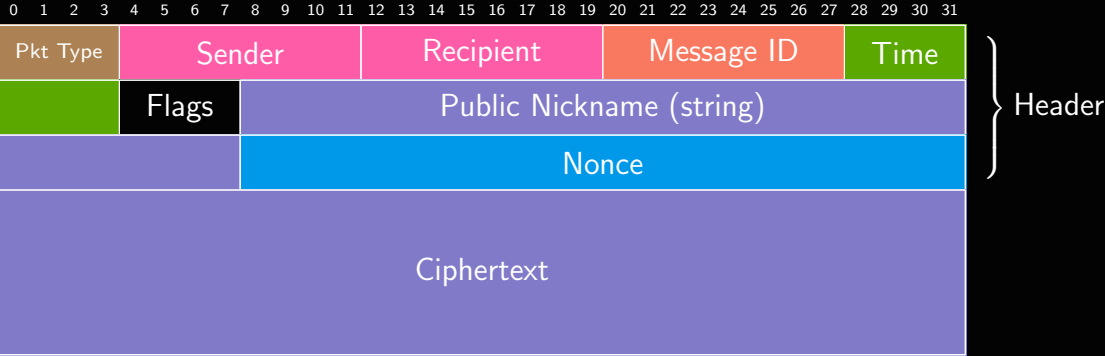


# Message Packet (Threema Protocol Layer)

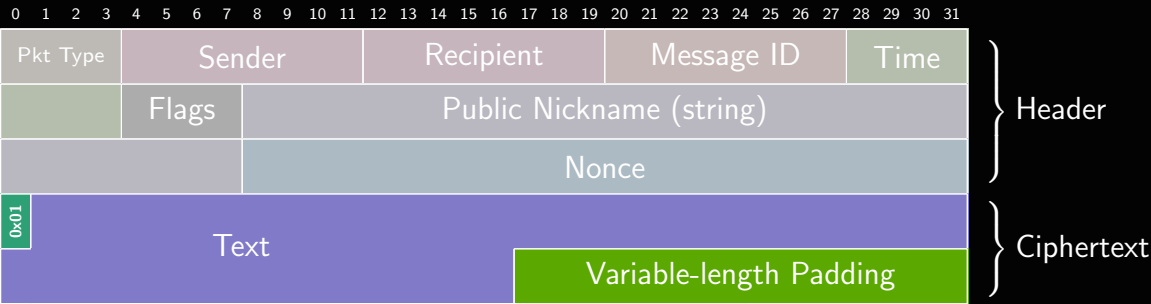


- Only the MSB of *Flags* is used

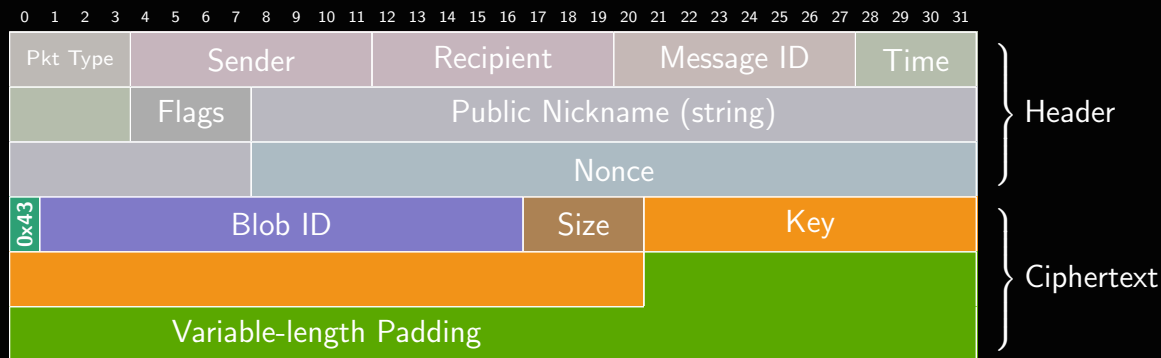
# Message Packet on the Wire



# Text Message

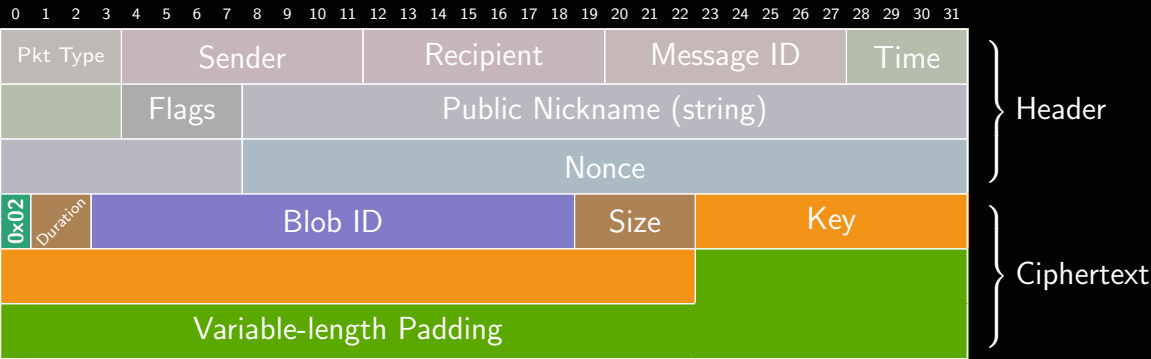


# Image Message



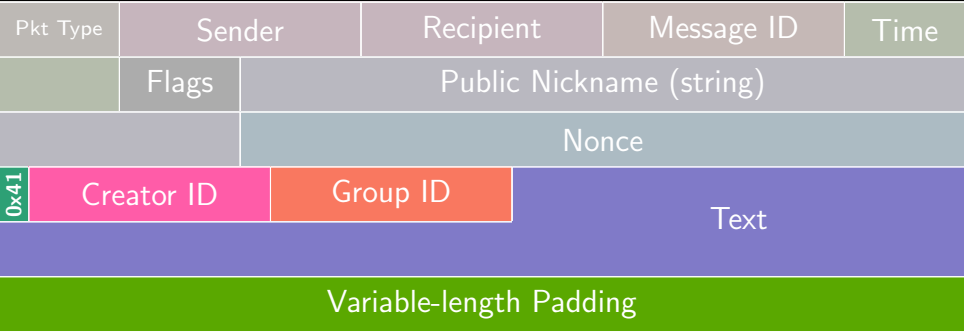
- Blob is symmetrically encrypted using *Key* and uploaded to asset server.
- Image captions are stored inside the image's EXIF data. These data leak upon creating such an image while the "save media to gallery" option is enabled.

# Audio Message



# Group Message Packet

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

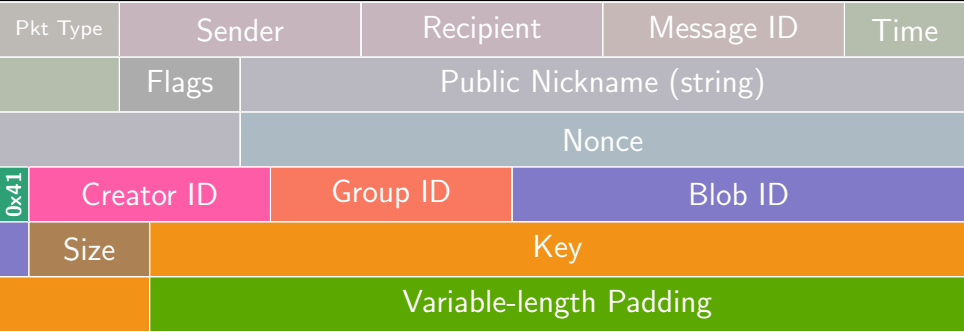


Message Header

Ciphertext

# Group Image Message

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

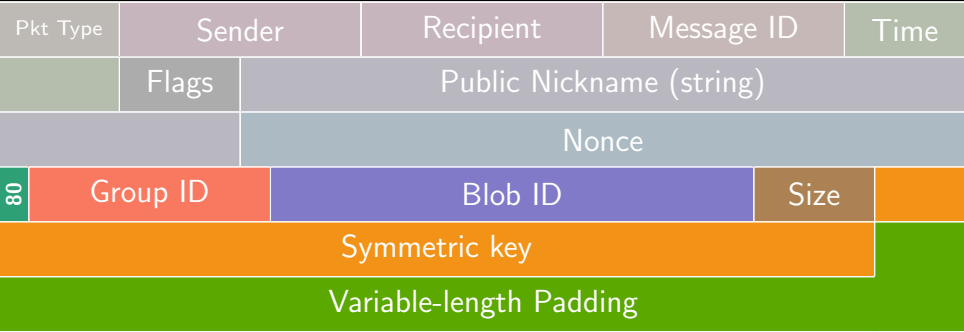


Message Header

Ciphertext

# Group Picture Update

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



} Message Header



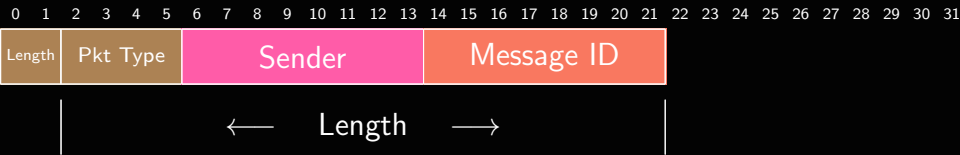
# Create/Update Group (members)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Pkt Type	Sender		Recipient		Message ID		Time	
	Flags	Public Nickname (string)						
		Nonce						
74	Group ID		Group Members					

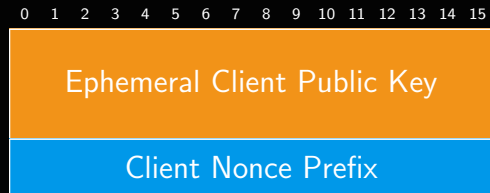
} Message Header

# Acknowledgement Packet to Server

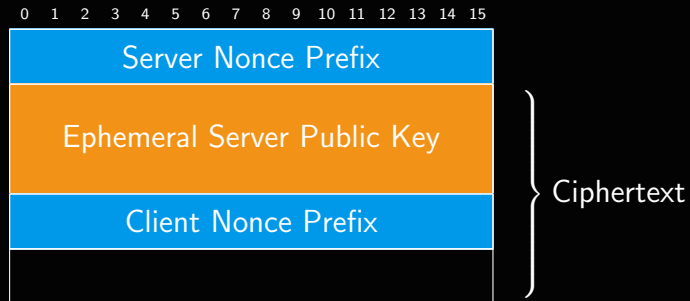


# Client-Server Handshake

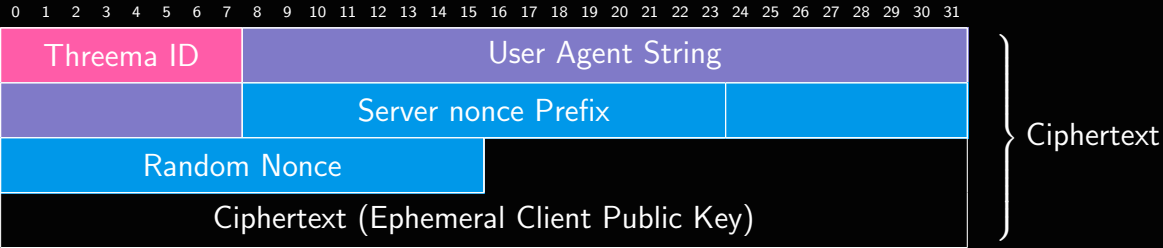
## Client Hello



## Server Hello



# Client Authentication Packet



# Server Acknowledgement

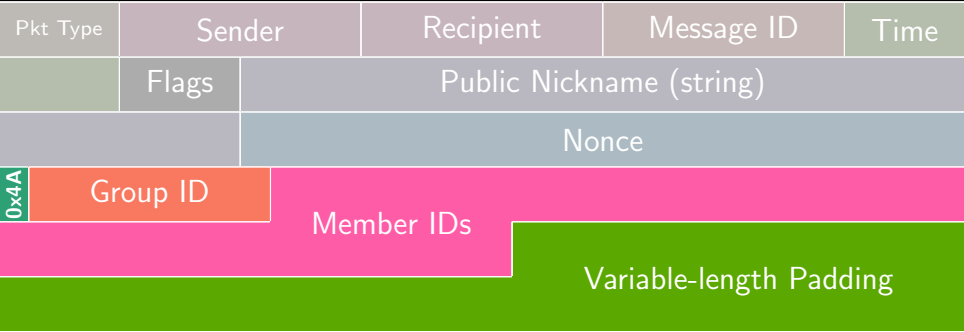


# PKCS7 Padding

													03	03	03
											04	04	04	04	
								08	08	08	08	08	08	08	
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
											05	05	05	05	05
									06	06	06	06	06	06	

# Group Management Message - Add Users

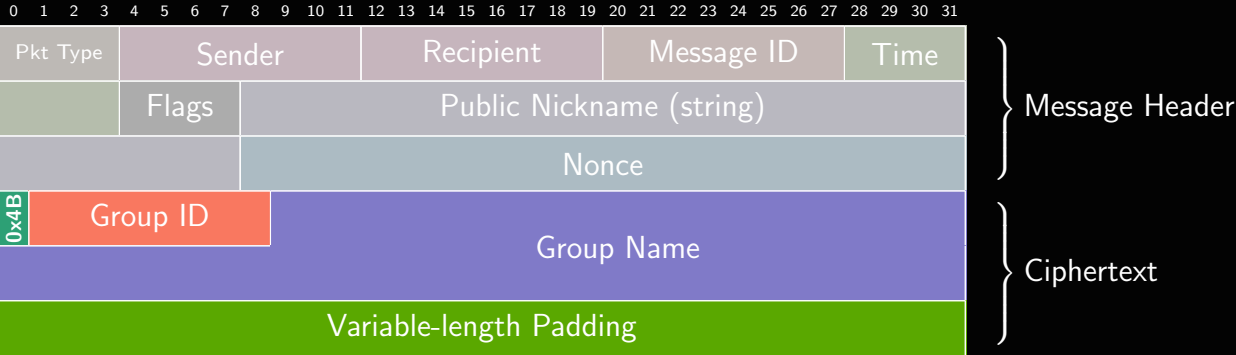
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



Message Header

Ciphertext

# Group Management Message - Rename Group



# Quoted Text Message

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Pkt Type	Sender	Recipient	Message ID	Time
	Flags	Public Nickname (string)		
		Nonce		
0x01	> 1EE733C3: I'm a quoted message. And I'm a comment!			
Variable-length Padding				

Header

Ciphertext