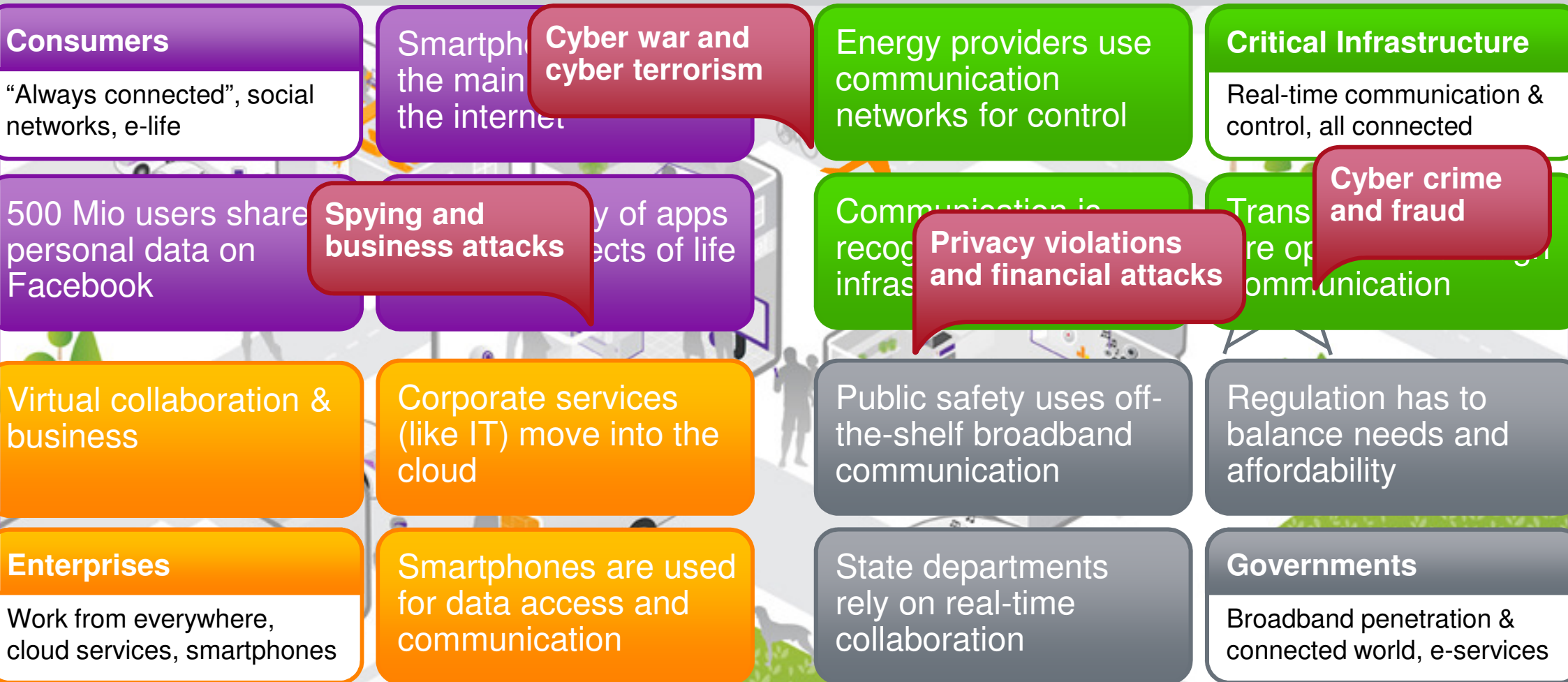**Nokia Siemens Networks**

Sicherheit in Telekommunikationsnetzen - neueste Entwicklungen

Thorsten Schneider

Head of Security Business at Nokia Siemens Networks

Communication is vital for our society and economy – security is mandatory and even more critical in the future

Consumers

"Always connected", social networks, e-life

Smartph... the main... the internet

Cyber war and cyber terrorism

Energy providers use communication networks for control

Critical Infrastructure

Real-time communication & control, all connected

500 Mio users share... personal data on Facebook

Spying and business attacks

...y of apps ...ects of life

Communication is recog... infras...

Privacy violations and financial attacks

Trans... re op... ommunication

Cyber crime and fraud

Virtual collaboration & business

Corporate services (like IT) move into the cloud

Public safety uses off-the-shelf broadband communication

Regulation has to balance needs and affordability

Enterprises

Work from everywhere, cloud services, smartphones

Smartphones are used for data access and communication

State departments rely on real-time collaboration

Governments

Broadband penetration & connected world, e-services

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Mobile Broadband & Smart Phone usage is growing fast – malware and attacks are growing even faster

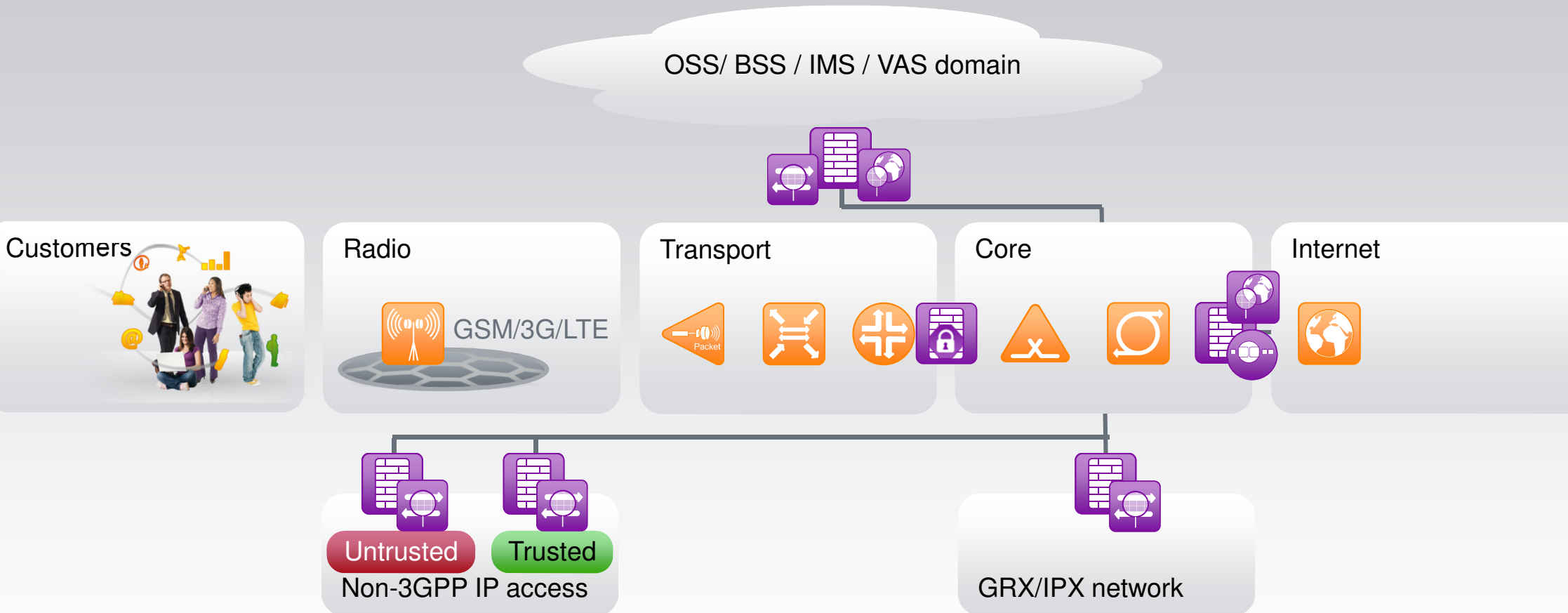**Mobile & Mobile Broadband subscribers and Smartphone users**

Legend:
- Mobile subs
- MBB subs
- Smartphone users
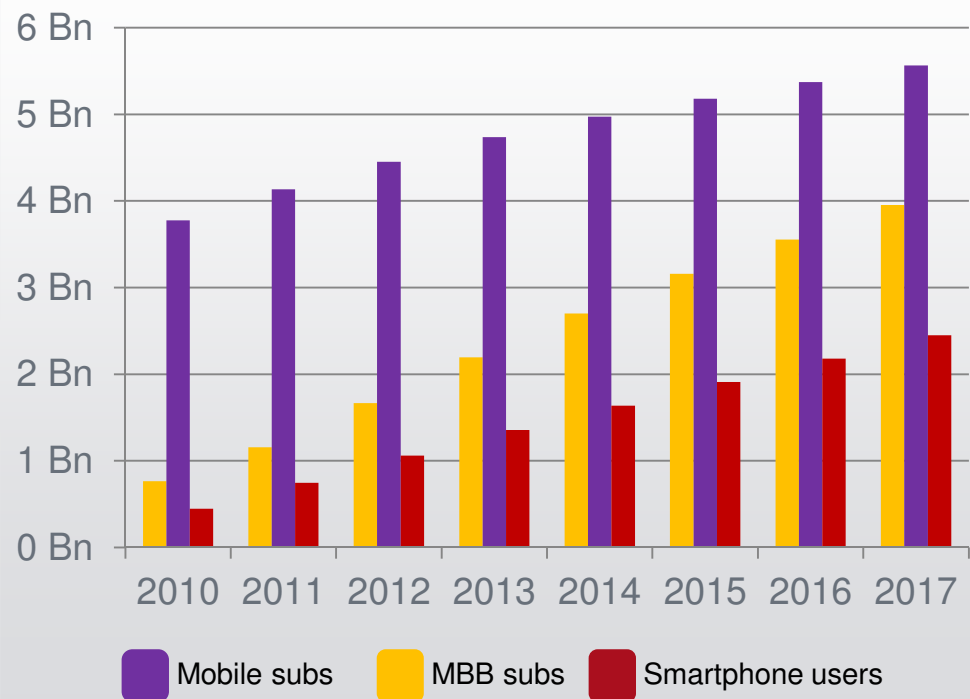
155% growth of mobile malware across all platforms in 2011*

>3000% explosion in malware targeting Android in 2H2011*

1 Million security events per day in large networks

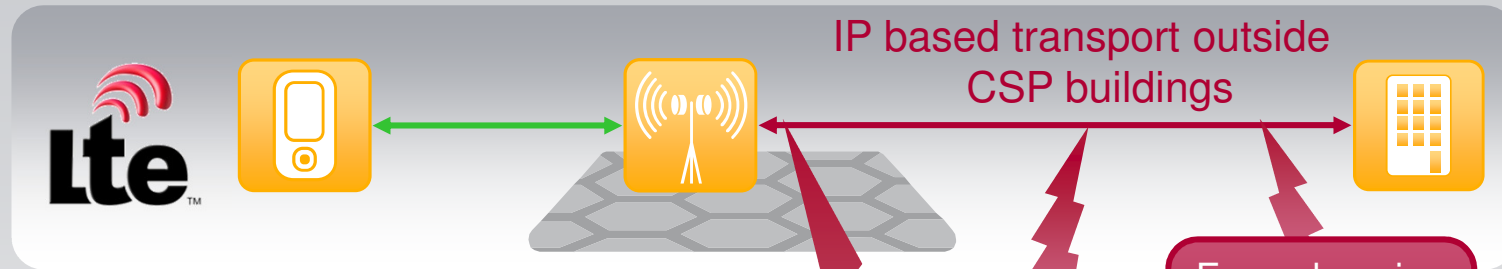**40.000** mobile devices active under botnet control in first half 2011 **

Sources:*Juniper 2011 Mobile Threats report; ''* Damballa Threat report first half 2011

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Operators' main tasks to protect the mobile infrastructure and the customers in an all IP environment

OSS/ BSS / IMS / VAS domain

Customers

Radio
GSM/3G/LTE

Transport
Packet

Core

Internet

Untrusted Trusted
Non-3GPP IP access

GRX/IPX network

Unified end-to-end security

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The flat all-IP architecture requires enhanced attention to security

IP based transport outside CSP buildings

Lte

Denial of service

Eavesdropping voice and data

Exposure to unauthorized access

Ensure **security**

3G

Encrypted traffic

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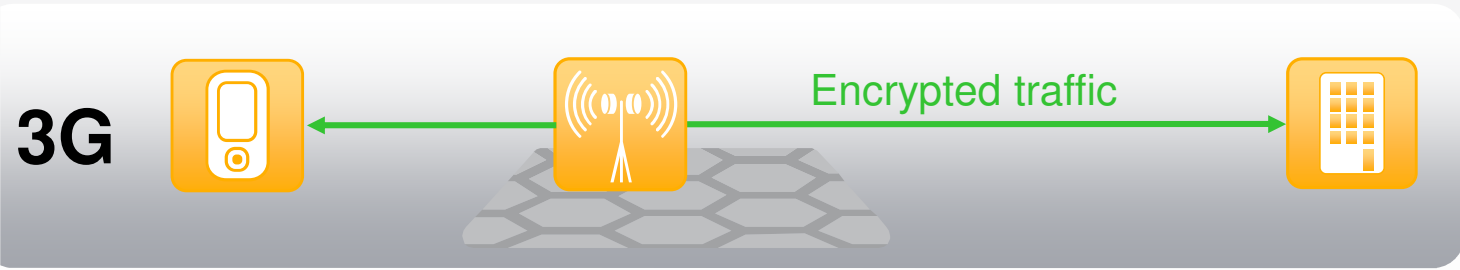
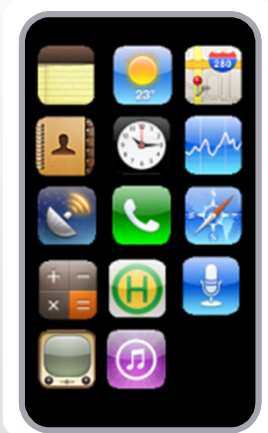# Attacks on Smartphones cause damage to operators and customers

Open App Store model provides a route to 'inject' malware into cloned legitimate apps

Malware

Exploits iOS vulnerabilities and phone control via Internet based drive-by attacks

Sending **Premium-SMSs** without owners knowledge resulting in monetary loss

Trojans

Infecting and polluting the Network

Operator

Network Availability

Reputation

Business

100,000 devices impacted by sending messages with links to **malicious sites** to all the contacts in the address book
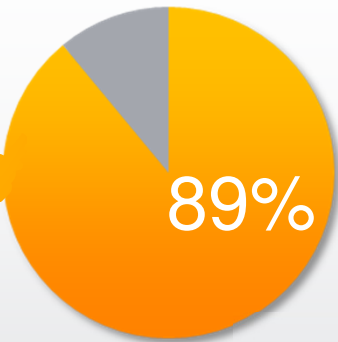
Botnet

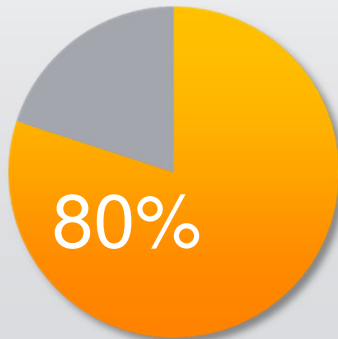Devices attacked to join botnets through '**ZEUS**' a 'development' tool sold by cybercriminals

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The huge gap between users' perception and how they act

When asked: **concerned**

89% — "Concerned about security"

80% — "Afraid of **personal data being sold** to 3rd parties"

In real life: **careless**

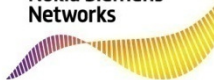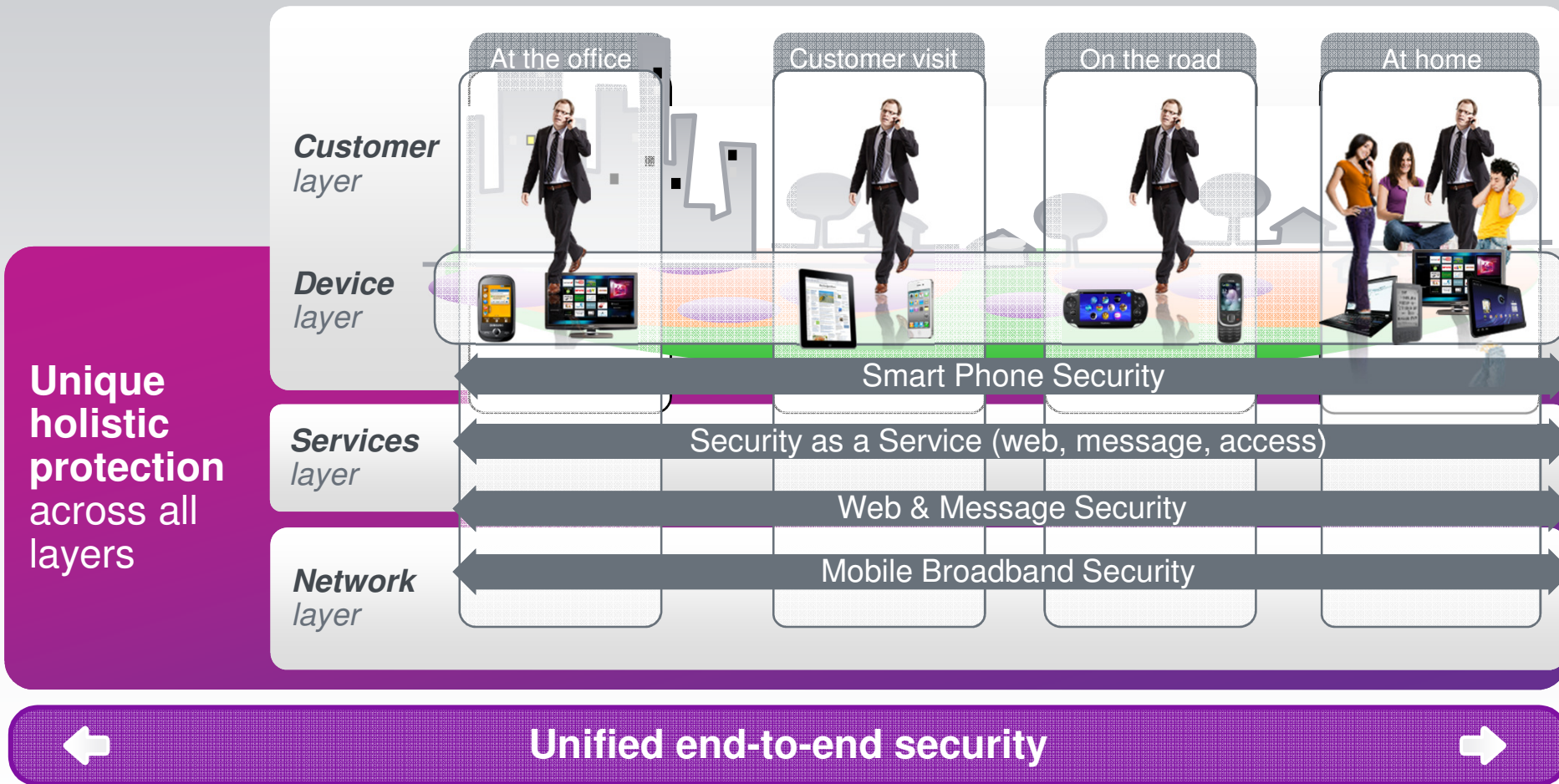| 62% | **download applications** without checking it is from a trusted source* |
> 50%	**do not use a password or PIN** to lock their smartphone.**
66%	leaves mobile applications accounts **continuously logged-in**, if they can.**
41%	rarely or never change their **security settings** on their smartphone ***
60%	**wish there was an easier form** of authentication for mobile application **

Opportunity in delivering convenience

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Security protection needs to go across all layers

Customer *layer*

Device *layer*

Smart Phone Security

Unique holistic protection across all layers

At the office | Customer visit | On the road | At home

Services *layer*

Security as a Service (web, message, access)

Web & Message Security

Network *layer*

Mobile Broadband Security

Unified end-to-end security

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Summary

Strong growth in Smart Phone and Mobile Broadband usage

Telco network is a critical infrastructure for many industries

Security measures now need to protect all layers - from device to network

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