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Additional Media Type Structured Syntax Suffixes
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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

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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 "+wxml". 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

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[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](#)]

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

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

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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.

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

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.

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

Author/Change controller The Apps Area Working Group has change 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.

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

Author/Change controller The Apps Area Working Group has change 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.

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

Author/Change controller The Apps Area Working Group has change 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

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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.

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

Author/Change controller The Apps Area Working Group has change 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

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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.

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[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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