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Internet-Draft   AT&T Laboratories
Intended status: Standards Track   April 26, 2012
Expires: October 26, 2012

                 Additional Media Type Structured Syntax Suffixes
                 draft-ietf-appsawg-media-type-suffix-regs-00

Abstract

   This document defines several Structured Syntax Suffixes for use with
   media type registrations. In particular, it defines and registers
   the "+json", "+ber", "+der", "+fastinfoset", "+wbxml" and "+zip"
   Structured Syntax Suffixes, and updates the "+xml" Structured Syntax
   Suffix registration.

Status of this Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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   working documents as Internet-Drafts. The list of current Internet-
   Drafts is at http://datatracker.ietf.org/drafts/current/.

   Internet-Drafts are draft documents valid for a maximum of six months
   and may be updated, replaced, or obsoleted by other documents at any
   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on October 26, 2012.

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1. Introduction

[RFC3023] created the +xml suffix convention that may be used by
media types whose representation uses XML underneath, that is, they
could have been successfully parsed as if the media type had been
application/xml in addition to their being parsed as their media type
that is using the +xml suffix. [I-D.ietf-appsawg-media-type-regs]
defines a registry to be used for future Structured Syntax Suffixes.

A variety of Structured Syntax Suffixes have already been used in
some Media Type registration, in particular "+json", "+der",
"+fastinfoset" and "+wbxml". This document defines and registers
these Structured Syntax Suffixes in the Structured Syntax Suffix
registry, along with "+ber" and "+zip". In addition, this document
updates the "+xml" Structured Syntax Suffix registration.

Discussion of this document should occur in the Apps Area Working
Group (apps-discuss@ietf.org). [RFC Editor note: remove this
paragraph.]

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 [RFC2119].

2. When to Use these Structured Syntax Suffixes

Each of the Structured Syntax Suffixes defined in this document are
appropriate for use when the media type identifies the semantics of
the protocol payload. That is, knowing the semantics of the specific
media type provides for more specific processing of the content than
that afforded by generic processing of the underlying representation.

At the same time, using the suffix provides receivers of the media
types to do generic processing of the underlying representation in
cases where 1) they do not need to handle specially the particular
semantics of the exact media type, and, 2) there is no special
knowledge needed by such a generic processor in order to parse that

underlying representation other than what would be needed to parse
any example of that underlying representation.

3. **The +json Structured Syntax Suffix**

[RFC4627] defines the "application/json" media type. The suffix
"+json" may be used with any media type whose representation follows
that established for "application/json". The Message Type Structured
Syntax Suffix registration form follows:

Name   JavaScript Object Notation (JSON)

+suffix   +json

References   [RFC4627]

Encoding considerations Per [RFC4627], JSON may be represented using
                      UTF-8, UTF-16, or UTF-32. When JSON is written
                      in UTF-8, JSON is 8bit compatible. When JSON is
                      written in UTF-16 or UTF-32, JSON is binary.

Fragment identifier considerations Media types using "+json" SHOULD
                      process any fragment identifiers defined for
                      "application/json" in the same way as defined for
                      that media type. (At publication of this
                      document, there is no fragment identification
                      syntax defined for "application/json".) Specific
                      media types using "+json" MAY identify additional
                      fragment identifier considerations, MAY define
                      processing for fragment identifiers that are
                      classed as errors for "application/json" and MAY
                      designate fragment identifiers defined for
                      "application/json" that SHOULD NOT be used.

Interoperability considerations n/a

Security considerations See [RFC4627]

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

4. The +ber and +der Structured Syntax Suffixes

The ITU defined the Basic Encoding Rules (BER) and Distinguished
Encoding Rules (DER) message transfer syntaxes in [ITU.X690.2008].
The suffix "+ber" may be used with any media type whose
representation follows the BER message transfer syntax. The suffix
"+der" may be used with any media type whose representation follows
the DER message transfer syntax. The Message Type Structured Syntax
Suffix registration forms follows:

Name   Basic Encoding Rules (BER) message transfer

```
                          syntax

   +suffix               +ber
```

References   [ITU.X690.2008]

Encoding considerations BER is a binary encoding.

Fragment identifier considerations n/a

Interoperability considerations n/a

Security considerations There are no security considerations inherent
                    in BER. Each individual media type registered
                    with a +ber suffix may have additional security
                    considerations.

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

Name   Distinguished Encoding Rules (DER) message
                    transfer syntax

+suffix   +der

References   [ITU.X690.2008]

Encoding considerations DER is a binary encoding.

Fragment identifier considerations n/a

Interoperability considerations n/a

Security considerations There are no security considerations inherent
                    in DER. Each individual media type registered
                    with a +der suffix may have additional security
                    considerations.

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                    control over this registration.

5. The +fastinfoset Structured Syntax Suffix

The ITU defined the Fast Infoset document format as a binary

representation of the XML Information Set in [ITU.X891.2005]. These
documents further define the "application/fastinfoset" media type.
The suffix "+fastinfoset" may be used with any media type whose
representation follows that established for "application/
fastinfoset". The Message Type Structured Syntax Suffix registration
form follows:

Name   Fast Infoset document format

+suffix   +fastinfoset

References   [ITU.X891.2005]

Encoding considerations Fast Infoset is a binary encoding. The
                   binary, quoted-printable and base64 content-
                   transfer-encodings are suitable for use with Fast
                   Infoset.

Fragment identifier considerations Media types using "+fastinfoset"
                   SHOULD process any fragment identifiers defined
                   for "application/fastinfoset" in the same way as
                   defined for that media type. (At publication of
                   this document, there is no fragment
                   identification syntax defined for "application/
                   fastinfoset".) Specific media types using
                   "+fastinfoset" MAY identify additional fragment
                   identifier considerations, MAY define processing
                   for fragment identifiers that are classed as
                   errors for "application/fastinfoset" and MAY
                   designate fragment identifiers defined for
                   "application/fastinfoset" that SHOULD NOT be
                   used.

   Interoperability considerations n/a

   Security considerations There are no security considerations inherent
                   in Fast Infoset. Each individual media type
                   registered with a +fastinfoset suffix may have
                   additional security considerations.

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                   control over this registration.

6. The +wbxml Structured Syntax Suffix

The WAP Forum has defined the WAP Binary XML (WBXML) document format
as a binary representation of XML in [WBXML]. This document further
defines the "application/vnd.wap.wbxml" media type. The suffix

"+wbxml" may be used with any media type whose representation follows
that established for "application/vnd.wap.wbxml". The Message Type
Structured Syntax Suffix registration form follows:

Name   WAP Binary XML (WBXML) document format

+suffix   +wbxml

References   [WBXML]

Encoding considerations WBXML is a binary encoding.

Fragment identifier considerations Media types using "+wbxml" SHOULD
                     process any fragment identifiers defined for
                     "application/vnd.wap.wbxml" in the same way as
                     defined for that media type. (At publication of
                     this document, there is no fragment
                     identification syntax defined for "application/
                     vnd.wap.wbxml".) Specific media types using
                     "+wbxml" MAY identify additional fragment
                     identifier considerations, MAY define processing
                     for fragment identifiers that are classed as
                     errors for "application/vnd.wap.wbxml" and MAY
                     designate fragment identifiers defined for
                     "application/vnd.wap.wbxml" that SHOULD NOT be
                     used.

   Interoperability considerations n/a

   Security considerations There are no security considerations inherent
                     in WBXML. Each individual media type registered
                     with a +wbxml suffix may have additional security
                     considerations.

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                     control over this registration.

7. The +zip Structured Syntax Suffix

   The ZIP format is a public domain, cross-platform, interoperable file
   storage and transfer format, originally defined by PKWARE, Inc.; it
   supports compression and encryption and is used as the underlying
   representation by a variety of file formats. The media type
   "application/zip" has been registered for such files. The suffix
   "+zip" may be used with any media type whose representation follows
   that established for "application/zip". The Message Type Structured
   Syntax Suffix registration form follows:

   Name   ZIP file storage and transfer format

   +suffix   +zip

References   [ZIP]

Encoding considerations ZIP is a binary encoding.

Fragment identifier considerations Media types using "+zip" SHOULD
                     process any fragment identifiers defined for
                     "application/zip" in the same way as defined for
                     that media type. (At publication of this
                     document, there is no fragment identification
                     syntax defined for "application/zip".) Specific
                     media types using "+zip" MAY identify additional
                     fragment identifier considerations, MAY define
                     processing for fragment identifiers that are
                     classed as errors for "application/zip" and MAY
                     designate fragment identifiers defined for
                     "application/zip" that SHOULD NOT be used.

Interoperability considerations n/a

Security considerations ZIP files support two forms of encryption:
                     Strong Encryption and AES 128-bit, 192-bit and
                     256-bit encryption; see the specification for
                     further details. Each individual media type
                     registered with a +zip suffix may have additional
                     security considerations.

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                     control over this registration.

8. IANA Considerations

See the Message Type Structured Syntax Suffix registration forms in
Section 3 - Section 7.

The existing Structured Syntax Suffix registration for "+xml" should
be modified to include the following

Fragment identifier considerations Media types using "+xml" SHOULD
                     process any fragment identifiers defined for
                     "application/xml" in the same way as defined for
                     that media type. (At publication of this
                     document, the fragment identification syntax
                     considerations for "application/xml" are defined
                     in [RFC3023].) Specific media types using "+xml"
                     MAY identify additional fragment identifier
                     considerations, MAY define processing for
                     fragment identifiers that are classed as errors
                     for "application/xml" and MAY designate fragment
                     identifiers defined for "application/xml" that
                     SHOULD NOT be used.

[9](#). **Security Considerations**

See the Security considerations sections found in the Message Type
Structured Syntax Suffix registration forms from [Section 3](#) - [Section 6](#).

10. References

10.1. Normative References

[RFC4627]   Crockford, D., "The application/json Media Type for
            JavaScript Object Notation (JSON)", RFC 4627, July 2006.

[ITU.X690.2008]
            International Telecommunications Union, "Recommendation
            ITU-T X.690 | ISO/IEC 8825-1 (2008), ASN.1 encoding rules:
            Specification of basic encoding Rules (BER), Canonical
            encoding rules (CER) and Distinguished encoding rules
            (DER)", ITU-T Recommendation X.690, November 2008.

[ITU.X891.2005]
            International Telecommunications Union, "Recommendation
            ITU-T X.891 | ISO/IEC 24824-1 (2007), Generic applications
            of ASN.1: Fast infoset", ITU-T Recommendation X.891, May
            2005.

[WBXML]   Open Mobile Alliance, "Binary XML Content Format
            Specification", OMA Wireless Access Protocol
            WAP-192-WBXML-20010725-a, July 2001.

[ZIP]   PKWARE, Inc., "APPNOTE.TXT - .ZIP File Format
            Specification", PKWARE .ZIP File Format Specification -
            Version 6.3.2, September 2007.

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

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

10.2. Informative References

[I-D.ietf-appsawg-media-type-regs]
            Freed, N., Klensin, J. and T. Hansen, "Media Type
            Specifications and Registration Procedures", Internet-
            Draft draft-ietf-appsawg-media-type-regs-05, April 2012.

Appendix A. Change History

This section is to be removed before publication.

draft-ietf-appsawg-media-type-suffix-regs-00 Added the fragment
                     identifier consideration sections.
                     Added a note about +xml fragment identifier
                     considerations.

      draft-hansen-media-type-suffix-regs-02 Added +zip.
                         Fixed up the ISO document references.
                         Minor changes.

      draft-hansen-media-type-suffix-regs-01 Added +ber.
                         Minor changes.

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