



# Enabler Release Definition for IMPS

Approved Version 1.2 – 25 Jan 2005

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**Open Mobile Alliance**  
OMA-ERELD-IMPS-V1\_2-20050125-A

Continues the Technical Activities  
Originated in the Wireless Village Initiative



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# 1. Scope

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

## 2. References

### 2.1 Normative References

- [IOPPROC] "OMA Interoperability Policy and Process", Version 1.1, Open Mobile Alliance™, OMA-IOP-Process-V1\_1, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
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- [Arch] "WV-020, System Architecture Model Version 1.2". Open Mobile Alliance [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [FeaFun] "WV-041 Features and Functions Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [CSP] "WV-042 Client-Server Protocol Session and Transactions Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [CSP DTD] "WV-043 Client-Server Protocol DTD and Examples Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [CSP Trans] "WV-044 Client-Server Protocol Transport Bindings Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [CSP DataType] "WV-045 Client-Server Protocol Data Types Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [CSP SMS] "WV-046 Client-Server Protocol SMS Binding Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
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- [SSP] "WV-052 SSP - Server-Server Protocol Semantics Document Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [SSP Syntax] "WV-053 Server-Server Protocol XML Syntax Document Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [SSP Trans] "WV-054 SSP - Transport Binding Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [SSP SCR] "WV-055 SSP – Server-Server Protocol Static Conformance Requirement Version 1.2". Open Mobile Alliance. [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)

## 2.2 Informative References

None

## 3. Terminology and 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.

### 3.1 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.

### 3.2 Abbreviations

<b>OMA</b>	Open Mobile Alliance
<b>CLP</b>	Command Line Protocol
<b>CLI</b>	Command Line Interface
<b>WV</b>	Wireless Village
<b>CSP</b>	Client Server Protocol
<b>SSP</b>	Server Server Protocol
<b>MCN</b>	Mobile Core Network
<b>IM&amp;P</b>	Instant Messaging and Presence
<b>IMPS</b>	Instant Messaging and Presence Services
<b>SMCNP</b>	Server to Mobile Core Network Protocol

## 4. Introduction

This document outlines the Enabler Release Definition for IMPS and the respective conformance requirements for clients and servers implementations claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

The IMPS release provides for the definition and promotes a set of universal specifications for mobile instant messaging and presence services. The specifications will be used for exchanging messages and presence information between mobile devices, mobile services and Internet-based instant messaging services.



## 5. Enabler Release Specification Baseline

This section is normative.

Document Number	Description	Version
OMA-IMPS-WV-Arch-V1_2	WV-040, System Architecture Model Version 1.2	V1.2
OMA-IMPS-WV-Features_Functions-V1_2	WV-041 Features and Functions Version 1.2	V1.2
OMA-IMPS-WV-CSP-V1_2	WV-042 Client-Server Protocol Session and Transactions Version 1.2	V1.2
OMA-IMPS-WV-CSP_DTD-V1_2	WV-043 Client-Server Protocol DTD and Examples Version 1.2	V1.2
OMA-IMPS-WV-CSP_Transport-V1_2	WV-044 Client-Server Protocol Transport Bindings Version 1.2	V1.2
OMA-IMPS-WV-CSP_DataTypes-V1_2	WV-045 Client-Server Protocol Data Types Version 1.2	V1.2
OMA-IMPS-WV-CSP_SMS-V1_2	WV-046 Client-Server Protocol SMS Binding Version 1.2	V1.2
OMA-IMPS-WV-CSP_WBXML-V1_2	WV-047 Client-Server Protocol Binary Definition and Examples Version 1.2	V1.2
OMA-IMPS-WV-CSP_SCR-V1_2	WV-048 Client-Server Protocol Static Conformance Requirement Version 1.2	V1.2
OMA-IMPS-WV-PA-V1_2	WV-049 Presence Attributes Version 1.2	V1.2
OMA-IMPS-WV-PA_DTD-V1_2	WV-050 Presence Attribute DTD and Examples Version 1.2	V1.2
OMA-IMPS-WV-CLP-V1_2	WV-051 Command Line Protocol Version 1.2	V1.2
OMA-IMPS-WV-SSP-V1_2	WV-052 SSP – Server-Server Protocol Semantics Document Version 1.2	V1.2
OMA-IMPS-WV-SSP_Syntax-V1_2	WV-053 Server-Server Protocol XML Syntax Document Version 1.2	V1.2
OMA-IMPS-WV-SSP_Transport-V1_2	WV-054 SSP - Transport Binding Version 1.2	V1.2
OMA-IMPS-WV-SSP_SCR-V1_2	WV-055 SSP – Server-Server Protocol Static Conformance Requirement Version 1.2	V1.2

## 6. Minimum Functionality Description for IMPS

The following sections are taken from [WV Arch] and refer to the service model components for the IMPS service enabler.

### 6.1 WV Server

The Wireless Village Server is the central point in a Wireless Village system. It is composed of four Application Service Elements that are accessible via the Service Access Point. The Application Service Elements are:

1. Presence Service Element
2. Instant Messaging Service Element
3. Group Service Element
4. Content Service Element

#### 6.1.1 Presence Service Element

The Presence Service Element provides functionality for presence information management. This includes update, retrieve, set and store presence and location information. Presence information can be manipulated implicitly by the system, or explicitly by the user.

A user can subscribe to receive the presence information of other users, as specified in a contact list. Contact List Management is also a part of the presence service.

Presence information can be fetched from different internal and external sources. Through the Service Access Point (described below) the Presence Service Element can connect to the Mobile Core Network to access network presence and service information. Network presence defines the properties of the mobile devices, as well as the underlying network functionality. The Network service features define the properties related to the wireless devices on the wireless network, and determine the ability to communicate with a particular wireless device.

#### 6.1.2 Instant Messaging Service Element

The Instant Messaging Service Element provides functionality for sending and receiving instant messages. An instant message may be sent to, or received from, a specific WV-user, or users of other instant messaging systems. It is also possible to send instant messages to a group of WV-users. WV supports several messages types, such as plain text, video, picture and sound.

#### 6.1.3 Group Service Element

The Group Service Element provides functionality for use and management of groups. The groups can be private or public. A common usage of the Group Service is a chat room. It is also possible to bind content to the Groups.

#### 6.1.4 Content Service Element

The Content Service Element provides functionality for sharing content such as images and documents between Wireless Village users. The shared content feature allows the IMPS users to share content while sending messages or chatting in a group.

#### 6.1.5 Service Access Point

The Service Access Point (SAP) serves as the interface between the WV server and its environment. It has interfaces to the WV clients, other WV servers, the Mobile Core Network and Proprietary Gateways to non-WV servers. The SAP is referred to in an informational manner by the Wireless Village specifications.

The functionality of the Service Access Point is:

- Authentication and Authorization
- Service Discovery and Service Agreement
- User Profile Management
- Service Relay

Some potentially useful functions, such as a service administration and monitoring interface, a provisioning interface, and a billing interface, etc., are subject to the implementation in the real world. Those functions are outside of the scope of the Wireless Village and will not be addressed within this document.

### 6.1.5.1 Authentication and Authorization

Authentication is used to verify the identity of an entity (user, network, or application). Authorization is the activity of determining what an authenticated entity (user, network, or application) is allowed to do.

There are several types of mechanisms for authentication and authorization:

- Application-Network Authentication / Authorization.
- User-Application Authentication / Authorization.
- Application-Application Authentication / Authorization
- User-Network Authentication (only for Authentication)

### 6.1.5.2 Service Discovery and Service Agreement

Service Discovery enables the application to identify the total collection of service capability features that it can use. The service discovery process includes service capability registration and service capability notification. This is done both between Client – Server and Server –Server.

A Service Agreement (also known as a Service Level Agreement) must be established before the server can interact with the Network Service Capability or other servers' service capabilities, and provides the client with the services.

Upon successful authentication, the server may obtain information about the network capability and service capability features. The client may obtain the service capability features provided by the server. The services include the network services and IMPS services (presence service, IM service, group service and shared content service).

### 6.1.5.3 User Profile Management

One or more User Profile(s) describe(s) how the user wishes to manage and interact with their communication services. The User Profile information consists of various user interfaces and service related information including the list of services to which the end-user is subscribed, preferences associated with those services, service status (active / inactive), privacy status with regards to network service capabilities (e.g. user location, user interaction), terminal capabilities and terminal interface preferences etc.

User Profile Management allows the application to retrieve and update the user profile.

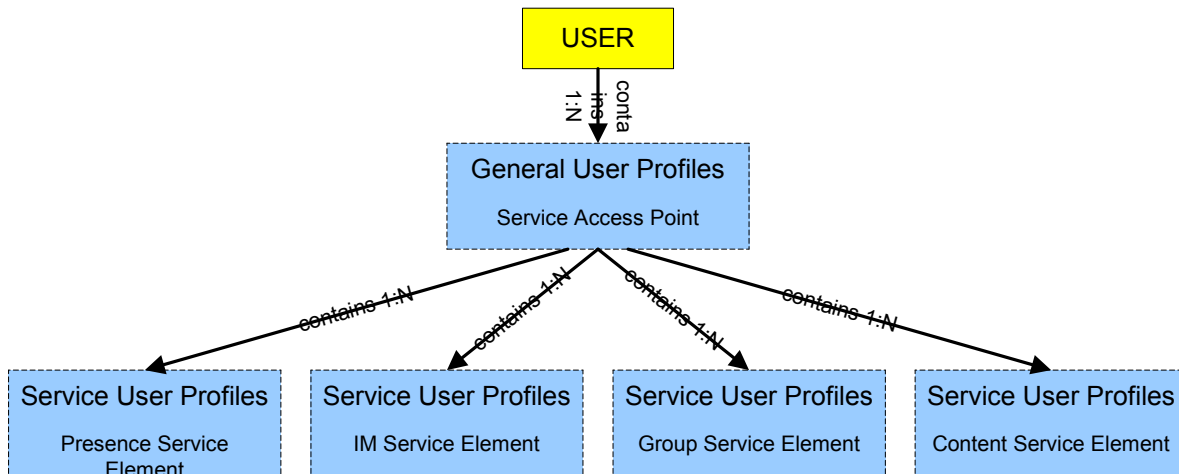


Figure 3: User Profiles

### 6.1.5.4 Service Relay

The Service Access Point must provide the Service Relay function to route all service requests and responses among the servers through the Server-to-Server Protocol (SSP). The protocol conversion from CSP to SSP and message codec may be needed when performing Service Relay.

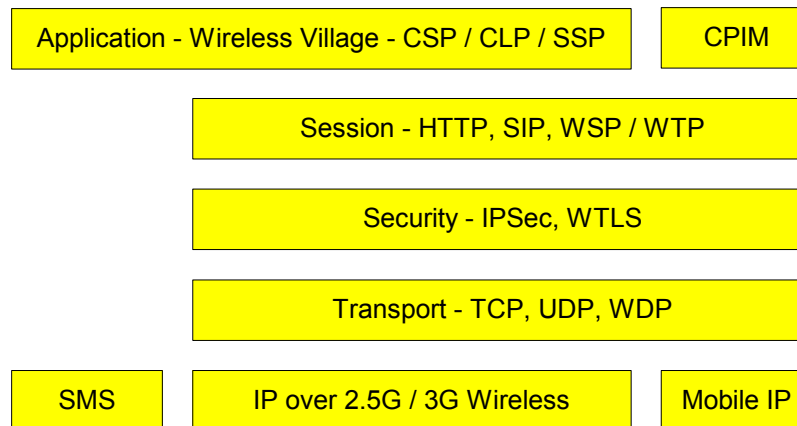
## 6.2 WV Embedded Client

The Wireless Village Embedded Client is an embedded client within a mobile terminal. The clients from different vendors will have a different look, and will not have the exact same functionality. It is possible to take the functions from the Wireless Village system and combined them with the functions from the mobile terminal, e.g., the phonebook. The benefit with the Wireless Village embedded client is that despite the difference in the clients, clients will be fully interoperable with each other through the Client Server Protocol.

## 6.3 CLI Client

The Command Line Interface Client uses text messages to communicate with the Wireless Village server. The functionality provided might be a subset of the functionality provided by an Embedded Client. An Example of a CLI Client is a mobile terminal that uses SMS to communicate with the Wireless Village server.

## 6.4 Interfaces and Protocols



**Figure 4: Interfaces and Protocols**

### 6.4.1 Client Server Protocol (CSP)

The Client-Server Protocol provides access for Embedded Clients within mobile terminals and desktop clients to access the Wireless Village Server. The protocol can use different bearers depending on the capability of the client.

### 6.4.2 Command Line Protocol (CLP)

The Command Line Protocol makes it possible to provide access for legacy terminals via a command line client to the Wireless Village server.

### 6.4.3 Server Server Protocol (SSP)

The Server-Server Protocol connects Wireless Village servers. This can be used within one service provider domain or between different service providers. In this way the system will be interoperable so that a user that subscribes to Wireless Village services at Service Provider A can communicate with a user that is a customer of Service Provider B. The SSP is also used when connecting a Wireless Village server to Proprietary IMPS service via a Proprietary Gateway.

### 6.4.4 Server Mobile Core Network Protocol (SMCNP)

The Server Mobile Core Network Protocol gives access to the Mobile Core Network so that the Wireless Village server can get presence information and service capability information from the network. The SMCNP can also be used for authentication and authorization of users, clients and servers. The SMCNP is referred to in an informative manner by the Wireless Village specifications.

## 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 [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.

## 8. ERDEF for IMPS - Client Requirements

This section is normative.

**Table 1 ERDEF for IMPS Client-side Requirements**

<b>Item</b>	<b>Feature / Application</b>	<b>Status</b>	<b>Requirement</b>
OMA-ERDEF-IMPS-C-001	IMPS Client	M	See [CSP_SCR]

## 9. ERDEF for IMPS - Server Requirements

This section is normative.

**Table 2 ERDEF for IMPS Server-side Requirements**

<b>Item</b>	<b>Feature / Application</b>	<b>Status</b>	<b>Requirement</b>
OMA-ERDEF-IMPS-S-001	IMPS Server	M	See [SSP_SCR]



## Appendix A. Change History

(Informative)

### A.1 Approved Version History

Reference	Date	Description
OMA-ERELED-IMPS-V1_1-20021105-A	05 Nov 2002	Version 1.1
OMA-ERELED-IMPS-V1_2-20050125-A	25 Jan 2005	Version 1.2 Ref TP Doc# OMA-TP-2004-0457-IMPS-V1_2-for-final-approval