WV-045 Client-Server Protocol Data Types

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Open Mobile Alliance

OMA-IMPS-WV-CSP-DATA-TYPES-V1_2-20050125-A

Continues the Technical Activities
Originated in the Wireless Village Initiative

Contents

1. Scope

The Wireless Village Instant Messaging and Presence Service (IMPS) includes four primary features:

- Presence
- Instant Messaging
- Groups
- Shared Content

Presence is the key enabling technology for IMPS. It includes client device availability (my phone is on/off, in a call), user status (available, unavailable, in a meeting), location, client device capabilities (voice, text, GPRS, multimedia) and searchable personal statuses such as mood (happy, angry) and hobbies (football, fishing, computing, dancing). Since presence information is personal, it is only made available according to the user's wishes - access control features put the control of the user presence information in the users' hands.

Instant Messaging (IM) is a familiar concept in both the mobile and desktop worlds. Desktop IM clients, two-way SMS and two-way paging are all forms of Instant Messaging. Wireless Village IM will enable interoperable mobile IM in concert with other innovative features to provide an enhanced user experience.

Groups or chat are a fun and familiar concept on the Internet. Both operators and end-users are able to create and manage groups. Users can invite their friends and family to chat in group discussions. Operators can build common interest groups where end-users can meet each other online.

Shared Content allows users and operators to setup their own storage area where they can post pictures, music and other multimedia content while enabling the sharing with other individuals and groups in an IM or chat session.

These features, taken in part or as a whole, provide the basis for innovative new services that build upon a common interoperable framework.

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/

[CSP SCR] "WV-048 Client-Server Protocol Static Conformance Requirement Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/

[E.164] ITU-T Recommendation E.164 (05/97) The international Public Telecommunication Numbering Plan. URL:http://www.itu.int/rec/recommendation.asp?type=items&lang=e&parent=T-REC-E.164-199705-I

[ISO639-2] ISO 639-2: Codes for the Representation of Names of Languages, 1998. URL:http://www.iso.ch/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=4767

[ISO8601] ISO 8601 International Standard, Second Edition. Data elements an interchange formats – Information interchange – Representation of dates and times. URL:http://www.iso.ch/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=26780

[RFC2045] "Multipurpose Internet Mail Extensions (MIME) Part one: Format of Internet Message Bodies". Section 6.8 "Base64 Content-Transfer-Encoding". November 1996. URL:http://www.ietf.org/rfc/rfc2045.txt

[RFC2046] Borenstein N., and N. Freed, "MIME (Multipurpose Internet Mail Extensions) Part Two: Media Types", November 1996. URL:http://www.ietf.org/rfc/rfc2046.txt

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

[RFC2234] "Augmented BNF for Syntax Specifications: ABNF". D. Crocker, Ed., P. Overell. November 1997. URL:http://www.ietf.org/rfc/rfc2234.txt

[RFC2396] "Uniform Resource Identifiers (URI): Generic Syntax" , August 1998. URL:http://www.ietf.org/rfc/rfc2396.txt

[SSP SCR] "WV-055 SSP – Server-Server Protocol Static Conformance Requirement Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/

[XML] "Extensible Markup Language 1.0 (Second Edition)", W3C recommendation, 6-October-2000. URL:http://www.w3c.org/TR/2000/REC-xml-20001006.pdf

Table 1

2.2 Informative References

[Arch] "WV-040 System Architecture Model Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/

[FeaFun] "WV-041 Features and Functions Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/

[CSP] "WV-042 Client-Server Protocol Session and Transactions Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/

[CSP DTD] "WV-043 Client-Server Protocol DTD and Examples Version 1.2". Open Mobile Alliance.

	http://www.openmobilealliance.org/
[CSP Trans]	"WV-044 Client-Server Protocol Transport Bindings Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[CSP DataType]	"WV-045 Client-Server Protocol Data Types Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[CSP SMS]	"WV-046 Client-Server Protocol SMS Binding Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[CSP WBXML]	"WV-047 Client-Server Protocol Binary Definition and Examples Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[CSP SCR]	"WV-048 Client-Server Protocol Static Conformance Requirement Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[PA]	"WV-049 Presence Attributes Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[PA DTD]	"WV-050 Presence Attribute DTD and Examples Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[CLP]	"WV-051 Command Line Protocol Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[SSP]	"WV-052 SSP - Server-Server Protocol Semantics Document Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[SSP Syntax]	"WV-053 Server-Server Protocol XML Syntax Document Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[SSP Trans]	"WV-054 SSP - Transport Binding Version 1.2". Open Mobile Alliance.. http://www.openmobilealliance.org/
[SSP SCR]	"WV-055 SSP – Server-Server Protocol Static Conformance Requirement Version 1.2". Open Mobile Alliance. http://www.openmobilealliance.org/
[WAPARCH]	“WAP Architecture, Version 12-July-2001”. Open Mobile Alliance™. WAP-210-WAPArch. http://www.openmobilealliance.org/

Table 2

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

None

3.2 Abbreviations

None

4. Basic Types

4.1 Character

A character is single UTF-8 encoded character.

4.2 Integer

An integer is a number from 0-4294967295 expressed in decima l format.

4.3 Boolean

A Boolean value indicates either true or false. In XML: it has been encoded to a single character, the following values are defined:

- T – indicating yes or true (UTF-8 encoded character)
- F – indicating no or false (UTF-8 encoded character)

These values are case insensitive.

4.4 String

A string of UTF-8 encoded characters.

4.5 Date and time

Expressed as a string, the format follows the [ISO8601] specification. The date and time format used shall be the complete date and time using the basic format. There shall be no time-zone indications, but the time may indicate if the time is Coordinated Universal Time (UTC) or local time. Examples are:

20011019T125031

for local time, and

20011019T095031Z

for UTC time.

4.6 Binary data

The binary data must be encoded according to BASE64 encoding [RFC2045].

4.7 Derived types

4.7.1 Enumerated

The enumerated type is a type derived from the basic types that limit the values to certain, defined values. Examples of this are enumerated string, enumerated character and enumerated integer. In the case of enumerated string and enumerated characters, the values shall be case insensitive.

4.7.2 Structure

The structure type allows the definition of an information element as a structure of basic types. The structure itself is defined in an XML DTD Element.

5. Data Type Assignments for XML ELEMENTS

5.1 XML Element Assignment for CSP Information Elements

Information	Element XML Element
Acceptance	Acceptance
Accepted-Content-Length	ContentSize
Add-Nick-List	AddNickList
Add-Users-List	AddList
Admin-Map-List	AdminMapList
Agreed-Capabilities	AgreedCapabilityList
All-Functions	AllFunctions
All-Functions-Request	AllFunctionsRequest
Attribute-Association-List	AttributeList+
Auto-Subscribe	AutoSubscribe
Blocked-Entity-List	BlockList(EntityList)
Blocked-List-Inuse	BlockList(InUse)
Block-Entity-List	BlockList(EntityList)
ClientCapability-Request	CapabilityRequest
Client-ID	ClientID
Code	Code
Completion-Flag	CompletionFlag
Contact-List-ID	ContactList
Contact-List-ID-List	ContactList+
Contact-List-Props	ContactListProperties
Content	ContentData
Session-Cookie	SessionCookie
Default-CList-ID	DefaultContactList
Default-List	DefaultList
Default-Attribute-List	DefaultAttributeList
Delivery-Method	DeliveryMethod

Information	Element XML Element
Delivery-Report-Request	DeliveryReport
Delivery-Time	DeliveryTime
Description-Text	Description
Digest-Schema	DigestSchema
Digest-Bytes	DigestBytes
Domain	Domain
Granted-Entity-List	GrantList(EntityList)
Granted-List-Inuse	GrantList(InUse)
Grant-Entity-List	GrantList(EntityList)
Group-ID	GroupID
Group-Props	GroupProperties
ID-List	IDList
History-Period	HistoryPeriod
Invite-Acceptance	Acceptance
Invite-Content	URLList
Invite-Group	GroupID
Invite-ID	InviteID
Invite-Presence	AttributeList
Invite-Reason	InviteNote
Invite-Response	InviteNote
Invite-Type	InviteType
Join-Group	JoinGroup
Joined-Request	JoinedRequest
Joined-Users-List	Joined
Keep-Alive-Time	KeepAliveTime
Left-Users-List	Left
Logo	Logo
MaxWatcherList	MaxWatcherList
Message-Count	MessageCount
Message-ID	MessageID

Information	Element XML Element
Message-ID-List	MessageID+
Message-Info	MessageInfo
Message-Info-List	MessageInfo+
Message-URI	MessageURI
Name	Name
Nonce	Nonce
Not-Available-Functions	Functions
Other-Servers	OtherServer+
Own-Props	OwnProperties
Own-Screen-Name	ScreenName
Password-String	Password
Presence-Attribute-List	PresenceSubList
Presence-Value-List	Presence
ReactiveAuthStatus-List	ReactiveAuthStatusList
Recalled-Content	URLList
Recall-Reason	InviteNote
Receive-List	ReceiveList
Recipients	Recipient
Remove-Nick-List	RemoveNickList
Remove-Users-List	RemoveList
Requested-Capabilities	CapabilityList
Requested-Functions	Functions
Result	Result
Screen-Name	ScreenName
Screen-Names	ScreenName+
Search-Criteria	SearchCriteria
Search-Findings	SearchFindings
Search-ID	SearchID
Search-Index	SearchIndex
Search-Limit	SearchLimit

Information	Element XML Element
Search-Pair-List	SearchPairList
Search-Results	SearchResult
Sender	Sender
Session-Cookie	SessionCookie
Session-ID	SessionID
Subscribe-Notif	SubscribeNotification
Subscribe-Type	SubscribeType
Subscription-State	Value
Supported-Digest-Schema	Digest-Schema
Text	Description
Time-To-Live	TimeToLive
Transaction-ID	TransactionID
Unblock-Entity-List	BlockList(RemoveList)
Ungrant-Entity-List	GrantList(RemoveList)
Update-Value-List	PresenceValueList
URL	URL
User-ID	UserID
User-ID-List	UserList
User-Map-List	UserMapList
User-List	Users
User-List-Adm	Admin
User-List-Mod	Mod
User-Nick-List	NickList
Validity	Validity
Version-List	VersionList
Welcome-Text	WelcomeNote
WatcherStatus	WatcherStatus

Table 3

5.2 Data Types for XML Terminal Elements

XML PCDATA	Acceptance
Data Type	Boolean
Format	Defined in section 4.3.
Description	Indicates acceptance.
Range	Defined in section 4.3.

Table 4 Acceptance

XML PCDATA	AcceptedCharSet
Data Type	Integert
Format	MIBenum number as defined in [IANA].
Description	Character set that the client supports.
Range	Any of the valid character sets.

Table 5 AcceptedCharSet

XML PCDATA	AcceptedContentLength
Data Type	Integer
Format	Defined in section 4.2.
Description	The character (byte) count of the content inside a message.
Range	Defined in section 4.2.

Table 6 AcceptedContentLength

XML PCDATA	AcceptedContentType
Data Type	String
Format	MIME type as defined in [RFC2045] and [RFC2046].
Description	MIME type that the client supports.
Range	All MIME-types

Table 7 AcceptedContentType

XML PCDATA	AcceptedTransferEncoding
Data Type	String
Format	Text string
Description	Transfer encoding scheme that the client supports. Currently there is BASE64 only.
Range	BASE64

Table 8 AcceptedTransferEncoding

XML PCDATA	AllFunctionsRequest
Data Type	Boolean
Format	Defined in section 4.3.
Description	Indicates if the list of all functions is requested.
Range	Defined in section 4.3.

Table 9 AllFunctionsRequest

XML PCDATA	AnyContent
Data Type	Boolean
Format	Defined in section 4.3.
Description	Indicates if the client accepts all types of contents.
Range	Defined in section 4.3.

Table 10 AnyContent

XML PCDATA	AutoSubscribe
Data Type	Boolean
Format	Defined in section 3.3.
Description	'T' means that the automatic subscription to the presence attributes is enabled when a new user is added to the contact list, and the automatic unsubscription to the presence attributes is also enabled when the contact list is deleted or when a user is removed from the contact list. 'F' means that the automatic subscription unsubscription is disabled
Range	Defined in section 3.3.

Table 11 AutoSubscribe

XML PCDATA	CapabilityRequest
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates if client capability negotiation is needed.
Range	Defined in section 4.3.

Table 12 CapabilityRequest

XML PCDATA	CIR
Data type	Boolean
Format	Defined in section 3.3.
Description	Indicates whether the CIR channel over standalone TCP/IP is still available or not. 'T' means that he CIR channel over standalone TCP/IP is available. 'F' means that the CIR channel over standalone TCP/IP is disconnected.
Range	Defined in section 3.3.

Table 13 CIR

XML PCDATA	ClientType
Data type	Enumerated string
Format	Defined in [PA], Table 7.
Description	The type of the client.
Range	Defined in [PA], Table 7.

Table 14 ClientType

XML PCDATA	Code
Data type	Integer
Format	Defined in section 4.2.
Description	Status code.
Range	Defined in [CSP].

Table 15 Code

XML PCDATA	CompletionFlag
Data type	Boolean
Format	Defined in section 3.3.
Description	Indicates whether if the client can expect new results. ‘F’ if server may provide new results (still searching), ‘T’ if new results will not be provided.
Range	Defined in section 3.3.

Table 16 CompletionFlag

XML PCDATA	ContactList
Data type	String
Format	Defined in [CSP]. The contact-list-ID is not case sensitive.
Description	Unique identifier of a user’s contact list.
Range	Max 100 characters.

Table 17 ContactList

XML PCDATA	ContentData
Data type	String or Binary data.
Format	See Table 16. ContentEncoding.
Description	The actual content.
Range	

Table 18 ContentData

XML PCDATA	ContentEncoding
Data type	String
Format	Text string
Description	Indicates the transfer encoding used on the content.
Range	None | BASE64

Table 19 ContentEncoding

XML PCDATA	ContentSize
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the size of the content. If the content is binary data, it indicates the size after the BASE64 encoding.
Range	Defined in section 4.2.

Table 20 ContentSize

XML PCDATA	ContentType
Data type	String
Format	MIME-Type as defined in [RFC2045] and [RFC2046].
Description	Indicates the MIME-type of the content.
Range	All MIME-types

Table 21 ContentType

XML PCDATA	DateTime
Data type	Date and Time
Format	Defined in section 4.5.
Description	Date and time.
Range	Defined in section 4.5.

Table 22 DateTime

XML PCDATA	DefaultContactList
Data type	String
Format	See Table 14. ContactList.
Description	Identifies the default contact list.
Range	See Table 14. ContactList.

Table 23 DefaultContactList

XML PCDATA	DefaultLanguage
Data type	Enumerated string
Format	Three-letter language code as specified in [ISO639-2].
Description	The current language setting in the client. The language code is specifying that the client prefers to receive text information in the indicated language from the server. The information is optional – it is used to override the user profile/presence info language preference.
Range	Any of the valid three-letter language codes.

Table 24 DefaultLanguage

XML PCDATA	DefaultList
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates if the default attribute list should be used in transaction.
Range	Defined in section 4.3.

Table 25 DefaultList

XML PCDATA	DeliveryMethod
Data type	Enumerated character
Format	Text character
Description	The delivery method setting. Notify/Get or Push.
Range	N | P

Table 26 DeliveryMethod

XML PCDATA	DeliveryReport
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates if delivery report is requested or not.
Range	Defined in section 4.3.

Table 27 DeliveryReport

XML PCDATA	DeliveryTime
Data type	DateTime
Format	Defined in section 3.5
Description	The date and time of delivery of a message
Range	Defined in section 3.5

Table 28 DeliveryTime

XML PCDATA	Description
Data type	String
Format	Text string
Description	Short desciptive text.
Range	Max 200 characters

Table 29 Description

XML PCDATA	DigestBytes
Data type	String
Format	BASE64 encoded
Description	Digest bytes to use with DigestSchema.
Range	Max 200 characters

Table 30 DigestBytes

XML PCDATA	DigestSchema
Data type	Enumerated string
Format	Text string
Description	Digest schema used in hash.
Range	PWD | SHA | MD4 | MD5 | MD6

Table 31 DigestSchema

XML PCDATA	Domain
Data type	String
Format	Defined in [CSP]. Domain is not case sensitive
Description	Contains a domain name.
Range	Max 50 characters

Table 32 Domain

XML PCDATA	ExtendedData
Data type	String
Format	As defined in the referred namespace.
Description	Entry point for proprietary extensions. This element is used to give reference to the namespace (DTD) to be used under this specific tag.
Range	The namespace attribute points to a valid proprietary extension namespace.

Table 33 ExtendedData

XML PCDATA	GroupID
Data type	String
Format	Defined in [CSP]. The group-ID is not case sensitive.
Description	Unique identifier of a group.
Range	Max 50 characters

Table 34 GroupID

XML PCDATA	HistoryPeriod
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the time period in seconds in which the watcher history has been accumulated.
Range	Defined in section 4.2.

Table 35 HistoryPeriod

XML PCDATA	InitialDeliveryMethod
Data type	Refer to Table 23. DeliveryMethod.
Format	Refer to Table 23. DeliveryMethod.
Description	Refer to Table 23. DeliveryMethod.
Range	Refer to Table 23. DeliveryMethod.

Table 36 InitialDeliveryMethod

XML PCDATA	InUse
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates if the requested functionality is in use or not.
Range	Defined in section 4.3.

Table 37 InUse

XML PCDATA	InviteID
Data type	String
Format	Text string. The invite-ID is case sensitive.
Description	Identifies an invitation so that it may be cancelled later on.
Range	Unique in the scope of the server domain. Max 100 character.

Table 38 InviteID

XML PCDATA	InviteNote
Data type	String
Format	Text string
Description	Short desciptive text for invitation.
Range	Max 400 characters

Table 39 InviteNote

XML PCDATA	InviteType
Data type	Enumerated string
Format	Text string
Description	Indicates the type of the invitation.
Range	GR | IM | PR | SC

Table 40 InviteType

XML PCDATA	JoinGroup
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates that the newly created group is joined (or not) at creation time.
Range	Defined in section 4.3

Table 41 JoinGroup

XML PCDATA	JoinedRequest
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates if the list of currenty joined group members is requested.
Range	Defined in section 4.3.

Table 42 JoinedRequest

XML PCDATA	KeepAliveTime
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates for how many seconds should the session be kept alive. (And how often should the KeepAlive transaction occur if no other transactions are done in the meantime.)
Range	Defined in section 4.2.

Table 43 KeepAliveTime

XML PCDATA	MaxWatcherList
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the maximum number of Watcher element.
Range	Defined in section 4.2.

Table 44 MaxWatcherList

XML PCDATA	MessageCount
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the number of messages.
Range	Defined in section 4.2.

Table 45 MessageCount

XML PCDATA	MessageID
Data type	String
Format	Text string. The message-ID is case sensitive.
Description	Identifies an instant message.
Range	Max 50 characters

Table 46 MessageID

XML PCDATA	MessageURI
Data type	String
Format	URI
Description	See [RFC2396].
Range	Max 100 characters

Table 47 MessageURI

XML PCDATA	MSISDN
Data type	String
Format	International mobile number
Description	Defined in [E.164].
Range	As defined in [E.164].

Table 48 MSISDN

XML PCDATA	MultiTrans
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the maximum number of primitives that the client can handle within the same transport message, as well as the maximum number of open transactions from both client and server side at any given time.
Range	The value must be higher than zero.

Table 49 MultiTrans

XML PCDATA	Name
Data type	String
Format	Text string. Case sensitive.
Description	Name of an attribute.
Range	Max 50 characters

Table 50 Name

XML PCDATA	Nonce
Data type	String
Format	Text string. Case sensitive.
Description	Random string for password digest.
Range	Max 200 characters

Table 51 Nonce

XML PCDATA	ParserSize
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the maximum character (byte) count of XML message size that the parser can handle.
Range	Defined in section 4.2.

Table 52 ParserSize

XML PCDATA	Password
Data type	String
Format	Text string
Description	The password corresponding to the password digest.
Range	Max 50 characters

Table 53 Password

XML PCDATA	Poll
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates whether if the server has something to send or not.
Range	Defined in section 4.3

Table 54 Poll

XML PCDATA	PresenceAttributeNSName
Data type	String
Format	Namespace name, See [XML]
Description	Name of a Presence Attribute Namespace
Range	Max 200 characters

Table 55 PresenceAttributeNSName

XML PCDATA	PresenceSubList
Data type	String
Format	As defined in the referred namespace.
Description	Presence attribute list with or without values. This element is used to give reference to the namespace (DTD) to be used under this specific tag.
Range	The namespace attribute points to a valid Wireless Village presence namespace.

Table 56 PresenceSubList

XML PCDATA	ReactiveAuthState
Data type	Enumerated String
Format	Text string.
Description	Indicates the state of the reactive authorization function for a particular set of presence attributes.
Range	GRANTED | DENIED | PENDING

Table 57 ReactiveAuthState

XML PCDATA	ResponseNote
Data type	String
Format	Text string
Description	Short descriptive text for invitation response.
Range	Max 400 characters

Table 58 ResponseNote

XML PCDATA	ReceiveList
Data type	Boolean
Format	Defined in section 3.3.
Description	Indicates if the client wants to receive the list of users in the contact list in the ListManageResponse primitive. ‘F’ means that the list is not wanted. ‘T’ means that the client wants the list returned in the ListManageResponse primitive.
Range	Defined in section 3.3.

Table 59 ReceiveList

XML PCDATA	SearchElement
Data type	Enumerated string
Format	Text string
Description	Indicates what should be searched for SearchString.
Range	USER_ID | USER_FIRST_NAME | USER_LAST_NAME | USER_EMAIL_ADDRESS | USER_ALIAS | USER_ONLINE_STATUS | USER_MOBILE_NUMBER | GROUP_ID | GROUP_NAME | GROUP_TOPIC | GROUP_USER_ID_JOINED | GROUP_USER_ID_OWNER

Table 60 SearchElement

XML PCDATA	SearchFindings
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the number of matches found in a search request.
Range	Defined in section 4.2.

Table 61 SearchFindings

XML PCDATA	SearchID
Data type	String
Format	Defined in section 4.2.
Description	Identifies a search request, so that it may be continued later on.
Range	Defined in section 4.2.

Table 62 SearchID

XML PCDATA	SearchIndex
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates from which point should the search continue.
Range	Defined in section 3.3.

Table 63 SearchIndex

XML PCDATA	SearchLimit
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the maximum number of result to be retrieved at a time.
Range	Defined in section 4.2.

Table 64 SearchLimit

XML PCDATA	SearchString
Data type	String
Format	Text string
Description	SearchElement is searches for this (sub)string.
Range	Max 100 characters.

Table 65 SearchString

XML PCDATA	ServerPollMin
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the minimum time period that must pass between two subsequent PollingRequest transactions. The value indicates the time in seconds.
Range	The value must be higher than zero.

Table 66 ServerPollMin

XML PCDATA	SessionCookie
Data type	String
Format	Text string
Description	A client-generated cookie provided during login phase.
Range	Max 50 characters.

Table 67 SessionCookie

XML PCDATA	SessionID
Data type	String
Format	Text string that is unique in the scope of the user. The session-ID is case sensitive.
Description	Identifies a session.
Range	Max 50 characters.

Table 68 SessionID

XML PCDATA	SessionNSName
Data type	String
Format	Namespace name, See [XML]
Description	Name of a Session Namespace
Range	Max 200 characters

Table 69 SessionNSName

XML PCDATA	SessionType
Data type	Enumerated string
Format	Text string
Description	Describes the nature of the session. Inband if a there is an open session (and session-ID can be provided), otherwise Outband.
Range	Inband | Outband

Table 70 SessionType

XML PCDATA	SName
Data type	String
Format	Text string. Not case sensitive.
Description	The “name” part of the screen name.
Range	Max 50 characters.

Table 71 SName

XML PCDATA	SubscribeNotification
Data type	Boolean
Format	Defined in section 4.3.
Description	Indicates that the particular group's group change notification is subscribed or not (turned on or off).
Range	Defined in section 4.3

Table 72 SubscribeNotification

XML PCDATA	SubscribeType
Data type	String
Format	Text character
Description	The type of the subscription request. It is Get, Set, or Unset.
Range	G | S | U

Table 73 SubscribeType

XML PCDATA	SupportedBearer
Data type	Enumerated string
Format	Text string
Description	Bearer that the client supports.
Range	SMS | WSP | HTTP | HTTPS

Table 74 SupportedBearer

XML PCDATA	SupportedCIRMethod
Data type	Enumerated string
Format	Text string
Description	Communiction Intitiation Request method that the client supports.
Range	WAPSMS – for WAP 1.2/2.0 WSP unit push over SMS WAPUDP – for WAP 1.2/2.0 WSP unit push over UDP/IP SSMS – for standalone SMS SUDP – for Standalone UDP/IP STCP – for Standalone TCP/IP SHTTP – for Standalone HTTP

Table 75 SupportedCIRMethod

XML PCDATA	TCPAddress
Data type	String
Format	Defined in section 4.2.
Description	The client may indicate that it wants to use a different IP address for standalone TCP/IP CIR method.
Range	Defined in section 4.2.

Table 76 TCPAddress

XML PCDATA	TCPPort
Data type	Integer
Format	Defined in section 4.2.
Description	The client may indicate that it supports other than the default port for the standalone TCP/IP CIR method.
Range	Defined in section 4.2.

Table 77 TCPPort

XML PCDATA	TimeToLive
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the interval in which the server expects the KeepAliveRequest message in order to keep a session alive. (And how often should the KeepAlive transaction occur if no other transactions are done in the meantime.) Indicated in seconds.
Range	Defined in section 4.2.

Table 78 TimeToLive

XML PCDATA	TransactionContent
Data type	String
Format	As defined in the referred namespace.
Description	The transaction itself. This element is used to give reference to the namespace (DTD) to be used under this specific tag.
Range	The namespace attribute points to a valid Wireless Village transaction namespace

Table 79 TransactionContent

XML PCDATA	TransactionID
Data type	String
Format	Text string that is unique for each transaction in the scope of the session. The transaction-ID is case sensitive.
Description	Identifies a transaction. The initiating party assigns this ID.
Range	Max 50 characters

Table 80 TransactionID

XML PCDATA	TransactionMode
Data type	Enumerated string
Format	Text string
Description	Describes the nature of the transaction. Request if a new transaction is started, otherwise Response.
Range	Request | Response

Table 81 TransactionMode

XML PCDATA	TransactionNSName
Data type	String
Format	Namespace name, See [XML]
Description	Name of a Transaction Namespace
Range	Max 200 characters

Table 82 TransactionNSName

XML PCDATA	UDPPort
Data type	Integer
Format	Defined in section 4.2.
Description	The client may indicate that it supports other than the default port for the standalone UDP/IP CIR method.
Range	Defined in section 4.2.

Table 83 UDPPort

XML PCDATA	URL
Data type	String
Format	URL
Description	See [RFC2396].
Range	Max 200 characters

Table 84 URL

XML PCDATA	UserID
Data type	String
Format	Defined in [CSP]. The user-ID is not case sensitive.
Description	Unique identifier of a single user.
Range	Max 50 characters

Table 85 UserID

XML PCDATA	Validity
Data type	Integer
Format	Defined in section 4.2.
Description	Indicates the interval in seconds during which the message is valid.
Range	Defined in section 4.2.

Table 86 Validity

XML PCDATA	Value
Data type	String
Format	Text string
Description	Used for multiple purposes, see [CSP] for further information about the particular case.
Range	Max 50 characters

Table 87 Value

XML PCDATA	WatcherStatus
Data type	Enumerated string
Format	Text string
Description	Indicates the status of the watcher. There are three possible values: User is currently subscribing – CURRENT_SUBSCRIBER Subscription ended during history period - FORMER_SUBSCRIBER User did not subscribe, but used GetPresence to access presence info during history period. – PRESENCE_ACCESS
Range	CURRENT_SUBSCRIBER | FORMER_SUBSCRIBER | PRESENCE_ACCESS

Table 88 WatcherStatus

6. Static Conformance Requirements (Normative)

The static conformance requirements for this specification is specified in [CSP SCR] and [SSP SCR].

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-WV-CSP_DataTypes-V1_1-20021001-A	01 Oct 2002	Version 1.1
OMA-IMPS-WV-CSP-Data-Types-V1_2-20050125-A	25 Jan 2005	Version 1.2 Ref TP Doc# OMA-TP-2004-0457-IMPS-V1_2-for-final-approval