



ATIS-1000007.2008

GENERIC SIGNALING AND CONTROL PLANE SECURITY REQUIREMENTS
FOR EVOLVING NETWORKS

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American National Standard for Telecommunications

GENERIC SIGNALING AND CONTROL PLANE SECURITY REQUIREMENTS FOR EVOLVING NETWORKS

Secretariat

Alliance for Telecommunications Industry Solutions

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Abstract

Many security threats exist to the signaling and control plane of a telecommunications network. In addition, new security threats to the signaling and control plane are being introduced as the network evolves. The purpose of this document is to provide generic signaling and control plane security requirements and a general security framework to mitigate security risks in the evolving telecommunications networks.

FOREWORD

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

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ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal consistent with identifiable as having distinct compatibility or performance advantages.

This document provides generic signaling and control plane security requirements for evolving networks. This document is part of a suite of signaling and control security standards as shown in Figure #1 below. As the primary requirements document in this suite of standards, it provides a general security framework and overall security requirements which are used by the other detailed security standards.

This standard is in alignment with ITU-T Recommendation X.805 [ITU X.805].

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, PTSC Secretariat, 1200 G Street NW, Suite 500, Washington, DC 20005.

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ATIS-100007.2006

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TABLE OF CONTENTS

1 INTRODUCTION, SCOPE, PURPOSE, & APPLICATION	1
1.1 INTRODUCTION	1
1.2 SCOPE	1
1.3 PURPOSE	2
1.4 RELATED DOCUMENTS	2
2 NORMATIVE REFERENCES	2
3 DEFINITIONS.....	3
4 ABBREVIATIONS & ACRONYMS	5
5 SECURITY ARCHITECTURE & METHODOLOGY	7
5.1 GENERAL ARCHITECTURE MODEL.....	7
5.2 SECURITY PLANES	8
5.2.1 <i>End-User Security Plane</i>	8
5.2.2 <i>Signaling and Control Security Plane</i>	8
5.2.3 <i>Management Plane Security</i>	8
5.3 SECURITY DIMENSIONS	9
5.3.1 <i>Access Control Security Dimension</i>	9
5.3.2 <i>Authentication Security Dimension</i>	9
5.3.3 <i>Non-repudiation</i>	10
5.3.4 <i>Data Confidentiality Security Dimension</i>	10
5.3.5 <i>Communication Security Dimension</i>	10
5.3.6 <i>Data Integrity Security Dimension</i>	10
5.3.7 <i>Availability Security Dimension</i>	10
5.3.8 <i>Privacy Security Dimension</i>	11
5.4 SECURITY LAYERS	11
5.4.1 <i>Infrastructure Security Layer</i>	11
5.4.2 <i>The Network Services Security Layer</i>	11
5.4.3 <i>The Applications Security Layer</i>	12
5.5 APPLICATION OF SECURITY DIMENSIONS TO SECURITY LAYERS.....	12
5.5.1 <i>Applying Security Dimensions to the Signaling and Control Plane Infrastructure Layer</i>	13
5.5.2 <i>Apply Security Dimensions to the Signaling and Control Plane Network Services Layer</i>	15
5.5.3 <i>Applying Security Dimensions to the Signaling and Control Plane Applications Layer</i>	16
5.6 SIGNALING NETWORK INTERCONNECTION MODEL.....	17
6 DESIGN GUIDELINES.....	19
7 SIGNALING AND CONTROL PLANE	19
7.1 SIGNALING AND CONTROL PLANE PROTOCOLS	19
7.2 SIGNALING AND CONTROL PLANE VULNERABILITIES.....	20
8 GENERAL SECURITY REQUIREMENTS.....	20
8.1 SECURITY PROTOCOL OVERVIEW	21
8.2 CRYPTOGRAPHIC ALGORITHMS & KEYS	22
8.2.1 <i>Definitions</i>	22
8.2.1.1 <i>Symmetric Encryption</i>	22
8.2.1.2 <i>Asymmetric Encryption</i>	22
8.2.1.3 <i>Message Integrity</i>	22
8.2.2 <i>Cryptographic Key Management</i>	22
8.3 IPSEC AND IKE PROTOCOL REQUIREMENTS	22
8.3.1 <i>IPsec Security Modes</i>	23
8.3.2 <i>IPsec Protocols</i>	23
8.3.3 <i>IPsec Encryption Algorithms</i>	23
8.3.4 <i>IPsec Implementation Authentication Algorithms</i>	23
8.3.5 <i>IPsec Implementation Selectors</i>	23
8.3.6 <i>Support for Internet Key Exchange (IKE)</i>	24
8.3.7 <i>IKE Implementation Modes</i>	24

8.3.8	<i>IKE Implementation Encryption Algorithms</i>	24
8.3.9	<i>IKE Implementation Secure Hash Algorithms</i>	24
8.3.10	<i>IKE Implementation Authentication Methods</i>	24
8.3.11	<i>IKE Implementation Oakley groups</i>	24
8.3.12	<i>IKE Support of Perfect Forward Secrecy</i>	25
8.3.13	<i>Random number generators for IPsec/IKE</i>	25
8.4	TLS PROTOCOL REQUIREMENTS	25
8.4.1	<i>TLS Encryption Algorithms</i>	25
8.4.2	<i>TLS Authentication Algorithms</i>	25
8.4.3	<i>Key Exchange Algorithms for TLS</i>	2
8.4.4	<i>Ciphersuites for TLS</i>	26
8.4.5	<i>Use of X.509 Certificates in TLS</i>	26
8.4.6	<i>TLS Authentication</i>	26
8.4.7	<i>Random number generators for TLS</i>	26
A	SIGNALING & CONTROL PLANE – SECURITY BEST PRACTICES	27
A.1	<i>FIREWALLS</i>	27
A.2	<i>OPERATING SYSTEM HARDENING</i>	28
A.3	<i>VULNERABILITY ASSESSMENT</i>	29
A.4	<i>INTRUSION DETECTION SYSTEMS</i>	29
B	REFERENCES	30

TABLE OF FIGURES

FIGURE 1 - SIGNALING AND CONTROL PLANE SECURITY DOCUMENTS	2
FIGURE 2 - SECURITY ARCHITECTURE MODEL	7
FIGURE 3 - MODEL FOR SIGNALING NETWORK INTERCONNECTION SECURITY	17
FIGURE 4 - SECURITY PROTOCOL USAGE	21

TABLE OF TABLES

TABLE 1 - EXAMPLE OF SECURITY LAYERS FOR THE SIGNALING AND CONTROL PLANE: TRADITIONAL SS7 AND EVOLVING SIGNALING AND CONTROL NETWORKS	12
TABLE 2 - SIGNALING AND CONTROL PLANE: INFRASTRUCTURE LAYER	14
TABLE 3 - SIGNALING AND CONTROL PLANE: NETWORK SERVICES LAYER	15
TABLE 4 - SIGNALING AND CONTROL PLANE: APPLICATIONS LAYER	16

American National Standard for Telecommunications –

Generic Signaling and Control Plane Security Requirements for Evolving Networks

1 INTRODUCTION, SCOPE, PURPOSE, & APPLICATION

1.1 Introduction

Many security threats exist to the signaling and control plane of a telecommunications network. In addition, new security threats to the signaling and control plane are being introduced as the network evolves. The purpose of this document is to provide generic signaling and control plane security requirements and a general security framework to mitigate security risks in the evolving telecommunications networks.

In some telecommunications networks, signaling and control traffic is transmitted on a separate network from that carrying the service provider's end-user traffic. In these networks, security threats to the signaling and control plane are isolated from any malicious activity on the end-user plane. However, in an increasing number of evolving telecommunications networks, signaling and control traffic is combined on a single transport network with end-user traffic. Combining traffic in this manner minimizes costs by requiring only a single integrated network infrastructure -- but new security challenges are introduced. Threats in the end-user plane now become threats to the signaling and control plane, since the signaling and control plane becomes accessible to the multitude of end-users.

1.2 Scope

This document addresses generic signaling and control plane security aspects of evolving telecommunications networks. Evolving telecommunications networks often combine legacy telecommunication facilities with new technologies such as Wireless, ATM, and Internet Protocol transport mechanisms. The security recommendations given in this document apply to service provider networks and may also be applicable to individual company corporate enterprise networks.

This document is based on Recommendation X.800, *Security Architecture for Open Systems Interconnection for CCITT Applications*, and Recommendation X.805, *Security Architecture for Systems Providing End-to-End Communications*. {Reference [ITU X.800], [ITU X.805]}