



## **Class Conformance Requirements**

Proposed Version ~~0517-December~~May-20021 |

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Wireless Application Protocol  
WAP-262-ClassConform-20020517~~11205~~-p |

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Document History	
WAP-262-ClassConform-20020517-p	Current
<a href="#"><u>WAP-262-ClassConform-20020408-d</u></a>	<a href="#"><u>Version for ACG based on Beverly Hills joint meeting</u></a>
<a href="#"><u>WAP-262-ClassConform-20011205-d</u></a>	<a href="#"><u>2<sup>nd</sup> ACG review version</u></a>
WAP-262-ClassConform-20011011-d	ACG review version
WAP-262-ClassConform-20010915-d	Draft for Architecture / Anchorage
WAP-262-ClassConform-20010614-d	Actual Conformance Requirements / WIG Singapore

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WAP-DID-ClassConform-20010316-d	First Draft
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# 1. Scope

The scope of this document is limited to the definition of WAP 2.0 Conformance Release specification baseline. Additionally, the mandatory features of a device classes for a given WAP specification baseline, along with the optional features supported by a device claiming to meet a device class will determine the set of conformance tests to be run on that device. The conformance tests will validate whether the device meets the criteria for the claimed device class and for any optional feature claimed. Successful validation will result in the device being given a WAP Forum mark of conformance as a certain device class for the baseline in question.

This document does not override the basic WAP architectural model.

## 2. References

### 2.1. Normative References

- [CREQ] “Specification of WAP Conformance Requirements”. WAP Forum<sup>TM</sup>, <sup>TM</sup>.  
WAP-221-CREQ-20010425-a. [URL:http://www.wapforum.org/](http://www.wapforum.org/)
- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”. S. Bradner. March 1997.  
[URL:http://www.ietf.org/rfc/rfc2119.txt](http://www.ietf.org/rfc/rfc2119.txt)

### 2.2. Informative References

None.

## 3. Terminology and Conventions

### 3.1. Conventions

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].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

### 3.2. Definitions

**WAP Baseline** - An approved Conformance Release of WAP specifications including the Static Conformance Requirements for each of the specifications

### 3.3. Abbreviations

ICMP	Internet Control Message Protocol
ICS	Implementation Conformance Statement
SCR	Static Conformance Requirement
SIN	Specification Information Note
TLS	Transport Layer Security
UDP	User Datagram Protocol
WAE	Wireless Application Environment
WAP	Wireless Application Protocol
WCMP	Wireless Control Message Protocol
WDP	Wireless Datagram Protocol
WIM	Wireless Identity Module
WML	Wireless Mark-up Language
WSP	Wireless Session Protocol
WTA	Wireless Telephony Applications
WTAI	Wireless Telephony Application Interface
WTLS	Wireless Transport Layer Security
WTP	Wireless Transport Protocol

## 4. Introduction

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This document outlines the conformance requirements for client and server device classes as defined by WAP Forum across all specifications included in the WAP 2.0 Conformance Release.

The classes define the conformance requirements on different types of devices that want to use the WAP Forum mark of conformance as a WAP device. In other words, the device classes identify the high level requirements in terms of mandatory features of the WAP specifications that are relevant for various types of device classes on a per WAP baseline basis.

To define the conformance requirements for the device classes, the class definitions in this document occasionally override the more detailed mandatory and optional classification of a feature as identified in the Static Conformance Requirements of a given specification for the WAP baseline under consideration.



## 5. WAP2.0 Conformance Release

The complete list of WAP 2.0 Conformance Release specifications and all applicable Specification Information Notes (SIN) can be found in WAP Forum Technical website at <http://www.wapforum.org/what/technical.htm>, under section "The WAP 2.0 conformance release".

The specifications listed will form the WAP 2.0 Conformance Release baseline as referenced in this document. There can be only a single CCR defined for a baseline, and any documents referenced from the CCR are implicitly contained inside within the release, which the CCR is for.

Unique document identification from CCR line items to actual specifications forming the WAP baseline can be achieved with the following process:

1. Determine individual requirement from the "Requirement" column of an entry
2. Extract SpecScrName as per [CREQ] from the requirement
3. Look up document(s) with SpecScrName from WAP Forum Document Secretary web page for given WAP baseline

### Example:

Step 1 - CCR-WAE-C-001 requires WAESpec:MCF AND HTTPSM:MCF

Step 2 - SpecScrName ( s ) in this situation are WAESpec, HTTPSM, ~~WAESpec~~

Step 3 - WAESpec in WAP2.0 context is WAP-236-WAESpec-20011109-a and all applicable SINs, HTTPSM in WAP2.0 context is WAP-223-HTTPSM-20001213-a and all applicable SINs

All referred specifications and SINs are available from WAP Forum website (<http://www.wapforum.org/>), ~~WAESpec in WAP2.0 context is WAP-236-WAESpec-YYYYMMDD and all applicable SINs~~

## 6. Device Classes

### 6.1. Conformance Requirement Notation Overview

This section is informative.

WAP2.0 conformance requirement structure is a change from previous WAP conformance releases based on experience and thus, a more simple approach has been adopted for WAP2.0, containing only a single conformance profile for each class of device, client, server or ICC-card.

The conformance requirement tables in sections 7, 8 and 0 stipulate what features a device must implement in order to be considered a WAP conformant device. The tables also include optional features that can be implemented in WAP conformant products as well. It is important to note that not all of the optional features are listed in the tables, only those that comprise a high-level feature set or those that have high level architectural requirements. Of additional note is that a device satisfying its conformance requirements does not provide a guarantee that it will fully interoperate with any other device satisfying their conformance requirements. Comparing and matching the ~~ICS-implemented features~~ of the devices in question can determine the possible feature interoperability.

The tables use notation according to [CREQ] to list the architectural dependencies of features and specifications, and are designed for automatic processing by the ICS system. Reading the "status" columns, and then the "requirement" columns of all mandatory table entries, and repeating the same process for each subsequent entry in the "requirement" column determine the complete feature requirement of a device class. An important aspect of the table is that a feature that has a status of "optional" may be stipulated as "mandatory" in the "requirement" column of a particular feature listed elsewhere in the table.

#### Example:

Client table in section 7 lists an entry with identifier "CCR-~~J2001~~WAP2-C-001" as the only mandatory feature.

~~This entry has three alternative entries in the Requirement column. If we choose to fulfil the requirement of "WAP 2.0 Client" by selecting "CCR-WAP2-C-001" entry, which corresponds to "WAP 2.0 WAE Client", we need to take a look at the requirements of that feature. As we see from the Requirements column, this entry however has requirements "CCR-WAE-C-001" and "CCR-STACK-C-001".~~

~~Looking down the table at the next entry, "CCR-WAE-C-001" corresponds to the feature "WAP Application Environment Browsing". Although this feature has a status of "optional", it must be implemented by a conforming client; a conforming client must implement it, as the requirement chain from "WAP 2.0 Client" to it has already been stipulated as a required feature by "WAP 2.0 Client". "WAP 2.0 WAE Client" has already stipulated it as a required feature. The second requirement is "CCR-STACK-C-001". Looking down the table, this entry matches to feature "WAP Protocol Stack", and again, although this feature has a status of "optional", it too must be implemented as the requirement chain from "WAP 2.0 Client" to "WAP 2.0 WAE Client" it has already been stipulated as a required feature by "WAP 2.0 Client" has already stipulated it as a required feature. To continue the process, both the "WAP Browsing" and "WAP Protocol Stack" feature entry "Requirement" column can must in turn be examined to see what further additional entries are required.~~

The complete requirement "dependency tree" for the client device is built by ~~analyzing~~ analysing the complete requirements on each required entry of the table.

### 6.2. Conformance Requirement Notation Details

The definition of a device class gives a detailed overview on applicability of applications/features for the minimum conformance class in question. This information is given in more detail as the applicability of any of the specifications included in the baseline and their architectural requirements as separate tables for each class in sections 7, 8 and 0.

The tables in following sections use the following notation:

**Item:**

Entry in this column **MUST** be a valid `ScrItem` according to [CREQ].

**Feature/Application:**

Entry in this column **SHOULD** be a short descriptive label to the **Item** in question.

**Status:**

Entry in this column **MUST** accurately reflect the architectural status of the **Item** in question.

- M means the **Item** is mandatory for the class
- O means the **Item** is optional for the class
- NA means the **Item** is not applicable for the class

**Requirement:**

Expression in the column **MUST** be a valid `TerminalExpression` according to [CREQ] and it **MUST** accurately reflect the architectural requirement of the **Item** in question.

## 7. Client Class Conformance Requirements

The notation in the table below is according to [CREQ].

This section is normative.

**Table 1 - Client Class Conformance Requirements**

Item	Feature / Application	Status	Requirement
<u>CCR-WAP2-C-000</u>	<u>WAP 2.0 Client</u>	<u>M</u>	<u>CCR-WAP2-C-001 OR</u> <u>CCR-WAP2-C-002 OR</u> <u>CCR-WAP2-C-003</u>
CCR-WAP2-C-001	WAP 2.0 <u>WAE</u> Client	<u>MO</u>	CCR-WAE-C-001 AND  CCR-STACK-C-001 <u>14</u>
<u>CCR-WAP2-C-002</u>	<u>WAP 2.0 Push Client</u>	<u>O</u>	<u>CCR-WAP2-C-001 AND</u> <u>CCR-PUSH-C-001</u>
<u>CCR-WAP2-C-003</u>	<u>WAP 2.0 MMS Client</u>	<u>O</u>	<u>CCR-WAP2-C-002 AND</u> <u>CCR-MMS-C-001</u>
CCR-WAE-C-001 <u>14</u>	WAP <del>Application Environment</del> <u>Browsing</u>	O	WAESpec:MCF AND  <del>WAEMT:MCF AND</del> HTTPSM:MCF
CCR-PUSH-C-001	WAP Push <del>Service</del>	O	PushMessage:MCF AND  PushOTA:MCF AND  ServiceInd:MCF
CCR-MMS-C-001	WAP Multimedia Messaging	O	MMSEncapsulation:MCF AND  MMSCTR:MCF
<u>CCR-STACK-C-001</u>	<u>WAP Protocol stack</u>	<u>O</u>	<u>CCR-STACK-C-002 OR</u> <u>CCR-STACK-C-003 OR</u> <u>CCR-STACK-C-004 OR</u> <u>CCR-STACK-C-005</u>
<u>CCR-STACK-C-002</u>	<u>Traditional stack</u>	<u>O</u>	<u>WSP:MCF</u>
<u>CCR-STACK-C-003</u>	<u>Traditional stack with security</u>	<u>O</u>	<u>WSP:MCF AND WTLS:MCF</u>
<u>CCR-STACK-C-004</u>	<u>Internet stack</u>	<u>O</u>	<u>HTTP:MCF</u>
<u>CCR-STACK-C-005</u>	<u>Internet stack with security</u>	<u>O</u>	<u>HTTP:MCF AND TLS:MCF</u>

## 8. Server Class Conformance Requirements

The notation in the table below is according to [CREQ].

Examples for different server configurations can be found in Appendix A.

This section is normative.

Table 2 - ~~Server~~ Server-side Protocol Stack ~~Class~~ Conformance Requirements

Item	Feature / Application	Status	Requirement
<u>CCR-STACK-S-000</u>	<u>WAP Protocol Stack</u>	<u>O</u>	<u>CCR-STACK-S-001 OR</u> <u>CCR-STACK-S-002 OR</u> <u>CCR-STACK-S-003 OR</u> <u>CCR-STACK-S-004</u>
<u>CCR-STACK-S-001</u> <del>CCR-STACK-S-002</del>	<u>Traditional Stack</u> <del>Traditional Stack</del>	<u>OO</u>	<u>WSP:MSF</u> <del>WSP:MSF</del>
<u>CCR-STACK-S-002</u> <del>CCR-STACK-S-003</del>	<u>Traditional Stack with security</u> <del>Internet Stack</del>	<u>OO</u>	<u>WSP:MSF AND</u> <u>WTLS:MSF</u> <del>TCP:MSF AND</del> <u>HTTP:MSF</u>
<u>CCR-STACK-S-003</u> <del>CCR-STACK-S-004</del>	<u>Internet Stack</u> <del>Secure Stack</del>	<u>OO</u>	<u>HTTP:MSF</u> <del>(CCR-STACK-S-002</del> <u>AND</u> <u>WTLS:MSF)</u> <u>AND</u> <u>(CCR-STACK-S-003 AND</u> <u>TLS:MSF)</u>
<u>CCR-STACK-S-004</u>	<u>Internet Stack with security</u>	<u>O</u>	<u>HTTP:MSF AND TLS:MSF</u>
<u>CCR-WAE-S-001</u>	<u>WAP Application Environment</u>	<u>O</u>	<u>WAESpec:MSF AND</u> <u>HTTPSM:MSF AND</u> <u>CCR-STACK-S-000</u>
<u>CCR-PUSH-S-001</u>	<u>WAP Push Service</u>	<u>O</u>	<u>PushMessage:MSF AND</u> <u>PushOTA:MSF AND</u> <u>ServiceInd:MSF AND</u> <u>PPGService:MSF AND</u> <u>PAP:MSF</u>
<u>CCR-MMS-S-001</u>	<u>WAP Multimedia Messaging</u>	<u>O</u>	<u>MMSEncapsulation:MSF AND</u> <u>MMSC:MSF</u>
<u>CCR-PROV-S-001</u>	<u>WAP Provisioning Service</u>	<u>O</u>	<u>ProvCont:MSF</u>
<u>CCR-WTA-S-001</u>	<u>WAP Telephony Services</u>	<u>O</u>	<u>WTA:MSF AND</u> <u>WTAI:MSF AND</u> <u>CCR-STACK-S-000</u>
<u>CCR-SYNC-S-001</u>	<u>WAP Synchronization</u>	<u>O</u>	<u>SYNC:MSF AND</u> <u>CCR-STACK-S-000</u>

## 9. Smart Card Class Conformance Requirements

The notation in the table below is according to [CREQ].

This section is normative.

**Table 3 - Smart Card Class Conformance Requirements**

Item	Feature / Application	Status	Requirement
CCR-PROV-ICC-001	Provisioning	O	ProvSC:MICCF
CCR-WIM-ICC-001	Wireless Identity Module	O	WIM:MICCF

~~This section is informative.~~

S e r v e r	R e l a t i o n	R e q u i r e m e n t s	a s s e r t i o n s	b y t h e	C C R
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	A
	A
	B
	C
	C
	B
	-
	S
	H
	A
	C
	K
	-
	S
	-
	Q
	Q
	+

**Note:**

~~These examples only highlight the requirements made by the CCR at a very high architectural level. Each of the listed required specifications may contain additional architectural requirements that also need to be fulfilled.~~

## **Appendix B.**~~Appendix A.~~

C

Type of <del>Change</del> of Change	Date	Section	Description
Class 0	17-May-2002		The initial version of this document.