A Session Initiation Protocol (SIP) Load Control Event Package

draft-shen-soc-load-control-event-package-00.txt

Charles Shen† and Henning Schulzrinne, Columbia University
Arata Koike, NTT

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† Now with AT&T

Main updates

Addressed comments from the mailing list by

- Bruno Chatras

- Janet Gunn

- Volker Hilt

- Geoff Hunt

- Timothy Moran

- Eric Noel

- Parthasarathi R

Full diff available at

http://tools.ietf.org/rfcdiff?url1=http://tools.ietf.org/id/draft-shen-sipping-load-control-event-package-03.txt&url2=http://www.ietf.org/id/draft-shen-soc-load-control-event-package-00.txt

1. Filter value computation

Section 4.2

Clarified that filter value computation is based on algorithms out-of-scope of this document. The values do not have to be static, depending on the specific algorithm.

The wording in the example operation scenario in Section 4.3 is adjusted accordingly

Section 4.4

Mentioned RPH header in the revised texts:

"A simple policy is to reject excessive requests with 500 responses as if they were obeying the rate, except that the SIP server should honor the Resource-Priority header field as defined in RFC4412 [RFC4412] in order to preserve more high-priority requests."

Section 6.3.1

Clarified further on whether the sub-elements should be interpreted as "AND/OR" combination within the Call-Identity element.

Allows the call identity to be specified by multiple fields of a SIP request simultaneously, e.g., both the From and the To header fields

Section 6.4

Clarified actions for filtering. added

"In static load filter configuration scenarios, using the <rate> sub-element is RECOMMENDED because it is hard to enforce the percentage rate or window-based control when the incoming load from upstream or the reactions from downstream are uncertain."

Changed the default action for non-acceptable requests from "Drop" to "Reject" in order to curb retransmission.

Open Issue: mandatory default schema

Initially brought up by Bruno in 2009

Problem description

This I-D defines a SIP Event with its associated XML schema. The I-D does not preclude additional schemas to be used.

When a more sophisticated schema is used in specific environments, the SIP event mechanisms defined in this draft may still be applicable, only the schema need to be different (e.g., ETSI-specific schema ETSI ES 283 034 in NGN).

The argument is that when using an alternative schema (e.g., ETSI-specific schema ETSI ES 283 034 in NGN), the respective SIP entities do not have to support the schema in this I-D. However, the current version mandates the support for the schema in this I-D in order to facilitate interoperability.

Open Issue: mandatory default schema

Possible solutions

1. Retain the current I-D's statement. If necessary, create separate I-D for alternative schema (e.g., ETSI-specific schema ETSI ES 283 034 in NGN) which is mandatory for that I-D. The other I-D may refer to this I-D for contents that are in common. In the case both I-Ds become RFCs, a product may be declared as RFC-A compliant or RFC-B compliant.

2. Change the wording in the current version, making the schema in this I-D default but removing its mandatory support requirement.

3. Split the current I-D into two documents. One about the common contents on the mechanism, the second about the schema itself. Alternative schemas can be defined in other separate I-Ds. In this case, decision still needs to made about whether any one schema needs to be mandatory.

Open Issue: document status

Shall this I-D be accepted as a WG item, in particular, as the base document for the third deliverable in the WG charter:

"3. A specification for a SIP load filtering mechanism."?

Backup slides:
Mechanism overview

Problem Statement

SIP overload feedback control is reactive

- typically affects traffic already admitted & treat it equally

Where applicable, it is desirable to leverage known overload contexts (e.g., time and scope)

- Complement feedback control
- Push control closer to the source
- Specify selected parties to be controlled
- Setting up control in advance

Solution

SIP event package for load control

- Subscribe and Notify-based mechanism, instantiation of SIP event framework RFC3265

Definition of load control XML document

- Condition
  - Call Identity: source/destination, SIP or Tel URI(s)
  - Validity: time period to activate control
  - Method: e.g., INVITE
- Actions
  - E.g., accepting a target controlled rate

Example

Filter Spec
ID: To: +1-212-555-1234
Time: 9am-10am 2009-1-1
Act: accept rate=N_{EPA}

Filter Spec
ID: To: +1-212-555-1234
Time: 9am-10am 2009-1-1
Act: accept rate=N_{SPA}

Filter Spec
ID: To: +1-212-555-1234
Time: 9am-10am 2009-1-1
Act: accept rate= N_{max}

Filter Spec
ID: To: +1-212-555-1234
Time: 9am-10am 2009-1-1
Act: accept rate=N_{SPB}

Enterprise Network A

Service Provider A

Hotline Callee
212-555-1234
9am-10am,
2009-1-1

Enterprise Network B

Service Provider B