

# Certification Program Guide

## GRAPA Hammer-Head Initiative

# Advanced Roaming Workshop



## Roaming Hammer-Head Program

The GRAPA Roaming Hammer-Head Program provides the roaming manager, and members of the roaming team (network, I/T, finance, operations, marketing) with a comprehensive guide to running a profitable, risk-contained, roaming business. This course covers the breadth and depth of operational proficiency, risk containment, and profit maximization in a highly condensed version of the standard GRAPA certification program. This program assumes that students have a prior understanding of telecommunication, revenue assurance, and roaming operations, and focuses on profit maximization and risk minimization throughout the roaming line of business.

- Day 1 - Roaming Operations in the Roaming Risk Universe
- Day 2 - Billing & Securing Roaming
- Day 3 - Managing Roaming Profits & Market Opportunities



# Table of Contents

<b>p.01</b>	Roaming: Challenges
<b>p.02</b>	Roaming Hammer-Head: Program Overview
<b>p.03</b>	Roaming Hammer-Head: Course at a Glance
<b>p.04</b>	Day 1: Roaming Operations in the Roaming Risk Universe
<b>p.05</b>	Day 2: Billing & Securing Roaming
<b>p.06</b>	Day 3: Managing Roaming Profits & Market Opportunities
<b>p.07</b>	The Revenue Assurance Academy
<b>p.08</b>	About GRAPA

**Roaming** is one of the newest and most profitable lines of business for many carriers. GSM carriers around the world have quickly learned about what a business bonanza roaming can be, and the new generation of CDMA, WIMAX, Airline Roaming, VOIP, Content, WIFI and other technologies are all forging their own new and innovative business models at a breakneck pace.

But as is always the case, new business opportunities that involve a heavy reliance on partnerships, bring with them new risks, new responsibilities and a new generation of challenges. Network and technology professionals can get training and go to classes on how to run the technical side of roaming. Until now, there has been no viable option available to provide roaming operations and revenue protection people with the training that they so badly need.



## **Free Money!**

**Revenue Bonanza.** Roaming can represent a revenue bonanza for the telecom for the simple reason that a roaming partnership accomplishes two major objectives. First - it provides you with a new market, in the form of all of your roaming partner customers who visit on your network. Second - it provides you additional revenue opportunities from your own customer base when they travel to another network.

**Credit Risk Management** - This is the name of the game when it comes to roaming. A roaming relationship is **a credit relationship**, and failure to appreciate exactly what that means, and how to manage it makes the difference between a roaming business that adds to the bottom line, and one that simply exposes the company to a myriad of new risks and costs without a justifiable revenue offset to make it worthwhile.

**New Partners / New Relationships** - Managing a roaming business means managing hundreds of partnership relationships (many times more than interconnect) and you have far less control over what happens with those partners than you do in other business models.

## **Protecting Roaming revenues**

The protection of roaming revenues is a huge job that spans almost every dimension of the telecommunications business model. Partner Management, Customer Service (Market), Margin and Profitability, Network, Signalling, Security, Fraud, Billing, Operational Integrity, Regulatory Compliance are all critical parts of the process.

## **DCH Issues**

The roaming business requires you to deal with a new kind of partner, the DCH. Originally envisioned as a service to the telco, for most companies the DCH has turned into a major source of confusion, loss and risk.



## **International Roaming Fraud**

Opening yourself to the opportunity for new revenues from international partners unfortunately means that international fraudsters can take advantage of the situation.

Telecoms lose billions a year to organized, professional international roaming fraudsters, and understanding who they are and how they work is critical.



# Roaming Hammer-Head: Program Overview

## End-to-End Roaming Protection

To help telecoms professionals address roaming challenges, GRAPA has developed the 3-day Roaming Hammer-Head Program. This program is designed to provide telecoms roaming professionals with an exhaustive, focused and practical exposure to all of the major roaming issues and risks to the company's profits. This program combines over 32 hours of structured lecture based training in the understanding, optimization and protection of roaming revenue streams with workshop exercises to enable teams to immediately and effectively apply what they learn directly to their own real world situations.



### Key focus areas:

#### New Generation of Fraud Risks

This new generation of telecoms business has resulted in a new generation of fraud professionals. These experts often understand your partnerships, technology and vulnerabilities better than you do, and they are willing and able to hire the technical staff and international expertise to take advantage of the openings in your coverage.

#### Dealing with the Clearing House

Under roaming, you have a new kind of partner, the DCH. DCHs represent their own form of value, and their own set of unique risks to your profit and your operational integrity.

#### Partners with the Wrong Incentives

Roaming agreements are credit arrangements, not operational partnerships. It is therefore usually of limited value to a roaming partner to make it easy for you to manage your credit risks efficiently. Creating productive and cooperative partnerships that are also defensive is key to roaming partnership success.

#### IREG, TADIG, TAP, IOT, HUR and NRTDE

The roaming business brings with it its own vocabulary, keyword and acronyms, and the vast majority of roaming operations personnel have only one way to learn it, by trial and error.



## The Roaming Hammer-Head Program

The GRAPA Hammer-Head program provides a process that makes it possible for people to quickly get up to speed on ALL ASPECTS of the roaming business, while at the same time allowing them to learn, integrate and apply the information in easy to manage steps. These steps include an orientation to the roaming environment, foundational training of standard practices and controls for roaming, individual environment mapping and final verification.

The Hammer-Head certification program is based upon the GRAPA standards for revenue assurance and over four years of benchmarking and standard practices based information collected from telecoms around the world. This program provides a unique, credible and substantial support for professionals interested in safeguarding their telco's most valued assets - their revenue streams.

**Objective:** The objective of this program is to ensure that all of the parties involved in the management and protection of roaming revenues understand their role and possess a clear framework and understanding of how they are to work with others to accomplish mutual objectives while assuring there are no gaps or missed vulnerabilities.

**Coverage Areas:** The program examines the protection of roaming revenues from the perspectives of operational integrity, network integrity, billing integrity, partner contracts, terms and DCH assurance, GSMA IREG and TADIG, DCH-IOT Industry Standard Controls, fraud protection (IRSF), Postpaid, Prepaid, CAMEL and USSD Roaming, along with logical and physical security, pricing and market share and margins.



**Business Lines:** The program can be customized to include all forms of Voice Roaming (GSM and CDMA), as well as Data Roaming (GSM-GPRS, WiFi, WiMax, EVDO and ITU-Home Agent Based IP Roaming).

**Who Should Attend:** To be successful it is required that the following professionals who are involved in the running of the roaming business attend and certify as a team:

- MSC Engineer
- SS7 Engineer
- Signaling Partner Manager
- IREG Engineer
- TADIG Administrator
- I/T Mediation Team
- I/T Billing Team
- I/T TAP Processing Team
- DCH Relationship Management
- Roaming Financial Controller
- Roaming Operational Administration
- Roaming Business Manger
- Fraud Management Team
- Security Management Team
- Roaming Marketing Team

## Roaming Hammer-Head Curriculum Outline

<b>DAY 1 - Morning</b>	<p><b>Best Practices, Case Studies &amp; Lessons Learned</b></p> <ul style="list-style-type: none"> <li>• The GRAPA Roaming Operations Controls Framework</li> <li>• Domains and Controls Structure for Minimizing Risk</li> <li>• GSM, WCDMA, Postpaid, Prepaid, CAMEL and USSD Roaming Operations – Differences and Controls</li> <li>• Standard Risk Universes for Roaming: including Access, Service Delivery, Mediation, TAPFile Management, Credit Management, HUR/NRTDE, Signaling, IREG/TADIG, Fraud Risks, and more.</li> </ul>	<b>DAY 1 - Afternoon</b>	<p><b>Roaming Risk Universes &amp; the GRAPA Controls Inventory</b></p> <ul style="list-style-type: none"> <li>• Fraud Case studies and examples (risk horizons and controls)</li> <li>• Leakage cases and examples (risk horizons and controls)</li> <li>• Control: Culpability, Accountability and Responsibility.</li> <li>• Roaming Controls Methodology: Finding, building, mapping and calibrating Controls. Controls Politics. Controls Hydraulics Management.</li> </ul>
<b>DAY 2 - Morning</b>	<p><b>How Roaming Works and How to Secure It</b></p> <ul style="list-style-type: none"> <li>• Roaming Radio and Cellular – Radio side security &amp; tracking</li> <li>• TAP File CDR generation and accuracy</li> <li>• Roaming Network Signaling control protocols</li> <li>• Roaming Security – AAA assurance for Ericsson, Nokia, Lucent, Alcatel and Hua Wei Switches</li> <li>• Roaming Network and Signaling Controls Master List</li> </ul>	<b>DAY 2 - Afternoon</b>	<p><b>How Roaming is Billed &amp; Protecting the Tap File Lifecycle</b></p> <ul style="list-style-type: none"> <li>• CDR Generation - Risks and controls</li> <li>• How does a CDR turn into a TAP File?</li> <li>• Tap-File Mediation Control</li> <li>• Rating and Credit Risk Management Controls</li> <li>• DCH – TAP-OUT/TAP-IN management and assurance</li> <li>• Tap Lifecycle Controls Master List</li> </ul>
<b>DAY 3 - Morning</b>	<p><b>Managing Operational Risk in a Cost Effective Way</b></p> <ul style="list-style-type: none"> <li>• Roaming Contracts – Terms, conditions and consequences</li> <li>• IREG – Signaling Assurance: The GSMA Sanctioned Control Mechanism</li> <li>• TADIG - TapFile and Rating Assurance: The GSMA Sanctioned Control Mechanism</li> <li>• Postpaid Roaming Operations and Controls</li> <li>• HUR/NRTDE – Credit models and execution responsibilities</li> <li>• USSD Roaming – Configuration and controls vulnerability</li> <li>• CAMEL – Architecture, vulnerability and controls</li> </ul>	<b>DAY 3 - Afternoon</b>	<p><b>Maximizing Profit and Identifying Market Opportunities</b></p> <ul style="list-style-type: none"> <li>• Roaming Profitability – Key areas of profit erosion</li> <li>• Leakage – Detection, prevention and measurement</li> <li>• Fraud Loss – Detection, prevention and measurement</li> <li>• Margin Losses – Losing track of the margin, margin shifts, negative margins, margin tracking and controls</li> <li>• Market Maximization – Roaming segments, the relationship between sales, profits and segment maximization, Promotion, Subsidy and Market risks</li> </ul>

# Day 1: Roaming Operations in the Roaming Risk Universe

## Overview

Day 1 provides operational managers, auditors, network personnel and all of the other people involved in running the roaming business with a clear understanding and a comprehensive inventory of the complete end-to-end scope of risks to revenue (fraud, margin, market, operations and leakage risks). Students will be able to see and understand how their jobs and responsibilities interact with what others are doing. This comprehensive 360 degree perception allows everyone to better appreciate their interdependencies and to make the corrections required for big improvements in revenues and profits with a minimum cost and fuss.

The GRAPA approach to recognition and containment of these risks, through the identification, mapping, calibration and monitoring of the hundreds of controls provided is reviewed and applied to the roaming area. Students will get case study examples of the many different fraud, leakage and operational mismatch that can create big and often undetectable revenue losses.

## Practical Applications:

- Students will learn about the GRAPA Standard Risk Universes (systematic, proven and ratified approach to the containment of roaming risks).
- Student will learn about the different roles and responsibilities of the people involved in the provisioning and delivery of roaming services to customers and their responsibilities for making roaming profitable.



## Key Concepts include:

- GSM, WCDMA, Postpaid, Prepaid, CAMEL and USSD Roaming Operations – Key differences and controls
- Roles, Responsibilities and Controls (Network Engineers, IREG Engineers, Signaling Team, SS7 Specialist, MSC Engineers, Radio Team, Gateway Engineers, IN Engineers, HLR Support Team, Mediation Operations, TAP-File Billing Operations, Tap-File Transport and Recon, DCH Relations, HUR, NRTDE, Fraud Management Systems, Roaming Operations, Finance, Roaming Controller, Roaming Business Manager, Roaming Sales Team, Roaming Marketing and Segmentation Team).
- Roaming Controls Methodology: How to find controls, make controls, map controls, calibrate controls, assess controls, strengthen controls. Controls Politics. Controls Hydraulics Management.



# Day 3: Managing Roaming Profits & Market Opportunities

## Overview

Managing the many different aspects of the roaming operational environment, and making sure that the partners and contracts are managed well is key to assuring the revenue and profitability. During the third day, students will become familiar with the key partner management operations, and the fundamental controls around making sure that the credit, partner and operational risks are well understood and monitored.

Containing network, billing, credit, operational and partner risks will not by themselves assure maximum profits for the roaming managers. In the final section of the course, students will become familiarized with the most powerful of the revenue assurance activities, the maximization of profits. Students will learn how leading roaming managers track and monitor the profit margins associated with each and every customer and partner. They will then be acquainted with the concepts of roaming segmentation and the utilization of segmentation controls and assurance techniques to help the roaming manager drive key strategic partner selection and marketing and promotion program decisions.

## Practical Applications:

- How to identify and manage the key operational risk areas in roaming
- How to diagnose and perform root cause analysis on roaming activity and billing errors
- Understanding the difference and key controls associated with Postpaid, CAMEL and USSD Roaming agreements and configurations
- How to perform roaming segmentation analysis
- How to apply margin and market controls to drive maximum profitability



## Key Concepts include:

- IREG – Signaling Assurance: The GSMA Sanctioned Control Mechanism
- TADIG - TapFile and Rating Assurance: The GSMA Sanctioned Control Mechanism
- HUR/NRTDE – Roaming Credit Models and Execution Responsibilities
- USSD Roaming – Configuration and Controls Vulnerability
- CAMEL – ETSI Based Prepaid Roaming – architecture, vulnerability and controls
- Market Maximization – Understanding roaming segments, the relationship between sales, profits and segment maximization, margin controls over segmentation
- Promotion, Subsidy and Market Risks – Maximizing roaming profits



# Why We are the Leaders in Training Telco Professionals Around the Globe

Join the leading Revenue Assurance focused training events. Featuring exclusive presentations, real-world examples of procedures, solutions, and strategies that have effectively reduced leakage and maximized profits for telcos around the world.

After providing training to hundreds of revenue assurance professionals around the globe, we are pleased to announce our improved course offerings.

☑ **Masters Certification** – GRAPA’s highest and most prestigious certification that is attained after completing a rigorous and exhaustive training program whose extensive curriculum spans the broad and complex landscape of revenue assurance.

☑ **Depth of knowledge** – The topics and examples are “narrow and deep” rather than broad and vague, presenting you with focused, highly targeted information that adds real value.

☑ **Tailored content** – Training is adjusted to align the needs of the students to the available material. Students are asked to fill out “GRAPA Benchmark Surveys” to determine the level and nature of the training required. The survey results help us determine how well you know your own systems, and provide clues about what you need help with. The principles and practices taught are also applied to cable, satellite, wireless voice, SMS, MMS, IPTV, and MMDS with equal conviction, detail, and effectiveness.



☑ **Relevancy** – Class material is based on the foundations of GRAPA. GRAPA members from every geography, type of carrier, major type of technology, and carriers of all sizes review and approve these standard approaches. The material serves as the foundation for an industry standard approach that is applicable to everyone, and yet easily focused to the needs of specific sub-audiences.

☑ **Based on real-world situations** – The majority of the training is experience-based “standard practices” in revenue assurance, harvested from the many revenue assurance professionals who participate in “practices surveys,” “strategy sessions,” and other information-sharing events. Clear, specific deliverables are provided that apply to real-world situations. The material is never based on speculation, guesses, or unvalidated information.

☑ **Interactive** – The workshops are more than lecture sessions. RAA classes are participative and interactive and students are expected to proactively join in discussions, problem solve, and fill out benchmarks. Attendees have opportunity for much interaction with the instructor and other students. Lunch and breaks are devised to facilitate more intimate conversation.

☑ **Professional development** – Students master vocabulary needed for creating a sense of professional identity and opportunities with other like-minded people in the industry that share common goals and issues.

# About GRAPA

The Revenue Assurance Academy (RAA) is the exclusive training organization of GRAPA. We have over 5000 registered members and has distributed more than 3500 copies of its 2009 standards book. By offering events that combine benchmark development, sharing of standard practices and approaches, as well as delivery of workshops, the Revenue Assurance Academy provides a unique and powerful venue for deployment of standard practices and rapid integration of those practices into the participating telco environments.

We have conducted our training programs for dozens of carriers and services providers around the world. Our workshops are offered in public venues (attended by delegates from many operators and services providers, which promotes the sharing of practices) as well as onsite for a private, more personalized and focused training for a company's staff.

Some of what makes our training so unique:

1. Based entirely on the GRAPA standards of professional revenue assurance practices.
2. Taught by Rob Mattison, the world's leading authority on the practice of revenue assurance in telecommunications, winner of many awards for his work in this area, author of The Revenue Assurance Standards--2009, The Revenue Assurance Handbook, and dozens of whitepapers.
3. Focused heavily on practical experience, not theory.

Visit [www.ra-academy.org/RAA\\_info/testimonials.html](http://www.ra-academy.org/RAA_info/testimonials.html) to read some great reviews from students who have attended our training.



## Tentative 2012 Training Schedule:

06-17 Feb 2012	London, UK
27 Feb - 09 Mar 2012	Singapore
12 - 22 Mar 2012	Lagos, Nigeria
18 - 29 Mar 2012	Dubai, UAE
07-11 May 2012	Cape Town, South Africa
21-25 May 2012	Chicago , USA
17-21 June 2012	Dubai, UAE
22-26 October 2012	Cape Town, South Africa

**For the most up-to-date list of upcoming events please visit:**

[www.ra-academy.org/revenue\\_assurance\\_training/upcoming\\_events.html](http://www.ra-academy.org/revenue_assurance_training/upcoming_events.html)

[www.grapatel.com](http://www.grapatel.com) Tel: +1- 847-930- 3610 Fax: +1- 707-276-7676 Email: [info@grapatel.com](mailto:info@grapatel.com)