

MOBILITY SERVICES

VoLTE ROAMING & INTERWORKING

MANAGE A SMOOTH MIGRATION TO VOICE OVER LTE (VoLTE) ROAMING



MOBILE NETWORK OPERATORS AROUND THE WORLD ARE SHUTTING DOWN 2G AND 3G NETWORKS. SO HOW DO YOU ENSURE VOICE ROAMING CONTINUITY? THE ANSWER IS VoLTE

MNOs are sunsetting their 2G/3G networks. This means that traditional voice services, over 2G/3G or CSFB (for 4G/5G subscribers) will no longer be available. More recent generations of GSM technology (4G/LTE, 5G) are more efficient and enable significantly higher mobile data throughput, but a voice only service has to be supported using VoLTE. For inbound roamers, it is mandatory for the VPMN to have a VoLTE roaming agreement with the HPMN. However, VoLTE agreements take time to negotiate and not all home networks may even be ready to support VoLTE services. This leads to an impact on your subscribers' roaming services for Visited and Home Networks.

VISITED NETWORK

For the visited network, there could be potential revenue loss, as the home network would want to steer their subscribers to a competitor's network to guarantee voice and SMS services.

HOME NETWORK

For a Home Network, this could lead to a service outage for their subscribers visiting a country where most MNOs are no longer supporting 2G or 3G. For a Home Network without an IMS core, this is a big problem as there is no capability to establish VoLTE roaming agreements.

TATA COMMUNICATIONS VoLTE ROAMING SOLUTION

We enable VoLTE services for in-roamers, without a VoLTE roaming agreement with an HPMN. This helps you to minimise the impact of 2G/3G sunsetting, while retaining more of your wholesale revenue. We provide a VoLTE interworking function to attach on the VPMN side and CS attach on the HPMN side. The solution is based on the GSMA's Network Group recommendation NG.121 specification.

Key Benefits for a VPMN sunsetting 2G/3G networks

- Complete control of inbound roamers
- Minimise the roaming and revenue impact of 2G/3G shutdown
- Even in the case of no 2G/3G shutdown, improve VoLTE service quality
- Deliver VoLTE services to all subscribers with VoLTE capable devices
- Serves VoLTE even where no VoLTE roaming agreement exists with an HPMN
- Provides an interworking function between the VoLTE side and 2G/3G CS side
- Maintain wholesale cost and margins on voice & SMS traffic

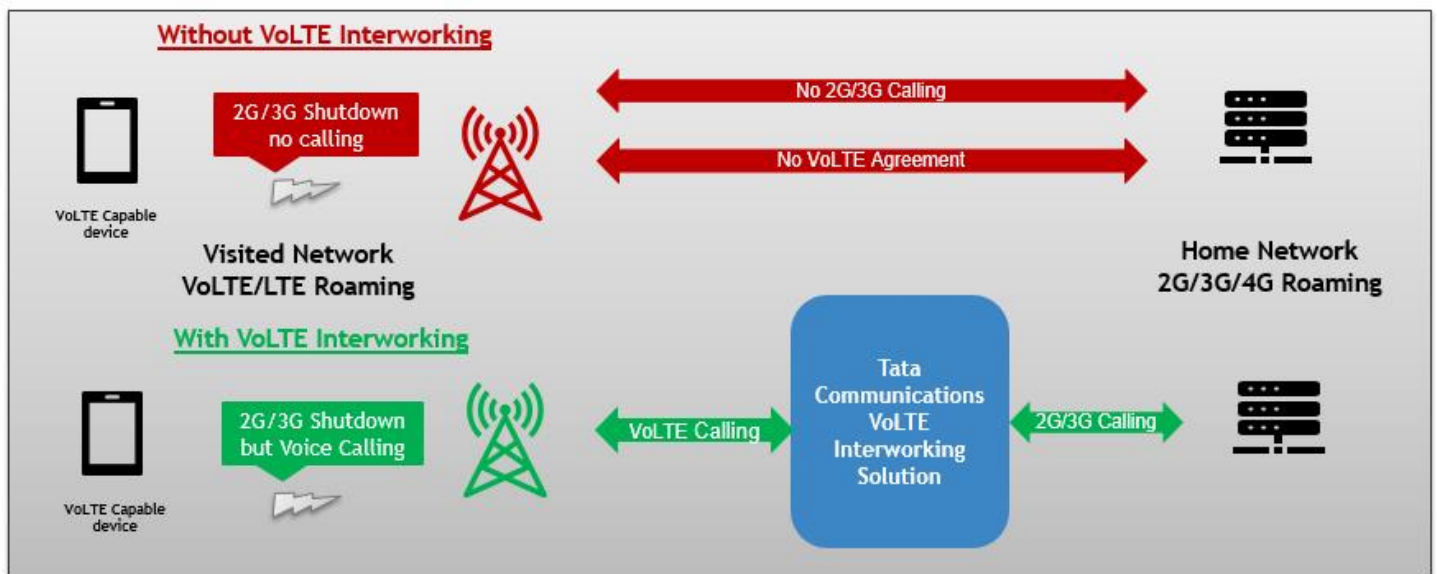
KEY FEATURES OF TATA COMMUNICATIONS VoLTE SOLUTION

- **Signaling Proxies**
The solution can work as a GTP proxy, Diameter proxy, and SIP proxy in the network.
- **Interworking Functions**
Interworking between various protocols supported; SIP & CAMEL protocol/interfaces, SIP & MAP protocol/interface, Diameter & MAP protocol/interfaces.
- **IMS core (optional)**
The solution can shadow IMS platform functionality to provide most IMS core functions, including P-CSCF, I-CSCF & S-CSCF. Media Gateway will also bundle with IMS Core.
- **SIP Application Server and Pseudo MSC/VLR**
Where required the solution can function as a MSC/VLR. It can handle all subscriber MT calls and SMS.
- **CDR Processor/Adapter**
Operating as a mediation device, it is possible to create CDRs in a format that the charging/billing system can process. The standard format is CSV, with options to adapt to other formats.

Key Benefits for HPMN

For HPMN looking to prevent service outages for their Out-roamers

- Minimise the impact of 2G/3G shutdown on Roaming
- Enable VoLTE roaming even without IMS Core
- Provides an interworking function between VoLTE and 2G/3G CS
- Prevent service outages for out-roamers traffic



The benefit of using Tata Communications
VoLTE interworking solution

About Tata Communications

Tata Communications Limited (CIN no: L64200MH1986PLC039266) along with its subsidiaries (Tata Communications) is a leading digital ecosystem enabler. With a leadership position in emerging markets, Tata Communications leverages its advanced solutions capabilities and domain expertise across its global network to deliver managed solutions to multi-national enterprises, service providers and consumers.

The Tata Communications global network includes one of the most advanced and largest submarine cable networks and a Tier-1 IP network, as well as nearly 1.5 million square feet of data centre and collocation space worldwide.

Tata Communications Limited is listed on the Bombay Stock Exchange and the National Stock Exchange of India.

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