

5G GROUP

RESEARCH OBJECTIV

The objective of the 5G group was research on existing vulnerabilities of cellular networks, their applicability based on the state-of-the-art 5G specification and the evaluation further security challenges of future cellular networks.

DELIVERABLES

1. **Pitch Presentation** – the presentation contains an overview about the 5G cellular network, its capabilities, improvements and security challenges. Furthermore, it contains recommendations for hardware equipment vendors to be considered to ensure a more secure 5G cellular network.
2. **Attack Visualization** – the visualization gives an interactive overview about existing attacks, their attack vectors and probable risks for upcoming 5G use cases.
(URL: <https://neventa1.github.io/>)
3. **5G Network Layer Overview** – the overview provides information about the different communication layers of 5G. It contains information about used protocols, protocol details, security issues and further information.
4. **Collection of Papers** – the collection of papers contains all papers which are relevant for evaluated existing attacks regarding the 5G specification.

WHO DID WHAT

Daniel Felber – Recommendations and Attack Descriptions, Collection of Papers

Lukas Osterheider – Pitch Presentation, 5G Network Layer Overview, Project Documentation

Daniel Reti – Attack Visualization

GROUP MEMBERS

Daniel Felber,
Hebrew University of Jerusalem

Lukas Osterheider,
Ruhr-University Bochum

Daniel Reti,
Technical University Kaiserslautern



Pitch
Presentation



Attack
Visualization



5G Layer
Overview



Collection of
Papers

All deliverables are available as separate files in native format.

SUMMARY

The group was able to get a deep insight into existing security challenges of cellular networks.

With a mapping to 5G specification the group has managed to give industry experts a very good overview about future security challenges and threats for companies and citizens together with a collection of recommendations for hardware equipment vendors.