When inbound or outbound roamers suffer from service failure or poor quality, your roaming operations are subject to numerous challenges. Not only do you lose the revenue associated with the roaming usage that would have occurred, but you also may see increases in operational costs and churn since your roaming subscribers will likely use the service less or completely give up.

To circumvent these issues, you need:
- Immediate access to crucial roaming information to deal with problems rapidly
- Analytical tools to assess inbound and outbound roaming quality (network and end-to-end)
- Proactive tools to analyze what is currently happening in comparison to what is normal, using intelligence to maximize results while minimizing resources

Syniverse provides a holistic approach to solve subscribers’ roaming issues actively and proactively with **Visibility Services**. Our solution allows you to work faster and smarter by providing near real-time roaming data so you can quickly and efficiently resolve issues facing visitors in your home market and the activity of your roaming subscribers in serve markets.

Founded on network monitoring, driving two critical functions (subscriber/visitor reporting and unique roamer analysis (URA), Visibility helps you satisfy your subscribers’ needs and give them high-quality service so they can easily communicate no matter where they are roaming.

**Benefits of Visibility**
- Increases roaming revenue by restoring service to roamers, quickly allowing them to roam again so wholesale or retail revenue can be earned
- Reduces costs associated with handling and researching roaming issues
- Streamlines operations through the use of a single online tool that can be used across troubleshooting groups, including customer service representatives and technical users
- Reduces operational costs by enabling first-level support to identify problems at initial contact with minimal training
- Reduces churn and helps retain high-value customers by enabling you to provide premier customer service
- Helps manage roaming partner relationships through clear metrics and detailed report extractions to aid collaboration, support negotiation and improve decision making
- Provides savings via a service bureau solution, allowing smaller operators to afford a solution and larger operators to realize savings in hardware, software licensing and subject matter expertise
- Gives access to extensive training and online help as well as 24x7 assistance from knowledgeable Syniverse customer support members
- Takes advantage of Syniverse’s 25+ years of industry roaming experience
Features of Visibility

- Subscriber/Visitor reporting provides a more detailed view of activity by end point, giving a quick view of the number of roamers in a market and their status for voice, data and SMS. It allows you to drill down into more detailed views for the most thorough level of analysis.

- URA displays near real-time roaming data for a specific subscriber so you can act fast to troubleshoot and rectify roaming issues. URA brings a subscriber’s roaming traffic from the last hour to seven days prior into one display and provides multiple levels of analysis, including message summary, call-flow and TCAP (raw and decoded).

- Subscriber Care Tool is specifically designed to enable users to quickly provide help and resolve issues – even when they lack a clear understanding of signaling. The Subscriber Care Tool (SCT) gives users a current snapshot of the subscriber roaming status (green or red) for voice, data and text and displays their last known location and the last successful or failed signaling message. The SCT can also provide configurable hints to users for different error types. For example, the SCT can advise the user to provision international roaming privileges when appropriate.

- Visibility also provides:
  - Access to real-time roaming activity, helping GSM, LTE and CDMA operators solve roaming issues for inbound and outbound subscribers
  - Support for inter-standard roaming with visibility into the network activity on the GSM side of the translation function where a CDMA operator would otherwise be blind to subscriber issues
  - Comprehensive signaling analytics needed for international roaming
  - Data from multiple protocols in a single easy to use window, including GSM MAP, GSM CAP, GTP-C, Diameter, ANSI-41 and Syniverse proprietary data feeds such as Global Interstandard Roaming – UniRoam® and Mobile Data Roaming formats
  - Summary-level data with easy drill down to operational and parameter-level information

GTP-C Capability

Visibility also gives you a deeper, more insightful perspective on core GTP-C network elements, data roaming performance and customer data experiences. Within an integrated session management tool, GTP-C enhances existing URA functions with PDP context summaries, network signaling diagrams, quality of service details and more to improve data roaming through real-time monitoring and troubleshooting services. Compatible with GTP-C versions 0, 1 and 2, the
single online portal consolidates all network traffic types across 2G, 3G and LTE data roaming deployments. Its managed, hosted and future-proof platform enables Syniverse IPX customers to quickly implement without the capital, operational and delivery costs of lesser turn-key solutions.

**Diameter for LTE Operators**
Visibility now also provides insight into LTE roaming operations using Diameter S6A signaling. Using the same intuitive screens used for GSM and CDMA operators, Visibility Services brings together legacy and new networks so Visibility users can easily see all of the subscriber’s roaming activity.

**Proactive Roaming Data Analysis - VisProactive**
VisProactive takes roaming analysis to a new level by allowing you to proactively identify a roaming problem before an event or trend has significant impact.

Based on recent historical analysis, VisProactive analyzes roaming data, identifies operator-specific anomalies, and alerts you of critical events impacting subscribers, positioning you to optimize roaming revenues. We analyze multiple inputs in near real time and historically, applying rules-based processing to analyze, identify and alert on critical events. Driving sophisticated alerting dashboards and reporting, VisProactive further enhances your operational effectiveness and efficiency to assure subscriber satisfaction and an improved bottom line.

**Data Collection Options**
Visibility includes valuable operational tools regardless of your SS7 or GRX provider. With the SS7 Data Collection Option, SS7 data is collected from signal transfer points (STPs) in Syniverse’s INLink® intelligent network and/or from STP monitoring points in your network and matched using Syniverse proprietary software.

If you do not use Syniverse’s intelligent SS7 or IPX networks exclusively, or if you have IPX MPLS configurations, it’s important to collect data at connection points to assure all data is gathered and analyzed. To help, Syniverse can install simple data collection appliances to capture, process, and display MSUs. Our GSM Databroker can collect both TDM and SIGTRAN traffic and correlates MSUs into GSM dialogs while resolving asymmetrical routing issues giving GSM operators enhanced monitoring and troubleshooting capability. In addition, Visibility adds even more value to your business because our Data Collection Option brings all the traffic into one solution. So one view lets you see all of a customer’s roaming traffic so you get a 360 degree view of the customer’s roaming experience.