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The Reason Header Field for the Session Initiation Protocol

Status of this Memo

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Abstract

For creating services, it is often useful to know why a SIP request was issued. This document defines an optional informational header field, Reason, that provides this information.

Contents

1 Introduction

The same SIP [1] request can be issued for a variety of reasons. For example, a SIP CANCEL request can be issued if the call has completed on another branch or was abandoned before answer. While the protocol and system behavior is the same in both cases, namely, alerting will cease, the user interface may well differ. In the second case, the call may be logged as a missed call, while this would not be appropriate if the call was picked up elsewhere.

Third party call controllers sometimes generate a SIP request upon reception of a SIP response from another dialog. Gateways generate SIP requests after receiving messages from a different protocol than SIP. In both cases the client may be interested in knowing what triggered the SIP request.

SIP responses already have a means of informing the user of why a request failed. The simple mechanism in this draft accomplishes something roughly similar for requests.

Initially, the request header field defined here appears to be most useful for BYE and CANCEL methods, but it is defined that it can appear in any method.

Clients are free to ignore this header. It has no impact on protocol processing.

1.1 Terminology

In this document, the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in RFC 2119 [2] and indicate requirement levels for compliant SIP implementations.

2 The **Reason** Request Header Field

The Reason request header field can appear in any method. The syntax of the header field follows the standard SIP parameter syntax.

```
Reason            =  "Reason" HCOLON reason-code *(SEMI reason-params)
reason-code       =  1*DIGIT
reason-params     =  triggered-by | protocol-cause | reason-text
                     | reason-extension
triggered-by      =  "triggered" EQUAL quoted-string
protocol-cause    =  "cause" EQUAL cause
cause             =  1*DIGIT
reason-text       =  "text" EQUAL quoted-string
reason-extension  =  generic-param
```

Examples are:

```
Reason: 1 ;text="Call completed elsewhere"
Reason: 4 ;triggered="Q.850"; cause=16; text="Terminated"
Reason: 7 ;triggered="SIP/2.0"; cause=600; text="Busy Everywhere"
```

The following reason codes and text phrases have been defined:

1. (Call completed elsewhere): CANCEL request; another branch completed the call.
2. (Abandoned): CANCEL request; the call attempt was abandoned.
3. (Timed out): CANCEL request; the call attempt timed out.

4. (Terminated): BYE request; the caller or callee terminated the call.
5. (Transfer completed): BYE request; the call transfer was completed.
6. (No media): BYE request; the call was terminated since the other side did not receive media for an extended period of time.
7. (Interworking): BYE and CANCEL requests; the call was terminated because a gateway or a third party call controller received an error or a release message from the other side. This reason code SHOULD only be used if none of the other reason codes is applicable.

The text phrase MAY be modified, e.g., translated into different languages or enhanced with additional call-specific information, for example,

```
Reason: 2 ;text="Anrufer gab nach 30 Sekunden auf"
```

The following values for the triggered parameter have been defined:

SIP/2.0: The cause parameter contains a SIP status code.

Q.850: The cause parameter contains an ITU-T Q.850 cause value in decimal representation.

3 IANA Considerations

IANA registers new reason codes. All new reason codes MUST be defined in an RFC.

IANA also registers new values for the triggered parameter. These values MUST refer to either an ITU-T Recommendation number, an IETF protocol name or the recognized protocol identifier from another standardization organization.

4 Security Considerations

While spoofing or removing the Reason header field has no impact on protocol operation, the user interface may change and end systems may provide services based on this header field. Thus, it is RECOMMENDED that this field is protected by a suitable integrity mechanism.

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Jonathan Rosenberg provided helpful comments and suggestions.

6 Authors' Addresses

Henning Schulzrinne
Dept. of Computer Science
Columbia University
1214 Amsterdam Avenue
New York, NY 10027

USA
electronic mail: schulzrinne@cs.columbia.edu

Dave Oran
Cisco

Gonzalo Camarillo
Ericsson
Advanced Signalling Research Lab.
FIN-02420 Jorvas
Finland
electronic mail: Gonzalo.Camarillo@ericsson.com

References

[1] M. Handley, H. Schulzrinne, E. Schooler, and J. Rosenberg, “SIP: session initiation protocol,” Request for Comments 2543, Internet Engineering Task Force, Mar. 1999.

[2] S. Bradner, “Key words for use in RFCs to indicate requirement levels,” Request for Comments 2119, Internet Engineering Task Force, Mar. 1997.

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