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A SIP/SIPS URI parameter for passing subscription data
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Abstract

This document provides a SIP/SIPS URI parameter to enable subscription data related to a SIP/SIPS URI to accompany that SIP/SIPS URI when required by other entities in the same system. This can then be used by the receiving entity to assist in the provision of capabilities associated with that SIP/SIPS URI, either in this request or in other subsequent requests.

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1. Introduction

In a system of proxies or other SIP entities that form a network, there is often a need to deliver subscription data related to a particular subscriber or user (as represented by a SIP URI or SIPS URI, to other entities within the system. This document provides a SIP/SIPS URI parameter that can contain such information.

This information is primarily intended to be transferred from one entity to another either by attachment to SIP URIs or SIPS URIs within the P-Associated-URI header field (as defined in RFC 3455 [RFC3455], or to SIP URIs or SIPS URIs within the reg event package (as defined in RFC 3680 [RFC3680] and RFC 5628 [RFC5628]). However usage is not precluded on SIP URIs or SIPS URIs in other SIP requests or responses.

The content of this information is intended to be specific to a system or network as defined by a single standards organisation or operator, so the contents of this parameter are not defined further in this document. However a possible example of such information is given in the following paragraph.

For the use of the Resource-Priority header field defined in RFC 4412 [RFC4412], other proxies in the system need to learn what namespaces and priority levels within that namespace are legitimate for that user. Suppose a user is entitled to use the GETS namespace, and is allowed to use priority levels 2 and 3 within that namespace, then a representation of the subscription data is needed that conveys:

1. multiple subscription data entries to represent both possible combinations above, separated by a separator, e.g. "-".

2. that it is the capability represented by the Resource-Priority header field that is being represented, e.g. "rph".

3. that the GETS namespace is allowed to be used, e.g. "gets".

4. that a priority level is allowed to be used, e.g. "2" or "3".

All characters used will need to be legal characters within a SIP/SIPS URI parameter.

In this example it would be assumed that the absence of such information conveys no right to use the capability.

Using the above elements, a representation of this data could be:

P-Associated-URI: <sip:example.com;subdata=rphgets2-rhpgets3>

2. Applicability Statement

The information is only intended for use within a system, and therefore it is desirable that it is only be attached to URIs that are for consumption within the system, or information should only be included that contains information that is already known by the recipient outside the system.

This implies that there is a danger in attaching the information to URIs in ordinary requests and responses exchanged between users, as the normal proxy behaviour is to pass this information through the system to the end user, no matter who that end user is. If such usage is envisaged, then some sort of trust domain must be defined which encompasses the system where it is intended to be used, and where this SIP/SIPS URI parameter is removed when the trust domain is exited.

3. Conventions

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 BCP 14, RFC 2119 [RFC2119].

4. Definition of configuration data SIP/SIPS URI parameter

The following syntax specification uses the augmented Backus-Naur Form (BNF) as described in RFC5234 [RFC5234]..

The "subdata" URI parameter is a "uri-parameter", as defined by RFC 3261 [RFC3261].

```
uri-parameter =/ sub-data-param

sub-data-param = "subdata=" sub-data-value
sub-data-value = token
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The token string is as defined in RFC 3261 [RFC3261]. The contents of this string is not defined in this document, and is defined by the specification of the system to which the data relates.

It is up to the system designer to specify appropriate forward and backward compatibility rules for the content of this string. A rule such as ignoring parts of the string between separators that are not recognised may be sufficient.

5. Procedures at the including entity

When a SIP user agent or proxy is passing on on SIP URI, or sending a SIP URI for purposes of its own, and wishes to also pass on user subscription information, the SIP user agent or proxy MAY include a "subdata" SIP URI parameter with the SIP URI, provided:

1. the included subscription information relates to the SIP URI; and

2. it is known that the privacy policy for the information can be met, see the security considerations.

6. Procedures at subsequent entities

When a SIP user agent or proxy receives a SIP URI, the SIP user agent or proxy:

1. MUST remove the "subdata" SIP URI parameter if it knows the privacy requirements cannot be met by subsequent entities, if any; and

2. MAY retain the information within the "subdata" SIP URI parameter, and the relationship to the SIP URI, if it has a purpose for such data.

7. Security considerations

No specific security considerations apply. However a policy on the privacy of the information is expected to be defined for systems that use this information, and that privacy policy should then be adhered to in its usage.

The information is only intended for use within a system, and therefore it is desirable that it is only be attached to URIs that are for consumption within the system, or information should only be included that contains information that is already known by the recipient outside the system.

For example, if use is restricted to the reg event package defined in RFC 3680 [RFC3680], then the information should only be included in event package information where the subscriber is known (by existing SIP authentication mechanisms) to be another entity within the system. It could also potentially be revealed to the owner of the SIP or SIPS URI where it is envisaged that the subscription data is already known by such a user.

This implies that there is a danger in attaching the information to URIs in ordinary requests and responses exchanged between users, as the normal proxy behaviour is to pass this information through the system to the end user, no matter who that end user is. If such usage is envisaged, then some sort of trust domain must be defined which encompasses the system where it is intended to be used, and where this SIP/SIPS URI parameter is removed when the trust domain is exited.

8. IANA considerations

8.1. Registration of SIP/SIPS URI Parameter

This document specifies one new SIP/SIPS URI paramter: subdata. The syntax is given in Section 3. These headers are defined by the following information, which is to be added to the SIP/SIPS URI parameter sub-registry under http://www.iana.org/assignments/sip-parameters.

Parameter Name	Predefined Values	Reference
subdata	No	[RFCxxxx]

Note to the RFC editor: substitute xxxx with the RFC number of this document.

9. APPENDIX: Changes history

Note to RFC Editor: Please remove this entire appendix before publication

10. References

10.1. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[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.

[RFC5234] Crocker, D. and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008.

10.2. Informative References

[RFC3455] Garcia-Martin, M., Henrikson, E., and D. Mills, "Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3rd-Generation Partnership Project (3GPP)", RFC 3455, January 2003.

[RFC3680] Rosenberg, J., "A Session Initiation Protocol (SIP) Event Package for Registrations", RFC 3680, March 2004.

[RFC4412] Schulzrinne, H. and J. Polk, "Communications Resource Priority for the Session Initiation Protocol (SIP)", RFC 4412, February 2006.

[RFC5628] Kyzivat, P., "Registration Event Package Extension for Session Initiation Protocol (SIP) Globally Routable User Agent URIs (GRUUs)", RFC 5628, October 2009.

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