UO Protocol Guide

This packet guide was created by Wyatt and contains description of all Ultima
Online protocol's packets since T2A until KR.

Note: I don't know If Wyatt continue updating this file on his Site, anyway we found many errors in Original file and fix them, Kons.

Contacts:
Wyatt: wyatter@gmail.com, www.ruosi.org
Kons: www.kingdomreborn.it | http://www.uodev.de/viewforum.php?f=66

Last Update Date: **16/07/2009 (See end of file for changes)**

0x00 – Character Creation	
Create a new character	
byte	ID (00)
dword	0xedededed
dword	0xffffffff
byte	0
char[30]	Character Name
byte	Gender and Race: (0=human male,1=human female, 2=elf male,3=elf female)
byte	Strength
byte	Dexterity
byte	Intelligence
byte	Skill 1
byte	Skill 1 Amount
byte	Skill 2
byte	Skill 2 Amount
byte	Skill 3
byte	Skill 3 Amount
word	Skin Color

word	Hair Style
word	Hair Color
word	Beard Style
word	Beard Color
word	Starting City
word	0
word	Slot
dword	Client IP
word	Shirt color
word	Pants Color
	0x01 - Logout
Character returns to main menu from character select menu. 5 bytes	
byte	ID (01)
dword	0xffffffff
	0x02 - Req Move
Ask the server if we can walk. 7 bytes	
byte	ID (02)
byte	Direction
byte	Sequence Number
dword	Fastwalk Prevention Key
	0x03 - Speech
Send speech to the server	
byte	ID (03)
word	Size of Packet
byte	Mode (0=say,1=system,2=emote,6=label,7=focus, 8=whipser,9=yell,10=spell,13=guild,14=alliance,15=GM,0xc0=encoded commands)
word	Text Color
word	Font
byte[*]	Text
	0x04 - God Mode Toggle

Toggles god mode on/off 2 bytes	
byte	ID (04)
byte	God mode on/off
	0x05 – Attack/Last Attack
Send attack to server 5 bytes	
byte	ID (05)
dword	Serial of character to attack. If Last Attack and character is null, serial is own serial.
	0x06 - Req Obj Use
Ask the server if we can use an object (double click) 5 bytes	
byte	ID (06)
dword	Serial of item double clicked
	0x07 - Req Get Obj
Ask the server for item 7 bytes	
byte	ID (07)
dword	Serial of item
word	Amount of item
	0x08 - Req Drop Obj
Ask the server to drop an item Grid Index only since 6.0.1.7 2D and 2.45.5.6 KR 0x0F bytes	
byte	ID (08)
dword	Item Serial
word	X
word	Y
char byte	Z Grid Index
dword	Container Serial (-1 = ground)

0x09 - Req Look	
Ask the server to look at an item (single click) 5 bytes	
byte	ID (09)
dword	Serial of item single clicked
0x0A - Edit	
Edit dynamics and statics 0x0B bytes Types are: 04 = Dynamic item 07 = NPC 0A = Static Item	
byte	ID (0A)
byte	Type
word	X
word	Y
word	ID
char	Z
word	Hue
0x0B - Edit Area – Old Client	
Edit Area 0x0A bytes	
byte	ID (0B)
byte[9]	Unknown
0x0B – Damage Packet : since 4.0.7a client	
Damage Packet 0x7 bytes	
byte	ID (0B)
dword	Serial
word	Amount of damage

0x0C - Tile Data	
Alter tiledata (send new tiledata to the server)	
byte	ID (0C)
word	Packet Size
word	Tile ID
byte[37]	New Tile data (see tiledata.mul)
word	F777
0x0D - NPC Data	
Send new NPC data to the server 3 bytes	
byte	ID (0D)
byte[2]	Unknown
0x0E - Template Data	
Edit template data	
Byte	ID (0E)
byte[2]	Packet Size
byte[*]	Unknown
0x0F - Paperdoll	
Paperdoll 0x3D bytes	
Byte	ID (0F)
byte[0x3C]	Unknown
0x10 - Hue Data	
Modify Hue Data 0xD7 bytes	
Byte	ID (10)
byte[0xD6]	Unknown
0x11 - Mobile Stat	
The status of a character	
byte	ID (11)
word	Packet Size

Dword char[30] word word	Serial Character Name Hit Points Max Hit Points
byte	Allow Name change (1 = yes,0=no)
byte	Supported features from various expansions (sf)
byte	Gender
Word word word word word Word word dword word word	Strength Dexterity Intelligence Stamina Max Stamina Mana Max Mana Gold Armor Rating(Physical Resistance) Weight
word byte	Max. Weight (if sf = 0x5) Race (if sf = 0x5)
word	Stat Cap (if sf = 0x2)
byte byte	Followers (if sf = 0x3) Max. Followers (if sf = 0x3)
word word word word word word word dword	Fire Resistance (if sf = 0x4) Cold Resistance (if sf = 0x4) Poison Resistance (if sf = 0x4) Energy Resistance (if sf = 0x4) Luck (if sf = 0x4) Min. Weapon Damage (if sf = 0x4) Max. Weapon Damage (if sf = 0x4) Tithing Points (if sf = 0x4)
word word word word word word	Hit Chance Increase (if sf = 0x6) Swing Speed Increase (if sf = 0x6) Damage Chance Increase (if sf = 0x6) Lower Reagent Cost (if sf = 0x6) Hit Points Regeneration (if sf = 0x6) Stamina Regeneration (if sf = 0x6)

word	Mana Regeneration (if sf = 0x6)
word	Reflect Physical Damage (if sf = 0x6)
word	Enhance Potions (if sf = 0x6)
word	Defense Chance Increase (if sf = 0x6)
word	Spell Damage Increase (if sf = 0x6)
word	Faster Cast Recovery (if sf = 0x6)
word	Faster Casting (if sf = 0x6)
word	Lower Mana Cost (if sf = 0x6)
word	Strength Increase (if sf = 0x6)
word	Dexterity Increase (if sf = 0x6)
word	Intelligence Increase (if sf = 0x6)
word	Hit Points Increase (if sf = 0x6)
word	Stamina Increase (if sf = 0x6)
word	Mana Increase (if sf = 0x6)
word	Maximum Hit Points Increase (if sf = 0x6)
word	Maximum Stamina Increase (if sf = 0x6)
word	Maximum Mana Increase (if sf = 0x6)

0x12 - God Command

External command, use skill, magic, etc

```
Following Command Types currently not used, it's from old clients:
0x00 = Go
0x27 = Cast Spell From Spellbook
0x56 = Macro Spell
0x6b = God Mode Command
0xDA = GM Page Query
```

byte	ID (12)
word	Packet Size
byte	CommandType
byte[*]	Arguments, may be not present
byte	0

0x12.24 – Use Skill/Last Skill

```
External command
Use Skill/Last Skill
```

byte	ID (12)
word	Packet Size
byte	CommandType(24)

byte byte byte byte byte	30+Skill ID (ID: from 1 to 55 at present time, if Skill ID = 0, this means that it's last skill) Unkown, may be argument, not always presents 20 30 0

0x12.43 – Open Spellbook

```
External command

Spellbook Type: 31 - Mage Spellbook, 32 - Necromancer Spellbook, 33 - Book Of Chivalry, 34 -
Book Of Bushido, 35 - Book Of Ninjitsu, 36 - Spellweaving Spellbook
```

byte	ID (12)
word	Packet Size
byte	CommandType(43)
byte byte	Spellbook Type 0

0x12.58 – Open Door

```
External command
Open Door
```

byte	ID (12)
word	Packet Size
byte	CommandType(58)
byte	0

0x12.C7 – Action

```
External command
Action
```

byte	ID (12)
word	Packet Size
byte	CommandType(C7)
char[*] byte	Action Name 0

0x12.F4 – Invoke Virtue

```
External command
Invoke Virtue

Virtue ID: 0x1 = Honor Virtue, 0x2= Sacrifice Virtue, 0x3 = Valor Virtue, 0x4 = Compassion
Virtue, 0x5 = Honesty Virtue, 0x6 = Humility Virtue, 0x7 = Justice Virtue, 0x8 =
```

Spirituality.	
byte	ID (12)
word	Packet Size
byte	CommandType(F4)
Byte byte	30+Virtue ID (if Virtue ID = 0, this means none virtue invokes) 0
0x13 - Req Obj Equip	
Equip an item 0x0A bytes	
byte	ID (13)
dword	Item Serial
byte	Layer
dword	Container Serial
0x14 - Elev Change	
Change Z value of item 6 bytes	
byte	ID (14)
word	X
word char	Y Z
0x15 - Follow	
Follow character 9 bytes	
byte	ID (15)
dword	Serial1
dword	Serial2
0x16 - Req Script Names	
Get a list of script names 1 byte	
byte	ID (16)
0x17 – KR Health Bar Status Update	
KR Health Bar Status Update.	

Notes: Server sends this packet both to 2D and KR. When character is poisoned (green health bar), flag is determined as: 0 – remove poison, > 0 – poison level	
byte	ID (17)
byte[2]	Packet Size
dword word word byte	Mobile Serial 1 Status Color (1 = Green, 2 = Yellow, others = Red) Flag (0 = Remove Status Color, 1 = Enable Status Color, N = PoisonLevel)
0x18 - Script Attach	
Add new script to server	
byte	ID (18)
byte[2]	Packet Size
byte[*]	Unknown
0x19 - NPC Convo Data	
Modify NPC Speech data	
byte	ID (19)
byte[2]	Packet Size
byte[*]	Unknown
0x1A – Move	
Move or place an item on the ground	
byte	ID (1A)
word	Packet Size
dword	Item Serial
word	Item ID
word	Item Amount (if Serial&0x8000)
byte	Stack ID (if Item ID&0x8000) add to Item ID
word	X
word	Y
byte	Direction (if X&0x8000)
char	Z
word	Hue (if Y&0x8000)

byte	Status if (y&0x4000)
	0x1B - Login Confirm
Player initialization 0x25 bytes	
byte	ID (1B)
dword	Serial
dword	0
word	ID
word	X
word	Y
Byte	0
Char	Z
Byte	Direction
dword	7Fh
dword	0
word	7
Byte	Status
word	Highlight Color
word	0
dword	0
	0x1C - Text
Someone is speaking, or the server is sending us info	
Byte	ID (1C)
word	Packet Size
dword	Character Serial
word	Character ID
Byte	Type
word	Text Color
word	Font
Char[30]	Name
Char[*]	Text

0x1D - Destroy Object	
Remove Object from scene (Mobiles, Items ..) 5 bytes	
Byte	ID (1D)
dword	Object Serial
0x1E - Animate	
Control Animation 4 bytes	
Byte	ID (1E)
Byte[3]	Unknown
0x1F - Explode	
Cause explosion 8 bytes	
Byte	ID (1F)
Byte[7]	Unknown
0x20 - Z Move	
Character is being moved by the server 0x13 bytes	
Byte	ID (20)
dword	Serial
word	ID
Byte	0
word	Skin Color
Byte	Status
word	X
word	Y
word	0
Byte	Direction
Char	Z

0x21 - Blocked Move	
Server rejected our walk request 8 bytes	
byte	ID (21)
byte	Sequence Rejected
word	X location to jump back to
word	Y
byte	Direction
char	Z
0x22 - OK Move	
Server accepted our walk request 3 bytes	
byte	ID (22)
byte	Sequence accepted
byte	Status
0x23 - Obj Move	
Drag Item 0x1A bytes	
byte	ID (23)
word	Item ID
byte	0
word	0
word	Item Amount
dword	Source Serial
word	Source X
word	Source Y
char	Source Z
dword	Target Serial

word	Target X
word	Target Y
char	Target Z

0x24 - Open Gump

Open a gump
7 bytes

byte	ID (24)
dword	Serial
word	Gump
word	Packet Size
word	Number of Items
loop	Item
dword	Item Serial
word	Item ID
byte	0
word	Item Amount
word	Item X
word	Item Y
dword	Container Serial
word	Item Hue
endloop	Item

0x25 - Obj to Obj

Add Object to an Object
0x14 bytes

byte	ID (25)
dword	Item Serial
word	Item ID
byte	0
word	Item Amount
word	Item X

word byte	Item Y Grid Index (only since 6.0.1.7 2D and 2.45.5.6 KR)
dword	Container Serial
word	Item Color

0x26 - Old Client

Old Client, kick
5 bytes

byte	ID (26)
dword	Serial of GM who kicked

0x27 - Get Obj Failed

Unable to pick up object
2 bytes
Types of reason:
0x0 – cannot lift item,
0x1 – out of range
0x2 – out of sight
0x3 – try to steal
0x4 – are holding
0x5 – inspecific

byte	ID (27)
byte	Reason of failing get obj

0x28 - Drop Obj Failed

Unable to drop object
5 bytes

byte	ID (28)
dword	Serial

0x29 - Drop Obj OK

Object dropped ok
1 byte

byte	ID (29)

0x2A - Blood

Blood mode
5 bytes

byte	ID (2A)
dword	Serial

0x2B - God Mode

God Mode is on/off (server response to packet 04)
2 bytes

byte	ID (2B)
byte	God mode on/off

0x2C - Death

Choose resurrection
2 bytes

Choice = 0=server ask, 1=resurrect, 2=ghost

byte	ID (2C)
byte	Choice

0x2D - Health

Health
0x11 bytes

Byte	ID (2D)
dword	Serial
word word word word word word	Max Hit Points Hit Points Max Mana Mana Max Stamina Stamina

0x2E - Equip Item	
Character is wearing an item 0x0F bytes	
Byte	ID (2E)
dword	Item Serial
Word	Item ID
Byte	0
Byte	Layer
dword	Container Serial
Word	Item Color
0x2F - Swing	
Fight, swing 0x0A bytes	
Byte	ID (2F)
Byte	0
dword	Attacker Serial
dword	Defender Serial
0x30 - Attack OK	
Attack granted 5 bytes	
Byte	ID (30)
Dword	Serial
0x31 - Attack End – Old Client	
Attack ended – No more used 1 byte	
byte	ID (31)
0x31 — Pet Window	

New KR packet that shows Pet's gump.

Byte	ID(31)
Word	Packet Size
Dword	Player Serial
Byte	Animals count
Dword byte	Loopstart Pet Serial 1 endloop

0x32 - Hack Mover

God mode admin command
2 bytes

byte	ID (32)
byte	Unknown

0x33 - Group

Group command
2 bytes

byte	ID (33)
byte	Command

0x34 - Client Query

Get Status
0x0A bytes

```
Types:
0x00=God Client
0x04=Basic Status (Packet 0x11)
0x05=Request Skills (Packet 0x3A)
```

byte	ID (34)
dword	0xedededed
byte	Type
dword	Serial

0x35 - Resource Type

Get resource type
0x8D bytes

byte	ID (35)
byte[0x8C]	Unknown

0x36 - Resource Tile Data

Resource tile data

byte	ID (36)
word	Packet Size
byte[*]	Unknown

0x37 - Move Object

Move an object to new location. God Client packet.
8 bytes

byte	ID (37)
dword byte	Item Serial Z Offset
byte byte	Y Offset X Offset

0x38 - Follow Move

Follow move
7 bytes

byte	ID (38)
word word word	X Y Z

0x39 – Groups

Groups
9 bytes

Byte	ID (39)
byte[8]	Unknown

0x3A - Skills

Update skills

Client version is only ID, Packet Size, Skill ID, and Lock Status.

Byte	ID (3A)
Word	Packet Size
Byte	List Type (ff=no loop, else loop till ID=0)
Loop	Skill
Word	Skill ID
Word	Skill Value
Word	Base Value
Byte	Lock Status
endloop	Skill

0x3B - Offer Accept

Accept Offer

byte	ID (3B)
word	Packet Size
dword	Vendor Serial
byte	Num of Items (0=clear message)
loop	Item
byte	Layer
dword	Item Serial
word	Item Amount
endloop	Item

0x3C - Multi Obj to Obj

Add objects to object

byte	ID (3C)
word	Packet Size
word	Number of Items
loop	Item

dword	Item Serial
word	Item ID
byte	0
word	Item Amount
word	Item X
word byte	Item Y Grid Index (only since 6.0.1.7 2D and 2.45.5.6 KR)
dword	Container Serial
word	Item Color
endloop	Item

0x3D - Ship

Ship
2 bytes

byte	ID (3D)
byte	Unknown

0x3E - Versions

Version retrieval
0x25 bytes

byte	ID (3E)
byte[0x24]	Unknown

0x3F - Upd Obj Chunk

Update object chunk

byte	ID (3F)
byte[2]	Packet Size
byte[*]	Unknown

0x40 - Upd Terr Chunk

Update terrain chunk
0xC9 bytes

byte	ID (40)
byte[0xC8]	Unknown

0x41 - Update Tile Data

Send an updated tiledata.mul entry to the client.

byte	ID (41)
word	Packet Size
word	Tile ID
byte[37]	Tile Data (see tiledata.mul)
word	F777

0x42 - Update Art

Send updated art to client

byte	ID (42)
byte[2]	Packet Size
byte[*]	Unknown

0x43 - Update Anim

Send new animation data to client
0x29 bytes

byte	ID (43)
byte[0x28]	Unknown

0x44 - Update Hues

Send new hue information to the client
0xC9 bytes

byte	ID (44)
byte[0xC8]	Unknown

0x45 - Ver Ok

Ver Ok

5 bytes	
byte	ID (45)
byte[4]	Unknown
	0x46 - New Art
Send new artwork	
byte	ID (46)
word	Packet Size
dword	Tile ID
byte[*]	Art Data (see art.mul)
	0x47 - New Terr
Send new terrain to the server 0x0B bytes	
byte	ID (47)
word	X
word	Y
word	Art ID
word word	Width Height
	0x48 - New Anim
Send new animation data (static tile animation) 0x49 bytes	
byte	ID (48)
dword	Tile ID
byte[64]	Frames
byte	Unknown
byte	Numer of Frames Used
byte	Frame Interval
byte	Start Interval

0x49 - New Hues	
Send new hues 0x5D bytes	
byte	ID (49)
dword	Hue ID
word[32]	Hue Values
word	Start
word	End
char[20]	Hue Name
0x4A - Destroy Art	
Destroy artwork 5 bytes	
Byte	ID (4A)
Dword	Art ID
0x4B - Check Ver	
Check client version 9 bytes	
Byte	ID (4B)
byte[8]	Unknown
0x4C - Script Names	
Modify script names	
byte	ID (4C)
byte[2]	Packet Size
byte[*]	Unknown
0x4D - Script File	
Edit script file	

byte	ID (4D)
byte[2]	Packet Size
byte[*]	Unknown

0x4E – Set Personal Light Level

Set the personal light level
6 bytes

byte	ID (4E)
dword	Serial
char	Level

0x4F – Set global light level

Set light level.
2 bytes
0 = Bright, 9 = OSI night, 1F = Black

Byte	ID (4F)
Char	Level

0x50 - Board Header – Old Client

Bulletin Board Header

Byte	ID (50)
Byte[2]	Packet Size
Byte[*]	Unknown

0x51 - Board Msg – Old Client

Bulletin Board Message

Byte	ID (51)
Byte[2]	Packet Size
Byte[*]	Unknown

0x52 - Post Msg – Old Client

Post Bulletin Board Message

byte	ID (52)
byte[2]	Packet Size
byte[*]	Unknown

0x53 - Login Reject

Login Rejected
2 bytes

(1=no character, 2=char exists, 3-4=Can't connect, 5=character already in world,6=login problem,7=idle, 8=can't connect, 9 = character transfer)

byte	ID (53)
byte	Message

0x54 - Sound

Play a sound effect
0x0C bytes
Flags = 0 repeating, 1 = single play

byte	ID (54)
byte	Flags
word	Effect
word	Volume
word	X
word	Y
word	Z

0x55 - Login Complete

Begin Game
1 byte

byte	ID (55)

0x56 - Map Command

Plot course for ships

0x0B bytes	
byte	ID (56)
dword	Serial
byte	Action (1=add,2=insert,3=change,4=remove,5=clear,6=toggle edit)
byte	Pin Number
word	Pin X
word	Pin Y
	0x57 - Upd Regions
Update regions 0x6E bytes	
byte	ID (57)
byte[0x6D]	Unknown
	0x58 - New Region
Create a new region 0x6A bytes	
byte	ID (58)
char[40]	Area Name
dword	0
word	X
word	Y
word	Width
Word	Height
Word	Z1
Word	Z2
char[40]	Description
Word	Sound FX
Word	Music
Word	Night Sound FX
Byte	Dungeon

Word	Light
	0x59 - New Context FX
Create a new effect	
Byte	ID (59)
byte[2]	Packet Size
byte[*]	Unknown
	0x5A - Upd Context FX
Update effect	
byte	ID (5A)
byte[2]	Packet Size
byte[*]	Unknown
	0x5B - Game Time
Set the time of day 4 bytes	
byte	ID (5B)
byte	Hours
byte	Minutes
byte	Seconds
	0x5C - Restart Ver
Resart Ver 2 bytes	
byte	ID (5C)
byte	Unknown
	0x5D - Pre Login
Select the character to play 0x49 bytes	

byte	ID (5D)
dword	0xEDEDEDED
char[32]	Character Name
dword[7]	Unknown
dword	Character Index
dword	Client IP

0x5E - Server List

Server List

byte	ID (5E)
byte[2]	Packet Size
byte[*]	Unknown

0x5F - Server Add

Add server
0x31 bytes

byte	ID (5F)
byte[0x30]	Unknown

0x60 - Server Remove

Delete a server
5 bytes

Byte	ID (60)
byte[4]	Unknown

0x61 - Destroy Static

Delete a static. God Client Packet.
9 bytes

Byte	ID (61)
Word	X
Word	Y

Word	Z
Word	ID

0x62 - Move Static

Move a static. God Client packet.
0x0F bytes

Byte	ID (62)
word word word word word word word	Old X Old Y Old Z Item ID Z Offset Y Offset X Offset

0x63 - Area Load

Load an area
0x0D bytes

Byte	ID (63)
byte[0x0C]	Unknown

0x64 - Area Load Req

Attempt to load area
1 byte

byte	ID (64)

0x65 - Weather Change

Set current weather
4 bytes

Type: 0x00 = "It starts to rain" 0x01 = "A fierce storm approaches" 0x02 = "It begins to snow" 0x03 = "A storm is brewing." 0xfe = set temperature 0xff = Stop all weather.

byte	ID (65)

byte	Weather Type
byte	Number of weather effects
byte	Temperature

0x66 - Book Page

Show book
As a client message, this writes to the book.

byte	ID (66)
word	Packet Size
dword	Item Serial
word	Number of Pages
loop	Page
word	Page Index
word	Number of Lines
loop	Line
byte[*]	Text
endloop	Line
endloop	Page

0x67 – Simped

Simped
0x15 bytes

byte	ID (67)
byte[0x14]	Unknown

0x68 - Script LS Attach

Add LS script

Byte	ID (68)
byte[2]	Packet Size
byte[*]	Unknown

0x69 - Friends	
Unknown	
Byte	ID (69)
Word	Packet Size
byte[*]	Unknown
0x6A - Friend Notify	
Notify Friend 3 bytes	
Byte	ID (6A)
byte[2]	Unknown
0x6B - Key Use	
Use Key 9 bytes	
Byte	ID (6B)
byte[8]	Unknown
0x6C - Target	
Bring up targeting cursor 0x13 bytes	
Byte	ID (6C)
Byte	Target Type
Dword	Character Serial
Byte	Check Crime
Dword	Item Serial
Word	X (ffff=cancel)
Word	Y (ffff=cancel)
Word	Z
Word	Graphic

0x6D - Music	
Play a midi music file 3 bytes	
Byte	ID (6D)
Word	Midi Song
0x6E - Anim	
Show an animation 0x0E bytes	
byte	ID (6E)
dword	Serial
word	Action
word	Frame Count
word	Repeat Times
byte	Forward (0=forward 1= backward)
byte	Repeat Flag
byte	Delay (0=fast, 0xff=slow)
0x6F - Trade	

Open trade window
`Type:`
`0 = Start Trading`
`1 = Cancel Trade`
`2 = Reset Checkmarks`	

byte	ID (6F)
word	Packet Size
byte	Type (0=start,1=cancel,2=change checkmarks)
dword	Character Serial
dword	Item 1 Serial (type0 only)
dword	Item 2 Serial (type0 only)

byte	Name Included (type 0 only)
char[30]	Name (type 0 only, only if Name Included)

0x70 – Effect

Play a special effect (like magic)
0x1C bytes

```
Type:
00 = Go from source to destination
01 = Lightning strike
02 = Stay at location
03 = Stay with source
```

byte	ID (70)
byte	Type
dword	Character Serial
dword	Target Serial
word	Object ID
word	X
word	Y
char	Z
word	Target X
word	Target Y
char	Target Z
byte	Speed
byte word byte	Duration 0 Fixed Duration
byte	Explode

0x71 - BBoard

Display a message board

```
Type:
0=draw board,
1=get posts,
2-3=get body,
4=ack dl,
5=post,
```

6=delete

Byte	ID (71)
Word	Packet Size
Byte	Type
	0x71.0 - Draw Board
Draw the Bulletin board	

Byte	ID (71)
Word	Packet Size
Byte	Type (0)
Dword	Board Serial
char[22]	Board Name
Dword	ID
Dword	0
	0x71.1 - Message List
List of bulletin board messages	

Byte	ID (71)
Word	Packet Size
Byte	Type (1)
Dword	Board Serial
Dword	Message Serial
Dword	Container Serial (0 = top level)
Byte	Name Length
char[*]	Name
Byte	Subject Length
char[*]	Subject
Byte	Time Length
char[*]	Time
	0x71.2 - Message
A single message on a bulletin board	

Byte	ID (71)

Word	Packet Length
Byte	Type (2)
Dword	Board Serial
Dword	Message Serial
byte	Name Length
char[*]	Name
byte	Subject Length
char[*]	Subject
byte	Time Length
char[*]	Time
byte[29]	Unknown
byte	Num Lines
loop	Line
byte	Line Length
char[*]	Line Text
endloop	Line
	0x71.3 - Get Message
Ask the server for a message	
byte	ID (71)
word	Packet Size
byte	Type (3)
dword	Board Serial
dword	Message Serial
	0x71.4 - Get Summary
Get a bulletin board's message summary	
byte	ID (71)
word	Packet Size
byte	Type (4)
dword	Board Serial
dword	Message Serial

0x71.5 - Post Message	
Post a message to a bulletin board	
byte	ID (71)
word	Packet Size
byte	Type (5)
dword	Board Serial
dword	Reply Message Serial (0 if no reply)
byte	Subject Length
char[*]	Subject
byte	Num Lines
loop	Line
byte	Line Length
char[*]	Line Text
endloop	Line
0x71.6 - Delete Message	
Delete a posted message	
Byte	ID (71)
Word	Packet Size
Byte	Type (6)
Dword	Board Serial
Dword	Message Serial
0x72 - Combat	
Set war mode and stuff 5 bytes	
Byte	ID (72)
Byte	War Mode
Byte	0
Byte byte	0x32 0

0x73 - Ping	
Ping and Pong 2 bytes	
Byte	ID (73)
Byte	Value
0x74 - Shop Data	
Purchase details	
Byte	ID (74)
Word	Packet Size
Dword	Vendor Serial
Byte	Number of Items
Loop	Item
Dword	Price
byte	Name Length
char[*]	Name
endloop	Item
0x75 - Rename MOB	
Rename character 0x23 bytes	
byte	ID (75)
dword	Serial
char[30]	Name
0x76 - Server Change	
Server change 0x10 bytes	
byte	ID (76)
word word word byte word	X Y Z 0 0

word	0
word	Width
word	Height
	0x77 - Naked MOB
Another character or monster is walking (why is this called Naked MOB?) 0x11 bytes	
Byte	ID (77)
dword	Serial
Word	ID
Word	X
Word	Y
Char	Z
Byte	Direction
Word	Skin Color
Byte	Status
Byte	Notoriety (Murderer, Friend etc)
	0x78 - Equipped MOB
Add a character to the scene	
Byte	ID (78)
word	Packet Size
dword	Serial
word	ID
word	Amount/Corpse (if Serial&0x80000000)
word	X
word	Y
Char	Z
Byte	Direction
word	Skin Color
Byte	Status
Byte	Notoriety
Loop	Item (while Serial!=0)
dword	Item Serial

word	Item ID
Byte	Item Layer
word	Item Color (if Item ID&0x8000)
endloop dword	Item 0
	0x79 - Resource Query
Get Resource 9 bytes	
byte	ID (79)
dword	Unknown
dword	Unknown
	0x7A - Resource Data
Resource Data	
byte	ID (7A)
byte[2]	Packet Size
byte[*]	Unknown
	0x7B - Sequence
Sequence 2 bytes	
byte	ID (7B)
byte	Key
	0x7C - Obj Picker
Display a Gump with options (like the Add menu)	
byte	ID (7C)
word	Packet Size
dword	Gump Serial
word	Gump ID
byte	Title Length
byte[*]	Title
byte	Number of Lines
loop	Line

word	Choice ID
word	Hue
byte	Line Length
char[*]	Text
endloop	Line
	0x7D - Picked Obj
Choose an option from 7C 0x0D bytes	
byte	ID (7D)
dword	Gump Serial
word word	Gump ID Index
word	Item ID
word	Hue
	0x7E - God View Query
Get god view data 2 bytes	
byte	ID (7E)
byte	God view stat id
	0x7F - God View Data
God view data	
byte	ID (7F)
byte[2]	Packet Size
byte[*]	Unknown
	0x80 - Acct Login Req
Login to the login server. 0x3E bytes	
byte	ID (80)
char[30]	Name
char[30]	Password
byte	Unknown

0x81 - Acct Login Ok	
Login ok 5+(Max Characters Per Account)*60 bytes	
byte	ID (81)
byte[2]	Packet Size
byte	Number of Characters
byte loop byte[30] byte[30]	0 Max Number of Characters Name Password
0x82 - Acct Login Fail	
There was an error logging in 2 bytes 0=No Account, 1=Account in Use, 2=Account Blocked, 3=No Password, 6 = IGR, 9 = Character Transfer, 0xFE=Idle, 0xFF=Bad Communication	
byte	ID (82)
byte	Error
0x83 - Acct Del Char	
Delete a player 0x27 bytes	
byte	ID (83)
byte[30]	Password
dword	Character Index
dword	Client IP
0x84 - Chg Char PW	
Change password 0x45 bytes	
Byte	ID (84)
byte[0x44]	Unknown
0x85 - Chg Char Result	
Result of Change character request 2 bytes	

Result Types:
0=Invalid password,1=character not exist,2=character in game,3=character too young,4=character in queue,5=bad result

Byte	ID (85)
Byte	Result Type

0x86 - All Characters

Resend Characters after delete

Byte	ID (86)
Word	Packet Size
Byte	Number of Characters
Loop	Character
char[30]	Name
char[30]	Password
Endloop	Character

0x87 - Send Resources

Send resources

Byte	ID (87)
Word	Packet Size
Word	0x101
Word	0
Byte	Unknown
Dword	X
Dword	Y
dword	X2
dword	Y2
byte	Name Length
char[*]	Name

0x88 - Open Paper Doll

Display paper doll
0x42 bytes

byte	ID (88)
dword	Character Serial
char[60]	Name
byte	Status
	0x89 - Corpse EQ
Corpses backpack	

byte	ID (89)
word	Packet Size
dword	Container Serial
loop	Item (while Layer!=0)
byte	Layer
dword	Item Serial
endloop	Item
byte	0
	0x8A - Trigger Edit
Edit Trigger	

byte	ID (8A)
byte[2]	Packet Size
byte[*]	Unknown
	0x8B - Display Sign
Show Sign	

byte	ID (8B)
byte[2] dword	Packet Size Serial
word	Gump ID
word byte[*] word byte[*]	Text Length Text Caption Length Caption
	0x8C - User Server
Relay to the game server.	

0x0B bytes	
byte	ID (8C)
dword	Server IP
word	Server Port
dword	Auth ID
	0x8D – KR Character Creation
Create a new character in KR client, 146 bytes Note: Client Flags = 0x41. It's wrong flags value, must be 0x3F, possibly we need to use offset value from 0xE1 packet.	
byte word	ID (8D) Packet Size
dword	0xedededed
dword	Character Index
char[30] char[30]	Character Name "Unknown"
byte byte byte byte	Profession Client Flags Gender (male = 0, female = 1) Race (human = 0, elf = 1)
byte	Strength
byte	Dexterity
byte	Intelligence
word dword dword	Skin Color 0 0
byte	Skill 1 Amount
byte	Skill 2
byte	Skill 2 Amount
byte	Skill 3
byte	Skill 3 Amount
byte byte byte[25]	Skill 4 Skill 4 Amount 0

byte	0x0B
word	Hair Style
word byte dword byte word word byte word word byte	Hair Color 0x0C 0 0x0D Shirt Color Shirt ItemID 0x0F Face Color Face ID 0x10
word	Beard Style
word	Beard Color
	0x8E - Move Character
Move Character	

byte	ID (8E)
byte[2]	Packet Size
byte[*]	Unknown
	0x8F - Unused4
Unused	

byte	ID (8F)
byte[2]	Packet Size
byte[*]	Unknown
	0x90 - Open Course Gump
Show map, for plotting etc. 0x13 bytes	

byte	ID (90)
dword	Serial
word	Corner Image
word	X1
word	Y1
word	X2

word	Y2
word	Width
word	Height
	0x91 - Post Login
Login to the game server 0x41 bytes	
byte	ID (91)
dword	Auth ID
char[30]	Name
char[30]	Password
	0x92 - Upd Multi
Update Multi	
byte	ID (92)
byte[2]	Packet Size
byte[*]	Unknown
	0x93 - Book Header – Old Client
Open a book 0x63 bytes	
byte	ID (93)
dword	Item Serial
byte	Editable
byte	1
word	Number of Pages
char[60]	Title
char[30]	Author
	0x94 - Upd Skill
Alter skill	
Byte	ID (94)
word	Packet Size
Byte	Unknown

dword	Unknown Unk
0x95 - Hue Picker	
Dye 9 bytes	
Byte	ID (95)
Dword	Item Serial
Word	Item ID
Word	Color
0x96 - Game Cent Mon	
Monitor game, mostly through godview	
Byte	ID (96)
Word	Packet Size
Byte	Command
byte[*]	Unknown
0x97 - Player Move	
Player move 2 bytes	
Byte	ID (97)
Byte	Direction
0x98 - MOB Name	
Alter name 37 bytes	
Byte	ID (98)
byte[2] dword	Packet Size Serial
byte[30]	Name
0x99 - Target Multi	
Targeting cursor for multis 0x1A bytes	
Byte	ID (99)

Byte	Allow Ground
Dword Byte	Deed Serial Status
Byte[11]	0
Word	Multi ID
Word	X
Word	Y
Word	Z
	0x9A - Text Entry
Text Entry	

byte	ID (9A)
byte[2]	Packet Size
Dword dword	Serial Prompt
Dword byte[*]	Type Text
	0x9B - Request Assist
Page a GM 2 bytes	

Byte	ID (9B)
Byte	Unknown
	0x9C - Assist Request
Assistance response 0x35 bytes	

Byte	ID (9C)
byte[0x34]	Unknown
	0x9D - GM Single
GM Single 0x33 bytes	

Byte	ID (9D)
byte[0x32]	Unknown

0x9E - Shop Sell	
Details for sales	
Byte	ID (9E)
Word	Packet Size
Dword	Vendor Serial
word	Number of Items
loop	Item
dword	Item Serial
word	Item ID
word	Item Color
word	Item Amount
word	Value
word	Name Length
char[*]	Name
endloop	Item

0x9F - Shop Offer	
Sell window	
byte	ID (9F)
word	Packet Size
dword	Vendor Serial
word	Number of Items
loop	Item
dword	Item Serial
word	Item Amount
endloop	Item

0xA0 - Britannia Select	
Select a shard to play on 3 bytes	
byte	ID (A0)
word	Server Index

0xA1 - HP Health	
Adjust strength and Hit Points 9 bytes	
byte	ID (A1)
dword	Serial
word	Max Hit Points
word	Hit Points
A2 - Mana Health	
Update Intelligence and Mana 9 bytes	
byte	ID (A2)
dword	Serial
word	Max Mana
word	Mana
A3 - Fat Health	
Update Dexterity and Stamina 9 bytes	
byte	ID (A3)
dword	Serial
word	Max Stamina
word	Stamina
A4 - Hardware Info	
Send system info to the server 0x95 bytes	
byte	ID (A4)
byte[0x94]	Unknown
A5 - Web Browse	
Launch a browser and to URL	

byte	ID (A5)
word	Packet Size
char[*]	URL

A6 - Message

Show a scroll on the screen

byte	ID (A6)
word	Packet Size
byte	Font
dword	Tip Number
word	Text Length
char[*]	Text

A7 - Req Tip

Get a tooltip
4 bytes

Byte	ID (A7)
word	Tip
byte	0 = tip, 1 = notice

0xA8 - Britannia List

List the available shards

byte	ID (A8)
word	Packet Size
byte	FFh
word	Number of Servers
loop	Server
word	Server Index
char[32]	Server Name
byte	Percent Full

byte	Timezone
dword	Server IP
endloop	Server

0xA9 - Cities and Chars

List of characters as well as starting cities

Flags (each flag is for each feature, if you need to combine features, you need to summ flags):
0x2 = overwrite configuration button; 0x4 = limit 1 character per account; 0x8 = enable context menus; 0x10 = limit character slots; 0x20 = paladin and necromancer classes; 0x40 = 6th character slot; 0x80 = samurai and ninja classes; 0x100 = elven race; 0x200 = KR support flag1; 0x400 = KR support flag2; 0x1000 = 7th character slot – only 2D client

byte	ID (A9)
word	Packet Size
byte	Number of Characters
loop	Character
char[30] char[30]	Character Name Password
endloop	Character
Byte	Number of Cities
Loop	City
Byte	Index
char[31]	City Name
char[31]	Area of Town
endloop	City
dword	Flags (May not be present)

AA - Current Target

Current attack target
5 bytes

byte	ID (AA)
dword	Serial (0 = attack invalid)

AB - String Query	
Text Entry	
byte	ID (AB)
word	Packet Size
dword	Serial
byte	Parent ID
byte	Buttom ID
word	Text Length
char[*]	Text
byte	Style (0=none, 1=normal, 2=numerical)
dword	Max Length
word	Label Length
char[*]	Label

AC - String Response	
Text Entry Response	
byte	ID (AC)
word	Packet Size
dword	Serial
byte	Type
byte	Index
byte	Mode (0=cancel,1=ok)
word	Text Length
char[*]	Text

0xAD - Speech Unicode

Speak in unicode
If Mode&0xc0 then there are keywords (from speech.mul) present.

Keywords are using in UO since 2.0.7 client

Keywords:

The first 12 bits = the number of keywords present. The keywords are included right after this, each one is 12 bits also.
The keywords are padded to the closest byte. For example, if there are 2 keywords, it will take up 5 bytes. 12bits for the number, and 12 bits for each keyword. 12+12+12=36. Which will be padded 4 bits to 40 bits or 5 bytes.

Byte	ID (AD)
Word	Packet Length
Byte	Mode(0=say,2=emote,8=whisper,9=yell,10=spell,13=guild,14=alliance,15=GM,0xc0=encoded commands)
Word	Text Color
Word	Font
char[4]	Language
byte[*]	Keywords (Only present if mode&0xc0)
char[*]	Text

AE - Text Unicode

Someone is speaking in Unicode

Byte	ID (AE)
Word	Packet Size
Dword	Serial
Word	ID
Byte	Type
Word	Text Color
Word	Font
char[4]	Language
char[30]	Name
char[*]	Text

AF - Death Anim

Death Anim
0x0D bytes

byte	ID (AF)

dword	Character Serial
dword	Corpse Serial
dword	0
	B0 - Generic Gump – Old Client
Show Gump	
byte	ID (B0)
word	Packet Size
dword	Serial
dword	Gump ID
dword	X
dword	Y
word	Layout Length
char[*]	Layout
word	Number of Lines
loop	Line
word	Line Length
word[*]	Text
endloop	Line
	0xB1 - Gen Gump Trig
Generic Gump Choice	
byte	ID (B1)
word dword dword dword dword loop dword endloop dword loop	Packet Size Gump Serial Gump ID Button ID Switches Count Switch Switch ID Switch Text Entry Count Text Entry

word word byte[*] endloop dword dword	Text Entry ID Text Entry Length Text Entry Text Text Entry Switches Count (Only if Gump ID = 461) Beheld Serial (Only if (Gump ID = 461 && Button ID = 1 && Switches Count > 0))

0xB2 - Chat Msg

Chat Message

byte	ID (B2)
byte[2] word char[4]	Packet Size Message Number Language
char[*] char[*]	Param1 Param2

0xB3 - Chat Text

Chat Text

byte	ID (B3)
byte[2] char[4] word	Packet Size Language Action
byte[*]	Parameters

B4 - Target Obj List

Target object list

byte	ID (B4)
byte[2]	Packet Size
byte[*]	Unknown

0xB5 - Chat Open

Chat open

0x40 bytes	
byte	ID (B5)
byte[0x39]	Chat Name

B6 - Help Request

Show Popup Help
9 bytes

byte	ID (B6)
dword	Help Serial
byte	Langauge Number
char[3]	Language

B7 - Help Unicode Text

Display Popup help

byte	ID (B7)
word	Packet Size
dword	Help Serial
word[*]	Unicode Text

0xB8 - Char Profile

Profile(Client version)
Mode:
0x00=display request,0x01=edit request,

byte	ID (B8)
word	Packet Size
byte	Mode
dword word word	Serial Unknown (if Mode = 0x01) Length (if Mode = 0x01)
byte[*]	Unicode text (if Mode = 0x01)

0xB8 - Char Profile

Profile(Server version)

Mode: 0x00=display request,0x01=edit request,	
byte	ID (B8)
word	Packet Size
dword	Serial
byte[*] byte[*] byte[*]	Header Body Footer
0xB9 — Features OldClient	
Expansions Features Enabling 3 bytes Flags (each flag is for each feature, if you need to combine features, you need to summ flags): 0x01 = enable T2A features: chat button, regions; 0x02 = enable renaissance features; 0x04 = enable third down features; 0x08 = enable LBR features: skills, map; 0x10 = enable AOS features: skills, spells, map, fightbook; 0x20 = enable 6th character slot; 0x40 = enable SE features: spells, skills, map; 0x80 = enable ML features: elven race, spells, skills; 0x100 = enable The Eight Age splash screen; 0x200 = enable The Ninth Age splash screen; 0x1000 = enable 7th character slot; 0x2000 = enable The Tenth Age KR faces Note1: this packet is send immediately after login. Note2: on OSI servers this controls features: OSI enables/disables it via “upgrade codes.”	
byte	ID (B9)
word	Flags
0xB9 - Features	
New packet's format since Client: 2D: 6.0.14.2 / KR:2.59.0.2 5 bytes Increased space for new flags. See above packet for old flags.	
byte	ID (B9)
Dword	Flags
0xBA - Pointer	
Display Quest Pointer 6 bytes	
byte	ID (BA)

byte	Active
word	X
word	Y
	BB – Ultima Messenger
Ultima Messenger 9 bytes	
byte	ID (BB)
byte[8]	Unknown
	BC - Game Season
Season 3 bytes	
byte	ID (BC)
byte	Season (0=spring, 1=summer, 2=fall, 3=winter, 4 = desolation)
byte	Play Sound(1=yes, 0=no)
	BD – Client/Server Version
Send client version to the server. Note: This packet works only in 2D client. KR client hasn't any version's determination algorithm.	
byte	ID (BD)
word	Packet Size
char[*]	Version String
	BE - Assist Version
Assist Version	
Byte	ID (BE)
byte[2] dword	Packet Size Serial
byte[*]	Version String
	BF - Generic Command
Miscellaneous Commands	

byte	ID (BF)
word	Packet Size
word	Command

BF.1 - Fast Walk

Cycle's through the keys in the stack when walking.

byte	ID (BF)
word	Packet Size
word	Command (1)
dword[6]	Key Stack

BF.10 – OPLInfo – Old Client

OPLInfo packet.

byte	ID (BF)
word	Packet Size
word	Command (10)
dword dword	Serial Hash

BF.10 – Display Equipment Info

Display Equipment Info (Server version)
Client version is Query Properties and has only Serial.

byte	ID (BF)
word	Size
word	Command (10)
dword dword dword word char[*] dword loop dword word	Serial Info Number -3 (if Owner of equipment != null) Owner Name Length (if Owner of equipment != null) Owner Name (if Owner of equipment != null) -4 (if equipment is unidentified) Attribute Number Charges

endloop dword	Attribute -1
	BF.13 – Context Menu Request
Context Menu Request	
byte	ID (BF)
word	Size
word	Command (13)
dword	Serial
	BF.14 – Display Context Menu in 2D client
Display Context Menu Flags: 0x00 = Enabled, 0x01 = Disabled, 0x20 = Colored	
byte	ID (BF)
word	Size
word	Command (14)
word dword byte loop word word word word endloop	1 Serial Length Context Menu Entry Index of Entry Number Flags Hue (if Flags = 0x20) Context Menu Entry
	BF.14 – Display Context Menu in KR client
Display Context Menu Flags: 0x00 = Enabled, 0x01 = Disabled, 0x04 = Highlighted	
Byte	ID (BF)
Word	Size
Word	Command (14)
Word	2

dword byte loop dword word word endloop	Serial Length Context Menu Entry Number Index of Entry Flags Context Menu Entry
	BF.15 – Context Menu Response
Context Menu Response	
Byte	ID (BF)
Word	Size
Word	Command (15)
dword word	Serial Index (if Serial != 0)
	BF.17 – Display Help Topic
Display Help Topic	
Byte	ID (BF)
Word	Size
Word	Command (17)
byte dword byte	1 Topic ID Display (1=yes,0=no)
	BF.18 - Enable Map Diffs
This packet is sent by the server to the client, telling the client to use the mapdif* and stadif* files to patch the map and statics. Usually there are 5 maps in this packet, 0 = fellucca, 1 = trammel, 2 = ilshenar, 3 = malas, and 4 = tokuno	
byte	ID (BF)
word	Size
word	Command (18)
dword	Number of Maps
loop[map]	
dword	Number of Map patches in this map

dword	Number of Static patches in this map
endloop[map]	

BF.19 – Miscellaneous status

Miscellaneous status is BF Command 19

byte	ID (BF)
word	Packet Size
word	Command (19)
byte	Party Command

BF.19.0 – Bonded Status

Bonded Status

byte	ID (BF)
word	Size
word	Command (19)
byte	Subcommand(0)
dword	Serial
byte	1

BF.19.2 – Stat Lock Info

Stat Lock Info

byte	ID (BF)
word	Size
word	Command (19)
byte	Subcommand(2)
dword	Serial
byte	0
byte	Lock Flags

BF.19.5 – Stat Lock Info KR

Stat Lock Info KR	
byte	ID (BF)
word	Size
word	Command (19)
Byte	Subcommand(5)
Dword	Serial
Byte	0
Byte	Lock Flags
byte dword	0 0
BF.19.5 –Update Mobile Status Animation	
Update Mobile Status Animation (Uses for character statues)	
byte	ID (BF)
word	Size
word	Command (19)
Byte	Subcommand(5)
Dword	Serial
Byte	0
Byte	FF
Byte Byte Byte Byte byte	Status 0 Animation 0 Frame
BF.1A – Stat Lock Change	
Stat Lock Change Stat Type: 0x0 = strength, 0x1 = dexterity, 0x2 = intelligence Value: 0x0 = up, 0x1 = down, 0x2 = locked	Lock
byte	ID (BF)

word	Size
word	Command (1A)
byte	Stat Type
byte	Lock Value

BF.1B – New Spellbook Content

New Spellbook Content

byte	ID (BF)
word	Size
word	Command (1B)
word	1
dword	Serial
word	Graphic
word byte[8]	Offset Content

BF.1C – Cast Spell/Last Spell

Cast Spell/Last Spell

Expansions Flag:
0x0 = LBR&AOS: Mage, Necromancer and Paladin spells;
0x1 = SE: Samurai and Ninja Spells;
0x2 = ML: Spellweaving Spells;

Spell ID: 0x1 – 0x40 – Mage Spells, 0x65 – 0x75 – Necromancer Spells, 0xC9 – 0xD2 – Paladin Spells, 0x91 – 0x96 – Samurai Spells, 0xF5 – 0xFC – Ninja Spells, 0x59 – 0x68 – Spellweaving Spells

byte	ID (BF)
word	Packet Size
word	Command (1C)
word dword byte byte	Has Spellbook or Spell(2=no spell,1=has spellbook,0=no spellbook, but has spell) Serial (if Has Spellbook) Expansions Flag Spell ID (if Spell ID = 0, this means last spell)

BF.1D – Design House	
Design House	
byte	ID (BF)
word	Packet Size
word	Command (1D)
dword dword	House Serial Revision
BF.1E – Query Design Details	
Query Design Details	
byte	ID (BF)
word	Packet Size
word	Command (1E)
dword	House Foundation Serial
BF.2 - Add Walk Key	
Add a key to the top of the Walk Stack	
byte	ID (BF)
word	Packet Size
word	Command (2)
dword	Key
BF.20 – House Customization	
House Customization is BF Command 20	
byte	ID (BF)
word	Packet Size
word	Command (20)
byte	Party Command
BF.20.4 – Begin House Customization	
Begin House Customization	

byte	ID (BF)
word	Packet Size
word dword byte word word word byte	Command (20) House Serial Subcommand(4) 0 0xFFFF 0xFFFF 0xFF
	BF.20.5 – End House Customization
End House Customization	
Byte	ID (BF)
word	Packet Size
word dword byte word word word byte	Command (20) House Serial Subcommand(5) 0 0xFFFF 0xFFFF 0xFF
	BF.21 – Clear Weapon Ability
Clear Weapon Ability	
byte	ID (BF)
word	Packet Size
word	Command (21)
	BF.22 – Damage Packet – Old Client
Damage Packet	
byte	ID (BF)
word	Packet Size
word	Command (22)

byte dword	1 Serial
byte	Amount
	BF.24 – Unknown
Unknown packet, possible it works as OSI detector of 'third-party' programs, like sniffers, assistants and etc.	
byte	ID (BF)
word	Packet Size
word byte	Command (24) unknown
	BF.25 – Enable/Disable SE Spell Icons
Enable/Disable SE Spell Icons	
byte	ID (BF)
word	Packet Size
word	Command (25)
byte byte byte	1 Spell ID Enable/Disable
	BF.26 – Set speed mode for movement
Set speed mode for movement Speed Mode: 0x0 = Normal movement, 0x1 = Fast movement, 0x2 = Slow movement, 0x3 and above = Hybrid movement	
byte	ID (BF)
word	Packet Size
word	Command (26)
byte	Speed Mode
	BF.27 – Unknown (UpdateStatLock?)
Server-side Unknown packet	
byte	ID (BF)
Word	Packe Size
Word	Command (27)

Dword byte dword	Serial Unk Unk
0xBF.2A – Change Race Request	
Change Race Server packet. Note: Currently works only in 2D client	
byte	ID (BF)
word	Packet Size
word	Command (2A)
byte byte	Female (1 = true, 0 = false) Race (1 = human, 2 = elf, 255 = error)
BF.2A – Change Race Response	
Change Race Client packet	
byte	ID (BF)
word	Packet Size
word	Command (2A)
word word word word word	Skin Color Hair Style Hair Color Beard Style Beard ID
BF.2B – Set Mobile Animation	
Change Mobile Animation Pose, server side packet	
byte	ID (BF)
word	Packet Size
word	Command (2B)
word byte byte	Serial (last two bytes of serial, may be OSI mistake) Animation ID Frame Count
BF.2C – Use Targeted Item	
Use Targeted Item, client side packet	
byte	ID (BF)
word	Packet Size

word	Command (2C)
dword dword	Item Serial Target Serial
	BF.2D – Cast Targeted Spell
Cast Targeted Spell client side packet Spell ID: 0x1 – 0x40 – Mage Spells, 0x65 – 0x75 – Necromancer Spells, 0xC9 – 0xD2 – Paladin Spells, 0x91 – 0x96 – Samurai Spells, 0xF5 – 0xFC – Ninja Spells, 0x59 – 0x68 – Spellweaving Spells	
byte	ID (BF)
word	Packet Size
word	Command (2D)
word dword	Spell ID Target Serial
	BF.2E – Use Targeted Skill
Use Targeted Skill client side packet	
byte	ID (BF)
word	Packet Size
word	Command (2E)
word dword	Skill ID (ID: from 1 to 55 at present time, if Skill ID = 0, this means that it's last skill) Target Serial
	0xBF.2F – KR House Menu Gump Response
KR House Menu Gump Response	
byte	ID (BF)
word	Packet Size
word dword dword word dword	Command (2F) Mobile Serial House Serial Subcommand Miscellaneous
	0xBF.2F.63 – KR Default House Menu Gump Response
Default response, also sends in initial house gump	
byte	ID (BF)

word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (63) 0
0xBF.2F.65 – KR Change Public/Private House Menu Gump Response	
Change public / private response, sends on toggle public/private button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (65) 0
0xBF.2F.66 – KR Convert into the customizable House Menu Gump Response	
Convert into the customizable response, sends on press ‘convert into the customizable’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (66) 0 (1 for server-side packet)
0xBF.2F.68 – KR Relocate Moving Crate House Menu Gump Response	
Relocate moving crate response, sends on press ‘relocate moving crate’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (68) 0 (1 for server-side packet)

0xBF.2F.69 – KR Change Sign House Menu Gump Response	
Change sign response, sends on press on sign images. Note: server-side is sending with default response (63)	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (69) Sign Item ID
0xBF.2F.6A – KR Change Sign Hanger House Menu Gump Response	
Change sign hanger response, sends on press on sign hanger images. Note: server-side is sending with default response (63)	
Byte	ID (BF)
Word	Packet Size
Word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6A) Sign Hanger Item ID
0xBF.2F.6B – KR Change Sign Post House Menu Gump Response	
Change sign post response, sends on press on sign post images. Note: server-side is sending with default response (63)	
Byte	ID (BF)
Word	Packet Size
Word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6B) Sign Post Item ID
0xBF.2F.6C – KR Change Foundation Style House Menu Gump Response	
Change foundation style response, sends on press on foundation images. Note: server-side is sending with default response (63)	
Byte	ID (BF)

Word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6C) Foundation Item ID
0xBF.2F.6D – KR Rename House Menu Gump Response	
Rename house response, sends on press ‘rename house’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6D) 0 (1 for server-side packet)
0xBF.2F.6E – KR Demolish House Menu Gump Response	
Demolish house response, sends on press ‘demolish house’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6E) 0 (1 for server-side packet)
0xBF.2F.6F – KR Trade House Menu Gump Response	
Trade house response, sends on press ‘trade house’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (6F) 0 (1 for server-side packet)

0xBF.2F.70 – KR Make Primary House Menu Gump Response	
Make primary house response, sends on press ‘make primary’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (70) 0 (1 for server-side packet)
0xBF.2F.71 – KR Change To Co-Owner House Menu Gump Response	
Change player to co-owner response, sends on press ‘change to co-owner’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (71) Player Serial
0xBF.2F.72 – KR Change To Friend House Menu Gump Response	
Change player to friend response, sends on press ‘change to friend’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (72) Player Serial
0xBF.2F.73 – KR Change To Access House Menu Gump Response	
Change player to access response, sends on press ‘change to access’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)

dword dword word dword	Mobile Serial House Serial Subcommand (73) Player Serial
0xBF.2F.74 – KR Ban House Menu Gump Response	
Ban player response, sends on press ‘ban’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (74) 0
0xBF.2F.75 – KR Remove Co-Owner House Menu Gump Response	
Remove player from co-owners list response, sends on press ‘remove co-owner’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (75) Player Serial
0xBF.2F.76 – KR Remove Friend House Menu Gump Response	
Remove player from friends list response, sends on press ‘remove friend’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (76) Player Serial
0xBF.2F.77 – KR Remove Access House Menu Gump Response	
Remove player from access list response, sends on press ‘remove access’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (77) Player Serial
0xBF.2F.78 – KR Remove Ban House Menu Gump Response	
Remove player from ban list response, sends on press ‘remove ban’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (78) Player Serial
0xBF.2F.79 – KR Clear Co-Owners List House Menu Gump Response	
Clear co-owners list response, sends on press ‘clear co-owners list’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (79) 0 (1 for server-side packet)
0xBF.2F.7A – KR Clear Friends List House Menu Gump Response	
Clear friends list response, sends on press ‘clear friends list’ button	

byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word	Mobile Serial House Serial Subcommand (7A)

dword	0 (1 for server-side packet)
0xBF.2F.7B – KR Clear Access List House Menu Gump Response	
Clear access list response, sends on press ‘clear access list’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (7B) 0 (1 for server-side packet)
0xBF.2F.7C – KR Clear Bans List House Menu Gump Response	
Clear bans list response, sends on press ‘clear bans list’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (7C) 0 (1 for server-side packet)
0xBF.2F.7D – KR Add Access House Menu Gump Response	
Add access response, sends on press ‘add access’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (7D) 0
0xBF.2F.7E – KR Valid Add Access House Menu Gump Response	
Valid add access response, sends on valid targeting for ‘add access’. Only server-side packet.	
byte	ID (BF)
word	Packet Size

word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (7E) Player Serial
0xBF.2F.7F – KR Invalid Add Access House Menu Gump Response	
Invalid add access response, sends on invalid targeting for ‘add access’. Only server-side packet.	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (7F) 0
0xBF.2F.80 – KR Customize House Menu Gump Response	
Customize house response, sends on press ‘customize house’ button	
byte	ID (BF)
word	Packet Size
word	Command (2F)
dword dword word dword	Mobile Serial House Serial Subcommand (80) House Foundation Serial (0 for client-side packet)
BF.30 – KR Target By Resource Macro	
KR Macro ‘Target By Resource’ since 2.46.0.3 Resource Type values: 0 – ore, 1 – sand, 2- wood, 3 – graves, 4 – red mushrooms	
byte	ID (BF)
word	Packet Size
word	Command (30)
dword word	Tool Serial Resource Type
BF.31 – KR Start Hotbar Slot Timer	
KR Start Hotbar Slot Timer since 2.48.0.3	

Start timer for hotbar slot with object having ItemID from packet Note 1: Timer will work for all slot with objects having ItemID from packet Note 2: Currently (2.48.0.7) only bandages itemid work. ItemIDs are 0xE21 and 0xEE9	
byte	ID (BF)
word	Packet Size
word word	Command (31) 0x1
dword dword	ItemID Duration
	BF.4 - Close Gump
Close gump	
byte	ID (BF)
word	Packet Size
word	Command (4)
dword dword	Type ID Button ID
	BF.5 – Screen Size
Screen Size	
byte	ID (BF)
word	Packet Size
word	Command (5)
dword dword	Width Height
	BF.6 – Party
Party system is BF Command 6	
byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command
	BF.6.1 – Add Member

Add member to party	
byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (1)
dword	Serial
	BF.6.1 – Displays members list
Displays members list of the party	
byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (1)
byte loop	Number of Members Member
dword endloop	Serial Member
	BF.6.2 - Remove Member
Remove a member from your party	
byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (2)
byte	Number of Members
dword loop dword endloop	Serial of removed member Member Serial Member
	BF.6.3 - Party Private Msg
Tell a party member a message	
byte	ID (BF)
word	Packet Size
word	Command (6)

byte	Party Command (3)
dword	Serial
word[*]	Unicode Message

BF.6.4 - Party Chat

Send a message to entire party. (Serial not present in Client Msg)

byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (4)
dword	Serial of source
word[*]	Unicode Text

BF.6.6 - Party Loot

Party can loot me

byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (6)
byte	Can Loot

BF.6.7 - Party Invitation

Party Invitation

byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (7)
dword	Party Leader Serial

BF.6.8 - Accept

Accept a join invitation

byte	ID (BF)

word	Packet Size
word	Command (6)
byte	Party Command (8)
dword	Party Leader Serial

BF.6.9 - Decline

Decline join invitation

byte	ID (BF)
word	Packet Size
word	Command (6)
byte	Party Command (9)
dword	Party Leader Serial

BF.7 – Quest Arrow

Quest Arrow

byte	BF
word	Packet Size
word	Command (7)
byte	Right Click (1=yes, 0=no)

BF.8 – Map Change

Map Change

byte	BF
word	Packet Size
word	Command (8)
byte	Map ID (0=felucca, 1= trammel, 2=ilshenar, 3=malas, 4=tokuno)

BF.9 – Disarm Request

Disarm Request

byte	BF
word	Packet Size
word	Command (9)

byte dword word	2 6 0
	BF.A – Stun Request
Stun Request	
byte	BF
word	Packet Size
word	Command (A)
Byte[*]	Unknown
	BF.B - Client Language
Set client language	
byte	ID (BF)
word	Packet Size
word	Command (B)
byte[4]	Language
	BF.C - Close Status
Close status gump	
Byte	ID (BF)
Word	Packet Size
Word	Command (C)
Dword	Serial
	BF.E - Animate
Animate	
Byte	ID (BF)
Word	Packet Size
Word	Command (E)
Dword	Action
	BF.F - Empty
Empty. Real purpose is unknown.	

Byte	ID (BF)
Word	Packet Size
Word	Command (F)

C0 - Effect Hued FX

Hued effect
0x24 bytes
```
Type:
00 = Go from source to destination
01 = Lightning strike
02 = Stay at location
```
03 = Stay with source

byte	ID (C0)
byte dword dword word word word char	Type Serial Source Serial Destination Item ID X Source Y Source Z Source
word word char byte byte word byte byte dword dword	X Destination Y Destination Z Destination Speed Duration 0 Fixed Duration Explode Hue Render Mode

0xC1 – Localized Message

Display a cliloc message
```
Type: 0=say,1=system,2=emote,6=label,7=focus,
8=whipser,9=yell,10=spell,13=guild,14=alliance,15=GM,0xc0=encoded commands
```

byte	ID (C1)
word	Packet Size
dword	Serial
word	Body
byte	Type
word	Hue
word	Font
dword	Message Number
char[30]	Name
char[*]	Arguments

C2 - Text Entry Unicode

Unicode text entry

byte	ID (C2)
byte[2]	Packet Size
dword dword dword dword word	Serial1 Serial2 0 0 0

C3 - GQ Request

GQ Request

byte	ID (C3)
byte[2]	Packet Size
dword dword dword dword	1 ID Customer ID Serial
dword word char[length] dword	0 length Server Name Call time (in seconds)

dword	Map (0=felucca,1=trammel,2=ilshenar,3=malas,4=tokuno)
dword	X
dword	Y
dword	Z
dword	Volume
dword	Rank
dword	-1
dword	Type
byte	1
byte	1
char[3]	Language
byte[*]	Text

C4 - Semi Visible

Semivisible
6 bytes

byte	ID (C4)
byte[5]	Unknown

C5 - Invalid Map

Invalid map
0xCB bytes

byte	ID (C5)
byte[0xCA]	Unknown

C6 - Invalid Map Enable

Enable invalid map
1 byte

byte	ID (C6)

C7 - Particle Effect

Particle Effect
0x31 bytes Effect ID and Explode Effect ID correspond directly to the pbg files in the Particles directory.

byte	ID (C7)

byte	Type (00 = moving effect, 01 = lightning effect, 02 = item effect, 03 = static effect)
dword	Serial Source
dword	Serial Destination
word	Tile ID
word	X Source
word	Y Source
byte	Z Source
word	X Destination
word	Y Destination
byte	Z Destination
byte	Speed
byte	Duration
byte	0
byte	0
byte	Fixed Duration
byte	Explode
dword	Hue
dword	Render Mode
word	Effect ID
word	Explode Effect ID
word	Explode Sound
dword	Serial
byte	Layer
word	unknown

C8 - Update Range Change

Update range change
2 bytes

This packet says how far away the client wants to see.. that allows slower modems to not get items and MOBs that are over a certain distance away.

byte	ID (C8)
byte	Distance

C9 - Trip Time	
Trip time 6 bytes	
byte	ID (C9)
byte	Unknown
dword	Unknown
CA - UTrip time	
Utrip time 6 bytes	
byte	ID (CA)
byte	Unknown
dword	Unknown
CB - GQ Count	
GQ Count 7 bytes	
byte	ID (CB)
word	Unknown
dword	Count
0xCC – Localized Message Plus String	
Cliloc Message and String Type: 0=say,1=system,2=emote,6=label,7=focus, 8=whipser,9=yell,10=spell,13=guild,14=alliance,15=GM,0xc0=encoded commands Affix Type: 0x0 = Append, 0x1 = Prepend, 0x2 = System	
byte	ID (CC)
word	Packet Size
dword word	Serial Graphic
byte word word	Type Hue Font

dword byte char[30] char[*] char[*]	Number Affix Type Name Affix Arguments
CD - Unknown	
Unknown Packet	
byte	ID (CD)
byte[*]	Unknown
CE - Unknown	
Unknown Packet	
byte	ID (CE)
byte[*]	Unknown
CF – Account Login 2	
Login to the login server. At present, OSI really uses 0x80 packets, but this one absolutely identified to 0x80. 0x3E bytes	
byte	ID (CF)
char[30] char[30] byte	Name Password Unknown
D0 – Configuration File	
Send to server configuration file 2 bytes	
byte	ID (D0)
byte[*]	Unknown
D1 - Logout Status	
Logout Status (Server version) Client version not send anything except packet ID (D1): it’s Logout Request. Answer to this request is this server-side packet. 2 bytes	
byte	ID (D1)

byte	1

D2 - Unknown

Unknown packet

byte	ID (D2)
byte[*]	Unknown

D3 - Unknown

Unknown packet

byte	ID (D3)
byte[*]	Unknown

D4 – Book Header

Book Header

byte	ID (D4)
word	Packet Size
dword	Serial
byte	1
byte	Writeable
word	Pages Count
word	Title Length + 1
char[*]	Title
byte	0
word	Author Length + 1
char[*]	Author
byte	0

D5 - Unknown

Unknown packet

byte	ID (D5)
byte[*]	Unknown

0xD6 – Batch Query Properties	
Batch Query Properties (Client version) Client sends serials of items from 0x3C packet and server sends Object Properties packet as answer	
byte	ID (D6)
word loop dword endloop	Packet Size Item Info; count = (Packet Size-3)/4 Serial Item Info
0xD6 – Object Properties	
Object Properties (Server version)	
byte	ID (D6)
word word dword word loop dword word byte[*] endloop dword	Packet Size 1 Serial 0 Property Number Arguments Length Arguments Property Hash
0xD7 - Generic Command	
Miscellaneous Commands	
byte	ID (D7)
word dword	Packet Size Serial
word	Command
D7.10 – Designer Clear	
Designer Clear	
byte	ID (D7)

word dword	Packet Size Serial
word	Command (10)
byte	0xA
	D7.12 – Designer Level
Designer Level	
byte	ID (D7)
word dword	Packet Size Serial
word byte dword	Command (12) 0 Level
byte	0xA
	D7.13 – Designer Roof
Designer Roof	
byte	ID (D7)
word dword	Packet Size Serial
word byte dword byte dword byte dword byte dword	Command (13) 0 Item ID 0 X 0 Y 0 Z
byte	0xA
	D7.14 – Designer Roof Delete
Designer Roof Delete	
byte	ID (D7)
word	Packet Size

dword	Serial
word byte dword byte dword byte dword byte dword	Command (14) 0 Item ID 0 X 0 Y 0 Z
byte	0xA
	D7.19 – Set Weapon Ability
Set Weapon Ability	
byte	ID (D7)
word dword	Packet Size Serial
word byte	Command (19) 0
dword	Ability Index
byte	0xA
	D7.1A – Designer Revert
Designer Revert	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (1A)
byte	0xA
	D7.1E – Equip Last Weapon
Equip Last Weapon	
byte	ID (D7)
word dword	Packet Size Serial

word	Command (1E)
byte	0xA
	D7.2 – Designer Backup
Designer Backup	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (2)
byte	0xA
	D7.3 – Designer Restore
Designer Restore	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (3)
byte	0xA
	D7.4 – Designer Commit
Designer Commit	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (4)
byte	0xA
	D7.5 – Designer Delete
Designer Delete	
byte	ID (D7)
word dword	Packet Size Serial
word byte dword byte	Command (5) 0 Item ID 0

dword byte dword byte dword byte	X 0 Y 0 Z 0xA
	D7.6 – Designer Build
Designer Build	
byte	ID (D7)
word dword	Packet Size Serial
word byte dword byte dword byte dword byte	Command (6) 0 Item ID 0 X 0 Y 0xA
	D7.28 – Guild Button Request
Guild Button Request	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (28)
byte	0xA
	D7.32 – Quests Button Request
Quests Button Request	
byte	ID (D7)
word dword	Packet Size Serial

word	Command (32)
byte	0xA
	D7.C – Designer Close
Designer Close	
byte	ID (D7)
word dword	Packet Size Serial
word	Command (C)
byte	0xA
	D7.D – Designer Stairs
Designer Stairs	
byte	ID (D7)
word dword	Packet Size Serial
word byte dword byte dword byte dword	Command (D) 0 Stair ID 0 X 0 Y
byte	0xA
	D7.E – Designer Synch
Designer Synch	
byte	ID (D7)
word	Packet Size
dword word	Serial Command (E)
byte	0xA
	D7.F – Unk
Byte	ID (D7)
Word	Packet Size
Dword	Serial

word	Command (F)
Dword dword	Unk Unk
	D8 – Design State Detailed
Design State Detailed Server sends to client design data: tiles and stairs in compression mode. OSI uses ZLib.dll with `Z_DEFAULT_COMPRESSION` compression level. Flags = `(((Size >> 4) & 0xF0) | ((Length >> 8) & 0xF)) )`	
byte	ID (D8)
word byte	Packet Size Compression Type (at present time, it's 0x03)
byte dword dword	0 Serial Revision
word word byte loop byte byte byte byte byte[*] endloop loop byte byte byte byte byte[*] endloop	Tiles Length Buffer Length Plane Count Plane (0x20 | Plane Index) Plane Size Plane Length Flags Plane Buffer Plane Stairs (9+Plane Index) Stairs Size Stairs Length Flags Stairs Buffer Stairs
	0xD9 – Hardware Info
Hardware Info Client Type: 1 = client version < 4.0.1a; 0 = client version >= 4.0.1a	

byte	ID (D9)
word	Packet Size
byte	Client Type
dword	Instance ID
dword	OS Major
dword	OS Minor
dword	OS Revision
byte	CPU Manufacturer
dword	CPU Family
dword	CPU Model
dword	CPU Clock Speed
byte	CPU Quantity
dword	Physical Memory
dword	Screen Width
dword	Screen Height
dword	Screen Depth
word	DirectX Major
word	DirectX Minor
char[64]	Video Card Description
dword	Video Card Vendor ID
dword	Video Card Device ID
dword	Video Card Memory
byte	Distribution
byte	Clients Running
byte	Clients Installed
byte	Partial Installed
char[4]	Language
char[64]	Unknown

DA – Mahjong Game Commands

Mahjong Game Commands. Note: Currently works only in 2D client.

byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command

DA.10 – Mahjong Game Open Seat

Mahjong Game Open Seat

byte	ID (DA)
word dword	Packet Size Game Serial
word byte	Command(10) Seat Position

DA.11 – Mahjong Game Change Options

Mahjong Game Change Options

Options: 0x1 = Show Scores, 0x2 = Spectator Vision

byte	ID (DA)
word dword	Packet Size Game Serial
word dword	Command(11) Options

DA.15 – Mahjong Game Move Wall Break Indicator

Mahjong Game Move Wall Break Indicator

byte	ID (DA)
word dword	Packet Size Game Serial
word word word	Command(15) Y X

DA.16 – Mahjong Game Toggle Public Hand

Mahjong Game Toggle Public Hand

byte	ID (DA)
word dword	Packet Size Game Serial
word dword	Command(16) Public Hand (1=yes, 0=no)

DA.17 – Mahjong Game Move Tile	
Mahjong Game Move Tile	
byte	ID (DA)
word dword	Packet Size Game Serial
word byte byte byte byte byte word word byte word word byte	Command(17) Number Current Direction New Direction 0 Flip Current Y Current X 1 New Y New X 0

DA.18 – Mahjong Game Move Dealer Indicator	
Mahjong Game Move Dealer Indicator	
byte	ID (DA)
word dword	Packet Size Game Serial
word byte byte word word	Command(18) Direction Wind Y X

DA.19 – Mahjong Game Join Game	
Mahjong Game Join Game	
byte	ID (DA)
word	Packet Size

dword	Game Serial
word	Command(19)
	DA.1A – Mahjong Game Relieve
Mahjong Game Relieve	
byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command(1A)
	DA.2 – Mahjong Game Players Info
Mahjong Game Players Info	
byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command(2)
word	Player Seats Count
loop	Players
dword	Player Serial
byte	Dealer Position (1=yes,2=no)
byte	Player Index
dword	Player Score
word	0
word	Public (0x1=yes,0x0=no)
char[30]	Player Name
byte	Player In Game(1=no,0=yes)
endloop	Players
	DA.3 – Mahjong Game Tile Info
Mahjong Game Tile Info	
byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command(3)
byte	Tile Number

byte	Tile Value
word	Y
word	X
byte	Stack Level
byte	Direction
byte	Flipped (0x10=yes,0x0=no)

DA.4 – Mahjong Game Tiles Info

Mahjong Game Tiles Info

byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command(4)
byte	Tiles Length
loop	Tiles
byte	Tile Number
byte	Tile Value
word	Y
word	X
byte	Stack Level
byte	Direction
byte	Flipped (0x10=yes,0x0=no)
endloop	Tiles

DA.5 – Mahjong Game General Info

Mahjong Game General Info

Options = Show Scores (0x1=yes,0x0=no) | Spectator Vision (0x2=yes,0x0=no)

byte	ID (DA)
word	Packet Size
dword	Game Serial
word	Command(5)
word	0
word	Options
byte	First Dices
byte	Second Dices

byte word word byte word word	Dealer Indicator Wind Dialer Indicator Y Dialer Indicator X Dialer Indicator Direction Wall Break Indicator Y Wall Break Indicator X
	DA.6 – Mahjong Game Leave Game
Mahjong Game Leave Game	
byte	ID (DA)
word dword	Packet Size Game Serial
word	Command(6)
	DA.A – Mahjong Game Give Points
Mahjong Game Give Points	
byte	ID (DA)
word dword	Packet Size Game Serial
word byte dword	Command(A) Position Points
	DA.B – Mahjong Game Roll Dices
Mahjong Game Roll Dices	
byte	ID (DA)
word dword	Packet Size Game Serial
word	Command(B)
	DA.C – Mahjong Game Build Walls
Mahjong Game Build Walls	

byte	ID (DA)
word dword	Packet Size Game Serial
word	Command(C)
	DA.D – Mahjong Game Reset Scores
Mahjong Game Reset Scores	
byte	ID (DA)
word dword	Packet Size Game Serial
word	Command(D)
	DA.F – Mahjong Game Assign Dealer
Mahjong Game Assign Dealer	
byte	ID (DA)
word dword	Packet Size Game Serial
word byte	Command(F) Position
	DB - Unknown
Unknown packet	
byte	ID (DB)
byte[*]	Unknown
	0xDC – OPLInfo – since 4.0.5a client
OPLInfo packet.	
byte	ID (DC)
dword dword	Serial Hash
	0xDD – Generic Gump – since 5.0.0a client
Generic Gump packet.	

OSI uses this one since launching of ML expansion. They use ZLib.dll with `Z_BEST_SPEED compression level.`

byte	ID (DD)
word	Packet Size
dword	Gump Serial
dword	Gump Type ID
dword	Gump X
dword	Gump Y
dword	Gump Entries Length + 4
dword	Layout Length
byte[*]	Compressed Gump Entries
dword	Lines Count
dword	Gump Strings Length + 4
dword	Uncompressed Gump Strings Length
byte[*]	Compressed Gump Strings

DE – Update Mobile Status

Update Mobile Status packet

OSI uses this one since launching of buff/debuff system.

byte	ID (DE)
word	Packet Size
dword	Mobile Serial
byte	Status (0 if endcombat, 1 if StartCombat)
	if Status == 1
dword	Attacker Serial

0xDF – Update Attribute

Update Attribute packet

Attributes: BonusStr = 0x01, BonusDex = 0x02, BonusInt = 0x03, BonusHits = 0x07, BonusStamina = 0x08, BonusMana = 0x09, RegenHits = 0x0A, RegenStam = 0x0B, RegenMana = 0x0C, NightSight = 0x0D, Luck = 0x0E, ReflectPhysical = 0x10, EnhancePotions = 0x11, AttackChance = 0x12, DefendChance = 0x13, SpellDamage = 0x14, CastRecovery = 0x15, CastSpeed = 0x16, ManaCost = 0x17, ReagentCost = 0x18, WeaponSpeed = 0x19, WeaponDamage = 0x1A, PhysicalResistance = 0x1B, FireResistance = 0x1C, ColdResistance = 0x1D, PoisonResistance = 0x1E, EnergyResistance = 0x1F, MaxPhysicalResistance = 0x20, MaxFireResistance = 0x21, MaxColdResistance = 0x22, MaxPoisonResistance = 0x23, MaxEnergyResistance =

0x24, AmmoCost = 0x26, KarmaLoss = 0x28,

OSI uses this one since 5.0.2b client.

byte	ID (DF)
word	Packet Size
dword	Player Serial
word	Attribute ID
word	Items Count
loop	Items
word	Base Value
dword	0
word	Delta Value
byte[9]	0
dword	Item Label Number
byte[14]	0
endloop	Items

DF – Buff/Debuff

Buff/Debuff packet

OSI uses this one since 5.0.2b client.

byte	ID (DF)
word	Packet Size
dword	Player Serial
word	Buff Icon ID
word	Type
	If (Type = 0x01)
dword	0
word	Buff Icon ID
word	1
dword	0
word	Buff Duration in seconds
byte[3]	0
dword	Buff Title Cliloc
dword	Buff Secondary Cliloc

dword	0
word	Arguments Mode
word	0
	If (Arguments Mode = 0x01)
word	length
char[length*2]	Arguments
word	1
	EndIf Arguments Mode
word	0
	EndIf Type

0xE0 – Bug Report

Bug Report packet, client side

Bug Category: 0x01 - World Environment; 0x02 – Wearables; 0x03 – Combat; 0x04 – UI; 0x05 – Crash; 0x06 – Stuck; 0x07 – Animations; 0x08 – Performance; 0x09 – NPCs; 0x0A – Creatures; 0x0B – Pets; 0x0C – Housing; 0x0D - Lost Item; 0x0E – Exploit; 0x0F – Other

Only KR packet

byte	ID (E0)
word	Packet Size
byte[3]	Language
byte	0
word	Bug Category
char[*]	Bug Description in Unicode

0xE1 – KR Character List Update

KR Character List Update, client side, only in character list menu
Only KR packet
Notes: Probably KR Client Flags (always 0x2) is offset for 0x8D packet flags – character creation.

byte	ID (E1)
word	Packet Size
word	1
dword	KR Client Flags

0xE2 – Mobile Status/Animation Update

Mobile Status/Animation Update, server side

byte	ID (E2)
dword word word byte	Mobile Serial Action SubAction Count? (Osi sends it randomly from 0 to 59)

0xE3 – KR Encryption Request

KR Encryption Request, server side

Notes: Packet Size must be 77 bytes. A[0] is always 0x2. B[0] = 0x2, B[1] = 0x11, B[2] = 0x0.
A, B, C, D, E – parameters for KR game encryption – AES in CFB Mode

Only KR packet

Byte	ID (E3)
Dword byte[lengthA] dword byte[length B] dword byte[length C] dword dword byte[length E]	length A A length B B length C C D length E E

E4 – KR Encryption Response

KR Encryption Response, client side

Notes: Reply to E3 packet from server
A – parameter for KR game encryption – AES in CFB Mode

Only KR packet

Byte	ID (E4)
Word dword byte[lengthA]	Packet Size length A A

E5 – Display Waypoint	
Display Waypoint, server side Notes: Server sends this packet both to 2D and KR, but only KR will display waypoint on the radar map. If Ignore Object Serial is true, client will use coordinates from packet and will ignore serial object coordinates.	
byte	ID (E5)
word dword word word sbyte byte word word dword char[*] word	Packet Size Object Serial Object X Object Y Object Z Object Map ID Object Type Ignore Object Serial (1 = true, 0 = false) Object Cliloc Description Object Cliloc Description Arguments in Unicode 0
E6 – Hide Waypoint	
Hide Waypoint, server side Notes: Server sends this packet both to 2D and KR, but only KR will hide waypoint from the radar map	
byte	ID (E6)
dword	Object Serial
0xE7 – Continue Highlight KR UI Element	
Continue Highlight KR UI Element, server side Only KR packet	
byte	ID (E7)
dword word dword byte	Mobile Serial UI Element ID Destination Object Serial 1

0xE8 – Remove Highlight KR UI Element	
Remove Highlight KR UI Element, client side Only KR packet. Client sends this packet only if server sent E7 packet before.	
byte	ID (E8)
dword word dword byte byte	Mobile Serial UI Element ID Destination Object Serial 1 1
E9 – Toggle Highlight KR UI Element	
Toggle Highlight KR UI Element, server side Description types: ”ToggleInventory”, ”TogglePaperdoll”, ”ToggleMap”, ”””” Only KR packet	
byte	ID (E9)
dword word char[64] dword	Mobile Serial UI Element ID Description Command ID
0xEA – Enable KR Hotbar	
Enable KR Hotbar, server side Only KR packet	
byte	ID (EA)
word	Enable (1 = true, 0 = false)
0xEB – Report Use KR Hotbar Icon	
Report Use KR Hotbar Icon, client side Only KR packet. Client sends this packet only if server sent EA packet before Type: 0x1 – spell, 0x2 – weapon ability, 0x3 – skill, 0x4 – item, 0x5 – scroll	

Object ID: serial for item, id for other types. Always in reversed mode.
Note: since KR 2.46.*.* Object ID is serial for scroll too.

Byte	ID (EB)
word	1
word	6
byte	Type
byte	0
dword	Object ID (reversed!!)

0xEC – Equip Items KR Macro

Equip Items KR Macro, client side

Only KR packet

Byte	ID (EC)
word	Packet Size
byte	Items Count
loop	Items
dword	Item Serial
endloop	Items

0xED – Unequip Items KR Macro

Unequip Items KR Macro, client side

Only KR packet

Byte	ID (ED)
word	Packet Size
byte	Layers Count
loop	Layers
word	Layer ID
endloop	Layers

0xEE – Unknown

Unknown server-side packet

byte	ID (EE)

dword byte word word	Unk Unk Unk Unk
	0xEF – LoginServerSeed
Client sends Seed/Version Both KR and 2D client.	
Byte	ID(EF)
Dword dword dword dword dword	Seed Major Version Minor Version Revision Patch
	0xF0 – Unknown
Unknown client-side packet	
Byte	ID(F0)
Byte byte byte dword dword dword dword	Unk Unk Unk Unk Unk Unk Unk
	0xF1 - Unknown
Unknown client-side packet This packet should be sent as response to F2 packet.	
Byte	ID(F1)
Byte[8]	Unk
	0xF2 - Unknown
Unknown server-side packet. A, B and C – unknown values. A is increment value, so may be it's global counter. Server sends this packet without client request. Only KR packet since 2.48.0.3	
byte	ID (F2)

dword	0x116
word	A
word	B
dword	0x116
word	A
word	C
dword	0x116
word	A
word	C

Changes:

16/07/2009
- Added Unk packet D7.F
- Updated packets' color
- Added new B9 Packet

12/07/2009
- Packet EF has been updated

09/07/2009
- Added Unk packets EF F0 F1
- Updated packets' color
- Fixed ID in packet 8D

07/07/2009
- Fix at packet 1D (you can remove also mobiles, not only items)

06/07/2009
- Fix at packet 11 (Flags and layout)
- Minor Fix at BF.2F Packet (last dword was missing in general packet)
- Updated **Server** Color Packets
- Fix at packet 94 (Is it still Upd skills ?)

05/07/2009
- Added Pet Window packet 31
- Cleaned some blank line
- Unused/Old server sent packets will have **this** color
- Updated **Server** Color Packets

04/07/2009
- Server sent packets will now have **this** color. Notice: due to the large huge quantity of packets I've updated only recognized in ASM ones.
- Client sent packets will now have **this** color

03/07/2009
- Added packet EE
- Added packet BF.27
- Fixed packet E2
- Fixed packer DE
- Fixed packet 17

30/06/2009
- Start of updating
- Fix at layout
- Guide will be now PDF format