



International Telecommunication Union



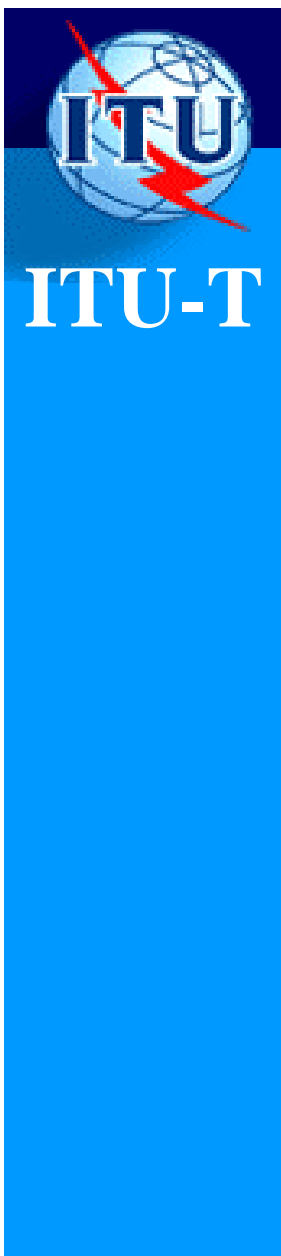
Next Generation Network Security

(Direction and Status of FG NGN Work)

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ITU-T/IETF Workshop on NGN
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Outline

- o Security in the context of the overall goals of the ITU-T Focus Group on Next Generation Networks (FGNGN)
- o Relation to work of other SDOs
- o Key Tasks
- o Goals

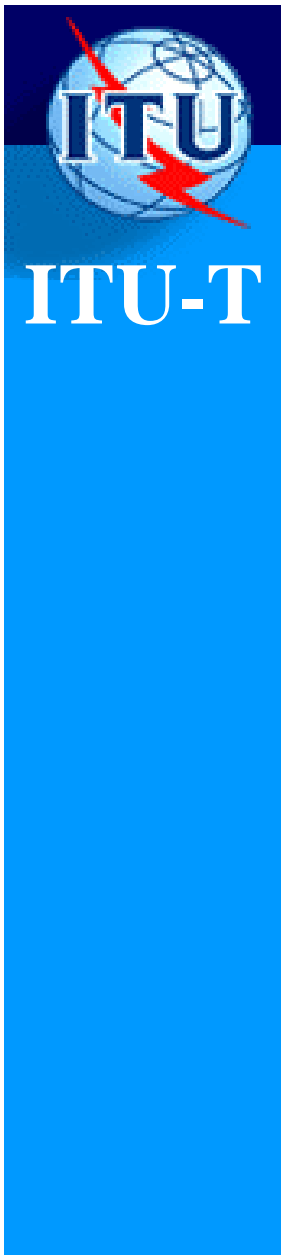


ITU-T NGN Focus Group

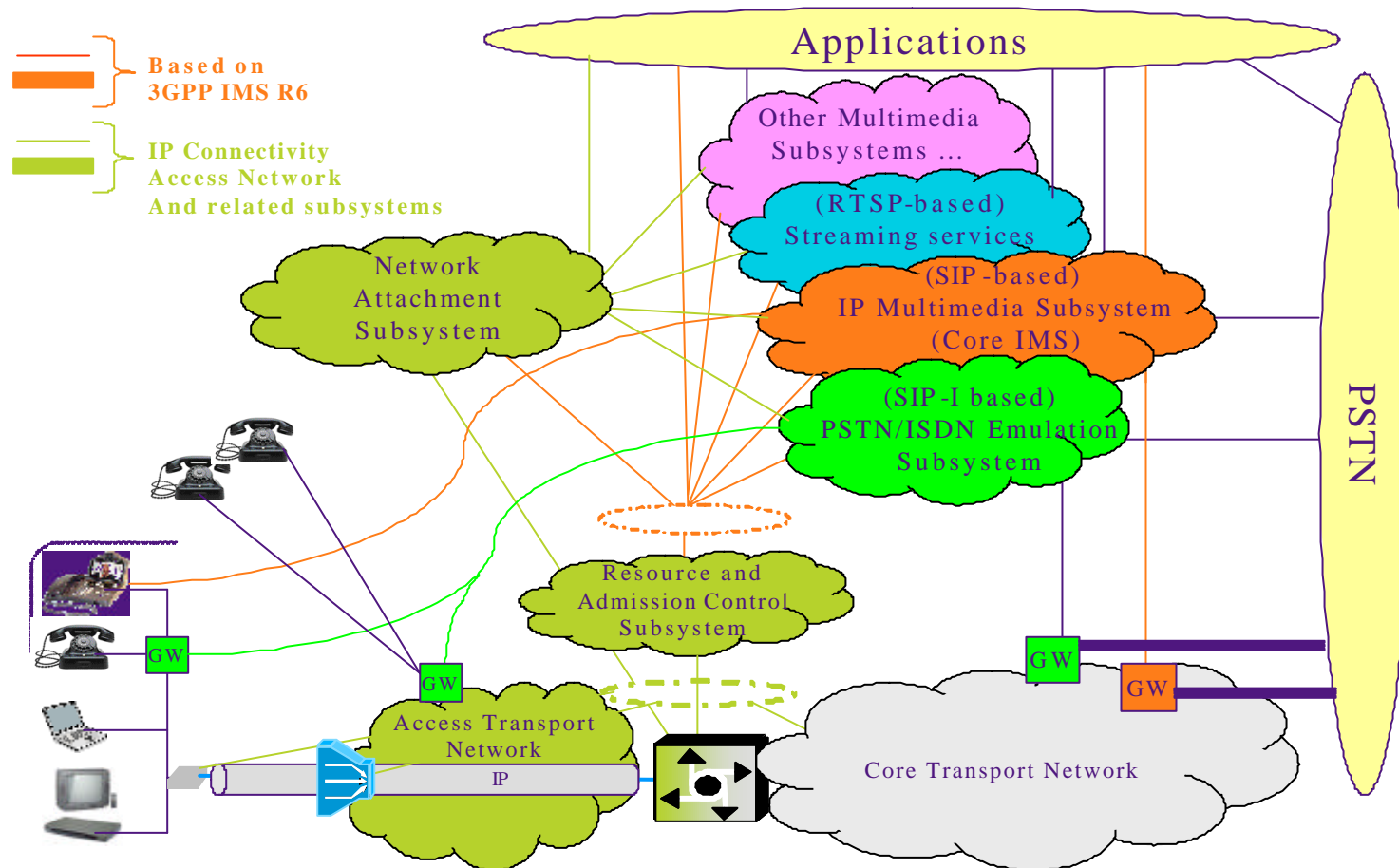


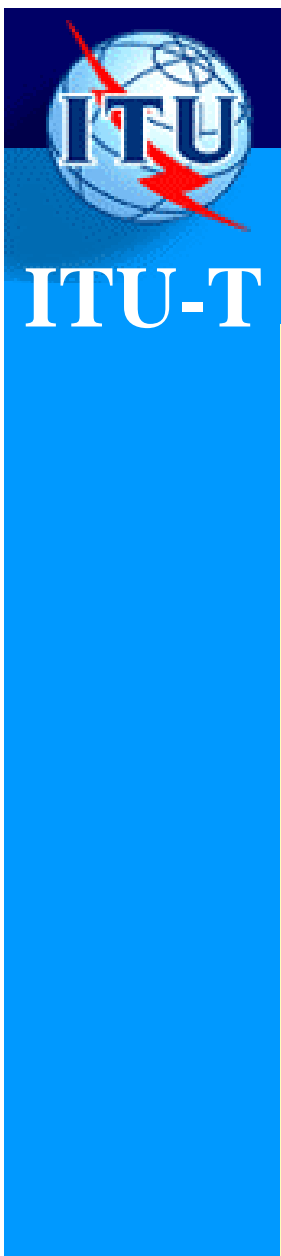
- ITU-T created NGN Focus Group to address Telecommunication industry's urgent need for specifications for NGN in May, 2004. First results of NGN FG (NGN Release 1) are expected in May, 2005
- *"Through this initiative ITU-T is bringing all players together in an environment where they can create truly global specifications for the service-aware network of the future, to deliver dynamic, customized services on a massive scale."* **Herb Bertine**, ITU-T SG 17 Chairman
- **Security** is among the most essential NGN *enablers* and *differentiators*





NGN Subsystem Architecture Overview

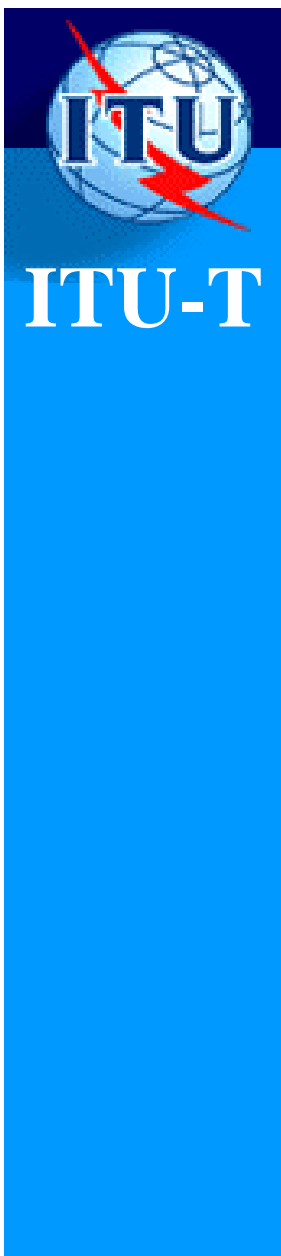




Highlights of the working document *Guidelines for NGN security*

- Overview of relevant global security standards
- **Security in NGN**
 - NGN threat model (based on ITU-T X.800 and X.805 Recommendations)
 - Security risks in NGN
 - Selection of OSI layers for security provisions
 - Granularity of protection
- **Security Dimensions and Mechanisms (based on ITU-T X.805)**
 - Access control
 - Authentication
 - Non-repudiation
 - Data confidentiality
 - Communication security
 - Data integrity
 - Availability
 - Privacy
- **Elements of security framework for NGN**
 - *Access security: Authentication, Authorization, and Accounting* framework for NGN
 - Security framework for Mobility in NGN
 - Link-layer security for NGN





Highlights of the working document *Guidelines for NGN security (cont.)*

- Security framework for home networks
- Security framework for end-to-end data communication
- Security framework for intrusion-tolerant NGN
- Reference Security Model for NGN
- Components of the NGN security
 - IP-CAN security
 - Network domain security
 - IMS access security
 - Application security
 - Security of Open Service/application Framework in NGN
- IMS security mechanisms based on the use of *Universal Integrated Circuit Card (UICC)*

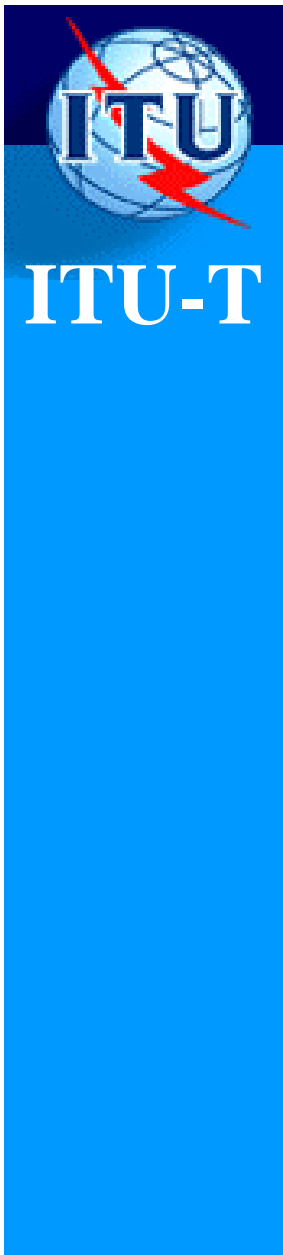




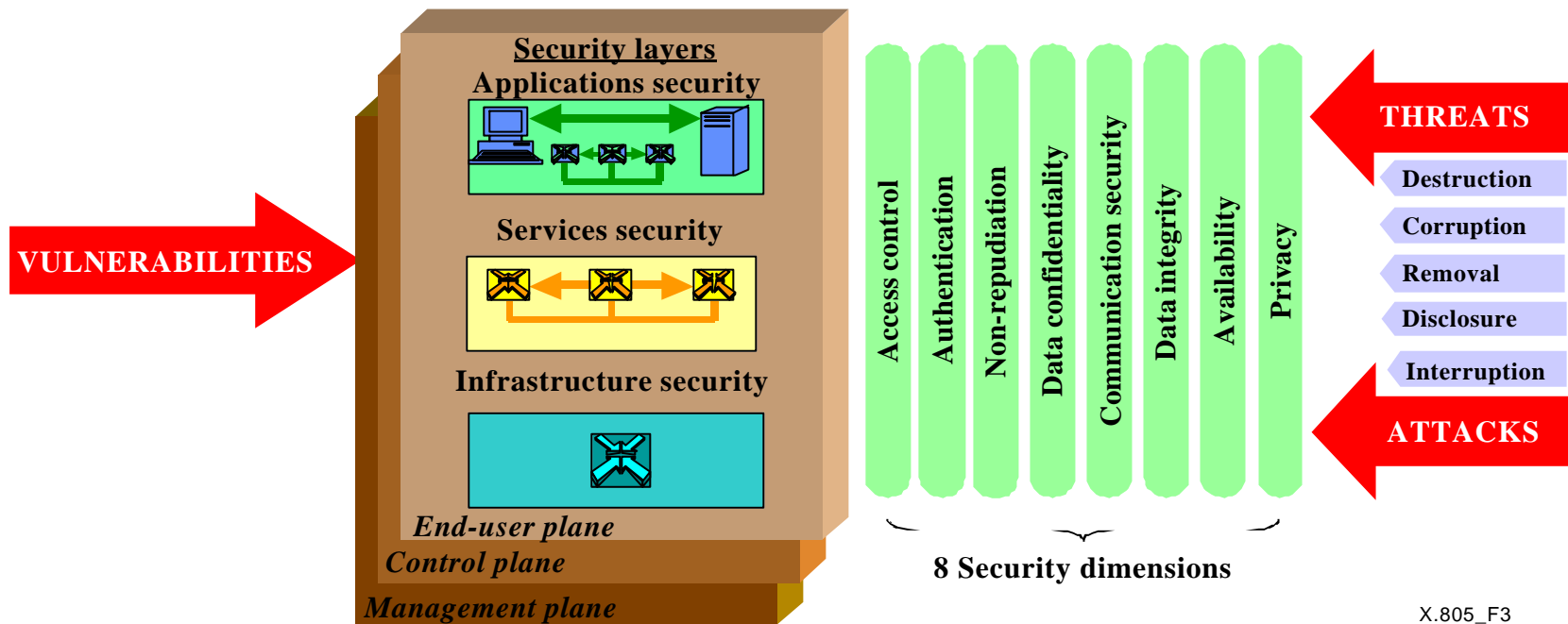
Highlights of the working document *NGN security requirements for Release 1*

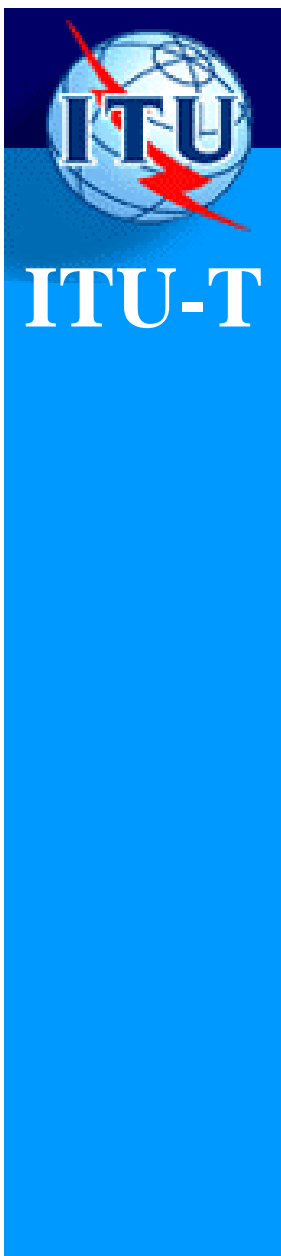
- Security requirements (general considerations based on the concepts of X.805)
- Security requirements for Transport Stratum
 - Home Network domain
 - Home Network to IP-CAN domain interface
 - The IP-CAN
 - IP-CAN to Core Network interface
 - Core Network
- Security requirements for Service Stratum
 - IMS domain
 - Transport stratum to IMS domain
 - IMS to Application domain security
 - Application domain security
 - Home Network to Application domain security
 - Home Network-to-IMS domain security
 - Open service platform to valued-added service provider security





ITU-T Recommendation X.805 Security Architecture—the foundation of NGN Security studies



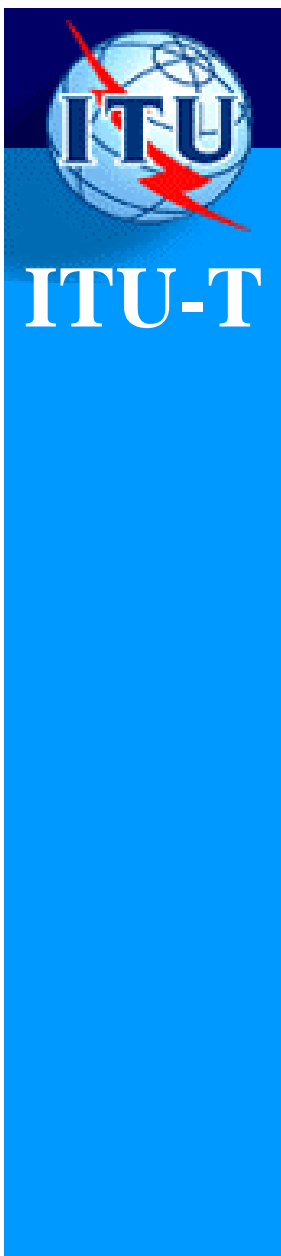


Key Tasks

Key Work Items:

- **Resolve how IMS is to handle 3GPP vs. 3GPP2 Differences**
- **Key distribution (for end-users and network elements)**
- **AAA for DSL access and QoS authorization**
- **Hop-by-hop SIP security vs. end-to-end**
- **VoIP NAT/Firewall traversal**
- **Identity management**
- **SPAM control (voice messaging)**
- **Convergence with IT security**





Relation to work of other SDOs

