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Indicating Support for Basic Media Server Capabilities in the Session Initiation Protocol (SIP) draft-boulton-mediactrl-feature-tags-01

Status of this Memo

Abstract

This specification defines a profile set of media feature tags that can be used with the Session Initiation Protocol (SIP). The media feature tags allow a Media Server to communicate a basic set of media server capabilities that are supported to its Application Server.

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1. Introduction

The Session Initiation Protocol (SIP), as defined in RFC 3261 [RFC3261], is used in a variety of different ways to establish multimedia sessions between entities. SIP works in conjunction with the Offer/Answer exchange, as defined in [RFC3264] for establishing the underlying media session.

Media Feature tags are used by SIP, which can be found in RFC 3840 [RFC3840], for the purpose of making appropriate routing decisions based on capabilities that have been advertised.

This specification defines a basic set of media feature tags and reuses existing media feature tags where possible to allow an Application Server to route a SIP protocol request to the most appropriate Media Server.

2. Conventions and Terminology

In this document, BCP 14/RFC 2119 [RFC2119] defines the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL". In addition, BCP 15 indicates requirement levels for compliant implementations.

This document inherits terminology proposed in the MediaCtrl Architecture [I-D.ietf-mediactrl-architecture] and MediaCtrl SIP Control Framework [I-D.ietf-mediactrl-sip-control-framework] documents.

3. Motivation

Solutions related to media services such as IVR and conference mixing cover an extremely wide scope. Systems can range from simple voice announcements to complex multimedia mixes. In the architecture defined in [I-D.ietf-mediactrl-architecture], it is the role of an Applications Server (AS) and Media Server (MS) to interact using mechanisms such as the SIP Control Framework [I-D.ietf-mediactrl-sip-control-framework]. As part of this process the AS will often have to select an MS based on the capabilities of the media sessions that are being established.

For complex systems where an AS makes Media Server selection decisions based on a wide range of both dynamic and static data, an entity called a Media Resource Broker (MRB) is required. More details relating to the logical role of an MRB can be found in [I-D.boulton-mediactrl-mrb].

For simple systems that require selection based on relatively static data this document defines a number of media feature tags that can be used to register capabilities.

A media server traditionally performs the role of a SIP endpoint, User Agent Server (UAS). As a consequence, it is plausible that a media server would act as a traditional SIP endpoint and use the SIP REGISTER to manage available capabilities. Using SIP REGISTER in this way is described in RFC 3840 [RFC3840]. As a consequence of using the REGISTER request for capability advertising and session selection, a number of other interesting properties that SIP provides are inherited for free. This includes:

- Dynamic and graceful Media Server availability.

- Load balancing across registered contacts.

The media feature tags could also be registered with an AS using some other means. This is considered out of the scope of this document.

It should be noted that complex system are able to make use of both MRB style selection and take advantage of the mechanisms that have been defined in this document. Doing so provides a robust MS selection process.

EDITORS Note: Need to document more on how both mechanisms would fit together.

4. Requirements

The requirements for brokering a media server is introduced in the MediaCtrl control protocol requirements[I-D.ietf-mediactrl-requirements] document. In addition to those general requirements, the following will form the basis of this solution:

- REQ-01 - Media servers should be able to register basic functions that can be carried out on a media session.

- REQ-02 - The granularity for registering capabilities should be set at an appropriate and defined level that does not conflict but works in tandem with other MediaCtrl functions.

- REQ-03 - The solution should provide an appropriate extension mechanism for defining new capabilities.

Editors Note: Input required.

5. Media Feature Tag Definitions

The following list provides a description of the media feature tags used in conjunction with this draft. It should be noted that where possible, this document reuses media feature tags defined in RFC 3840 [RFC3840].

- Feature_tag_1

- Feature_tag_2

[Editors Note: The next version of the document will contain various media feature tags as a result of mailing list discussion.

6. Acknowledgments

The authors would like to thank....

7. Security Considerations

Security Considerations to be included in later versions of this document.

8. IANA Considerations

This section registers new media feature tags in the SIP tree, defined in Section 12.1 of RFC 3840 [RFC3840].

[EDITORS NOTE: Fully define tags when agreed].

9. References

9.1. Normative References

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

9.2. Informative References

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[I-D.ietf-mediactrl-sip-control-framework]
Boulton, C., Melanchuk, T., and S. McGlashan, "Media Control Channel Framework", draft-ietf-mediactrl-sip-control-framework-03 (work in progress), July 2008.

[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.

[RFC3264] Rosenberg, J. and H. Schulzrinne, "An Offer/Answer Model with Session Description Protocol (SDP)", RFC 3264, June 2002.

[RFC3840] Rosenberg, J., Schulzrinne, H., and P. Kyzivat, "Indicating User Agent Capabilities in the Session Initiation Protocol (SIP)", RFC 3840, August 2004.

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