



NEXTGEN FIBER, CABLE & CLOUD ASSURANCE

DOCSIS 3.0 • FTTH • WIFI • ADSL • FASTETHER • MPLS • BROADCAST • IMS

NGF101:

NextGen Hard-Wired Overview

Become familiar with the terms and technologies involved in NextGen Wired including WiFi, FTTH, Fiber, FastEther, MPLS, Commercial VOIP, Docsis3.0, IMS and integrated Cloud services and products. We will overview the key role revenue assurance plays in the migration of existing wired communications organizations into this new technology.

NGF102:

NextGen Wired: Lines of Business

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

NGF103:

How to be a NextGen Wired 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.

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.

NextGen Wired: Architectures & Billing

A detailed review of Fiber, FTTH, Docsis, DSL 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.

NextGen Wired Margin & Market Controls

Learn approaches and 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 development of controls over the process of migration to the new technologies themselves.



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OVERVIEW:

The Next Generation Fiber, Cable and Cloud 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 fiber, cable, leased line and cloud technologies, products, services and hard-wired cloud based business models. This is a Hammerhead program. This means that the curriculum is highly focused and high impact.

Students need to be familiar with ongoing wired 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 and a basic understanding of Wired Voice telecoms or Wired cable 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 Wired Technology & Cloud Assurance. Additionally, students who have also successfully completed a GRAPA Practica or Methods course will earn thier Practioner of Revenue Assurance Certification. Student must provide work experience, pass the three qualifying tests and attend all days of training in order to certify.

Who Should Attend: The NextGen Wired Technology and Cloud Assurance class has been developed for any and all individuals involved in the development, administration, protection, assurance and operation of next generation wired technologies in exiting telecoms environments and start up organizations.

Critical value will be provided for people who are:

- Revenue assurance professionals looking to get involved in protecting their organizations against fraud risk, leakage loss and margin loss during the process of migration from existing hard-wired cable, DSL, Fiber and other wired technologies, products and services (MPLS, ATM, Leased line, etc) to the new generation of data products and services
- Revenue assurance, finance, management, audit, I/T and operational professionals interested in learning about the differences between their current hardwired environment and the new generation of hard-wired, liquid deployments utilizing fiber, Hybrid fiber, cable, twisted pair and other technologies in order to participate in and be a winner in the battle to create a pervasive, wired cloud environment
 - People involved in the design of new products and services based upon Next Gen Hard-wired cable, DSL, Fiber and other wired technologies. (Broadband, ISP, IMS, Cloud Service Offerings)
 - Corporate sales teams interested in learn how to architecture, build and sell complex, competitive CLOUD OFFERINGS that make sense for the telco and generate profit and market position
 - Product development and network engineers interested in learning how their competitors are leveraging new technologies to gain competitive advantage with the explosion in new possibilities that the cloud business model represents.



WEEK AT A GLANCE

Session	Day 1-NGF101	Day 2-NGF102	Day 3-NGF103
Course Title	NextGen Fiber, Cable, Cloud & Internet	Operations, Architecture & Billing for NextGen Fiber, Cable & Cloud	Business, Margins & Markets for NextGen Fiber, Cable & Cloud
Opening Session	What is NextGen Wired?	Security for NextGen Fiber, Cable & Cloud Services	Wired ISP
Morning Session	NextGen Fiber, Cable & Cloud Business Models	WIFI: Operations & Assurance	Content Management
Late Morning Session	Role of Revenue Assurance	FTTH: Operations & Assurance	Wired Cloud & IMS
Afternoon Opening	Best Practices & Cases	Cable & DSL	Pricing & Margins
Afternoon Session	The Internet as a Business	VOIP & IMS	Risk Mitigation Services & Corporate "Packages"
Late Afternoon Session	Billing Internet Services	Postpaid, Prepaid & Radius Billing	Migration to NextGen Wired
Closing Session	Securing Internet Businesses	SNMP, 95thP, Bespoke, & Convergent Billing	New Cloud Corporate Offerings

NGF 101: Part 1: NextGen Wired Overview Part 2: Understanding the Internet

Day Overview

The first part of this day is focused on the migration of existing wired telcos into the new world of WiFi, FTTH, Fiber, FastEther, MPLS, Commercial VOIP, Docsis3.0, IMS and integrated Cloud services and products. 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 each technology, and, more importantly, they will see how this new technology affects telecoms revenues, profits, and business models.



The second part of NGF101 is dedicated to understanding the Internet—architecture, business models, AAA and operations. For decades 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 the second part of this day students will learn the controls for the business and security risks of Internet products and services that can help their organization stay competitive in the Internet, Cloud, and IMS game.

Practical Applications

NextGen Wired Overview

- Learn what is meant by the term Next Generation Wired.
- Differentiate between the characteristics of WiFi, FTTH, MPLS, Fiber, FastEther, IMS and the Wired 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 wired 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.

Understanding the Internet

- Learn the principles, tools, practical applications and case studies that show how Revenue Assurance adds value to NextGen Wired Deployments
- Use Revenue Assurance forensics, corrections and compliance to mitigate risk and assure the profitability of NextGen Fiber, Cable and Cloud services.
- Understand the key components of an internet “cloud,” the way that it is built, managed and packaged as a service.
- Learn the technical protocols and arrangements that make the internet public network function.
- Differentiate between the various business models that make up an internet “cloud” service
- Understand Consumer cloud, corporate cloud and custom cloud application design
- Review the different services that can be offered via the internet delivery architecture and the issues associated with their security and billing reliability.
- Learn how to secure and bill internet services

Key Concepts

- ▶ Key characteristics of architectures for WiFi, FTTH, MPLS, Fiber, FastEther, IMS and the Cloud services
- ▶ Key business models and commercial applications of WiFi, FTTH, MPLS, Fiber, FastEther, IMS and the Wired cloud
- ▶ Key pressure points where revenue assurance methods provide the greatest benefit to NextGen Wired operations
- ▶ The 3 Primary Functions of RA (Forensics, Correction, Compliance) as they are applied to NGFCC
- ▶ The 4 Layers of Revenue Assurance Coverage (operations, accounting, margin, market) and the way they are mapped to the NextGen Fiber, Cable and Cloud problem space
- ▶ The GRAPA Domain Analysis Methodology and its use in the developing and running of Fiber, Cable and Cloud 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



NGF 102: Part 1: NextGen Wired: Lines of Business Part 2: NextGen Wired: Architectures & Billing

Day Overview

The first part of NGF102 is focused on introducing students to the security, fraud protection, authentication and authorization for NextGen Wired services. Students will then learn the operational, technical, financial and business model details for the WiFi and FTTH lines of business. After lunch, the second half of the day will provide an in-depth review of the evolution and integration of the Docsis 3.0, FTTH, Wifi, ADSL, FastEther, MPLS, Broadcast 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 wired opco. We will review the Postpaid, Radius, 95th Percentile, Bespoke and Convergent billing models, their controls and applications.

Practical Applications

NextGen Wired: Lines of Business

- Become familiar with the industry standard methods used to secure and authenticate wired access 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, AAA Server and IMS/HSS methods) and understand how and when they are best applied to their environments.
- WIFI Briefing: Students will be provided with 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 and compare this to the other technologies.
- FTTH Briefing: Students will be provided with 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 FTTH business and compare this to the other technologies



NextGen Wired: Architectures & Billing

- Cable/ADSL/VOIP Briefing: Students will be provided with 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 Cable, ADSL, and/or VOIP business and compare this to the other technologies.
- Cloud and IMS Briefing: Students will be provided with 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 Cloud and IMS business and compare this to the other technologies.
 - How to recognize, organize, assure and integrate NextGen Fiber, Cable and Cloud solutions into:
 - Postpaid billing 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

- ▶ Industry Standards Based Authentication Methods for Next Gen Wired. How they work, where they are to be applied.
- ▶ Industry standards based authorization methods for NextGen Wired. How they work, where they are applied.
- ▶ WIFI – In Depth Briefing
- ▶ FTTH – In Depth Briefing
- ▶ Cable/ADSL/VOIP – In Depth technical, architecture and business model briefing
- ▶ Cloud / IMS– In Depth technical, architecture and business model briefing
- ▶ Principles of billing architectures and controls for Postpaid, Radius/Diameter, SNMP/95thP, Bespoke and Convergent Billing Solutions

NGF 103: Part 1: NextGen Wired: Lines of Business Part 2: NextGen Wired: Architectures & Billing

Day Overview

Knowing the different details that make up a NextGen Wired Cloud and IMS driven telco is not enough to make you successful in this new dynamic business world. The key to success is not only mastery of the parts, but mastery of the overall process itself. The first part of NGF103 provides students with an understanding of the dynamic nature behind the building and commercialization of cloud and IMS services. Students will learn how to build and control strategic alliances quickly and how to shift focus based upon changes in market and technological conditions. Students will then apply the information from previous days and turn to the last and most critical part: the ability to take technological, marketplace, and financial information and continuously CRAFT solutions that create competitive advantage.

For the final session of NGF103 we will turn our attention to the highest level of the NextGeneration Wired controls activities. During this half day, we 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

NextGen Wired: Lines of Business

- 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:
 - Wired Internet Service Provider
 - Wired/Cable Broadcast (video/audio)
 - Wired VOIP Provider Business
 - Wired custom cloud operation, or customer IMS service

NextGen Wired: Architectures & Billing

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

Key Concepts

- ▶ Industry standard controls for Wired ISP operations
- ▶ ISP partner controls and protocols
- ▶ Industry standard controls for Wired Cable 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
- ▶ Industry standard controls for WiredVOIP/IPPBX service offerings
- ▶ Industry standard controls for NextGen Fiber, Cable and Cloud Margin
- ▶ Industry standard controls for the Migration to NextGen Fiber, Cable and Cloud Technologies
- ▶ Industry standard controls for NextGen Fiber, Cable and Cloud Pricing disciplines
- ▶ Industry standard controls for NextGen Fiber, Cable and Cloud New Product Development
- ▶ Industry standard controls for NextGen Fiber, Cable and Cloud 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.



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 the RA team, management and operational managers with the most thing they need MOST from a revenue assurance department. 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 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.

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.

THE INSTRUCTOR



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. Mr Mattison 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.

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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.

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

TELCO EXECUTIVES RAVE ABOUT THE COURSES...

The Revenue Assurance core curriculum course has been one of the best courses I have ever attended. The ability of the trainer to present highly technical and complex subjects to practical and easy to use concepts was just amazing. I will definitely apply what I have learned in the course in my work.

Revenue Assurance Manager, The Netherlands

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

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. The Revenue Assurance Foundations (RAF) core curriculum is the Academy's latest curriculum offering, providing revolutionary, relevant material. 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 our website to read some great reviews from students who have attended our training: www.ra-academy.org/RAA_info/testimonials.html