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5G Security Training

Extended with Network API and CAMARA/Open Gateway Focus

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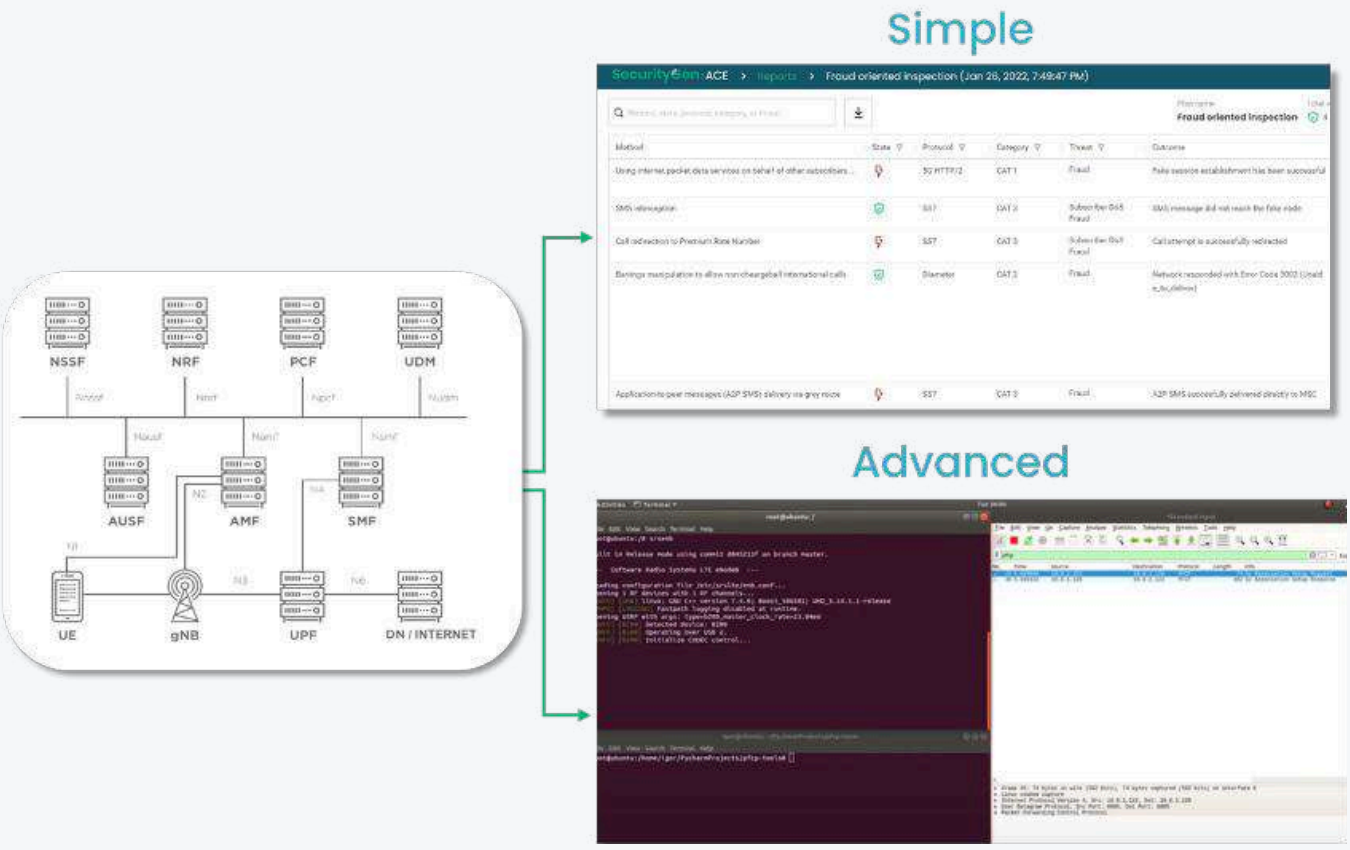
In the fast-evolving world of 5G and Network APIs, the boundaries between network performance and security are becoming increasingly blurred. APIs are rapidly transforming telecom networks, but they also introduce a new wave of threats. As the CAMARA project delivers its first major release and Open Gateway APIs take center stage, the telecom industry is moving toward a projected $9Bn in revenue by 2029. However, security must remain a top priority to prevent breaches, data theft, and disruption of service.

Our 5G Security Training Course has been enhanced to tackle these emerging challenges, aligning with the latest developments in the CAMARA/Open Gateway projects, focusing on the risks and rewards of this technological shift.

Who is this course for?

This training is designed for telecom security teams, network engineers, and security officers responsible for protecting critical infrastructure, defending against network-level threats, and ensuring secure API integration. Whether you're managing a 5G roll-out, API integration, or general network security, this course is essential to understanding the evolving threat landscape.



Course Highlights

1. Comprehensive 5G Security Knowledge:

- Dive deep into 5G-specific vulnerabilities such as signaling protocol weaknesses, security flaws in service-based architecture, and key threats like Distributed Denial of Service (DDoS) and man-in-the-middle attacks.
- Learn about the intricacies of 5G network slicing, which enables customized virtual networks but comes with its own set of security challenges.

2. Advanced Network API and NEF Functionality:

- APIs are the cornerstone of future telecom services. Learn how to secure APIs in a 5G environment, especially with the introduction of Network Exposure Functions (NEF), which allow network services to be opened up securely to third-party developers.
- Understand the security implications of CAMARA/Open Gateway initiatives, focusing on how to manage API access controls and secure API monetization without compromising network or user privacy.

3. Exclusive Hands-on Experience in Our 5G CyberSecurity Lab:

- Our award-winning 5G CyberSecurity lab offers a one-of-a-kind hands-on experience. You will not only explore theoretical concepts but also put them to practice in real-world scenarios.
- Train on live 5G systems, gaining first-hand experience in identifying vulnerabilities, attacking and defending APIs, and securing critical network exposure points.
- No other course offers this level of practical experience in a fully functional 5G security environment

4. Practical Insights into 5G Roaming, Network Slicing, and Hybrid Operations:

- Learn how roaming networks work across 5G systems, including how to secure the N32 interface using encryption protocols like HTTP/2, TLS, and JSON.
- Understand the operational challenges and security risks associated with 4G-5G hybrid networks as many operators run dual-mode operations during their transition phases.

Pre-requisites

This course is suitable for participants with basic knowledge of telecom networks (2G, 3G, 4G, and 5G), core network architecture, and experience with network analysis tools like Wireshark. A strong foundation in security principles will help participants grasp the advanced concepts covered.

Expanded Course Scope

1. 5G Security Fundamentals

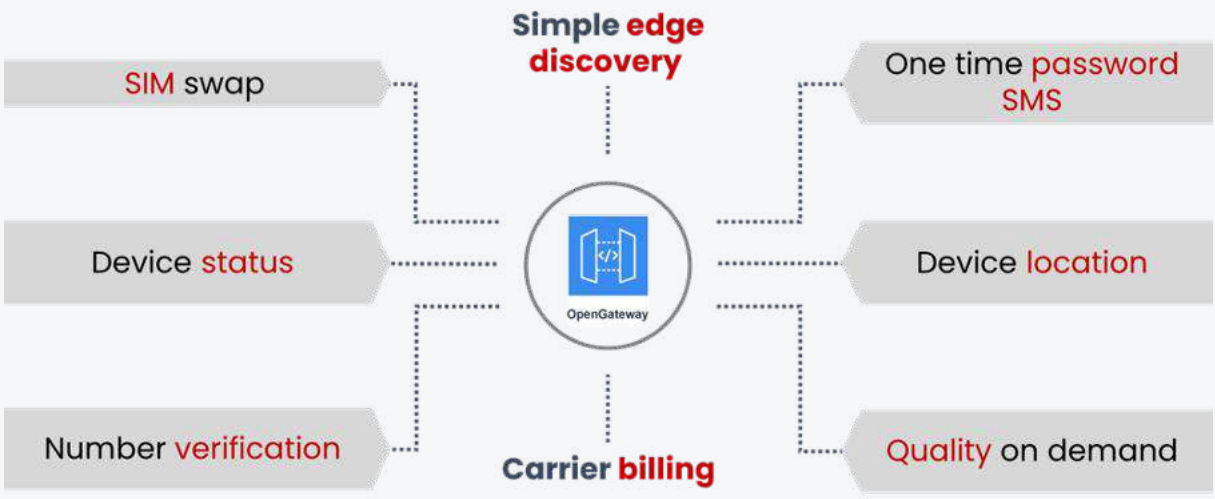
- Introduction to 5G architecture, security protocols, and procedures.
- In-depth analysis of the service-based architecture (SBA), including 5G authentication processes, signaling procedures, and the overall security framework.

2. Key 5G Core Network Functions & API Exposure

- Detailed examination of the 5G core network components such as NRF, AMF, SMF, NEF, and how they interact within the SBA framework.
- Understand the risks of exposing network services via NEF and how to secure this exposure without limiting functionality or business potential.
- Examples of practical use cases: Secure identity verification via APIs, managing quality on demand (QoS) securely, and location-based services where privacy is crucial.

3. API Security and Monetization

- Monetization strategies for Network APIs without compromising on security or violating user privacy, focusing on the regulatory landscape.
- Learn about compliance with privacy laws like GDPR and other regulatory frameworks that govern API usage, ensuring that APIs are not just secure but also compliant.
- Real-world examples: Monetizing network APIs to third-party developers for services like location tracking or device identity verification.



4. Real-World Threat Analysis and Countermeasures

- Case studies from live telecom environments showing how attacks on network exposure points are conducted, their consequences, and successful defense strategies.
- Review of major known attacks on 5G networks, including real-world penetration testing findings and practical advice on improving defenses.
- Examples of how 5G-enabled cyberattacks evolve and how these changes impact the role of AI and machine learning in proactive threat detection.

5. Expanded Hands-On Lab Sessions

- Our lab sessions cover everything from configuring secure NEF/API exposure to detecting and mitigating security threats in real-time.
- We simulate real-world environments, enabling participants to test hacking techniques on exposed APIs and secure them using industry-standard practices.
- Practical demonstration: Secure API exposure for a telco's partner applications (e.g., banking, IoT) while safeguarding user data and network integrity.

Certification

Upon completion of the course, participants will receive the SecurityGen Certificate of Completion for 5G Security Training, recognized industry-wide as a standard for 5G and API security expertise.

Why Choose This Course?

1. Real-World Relevance

With the explosion of 5G services, telecom operators must ensure that their networks and APIs are secure from day one. This course will arm you with the knowledge, tools, and hands-on experience to build and secure your network in a 5G/API-centric world.

2. Exclusive Lab Experience

No other course offers this depth of hands-on training with live 5G networks and API exposure. This is your chance to get an edge in the fast-evolving telecom security landscape.

3. Stay Ahead of the Curve

Learn from experts at the cutting edge of telecom security. Our trainers bring practical experience from real-world telecom environments and ensure that you're always ahead of the security threats of tomorrow.

Course Format

This course can be delivered either online or offline, depending on the number of trainees and any specific needs or requirements that need to be addressed. For more information, clarification, or to adapt the course to your unique needs, please feel free to contact us at **contact@secgen.com.**

About SecurityGen

Founded in 2022, SecurityGen is a global company focused on telecom security. We deliver a solid security foundation to drive secure telecom digital transformations and ensure safe and robust network operations. Our extensive products and services portfolio provides complete protection against existing and advanced telecom security threats.

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