



### Automatic Network Element Detection and Integrated Troubleshooting Tools

- Accelerate the resolution of identified performance issues with visibility to associated home and partner network elements. Additional troubleshooting tools including roaming optimized subscriber tracing capabilities and drill through to Iris Session Analyzer further extend resolution paths to reduce MTTR.

### Unique Roamer Counts and Steering Detection

- Make informed decisions with a better understanding of roaming activity.
- Validate partner compliance to volume-based agreements when steering is employed.

### Real-time Performance Monitoring and Threshold-Based Alarms

- Leverage 5-minute performance visibility and guide performance team prioritization with violation triggering alarms designed to clearly identify revenue at risk when steering is employed.

### Automated, Filter-Driven Reports

- Enable cross-functional analysis with standardized templates for routine review.

### Global Roaming Quality (GRQ) Reporting Compliance

- Support quality-centric SLA initiatives with framework-based Voice, SMS, and Data.
- Key Performance Indicator (KPI) definitions and support for inter-partner reporting formats.

## Roaming and Interconnect Assurance for Mobile Operators

### Maximize Productivity and Protect Roaming and Interconnection Business Profitability

#### Proactive Management Maximizes Premium Revenue Streams

When subscribers cannot place or receive calls/sessions, revenue is jeopardized. To mitigate this risk, the RIA offering provides a comprehensive view of the traffic exchanged among your network and other networks—effectively addressing both roaming and interworking/interconnect scenarios.

- Roaming service performance is reported based on the roaming partner networks, for both inbound and outbound roamers.
- Interworking service performance is reported based on the interconnect carrier and origin/destination for inbound and outbound mobility signaling and destination for inbound and outbound interconnect voice signaling.

With reference to the specific services and protocols, the different modules of RIA report on:

- **Roaming Partners:** Voice, SMS, Data
- **Interconnect Carrier Origin/Destination:** Voice, Mobility

With RIA, mobile operators gain the visibility needed to identify, localize (home network, interconnect carrier, roaming partner) and resolve emerging issues before revenue streams are compromised.

## Active Partner Management Ensures Profitability, Reduces Revenue Loss

Alliances are an extension of a mobile operator’s reputation and should be managed accordingly.

- The selection of quality, preferred roaming partners can ensure a seamless experience for outbound roamers—encouraging service usage at premium-level rates.
- From an inbound perspective, increased competition for roaming revenues magnifies the importance of documenting the level of service you deliver in order to meet SLAs or negotiate more favorable terms based on the performance delivered.
- Side-by-side comparison of interconnect carrier performance for specific destinations can improve an operator’s ability to invoke least cost routing without jeopardizing quality.

NETSCOUT’s RIA solution assists operators in both managing existing partnerships and in exploring new opportunities by empowering product management teams with network intelligence.

- Track roaming activity over time to identify under-served regions or target commercial offerings.
- Evaluate the viability of SMS-interworking agreements and strategic or discount re-routing opportunities.

## Custom Dashboards and Extensive Reporting Capabilities Deliver Results

With RIA, users are empowered to focus on the information that is most relevant with fully customizable portlets for personalized, actionable information.

- Top-level Carrier and Service views deliver at-a-glance performance reporting in chart, graph, or gauge formats.
- Drill-down paths guide users from portlets to detailed views of KPIs, alarms and reports.
- Access failed call logs and enable further drill-down into multi-protocol call trace summaries.

Flexible OLAP cubes, pre-defined Management Reports and optional ad hoc reporting functions offer additional avenues for analysis.

### Management Reports

Pre-built/filter driven reporting accelerates use by target organizations with support for Excel, CSV, PDF, and HTML export and automatic scheduling/ distribution via e-mail or publishing to shared folders.

- Roaming and Mobility Performance
- GRQ (optional)
- Roaming Subscriber (optional)
- Interconnect Performance

### Multi-dimensional Analysis

Slice, dice and drill through pre-defined OLAP cubes for customized analysis of collected KPIs. For Interconnect applications, advanced report authoring capabilities enable ad hoc analysis, exporting and trending of any data in the Oracle RDBMS.

## Roaming Use Cases

While primarily geared toward the technical support teams responsible for international roaming and interconnect performance, the RIA solution may also benefit IREG, Product Management, and frontline Customer Support teams for an added return on investment.

### Select Roaming Partners with Confidence

- Outbound Volume and Performance Tracking by Country and PLMN
- Outbound GRQ Reporting by PLMN

### Leverage your “Preferred Partner” Value

- Inbound Volume and Performance Tracking by Country and PLMN
- Inbound GRQ Reporting by PLMN

### Take Informed Marketing Decisions when Introducing New Roaming Services and Negotiating Agreements

- Unique Roamer Distribution Reporting
- Support for Sponsored Roaming Analysis Including Dual-IMSI Scenarios
- Identify and Address Roaming Revenue Leaks
- Roaming Service Fault Detection and Drill-down to Failure Cause
- Steering Detection with Unique Release Code Mapping by PLMN

### Protect Enterprise Revenue Streams

- Optimized Outbound Roaming Subscriber Tracking

## Protocols/Interfaces Monitored

With RIA, cost-effective, concentrated and real-time monitoring of interconnection links not only delivers the visibility necessary to identify revenue barriers but also the means to resolve them. Leveraging a proven passive monitoring system, RIA allows operators to take full advantage of the GeoProbe's integrated troubleshooting toolset including call tracing and more in-depth protocol analysis.

### Roaming Analysis

- Update Location (MAP)
- SMS (MAP)
- Voice (ISUP, SIP)\*\*
- Update Location (MAP)
- Data Signaling GTP-C, User Plane traffic (GTP-U), MMS, DNS, RADIUS
- LTE\* (S6a, S6b, S8, S9)

### Interconnect Analysis

- Mobility (MAP, CAP)
- Voice Signaling (ISUP, SIP, H.248\*\*, MGCP\*\*, H.323)
- Voice Media QoS (RTCP, RTP, H.248-EoCQ, MGCP-EoCQ)

## Available Key Performance Indicators

Collected data is transformed into actionable intelligence through the creation and presentation of KPIs through RIA's service views and analysis tools.

### Roaming Partners - Correlated Service Level KPIs

- Mobility (Location Updates), SMS MO/MT, Voice MOC/MTC (correlated MAP and ISUP/SIP signaling for MTC), Data (GTP-C PDP Signaling, GTP-U\*, DNS, MMS Procedures and RADIUS)
- Roaming Type Dimension Support (Bilateral and Sponsored Roaming)

### Global Roaming Quality (GRQ)

- Voice, SMS, Data

### Interconnect Carrier and Origination/Destination PLMN-Mobility

- MAP (Mobility, SMS, USSD), CAMEL

### Interconnect Carrier and Destination Voice

- ISUP, SIP, RTP, RTCP, H.248, H.323

A complete list of supported KPIs is available upon request.

\*GeoProbe G10 deployment required.

\*\*Siplprobe deployment required.

## Interconnection Use Cases

### Maximize Interconnect Profitability

- Strategic Re-routing Opportunity Analysis
- SMS Inter-Networking Opportunity Analysis

### Identify and Address Interconnect Revenue Leaks

- Failing Destination Identification and Traffic Re-Route Analysis
- Fraudulent SMS Network Traffic Detection

RIA's Interconnection Performance modules are also relevant for fixed converged voice network operators.

In addition to the modules featured in this publication, an SCCP Transit Carrier and Roaming Hub service offering is also available.

## Targeted Feature Set

RIA equips technical support teams and wholesale product managers with the tools they need to maximize visibility and accelerate the troubleshooting of performance issues detected at network boundaries

- Distinct Service Views
- Customized Dashboards
- Planning and Analysis Tools
- Management Reports
- Performance Alarms
- Integrated Troubleshooting
- LTE Roaming Ready

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