



## SIP Messages

### **100 Trying**

This response indicates that the request has been received by the next-hop server and that some unspecified action is being taken on behalf of this call (for example, a database is being consulted). This response, like all other provisional responses, stops retransmissions of an INVITE by a UAC. The 100 (Trying) response is different from other provisional responses, in that it is never forwarded upstream by a stateful proxy.

### **180 Ringing**

The UA receiving the INVITE is trying to alert the user. This response MAY be used to initiate local ringback.

### **181 Call Is Being Forwarded**

A server MAY use this status code to indicate that the call is being forwarded to a different set of destinations.

### **182 Queued**

The called party is temporarily unavailable, but the server has decided to queue the call rather than reject it. When the callee becomes available, it will return the appropriate final status response. The reason phrase MAY give further details about the status of the call, for example, "5 calls queued; expected waiting time is 15 minutes". The server MAY issue several 182 (Queued) responses to update the caller about the status of the queued call.

### **183 Session Progress**

The 183 (Session Progress) response is used to convey information about the progress of the call that is not otherwise classified. The Reason-Phrase, header fields, or message body MAY be used to convey more details about the call progress.

### **Successful 2xx**

The request was successful.

### **200 OK**

The request has succeeded. The information returned with the response depends on the method used in the request.

### **Redirection 3xx**

3xx responses give information about the user's new location, or about alternative services that might be able to satisfy the call.

### **300 Multiple Choices**

The address in the request resolved to several choices, each with its own specific location, and the user (or UA) can select a preferred communication end point and redirect its request to that location.

The response MAY include a message body containing a list of resource characteristics and location(s) from which the user or UA can choose the one most appropriate, if allowed by the Accept request header field. However, no MIME types have been defined for this message body.

Unlike HTTP, the SIP response MAY contain several Contact fields or a list of addresses in a Contact field. UAs MAY use the Contact header field value for automatic redirection or MAY ask the user to confirm a choice. However, this specification does not define any standard for such automatic selection.

This status response is appropriate if the callee can be reached at several different locations and the server cannot or prefers not to proxy the request.

### ***301 Moved Permanently***

The user can no longer be found at the address in the Request-URI, and the requesting client SHOULD retry at the new address given by the Contact header field (Section 20.10). The requestor SHOULD update any local directories, address books, and user location caches with this new value and redirect future requests to the address(es) listed.

### ***302 Moved Temporarily***

The requesting client SHOULD retry the request at the new address(es) given by the Contact header field (Section 20.10). The Request-URI of the new request uses the value of the Contact header field in the response.

The duration of the validity of the Contact URI can be indicated through an Expires (Section 20.19) header field or an expires parameter in the Contact header field. Both proxies and UAs MAY cache this URI for the duration of the expiration time. If there is no explicit expiration time, the address is only valid once for recursing, and MUST NOT be cached for future transactions.

If the URI cached from the Contact header field fails, the Request-URI from the redirected request MAY be tried again a single time.

The temporary URI may have become out-of-date sooner than the expiration time, and a new temporary URI may be available.

### ***305 Use Proxy***

The requested resource MUST be accessed through the proxy given by the Contact field. The Contact field gives the URI of the proxy. The recipient is expected to repeat this single request via the proxy. 305 (Use Proxy) responses MUST only be generated by UASs.

### ***380 Alternative Service***

The call was not successful, but alternative services are possible.

The alternative services are described in the message body of the response. Formats for such bodies are not defined here, and may be the subject of future standardization.

### ***Request Failure 4xx***

4xx responses are definite failure responses from a particular server. The client SHOULD NOT retry the same request without modification (for example, adding

appropriate authorization). However, the same request to a different server might be successful.

#### ***400 Bad Request***

The request could not be understood due to malformed syntax. The Reason-Phrase SHOULD identify the syntax problem in more detail, for example, "Missing Call-ID header field".

#### ***401 Unauthorized***

The request requires user authentication. This response is issued by UASs and registrars, while 407 (Proxy Authentication Required) is used by proxy servers.

#### ***402 Payment Required***

Reserved for future use.

#### ***403 Forbidden***

The server understood the request, but is refusing to fulfill it.

Authorization will not help, and the request SHOULD NOT be repeated.

#### ***404 Not Found***

The server has definitive information that the user does not exist at the domain specified in the Request-URI. This status is also returned if the domain in the Request-URI does not match any of the domains handled by the recipient of the request.

#### ***405 Method Not Allowed***

The method specified in the Request-Line is understood, but not allowed for the address identified by the Request-URI.

The response MUST include an Allow header field containing a list of valid methods for the indicated address.

#### ***406 Not Acceptable***

The resource identified by the request is only capable of generating response entities that have content characteristics not acceptable according to the Accept header field sent in the request.

#### ***407 Proxy Authentication Required***

This code is similar to 401 (Unauthorized), but indicates that the client MUST first authenticate itself with the proxy.

This status code can be used for applications where access to the communication channel (for example, a telephony gateway) rather than the callee requires authentication.

#### ***408 Request Timeout***

The server could not produce a response within a suitable amount of time, for example, if it could not determine the location of the user in time. The client MAY repeat the request without modifications at any later time.

#### ***410 Gone***

The requested resource is no longer available at the server and no forwarding address is known. This condition is expected to be considered permanent. If the server does not

know, or has no facility to determine, whether or not the condition is permanent, the status code 404 (Not Found) SHOULD be used instead.

### **413 Request Entity Too Large**

The server is refusing to process a request because the request entity-body is larger than the server is willing or able to process. The server MAY close the connection to prevent the client from continuing the request.

If the condition is temporary, the server SHOULD include a Retry-After header field to indicate that it is temporary and after what time the client MAY try again.

### **414 Request-URI Too Long**

The server is refusing to service the request because the Request-URI is longer than the server is willing to interpret.

### **415 Unsupported Media Type**

The server is refusing to service the request because the message body of the request is in a format not supported by the server for the requested method. The server MUST return a list of acceptable formats using the Accept, Accept-Encoding, or Accept-Language header field, depending on the specific problem with the content.

### **416 Unsupported URI Scheme**

The server cannot process the request because the scheme of the URI in the Request-URI is unknown to the server.

### **420 Bad Extension**

The server did not understand the protocol extension specified in a Proxy-Require (Section 20.29) or Require (Section 20.32) header field. The server MUST include a list of the unsupported extensions in an Unsupported header field in the response.

#### 21.4.16 421 Extension Required

The UAS needs a particular extension to process the request, but this extension is not listed in a Supported header field in the request. Responses with this status code MUST contain a Require header field listing the required extensions.

A UAS SHOULD NOT use this response unless it truly cannot provide any useful service to the client. Instead, if a desirable extension is not listed in the Supported header field, servers SHOULD process the request using baseline SIP capabilities and any extensions supported by the client.

### **423 Interval Too Brief**

The server is rejecting the request because the expiration time of the resource refreshed by the request is too short. This response can be used by a registrar to reject a registration whose Contact header field expiration time was too small.

#### 21.4.18 480 Temporarily Unavailable

The callee's end system was contacted successfully but the callee is currently unavailable (for example, is not logged in, logged in but in a state that precludes communication with the callee, or has activated the "do not disturb" feature). The response MAY indicate a better time to call in the Retry-After header field. The user could also be available elsewhere (unbeknownst to this server). The reason phrase SHOULD indicate a more precise cause as to why the callee is unavailable. This value

SHOULD be settable by the UA. Status 486 (Busy Here) MAY be used to more precisely indicate a particular reason for the call failure.



This status is also returned by a redirect or proxy server that recognizes the user identified by the Request-URI, but does not currently have a valid forwarding location for that user.

#### **481 Call/Transaction Does Not Exist**

This status indicates that the UAS received a request that does not match any existing dialog or transaction.

#### **482 Loop Detected**

The server has detected a loop.

#### **483 Too Many Hops**

The server received a request that contains a Max-Forwards (Section 20.22) header field with the value zero.

#### **484 Address Incomplete**

The server received a request with a Request-URI that was incomplete.

Additional information SHOULD be provided in the reason phrase.

This status code allows overlapped dialing. With overlapped dialing, the client does not know the length of the dialing string. It sends strings of increasing lengths, prompting the user for more input, until it no longer receives a 484 (Address Incomplete) status response.

#### **485 Ambiguous**

The Request-URI was ambiguous. The response MAY contain a listing of possible unambiguous addresses in Contact header fields. Revealing alternatives can infringe on privacy of the user or the organization. It MUST be possible to configure a server to respond with status 404 (Not Found) or to suppress the listing of possible choices for ambiguous Request-URIs.

Example response to a request with the Request-URI sip:lee@example.com:

#### **SIP/2.0 485 Ambiguous**

Contact: Carol Lee <sip:carol.lee@example.com>

Contact: Ping Lee <sip:p.lee@example.com>

Contact: Lee M. Foote <sips:lee.foote@example.com>

Some email and voice mail systems provide this functionality. A status code separate from 3xx is used since the semantics are different: for 300, it is assumed that the same person or service will be reached by the choices provided. While an automated choice or sequential search makes sense for a 3xx response, user intervention is required for a 485 (Ambiguous) response.

#### **486 Busy Here**

The callee's end system was contacted successfully, but the callee is currently not willing or able to take additional calls at this end system. The response MAY indicate a better time to call in the Retry-After header field. The user could also be available elsewhere, such as through a voice mail service. Status 600 (Busy Everywhere) SHOULD be used if the client knows that no other end system will be able to accept this call.

***487 Request Terminated***

The request was terminated by a BYE or CANCEL request. This response is never returned for a CANCEL request itself.

### ***488 Not Acceptable Here***

The response has the same meaning as 606 (Not Acceptable), but only applies to the specific resource addressed by the Request-URI and the request may succeed elsewhere.

A message body containing a description of media capabilities MAY be present in the response, which is formatted according to the Accept header field in the INVITE (or application/sdp if not present), the same as a message body in a 200 (OK) response to an OPTIONS request.

### ***491 Request Pending***

The request was received by a UAS that had a pending request within the same dialog. Section 14.2 describes how such “glare” situations are resolved.

### ***493 Undecipherable***

The request was received by a UAS that contained an encrypted MIME body for which the recipient does not possess or will not provide an appropriate decryption key. This response MAY have a single body containing an appropriate public key that should be used to encrypt MIME bodies sent to this UA.

### ***Server Failure 5xx***

5xx responses are failure responses given when a server itself has erred.

### ***500 Server Internal Error***

The server encountered an unexpected condition that prevented it from fulfilling the request. The client MAY display the specific error condition and MAY retry the request after several seconds.

If the condition is temporary, the server MAY indicate when the client may retry the request using the Retry-After header field.

### ***501 Not Implemented***

The server does not support the functionality required to fulfill the request. This is the appropriate response when a UAS does not recognize the request method and is not capable of supporting it for any user. (Proxies forward all requests regardless of method.)

Note that a 405 (Method Not Allowed) is sent when the server recognizes the request method, but that method is not allowed or supported.

### ***502 Bad Gateway***

The server, while acting as a gateway or proxy, received an invalid response from the downstream server it accessed in attempting to fulfill the request.

### ***503 Service Unavailable***

The server is temporarily unable to process the request due to a temporary overloading or maintenance of the server. The server MAY indicate when the client should retry the request in a Retry-After header field. If no Retry-After is given, the client MUST act as if it had received a 500 (Server Internal Error) response.

A client (proxy or UAC) receiving a 503 (Service Unavailable) SHOULD attempt to forward the request to an alternate server. It SHOULD NOT forward any other requests to that server for the duration specified in the Retry-After header field, if present.

Servers MAY refuse the connection or drop the request instead of responding with 503 (Service Unavailable).

#### ***504 Server Time-out***

The server did not receive a timely response from an external server it accessed in attempting to process the request. 408 (Request Timeout) should be used instead if there was no response within the period specified in the Expires header field from the upstream server.

#### ***505 Version Not Supported***

The server does not support, or refuses to support, the SIP protocol version that was used in the request. The server is indicating that it is unable or unwilling to complete the request using the same major version as the client, other than with this error message.

#### ***513 Message Too Large***

The server was unable to process the request since the message length exceeded its capabilities.

#### ***Global Failures 6xx***

6xx responses indicate that a server has definitive information about a particular user, not just the particular instance indicated in the Request-URI.

#### ***600 Busy Everywhere***

The callee's end system was contacted successfully but the callee is busy and does not wish to take the call at this time. The response MAY indicate a better time to call in the Retry-After header field. If the callee does not wish to reveal the reason for declining the call, the callee uses status code 603 (Decline) instead. This status response is returned only if the client knows that no other end point (such as a voice mail system) will answer the request. Otherwise, 486 (Busy Here) should be returned.

#### ***603 Decline***

The callee's machine was successfully contacted but the user explicitly does not wish to or cannot participate. The response MAY indicate a better time to call in the Retry-After header field. This status response is returned only if the client knows that no other end point will answer the request.

#### ***604 Does Not Exist Anywhere***

The server has authoritative information that the user indicated in the Request-URI does not exist anywhere.

#### ***606 Not Acceptable***

The user's agent was contacted successfully but some aspects of the session description such as the requested media, bandwidth, or addressing style were not acceptable.

A 606 (Not Acceptable) response means that the user wishes to communicate, but cannot adequately support the session described. The 606 (Not Acceptable) response MAY contain a list of reasons in a Warning header field describing why the session described cannot be supported.