ISO/IEC 23915:2005-11 (E)

Information technology - Telecommunications and information exchange between systems - Corporate Telecommunication Networks - Signalling Interworking between QSIG and SIP - Call Diversion

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 2
3.1 External definitions 2
3.2 Other definitions 3
3.2.1 Call diversion 3
3.2.2 Call forwarding busy (CFB) 3
3.2.3 Call forwarding no reply (CFNR) 3
3.2.4 Call forwarding unconditional (CFU) 3
3.2.5 Corporate telecommunication Network (CN) 3
3.2.6 Entity A 3
3.2.7 Entity B 3
3.2.8 Entity C 3
3.2.9 Gateway 3
3.2.10 IP network 3
3.2.11 Leg A 3
3.2.12 Leg B 3
3.2.13 Leg C 4
3.2.14 Private Integrated Services Network (PISN) 4
3.2.15 Private Integrated services Network eXchange (PINX) 4
3.2.16 Rerouting entity 4
3.2.17 User A 4
3.2.18 User B 4
3.2.19 User C 4

4 Abbreviations and acronyms 4

5 Background and architecture for SIP-QSIG interworking 5

6 Call diversion 5

7 Call diversion in QSIG 6

8 Call diversion in SIP 7

9 Diversion interworking 7
9.1 Scenarios for diversion interworking 7
9.2 Mapping of numbers, names and URIs 8
9.3 Derivation of QSIG diversion reasons 8
9.3.1 Scenario A1 9
9.3.2 Scenario B1 9
9.3.3 Scenario C2 9
9.4 Derivation of SIP response codes (scenarios A2 and C1) 9

9.5 Mapping the QSIG diversion counter 10
9.6 Privacy considerations 10
9.7 Interworking for scenario A1 10
9.7.1 Transmitting a SIP INVITE request 10
9.7.2 Receipt of a SIP 1xx or 2xx response 11
9.7.3 Receipt of a SIP 4xx, 5xx or 6xx response 11
9.8 Interworking for scenario A2 11
9.8.1 Receipt of a SIP INVITE request 12
9.8.2 Receipt of a QSIG divertingLegInformation1 invoke APDU 12
9.8.3 Receipt of a QSIG divertingLegInformation3 invoke APDU 12
9.8.4 Transmitting a SIP response in which History-Info is allowed 12
9.9 Interworking for scenario B1 13
9.9.1 Receipt of a SIP 3xx response 13
9.9.2 Receipt of a QSIG DISCONNECT or FACILITY message containing a callRerouteing return result APDU 14
9.9.3 Receipt of a QSIG FACILITY message containing a callRerouteing return error APDU 14
9.9.4 Receipt of a QSIG FACILITY message containing a cfnrDivertedLegFailed invoke APDU . 14
9.10 Interworking for scenario B2 15
9.10.1 Receipt of a QSIG FACILITY message containing a CallRerouteing invoke APDU 15
9.11 Interworking for scenario C1 15
9.11.1 Receipt of a QSIG SETUP message containing a divertingLegInformation2 invoke APDU 15
9.11.2 Transmitting a QSIG CONNECT message 16
9.12 Interworking for scenario C2 16
9.12.1 Transmitting a QSIG SETUP message 16
9.12.2 Receipt of a QSIG message containing a divertingLegInformation3 invoke APDU 17
9.12.3 Sending History-Info in a response 17

10 Example message sequences 17
10.1 Scenario A1 18
10.1.1 Successful call - history information in 200 response 18
10.1.2 Successful call - history information in provisional response 19
10.1.3 Failed call 20
10.2 Scenario A2 21
10.2.1 Successful call - CFU or CFB 21
10.2.2 Successful call - CFNR 22
10.3 Scenario B1 23
10.3.1 Successful diversion - CFU or CFB 23
10.3.2 Successful diversion - CFNR 24
10.3.3 Failure - callRerouting.err received 25
10.3.4 Failure - No answer following CFNR 26
10.4 Scenario B2 27
10.5 Scenario C1 28
10.6 Scenario C2 29
10.7 Scenario A1 followed by B1 30
10.8 Scenario A2 followed by scenario B2 31
10.9 Scenario C1 followed by scenario A1 32
10.10 Scenario C2 followed by scenario A2 33
10.11 Scenario C1 followed by scenario B1 34
10.12 Scenario C2 followed by scenario B2 35

11 Security considerations 35