

# voLTEinabôx

Simple Plug & Play **VoLTE** and  
**VoWiFi** solution for any carrier

## The rise of VoLTE and VoWiFi

VoLTE and VoWiFi have been long promised by the Telecom industry and vendors, but it's only recently that their need have become higher than ever. Now that some 3G networks are seeing their sunset; the number of VoLTE capable devices has grown significantly; and consumers have become familiar with data-only plans, VoLTE is developing rapidly.

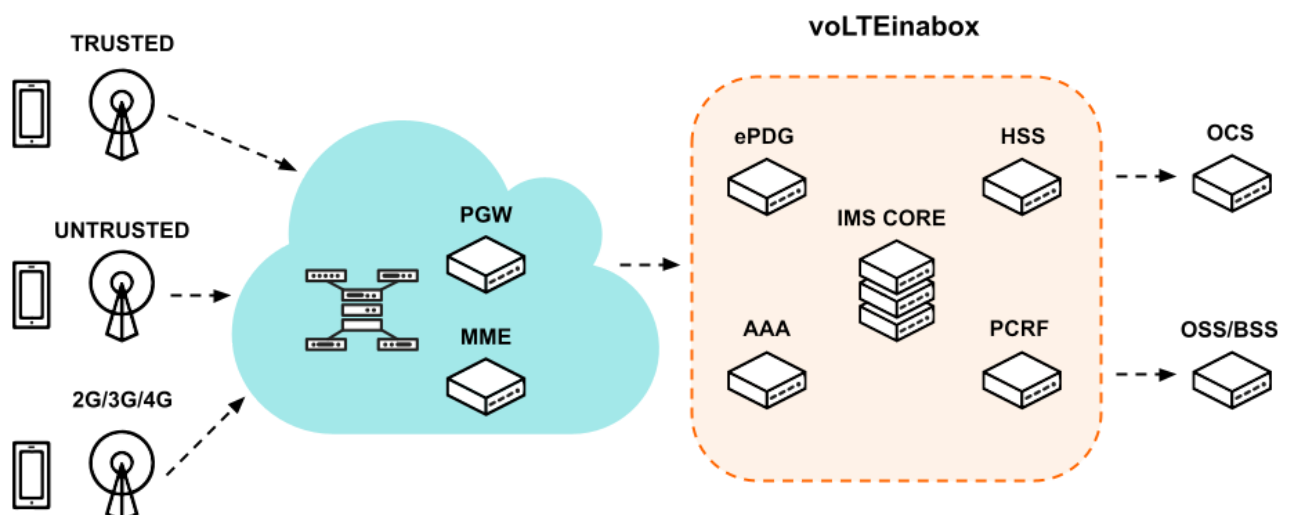
While in 2017 less than 10% of all global mobile network subscribers were VoLTE-based, it is forecasted that due to the increasing decommissioning of 3G networks more than 80% of all phone calls will be VoLTE-based by 2025. According to Allied Market Research, Voice over Long Term Evolution (VoLTE) market is expected to garner \$34.8 billion by 2022, registering CAGR of 50.1% during the forecast period 2016 - 2022.

However, implementing a VoLTE/VoWiFi solution is not a simple task as both MNOs and MVNOs have to put together all elements needed as they are provided by separated vendors. This results in long and complicated projects and delayed go-to-market. Besides, the need for fallback to 3G generates complexities in the operational models.

To solve these shortfalls, X2one and Summa Networks have partnered to jointly develop an integrated, fully virtualized, and cost-effective VoLTE / VoWiFi solution: voLTEinabox.

### voLTEinabox: VoLTE and VoWiFi in a box

voLTEinabox is a software-only solution that includes an IMS core and a full SDM implementing SWx, SWm, S6a, S6b, STa, SWa and other protocols needed to allow trusted and untrusted access to a carrier network.



voLTEinabox allows carriers a smooth transition to VoLTE and VoWiFi, taking care of the burden of integrating the main elements of the solution, reducing the implementation times to allow a faster go-to-market and still ensuring a smooth transition from circuit switched through the included fallback capabilities of the solution.

voLTEinabox sits in the core of a carrier network and integrates with with:

- **MME / PGW / SGW:** to receive the requests for calls from the devices in the network
- **OCS:** for charging purposes
- **OSS/BSS:** an API from subscribers DB is available

## Unique benefits:

- **Flexible deployment model:** our fully virtualized solution is based on lightweight containers (Docker Swarm, Kubernetes) and runs on any public or private cloud (e.g. Oracle, Amazon, RedHat, etc.) as well as on any server environment. This allows to eventually unbundle software and hardware / Cloud infrastructure.
- **Standard-based and flexible:** our solution is 100% standard-compliant based on 3GPP, SIP, and has been integrated with the hardware and software of all legacy suppliers. This provides the highest possible flexibility to integrate both with legacy architecture and innovative (open-source) applications.
- **Client-focused:** our agile product development and deployment process allows us to incorporate new client requests quickly - ca. 80% less time compared to legacy suppliers - and co-develop new solutions.
- **Cost-effective and flexible commercial model:** we offer the most competitive commercial VoLTE-solution in the industry.
- **Quality:** Our software components are carrier-grade to guarantee the highest possible uptime
- **Scalable:** We can scale up our clusters from a few thousand to millions of subscribers

## Technical details

Our joint VoLTE-solution is based on the following components:

- **Multi-generational HSS/HLR:** fully-featured converged HSS and HLR on top of a unified subscriber database.
  - LTE HSS, IMS HSS, HLR and UDM/UDR in a single software suite, allowing seamless interworking between 3G, 4G, 4.5G and 5G.
  - 3GPP release 16
  - Subscriber Location Function (SLF)
  - Authentication Center (AuC)
  - Equipment Identity Register (EIR)
  - AAA server for diameter protocols
  - Complete offering for GSM, UMTS, LTE, IMS, Wi-Fi and M2M networks
  - Support for multi-SIM, multi-IMSI, multi-MSISDN, multi HPLMN/country, multi-profile and virtual routing instances
- **IMS core and application servers:** fully-fledged IMS core (P- CSCF,I- CSCF,S-CSCF,E-CSCF) plus all relevant application servers
  - **IP-SM-GW** - provides SMS services for VoLTE and legacy devices; allows interworking towards other networks based on SMPP

- **MMTel/ TAS** - provides rich supplementary services, e.g. call-forwarding and call barring; acts as a conference-factory for VoLTE handsets
- **MRF** - provides network announcements and conferencing; implemented according to RFC4240; set up as combined MRF-controller (MRFC) and -processor (MRFP)
- **SR-VCC** - enables seamless early or mid-call handover from 4G/5G to 2G/3G; acts as a media-anchor for voice calls
- **LI** - provides X1 to X3 interfaces towards the mediation function
- **PCRF light\***: given its mandatory nature to deploy VoLTE, our solution includes a lightweight PCRF with only an Rx and Gx interface
- **ePDG light\***: the ePDG allows untrusted access to the IMS as required for Voice-over-WiFi (VoWiFi); standalone solution independent of the EPC

*\* Under development*

## Building next-generation telecoms together

X2One and Summa Networks believe in a co-creative approach to build the next-generation mobile network technology. This will help to diversify today's supplier landscape for 4G/ 5G and, together with our customers, build tailored, cost-effective solutions that create business opportunities where legacy suppliers do not see any business case today. For example, delivering coverage to rural areas.

With the ongoing digitalization, telecom networks and technologies are becoming the backbone of modern societies, it is key that we build next-generation mobile networks together, as a combined effort of all parties involved.

### About Summa Networks



Summa Networks is a Spain-based company specialized in the development of core network elements such as HLR, HSS, AAA. Today, more than 30 mobile (virtual) network operators worldwide trust our mobile core solutions.

[www.summanetworks.com](http://www.summanetworks.com)

### About X2ONE



X2ONE was founded in 2015 in Israel to provide MVNE services to MVNOs internationally. Their X2ONE platform is designed to provide telecom carriers such as MNOs, MVNOs, VoIP Carriers, ISPs with a single software suite covering the technical aspects of the telephony service, so that operators can focus on sales.

[www.x2one.com](http://www.x2one.com)