

Internet Engineering Task Force  
Internet Draft  
[draft-ong-sip-qsig-mime-00.txt](#)  
October 1999  
Expires: April 2000

L. Ong, F. Audet, M. Zonoun  
Nortel Networks  
E. Zimmerer  
ipVerse, Inc.  
A. Vemuri  
Level3 Communications

## The SIP QSIG/MIME type

### Status of this Memo

This document is an Internet-Draft and is in full conformance with all provisions of [Section 10 of RFC2026](#). Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at  
<http://www.ietf.org/ietf/1id-abstracts.txt>

The list of Internet-Draft Shadow Directories can be accessed at  
<http://www.ietf.org/shadow.html>.

### **1. Abstract**

This document proposes the definition of an application/QSIG media type, according to the rules defined in [RFC 2048](#) [1].

### **2. Introduction**

The QSIG family of standards provides connectivity between corporate network switches, Centrex switches as well as corporate network to Centrex switches. Qsig standards also specifies a set of supplementary services, the service specific "QSIG" signalling protocols for the exchange of information between switches across an interface at the "Q" reference point.

QSIG basic call is essentially a symmetrical (peer-to-peer) version of ISDN DSS1. QSIG also adds generic procedures for the support of supplementary services. These procedures allow for standardized and proprietary supplementary services to coexist in a graceful manner. There is a need to transport QSIG messages between MGCs as part of the payload of SIP [2] messages. The following discussion is specific to this usage and would not apply to the transportation of QSIG messages in other applications.

### **3. The application/QSIG media type**

The QSIG messages are composed of arbitrary binary data. The proposed way to

encode these is to use binary encoding. This is in conformance with the restrictions imposed on the use of binary data for MIME ([RFC 2045](#) [3]). It should be noted that the rules mentioned in the [RFC 2045](#) apply to Internet

[draft-ong-sip-qsig-mime-00](#)

1

Internet Draft

QSIG MIME Type

October 20, 1999

mail messages and not to SIP messages. This approach is consistent with encoding of ISUP signalling over SIP.

The application/QSIG media type is defined by the following information:

Media type name: application  
Media subtype name: QSIG  
Required parameters: none  
Optional parameters: version  
Encoding scheme: binary  
Security considerations: See [section 5](#).

The use of the 'version' parameter allows differentiation between different QSIG variants.

This enables the terminating Connection Server to recognize and parse the message correctly, or (possibly) to reject the message if the particular QSIG variant is not supported. The idea here is to allow to specify a preference of version, so that the following scenarios are possible: "I only like application/QSIG;version=ISO" or "I accept application/QSIG (but don't really know the details; I just pass them on to some other tool that displays/munges them)".

The following is how a typical header would look:-

```
Content-Type: application/QSIG; Version: ISO
Content-Transfer-Encoding: binary
```

Table 1 is a partial list of protocol versions supported by the 'application/QSIG' media type.

Version	Protocol
-----	-----
ISO	ISO/IEC 11572

#### [4. Illustrative example](#)

SIP message format requires a Request line followed by Header lines followed by a CRLF separator followed by the message body. To illustrate the use of the 'application/QSIG' media type, below is an INVITE message which has the originating SDP information and an encapsulated QSIG SETUP message.

Note that the two payloads are demarcated by the boundary parameter (specified in [RFC 2046](#) [4]) which in the example has the value "unique-boundary-1". This is part of the specification of MIME multipart and is not related to the 'application/QSIG' media type.

[draft-ong-sip-qsig-mime-00](#)

2

Internet Draft

QSIG MIME Type

October 20, 1999

```
INVITE sip:14084955072@sc1.nortelnetworks.com SIP/2.0
From: sip:14085655675@sc10.nortelnetworks.com
To: sip:14084955072@sc1.nortelnetworks.com
Call-ID: 1231999021712095500999@sc12.nortelnetworks.com
Content-Length: 393
Content-Type: multipart/mixed; boundary=unique-boundary-1
MIME-Version: 1.0
```

```
--unique-boundary-1
Content-Type: application/SDP; charset=ISO-10646
```

```
v=0
o=audet 2890844526 2890842807 5 IN IP4 134.177.64.4
s=SDP seminar
c=IN IP4 MG141.nortelnetworks.com
t= 2873397496 2873404696
m=audio 9092 RTP/AVP 0 3 4
```

```
--unique-boundary-1
Content-type:application/QSIG;version=ISO
Content-Transfer-Encoding: binary
```

```
08 02 55 55 05 04 02 90 90 18 03 a1 83 01
70 0a 89 31 34 30 38 34 39 35 35 30 37 32
```

```
--unique-boundary-1--
```

## **[5. Security considerations](#)**

The security mechanisms described in [RFC 2543](#) (SIP - Session Initiation Protocol) should suffice. No new security considerations are necessary.

## **[6. Authors](#)**

**[L. Ong](#)**  
**[4401](#) Great America Parkway**

**F. Audet / M. Zonoun**  
2305 Mission College Blvd

Santa Clara, CA 95054  
long@nortelnetworks.com

Santa Clara, CA 95054  
audet@nortelnetworks.com  
mzonoun@nortelnetworks.com

Eric Zimmerer  
ipVerse, Inc.  
**1901 Landings Drive**  
Mountain View, CA 94043, USA  
Phone: 650-919-0648  
Email: ericz@ipverse.com

[draft-ong-sip-qsig-mime-00](#)

3

Internet Draft

QSIG MIME Type

October 20, 1999

Aparna Vemuri  
Level 3 Communications  
Louisville, CO, USA  
Phone: 303-926-3768  
EMail: aparna.vemuri@level3.com

## **7. References**

[1] Freed, Klensin, Postel, "Multipart Internet Mail Extensions (MIME) Part Four: Registration Procedures" [RFC 2048](#), Internet Engineering Task Force, November 1996.

[2] Handley, Schulzrinne, Schooler and Rosenberg, "Session Initiation Protocol (SIP)" [RFC 2543](#), Internet Engineering Task Force, March 1999.

[3] Freed, Borenstein, "Multipart Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies" [RFC 2045](#), Internet Engineering Task Force, November 1996.

[4] Freed, Borenstein, "Multipart Internet Mail Extensions (MIME) Part Two: Media Types" [RFC 2046](#), Internet Engineering Task Force, November 1996.

[5] ISO/IEC 11572 Ed. 2 (1997-06), "Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Circuit mode bearer services - Inter-exchange signalling procedures and protocol"

[6] ISO/IEC 11582 (1995-07), "Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Generic functional protocol for the support of supplementary services - Inter-exchange signalling procedures and protocol"

This draft expires April 2000.

[draft-ong-sip-qsig-mime-00](#)