

Understanding SIP Messages

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Introduction

This article is one in a series to assist in the setup, troubleshooting, and maintenance of Cisco Small Business products.

Q. What does the SIP parameters on the syslog mean?

A.

Message Requests

SIP communication features six kinds of message requests. These requests, also referred to as methods, enable user agents and network servers to locate, invite, and manage calls. These are the six SIP requests:

- ***INVITE***

This method indicates that the user or service is invited to participate in a session. It includes a session description. For two-way calls, the calling party indicates the media type. A successful response to a two-party INVITE (200 OK response) includes the called party's receive media type. With this simple method, users can recognize the capabilities of the other end and open a conversation session with a limited number of messages and round trips.

- ***ACK***

These requests correspond to an INVITE request. They represent the final confirmation from the end system and conclude the transaction initiated by the INVITE command. If the calling party includes a session description in the ACK request, no additional parameters are used in the session. If a session description is absent, the session parameters in the INVITE request are used as the default.

- ***OPTIONS***

This method enables you to query and collect user agents and network server capabilities. However, this request is not used in order to establish sessions.

- ***BYE***

This method is used by calling and called parties to release a call. Before actually releasing the call, the user agent sends this request to the server indicating the desire to release the session.

- ***CANCEL***

This request enables user agents and network servers to cancel any in-progress request. This does not affect completed requests in which final responses were already received.

- **REGISTER**

This method is used by clients to register location information with SIP servers.

Message Responses

SIP message responses are based on the receipt and interpretation of a corresponding request. They are sent in response to requests and indicate call success or failure, including the status of the server. The six classes of responses, their status codes, and explanations of what they do are provided in the table below. The two categories of responses are provisional, which indicates progress, and final, which terminates a request.

Class of Response	Status Code	Explanation
Informational	100	Trying
	180	Ringin
	181	Call is being forwarded
	182	Queued
Success	200	OK
	300	Multiple choices
	301	Moved permanently
	302	Moved temporarily
	303	See other
	305	Use proxy
Client-Error	380	Alternative service
	400	Bad request
	401	Unauthorized
	402	Payment required
	403	Forbidden
	404	Not found
	405	Method not allowed
	406	Not acceptable
Client-Error	407	Proxy authentication required
	408	Request timeout
	409	Conflict
	410	Gone

	411	Length required
	413	Request entity too large
	414	Requested URL too large
	415	Unsupported media type
	420	Bad extension
	480	Temporarily not available
	481	Call leg or transaction doesn't exist
	482	Loop detected
	483	Too many hops
	484	Address incomplete
	485	Ambiguous
	486	Busy here
Server-Error	500	Internal server error
	501	Not implemented
	502	Bad gateway
	503	Service unavailable
	504	Gateway timeout
	505	SIP version not supported
Global Failure	600	Busy everywhere
	603	Decline
	604	Does not exist anywhere
	606	Not acceptable

Note: In Table 11–3, informational responses are provisional and the remaining five are final responses.

Related Information

- [Technical Support & Documentation – Cisco Systems](#)