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            The 'sipTrunkingCapability' Link Relation Type

Abstract

   This specification defines the 'sipTrunkingCapability' link relation
   type that may be used for the retrieval of capabilities and
   configuration requirements from Internet Telephony Service Providers
   (ITSPs). A Session Initiation Protocol (SIP) trunking capability set
   is defined to allow the transfer of technical requirements needed
   for seamless peering between SIP-based enterprise telephony networks
   and ITSPs where an exchange of parameters and configuration
   information is required.

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1. Introduction

RFC 8288 [RFC8288] defined a way of indicating relationships between
resources on the Web. This document specifies the
'sipTrunkingCapability' link relation type according to the rules of
RFC 8288 [RFC8288]. Links with this relationship type can be used to
exchange capability information between potential peer devices. In
the event that systems require additional parameters and
configuration to negotiate communication, a well-known URI can be
utilized to deliver information to potential peers including
machine-readable instructions and parameters needed for peering.

The 'sipTrunkingCapability' link relation type may be used on web
resources hosted by Internet Telephony Service Providers (ITSPs) to
provide a structured and detailed capability set document. The
capability set document encapsulates a set of characteristics of an
ITSP, which when retrieved by enterprise telephony network devices
allows for automated establishment of Session Initiation Protocol
(SIP) trunking between the two telephony networks.

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 BCP 14 [RFC2119]
[RFC8174] when, and only when, they appear in all capitals, as shown
here.

3. The 'sipTrunkingCapability' Link Relation Type

A capability set document is hosted via web resources by the ITSP.
The document describes the configuration parameters required to

successfully establish SIP trunking between an enterprise and service provider SIP telephony network. The capability set document SHOULD be comprised of structured and machine-readable parameters that could be easily converted into configuration data to meet the communication requirements of the service provider.

4. Example Usage

This section provides an example of possible use of the 'sipTrunkingCapability' relation type. The need for an enterprise telephony network to obtain a capability set document from an Internet Telephony Service Provider (ITSP) is documented in Automatic Peering for SIP Trunks [I-D.ietf-asap-sip-auto-peer]. The 'sipTrunkingCapability' link relation type allows an enterprise telephony network to specifically request the capability set document from a web server hosted in the ITSP network.

The enterprise network device solicits the location of the capability document from the well-known URI hosted by the SIP service provider using the WebFinger protocol [RFC7033].

```
GET /.well-known/webfinger?
    resource=http%3A%2F%2Fssp1.example.com
    rel=sipTrunkingCapability
    HTTP/1.1
Host: ssp1.example.com
```

The capability set location is returned to the source device referencing the URI that contains parameters for peering.

```
HTTP/1.1 200 OK
Access-Control-Allow-Origin: *
Content-Type: application/jrd+json
{
    "subject" : "http://ssp1.example.com",
    "links" :
    [
       {
          "rel" : "sipTrunkingCapability",
          "href" :"https://capserver.ssp1.com/capserver/capdoc.json"
       }
    ]
}
```

The ITSP may use an authentication framework such as OAuth 2.0
[RFC6749] to determine the identity of the enterprise telephony
network and provide the appropriate capability set document.

5. **IANA Considerations**

IANA is instructed to register the sipTrunkingCapability link
relation under the "Link Relation Types" Registry, with a reference
to this document, using the following template:

Relation Name: sipTrunkingCapability

Description: A capability document that defines parameters or
   configuration requirements for automated peering and
   communication channel negotiation of the Session Initiation
   Protocol (SIP).

Reference: RFCXXXX

   [[NOTE TO RFC EDITOR: Please change XXXX to the number assigned
   to this specification, and remove this paragraph on
   publication.]]

6. **Security Considerations**

The 'sipTrunkingCapability' relation type is not known to introduce
any new security issues not already discussed in RFC 8288 [RFC8288]
for generic use of web linking mechanisms. However, it is
recommended to exercise caution when publishing potentially
sensitive capability information over unencrypted or unauthenticated
channels.

7. **Acknowledgements**

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group, especially the detailed and thoughtful comments of Marc
Petit-Huguenin, Cullen Jennings, Jonathan Rosenberg, Jon Peterson
and Chris Wendt.

8. **References**

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