# MAVENIR™

## SOLUTION BRIEF
# INBOUND ROAMING SOLUTION FOR 4G/5G VOICE

## MAVcore™

**Enables Communication Service Providers (CSPs) to ensure seamless connectivity and protect roaming revenue, while sunsetting 2G/3G networks.**

As network capabilities evolve, CSPs across the globe are closing-down 2G and 3G infrastructure to optimize network management costs and reallocate spectrum for next-generation 4G and 5G services. Without careful planning, CSPs can lose the ability to support existing roaming partners – or form new roaming agreements with other CSPs – that do not support VoLTE/VoNR roaming services. Additionally, greenfield CSPs building only 4G or 5G networks do not have access to Circuit Switched (CS) networking capabilities but still need to co-operate with CSPs that may not want to invest in planning and setting up new infrastructure for VoLTE/VoNR roaming – preferring instead to rely on existing 2G/3G roaming agreements and network connectivity.

Mavenir's cost-effective and resilient Inbound Roaming Solution for 4G/5G Voice successfully addresses these challenges and offers a critical route to revenue protection for greenfield CSPs offering only 4G/5G services, brownfield CSPs sunsetting their 2G and 3G networks, as well as IPX roaming providers.

### BENEFITS

> Roaming revenue protection

> Improved user experience

> Reduced subscriber churn

> Investment protection

> High-definition voice services for roamers

## Solution Overview

Mavenir's Cloud-Native IMS-powered Inbound Roaming Solution for 4G/5G Voice allows roaming subscribers with VoLTE/VoNR-enabled devices to make calls even in the absence of a VoLTE/VoNR roaming agreement between the home and visited CSPs of the subscriber. This powerful platform solution enables the visited CSP, who has retired its 2G/3G network having roaming agreement with the home CSP, to provide voice and data services to its inbound roaming subscribers – delivering service continuity and protecting inbound roaming revenue.

A key component of the Mavenir solution is the Visited Subscriber Server (VSS), an IMS function that allows the Visited Public Mobile Network (VPMN) – the visited CSP – to support inbound roamers. The VSS allows the inbound roamer to register on the visited IMS network, authenticating the IMS services using vectors retrieved from the home network and obtaining the subscriber's profile from its home network, if the devices used by the inbound roamers are VoLTE/VoNR-enabled and support the radio bands of the visited network.

Mavenir's VSS is compliant with 3GPP specifications and is the agent used to authenticate VoLTE/VoNR subscribers, provide network services to subscribers, and store the user's location information.
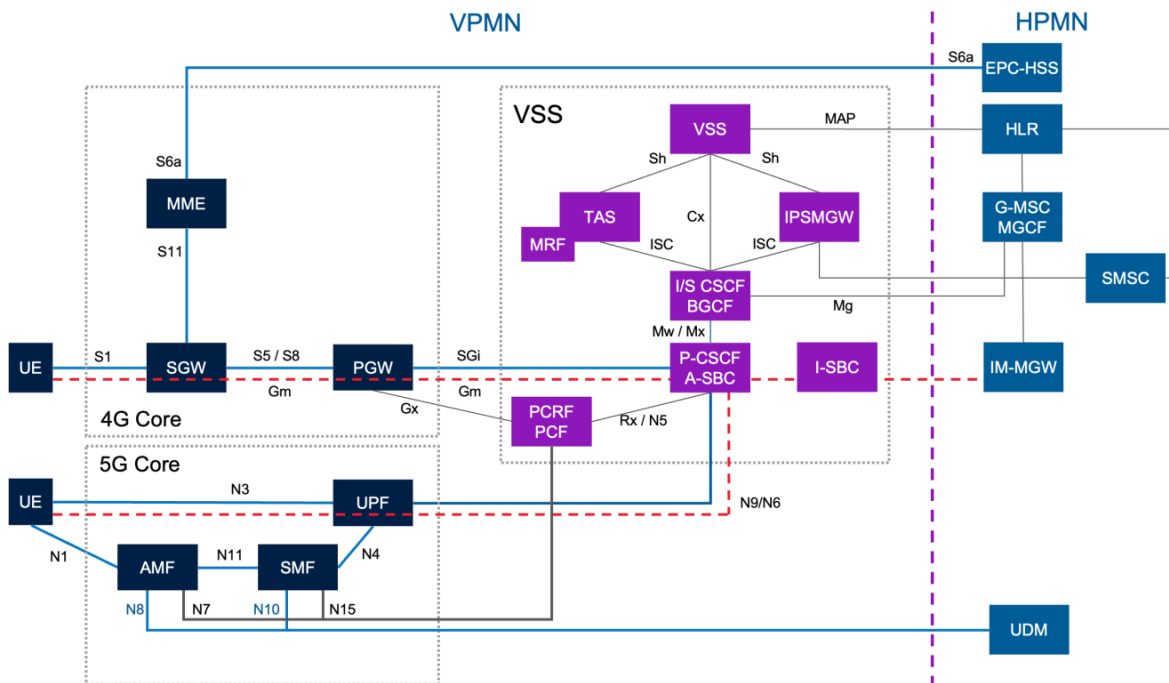


Figure 1: High-Level Architecture of Mavenir's Inbound Roaming Solution for 4G/5G Voice

## Seamless Roaming Evolution with Mavenir

> ### Preserves inbound voice roaming after sunsetting 2G/3G networks

Mavenir's solution protects roaming revenue while the CSP optimizes wireless spectrum service provision.

> ### Addresses limited VoLTE/VoNR penetration

VoLTE/VoNR roaming is complex, and implementation is still evolving , with many CSPs continuing to offer roaming services over 2G/3G, even when VoLTE/VoNR is implemented in the visited network. Mavenir's solution ensures that the CSPs yet to implement VoLTE/VoNR are still able to provide voice roaming to subscribers visiting a VoLTE/VoNR CSP.

> ### Improves coverage and user experience

Mavenir's solution allows CSPs to provide a superior roaming voice service through VoLTE/VoNR – leveraging high-definition codecs – and enables CSPs to repurpose 2G/3G spectrum to offer a broader 4G/5G coverage, better indoor signal, and a superior user experience.

> ### Reduces complexity for faster time-to-market

This innovative Inbound Roaming solution leverages decades of Mavenir's leadership in providing IMS solutions – built on a deep knowledge of the processes used by CSPs – and cloud-native automation to provide a seamless deployment and a quick service launch.

> ### Supports future-needs of the network deployment

VoLTE/VoNR roaming is defined by two reference architectures: Home-based Routing (S8HR/S9HR) and Local Breakout (LBO). In its recent specifications, the GSMA recommends S8HR/S9HR over LBO. Mavenir's solution already supports the S8HR/S9HR architecture, future-proofing ongoing network deployments of CSPs.

## About Mavenir

Mavenir is building the future of networks and pioneering advanced technology, focusing on the vision of a single, software-based automated network that runs on any cloud. As the industry's only end-to-end, cloud-native network software provider, Mavenir is transforming the way the world connects, accelerating software network transformation for 300+ Communications Service Providers in over 120 countries, which serve more than 50% of the world's subscribers

For more on Mavenir solutions please visit our website at www.mavenir.com