

# 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

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
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
<b>4</b>	<b>Abbreviations and acronyms .....</b>	<b>4</b>
<b>5</b>	<b>Background and architecture for SIP-QSIG interworking .....</b>	<b>5</b>
<b>6</b>	<b>Call diversion .....</b>	<b>5</b>
<b>7</b>	<b>Call diversion in QSIG .....</b>	<b>6</b>
<b>8</b>	<b>Call diversion in SIP .....</b>	<b>7</b>
<b>9</b>	<b>Diversion interworking .....</b>	<b>7</b>
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