



International Telecommunication Union

NGN Security

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ITU-T/OGF Workshop on Next Generation Networks and Grids
Geneva, 23-24 October 2006

Overview

- o Why NGN Security?
- o Major Issues
- o ITU Work on NGN Security
- o Question 15 SG13, NGN Security



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Why Security? (Threat examples)

o Subscriber's Perspective:

- Eavesdropping, theft of PIN codes
- Tele-spam
- Identity theft
- Infection by viruses, worms, and spyware
- Loss of privacy (call patterns, location, etc.)
- Flooding Attacks

o NGN Provider's Perspective:

- Theft of service
- Denial of service
- Disclosure of network topology
- Non-audited configuration changes
- Additional related risks to the PSTN...



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Major Issues for NGN Security Standardization

- Key distribution (for end-users and network elements) and Public Key Infrastructure
- “Network privacy”—topology hiding and NAT/Firewall traversal for real-time applications
- Convergence with IT security
- Management of security functions (e.g., policy)
- Guidelines on the implementation of the IETF protocols (e.g., IPsec options)
- Security for supporting access: DSL, WLAN, and cable access scenarios
- Security guidelines for handling multiple access technologies in NGN



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ITU Work on NGN Security

- SG 13: Lead Study Group on the NGN standardization.
- SG 17: Lead Study Group on Telecommunication Security
- SG 4: Lead Study Group on Telecommunication Management – Management Plane security
- SG 11: Lead Study Group on signaling and protocols—security of the Control and Signalling planes
- SG 16: Lead Study Group on multimedia terminals, systems and applications—Multimedia security

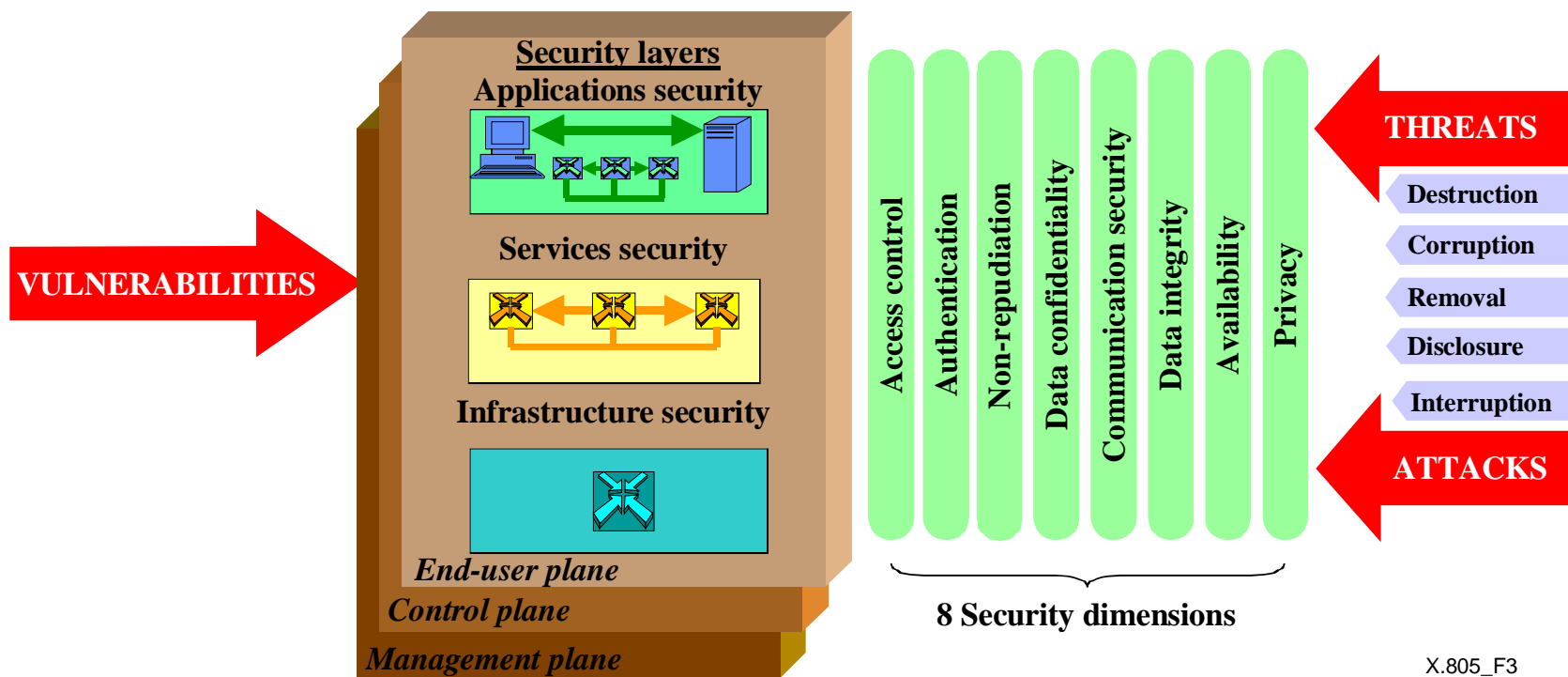


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Question 15, SG13, NGN Security

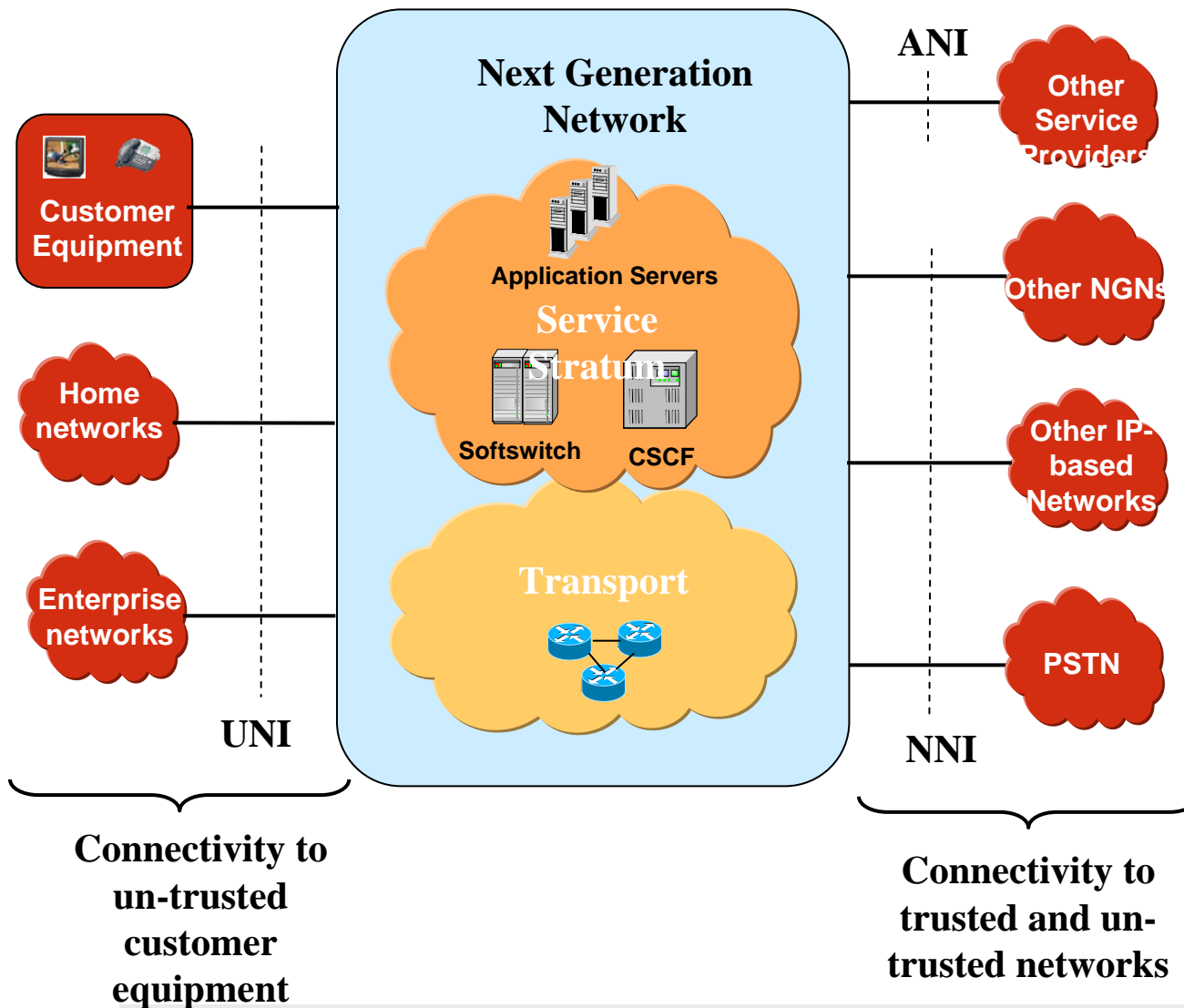
- Question 15 (NGN security) of SG 13 -ITU-T lead Rapporteur group for NGN Security
- Q.15/13 major tasks are:
 - *Lead* the NGN-specific security project-level issues within SG 13 and with other Study Groups.
 - *Ensure* that:
 - the developed NGN architecture is consistent with accepted security principles
 - Ensure that AAA principles are integrated as required throughout the NGN
 - *Major Projects*:
 - Security Requirements and Mechanisms & Procedures
 - Certificate Management
 - Authentication and Authorization
 - IdM (Identity Management)
 - AAA for specific access technologies

X.805 Approach to Security

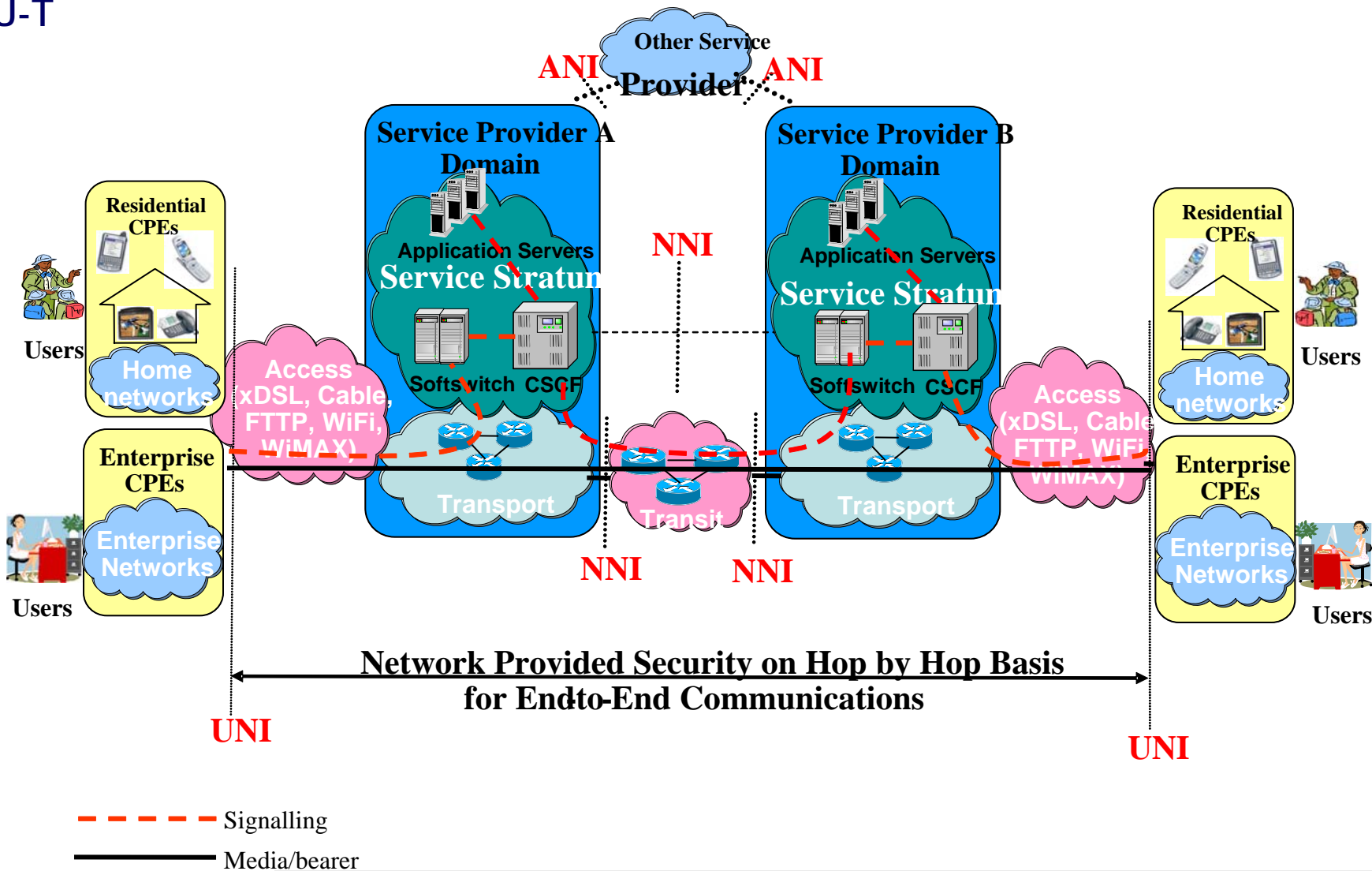


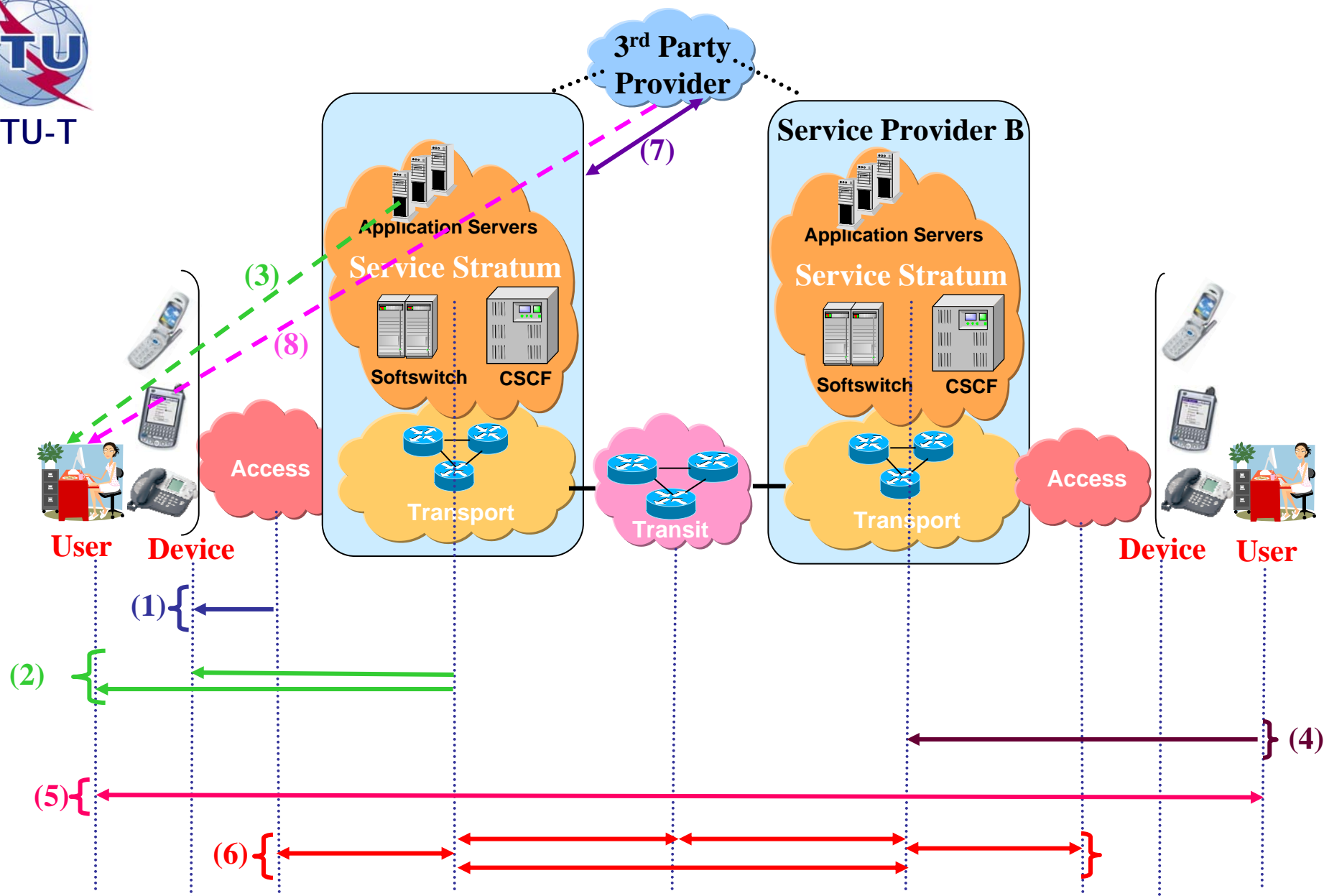
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NGN Connectivity

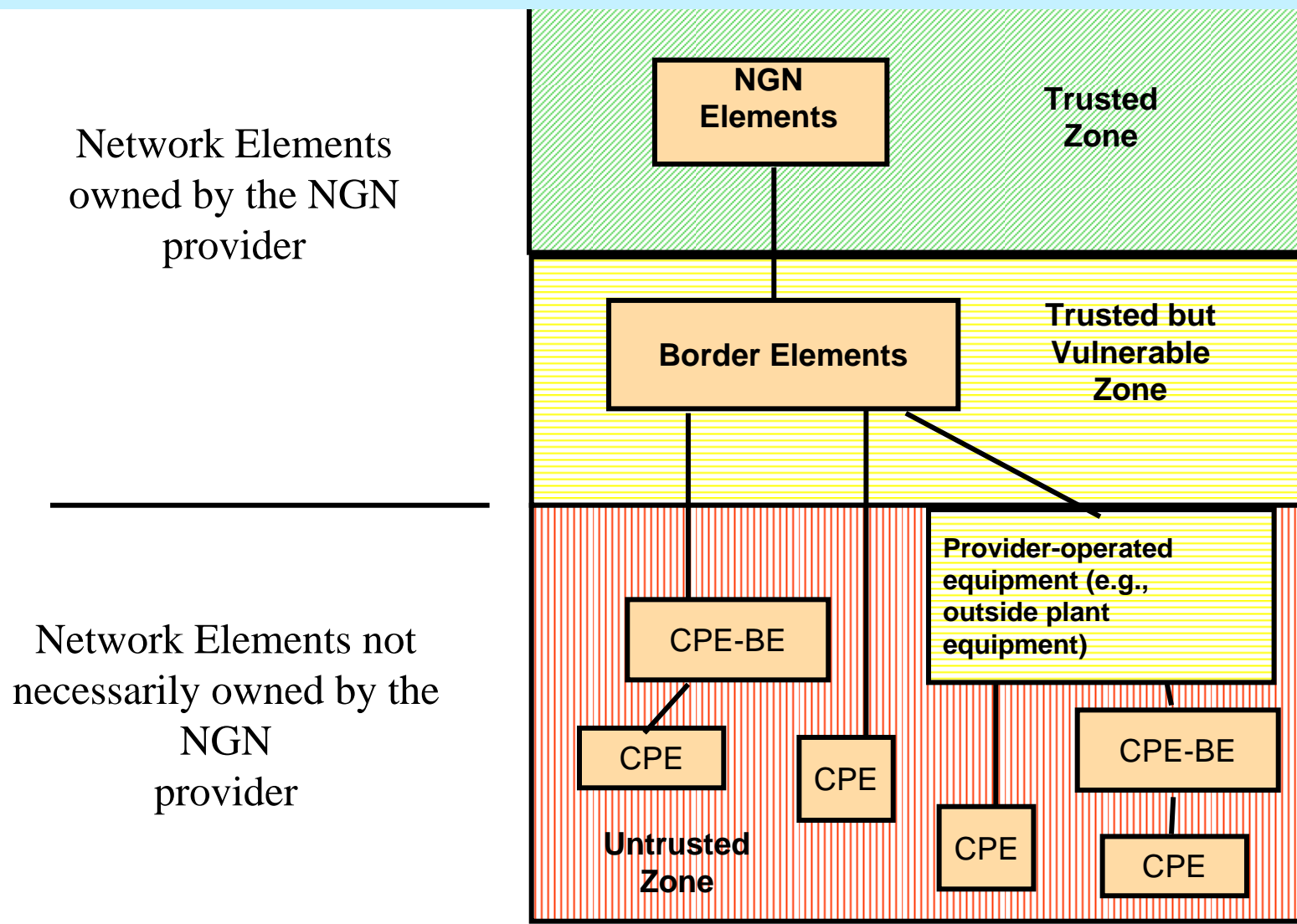


Security and Authentication/Authorization Relationships

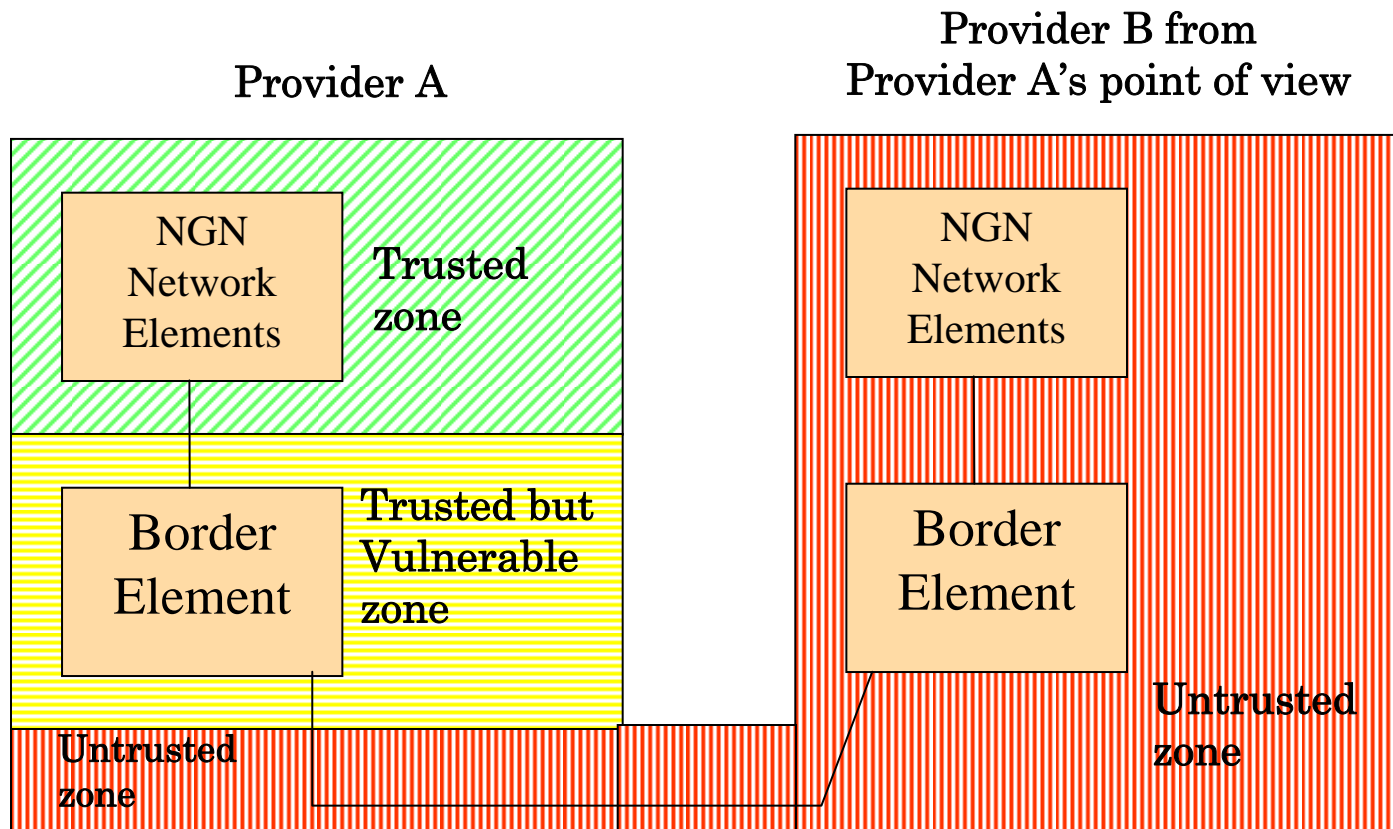




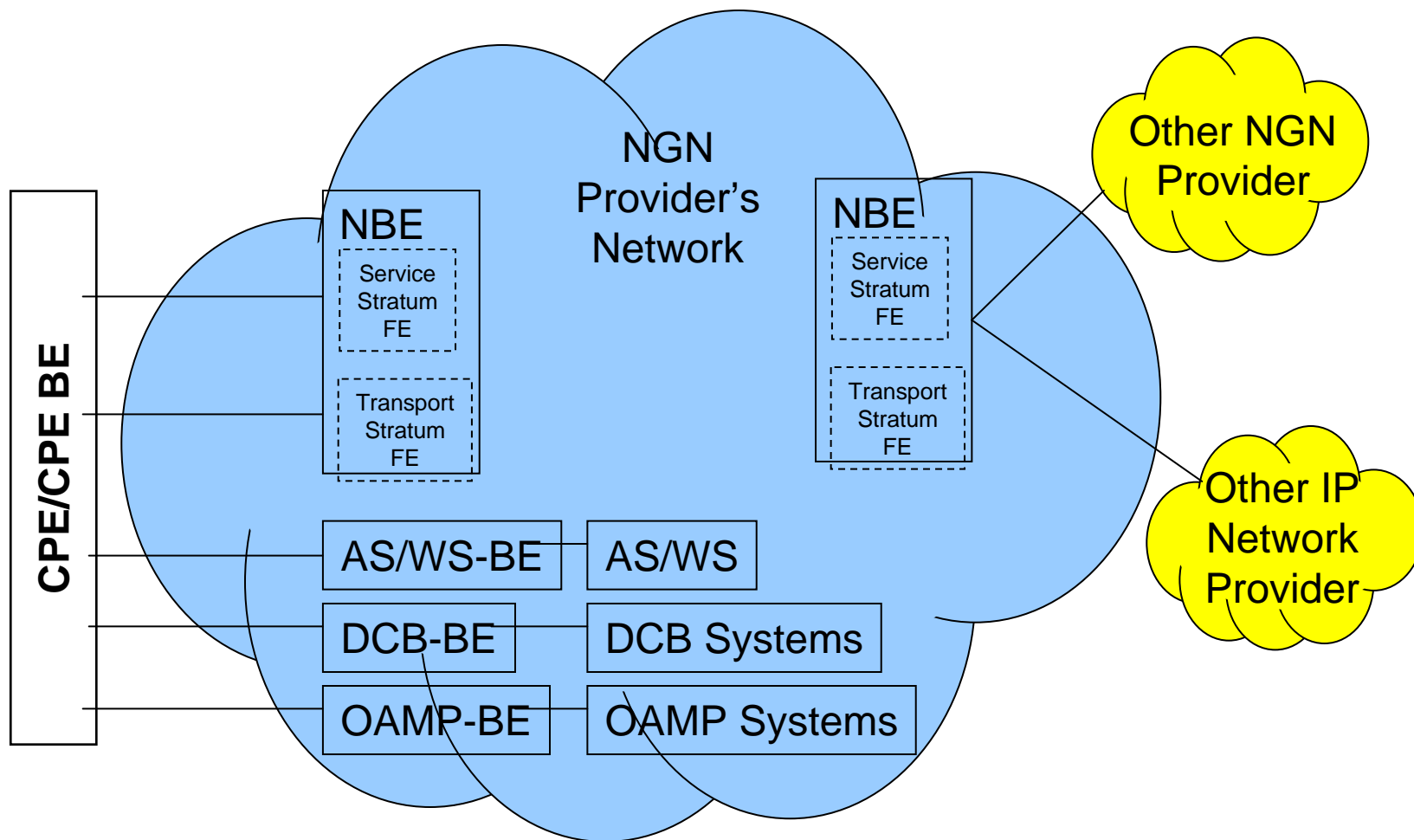
NGN Security Trust Model



NGN Peering Trust Model



"Trusted but Vulnerable" Border Elements





Thank You