

Carrying Q.850 Codes in Reason Header Fields  
in SIP (Session Initiation Protocol) Responses

Abstract

Although the use of the SIP (Session Initiation Protocol) Reason header field in responses is considered in general in [RFC 3326](#), its use is not specified for any particular response code. Nonetheless, existing deployments have been using Reason header fields to carry failure-related Q.850 cause codes in SIP responses to INVITE requests that have been gatewayed to Public Switched Telephone Network (PSTN) systems. This document normatively describes the use of the Reason header field in carrying Q.850 cause codes in SIP responses.

Status of This Memo

This is an Internet Standards Track document.

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## 1. Overview

Although the use of the SIP (Session Initiation Protocol) Reason header field in responses is considered in general in [RFC 3326](#) [[RFC3326](#)], its use is not specified for any particular response code. Nonetheless, existing deployments have been using Reason header fields to carry failure-related Q.850 [[Q.850](#)] cause codes in SIP responses to INVITE requests that have been gatewayed to PSTN systems. This document normatively describes the use of the Reason header field in SIP responses to carry Q.850 [[Q.850](#)] cause codes.

## 2. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

This document uses terms from [[RFC3261](#)].

### 3. Applicability

This document allows SIP responses to carry Reason header fields as follows:

Any SIP Response message, with the exception of a 100 (Trying), MAY contain a Reason header field with a Q.850 [Q.850] cause code.

The Reason header field is not needed in the 100 (Trying) responses, since they are transmitted hop by hop, not end to end. SIP responses with Reason header fields carrying values other than Q.850 [Q.850] cause codes are outside of the scope of this document.

### 4. Security Considerations

This specification allows the presence of the Reason header field containing Q.850 [Q.850] cause codes in responses. The presence of the Reason header field in a response does not affect the treatment of the response. Nevertheless, there could be situations where a wrong Q.850 [Q.850] cause code could, for example, cause an announcement system to play the wrong information. To avoid such situations, it is RECOMMENDED that this header field be protected by a suitable integrity mechanism. The use of transport- or network-layer hop-by-hop security mechanisms, such as Transport Layer Security (TLS) or IPsec with appropriate cipher suites, can satisfy this requirement.

### 5. Acknowledgments

Thanks to Gonzalo Camarillo and Mary Barnes for the detailed review of this document.

Thanks to Paul Kyzivat, Mary Barnes, John Elwell, Keith Drage, and Thomas Belling, who provided helpful comments, feedback, and suggestions.

### 6. Normative References

- [Q.850] "Usage of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No. 7 ISDN User Part", ITU Recommendation Q.850, May 1998.
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- [RFC3261] Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A., Peterson, J., Sparks, R., Handley, M., and E. Schooler, "SIP: Session Initiation Protocol", [RFC 3261](#), June 2002.
- [RFC3326] Schulzrinne, H., Oran, D., and G. Camarillo, "The Reason Header Field for the Session Initiation Protocol (SIP)", [RFC 3326](#), December 2002.

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