Compliance with RFC 3261

This appendix describes how the Cisco IP Phone 7960G/7940G complies with the IETF definition of SIP as described in RFC 3261. It contains compliance information on the following:

- SIP Functions, page A-1
- SIP Methods, page A-2
- SIP Responses, page A-2
- SIP Header Fields, page A-6
- SIP Session Description Protocol Usage, page A-8
- Transport Layer Protocols, page A-8
- SIP Security Authentication, page A-8
- SIP DNS Records Usage, page A-9
- SIP DTMF Digit Transport, page A-9

SIP Functions

Function	Supported?
User agent client (UAC)	Yes
User agent server (UAS)	Yes
Proxy server	Third-party only
Redirect server	Third-party only

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SIP Methods

Method	Supported?	Comments
INVITE	Yes	The phone supports midcall changes such as putting a call on hold as signaled by a new INVITE that contains an existing call ID.
ACK	Yes	—
OPTIONS	Response only	
BYE	Yes	
CANCEL	Yes	
REGISTER	Yes	The phone supports both user and device registration.
REFER	Yes	—
NOTIFY	Yes	Used for REFER and remote reboot.
UPDATE	Yes	Used for display updates only (SDP updates are not supported).

SIP Responses

The Cisco IP Phone 7960G/7940G supports the following SIP responses:

- 1xx Response—Information Responses, page A-3
- 2xx Response—Successful Responses, page A-3
- 3xx Response—Redirection Responses, page A-3
- 4xx Response—Request Failure Responses, page A-4
- 5xx Response—Server Failure Responses, page A-6
- 6xx Response—Global Responses, page A-6

Note A SIP response that cannot be constructed properly because of a syntactically incorrect received request will be ignored.

A syntactically incorrect response to a sent request will be ignored.

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1*xx* Response—Information Responses

1*xx* Response	Supported?	Comments
100 Trying	Yes	The phone generates this response for an incoming INVITE. Upon receiving this response, the phone waits for a 180 Ringing, 183 Session Progress, or 200 OK response.
180 Ringing	Yes	—
181 Call Is Being Forwarded	See comments	The phone does not generate these responses; however, the phone does receive them. The phone processes these responses in the same way that it processes the 100 Trying response.
182 Queued		
183 Session Progress		The phone does not generate this message. Upon receiving this response, the phone provides early media cut-through and then waits for a 200 OK response.

2*xx* Response—Successful Responses

2*xx* Response	Supported?	Comments
200 OK	Yes	—
202 Accepted	Yes	—

3*xx* Response—Redirection Responses

3*xx* Response	Supported?	Comments
300 Multiple Choices	Yes	—
301 Moved Permanently	Yes	
302 Moved Temporarily	Yes	The phone generates this response when local call forwarding is enabled. Upon receiving this response, the phone sends an INVITE that contains the contact information received in the 302 Moved Temporarily response.
305 Use Proxy	Yes	The phone does not generate these responses. The phone contacts the new address in the Contact header field.
380 Alternate Service	Yes	

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4*xx* Response—Request Failure Responses

4*xx* Response	Supported?	Comments
400 Bad Request	Yes	The phone generates a 400 Bad Request response for an erroneous request. For an incoming response, the phone initiates a graceful call disconnect (during which the caller hears a fast busy tone).
401 Unauthorized	Yes	If a 401 Unauthorized response is received, the phone accepts the response and sends a new request that contains the user's authentication information in the format of the HTTP digest as modified by RFC 3261.
402 Payment Required	Yes	The phone does not generate the 402 Payment Required response.
403 Forbidden	Yes	If the phone receives a 403 Forbidden response, it notifies the user of the response. This response indicates that the SIP server has the request but will not provide service.
404 Not Found	Yes	The phone generates this response if it is unable to locate the callee. Upon receiving this response, the phone notifies the user.
405 Method Not Allowed	Yes	If the phone receives a 405 Method Not Allowed response, it notifies the user of the response.
406 Not Acceptable	Yes	The phone does not generate a 406 Not Acceptable response. For an incoming response, the phone initiates a graceful call disconnect (during which the caller hears a busy or fast busy tone) before clearing the call request.
407 Proxy Authentication Required	Yes	If a 407 Proxy Authorization Required response is received, the phone accepts the response and sends a new request that contains the user's authentication information in the format of the HTTP digest as modified by RFC 3261.
408 Request Timeout	Yes	For an incoming response, the phone initiates a graceful call disconnect (during which a caller hears a fast busy). The phone generates this response after an INVITE Expires timeout to avoid leaving the phone in a continuous ringing state (fail safe mechanism). This will occur only if the phone does not receive any messages from the network to tear down the call after the timer expires.
409 Conflict	Yes	The 409 Conflict response indicates that the INVITE request could not be processed because of a conflict with the current state of the resource. If this response is received, the user is notified.
410 Gone	Yes	The 410 Gone response indicates that a resource is no longer available at the server and no forwarding address is known.

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4xx Response	Supported?	Comments
411 Length Required	Yes	This response indicates that the user refuses to accept the request without a defined content length. If received, the phone resends the INVITE request if it can add a valid Content-Length header field.
413 Request Entity Too Large	Yes	If a retry-after header field is contained in this response, the user can attempt the call once again in the retry time provided.
414 Request—URL Too Long	Yes	The user is notified if this response is received.
415 Unsupported Media	Yes	The user is notified if this response is received.
420 Bad Extension	Yes	The user is notified if this response is received. If the phone does not understand the protocol extension specified in the Require field, the 420 Bad Extension response is generated.
480 Temporarily Unavailable	Yes	The response is received only by the phone. The user is notified if this response is received.
481 Call Leg/Transaction Does Not Exist	Yes	The user is notified if this response is received.
482 Loop Detected		
483 Too Many Hops		
484 Address Incomplete		
485 Ambiguous	Yes	If a new contact is received, the phone might reinitiate the call.
486 Busy Here	Yes	The phone generates this response if the called party is off-hook and the call cannot be presented as a call-waiting call. Upon receiving this response, the phone notifies the user and generates a busy tone.
487 Request Canceled	Yes	This response indicates that the initial request is terminated with a BYE or CANCEL request.
488 Not Acceptable	Yes	When media cannot be negotiated properly, the phone receives and generates this response.
491 Request Pending	Yes	Indicates a glare condition (when INVITE requests cross). The phone supports sending and receiving this response.

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5*xx* Response—Server Failure Responses

5*xx* Response	Supported?	Comments
500 Internal Server Error	Yes	The phone initiates a graceful call disconnect, and the user is notified.
501 Not Implemented	Yes	
502 Bad Gateway	Yes	
503 Service Unavailable	Yes	
504 Gateway Timeout	Yes	
505 Version Not Supported	Yes	

6*xx* Response—Global Responses

6*xx* Response	Supported?	Comments
600 Busy Everywhere	Yes	The phone initiates a graceful call disconnect, and the user is notified.
603 Decline	Yes	
604 Does Not Exist Anywhere	Yes	
606 Not Acceptable	Yes	

SIP Header Fields

Header Field	Supported?
Accept	Yes
Accept-Encoding	Yes
Accept-Language	Yes
Alert-Info	Yes
Allow	Yes
Also	Yes
Authorization	Yes
Call-ID	Yes
Call-Info	Yes
CC-Diversion	Yes
CC-Redirect	Yes
Contact	Yes
Content-Disposition	Yes

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Header Field	Supported?
Content-Encoding	Yes
Content-Length	Yes
Content-Type	Yes
Cseq	Yes
Date	Yes
Diversion	Yes
Encryption	No
Expires	Yes
Event	Yes
From	Yes
Hide	No
Max-Forwards	Yes
Mime-Version	Yes
Organization	No
Priority	No
Proxy-Authenticate	Yes
Proxy-Authorization	Yes
Proxy-Require	Yes
Record-Route	Yes
Referred-By	Yes
Refer-To	Yes
Remote-Party-ID	Yes **Note** The Screen parameter is ignored on received Remote-Party-ID and is always set to Yes in sent Remote-Party-ID
Replaces	Yes
Requested-By	Yes
Require	Yes
Response-Key	No
Retry-After	Yes
Route	Yes
RTP-RxStat	Yes
RTP-TxStat	Yes
Server	Yes
Subject	No
Supported	Yes
Timestamp	Yes
To	Yes

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Header Field	Supported?
Unsupported	Yes
User-Agent	Yes
Via	Yes
Warning	Yes
WWW-Authenticate	Yes

SIP Session Description Protocol Usage

SDP Headers	Supported?
v—Protocol version	Yes
o—Owner or creator and session identifier	Yes
s—Session name	Yes
t—Time description	Yes
c—Connection information	Yes
m—Media name and transport address	Yes
a—Media attribute lines	Yes

Transport Layer Protocols

Protocol	Supported?
Unicast UDP	Yes
Multicast UDP	No
TCP	No

SIP Security Authentication

Basic Authentication	Supported?
Digest Authentication	Yes
Proxy Authentication	No
PGP	No

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SIP DNS Records Usage

DNS Resource Record Type	Supported?
Type A	Yes
Type SRV	Yes
NAPTR	No

SIP DTMF Digit Transport

Transport Type	Supported?
RFC 2833	Yes
In-band tones	Yes

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