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## SIP Message Structure

All SIP messages are either requests from a server or client or responses to a request. The messages are formatted according to [RFC 822](#), "Standard for the format of ARPA internet text messages." For all messages, the general format is:

- A start line
- One or more header fields
- An empty line
- A message body (optional)

Each line must end with a carriage return-line feed (CRLF).

## Requests

SIP uses six types (methods) of requests:

- INVITE-Indicates that a user or service is being invited to participate in a call session
- ACK-Confirms that the client has received a final response to an INVITE request
- BYE-Terminates a call and can be sent by the calling or called party
- CANCEL-Cancels any pending searches but does not terminate a call that has already been accepted
- OPTIONS-Queries the capabilities of servers
- REGISTER-Registers the address listed in the To header field with a SIP server

## Responses

The following types of responses are used by SIP and generated by the Cisco SIP proxy server:

- SIP 1xx-Informational responses
- SIP 2xx-Successful responses
- SIP 3xx-Redirection responses


- SIP 4xx-Client failure responses
- SIP 5xx-Server failure responses
- SIP 6xx-Global failure responses

## Registration Process

A registration occurs when a client needs to inform a proxy or redirect server of its location. During this process, the client sends a REGISTER request to the proxy or redirect server and includes the address (or addresses) at which it can be reached.

## Invitation Process

An invitation occurs when one SIP endpoint (user A) "invites" another SIP endpoint (user B) to join in a call. During this process, user A sends an INVITE message requesting that user B join a particular conference or establish a two-party conversation. If user B wants to join the call, it sends an affirmative response (SIP 2xx). Otherwise, it sends a failure response (SIP 4xx). Upon receiving the response, user A acknowledges the response with an ACK message. If user A no longer wants to establish this conference, it sends a BYE message instead of an ACK message.

 **Note:** For examples of SIP call flows, refer to the [Cisco SIP Proxy Server Administrator Guide](#).