Security incidents – lessons learned

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outline

- Introduction
- Past, present and lessons learned
- Future – unpredictable?
- Conclusions

introduction

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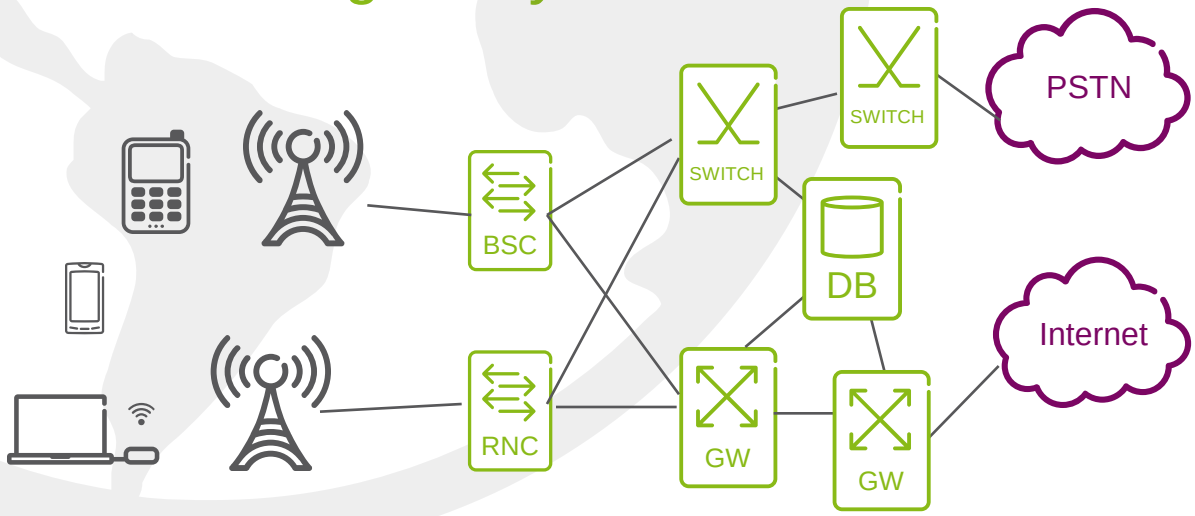
› Product Security Incident Response Team

› No – internal IS/IT network supervision and incidents
› No – mobile terminals and mobile malware

› Yes – operator mobile networks, globally



Incident environment for us - past

- PSIRT receives filtered view of security incidents from operators
- A case typically starts as
  - ”ordinary issue” reported to Ericsson support
  - fraud case
- Most cases related to (lack of) operational security as of today

Past, present & lessons learned

Case examples

- Case 1: A-number spoofing
- Case 2: Free surfing
- Case 3: Prepaid fraud
- Lessons learned

Case 1: A-number spoofing

- Voicemail eavesdropping or fake SMS messages by spoofing the A-number

- Most often resolved with proper configuration and number analysis in telecom networks

Case 2: Free surfing

- Bypass charging rules for 3G mobile networks
- Surf free of charge in the Internet

- How does it work?
  - Use a proxying tool installed on the laptop
  - Exploit zero-rated URLs to bypass charging rules
  - Modify http headers to reflect both 0-rated URL and full URL of the site to be visited
    - E.g. www.operator_x.com.www.t9space.com

- How to mitigate?
  - Proper configuration rules for mobile data networks

Case 3: free calls, prepaid fraud

- Prepaid (roaming) customers making free calls
- Prepaid balance credits

- Insiders involved taking illegitimate actions
  - Leaked passwords and group accounts
  - Segregation of duties does not exist

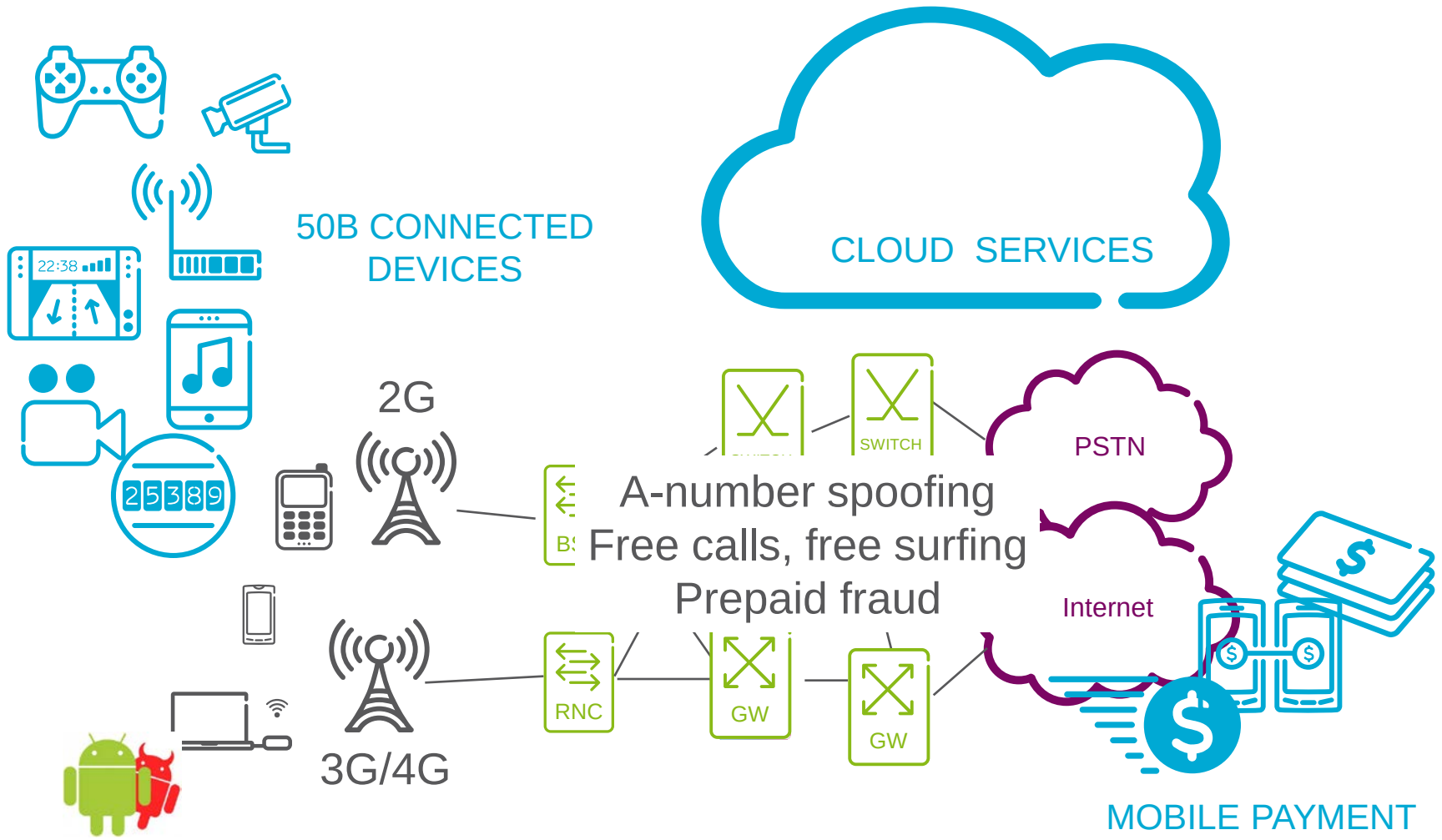
- How to mitigate?
  - Enforce good user and password policies
  - Good fraud management system
  - Logging activated

Lessons learned

- Main motivation as of today: free calls, free surfing
- 90% of cases related to (lack of) operational security
- Insufficient security policies
  - user account handling
  - segregation of duties
  - password policies
- Logging and accountability not detailed enough
- Evidence often destroyed during re-starts
- Communication with other parties during incident investigation may be challenging

Future – unpredictable?

FUTURE SCENARIOS



Conclusions

New challenges ahead

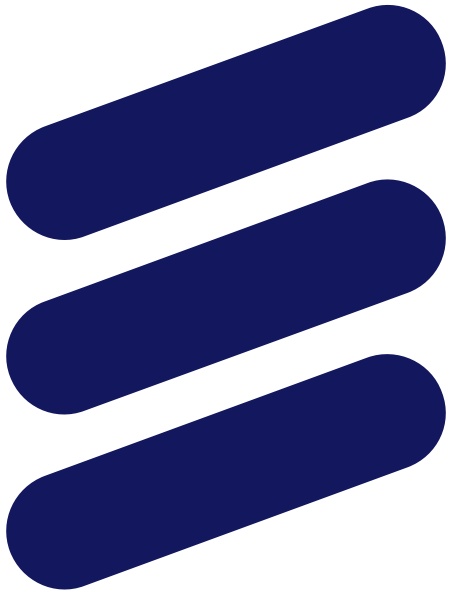
From one symptom to patterns and scenarios – wide attack surface

Get out of the silo

Lack of operational security will still be main reason for incidents

Co-operation across countries, legal regions and organizations crucial

Questions?



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