                     The +exi Media Type Suffix
                   draft-shelby-exi-registration-01

Abstract

   Efficient XML Interchange (EXI) is an XML representation technique
   specified by the W3C to provie a binary alternative to the standard
   text XML representation. This document defines a new Structure
   Syntax Suffix "+exi" for use in a specific class of protocols, where
   "exi" content-type encoding or the generic "application/exi" Media
   Type are not applicable.

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1. Introduction

Efficient XML Interchange (EXI) [W3C.REC-exi-20110310] is an XML
representation technique specified by the W3C to provie a binary
alternative to the standard text XML representation. EXI is not a
generic compression technique like gzip or deflate, but an encoding
technique specifically for XML that uses either learnt or pre-
informed schema information.

This document defines a new Structure Syntax Suffix "+exi" for use in
a specific class of protocols, where the "exi" content-type encoding
or generic "application/exi" Media Type defined in
[W3C.REC-exi-20110310] are not applicable.

2. When to Use the +exi Suffix

The EXI standard already defines both an "exi" content-type encoding
and an "application/exi" Media Type. This sections discusses when it
is appropriate to use the new "+exi" Structured Syntax Suffix when
registring a Media Type.

Appendix F.1 of [W3C.REC-exi-20110310] clearly describes when the exi
content-type encoding should be used: "Protocols that can identify
and negotiate the content coding of XML information independent of
its media type, SHOULD use the content coding "exi" (case-
insensitive) to convey the acceptance or actual use of EXI encoding
for XML information."

Thus when a protocol depends on the media type to identify that the
payload is EXI, it can make use of the "application/exi" Media Type
defined in Appendix F.2 of [W3C.REC-exi-20110310]. This works
particularly well for applications using EXI in a generic way, and in
particular in non Schema-informed mode, where protocol specific
information is not needed to process the payload, in particular the
XML schema used. In these cases it is recommended to use the
"application/exi" Media Type or "exi" content-type encoding.

The "+exi" Structure Syntax Suffix defined in this document is
appropriate for use with a special class of protocols that:

o Make use of a Media Type to identify the semantics of the protocol
   payload, and offer more that one serialization of the payloads.
   For example, some protocols may offer JSON, XML and EXI
   representations, and

o use EXI as a native encoding (without the use of XML as an
   interemediate) in Schema-informed mode, and the base Media Type

together with the SchemaID indicates to the protocol the Schema
that was used to produce the EXI grammar as described in
Section 4.

3. Security Considerations

Security considerations are discussed in Section 4.

4. IANA Considerations

This document requests registration of the Structured Syntax Suffix
"+exi" as follows, following the registration template from Section
6.2 of [I-D.ietf-appsawg-media-type-regs].

Name: Efficient XML Interchange

+suffix: "+exi"

References: The EXI standard is defined in [W3C.REC-exi-20110310],
   in particular Schema-informed Grammars are defined in Section 8.5
   and the "applicatio/exi" Media Type is defined in Appendix F.2.

Encoding considerations: Binary

Interoperability considerations: The registration of a Media Type
   using this suffix MUST describe how to determine the XML Schema
   that is used to encode/decode a payload identified by that Media
   Type. In particular this description defines how to determine the
   Schema used to encode a payload using the SchemaID option of the
   EXI header. The format of the identifier to be used in the
   SchemaID, a reference to where the corresponding Schema is
   defined, and a description of how future versions of such Schemas
   will be handled MUST be included. A default Schema version in the
   absence of the SchemaID field MAY be defined.

Security considerations: The "+exi" suffix shares the same security
   considerations as XML, described in [RFC3023], Section 10. In
   addition, the security considerations discussed in the Media Type
   registration for "application/exi" apply as defined in Appendix
   F.2 of [W3C.REC-exi-20110310].

Contact: Apps Area Working Group (apps-discuss@ietf.org)

Author/Change controller: The Apps Area Working Group has change
control over this registration.

5. Acknowledgments

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Group mailing list. Thanks to Carine Bournez and Guido Moritz for
their helpful comments.

6. Changelog

7. References

7.1. Normative References

[I-D.ietf-appsawg-media-type-regs]
           Freed, N., Klensin, J., and T. Hansen, "Media Type
           Specifications and Registration Procedures",
           draft-ietf-appsawg-media-type-regs-03 (work in progress),
           March 2012.

[W3C.REC-exi-20110310]
           Kamiya, T. and J. Schneider, "Efficient XML Interchange
           (EXI) Format 1.0", World Wide Web Consortium
           Recommendation REC-exi-20110310, March 2011,
           <http://www.w3.org/TR/2011/REC-exi-20110310>.

7.2. Informative References

[RFC3023] Murata, M., St. Laurent, S., and D. Kohn, "XML Media
           Types", RFC 3023, January 2001.

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