



Roaming Assurance

Visibility Beyond Borders

Anritsu
Advancing beyond



The New Era of Roaming



2024

2028

752
million

Active outbound mobile
roaming subscribers

1.1
billion

Current analyst estimates state that there will be 752 million active outbound mobile roaming subscribers by the end of 2024, rising to 1.1 billion within four years¹. In this landscape, it is critical for Mobile Network Operators (MNOs) and Interconnect Carriers to have confidence in the visibility of their roaming subscribers and devices, not least when things go wrong.

However, roaming is now more complicated than before. Any roaming assurance strategy must account for many new factors, including:

5G Roaming

Higher-speed connectivity options for roaming subscribers increase subscribers' experience expectations. MNOs must balance encouraging usage and covering costs, while ensuring customers never encounter bill-shock scenarios.

Smart Everything

Subscribers travel with an increasing number of smart consumer devices, expecting the same experience as at home, while roaming. Many smart devices, such as tablets and watches, come or will come with eSIMs, adding flexibility to change providers in-country and out. The power has shifted and is in the hands of the subscribers about who they use for roaming services. If a mobile operator provides a less-than-satisfactory experience, subscribers can change and it is faster and easier to do so.

IoT

The potential of IoT from some years ago is now fast becoming a reality. Cars leave the factory with embedded SIMs and expect to be able to function in every country they go to. Pallets, containers and

trucks circle the globe and must be tracked and monitored for location or environmental factors.

Increasing Demand

The demand for seamless and high-quality mobile and device experiences is rising, with accelerating global mobility. With roaming data revenue forecasted to reach \$10 billion in 2024², mobile operators need to innovate to ensure their roaming services are efficient, reliable, and user-friendly. Roaming services and subscriber satisfaction are closely linked and critical to the bottom line of all MNOs.

Do you have the visibility to ensure that roaming subscribers and devices receive differentiated services tailored to their needs?

Anritsu's Roaming Assurance offers roaming and network operations teams intelligent and cross-functional visibility when and where it is required for fast incident resolution and enhanced customer experience.



¹ Juniper Research: *Global Retail Roaming Market: 2024-2028*

² Juniper Research: *Retail Roaming: Regional Analysis, Business Models & Market*

Roaming Assured

For MNOs, international mobile roaming multiplies the complexity of operating and offering mobile services such as voice, messaging, and data. Whether the roaming entity is a human with a mobile device or an embedded IoT device, each additional country, roaming operator, interconnect operator, and service adds to the difficulty when things go wrong.

Successful MNOs provide superior roaming services and are rewarded with strong customer loyalty and become the go-to brand for large corporate entities looking at their roaming requirements.

To provide high-quality roaming services, though, MNOs must have keen visibility into these services and the subscribers and devices using them.

Anritsu's Roaming Assurance is a **lightweight, full-breadth** offering that is **cross-functional** and delivers **value out of the box**.

Lightweight

The solution takes control plane and user plane data from the access and core, and combines them into a single, multi-dimensional roaming record for analysis. This negates the need to retain the input record types (e.g., MAP, Diameter, CAMEL) and reduces the required storage.

A single data stream for all roaming traffic provides much faster multi-dimensional query response times to speed resolution time-frames.

Full-breadth

Whether your customers are roaming on 2G, 3G, 4G or 5G, the solution will take the data and present it to you in the standard record format. Radio Access Technology is just another dimension to the roaming record. This allows you to monitor and troubleshoot the entire roaming journey of any subscriber or device.

When you are ready to open Voice over New Radio (VoNR) roaming

agreements, the solution will provide you with all of the same benefits, allowing you to extend your superior roaming experience to this newer technology.

Cross-functional

Roaming Assurance is productised for roaming stakeholders, delivering the trusted value and workflows you'd expect.

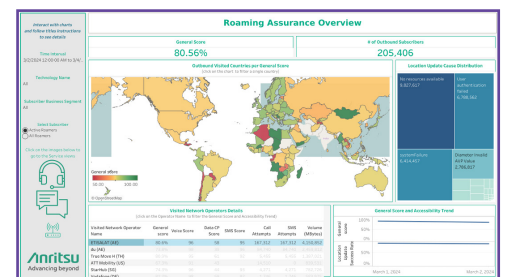
The inter-application workflows allow for seamless jumps from dashboarding, analytics, near real-time reporting and alarming to record-level browsing for low-level analysis. Only a single click is needed from record-level browsing to drill into the root cause analysis.

Value out of the box

The solution provides trend analysis reports, performance monitoring KPIs and dashboards, and troubleshooting templates. It comprehensively covers each roaming scenario (outbound, inbound, and interconnect) for voice, messaging, and data and provides a unique set of analyses for the worst-affected subscribers.

The Single Service Indicator (SSI) and Single Quality Indicator (SQI) are included and defined according to GSMA's IR.81 specification.

"17 million unique roaming devices in 24 hours"



“ Successful MNOs provide superior roaming services and are rewarded with strong customer loyalty... ”

Use Cases

Anritsu's Roaming Assurance covers many use cases across many roaming scenarios, departments and user personas.

Roaming Network Assurance

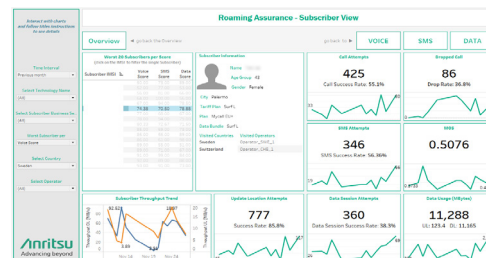
Whether it's understanding the subscriber quality of experience on your individual roaming partner networks or having fast access to issue troubleshooting, tracing and root cause analysis when things go wrong, Roaming Assurance has you covered with the following use cases:

1. Worldwide Network Quality Scoring
2. Streamlined Root Cause Analysis Workflow
3. Record- and Packet-level Troubleshooting
4. Intelligent Alarms
5. Trouble Ticket System Integration

Roaming Service Assurance

MNOs must know that their roaming partners deliver expected service levels. Roaming Assurance removes all doubts with the following use cases:

1. Worldwide Service Quality Scoring
2. Operator Benchmark Analysis
3. SLA Agreement Validation



VIP Roaming Assurance

VIPs expect a top-quality roaming experience and journey. To ensure that you get visibility of that journey, the following use cases come out of the box:

1. Real-time VIP Roaming Fault Monitoring & Alerting
2. VIP Roaming Experience Analysis

Roaming Partner Service Assurance

Agreements between you and your roaming partners require constant monitoring, analysis and validation. The following use cases will enable you to determine if you receive the agreed services:

1. Partner Network & Service Dashboards
2. Partner-level KPIs for Real-time Monitoring
3. Partner Alarming

Roaming Business Management

When it's time to negotiate with your global roaming partners, you need trustworthy analyses on which to base your new agreements. Roaming Assurance helps with the following use cases:

1. Global Usage Monitoring
2. Agreement Management Dashboards
3. Wholesale Agreement and Solutions (WAS) Analysis
4. Downloadable Reports

Roaming Steering Analysis

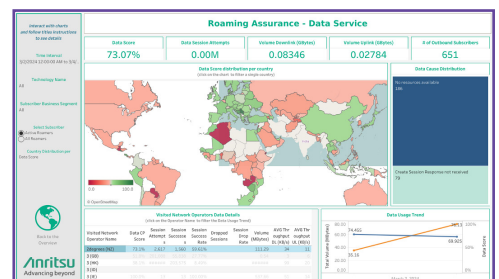
Ensuring your customer uses your preferred roaming partners is critical to SLA compliance and optimal financial return on your roaming subscribers. Roaming Assurance keeps you informed by satisfying the following use cases:

1. Steering Detection
2. Steering Analytics

Advanced Experience Use Cases

A selection of other use cases served by Roaming Assurance include:

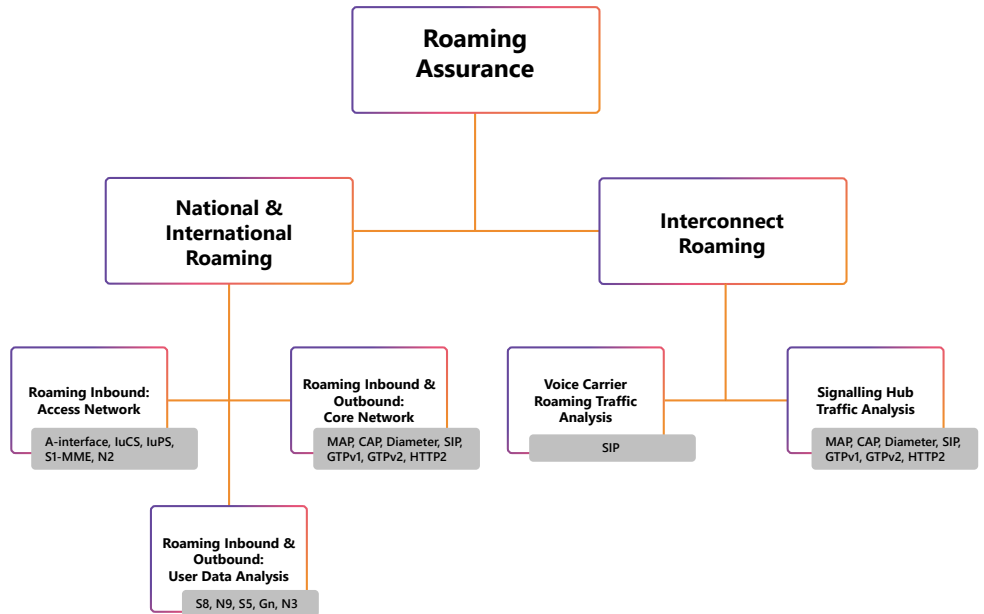
1. Time To Successful Registration
2. Time Spent Without Data Services
3. Permanent Roamer Detection
4. Silent Roamer Detection
5. Service Roaming Partners Per Visit
6. Successful Voice Fallback
7. Roaming Anomaly Detection



“Serving more than 700 interconnect partners”



Benefits



“ One Asian operator with 200+ million subscribers uses Anritsu’s Roaming Assurance to monitor and troubleshoot its roaming subscriber base ”

Building on the foundation of our existing service assurance solutions, Roaming Assurance uses our Dashboarding and Analytics, Monitoring and Alarming, and Troubleshooting and Inspection tools to ensure **low implementation friction**.

As an out-of-the-box offering, with ready-to-use roamer-centric, roaming service-centric and roaming partner-centric dashboards, KPI catalogues and troubleshooting templates ensure a **reduced time-to-market** for Roaming Assurance in your organisation.

Roaming Assurance implementation ensures seamless interfaces and integrations with existing applications. This creates new, premium value and a **faster return on investment**.

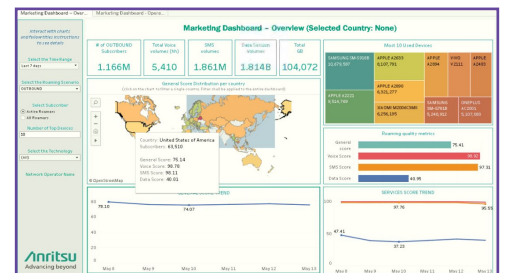
The rapid troubleshooting enabled by the full-breadth, cross-functional integrations allows for a dramatic **reduction in the Mean Time to Resolution (MTTR)** of roaming incidents.

With views from worldwide trends to individual roaming subscriber experience, your organisation will have **near real-time visibility and control over all roaming scenarios**.

With a modular design, advanced

data modelling, and a minimised hardware footprint, the Roaming Assurance solution offers **significant energy and storage savings** and **reduced deployment costs**.

From **Network Operations to Quality and Planning**, or whether you are a **C-suite Executive**, in **Marketing**, or involved in **Wholesale Roaming**, Anritsu's Roaming Assurance has the use cases you require to be reliably informed or immediately responsive, while driving cost-saving efficiencies in roaming operations.



**75%
Reduction
in MTTR**



Anritsu

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