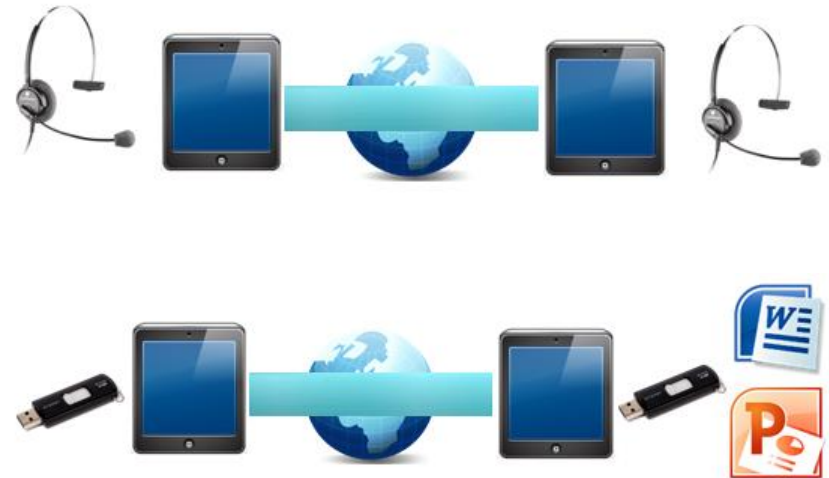


# Ethemba Communicator



High Security Confidential Communication:  
Always, for Everyone, and Everywhere

Ethemba Communicator Team, 2015-16

# The Problem

- Confidential Communication
  - ❑ Not available in standard user equipment
  - ❑ Smart phones get infected by malware (APT, e.g. criminal organizations, government agencies)
  - ❑ Communication services such as Skype or online conference services provide no privacy or security
  - ❑ Ease of attacks can make everyday communication a target for eavesdropping
  - ❑ Even if one side chooses a security solution – is it available at the communication partner's side?
  
- What do You do when You want to make a confidential call to a client or exchange data?

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# Existing Security Technology

- Closed Group Solutions

- VPN or similar
- Server-based – single point of attack/failure
- Costly key and user/device management
- Device security unsolved

- Hardened Device Solutions

- Extremely expensive to harden all components of multi-purpose devices (hardware, firmware, OS, applications)
- Requires management of user and communication groups, still

# The Box Concept



- Security by Simplicity
- Secure point-to-point communication
- Stand-alone solution – no dependency on user devices
- No special network requirements – just Internet
  
- Communication concept
  - Boxes find each other through directory service
  - Boxes inspect each other, mutually to prevent manipulation
  - Independent encryption keys are established
  - Communication is secured

# Ethemba Communicator Technical Features

- Custom device with stripped-down design for highest security at lowest possible cost
- Trusted Computing is used extensively
  - To create, store, and manage communication encryption keys
  - To perform secure boot of the boxes
  - For mutual authentication and inspection of the boxes before setting up communication, using remote attestation
- Works without the need to reconfigure the network (e.g. behind firewalls and NAT routers)
- Lightweight directory server just provides box addressing information – no sensitive information on server

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## Main Advantages of The Box

- Zero installation
- Zero configuration
- Works always and everywhere
- Independent of other hardware
- End-to-end secure communication and data transfer
- Secured against manipulation by trusted computing technology
- No central storage of connection and communication data
- One single device for authentication and encryption

# The Box Operation Modes

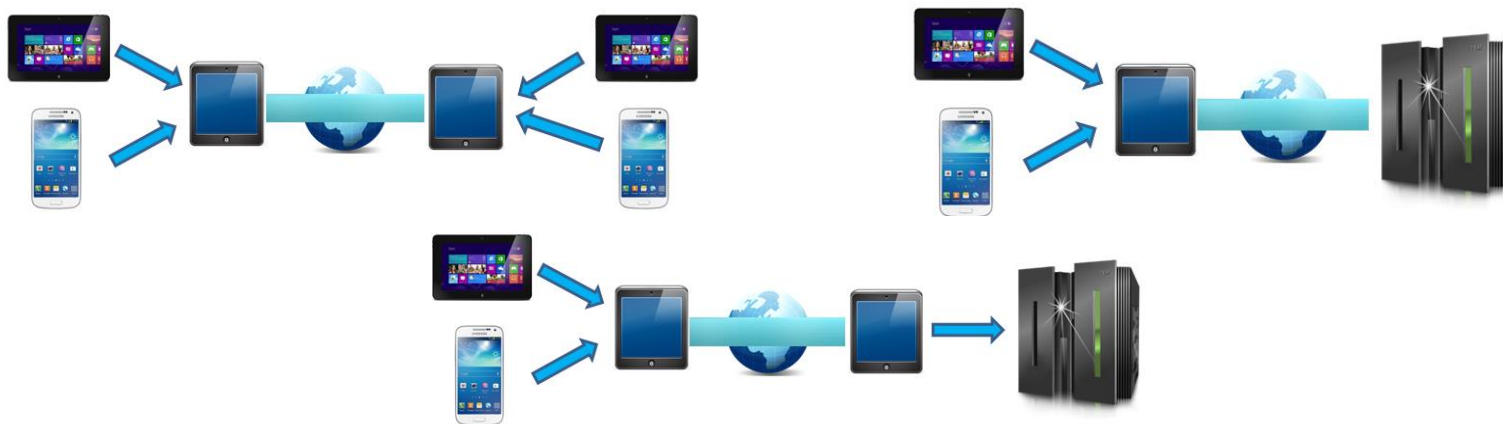
- Audio/Video communication and data transfer peer-to-peer



- Ethemba Com-to-Infrastructure



- Ethemba Com as Hotspot and Gateway



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# Ethemba Communicator – For Whom?

The Right Solution for Many Users:

- Lawyers and clients
- Consultants on foreign premise
- Field personnel
- Remote machine maintenance
- Law enforcement
- Aerospace & Defense