



Revenue Assurance Foundations Certification Program 2019

**5 Regional Events - 5 Chances
to Certify in 2019**



***Dubai * Cape Town * Amsterdam *
Kuala Lumpur * Chicago***

GRAPA Regional Events

Training & Certification - 2019

Integrated Training to Improve Revenue Assurance & Profitability

The GRAPA Revenue Assurance Certification Regional Events provide revenue assurance, finance, and operations teams with a high impact, concentrated exposure to the latest in telecoms RA principles and controls for revenue across the full range of ICT products and services.

This program is designed to get the revenue assurance and finance team up to speed with the latest best practices in all facets of security, revenue recognition, financial compliance, and leakage risk assessment.

Practical & Results Driven:

GRAPA programs are grounded in the day-to-day, activities of telecoms professionals. Those who attend our events return to work with measurably greater understanding, tools, and skills to face the challenges of their environment.



Certification

Getting certified is the best way to say to the world "I am a professional". Certification provides you with the credentials you need to get ahead in your career and GRAPA certification is the most widely recognized program for RA professionals globally

Updates on the Latest Best Practice

Learn the latest tools and techniques used by RA professionals around the world. Find out how to expand your job scope and improve your job satisfaction.

Network with Like Minded Professionals

Meet with other RA professionals from other companies and other regions. Find out what is happening and how other teams are dealing with the issues you are facing everyday.

Build a professional network that expands your reach and increases your exposure to the industry.



The Fundamental Risk Mitigation Role of Revenue Assurance in the modern Telecom

New and emerging technologies greatly influence how companies design and manage their operations, especially the next gen telecom. As the future world of work evolves to embrace these new technologies, two things can happen. If applied intelligently, new technology can play a role in supporting and shaping each component of the workforce. On the other hand, if in the rush to automate and to leverage new technologies you move too quickly, it can take a large toll on the people in the organization and create more risk and loss than anticipated.

Keeping the Revenue Assurance Team Current & Proactive

Empowering the Revenue Assurance and Finance Team with the Latest Best Practices (2019)

Telecoms survive by experimenting and launching revolutionary technologies there is no doubt. But the technologies cannot deliver the promise of speed, flexibility and capacity without making some significant changes to the way that our delivery networks, billing systems and corporate governance are built, managed and modified.

Telecoms innovation does not only create radical new network delivery infrastructures, it also requires that the audit and corporate governance teams take on an entirely new, and radically different approach to many of these new areas, as well and maintaining vigilance over existing areas.

The Unique Role of the Revenue Assurance Professional

Telecoms Revenue Assurance Professionals are unique in many ways – while people in a bank or manufacturer can focus on a set of generic accounting standards, the telecoms professional must master massive amounts of technology issues as well. Telecoms networks, billing and partner management is an eclectic and complex mix. Understanding telecoms billing and the transaction records that create invoices and financial reports requires the RA Analyst to be part engineer. Telecoms RA professionals know that relying on the financial numbers "the system generates" and ignoring where those numbers come from damages the integrity of systems and the reliability of results.

Because of the complex nature of the telecoms RA function, GRAPA has created a certification program that meet the needs of telco RA and Finance professionals. The program is designed to provide a detailed understanding of telecoms operations, line of business management, and the billing, credit and revenue recognition process. registry of CPE sponsors, please view:

<https://www.nasbaregistry.org/sponsor-list?&azletter=G&searchTerm=GRAPA&searchgroup=2099EC2E-exhibitors>

ISACA CPE Credit

Many students have also been credited by ISACA with CPE credits for this same course.

Program At-a-Glance

Day	Session	Description
Monday (AM)	1	Best Practices in Revenue Assurance
	2	Revenue Assurance Methods & Procedures
Monday (PM)	3	Revenue Assurance Controls Overview
	4	Revenue Assurance Governance
Tuesday (AM)	5	Voice Network Commercial Controls
	6	Voice Network Assurance Principles
Tuesday (PM)	7	Voice Billing - Postpaid
	8	Voice Billing - Prepaid / Convergent
Wednesday (AM)	9	Data Network Commercial Controls
	10	Data Network Assurance Principles
Wednesday (PM)	11	Next Generation Mobile Commercial Controls
	12	3g/4g - Assurance Principles
Thursday (AM)	13	Fundamentals of Interconnect Commercial Controls
	14	Interconnect Assurance Principles
Thursday (PM)	15	Fundamentals of Roaming Commercial Controls
	16	Roaming Assurance Principles
Friday(AM)	17	Backhaul, Wholesale Data & Corporate Services Controls
	18	Next Gen Fixed Consumer(Cable, Fiber DSL)
Friday (PM)	19	Fixed Consumer Principles
	20	Revenue Assurance for M2M, IOT and OTT

Revenue Assurance - Best Practices

for the Modern Information, Communications & Technology Carrier

RAF: Introduction to Revenue Assurance Best Practices

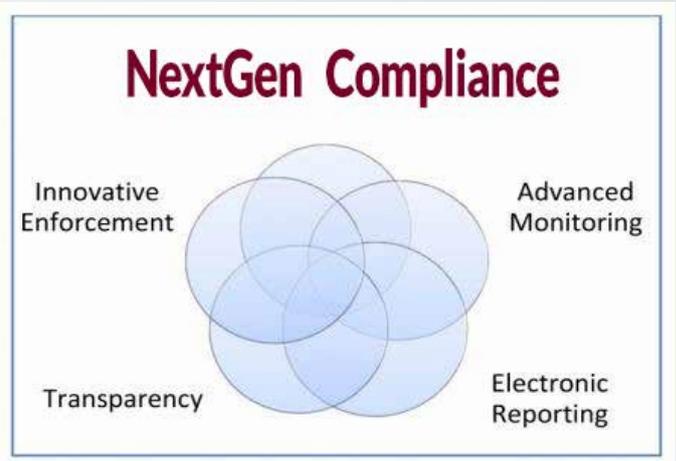
Emerging role of RA in the modern Information, Communications, and Technology company?

Learn how the revenue assurance disciplines are helping executives get better control over profit and risk in the fast paced modern telecoms environment. In this unit, we provide a framework for approaching the complete protection of products and services in a logical, rational manner in compliance with industry global standards.

In the modern telecoms environment management decision making must happen at a faster pace against the backdrop of competitive pressure, regulatory scrutiny, and investor demands for higher returns. The result is that managers are taking greater risks while the audit organization must struggle to keep up with a set of tools that no longer fits the modern operational environment.

Unit Objectives:

- Balancing the stability of traditional methods with the requirements for innovation in governance
- Understand the telecoms business development lifecycle and the key role that revenue assurance plays in success
- Define the major strategic drivers that dominate telecoms top management RA requirements
- Understand the "Crossing the Chasm" concept and see how it applies to our operational culture and environment
- Review the framework for prioritization and decision-making in the NextGen RA



RAC : Revenue Assurance Controls and Governance

Next Gen Telecoms - The changing shape of the revenue assurance job

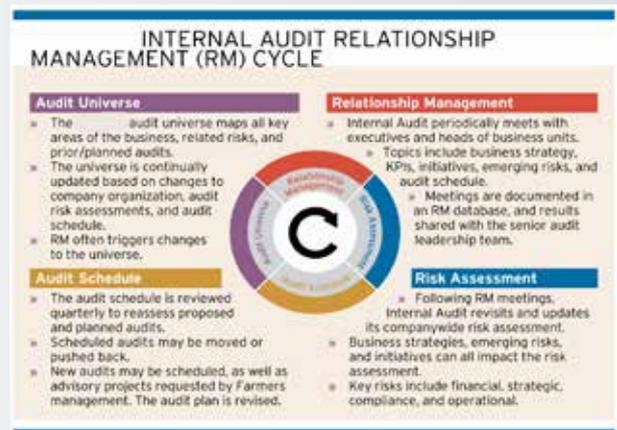
This unit provides the student with a comprehensive overview of best practices in way that the responsibilities and roles for Revenue Assurance are changing in the modern environment. The modern telecom organization embraces dozens of business models never before considered part of the domain of the telecoms compliance and security team. and innovation and the modification of existing universes and methodologies is key.

OTT, M2M, MVNO, Broadcast, 4G, WiBB, 5G and the emerging IOT, Cloud and Managed services universes are exponentially different than the traditional voice and data networks. These new business models bring with them new risks in the ares of :

- Operational Integrity
- Partner Relations
- Cyber Attack Vulnerability
- Financial Compliance

Unit Objectives:

- Understanding the new range of risk domains that need to be included to cover the new business model frameworks.
- Ways that compliance teams are adjusting methods and shifting domain boundaries to take everyting into account
- Risk of Coverage Gaps these new universes present
- Black Swan events - lessons learned from the "less than best practices" practitioners



Revenue Assurance for Data Services & Networks

DNA: Best Practices in Data Network Controls for RA *Profit and Protection of Internet Services*

Making data an assure-able ecosystem

A comprehensive look at the principles and protocols for the financial management and establishment of controls for the data, internet and content ecosystems. The converged world of information, communication and technology products and services requires a new approach to the tracking and accounting that typifies traditional financial assurance. Billing and assuring policies, bandwidth, service levels, quality of services, and best effort bundles are completely different from CDR and volume based billing, and the challenges of assurance are much more complex.

This briefing provides participants with guidelines for application of appropriate controls to wired and wireless internet ecosystems including Fiber, Cable, DSL, WiFi, GPRS, LTE, EVDO, WiMax and other major technologies. The underlying principles of AAA as applied to these diverse business models are explained under the GRAPA Standards and Domain Access Methodology framework.

Participants are familiarized with the concept of “structural” versus “dynamically enforced” policies, and gain an understanding of the many challenges of crafting services that are not only deliverable, but assurable, in terms of quality, bandwidth and expectancy.



Unit Objectives:

- Understand the 3 different business models that IP data supports and the differences that makes in the design of products
- Learn the 5 dimensions of the IP data billing matrix (Volume, Bandwidth, Time, Destination, and Protocol)
- Learn the 6 different methods of traditional IP Authentication
- Learn the 5 different methods of traditional IP Authorization
- Understand the key challenges to financial integrity and commercial success in an IP environment

NGM: Mobile Data Networks and Policy Enforcement

Assurance of 3G, 4G, LTE, VoIP, VoLTE, PCRF, DPI, Radius, Diameter

The communications industry is driven by innovation and the continuous implementation of newer and more challenging technologies. In this unit, we review several of the major next generation technologies and the key to assuring the revenues they generate. The fundamental organization and commercial controls issue and vulnerabilities associated with GPRS and EVDO, LTE, WiFi, HetNets, and other next generation wireless platforms.



Unit Objectives:

- Differentiate between the various methods that VoIP (Carrier-Grade, SIP, Consumer, Skype, etc) is delivering to voice networks
- Assure and be able to protect WiFi, GSM /GPRS, EVDO, and WiMax architectures, settlement, and billing techniques
- Improve your approach to wireless migration assurance and better protect your organization's billing, infrastructure, and security as it migrates from 2G to 3G-LTE-4G-PCRF-DPI-Diameter
- Understand the fundamental architectures, business models, AAA, security, and billing protocols for 3G, 4G, LTE, WiFi, WiMax and other wireless technologies

Revenue Assurance for Partnerships

ICO: Interconnect Operations and Risk Profiles

Still a big revenue source .. and a bigger fraud risk than ever.

How Does Interconnect Work and is it Really That Complicated?

Understand the operational, technical and fundamental business model of interconnect. We will specifically focus on the nature of the business, how the environment works, key systems and processes, and the industry standard responsibilities of operational teams. We also spend significant time reviewing how to work with interconnect partners, interconnect agreements and settlement, technical details for trunking, signaling and CDR generation, as well as rate change protocols.

Unit Objectives:

- Understand how the interconnect environment works, where the biggest risks to revenue occur, and the industry standard financial, audit, and revenue assurance controls to protect interconnect revenues
- Better assure interconnect partnership agreements, and make sure your organization is not losing money in these relationship
- Implement finance and audit controls throughout the interconnect revenue stream to ensure integrity in the revenue management process



ROM : Roaming Operations Lifecycles (Signaling, Postpaid, CAMEL, USSD)

Understand the Most Complicated Line of Business in Telecoms

This unit details the operational standard practices for the various roaming environments. In particular, it covers the use of roaming signaling for authentication and authorization, the postpaid business model, and various means of credit management (HUR and NRTDE). Both of the two separate models for prepaid billing - CAMEL and USSD will be discussed, and we will review the lifecycles associated with each of those operational practice areas.



Unit Objectives:

- Learn how the roaming environment works and where the biggest risks to revenue occur
- Ensure that your alarms for roaming credit management are calibrated appropriately and that your organization is not losing money from overextending roaming credit to customers
- Get better control over your organization's relationship with the DCH, and make sure that their roaming reports are accurate

Broadband, Corporate Services & The Future

IOT : 5G, LORA, IMS, VoLTE, Homespots & Traffic Assurance

Future shock and future profit

Telecommunications technology is changing at an ever increasing rate. Before the 4G and NGN networks can even get established, innovative carriers are already in the process of deploying the next next generation of 5G, LORA and a whole new generation of IMS driven applications.

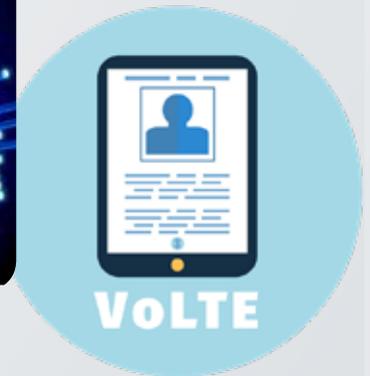
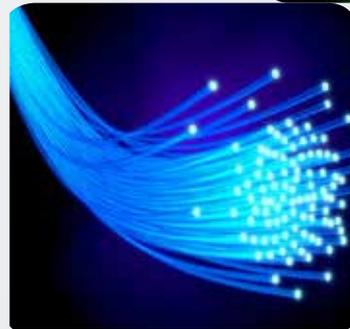
In this unit, we explore how these new technologies work, and examine the ways that carriers are launching these, as of yet, unstandardized and unconventional new approaches.

CDRs and audits will never be able to keep track of these new technologies, so a whole new generation of billing and assurance approaches is being invented at the same time. One of the most critical *new age* disciplines is called **Traffic Assurance**.

Students will be acquainted with the traffic assurance discipline and come to understand how it works, and why it is critical for profitability and margin analysis

Unit Objectives:

- Understand how 5G, LORA, IMS, VoLTE, HOMESPOTS work
- Explore alternative methods for billing and assuring this type of traffic
- Introduction to the concept of TRAFFIC ASSURANCE and its role in calculating profitability and margin assurance



BCC: Corporate Broadband, Corporate Services, Cloud, MVNO & Managed Services

NextGen Corporate Services... more than leased line!

The new convergege of MPLS, fiber, and cloud backhaul is creating an exciting new world of fixed line and wireless corporate products, services and possibilities. In this unit, we review the many different ways that NextGen corporate technologies are reshaping the competitive landscape and making the fight for market dominance even more intense. The session will cover : the OSI- 7 Layer model, the nature of Layer 1,2,3,4,5 and full stack corporate services delivery. Students will learn about the security, provisioning, and billing assurance challenges that have plagued corporate services, and how the nextGen of corporate services are making it harder than ever.



Best practices in the establishment of controls and governance issues for MVNO configurations, corporate managed services, Co-Location, VPNs, Leased Lines and Ring Management.

Key Concepts :

- Understanding the OSI & Layer model and its critical role in the understanding of NextGen technologies and opportunities
- GRAPA - DSS methodology which provides an systematic method for business analysts to decompose complex multi-layer service offerings and define appropriate controls and liability.
- Review of the key components that make converged fixed/mobile/satellite systems viable
- Understand the strengths and risk liabilities associated with MPLS
- Understand the role of IPX/GRX and other speciality carriers

Fixed, Broadband & Consumer

Best Practice in Fixed To The Home Fiber, Cable, WiBB & DSL

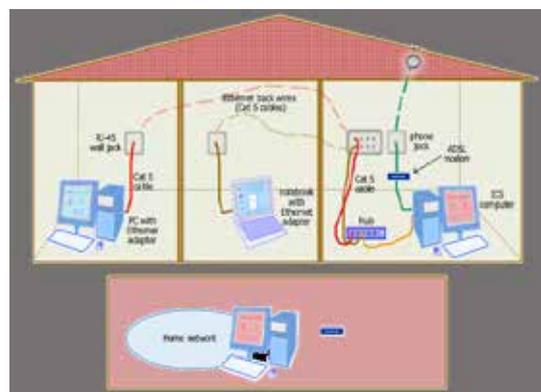
The Fixed Comeback .. the role of WiFi, HetNets & Backhaul

The new converged world of IMS based applications and IP based backhaul is creating an exciting new world of fixed line products, services and possibilities. In this unit we will review the many different ways that NextGen Fixed Line technologies are reshaping the competitive landscape and making the fight for market dominance even more intense.

Students will learn about the AAA frameworks that support consumer broadband, and will learn how the new generation of "cellular wifi", HetNets and satellite enabled backhaul are reshaping the consumer and commercial NextGen networks in interested and unexpected ways.

Key Concepts :

- Best practices in Fiber, Cable and DSL Network Security and Assurance
- Primary billing framework for fixed consumer products and services
- Provisioning issues and controls for FTTH, DOCSIS 3.0 and ADSL.
- Configuration, provisioning and AAA controls for Homespots, Hotspots, HetNets, 5G and Cellular Wifi Networks
- Fixed consumer audit procedures and audit model development



WHY WE ARE LEADERS IN TRAINING TELCO PROFESSIONALS AROUND THE GLOBE

Join the leading provider of fraud-focused certification training events. Featuring exclusive presentations, real-world examples of procedures, solutions, and strategies that have effectively reduced fraud issues for telcos around the world.

■ **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 invalidated information.

■ **Interactive**

The workshops are more than lecture sessions. RAA classes are participative and interactive and students are expected to pro actively 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.



Rob Mattison is a world-renowned expert in telecommunications and the revenue assurance industry. He has 20+ years of hands-on industry experience. Rob is President of GRAPA and author of “The Revenue Assurance Standards - 2009 Edition,” and of “The Telco Revenue Assurance Handbook” which has become the authoritative guide for RA Managers at telecoms firms around the world.

ABOUT GRAPA



The Global Revenue Assurance Professionals Association (GRAPA) is a professional association, dedicated to the professionalization and support of telecommunications revenue assurance, financial controls and fraud management professionals around the world.

GRAPA was created to serve the interests of telecommunications, data communications and broadcast professionals engaged in the design, delivery, and governance of financial controls, revenue recognition profit assurance, fraud containment, risk management and audit of telecommunications revenue streams and approaches throughout the world. GRAPA does this through the development, formalization and promotion of professional practices; development, creation and promotion of innovative, new and more efficient methodologies; and the standardization, training and certification of those skills, methodologies and approaches.

AUDITORS HAVE OPINIONS ABOUT THE COURSES!

"[The Certification course] was exciting and full of live examples from the industry. It provided me with the knowledge of the basics of telecom, key technicalities, how the telecoms work, risk exposure scenarios and how these risks can be addressed with appropriate controls. The training has provided me with knowledge, best practices and standards to handle my day to day tasks

-Audit Consultant, Protiviti, Kuwait

"I was impressed by the instructor's ability to involve a very diverse telecommunications audience (e.g. regulatory, vendors, consultants, managers...) in stimulating class discussions and experience sharing, based on a knowledge basis which is comprehensible for the novice, yet challenging for the more advanced. I am convinced that this training completed and updated my theoretical understanding of telecommunications revenue assurance, and through the GRAPA standards and control framework I noticed that this comprehension can be efficiently applied into the day-to-day reality."

Senior Risk Advisor, Ernst & Young, Belgium

"The training [I attended] was indeed one of my most treasured events in my life. I consider it another milestone in my career. Being recognized and certified by a well respected group like GRAPA is really something very inspiring to continue my endeavor and passion in the field of protecting telcos in revenue leaks and frauds. GRAPA training and certification is a "MUST" to ALL Professionals working in the Wireless as well in the Wireline Telco."

Senior Specialist-Technical/IT/Financial Audit, Globe, Philippines

"I found the course useful for me as it positioned Revenue Assurance as a Risk Management issue. I have used the information gleaned from the course to have some good discussions with the RA professionals in our company, as part of the annual audit planning process. And with respect to our audit teams, I will continue to propagate the approach of assuring revenue streams."

Senior Manager, Group Internal Audit, MTN Business Risk Management, Nigeria