

Hello, ETSI

A CONVERSATION WITH CA ON JUNE, 14TH 2018



The past and the future

PAST (2G/3G/4G)

- Proprietary protocols
- Original design: inter telco communication with trusted partners only
- Security flaws everywhere

Legacy technologies as a threat to EU's telecommunications infrastructure

EU level assessment of the current sets of protocols used in interconnections in telecommunications (SS7, Diameter).

Published on March 28, 2018

Some citations from the ENISA study:

“Wild West” running on legacy infrastructure

Consider revising the current legal landscape

[in 5G] grace period between vulnerability discovery and real exploitation will become much shorter compared to SS7 and Diameter

development

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DOGBERT THE REPORTER

HOW DID HACKERS GET ACCESS TO YOUR CUSTOMER DATA?



DILBERT.COM @SCOTTADAMSSAYS

I'M TOLD THEY USED SOMETHING CALLED "OUR A.P.I." TO SUCK OUT ALL THE DATA.



5-9-18 © 2018 Scott Adams, Inc./Dist. by Andrews McMeel

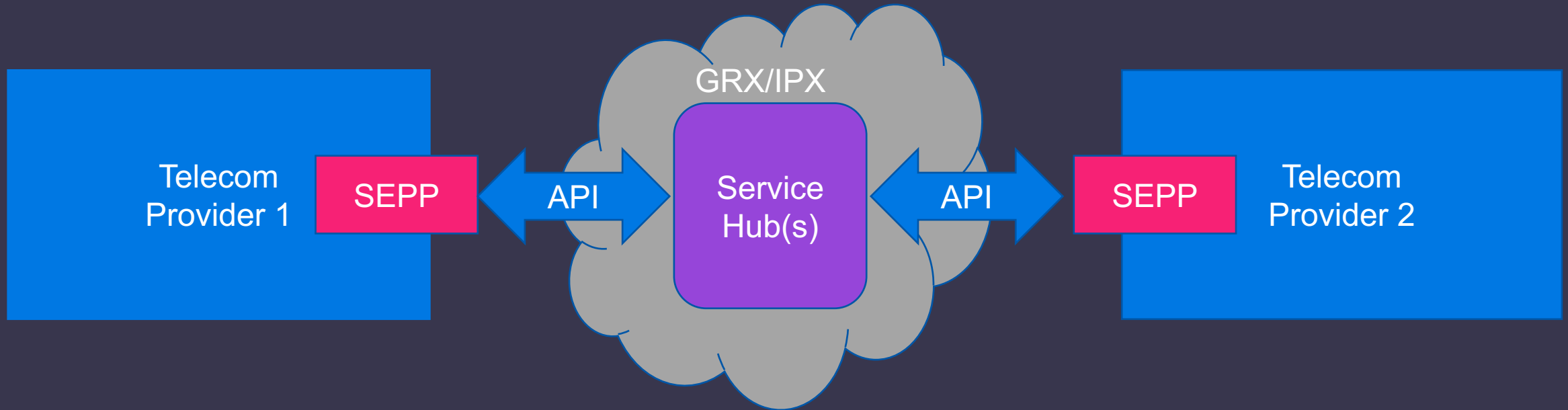
I'LL JUST SAY YOU'RE STUPID.

WHY DOES EVERYONE ALWAYS SAY THAT?



<http://dilbert.com/strip/2018-05-09>

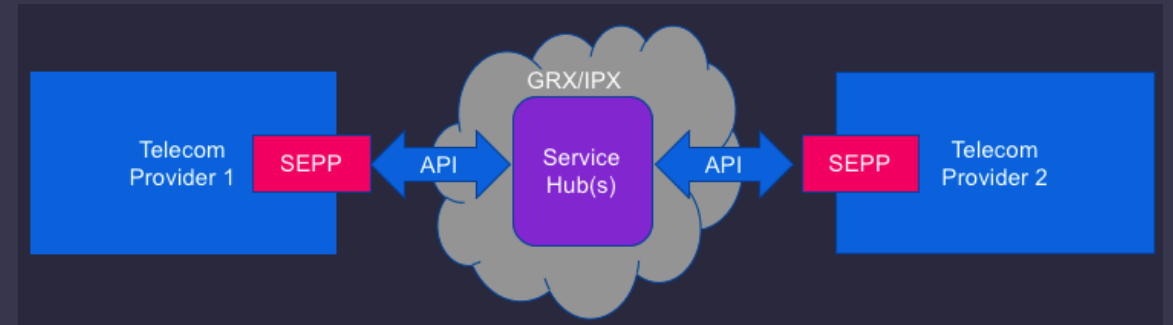
5G Roaming



SEPP: Security Edge Protection Proxy => API Gateway
GRX: GPRS Roaming Exchange
IPX: IP Exchange

SEPP = API Gateway

- Authentication
- En-/Decryption
- Signatures
- Transport and payload checks
- Transformations
- Mediations
- Caching
- Security, security, security



OWASP Top 10



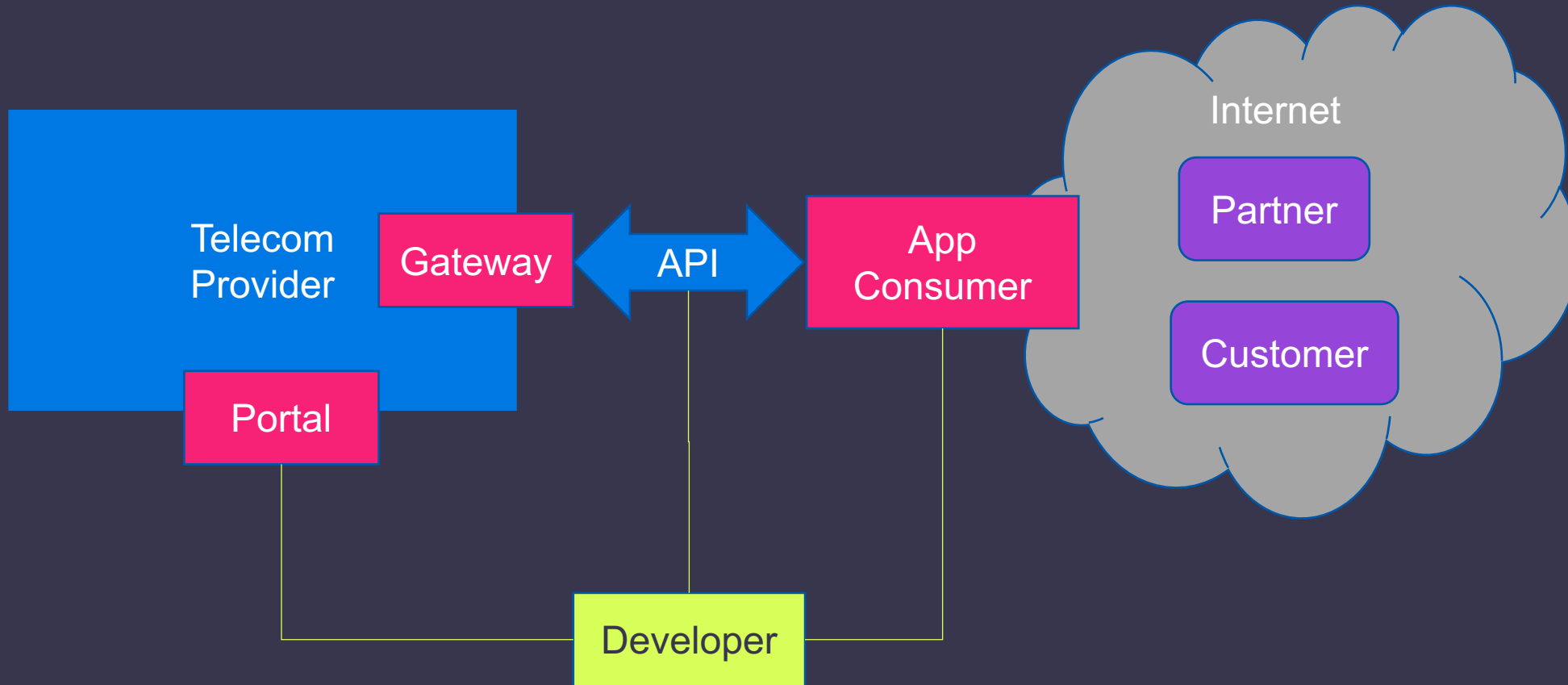
- A1: Injection
- A2: Broken Authentication
- A3: Sensitive Data Exposure
- A4: XML External Entities (XXE)
- A5: Broken Access Control
- A6: Security Misconfiguration
- A7: Cross-Site Scripting
- A8: Insecure Deserialization
- A9: Using components with known vulnerabilities
- A10: Insufficient Logging & Monitoring

https://www.owasp.org/images/7/72/OWASP_Top_10-2017_%28en%29.pdf.pdf

More than 10 years experience

- Problem already solved
 - Across all industries
 - Across all enterprise sizes
 - Across all load levels
 - Across all platforms
-
- Wide usage in telco space outside of 2G-4G

API Management – more than SEPP





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