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The Internet Assigned Number Authority (IANA)  
Uniform Resource Identifier (URI) Parameter Registry  
for the Session Initiation Protocol (SIP)

Status of This Memo

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Abstract

This document creates an Internet Assigned Number Authority (IANA) registry for the Session Initiation Protocol (SIP) and SIPS Uniform Resource Identifier (URI) parameters, and their values. It also lists the already existing parameters to be used as initial values for that registry.

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## 1. Introduction

RFC 3261 [1] allows new SIP URI and SIPS URI parameters, and new parameter values to be defined. However, RFC 3261 omitted an IANA registry for them. This document creates such a registry.

RFC 3427 [2] documents the process to extend SIP. This document updates RFC 3427 by specifying how to define and register new SIP and SIP URI parameters and their values.

## 2. 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 BCP 14, RFC 2119 [3] and indicate requirement levels for compliant SIP implementations.

## 3. Use of the Registry

SIP and SIPS URI parameters and values for these parameters MUST be documented in a standards-track RFC in order to be registered by IANA. This documentation MUST fully explain the syntax, intended usage, and semantics of the parameter. The intent of this requirement is to assure interoperability between independent implementations, and to prevent accidental namespace collisions between implementations of dissimilar features.

Note that this registry, unlike other protocol registries, only deals with parameters and parameter values defined in RFCs (i.e., it lacks a vendor-extension tree). RFC 3427 [2] documents concerns with regards to new SIP extensions which may damage security, greatly increase the complexity of the protocol, or both. New parameters and parameter values need to be documented in RFCs as a result of these concerns.

RFCs defining SIP URI, SIPS URI parameters, or parameter values MUST register them with IANA as described below.

Registered SIP and SIPS URI parameters and their values are to be considered "reserved words". In order to preserve interoperability, registered parameters MUST be used in a manner consistent with that described in their defining RFC. Implementations MUST NOT utilize "private" or "locally defined" URI parameters that conflict with registered parameters.

Note that although unregistered SIP and SIPS URI parameters may be used in implementations, developers are cautioned that usage of such parameters is risky. New SIP and SIPS URI parameters and new values for them may be registered at any time, and there is no assurance that these new registered URI parameters will not conflict with unregistered parameters currently in use.

Some SIP and SIPS URI parameters only accept a set of predefined parameter values. For example, a parameter indicating the transport protocol in use may only accept the predefined tokens TCP, UDP, and SCTP as valid values. Registering all parameter values for all SIP and SIPS URI parameters of this type would require a large number of subregistries. Instead, we have chosen to register URI parameter values by reference. That is, the entry in the URI parameter registry for a given URI parameter contains references to the RFCs defining new values of that parameter. References to RFCs defining parameter values appear in double brackets in the registry.

So, the SIP and SIPS URI parameter registry contains a column that indicates whether or not each parameter only accepts a set of predefined values. Implementers of parameters with a "yes" in that column need to find all the valid parameter values in the RFCs provided as references.

#### 4. IANA Considerations

Section 27 of RFC 3261 [1] creates an IANA registry for method names, header field names, warning codes, status codes, and option tags. This specification creates a new sub-registry under the SIP Parameters registry.

- o SIP/SIPS URI Parameters

##### 4.1. SIP and SIPS URI Parameters Sub-Registry

New SIP and SIPS URI parameters and new parameter values are registered by the IANA. When registering a new SIP or SIPS parameter or a new value for a parameter, the following information MUST be provided.

- o Name of the parameter.
- o Whether the parameter only accepts a set of predefined values.
- o Reference to the RFC defining the parameter and to any RFC that defines new values for the parameter. References to RFCs defining parameter values appear in double brackets in the registry.

Table 1 contains the initial values for this sub-registry.

Parameter Name	Predefined Values	Reference
comp	Yes	[RFC 3486]
lr	No	[RFC 3261]
maddr	No	[RFC 3261]
method	Yes	[RFC 3261]
transport	Yes	[RFC 3261]
ttl	No	[RFC 3261]
user	Yes	[RFC 3261]

Table 1: IANA SIP and SIPS URI parameter sub-registry

Note that any given parameter name is registered both as a SIP and as a SIPS URI parameter. Still, some parameters may not apply to one of the schemes. We have chosen to register any parameter as both a SIP and SIPS URI parameter anyway to avoid having two parameters with the same name, one applicable to SIP URIs and one to SIPS URIs, but with different semantics. Implementors are urged to read the parameter specifications for a detailed description of the semantics of any parameter.

#### 4.2. Registration Policy for SIP and SIPS URI Parameters

As per the terminology in RFC 2434 [4], the registration policy for SIP and SIPS URI parameters shall be "Specification Required".

For the purposes of this registry, the parameter for which IANA registration is requested MUST be defined by a standards-track RFC.

#### 5. Security Considerations

The registry in this document does not in itself have security considerations. However, as mentioned in RFC 3427, an important reason for the IETF to manage the extensions of SIP is to ensure that all extensions and parameters are able to provide secure usage. The supporting RFC publications for parameter registrations described this specification MUST provide detailed security considerations for them.

#### 6. Acknowledgements

Jonathan Rosenberg, Henning Schulzrinne, Rohan Mahy, Dean Willis, and Allison Mankin provided useful comments on this document.

## 7. Normative References

- [1] 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.
- [2] Mankin, A., Bradner, S., Mahy, R., Willis, D., Ott, J., and B. Rosen, "Change Process for the Session Initiation Protocol (SIP)", BCP 67, RFC 3427, December 2002.
- [3] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [4] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 2434, October 1998.

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