Enabler Release Definition for Browser Protocol Stack

Candidate Version 2.1 – 4 Feb 2005

Open Mobile Alliance

OMA-ERELD-Browser_Protocol_Stack-V2_1-20050204-C

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Contents

1. SCOPE 4
2. REFERENCES 5
2.1 NORMATIVE REFERENCES 5
2.2 INFORMATIVE REFERENCES 5
3. TERMINOLOGY AND CONVENTIONS 6
3.1 CONVENTIONS 6
3.2 DEFINITIONS 6
3.3 ABBREVIATIONS 6
4. INTRODUCTION 7
5. ENABLER RELEASE SPECIFICATION BASELINE 8
6. MINIMUM FUNCTIONALITY DESCRIPTION FOR PROTOCOL_STACK 9
7. CONFORMANCE REQUIREMENTS NOTATION DETAILS 10
8. ERDEF FOR BROWSER PROTOCOL STACK - CLIENT REQUIREMENTS 11
9. ERDEF FOR BROWSER PROTOCOL STACK - SERVER REQUIREMENTS 12
APPENDIX A. CHANGE HISTORY (INFORMATIVE) 13
A.1 APPROVED VERSION HISTORY 13
A.2 DRAFT/CANDIDATE VERSION V2_1 HISTORY 13

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1. Scope

The scope of this document is limited to the Enabler Release Definition of the Browser Protocol Stack according to OMA Release process and the Enabler Release specification baseline listed in section 5.

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2. References

2.1 Normative References

[IOPProc] "OMA Interoperability Policy and Process". Open Mobile Alliance™. OMA-IOP-Process-v1_0. URL:http//www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels". S. Bradner. March 1997. URL:http://www.ietf.org/rfc/rfc2119.txt

[WSP] "Wireless Session Protocol", Open Mobile Alliance™, OMA-WAP-WSP-V1_0, URL:http://www.openmobilealliance.org/.

[WTP] "Wireless Transaction Protocol", Open Mobile Alliance™, WAP-224-WTP, URL:http://www.openmobilealliance.org/.

[WDP] "Wireless Datagram Protocol", Open Mobile Alliance™, WAP-259-WDP, URL:http://www.openmobilealliance.org/.

[WCMP] "Wireless Control Message Protocol", Open Mobile Alliance™, WAP-202-WCMP, URL:http://www.openmobilealliance.org/.

[WDPWCMPAdapt] "WDP and WCMP Adaptation Gateway Protocol", Open Mobile Alliance™, WAP-159-WDPWCMPAdapt-20010713-a, URL:http://www.openmobilealliance.org/.

[WAPOverGSMUSSD] "WAP Over GSM USSD", Open Mobile Alliance™, WAP-204-WAPOverGSMUSSD, URL:http://www.openmobilealliance.org/.

[WTCP] "Wireless Profiled TCP", Open Mobile Alliance™, WAP-225-TCP, URL:http://www.openmobilealliance.org/.

[WHTTP] "Wireless Profiled HTTP", Open Mobile Alliance™, WAP-229-HTTP, URL:http://www.openmobilealliance.org/.

[ClientID] "Client ID", Open Mobile Alliance™, WAP-196-ClientID, URL:http://www.openmobilealliance.org/.

[TransportE2ESec] "WAP Transport Layer End-to-End Security", Open Mobile Alliance™, WAP-187-TransportE2ESec, URL:http://www.openmobilealliance.org/.

2.2 Informative References

None.

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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.

The formal notation convention used in sections 8 and 9 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [IOPProc].

3.2 Definitions

Enabler Release –a collection of specifications that combined together form an enabler for a service area, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc. The specifications that are forming an enabler should combined fulfil a number of related market requirements.

Minimum Functionality Description – Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.

Traditional Stack – Protocol stack designed specifically to address the low bandwidth constraints of some wireless bearers and also to provide additional session capabilities appropriate to the wireless environment. Suitable for use over a wide range of wireless data bearers including non-IP.

Internet Stack – Protocol stack based on wireless profiles of IETF-defined protocols. Suitable for use over IP only.

3.3 Abbreviations

ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
OMA	Open Mobile Alliance
WAP	Wireless Application Protocol
WSP	Wireless Session Protocol
WTP	Wireless Transport Protocol
WDP	Wireless Datagram Protocol
WCMP	Wireless Control Message Protocol
WDPWCMPAdapt	WDP and WCMP Wireless Data Gateway Adaptation
WAPOverGSMUSSD	WAP Over GSM USSD
TCP	Transport Control Protocol
HTTP	Hypertext Transport Protocol
ClientID	Client Identification
IP	Internet Protocol
IETF	Internet Engineering Task Force

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4. Introduction

This document outlines the Enabler Release Definition for the Browser Protocol Stack and the respective conformance requirements for clients and servers claiming compliance to it as defined by Open Mobile Alliance across the specification baseline. The Browser Protocol Stack Service Enabler defines a stack of protocols providing session, transaction and datagram services.

Version 1.x of these specifications – the **Traditional Stack** – is designed specifically to address the low bandwidth constraints of some wireless bearers and also to provide additional session capabilities appropriate to the wireless environment. This release can be implemented over a very wide range of wireless network data bearers, including non-IP bearers.

[WDPWCMPAdapt] describes a WDP and WCMP adaptation over the underlying access protocol between a WAP Proxy Server and a Wireless Data Gateway (such as an SMSC or a USSD server). This is applicable to the server only in contexts where a Wireless Data Gateway is required.

[TransportE2ESec] defines an optional extension of the Traditional Stack, which allows a client to communicate securely with a server, without disclosure to the WAP Proxy/Server.

Version 2.x release of these specifications adds a new stack – the **Internet Stack** – based on wireless profiles of IETF-defined protocols. This is suitable for use over IP only, but provides much greater interoperability for services, which are designed both for Internet and wireless access.

[ClientID], part of version 2.x, stands on its own as a format description for a wireless client identifier. This is applicable to the client only and is completely optional.

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5. Enabler Release Specification Baseline

This section is normative.

The enabler release consists of the following specification:

WDP and WCMP Wireless Data Gateway Adaptation	WAP-159-WDPWCMPAdapt-20010713-a	[WDPWCMPAdapt]
Transport End-to-end Security	WAP-187-TransportE2ESec-20011009-a	[TransportE2ESec]
Client Identification	WAP-196-ClientID-20010409-a	[ClientID]
Wireless Control Message Protocol	WAP-202WCMP-20010624-a	[WCMP]
WAP Over GSM USSD	WAP-204-WAPOverGSMUSSD-20010813-a	[WAPOverGSMUSSD]
Wireless Transport Protocol	WAP-224-WTP-20020827-a	[WTP]
Wireless Profiled TCP	WAP-225-TCP-20010331-a	[WTCP]
Wireless Profiled HTTP	WAP-229-HTTP-20011031-a	[WHTTP]
Wireless Datagram Protocol	WAP-259-WDP-20010614-a	[WDP]
Wireless Session Protocol	OMA-WAP-WSP-V1_0-20020920-c	[WSP]

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6. Minimum Functionality Description for Protocol_Stack

The Browser Protocol Stack Enabler provides two protocol stacks for integration of OMA services with underlying network bearers. At least one of these two stack architecures must be implemented in the client and in the server.

The first of these, the Traditional Stack, consists of a mobile-specific layered protocol architecture. A mechanism for implementing End-to-end security without disclosure to the WAP Proxy/Server is an optional addition. The context of the Traditional Stack is illustrated in Figure 1 in the WAP Device and on the left side of the WAP Gateway. Note that WAE and WTLS are not part of the Browser Protocol Stack Enabler Release.

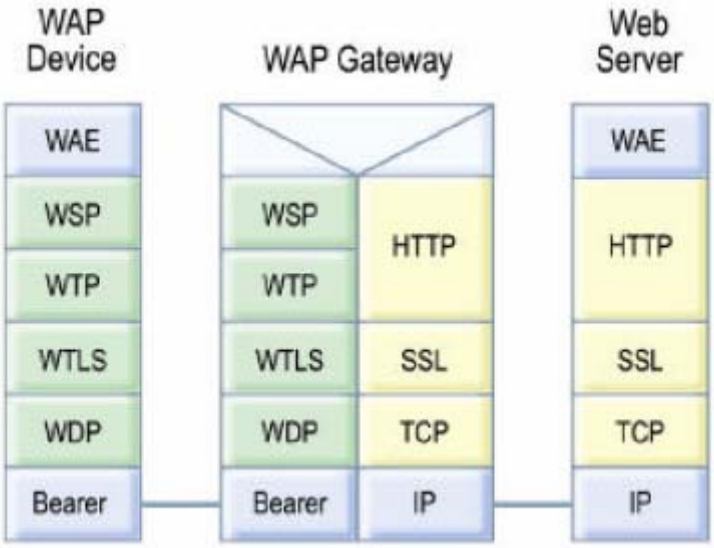

Figure 1

The second of these is the Internet Stack, which is based on IETFdefined protocols, TCP and HTTP, profiled for wireless use. The context of the Internet Stack is illustrated in Figure 2 in the WAP Device and on the left side of the WAP Proxy. Note again that WAE is not a part of the Browser Protocol Stack Enabler Release. HTTP* and TCP* refer to wireless profiled versions of these protocols.

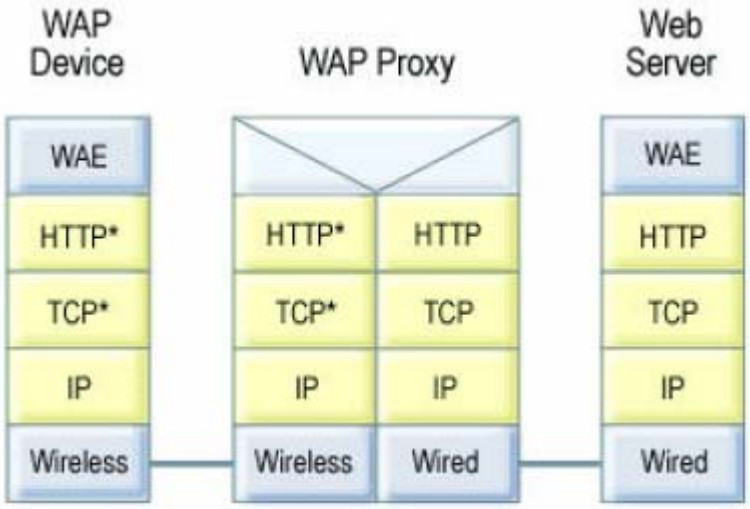

Figure 2

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7. Conformance Requirements Notation Details

This section is informative

The tables in following chapters use the following notation:

Item:
Entry in this column MUST be a valid ScrItem according to [IOPProc].

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 [IOPProc] and it MUST accurately reflect the architectural requirement of the **Item** in question.

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8. ERDEF for Browser Protocol Stack - Client Requirements

This section is normative.

Table 1 ERDEF for the Browser Protocol Stack Client-side Requirements

Item	Feature / Application	Status	Requirement
OMA-ERDEF-Browser_Protocol_Stack-C-001	Browser Protocol Stack Client	M	OMA-ERDEF-Browser_Protocol_Stack-C-002 OR OMA-ERDEF-Browser_Protocol_Stack-C-003 OR OMA-ERDEF-Browser_Protocol_Stack-C-004
OMA-ERDEF-Browser_Protocol_Stack-C-002	Browser Protocol Stack Traditional Client	O	WSP:MCF
OMA-ERDEF-Browser_Protocol_Stack-C-003	Browser Protocol Stack End-to-end Secure Traditional Client	O	TransportE2ESec:MCF AND WSP:MCF
OMA-ERDEF-Browser_Protocol_Stack-C-004	B rowser Protocol Stack Internet Client	O	HTTP:MCF
OMA-ERDEF-Browser_Protocol_Stack-C-005	Browser Protocol Stack Client Identity	O	ClientID:MCF

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9. ERDEF for Browser Protocol Stack - Server Requirements

This section is normative.

Table 2 ERDEF for the Browser Protocol Stack Server-side Requirements

Item	Feature / Application	Status	Requirement
OMA-ERDEF-Browser_Protocol_Stack-S-001	Browser Protocol Stack Server	M	OMA-ERDEF-Browser_Protocol_Stack-S-002 OR OMA-ERDEF-Browser_Protocol_Stack-S-003 OR OMA-ERDEF-Browser_Protocol_Stack-S-005
OMA-ERDEF-Browser_Protocol_Stack-S-002	Browser ProtocolStack Traditional Server	O	WSP:MSF
OMA-ERDEF-Browser_Protocol_Stack-S-003	Browser Protocol Stack End-to-end Secure Traditional Server	O	TransportE2ESec:MSF AND WSP:MSF
OMA-ERDEF-Browser_Protocol_Stack-S-004	Browser Protocol Stack Wireless Data Gateway	O	WDPWCMPAdapt:MSF
OMA-ERDEF-Browser_Protocol_Stack-S-005	Browser Protocol Stack Internet Server	O	HTTP:MSF

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Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No previous version within OMA

A.2 Draft/Candidate Version v2_1 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-MPG_Protocols-V1_0-20031105-D	05 Nov 2003	All	Initial draft
OMA-Protocol_Stack-V2_1-20031111-D	11 Nov 2003	All	Revision following input from Release Planning Chair: - Change DOCID to Protocol_Stack - Changed version to 2_1 to indicate successor to WAP 2.0 - Changes to align with [IOPProc]: o Substitute “Traditional” for “Classic” o Substitute “Internet” for “NG” o Simplify ERDEF to align with [IOPProc] - Added normative references for specifications - Created an introduction to the Traditional and Internet stacks
OMA-Protocol_Stack-V2_1-20031112-D	12 Nov 2003	4, 6, 8, 9	Added description for [WDPWCMPAdapt] Changed server requirement to support Traditional OR Internet Stack Corrected ERDEF for [TransportE2ESec] and added [WDPWCMPAdapt] Some clarifications and typo-corrections
OMA-Protocol_Stack-V2_1-20031216-D	16 Dec 2003	All	Updated for specification name & status changes
OMA-Protocol_Stack-V2_1-20031216-C	16 Dec 2003	All	Moved to candidate enabler release; minor typographical error fixed on date for WSP specification.
OMA-Protocol_Stack-V2_1-20040309-C	09 Mar 2004	All	minor typographical error fixed for reference to TCP specification. minor issue on format of name for WSP specification
OMA-ERELD-Protocol_Stack-V2_1-20050110-D	10-Jan-2005	2.1 5.	Fixed refs for WTP, WDP. WCMP, WDPWCMPAdapt, WAPOverGSMUSSD WTCP, WHTTP, ClientID, TransportE2ESec Update referred to documents in line with references for above specs Moved back to Draft state as the candidate state was introduced by mistake.
OMA-ERELD-Browser_Protocol_Stack-V2_1-20050201-D	01-Feb-2005	All	Change “Protocol_Stack” to “Browser Protocol Stack” to overcome objection under R&A Minor editorial corrections to text and change to 2005 in the running header etc.
Candidate Versions OMA-ERELD-Browser_Protocol_Stack-V2_1	04 Feb 2005	n/a	Status changed to Candidate by TP TP ref #OMA-TP-2005-0062R01-Browser-Protocol-Stack-V2_1-for-candidate-approval

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