setup)

WLAN CHIPSET SUPPORT

Intel AX200
Qualcomm ath6k, ath9k, ath10k, ath11k
TI WiLink8
Others available upon request

EAP METHODS

EAP-TLS
EAP-PEAPv0/v1 with:
EAP-MSCHAPv2
EAP-TLS
EAP-GTC
EAP-OTP
EAP-MD5-Challenge
EAP-TTLS with:
EAP-MD5-Challenge
EAP-GTC
EAP-OTP
EAP-MSCHAPv2
EAP-TLS
MSCHAPv2
MSCHAP
PAP
CHAP
EAP-LEAP
EAP-FAST
EAP-PSK
EAP-PAX
EAP-SAKE
EAP-IKEv2
EAP-GPSK
EAP-PWD
EAP-EKE
EAP-WSC
EAP-SIM (with SIM card H/W)
EAP-AKA (with USIM card H/W)
EAP-AKA' (with USIM card H/W)

DEVELOPMENT FEATURES

Extensive debug support
EAP/RSN testing tool (Linux)
Power management
Socket-based control interface
WEXT and nl80211 driver interfaces
soft-MAC and full-MAC architectures

OPTIONAL USER INTERFACES

Sample Qt4 GUI for Linux
Sample JAVA patch for Android
Sample CLI

AVAILABLE OPERATING SYSTEMS

Linux 2.6+
Android 4.1+
Others available upon request

MEMORY FOOTPRINT

150 KB ROM for base suppliant configuration
Add approximately 200 KB ROM for tunneled EAP modes
Add 80 KB ROM for WPS or EasyConnect
Add 150 KB ROM for Wi-Fi Direct
Add 100 KB ROM for Fast Roaming
Add 50 KB ROM for Load Balancing
100 KB RAM during operation

DOCUMENTATION

Release Notes
Developer Guide
API Reference Manual

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