ALTA3 RESEARCH

SIP Cheat Sheet
Download via https://alta3.com/posters/sip.pdf

Requests (Methods)

Method	Description
ACK	INVITE -> Final response -> ACK
BYE	Terminate a session
CANCEL	Terminate during call setup
INFO	Carry application information within SIP signaling path
INVITE	Sent to set up a call
MESSAGE	Used to carry txt (SMS / IM)
NOTIFY	Disclose state of presence service
OPTIONS	Analogous to a SIP ping
PRACK	Makes 1xx messages reliable
PUBLISH	Reports state of a service
REFER	Used for transfers & features
REGISTER	Reports UA's location (IP)
SUBSCRIBE	Request to receive presence event
UPDATE	Used in early dialog to modify SDP

Responses

Code	Description
1xx	(Provisional) Setup / More to come
2xx	(Final) Success
3xx	(Final) Call Forwarding
4xx	(Final) Request Failure
5xx	(Final) Server Failure
6xx	(Final) Global Failure

RTP Mapping

0	PCMU / 8000
1-2	Reserved
3	GSM / 8000
4	G723 / 8000
5	DVI4 / 8000
6	DVI4 / 16000
7	LPC / 8000
8	PCMA / 8000
9	G722 / 8000
10	L16 / 44100 (2chan)
11	L16 / 44100
12	QCELP / 8000
13	CN / 8000
14	MPA / 90000
15	G728 / 8000
16	DVI4 / 11025
17	DVI4 / 22050
18	G729 / 8000
19-24	Res or unassigned
25	CelB / 90000
26	JPEG / 90000
27	Unassigned

RTP Mapping (continued)

28	nv / 90000
29 - 30	Unassigned
31	H261 / 90000
32	MPV / 90000
33	MP2T / 90000
34	H263 / 90000
35 - 71	Unassigned
72-76	Reserved for RTCP conflict avoidance
77 - 95	Unassigned
96 - 127	Dynamic

Common Terms

Term	Description
SIP	Session Initiation Protocol
UA	User Agent (SIP phone is a UA)
UAC	User Agent Client (sends requests)
UAS	User Agent Server (sends responses)
SBC	Session Border Controller (edge security)
Proxy	Routes (relays) SIP requests and responses
Registrar	Accepts SIP UA registration (tracking UA location)
B2BUA	Back-To-Back-UA (separates SIP dialogs)
RTP	Real-Time Transport Protocol (voice and / or video)
SDP	Session Description Protocol (describes RTP setup)

SIP Call Example

```
INVITE + SDP -------------->
<-------------------- 100
<------------- 180 / 183
<------------- 200 + SDP
ACK ----------------------->

<========= RTP ==========>

<-------------------- BYE
200 -------------------- >
```

SIP Registration Example

```
REGISTER -------------->
<-------------------- 401
REGISTER -------------->
<-------------------- 200
```

PRACK Example

```
<------ 1xx (req:100rel)
PRACK ---------------->
<-------------------- 200
```