

EPDG Solution. WiFi Calling for Mobile Networks

Purpose for the Operator

Evolved Packet Data Gateway – a gateway that combines Wi-Fi and cellular services on a single platform. An element of LTE / 5G operator's infrastructure that allows to use any Wi-Fi networks to expand the capabilities and coverage area of the mobile operator without additional actions of the subscriber.



WiFi Calling allows making calls and sending SMS via the mobile operator's network outside the coverage area of its base stations by connecting to any Wi-Fi network.



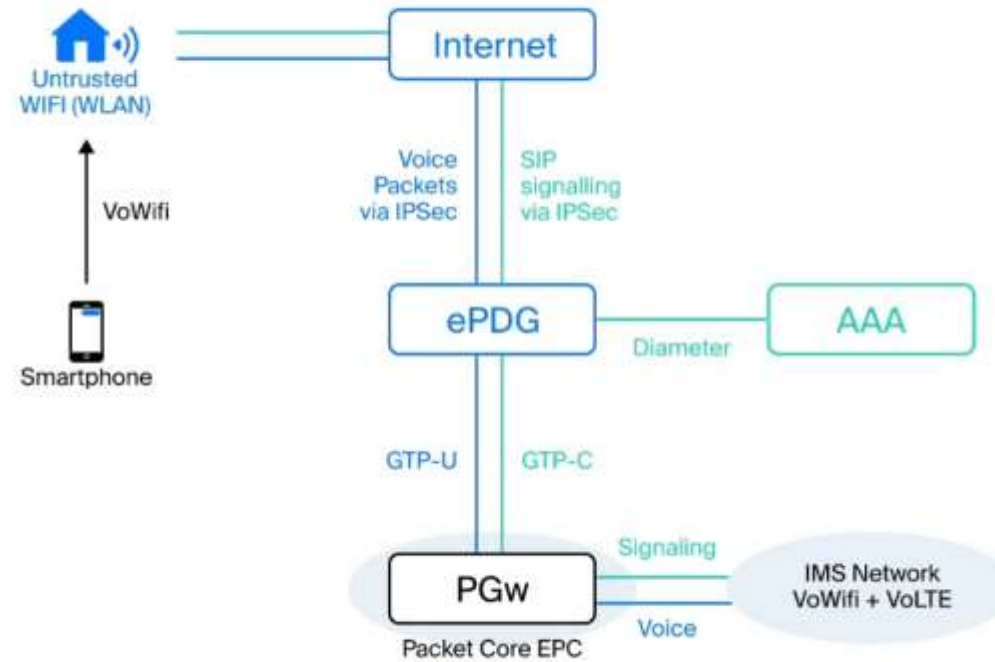
WiFi Offload seamlessly offloads the Internet traffic of the subscriber's devices to trusted Wi-Fi networks (may belong to the operator itself or to a partner operator).

Benefits for the Operator's Subscribers

Expanded network coverage, full mobile connectivity from any Wi-Fi hotspot:

- Roaming
- Remote households (e.g., rural houses, farms)
- Homes in rugged terrain
- New districts
- Large office buildings and shopping centers with indoor spaces
- High-rise buildings
- Quick deployment of communication points in field conditions

How EPDG works

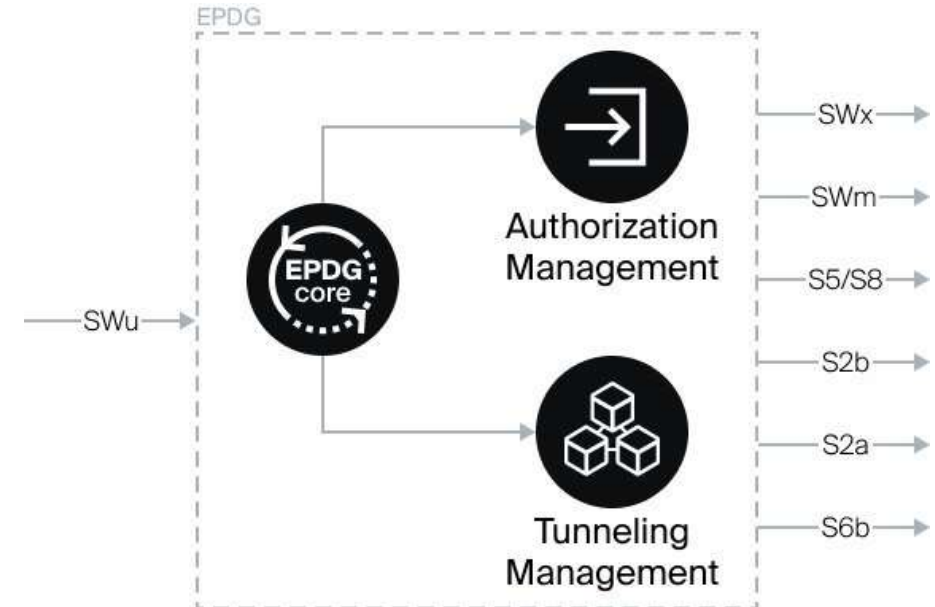


Functions: Subscriber authentication, maintenance, and linking of IPsec and GTP tunnels.

EPDG components and interfaces

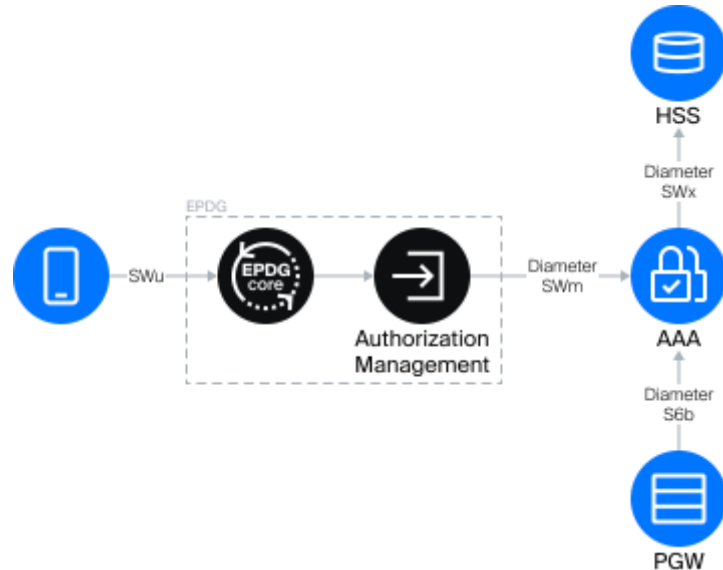
Stingray EPDG consists of three modules for flexible interaction with the telecom operator's IS. Each of the modules can be customized and finalized separately.

1. **EPDG Core** – Coordination and QoS assurance.
2. **Authentication Module** – Various authentication scenarios, including built-in AAA.
3. **Tunnel Management Module** – Different tunnel management scenarios.



Integration with operator's information systems: Authentication module

Option 1: Authentication via AAA
(Diameter protocol, SWm interface)

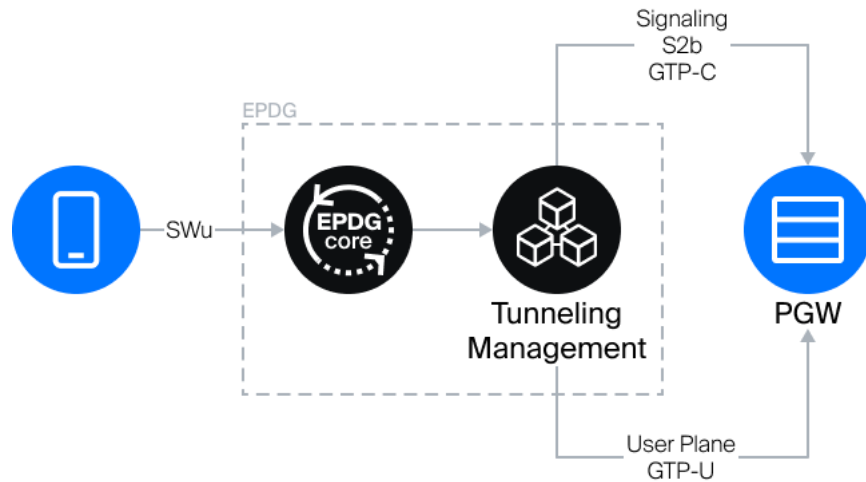


Option 2: Authentication via HSS
(Diameter protocol, SWx interface)

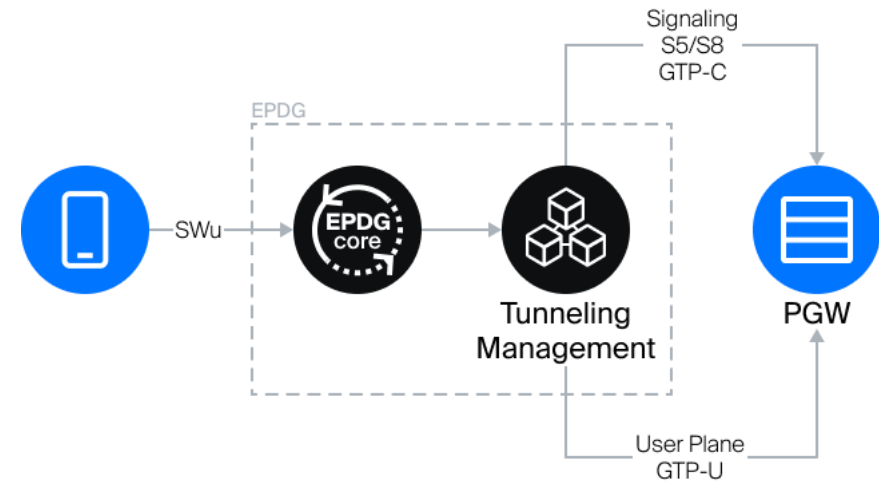


Integration with operator's information systems: Tunneling module

Option 1: Operation via the standard S2b interface



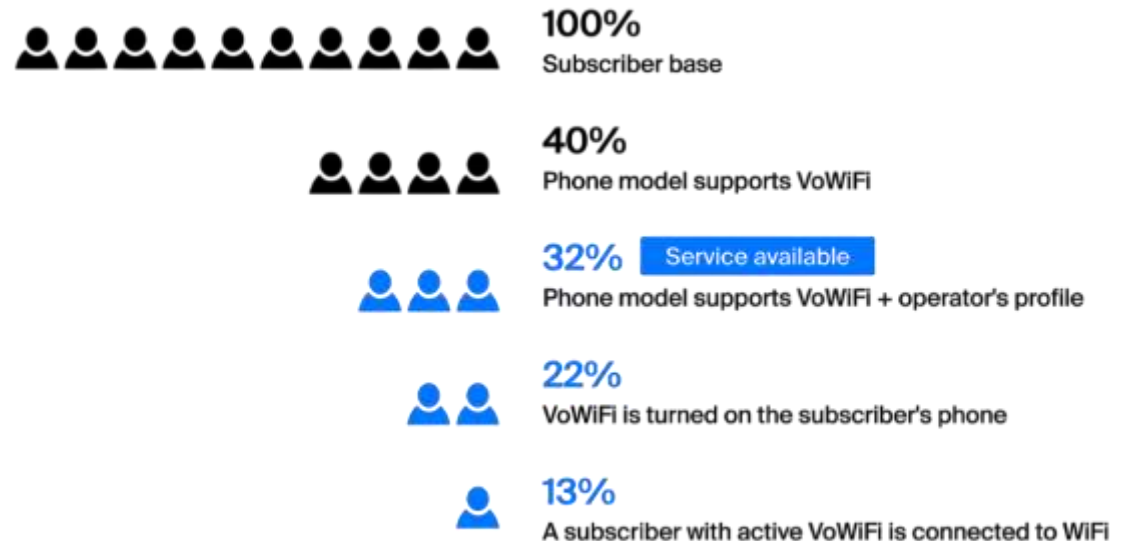
Option 2: Emulation of SGW via the S5/S8 interface.



Licensing of Stingray EPDG

Licensing principle: Limit the number of subscribers simultaneously authorized on EPDG.

We recommend starting with a package covering 5% of the subscriber base, with integration work included when using built-in schemes.



Planned penetration of the service requires a licensed quantity of up to 13% of the subscriber base.

Benefits of EPDG from VAS Experts

1. Implementation according to 3GPP specifications
2. Several operator integration schemes are available
3. Work with multiple AAA and PGW of the operator for balancing and redundancy
4. In-house development, customization and support for customer requirements
5. Regular updates including new functionality
6. Technical support 24/7

Additional Materials

Demo on YouTube



Documentation in wiki



Thank you!

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