

WAP General Formats Document

WAP-188-WAPGenFormats

Version 10-Jul-2001

Wireless Application Protocol General Formats Document

Disclaimer:

A list of errata and updates to this document is available from the WAP Forum™ Web site, <http://www.wapforum.org/>, in the form of SIN documents, which are subject to revision or removal without notice

© 2001, Wireless Application Protocol Forum, Ltd. All rights reserved.

Terms and conditions of use are available from the WAP Forum™ Web site at <http://www.wapforum.org/what/copyright.htm>.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. You may not use this document in any other manner without the prior written permission of the WAP Forum™. The WAP Forum authorises you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services offered by you.

The WAP Forum™ assumes no responsibility for errors or omissions in this document. In no event shall the WAP Forum be liable for any special, indirect or consequential damages or any damages whatsoever arising out of or in connection with the use of this information.

WAP Forum TM members have agreed to use reasonable endeavors to disclose in a timely manner to the WAP Forum the existence of all intellectual property rights (IPR's) essential to the present document. The members do not have an obligation to conduct IPR searches. This information is publicly available to members and non-members of the WAP Forum and may be found on the "WAP IPR Declarations" list at <http://www.wapforum.org/what/ipr.htm> Essential IPR is available for license on the basis set out in the schedule to the WAP Forum Application Form.

No representations or warranties (whether express or implied) are made by the WAP Forum TM or any WAP Forum member or its affiliates regarding any of the IPR's represented on this list, including but not limited to the accuracy, completeness, validity or relevance of the information or whether or nt such rights are essential or non-essential.

This document is available online in PDF format at <http://www.wapforum.org/>.

Known problems associated with this document are published at <http://www.wapforum.org/>.

Comments regarding this document can be submitted to the WAP Forum™ in the manner published at <http://www.wapforum.org/>.

Contents

1. SCOPE.....	4
2. DOCUMENTS STATUS	5
2.1 COPYRIGHT NOTICE	5
2.2 ERRATA.....	5
2.3 COMMENTS.....	5
3. REFERENCES	6
3.1 NORMATIVE REFERENCES.....	6
3.2 INFORMATIVE REFERENCE S.....	6
4. DEFINITIONS AND ABBREVIATIONS	7
4.1 DEFINITIONS	7
4.2 ABBREVIATIONS.....	7
5. INTRODUCTION.....	8
6. FORMATS DEFINITION	9
6.1 SYNTAX DEFINITIONS	9

1. Scope

Wireless Application Protocol (WAP) is a result of continuous work to define an industry wide specification for developing applications that operate over wireless communication networks. The scope for the WAP Forum is to define a set of specifications to be used by service applications. The wireless market is growing very quickly and reaching new customers and providing new services. To enable operators and manufacturers to meet the challenges in advanced services, differentiation, and fast/flexible service creation, WAP defines a set of protocols in transport, session and application layers. For additional information on the WAP architecture, refer to “*Wireless Application Protocol Architecture Specification*” [WAP].

This document defines a number of common formats that are used throughout the WAP specifications. Defining these formats in one document means that their use will be consistent throughout the specification, and simplifies the updating of formats.

2. Documents Status

This document is available online in the following formats:

PDF format at URL, <http://www.wapforum.org/>.

2.1 Copyright Notice

© Copyright Wireless Application Forum Ltd, 2000. Terms and conditions of use are available from the Wireless Application Protocol Forum Ltd. web site at <http://www.wapforum.org/docs/copyright.htm>

2.2 Errata

Known problems associated with this document are published at <http://www.wapforum.org/>.

2.3 Comments

Comments regarding this document can be submitted WAP in the manner published at <http://www.wapforum.org/>.

3. References

3.1 Normative references

- [EBNF] W3C, "REC-xml-19980210: Extensible Mark-up Language (xml) 1.0", February 10, 1998
- [GSM02.90] ETSI European Digital Cellular Telecommunication Systems (phase 2): Unstructured Supplementary Service Data (USSD) - stage 1 (GSM 02.90)
- [GSM03.03] "Digital cellular telecommunications system (Phase 2+); Numbering, addressing and identification", (GSM 03.03 version 7.3.0 Release 1998)
- [ITU-T Q.23] "ITU-T Recommendation Q.23: Technical Features of Push-Button Telephone Sets", Copyright ITU 1988, 1993
- [RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997. URL: <http://www.ietf.org/rfc/rfc2119.txt>
- [RFC2396] "Uniform Resource Identifiers (URI): Generic Syntax." T. Berners-Lee, R. Fielding, L. Masinter, et al., August 1998. URL: <http://www.ietf.org/rfc/rfc2396.txt>

3.2 Informative references

- [ITUE164] "The International Public Telecommunication Numbering Plan", ITU-T Recommendation E.164, May 1997

4. Definitions and Abbreviations

All non-trivial abbreviations and definitions used in this document are listed in the following sections. The definition section includes description of general concepts that may be fully defined in other documents. The purpose of this section is to advise the reader on the terminology used in the document.

4.1 Definitions

The following are terms and conventions used throughout this specification.

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 by [RFC2119].

4.2 Abbreviations

For the purposes of this specification, the following abbreviations apply.

EBNF	Extended Backus-Naur Form
DTMF	Dual Tone Multi-Frequency
WAP	Wireless Application Protocol

5. Introduction

This document provides definitions of various formats that are used repeatedly throughout the WAP specifications. Specifying all these formats in one place makes the specifications clearer, more consistent and simplifies updating these formats.

To date, the only formats specified within this document are telephone numbers, DTMF sequences, and address strings (all specified in section 6.1).

In the future other formats may be added.

6. Formats definition

This chapter contains the actual definitions of the various general formats.

6.1 Syntax Definitions

This section defines a general format for telephone numbers, DTMF-sequences, dial strings, and address strings. The format is given using EBNF [EBNF]. EBNF reserves the hyphen character and does not capitalize non-terminal variables by convention. These rules are followed in the syntax definitions below. Outside of this specification, however, one may refer to variables using capital letters and with hyphens instead of underscores unambiguously, as these devices are not used to distinguish between variables in the definitions.

```

address_string      ::= ( phone_number | dtmf_sequence | pause )* |
                        <GPRS_APN> | ss_string

phone_number       ::= international_phone_number | national_phone_number

international_phone_number ::= global_international_phone_number |
                                local_international_phone_number

global_international_phone_number ::=
                                global_international_extension
                                national_phone_number

global_international_extension ::= "+" country_code

country_code       ::= <one element of the country code list>

local_international_phone_number ::=
                                local_international_extension national_phone_number

local_international_extension ::= DIGIT+ country_code

DIGIT              ::= "0" | "1" | "2" | "3" | "4" |
                        "5" | "6" | "7" | "8" | "9"

national_phone_number ::= DIGIT+

dtmf_sequence      ::= dtmf_digit+

dtmf_digit         ::= DIGIT | "*" | "#" | "A" | "B" | "C" | "D"

pause              ::= one_second_pause

one_second_pause   ::= ","

ss_string          ::= service_code supplementary_information

service_code       ::= start sc

start              ::= START_DIGIT? | START_DIGIT START_DIGIT |
                        START_DIGIT START_DIGIT START_DIGIT

START_DIGIT        ::= "*" | "#"

sc                 ::= DIGIT DIGIT | DIGIT DIGIT DIGIT

supplementary_information ::= "#" | si_list "#"

si_list           ::= si | si si | si si si

si                 ::= "*" | "*" si_element

```

```
si_element      ::= <directory number> | <basic service group> |  
                  <no reply condition timer> | <uus required option>  
                  | <password>  
dialstring      ::= pause* ( phone_number | dtmf_sequence )  
                  ( pause | phone_number | dtmf_sequence )*  
tone_sequence   ::= ( pause | dtmf_sequence )*
```

Notes:

1. The definition of GPRS_APN can be found in [GSM03.03].
2. In the definition of “country_code”: “one element of the country code list” is left undefined in this document.
3. In the definition of “si_element”: “directory number”, “basic service group”, “no reply condition timer”, “uus required option”, and “password” are left undefined in this document.
4. DTMF digits and characters in a “dtmf_sequence” correspond to the digits and characters along with their associated frequency pairs as defined in [ITU-T Q.23].

Appendix A Specification-track Document History

Document: WAP General Formats Document

Document Identifier: WAP-188

Base Specification Approval Date: February 17th, 2000

SINs Incorporated in this baseline document:

SIN Approval Date	SIN Document Identifier
August, 2000	WAP-188_100
April, 2001	WAP-188_101