ISO/IEC TR 21890:2001-10 (E)

Information technology_- Telecommunications and information exchange between systems_- Interoperation of PISNs with IP_networks

Contents

Foreword		**vi**
Introduction		**vii**
1	Scope	**1**
2	Normative references	**1**
3	Definitions	**3**
3.1	Corporate telecommunication Network (CN)	**3**
3.2	Internet	**3**
3.3	Intranet	**3**
3.4	Internet Protocol (IP)	**3**
3.5	IP network	**3**
3.6	Private Integrated Services Network (PISN)	**3**
3.7	Private Integrated services Network eXchange (PINX)	**3**
3.8	Switched Circuit Network (SCN)	**3**
3.9	Tunnelling	**3**
4	Acronyms	**3**
5	Introduction	**5**
5.1	Background	**5**
5.2	Types of network	**6**
5.3	Arrangements for interworking of SCNs and IP networks	**7**
5.4	Arrangements for interconnection of SCN components over IP networks	**8**
6	General principles of multimedia communication over an IP network	**8**
6.1	Architecture	**9**
6.1.1	Media processing and packetization (MPP) functional entity	**9**
6.1.2	Resource control (RC) functional entity	**9**
6.1.3	Session control (SC) functional entity	**10**
6.1.4	SC-redirect (SC-R), SC-proxy (SC-P) and RC-proxy (RC-P) functional entities	**10**
6.1.5	Admission control (AC) functional entities	**11**
6.1.6	Identity resolution (IR) functional entity	**11**
6.1.7	Registrar (RGR) and registrant (RGT) functional entities	**11**
6.1.8	Generic functional architecture (non-interworking)	**11**
6.1.9	Physical realizations of generic functional architecture for multimedia communication over an IP network (non-interworking)	**12**
6.1.10	Generic functional architecture for interworking with an SCN	**13**
6.1.11	Physical realizations of generic functional architecture for interworking with an SCN	**13**
6.1.12	Simple terminals	**15**
6.2	Naming and addressing	**16**
6.3	Security	**16**
6.4	Quality of service (QoS)	**17**
6.5	Mobility	**18**
7	Standards for multimedia communication over an IP network	**18**
7.1	Overview	**18**
7.2	The ITU-T H.323 family of recommendations	**19**
7.2.1	Functional architecture	**19**
7.2.2	Naming and addressing	**20**
7.2.3	Supplementary services	**20**

7.2.4 Security **21**
7.2.5 Quality of service **22**
7.2.6 Mobility **22**

7.3 Other ITU-T standards **22**

7.3.1 H.248 **22**
7.3.2 BICC **23**

7.4 IETF specifications for IP telephony **23**

7.4.1 Functional architecture **23**
7.4.2 Main protocols **24**
7.4.3 Naming and addressing **24**
7.4.4 Supplementary services **25**
7.4.5 Security **25**
7.4.6 Quality of service **26**
7.4.7 Mobility **26**

7.5 ETSI TIPHON specifications **26**
7.6 Terminal specifications from TIA TR-41.3.4 **26**

8 Interworking of PISNs and IP networks via a gateway **26**

8.1 Architecture **27**
8.2 Signalling **28**
8.3 Naming and addressing **28**

8.3.1 Naming and addressing in PISNs **28**
8.3.2 Naming and addressing in IP networks **28**
8.3.3 Naming and addressing interworking when H.323 used in the IP network **28**
8.3.4 Naming and addressing interworking when SIP used in the IP network **29**

8.4 Supplementary services **29**

8.4.1 H.323 supplementary services **29**
8.4.2 SIP supplementary services **29**

8.5 Security **29**
8.6 Quality of service **29**
8.7 Mobility **29**
8.8 Network management **29**
8.9 Aspects requiring further study or standardization work **30**

9 Interconnection of remote PISNs via an IP network **30**

9.1 Classification of scenarios for the interconnection of PISNs **30**
9.2 Solutions for the interconnection of remote PISNs via an IP network **31**
9.3 Solution 1 – QSIG tunnelling over IP network transport layer protocol **32**

9.3.1 Architecture **32**
9.3.2 Aspects requiring further study or standardization work **33**

9.4 Solution 2 – QSIG tunnelling over IP network session control protocol **33**

9.4.1 Architecture **33**
9.4.2 Aspects requiring further study or standardization work **34**

9.5 Solution 3 – enhanced QSIG in the IP network **34**

9.5.1 Architecture **34**
9.5.2 Aspects requiring further study or standardization work **34**

10 Connection of telephones to a PINX via an IP network **35**

10.1 Architecture **35**

10.2 Aspect requiring standardization work **37**

11 Summary **37**

Annexes

A - Overview and status of H.323 **39**

B - Overview and status of SIP **42**

C - Overview of H.248 / MEGACO protocol **45**

D - Architecture for Signalling Transport over IP-networks (SIGTRAN) **46**