



Earn Credit Towards
Complete GRAPA
Certification

NEXTGEN WIRELESS ASSURANCE

GPRS • UMTS • LTE • WiMax • Wireless Broadband • WiFi • IMS

Three-Day Hammer Head Certification Program

NextGen Wireless Assurance Certification

NGW101:

NextGen Wireless Overview

Students will become familiar with the terms and technologies involved in NextGen wireless including GPRS, UMTS, LTE, WiMax, Wireless Broadband, WiFi, and IMS. We will overview the key role revenue assurance plays in the migration of existing wireless telcos into this new technology.

Understanding the Internet

Learn the details about the business, security and control of Internet products/services. Students will thoroughly review internet-based architectures, topology, operations, and business models.

NGW102:

NextGen Wireless: Lines of Business

Understand the details of security, authentication and authorization for NextGen Wireless services. Learn the technical, operational and financial model details for the WiFi and WiMax lines of business.

NextGen Wireless: Architectures & Billing

A detailed review of 2G/Edge/GPRS, UMTS, LTE and IMS technology sets. We will then cover different billing architectures for telecoms, (Postpaid, Prepaid, Radius, 95th Percentile, Bespoke and Convergent billing models), their controls and applications.

NGW103:

How to be a NextGen Wireless Telco

This section focuses on how to build and control the dynamic creation of cloud and IMS services. Create teams of people who can continuously CRAFT solutions that provide you with competitive advantage.

NextGen Wireless Margin & Market Controls

Learn controls that can be utilized to help management minimize the risks of loss due to margin miscalculation, as well as how to get the best pricing, product development and deal making controls. Special focus will be put on the controls over the process of migration to the new technologies themselves.



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Learn How to Reinvent your Revenue Assurance Activity & Apply RA to NextGen Wireless Opportunities

- Learn how to assure GPRS, UMTS, LTE, WiMax, Cloud, Wireless Broadband and WiFi Services
- Become a critical part of NextGen service development teams
- Make revenue assurance a more mission-critical function of your cloud and NextGen lines of business
- Help ensure the profitability of your cloud offerings



NEXTGEN WIRELESS HAMMERHEAD

NextGen Wireless Technology Assurance

Overview: The Next Generation Wireless Hammerhead program is a focused 3 day event which provides students with an overview on the technologies, business models and issues associated with the migration to and deployment of next generation wireless technologies, products, services and wireless cloud based business models. This course will review all of the major dimensions of the business models, operations, authentication, authorization and accounting, partner management, profitability and marketing for these areas.

This is a Hammerhead program. This means that the curriculum is highly focused and high impact. Students need to be familiar with ongoing wireless telecom operations in order to get the most benefit from this program. Students without prerequisite knowledge should take a "survey class" to provide prerequisite background information.

Pre-Requisites: Experience in and a basic understanding of 2G CDMA and GSM environments from an operational and business perspective.

Certification: Students who successfully complete this course, the necessary pre-requisites, and the certification exams will earn their specialized Certification in NextGen Wireless Technology Assurance. Additionally, students who have also successfully completed a GRAPA Practice or Methods course will earn their Practitioner of Revenue Assurance Certification. Students must provide work experience, pass the three qualifying tests and attend all days of training in order to qualify.

Who Should Attend: The NextGen Wireless Technology Assurance class has been developed for any and all individuals involved in the development, administration, protection, assurance and operation of next generation wireless technologies in existing telecoms environments and start up organizations. Critical value will be provided for people who are:

- Revenue assurance professionals who want to develop a strategy for how they can get involved in protecting their organizations against fraud risk, leakage loss and margin loss during the process of migration from existing wireless technologies, products and services (GSM, CDMA) to the new generation of wireless data products and services.
- Revenue assurance, finance, management, audit, I/T and operational professionals interested in learning the differences between their current wireless environment and the new Wireless Broadband, UMTS, GPRS, LTE, HSPA, WiMax, WiFi, Wireless ISP and Wireless Cloud environments
- Professionals involved in the design of new products and services based upon NextGen Wireless Technologies. (Wireless Broadband, Wireless IMS, Wireless Cloud, Wireless Corporate Services, Wireless IPTV, Wireless Consumer Services)
- Individuals responsible for conceiving, designing, building and delivering NextGen wireless broadband environments and businesses.
- Corporate sales and business development executives interested in learning how they can more effectively tap into the potential value that NextGen wireless, wireless cloud and IMS services and programs represent.

Session	Day 1 - NGW101	Day 2 - NGW102	Day 3 - NGW103
Course Title	NGW & Internet	NGW: Operations, Architecture & Billing	NGW: Business, Margins & Markets
Opening Session	What is NextGen Wireless?	Security for NGW Services	Wireless ISP
Morning Session	NGW Business Models	WiFi: Operations & Assurance	Wireless Broadcaster
Late Morning Session	Role of Revenue Assurance	WiMax: Operations & Assurance	Wireless Cloud & IMS
Afternoon Opening	Best Practices & Cases	GPRS & UMTS	Pricing & Margins
Afternoon Session	The Internet as a Business	LTE & IMS	Risk Mitigation Services & Corporate "Packages"
Late Afternoon Session	Billing Internet Services	Postpaid, Prepaid & Radius Billing	Migration to NextGen Wireless
Closing Session	Securing Internet Businesses	SNMP, 95thP, Bespoke, & Convergent Billing	New Cloud Corporate Offerings



NextGen Wireless Overview

During the first part of day one, students will become familiar with the concept of Next Generation Wireless. This will include the migration of existing wireless telcos into the new world of WiFi, WiMax, UMTS, LTE, IMS and data service delivery and the building of Wireless Cloud applications. As we delve into the nature of these changes, we will detail how the different technologies fit together and review the key role of revenue assurance in mitigating the risks of the migration process. Professionals will walk away with an understanding of the synergy of WiFi, WiMax, GPRS, UMTS, LTE, IMS and Wireless cloud and, more importantly, they will see how this new technology affects telecoms revenues, profits, and business models

Practical Applications

- Learn what is meant by the term Next Generation Wireless.
- Differentiate between the characteristics of 3G, 4G, UMTS, HSPA, LTE, WiFi, WiMax, IMS and Cloud
- Understand the major differences and challenges faced by telcos that are moving into the use of these technologies
- Learn the key role that revenue assurance plays in the securing, assuring and profitability of these new deployments
- Apply the industry standard roles of marketing, sales, network, billing and other participants in the next generation wireless deployment process and the concomitant risks that the telco faces when making this migration
- Learn how the revenue assurance department can deliver key, strategic and tactical value to the telecom throughout the process of the migration to and deployment of these technologies

Key Concepts

- Key characteristics of architectures for WiFi, WiMax, UMTS, HSPA, LTE, IMS and Cloud Services.
- Key business models and commercial applications of WiFi, WiMax, UMTS, HSPA, LTE, IMS and Cloud Services for Service Providers.
- Key pressure points where revenue assurance methods provide the greatest benefit to NextGen Wireless operations.

Understanding the Internet

For decades a vast majority of the people have seen the internet as a cool, free technology that could revolutionize the way we do business. Well, the good news is that this is exactly what has happened. The great news is that with the internet world, there are hundreds of carriers, suppliers and other parties who are realizing that the internet represents BIG MONEY. But, with BIG MONEY comes big competition, big investment and a technological and a business model free for all. During this series of modules students will become familiar with the business, security and control of Internet products and services.

Practical Applications

- Learn the principles, tools, practical applications and case studies that show how Revenue Assurance adds value to NextGen Wireless migration.
- Use revenue assurance forensics, corrections and compliance to mitigate risk and assure the profitability of NGW services.
- Understand the key components of an internet "cloud," the way that it is built, managed and packaged as a service.
- Review the participants in the delivery of public internet services to ISPs and end customers (corporate and consumer).

Key Concepts

- The 3 Primary Functions of RA (Forensics, Correction, Compliance) as they are applied to NGW
- The 4 Layers of RA Coverage (operations, accounting, margin, market) and how they are mapped to the NGW problem space
- The GRAPA Domain Analysis Methodology and its use in the developing and running of NGW revenue streams
- What is the internet and how does it work
- The principle methods of securing internet access and tracking internet activity
- Methods for the authentication, authorization and accounting for internet activity





NextGen Wireless: Lines of Business

The first part of NGW102 is focused on introducing students to the security, fraud protection, authentication and authorization for NextGen Wireless services. Students will then learn the operational, technical, financial and business model details for the WiFi and WiMax businesses.

Practical Applications

- Become familiar with the industry standard methods used to secure and authenticate wireless access (the EAP, GSM, CDMA, WEP, WPA, PPTP and others) and how they can be applied to their environments.
- Review the primary methods to authorize access for customers (the Navigation, Walled Garden, Firewall, inStream, DPI, BGP Community, HLR and IMS/HSS methods) and understand how and when they are best applied to their environments.
- WiFi Briefing: An exhaustive review of the standards, current market characteristics, common applications, future-forecast, architecture, customer equipment, network infrastructure, topology and billing approaches utilized to assure the WiFi business.
- WiMax Briefing: An exhaustive review of the standards, current market characteristics, common applications, future forecast, architecture, customer equipment, network infrastructure, topology and billing approaches utilized to assure the WiMax (Mobile and Fixed) business.

Key Concepts

- Industry standards based authentication methods for NextGen Wireless: how they work, where they are to be applied.
- Industry standards based authorization methods for NextGen Wireless: how they work, where they are applied.
- WiFi – In Depth Briefing
- WiMax – In Depth Briefing

Architectures & Billing

The second half of this day will conclude our assessment of the Next Gen Wireless technologies. We will complete an in-depth review of the evolution and integration of the 2G/ Edge/GPRS, UMTS, LTE and IMS technology sets. After going through these modules, students will have a solid grasp of how each technology works, the business models it engenders, the risks

to revenues it creates, and the controls that can help assure both the migration process and the products offered. We will then review the different billing architectures for telecoms, and the customizations required to make them work for a NextGen wireless opco. We will review the Postpaid, Prepaid, Radius, 95th Percentile, Bespoke and Convergent billing models, their controls and applications.

Practical Applications

- 2G/GPRS/3G/UMTS/HSPA Briefing: An exhaustive review of the standards, market characteristics, common applications, future forecast, architecture, customer equipment, network infrastructure, topology and billing approaches utilized to assure the 2G GPRS/3G/UMTS/HSPA businesses.
- LTE and IMS Briefing: An exhaustive review of the standards, market characteristics, common applications, future forecast, architecture, customer equipment, network infrastructure, topology and billing approaches utilized to assure the LTE and IMS businesses.
- How to recognize, organize, assure and integrate New NGW solutions into:
 - postpaid billing environments.
 - traditional wireless prepaid (SS7/INAP) environments.
 - new or existing radius/diameter billing environments.
 - new or existing SNMP/95thP Billing environments.
 - new or existing Bespoke or convergent Billing environments.

Key Concepts

- 2G/GPRS/3G/UMTS/HSPA – In Depth technical, architecture and business model Briefing
- LTE / IMS – In Depth technical, architecture and business model Briefing
- Principles of billing architectures and controls for Postpaid, Prepaid, Radius/ Diameter, SNMP/95thP, Bespoke and Convergent Billing Solutions



How to Be a NextGen Wireless Telco

Knowing about all of the different details that make up a NextGen Wireless Cloud and IMS driven telco is not enough to make you successful at this new dynamic business world. The key to success is not only mastery of the parts, but mastery of the overall process itself. The dynamic building of cloud and IMS services, learning how to build and control strategic alliances quickly and learning how to shift focus based upon changes in conditions is the real key to success. Of course, without the detailed knowledge, you have no chance of succeeding, but given that information, you are ready to turn to the last and most critical part, the creation of teams of people who can continuously CRAFT solutions that provide you with competitive advantage.

Practical Applications

- Learn and utilize the key components and critical success factors that, based upon industry best practices and utilizing RA controls and methods, will enable you to run a profitable business. We will give emphases to the following businesses:
 - Wireless Internet Service Provider
 - Wireless Broadcast (video/audio)
 - Wireless VOIP Provider Business
 - Wireless custom cloud operation, or customer IMS service



Key Concepts

- Industry standard controls for Wireless ISP operations
- ISP partner controls and protocols
- Industry standard controls for Wireless Broadcast operations
- Content provider and customer controls for broadcast
- Industry standard controls of IMS/Cloud service offerings
- The Cloud Portfolio Design discipline and how to apply it
- Standard controls for Wireless VOIP/IPPBX service offerings

NextGen Wireless Margin & Market Controls

For the final session, we will turn our attention to the highest level and most critical of the NextGeneration Wireless controls activities. This final half day will show students how the revenue assurance margin and market controls and approaches can be

utilized to help management minimize the risks of loss due to margin miscalculation. Furthermore, we will review industry-standard pricing, product development and Deal making controls. Focus will be put on the development of controls over the process of migration to the new technologies themselves, and on the initiation of controls over marketing, new product development and sales/cloud builders, in order to help management do the best job possible of containing risk and guaranteeing profits.

Practical Applications

- Create effective controls around the measurement and monitoring of the margins generated (or to be generated) by NGW technologies and service offerings.
- Learn how to create and participate in the effective securing and assuring of the migration to new NGW technologies.
- Initiate effective and efficient controls over the NGW new product, new deal and corporate deployment processes.
- Assure NGW pricing before and after launch

Key Concepts

- Industry standard controls for NGW Margin
- Industry standard controls for the Migration to NGW
- Industry standard controls for NGW Pricing disciplines
- Industry standard controls for NGW New Product Development
- Industry standard controls for NGW Bundles, Deals and Corporate applications





MORE THAN JUST TRAINING

THE REVENUE ASSURANCE ACADEMY EXPERIENCE!



In the Classroom and out you will be getting benefits from Challenging Content, Socializing, Discussion, Participation, Confidence Building and Networking.

Rob Mattison, is considered by many to be one of the world's leading authorities in Telecommunications billing, revenue assurance and analytics. As the President of GRAPA, Rob has been responsible for teaching over 1000 students in the practice of revenue assurance.

Rob's experience spans multiple generations of telecoms technology from the oldest , PRE-SS7 based voice and satellite, through the early days of cable and voice, and through the latest in wireless LTE, IMS, NGN and DOCSIS 3.0. As a former member of the ITU, IEEE and Unix International Steering committees, Rob has participated in the forefront of each new generation of telecoms technology and innovation expansion. Rob has authored over 12 books on the topics of Telecommunications Revenue Assurance, Telecoms Business Intelligence, Internet and Web programming and design and the fundamentals of database architectures.

Rob's highly charged, interactive and enthusiastic style of teaching has helped hundreds of people to gain fresh insight and better methodologies for the practice of revenue assurance in all communications arena and regions of the world.

THE INSTRUCTOR



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 offering.

- **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.
- **Scientific Approach** – GRAPA methods and standards provide a structure that allows the RA team, management and operational managers to get what they need most from their revenue assurance efforts; a systematic, reliable, consistent approach which delivers results EVERY TIME.
- **Proactive Methods** – GRAPA training teaches your team how to get moving and anticipate risks and losses BEFORE they become a leakage event.
- **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 deliverable 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.

GRAPA training is proven to help YOU put your Revenue Assurance Department at the leading edge of the new technologies, business models and revenue streams that are defining the future of telecommunications.

ABOUT US:

The Revenue Assurance Academy (RAA) is the exclusive training organization of GRAPA. GRAPA has over 6000 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:

Visit our website to read some great reviews from students who have attended our training: www.ra-academy.org/RAA_info/testimonials.html

2012 SCHEDULE:

06-10 Feb	London, UK
27 Feb - 02 Mar	Singapore
12-16 Mar	Lagos, Nigeria
18-22 Mar	Dubai, UAE
07-11 May	Cape Town, South Africa
21-25 May	Chicago, USA
17-21 June	Dubai, UAE
22-26 Oct	Cape Town, South Africa
11-15 Nov	Dubai, UAE
03-07 Dec	Orlando, USA

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

www.ra-academy.org/revenue_assurance_training/upcoming_events.html

We schedule courses and venues based on demand, so please be sure to tell us if you are interested in a particular class and location. We only move forward with our planning if there is enough interest. To make these trainings happen we need commitment from a minimum number of delegates. Please refer to our website for specific policies.

I think that it is necessary for all communications companies to get this training because there is a wealth of information. I believe that GRAPA has great experience and everyone in the field of communications can take advantage of it.
Manager, Iraq

Rob really knows his stuff and is very passionate about it. If you really want to get a wider perspective of what revenue assurance is really about, then he's the man to go to! The course is intense and extensive but nonetheless highly enjoyable. I would highly recommend the course equally to those with both a technical or non technical interest in the subject.
Manager, Dubai

TELCO EXECUTIVES RAVE ABOUT THE COURSES...