



Client-Server Protocol

SMS Binding

V1.0

WV Internal Tracking Number: WV-007

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1. REVISION HISTORY

Date	Issue	Description	Author
February 13 th	TBD	Initial release	WV TechComm

2. REFERENCES

- [WV-CSP] Wireless Village Client-Server Protocol Session and Transactions specification
- [WV-CSP-TRANS] Wireless Village – Client-Server protocol, Transport Binding
- [WV-PA] Wireless Village – Presence Attributes specification

3. INTRODUCTION

This document describes how the SMS can be utilized to provide WV functionality.

The message flows are defined in [WV-CSP].

The enumerated values are as specified in [WV-CSP].

4. SMS BINDING

4.1 Syntax

General SMS message format is:

WVaaBBcccDD <parameters> where:

- **WV** indicates that this is a Wireless Village message. It is case sensitive.
- **aa** is the version number of the IM specification. Major version and minor version numbers without the dot in the middle, both are single digits from 0 to 9. This specification uses version number 0.9 (09 in messages).
- **BB** is the message type, identified by each message table. It is not case sensitive.
- The **ccc** is the Transaction-ID in range 0-999 without preceding zero.
- The **DD** identifies multiple short messages within single transaction; it is a two-letter identifier within the range of a-z. The first letter indicates the number (position) of the message; the second letter indicates the last part. (This gives the possibility to split a message into 26 SMSes, which limits the size of the message to $26 \cdot 160 = 4160$ characters. Note that it includes every additional information elements such as tags, commas and so on, so not the whole capacity is available to the user.) It is not case sensitive.

The general format of parameters shall be:

<name>=<value>

After the *aaBBcccDD* preamble, there is one space character. Each parameter is separated from other parameters by single space character.

If value contains spaces (), quotes ("), commas (,), parentheses (()), or equal (=) characters, it shall be wrapped with quotes ("").

If value contains quotes ("), all quote characters shall be doubled.

For example if the value is: John "Johnnie" Smith ,then

it shall be encoded as: "John ""Johnnie"" Smith"

If the value is only one single quote, the encoding would be four quotes: """"

A parameter may also contain a list of values. In this case, the syntax shall be (example with three values):

<name>=(<value1>,<value2>,<value3>)

A parameter may also contain a group of values. These groups may be also nested.

Examples:

one value having three values:

<name>=(<value1>,(<value2>,<value3>,<value4>))

nested values:

<name>=(<value1>,(<value2>,(<value3>,<value4>)))

Definitions shall be case-sensitive.

4.2 Encoding of Short Messages

The encoding of SMS messages has two alternatives: normal text message with 7-bit encoding and 8-bit encoding with User Data Header (UDH).

In the 7-bit text encoding method, the detection of WV-primitives from other short messages is based on the inspection and validation of WV preamble in the short message. Characters from SMS default set shall be used only [TS 23.038].

In the 8-bit UDH encoding method, the short message indicates that it contains a User Data Header (UDH) with the TP-UDHI value set to 1. The detection of the WV-primitives is based on registered WV application port identified in the headers. In the 8-bit encoding, WV primitive is encoded using UTF-8 character coding. The minimum supported set of characters is ISO 8859-1 (Latin 1).

With the 8-bit UDH encoding, all WV short messages contain a User Data Header with a 16-bit application port numbers identifying the source port and destination port. The structure of the short message with UDH is defined as follows [TS 23.040]:

UDL	UDHL	IEI	IEIDL	IED	UD
-----	------	-----	-------	-----	----

UDL Length of the message

UDHL Length of User Data Header (7 for WV message)

IEID Information Element Identifier (05_{hex} = 16-bit application port)

IEDL Length of IED (4 = four octets for ports)

IED Port numbers (octet 1,2 = destination port, octet 3,4=originator port)

UD User Data (WV primitive)

The source and destination port have same port numbers, assigned in the CSP transport-binding document [WV-CSP-TRANS].

4.3 Handling of Multiple Short Messages within Transaction

A transaction over short message bearer may be split to more than one short message when parameters exceed 160 characters. To accomplish this, there are two basic techniques available:

1. Use of concatenated short messages (SM-TP level concatenation).
2. Use concatenation identifier (**DD**) identifier in a short message text.

Alternative 1) is based on SMS technology, which is optionally supported in the SMSC and terminal product. It does not require support in text level.

Alternative 2) needs to be used when SMS concatenation is not available. The rules are:

- If the short message does not need text-level concatenation (single SMS or SM-TP level concatenation), the **DD** identifier is not present.
- If the short message needs text-level concatenation, the **DD** identifier is present (starting from 'a') and the first letter identifies the current SMS within concatenation sequence and the second letter identifies the last SMS within the sequence.
- While transferring the multiple short messages concatenated in text level, the transaction identifier will be the same in all of the short messages.
- The request or response is incomplete until all short messages within the same transaction are received.

The text-level concatenation identifier does not require that the messages will be received in order. An example of concatenation could be when terminal sends a message:

```
WV09NM23ac MC="This is a very  
WV09NM23cc very long textual content..."  
WV09NM23bc very long message, and it has very
```

And the server responds:

```
WV09ST23 ST=200
```

5. AVAILABILITY OF TRANSACTIONS

The SMS protocol itself provides/leaks some features, which simplifies or disables certain transactions.

All instant messages that are containing plain text message content and fits into the limits specified in 4.1 Syntax without truncation should be pushed to the terminal.

The following table describes the availability of each primitive defined in [WV-CSP]:

Transaction	Support	Code
AddGroupMembersRequest	Full	AM
BlockEntityRequest	Full	BE
CancelAuthRequest	Full	CR
CancelInviteRequest	Full	CI
CancelInviteUserRequest	Full	CU
ClientCapabilityRequest	N/A	
ClientCapabilityResponse	N/A	
CreateAttributeListRequest	Full	CA
CreateGroupRequest	Full	CG
CreateListRequest	Full	CL
DeleteAttributeListRequest	Full	DA
DeleteGroupRequest	Full	DG
DeleteListRequest	Full	DL
DeliveryReportRequest	Full	DR
Disconnect	Full	DI
GetAttributeListRequest	Full	GA
GetAttributeListResponse	Full	AG
GetBlockedListRequest	Full	GB
GetBlockedListResponse	Full	BG
GetGroupMembersRequest	Full	GM
GetGroupMembersResponse	Full	MG
GetGroupPropsRequest	Full	GR
GetGroupPropsResponse	Full	RG
GetListRequest	Full	GL
GetListResponse	Full	LG
GetMessageListRequest	Full	MR
GetMessageListResponse	Simplified	RM
GetMessageRequest	Full	GM
GetMessageResponse	Simplified	MG
GetPresenceRequest	Full	GP
GetPresenceResponse	Full	PG
GetSPInfoRequest	Full	GS
GetSPInfoResponse	Simplified	SG
GetWatcherListRequest	Full	GW
GetWatcherListResponse	Full	WG
GroupChangeNotice	Full	GG
ForwardMessageRequest	N/A	
InviteRequest	Full	IR
InviteResponse	Full	RI
InviteUserRequest	Full	IU
InviteUserResponse	Full	UI
JoinGroupRequest	Full	JG
JoinGroupResponse	Full	GJ

KeepAliveRequest	Full	KA
LeaveGroupRequest	Full	LU
LeaveGroupResponse	Full	UL
ListManageRequest	Full	LM
ListManageResponse	Full	ML
LoginRequest	Simplified	LR
LoginResponse	Simplified	RL
LogoutRequest	Full	OR
MemberAccessRequest	Full	ME
MessageDelivered	Full	MD
MessageNotification	N/A	
NewMessage	Simplified	NM
PollingRequest	N/A	
PresenceAuthRequest	Full	PR
PresenceAuthResponse	Full	RP
PresenceNotificationRequest	Full	PN
RemoveGroupMembersRequest	Full	RM
RejectListRequest	Full	RE
RejectListResponse	Full	ER
RejectMessageRequest	N/A	
SearchRequest	Full	SR
SearchResponse	Full	RS
SendMessageRequest	Simplified	SM
SendMessageResponse	Full	MS
ServiceRequest	Simplified	SQ
ServiceResponse	Simplified	QS
SetDeliveryMethodRequest	N/A	
SetGroupPropsRequest	Full	SP
Status	Full	ST
StopSearchRequest	Full	SS
SubscribeGroupNoticeRequest	Full	SU
SubscribeGroupNoticeResponse	Full	US
SubscribePresenceRequest	Full	SB
UnsubscribePresenceRequest	Full	PS
UpdatePresence	Full	UP

The codes are not case sensitive.

6. SMS-SPECIFIC ENCODING

6.1 Information elements

Element	Code
Acceptance	AC
Add-Users-List	AU
Add-Nick-List	AN
Administrator	AD
Attribute-Association-Contact-List	AG
Attribute-Association-User-List	AL
All-Functions	AF
All-Functions-Request	AR
Blocked-Group-List	BG
Blocked-User-List	BL
Blocked-List-Inuse	BU
Client-ID	CI
Code	RC
Contact-List-ID	CL
Contact-List-Props	CP
Date-Time	DT
Default-Association-List	DA
Default-CList-ID	DC
Default-List	DL
Delivery-Report-Request	DE
Description	RT
Detailed-Result-Group	DG
Detailed-Result-Screenname	DS
Detailed-Result-User	DU
Granted-Group-List	GG
Granted-User-List	GL
Granted-List-Inuse	GU
Group-ID	GI
Group-Props	GP
Invite-Content	IC
Invite-Group	IG
Invite-ID	II
Invite-Presence	IP
Invite-Reason	IR
Invite-Response	IX
Invite-Type	IT
Joined-Request	JR
Joined-Users-List	JU
Keep-Alive-Time	KA
Left-Users-List	LU
Message-Content	MC
Message-Count	MN
Message-ID	MI
Moderator	MO
Name	NA
Not-Available-Functions	NF
Own-Props	OP
Own-Screen-Name	ON

Password-String	PW
Presence	PR
PresenceSubList	PS
Recalled-Content	RC
Recall-Reason	RR
Remove-Nick-List	RN
Remove-Users-List	RU
Requested-Functions	RF
Result (Status code and description)	ST
Screen-Name	SN
Search-Findings	SF
Search-ID	SD
Search-Index	SX
Search-Limit	SL
Search-OnlineStatus	SO
Search-Pair-List	SP
Search-Results	SR
Session-Cookie	SC
Session-ID	SI
Subscribe-Type	SU
Subscription-State	SS
Text	TX
Time-To-Live	TL
Unblock-Group-List	UB
Unblock-User-List	UU
Ungrant-Group-List	UG
Ungrant-User-List	UL
Update-Value-List	UV
URL	UR
User (ordinary access)	US
User-ID	UI
User-Nick-List	UN
User-Prop-List	UP
Validity	VA
Welcome-Text	WT

The codes are not case sensitive.

6.2 Service tree elements

In order to shorten messages, the elements of the service tree have been encoded into a shorter code. The tree itself is the same as it is specified in [WV-CSP], there is only one difference: the elements marked unsupported in the table below are not part of the SMS-specific service tree.

Name	Support	Code
ADDGM	Yes	AG
AttListFunc	Yes	AF
BLENT	Yes	BL
CAAUT	Yes	CA
CAINV	Yes	CI
CALI	Yes	CL
CCLI	Yes	CC
ContListFunc	Yes	FC
CREAG	Yes	CG
DALI	Yes	DA
DCLI	Yes	DC
DELGR	Yes	DG
FundamentalFeat	Yes	FF
FWMSG	No	
GALS	Yes	GA
GCLI	Yes	GC
GETGM	Yes	GG
GETGP	Yes	GP
GETLM	Yes	GL
GETM	Yes	GM
GETPR	Yes	GP
GETSPI	Yes	GS
GETWL	Yes	GW
GLBLU	Yes	GB
GRCHN	Yes	GN
GroupAuthFunc	Yes	GF
GroupFeat	Yes	GE
GroupMgmtFunc	Yes	GT
GroupUseFunc	Yes	GU
IMAuthFunc	Yes	IA
IMFeat	Yes	IF
IMReceiveFunc	Yes	IR
IMSendFunc	Yes	IS
INVIT	Yes	IV
InviteFunc	Yes	IN
MBRAC	Yes	MA
MCLS	Yes	MC
MDELIV	Yes	MD
NEWM	Yes	NM
NOTIF	No	
PresenceAuthFunc	Yes	PA
PresenceDeliverFunc	Yes	PD
PresenceFeat	Yes	PF
REACT	Yes	RA
REJCM	No	

REJEC	Yes	RE
RMVGM	Yes	RG
SearchFunc	Yes	SF
ServiceFunc	Yes	SU
SETD	No	
SETGP	Yes	SG
SRCH	Yes	SR
STSRC	Yes	ST
SUBGCN	Yes	SU
UPDPR	Yes	UP
WVCSPFeat	Yes	WV

The codes are not case sensitive.

6.3 Presence attributes

Extension attributes are not supported, only presence attributes described in the [WV-PA].

Only plain text-based presence attributes are supported.

The qualifier is not present.

In order to shorten messages, the presence attributes have been encoded into a shorter code.

Name	Support	Code
Accuracy (GeoLocation)	Full	AL
Accuracy (Address)	Full	AA
Alias	Full	AI
Altitude	Full	AT
Building	Full	BU
City	Full	CI
ClientProducer	Full	CP
ClientType	Full	CT
ClientVersion	Full	CV
CommCap	Full	CC
ContactInfo	N/A	
Country	Full	CO
Crossing1	Full	C1
Crossing2	Full	C2
DevManufacturer	Full	DM
Extended Presence Info	N/A	
FreeTextLocation	Full	FT
Language	Full	LN
Latitude	Full	LA
TimeZone	Full	LT
Longitude	Full	LO
Model	Full	MO
NamedArea	Full	NA
OnlineStatus	Full	OS
PLMN	Full	PM
PreferredContacts	Full	PC
PreferredLanguage	Full	PL
Registration	Full	RG
StatusContent	N/A	
StatusMood	Full	SM
StatusText	Full	ST
Street	Full	SR
UserAvail	Full	UA

The codes are not case sensitive.

6.4 Presence values

In order to shorten messages, the enumerated presence values have been encoded into a shorter code.

Name	Code
ANGRY	AG
ANXIOUS	AX
ASHAMED	AS
AUDIO_CALL	AU
AVAILABLE	AV
BORED	BO
CALL	CA
CLI	CL
COMPUTER	CO
DISCREET	DI
EMAIL	EM
EXCITED	EX
HAPPY	HA
IM	IM
IM_OFFLINE	OF
IM_ONLINE	ON
IN_LOVE	IL
INVINCIBLE	IN
JEALOUS	JE
MMS	MS
MOBILE_PHONE	MP
NOT_AVAILABLE	NA
OTHER	OT
PDA	PD
SAD	SA
SLEEPY	SL
SMS	SM
VIDEO_CALL	VC
VIDEO_STREAM	VS

The codes are not case sensitive.

6.5 Group properties

In order to shorten messages, the group properties have been encoded into a shorter code.

Name	Code
AccessType	AT
ActiveUsers	AU
IsMember	IM
MaxActiveUsers	MU
Name	NM
PrivateMessaging	PM
PrivilegeLevel	PL
Searchable	SE
Topic	TO

Type	TY
WelcomeNote	WN

The codes are not case sensitive.

6.6 Contact list properties

In order to shorten messages, the contact list properties have been encoded into a shorter code.

Name	Code
DisplayName	DN
Default	DE

The codes are not case sensitive.

6.7 Search elements

In order to shorten messages, the enumerated search elements have been encoded into a shorter code.

Name	Code
GROUP_ID	GI
GROUP_NAME	GN
GROUP_TOPIC	GT
GROUP_USER_ID_JOINED	GJ
USER_ALIAS	UA
USER_EMAIL_ADDRESS	UE
USER_FIRST_NAME	UF
USER_ID	UI
USER_LAST_NAME	UL
USER_MOBILE_NUMBER	UM

The codes are not case sensitive.

7. SMS BINDING EXAMPLES

7.1 Status primitive

With a single status code:

ST=<StatusCode>

WV09ST761 SI=im.user.com#48815@server.com ST=200

With a status code and description:

ST=(<StatusCode>,<Description>)

WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")

With multiple status codes and descriptions:

ST=(<StatusCode>,<Description>)

DG=(<StatusCode>,<Description>,<GroupID n>)

DS=(<StatusCode>,<Description>,<ScreenName n>,<GroupID n>)

DU=(<StatusCode>,<Description>,<UserID n>)

WV09ST761 SI=im.user.com#48815@server.com ST=(201,"Partially completed.")
DU=(531,"Unknown user.",wv:bad_user1@im.com,wv:bad_user1@im.com)
DU=(532,"Blocked.",wv:bad_user3@im.com,wv:bad_user4@im.com)

7.2 Login transaction

This transaction is simplified, because there is no need to encrypt the password, since the bearer already provides the encryption.

7.2.1 LoginRequest primitive

Only the User-ID, the Client-ID, the password, the Session-Cookie, and the Time-To-Live elements are present in the primitive.

WV09LR761 UI=wv:john@smith.com CI=+1234567890 PW=this1is2my3pass
SC=im.user.com#20011224#328746293 KA=600 TL=600

7.2.2 LoginResponse primitive

Only the Result, the Session-ID and the KeepAliveTime are present in the primitive. All other information elements are omitted.

WV09RL761 ST=(200,"Successfully completed.")
SI=im.user.com#48815@server.com

7.3 Logout transaction

7.3.1 LogoutRequest primitive

WV09OR761 SI=im.user.com#48815@server.com

7.3.2 Disconnect primitive

WV09DI761 SI=im.user.com#48815@server.com ST=200

7.4 Server initiated logout transaction

7.4.1 Disconnect primitive

WV09DI761 SI=im.user.com#48815@server.com ST=(601,"Updating server software. All services offline for 3 hours.")

7.5 Keep Alive transaction

7.5.1 KeepAliveRequest primitive

WV09KA761 SI=im.user.com#48815@server.com TL=600

7.5.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")

7.6 Get service provider info transaction

7.6.1 GetSPInfoRequest primitive

WV09GS761 SI=im.user.com#48815@server.com

7.6.2 GetSPInfoResponse primitive

MMS messages are not allowed, thus the Logo element is not present in the primitive.

WV09SG761 SI=im.user.com#48815@server.com NA="Wireless Village" TX="This is Wireless Village's IMPS test service" UR="http://www.wireless-village.org"

7.7 Service request transaction

The following example illustrates service negotiation with the following parameters:

Client requests:

- All Fundamental Features,
- All IM Features,
- All Presence Features,
- None of the Group Features.

Server does not agree to provide:

- Fundamental features,
- GetWatcherList transaction,
- IM Authorization Functions.

7.7.1 ServiceRequest primitive

Client requests all functionality.

```
WV09SQ761 SI=im.user.com#48815@server.com CI=+1234567890
RF=(WV,(FF,IF,PF)) AR=F
```

7.7.2 ServiceResponse primitive

```
WV09QS761 SI=im.user.com#48815@server.com CI=+1234567890
NF=(WV,(FF,(PF,(PA,GW))),(IF,IA)))
```

7.8 Search transaction

The search pair-list is currently under discussion in [WV-CSP], cannot provide full example.

7.8.1 SearchRequest primitive (1st)

```
WV09SR761 SI=im.user.com#48815@server.com SP=(UL,Smith) SO=T SL=5
```

7.8.2 SearchResponse primitive (1st)

```
WV09RS761 SI=im.user.com#48815@server.com SF=7 SX=5 SD=112233
SR=(wv:john,wv:matthias@salamander.com,wv:francisco@don.com,wv:mary@site.
org,wv:driver@car.org)
```

7.8.3 SearchRequest primitive (continued)

```
WV09SR762 SI=im.user.com#48815@server.com SD=112233 SX=6
```

7.8.4 SearchResponse primitive (continued)

```
WV09RS762 SI=im.user.com#48815@server.com SF=7 SX=7
SR=(wv:henry@home.se,wv:judas@bigfish.com)
```

7.9 Stop search transactions

7.9.1 StopSearchRequest primitive

```
WV09SS763 SI=im.user.com#48815@server.com SD=112233
```

7.9.2 Status primitive

```
WV09ST763 SI=im.user.com#48815@server.com ST=200
```

7.10 Invitation transactions

7.10.1 InviteRequest primitive

```
WV09IR761 SI=im.user.com#48815@server.com II=11 IT=PR IP=(OS,LT,FT)
UI=(wv:lara.naval@secret.gov,wv:francisco) IR="Feel free to use my
presence infos!" SN=((matthias,wv:%2Fchatroup@wv.com))
ON=(john,wv:%2Fchatroup@wv.com)
```

7.10.2 Status primitive

WV09ST761 ST=200

7.10.3 InviteUserRequest primitive

WV09IU762 SI=54321 II=11 IT=PR SN=((john,wv:%2Fchatroup@wv.com))
IP=(OS,LT,FT) IR="Feel free to use my presence infos!"

7.10.4 Status primitive

WV09ST762 SI=54321 ST=200

7.10.5 InviteUserResponse primitive

WV09UI763 SI=54321 II=11 AC=T IX="Thanks a lot!"

7.10.6 Status primitive

WV09ST763 SI=54321 ST=200

7.10.7 InviteResponse primitive

WV09RI764 SI=im.user.com#48815@server.com II=11 UI=wv:francisco AC=T
IX="Thanks a lot!"

7.10.8 Status primitive

WV09ST764 ST=200

7.11 Canceling invitation transactions

7.11.1 CancelInviteRequest primitive

WV09CI761 SI=im.user.com#48815@server.com II=11
UI=(wv:lara.naval@secret.gov,wv:francisco) RR="I will be on vacation for
1 week." ON=(john,wv:%2Fchatroup@wv.com)

7.11.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.11.3 CancelInviteUserRequest primitive

WV09CU762 SI=54321 II=11 SN=((john,wv:%2Fchatroup@wv.com)) RR="I will be
on vacation for a week."

7.11.4 Status primitive

WV09ST762 SI=54321 ST=200

7.12 Get list of contact list IDs transaction

7.12.1 GetListRequest primitive

WV09GL761 SI=im.user.com#48815@server.com

7.12.2 GetListResponse primitive

WV09LG761 SI=im.user.com#48815@server.com
CL=(wv:john%2Fcolleagues,wv:john%2Ffamily, wv:john%2Ffriends)

7.13 Create contact list transaction

7.13.1 CreateListRequest primitive

WV09CL761 SI=im.user.com#48815@server.com CL=wv:john%2Ffriends
CP=((DN,"My friends"),(DE,T))

7.13.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")

7.14 Delete contact list transaction

7.14.1 DeleteListRequest primitive

WV09DL761 SI=im.user.com#48815@server.com CL=wv:john%2Ffriends

7.14.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")

7.15 Retrieve a contact list transaction

7.15.1 ListManageRequest primitive

WV09LM761 SI=im.user.com#48815@server.com CL=wv:john%2Ffriends

7.15.2 ListManageResponse primitive

WV09ML761 SI=im.user.com#48815@server.com ST=200 CP=((DN,"My friends"),(DE,T)) UN(("New friend",wv:new@friend.org))

7.16 Add users to a contact list transaction

7.16.1 ListManageRequest primitive

WV09LM761 SI=im.user.com#48815@server.com CL=wv:john%2Ffriends
AN(("Randall the Vandal",wv:randall@fairlane.com),(Brainstrom,wv:bright@dark.com))

7.16.2 ListManageResponse primitive

WV09ML761 SI=im.user.com#48815@server.com ST=200 UN(("Randall the Vandal",wv:randall@fairlane.com),(Brainstrom,wv:bright@dark.com),("New friend",wv:new@friend.org))

7.17 Remove users from a contact list

7.17.1 ListManageRequest primitive

```
WV09LM761 SI=im.user.com#48815@server.com CL=vw:john%2Ffriends RN=(("New friend",vw:new@friend.org))
```

7.17.2 ListManageResponse primitive

```
WV09ML761 SI=im.user.com#48815@server.com ST=200 UN=(("Randall the Vandal",vw:randall@fairlane.com),(Brainstrom,vw:bright@dark.com))
```

7.18 Modify properties of contact list transaction

7.18.1 ListManageRequest primitive

```
WV09LM761 SI=im.user.com#48815@server.com CL=vw:john%2Ffriends CP=((DN,"My enemies"),(DE,T))
```

7.18.2 ListManageResponse primitive

```
WV09ML761 SI=im.user.com#48815@server.com ST=200 CP=((DN,"My enemies"),(DE,T))
```

7.19 Create attribute list transaction

7.19.1 CreateAttributeListRequest primitive

```
WV09CA761 SI=im.user.com#48815@server.com PS=(OSTFT) UI=(vw:matthias@salamander.com,vw:francisco) DL=T
```

7.19.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")
```

7.20 Delete attribute list transaction

7.20.1 DeleteAttributeListRequest primitive

```
WV09DA761 SI=im.user.com#48815@server.com CL=vw:john%2Ffriends DL=F
```

7.20.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=200
```

7.21 Get attribute list(s) transaction

7.21.1 GetAttributeListRequest primitive

```
WV09GA761 SI=im.user.com#48815@server.com DL=T
```

7.21.2 GetAttributeListResponse primitive

In order to be able to distinguish between User-IDs, Contact-List-IDs and the default attribute list, the parameters are separated to AG, AL, DA.

For clarification the basic syntax of Attribute-Association-List is:

(<owner(s)>,<attribute(s)>) ,where

<owner(s)>¹ is the contact-list-ID(s) or the user-ID(s) to whom the attributes are assigned.

<attribute(s)> is the name of the presence attribute(s) that are associated.

```
WV09AG761 SI=im.user.com#48815@server.com ST=200
AG=((wv:john%2Fcolleagues,OS),(wv:john%2Ffamily,(OS,FT)))
AL=((wv:matthias@salamander.com,wv:francisco@don.com),(OS,FT)),(wv:mary@
site.com,FT)) DA=OS
```

7.22 Subscribe/unsubscribe presence transaction

7.22.1 SubscribePresenceRequest primitive

```
WV09SB761 SI=im.user.com#48815@server.com
UI=(wv:matthias@salamander.com,wv:francisco) CL=wv:john%2Ffamily PS=OS
```

7.22.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")
```

7.22.3 PresenceNotificationRequest primitive

For clarification the basic syntax is:

(<owner(s)>,((<attribute 1>,<value 1>),(<attribute n>,<value n>)) ,where

<owner(s)> is the user-ID(s) to whom the presence attributes and values belong.

<attribute> is the name of the presence attribute to which the value belongs.

<value> is the value of a presence attribute.

```
WV09PN761 SI=im.user.com#48815@server.com
PR=((wv:matthias@salamander.com,((OS,T),(FT,"In the
office"))),(wv:francisco,(OS,T)))
```

7.22.4 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=200
```

7.22.5 UnsubscribePresenceRequest primitive

```
WV09PS761 SI=im.user.com#48815@server.com
UI=(wv:matthias@salamander.com,wv:francisco)
```

7.22.6 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")
```

¹ The default attribute list is presented as "DEFAULT".

7.23 Get watcher list transaction

7.23.1 GetWatcherListRequest primitive

WV09GW761 SI=im.user.com#48815@server.com

7.23.2 GetWatcherListResponse primitive

WV09WG761 SI=im.user.com#48815@server.com
UI=(wv:matthias@salamander.com,wv:francisco)

7.24 Get presence transaction

7.24.1 GetPresenceRequest primitive

WV09GP761 SI=im.user.com#48815@server.com
UI=(wv:matthias,wv:francisco@don.com) PS=OS

7.24.2 GetPresenceResponse primitive

For clarification the basic syntax is:

(<owner(s)>,((<attribute 1>,<value 1>),(<attribute n>,<value n>)) ,where

<owner(s)> is the user-ID(s) to whom the presence attributes and values belong.

<attribute> is the name of the presence attribute to which the value belongs.

<value> is the value of a presence attribute.

WV09PG761 SI=im.user.com#48815@server.com ST=200
PR=((wv:matthias@salamander.com,(OS,T)),(wv:francisco,(OS,T)))

7.25 Reactive presence authorization transactions

7.25.1 PresenceAuthRequest primitive

WV09PR761 SI=im.user.com#48815@server.com UI=wv:matthias@salamander.com
PS=(OS,LT,FT)

7.25.2 PresenceAuthResponse primitive

WV09RP761 SI=im.user.com#48815@server.com UI=wv:matthias@salamander.com
AC=T

7.25.3 CancelAuthRequest primitive

WV09CR762 SI=54321 UI=wv:matthias@salamander.com

7.25.4 Status primitive

WV09ST762 SI=im.user.com#48815@server.com ST=200

7.26 Update presence transaction

7.26.1 UpdatePresenceRequest primitive

WV09UP761 SI=im.user.com#48815@server.com UV=((OS,T),(FT,"In the office"))

7.26.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.27 Send message transaction

Only plain text messages are allowed, thus the MIME-type encoding, size and URI are not carried in the primitive.

7.27.1 SendMessageRequest primitive

WV09SM761 SI=im.user.com#48815@server.com DE=T
UI=(wv:matthias@salamander.com,wv:francisco) GI=wv:%2Fchatroup@wv.com
SN=(("The boss",wv:%2Fchatroup@wv.com)) MC="Hello everybody! How You guys doing?"

7.27.2 SendMessageResponse primitive

WV09MS761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.") MI=11235

7.28 Pushing a message from the server transaction

7.28.1 NewMessage primitive

Only plain text messages are allowed, thus the MIME-type encoding, size and URI are not carried in the primitive.

WV09NM761 SI=im.user.com#48815@server.com MI=11235 UI=wv:john@smith.com
DT=20011118T1203Z MC="Hello everybody! How You guys doing?"

7.28.2 MessageDelivered primitive

WV09MD761 SI=im.user.com#48815@server.com MI=11235

7.29 Get message list transaction

7.29.1 GetMessageListRequest primitive

WV09MR761 SI=im.user.com#48815@server.com GI=wv:%2Fchatroup@wv.com MN=5

7.29.2 GetMessageListResponse primitive

Only message-IDs are carried in the primitive.

WV09RM761 SI=im.user.com#48815@server.com MI=(1212,1123,897,624,372)

7.30 Retrieving a message from the server transaction

7.30.1 GetMessageRequest primitive

WV09GM761 SI=im.user.com#48815@server.com MI=1212

7.30.2 GetMessageResponse primitive

Only message-IDs are carried in the primitive.

Only plain text messages are allowed, thus the MIME-type encoding, size and URI are not carried in the primitive.

WV09MG761 SI=im.user.com#48815@server.com MI=1212
SN=((Some1,wv:%2Fchatroup@wv.com)) DT=20011118T1203Z MC="Hello everybody!
How You guys doing'?"

7.30.3 MessageDelivered primitive

WV09NM761 SI=im.user.com#48815@server.com MI=11235

7.30.4 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.31 Delivery status report transaction

7.31.1 DeliveryReportRequest primitive

WV09DR761 SI=im.user.com#48815@server.com ST=200
UI=wv:matthias@salamander.com GI=wv:%2Fchatroup@wv.com SN(("The
boss",wv:%2Fothergroup@somewhere.com)) DT=20011118T1203Z MI=11235

7.31.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.32 Get blocked user list transaction

7.32.1 GetBlockedListRequest primitive

WV09GB761 SI=im.user.com#48815@server.com

7.32.2 GetBlockedListResponse primitive

In order to be able to distinguish between User-IDs, and Group-IDs (and ScreenNames), these are separated to BG, BL and GG, GL and UB, UU, and UG, UL.

WV09BG761lab SI=im.user.com#48815@server.com
BL=(wv:he@there.com,wv:she@there.com)
BG=(wv:%2Fchatgroup@nowhere.com,("The
boss",wv:%2Fothergroup@somewhere.com)) BU=T
GL=(wv:matthias@salamander.com,wv:francisco) G

WV09BG761bb G=(wv:%2Frock@roll.com,(Talkative,wv:%2Fnowhere@there.org))
GU=F

7.33 Block entity transaction

7.33.1 BlockEntityRequest primitive

```
WV09BE761 SI=im.user.com#48815@server.com
GL=(wv:mary@site.com,wv:wife@home.org) BU=F GU=T
```

7.33.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")
```

7.34 Create group transaction

7.34.1 CreateGroupRequest primitive

```
WV09CG761lab SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
GP=((NM,"Chit chat group"),(AT,Closed),(PM,T),(SE,F),(TO,"Family,
relationships"),(MU
```

```
WV09CG761bb ,30),(WN,"Welcome to my group. Feel free to discuss about our
current topic."))
```

7.34.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=200
```

7.35 Delete group transaction

7.35.1 DeleteGroupRequest primitive

```
WV09DG761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
```

7.35.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=200
```

7.36 Join Group transaction

7.36.1 JoinGroupRequest primitive

```
WV09JG761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
SN(("-=Bart Simpson=-",wv:%2Fchatgroup@there.com)) JR=T
```

7.36.2 JoinGroupResponse primitive

```
WV09GJ761 SI=im.user.com#48815@server.com JU=(Matthias,"Francisco (of the
Dons)","Anonymous12") WT="Welcome to WV!"
```

7.37 User initiated leave group transaction

7.37.1 LeaveGroupRequest primitive

```
WV09LU761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
```

7.37.2 LeaveGroupResponse primitive

WV09UL761 SI=im.user.com#48815@server.com ST=200
GI=wv:%2Fchatgroup@there.com

7.38 Server initiated leave group transaction

7.38.1 LeaveGroupResponse primitive

WV09UL761 SI=im.user.com#48815@server.com ST=(809,"You have been rejected from the group." GI=wv:%2Fchatgroup@there.com

7.38.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.39 Get group members' list transaction

7.39.1 GetGroupMembersRequest primitive

WV09GM761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com

7.39.2 GetGroupMembersResponse primitive

WV09MG761 SI=im.user.com#48815@server.com AD=wv:john@smith.com
MO=(wv:matthias@salamander.com,wv:francisco)
US=(wv:he@there.com,wv:she@there.com)

7.40 Add group member(s) transaction

7.40.1 AddGroupMembersRequest primitive

WV09AM761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
UI=(wv:me@home.com,wv:you@there.com)

7.40.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully completed.")

7.41 Remove group member(s) transaction

7.41.1 RemoveGroupMembersRequest primitive

WV09RM761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
UI=(wv:me@home.com,wv:you@there.com)

7.41.2 Status primitive

WV09ST761 SI=im.user.com#48815@server.com ST=200

7.42 Member access rights transaction

7.42.1 MemberAccessRequest primitive

```
WV09ME761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
AD=(wv:matthias@salamander.com,wv:francisco)
MO=(wv:he@there.com,wv:she@there.com) US=wv:john@smith.com
```

7.42.2 Status primitive

```
WV09ST761 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")
```

7.43 Modify group properties transactions

7.43.1 GetGroupPropsRequest primitive

```
WV09AM761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
```

7.43.2 GetGroupPropsResponse primitive

```
WV09CG761lab SI=im.user.com#48815@server.com GP=((NM,"Chit chat
group"),(AT,Closed),(PM,T),(SE,F),(TO,"Family,
relationships"),(MU,30),(WN,"Welcome to my group. Feel free to discuss
about our current topi
```

```
WV09CG761bb c.")) OP=((PM,T),(PL,Admin),(IM,T))
```

7.43.3 SetGroupPropsRequest primitive

```
WV09SP762 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
OP=(PM,T)
```

7.43.4 Status primitive

```
WV09ST762 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")
```

7.44 Rejected list transactions

7.44.1 RejectListRequest primitive

```
WV09RE761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
AU=(wv:he@there.com,wv:she@there.com)
RU=(wv:matthias@salamander.com,wv:francisco)
```

7.44.2 RejectListResponse primitive

```
WV09ER761ac SI=im.user.com#48815@server.com
UI=(wv:he@there.com,wv:she@there.com)
```

7.45 Subscribe group change notification transaction

7.45.1 SubscribeGroupNoticeRequest primitive (get)

```
WV09SU761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
SU=G
```


7.45.2 SubscribeGroupNoticeResponse primitive

WV09US761 SI=im.user.com#48815@server.com SS=F

7.45.3 SubscribeGroupNoticeRequest primitive (set)

WV09SG762 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
SU=S

7.45.4 Status primitive

WV09ST762 SI=im.user.com#48815@server.com ST=(200,"Successfully
completed.")

7.45.5 Group change notification primitive

WV09GG761 SI=im.user.com#48815@server.com GI=wv:%2Fchatgroup@there.com
JU=(Matthias,Anonymous22) LU=(Matthias,"Francisco (of the Dons)")
GP=((AU,8)) OP=((PL,Mod))