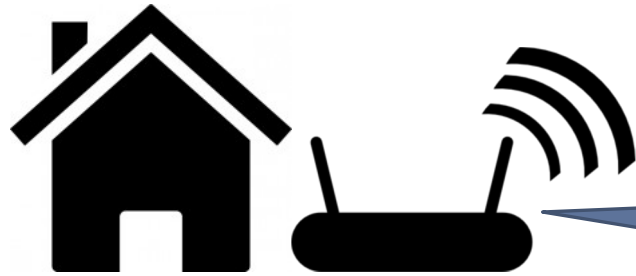# Security and Privacy in NextG Networks

David Choffnes
Northeastern University

The Ubiquitous Uncontrolled Internet

Packet prioritization
Traffic filtering
Security checks
MITM for analysis
Compression

....

WELCOME TO BOSTON LOGAN AIRPORT

Boingo has you covered w
Faster Wi-Fi

UP TO
20
MBPS

Get Online Now!

United Wi-Fi

HILTON
HHONORS
Wi Fi

Meddling in the Middle Is Common

Shaping

Compression

DNS hijacking

Cookie tracking

…

Vision: Deploy *our own* (virtual) network*

Road Network

Home Network

UCSB Network

Packet prioritization
Traffic filtering
Security checks
MITM for analysis
Compression
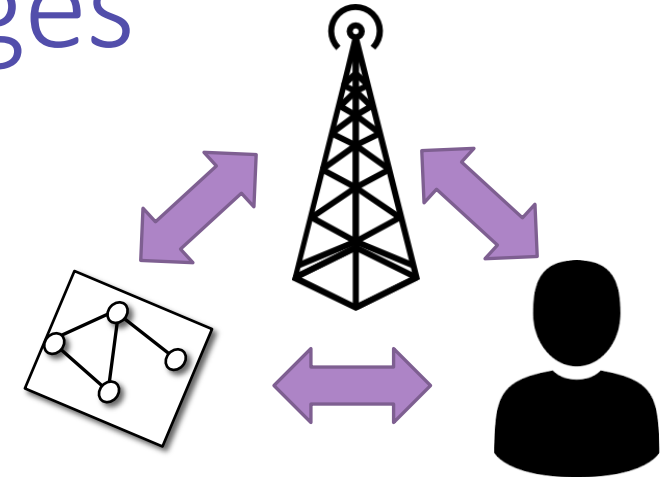
….
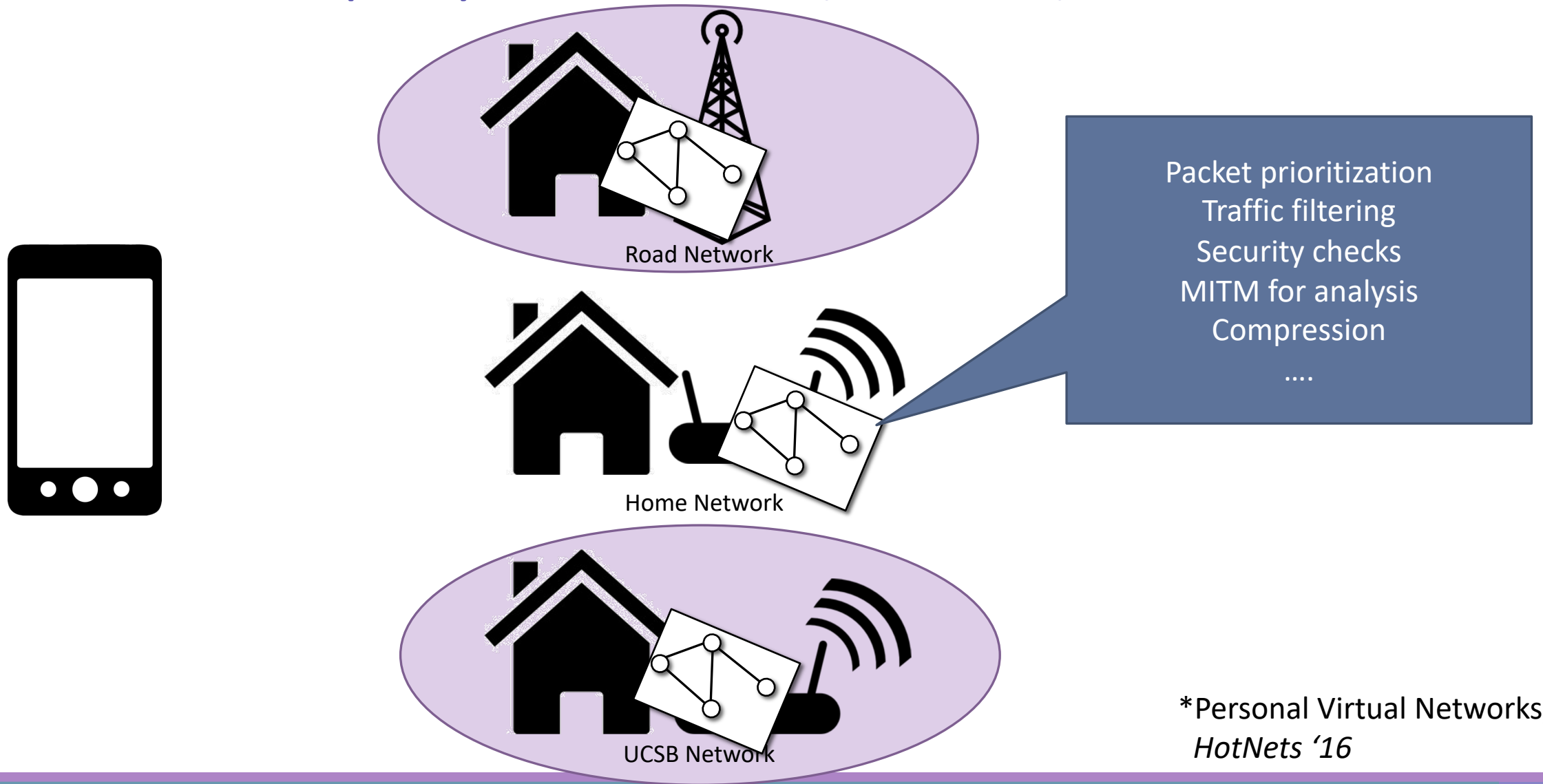
*Personal Virtual Networks,
HotNets '16

NextG Applications
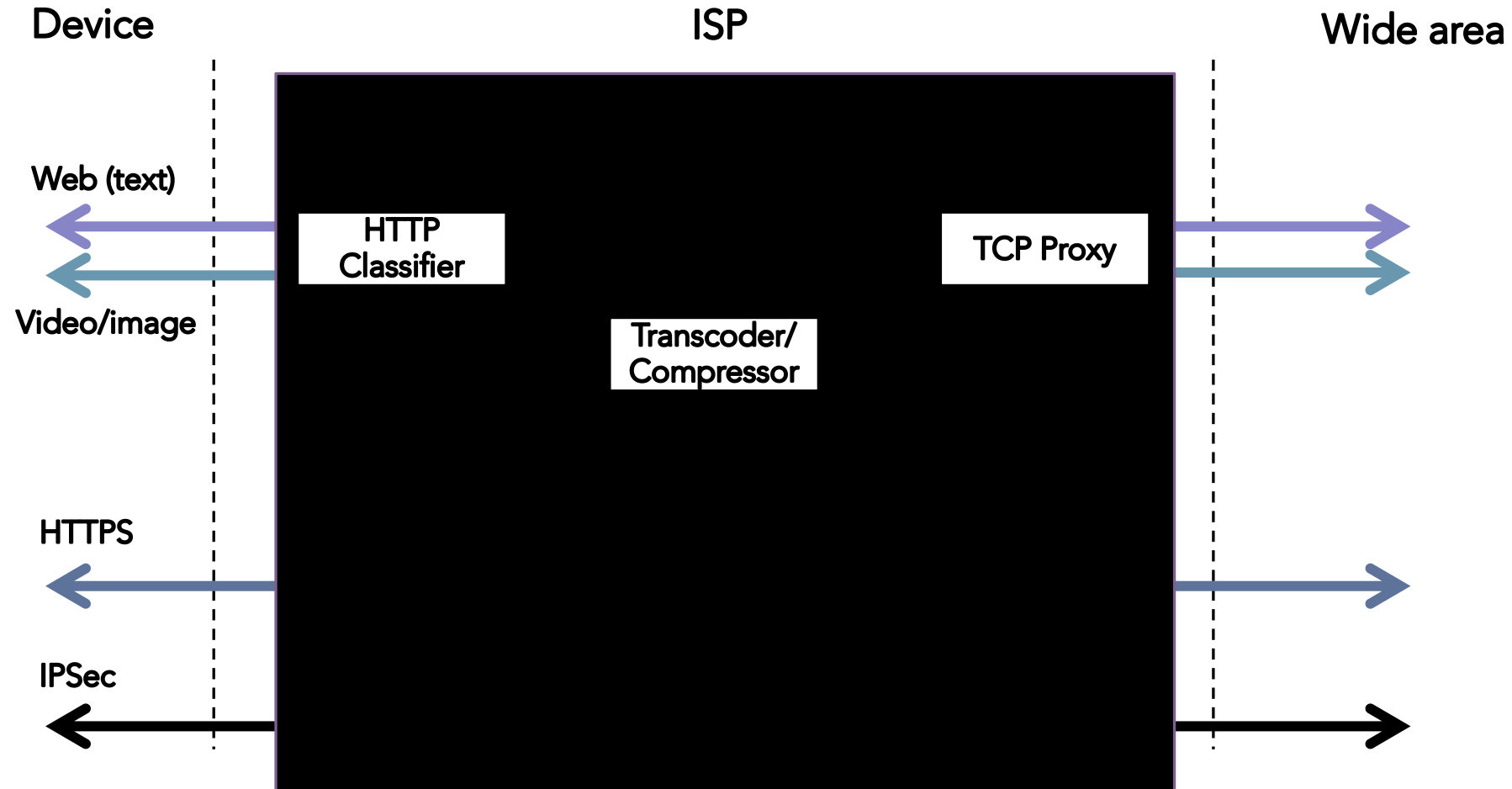
Open Privacy/Security Challenges

Trust
◦ Between users, network providers, network functions

Isolation
◦ User data from network providers
◦ Users from each other, from attackers

Auditing/Transparency
◦ New and existing privacy/security guarantees
◦ Verification of service configurations