

# SCHC compression and fragmentation draft-ietf-lpwan-ipv6-static-context-hc-07

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# Updates:

- Versions 05, 06 & 07
- Variable length fields
- Short names of fragmentation reliability options-consensus get also in the ML
- Fragmentation State Machines
- Clean the rest of the text for fragmentation
- Fragmentation Formats Packets :All-0 and All-1
- New Bitmap format and Abort

# Variable Length fields

ML consensus after discussion over 4 different solutions:

```

-----
|                                     |
|                                     | Rule N                               | | | |
|---|---|---|---|---|
|                                     | Rule i                               |
|-----|-----|-----|-----|-----|
| (FID) Rule 1                        |
|-----|-----|-----|-----|-----|
| Field 1|FL|FP|DI|Target Value|Matching Operator|Comp/Decomp Act|
|-----|-----|-----|-----|-----|
| Field 2|FL|FP|DI|Target Value|Matching Operator|Comp/Decomp Act|
|-----|-----|-----|-----|-----|
| ...   |..|..|..|...   |...   |...   |
|-----|-----|-----|-----|-----|
| Field N|FL|FP|DI|Target Value|Matching Operator|Comp/Decomp Act|
|-----|-----|-----|-----|-----|

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+ | Field          |FL|FP|DI| Value | Match | Action | |
Sent | | | | | | | | | | | | | | | | | | | | | | | | | |
|[bits]| +-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| IPv6 version   | 4 | 1 | Bi | 6 | | | |
equal | not-sent | | | | | IPv6 DiffServ | 8 | 1 | Bi | 0
| equal | not-sent | | | | | IPv6 Flow Label | 20 | 1 | Bi | 0
| equal | not-sent | | | | | IPv6 Length | 16 | 1 | Bi |
| ignore | comp-length | | | | | IPv6 Next Header | 8 | 1 | Bi | 17
| equal | not-sent | | | | | IPv6 Hop Limit | 8 | 1 | Bi | 255
| ignore | not-sent | | | | | IPv6 DEVprefix | 64 | 1 | Bi |
[alpha/64, match- | mapping-sent| | [1] |
| | | | | fe80::/64] mapping| | | |
| IPv6 DEViid | 64 | 1 | Bi | | ignore | DEViid | |
| IPv6 APPprefix | 64 | 1 | Bi | [beta/64, | match- | mapping-sent| |
[2] | | | | | alpha/64, | mapping|
| | | | | fe80::64] |
| | | | | IPv6 APPiid | 64 | 1 | Bi | ::1000 | equal | not-sent
| | | | |
+=====+=====+=====+=====+=====+=====+=====+=====+
+=====+ | UDP DEVport | 16 | 1 | Bi | 5683 | equal | not-sent
| | | | | UDP APPport | 16 | 1 | Bi | 5683 | equal | not-sent
| | | | | UDP Length | 16 | 1 | Bi | | ignore | comp-
length | | | | | UDP checksum | 16 | 1 | Bi | | ignore |
comp-chk | | | | |
+=====+=====+=====+=====+=====+=====+=====+=====+
+=====+

```

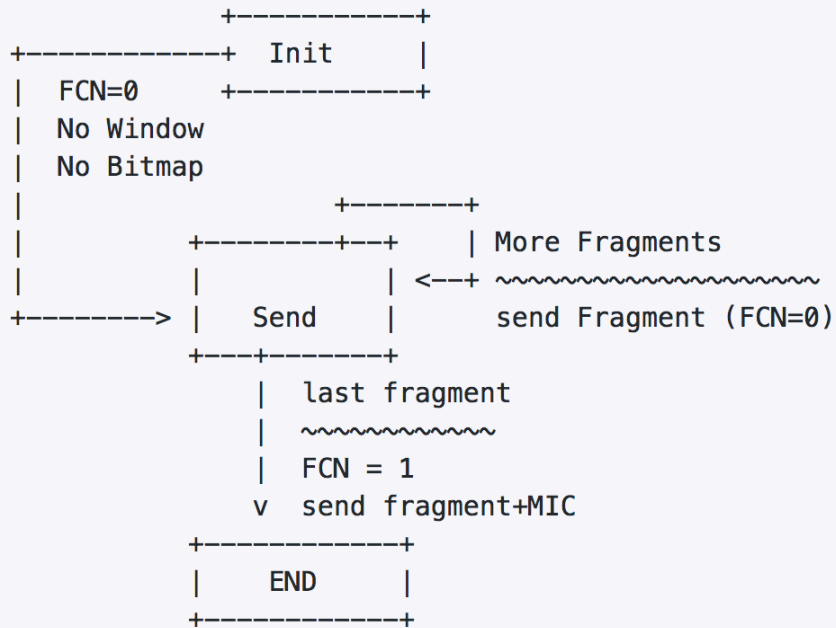
URI Path has a fixed size

# Short names

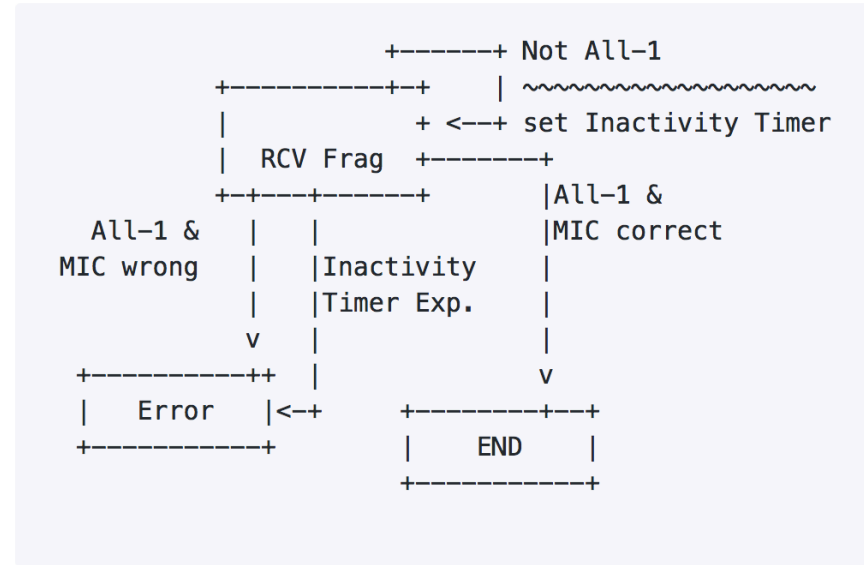
- ML consensus:
  - No ACK
  - ACK on error
  - ACK always

# FSM – No ACK

## Sender

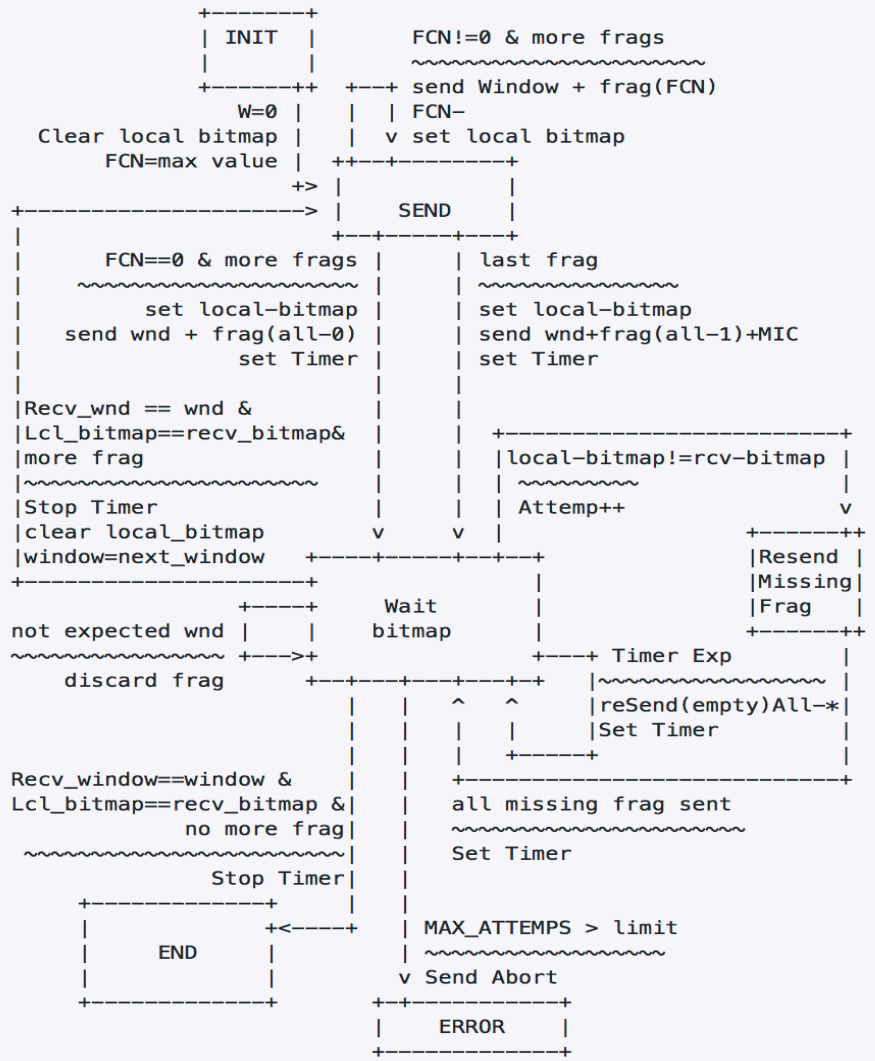


## Receiver



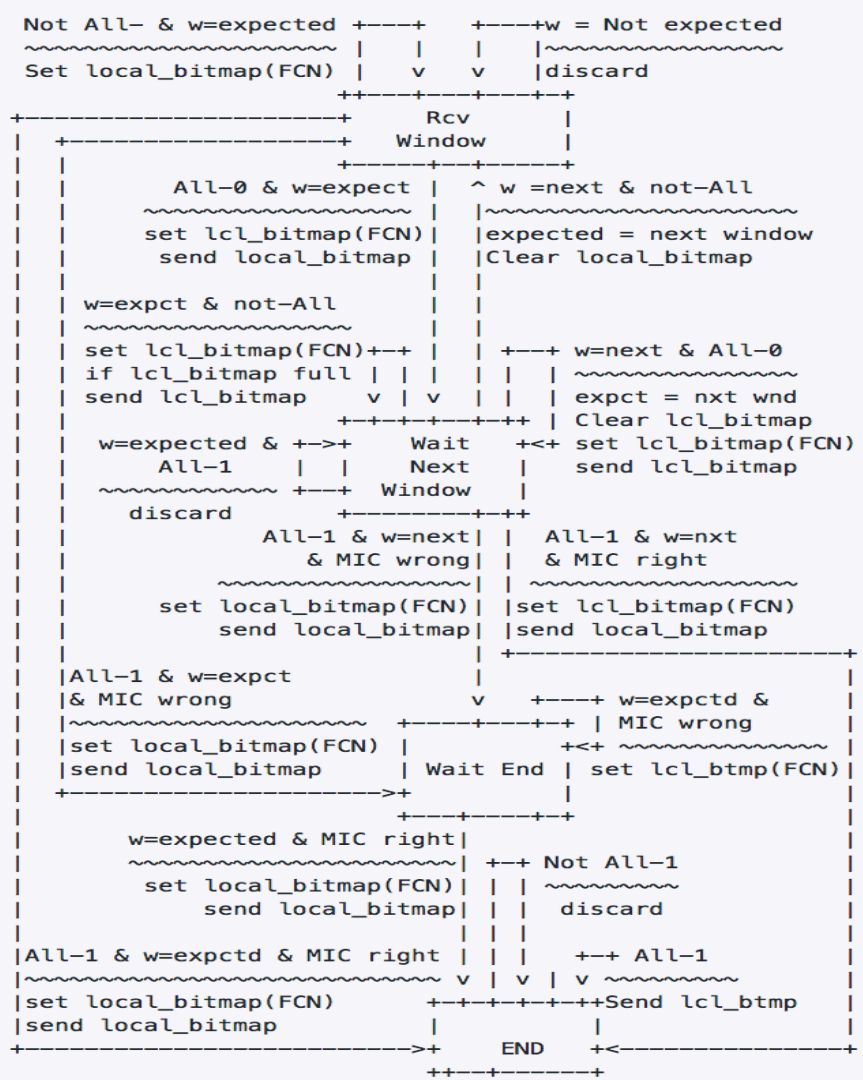
# FSM- ACK always

Sender



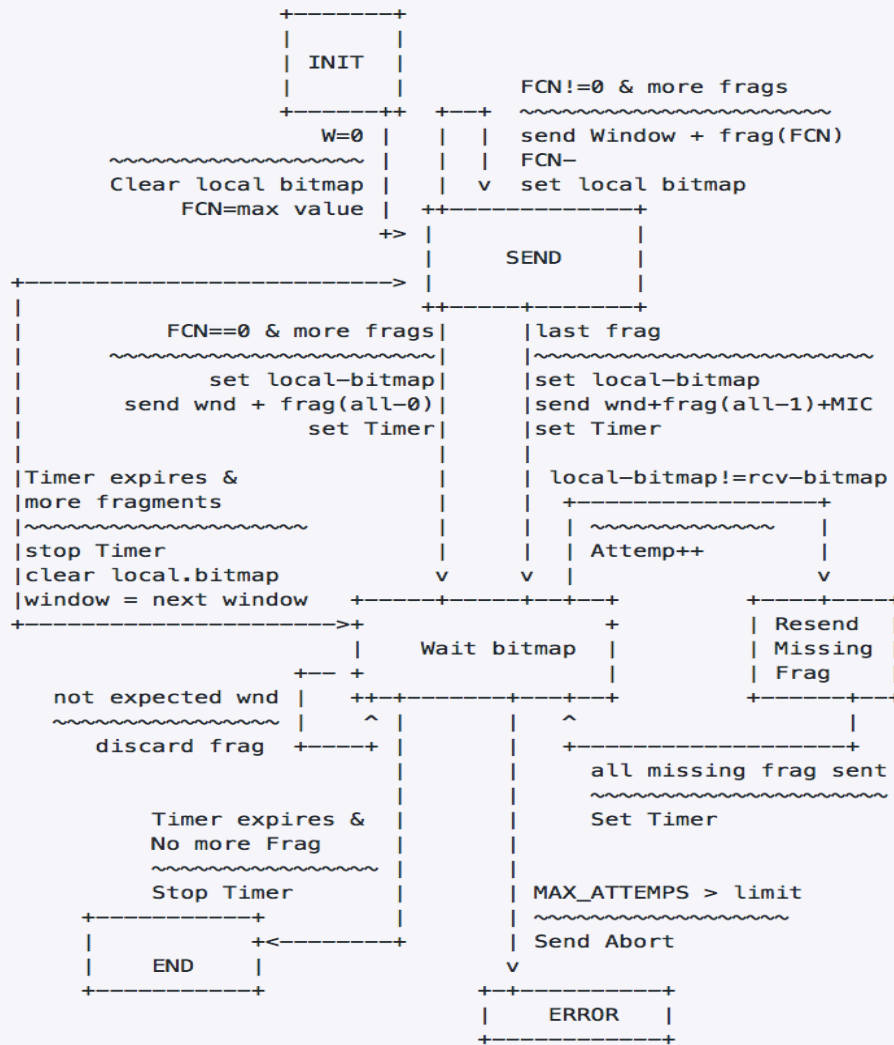
# FSM- ACK always

Receiver



# FSM- ACK on error

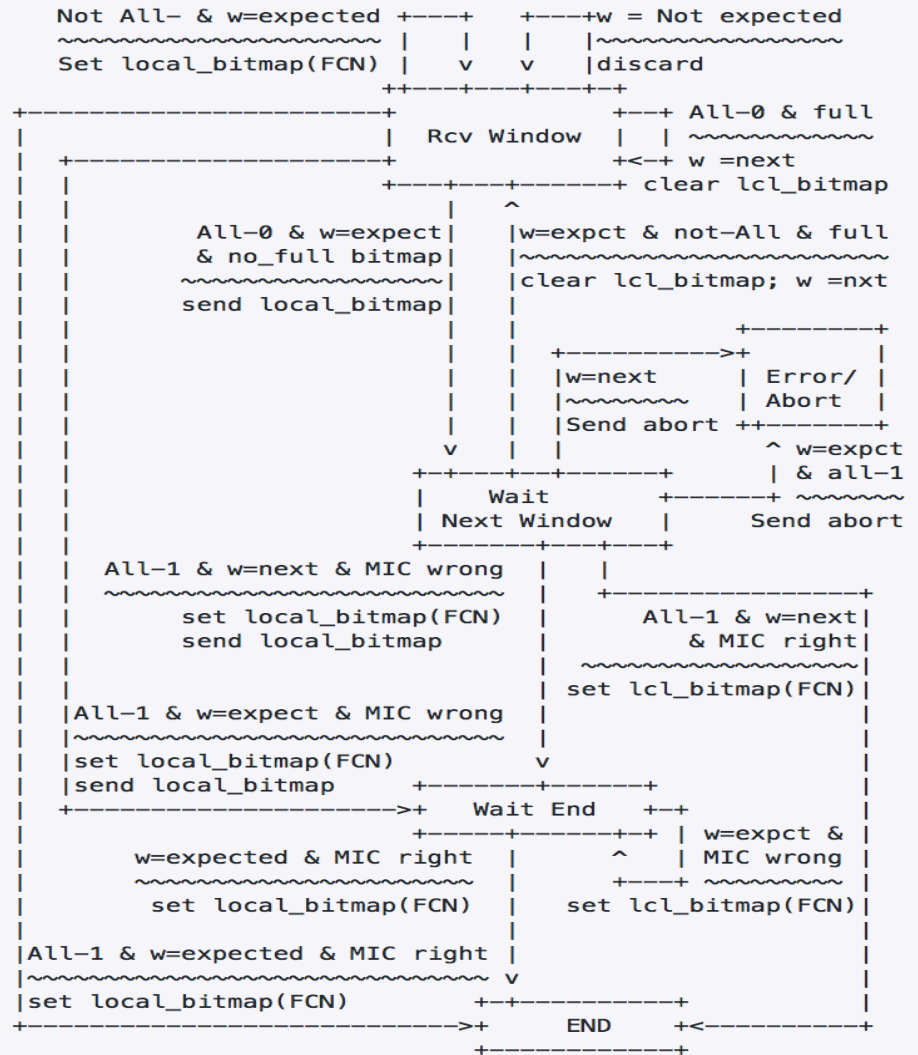
Sender





# FSM- ACK on error

Receiver



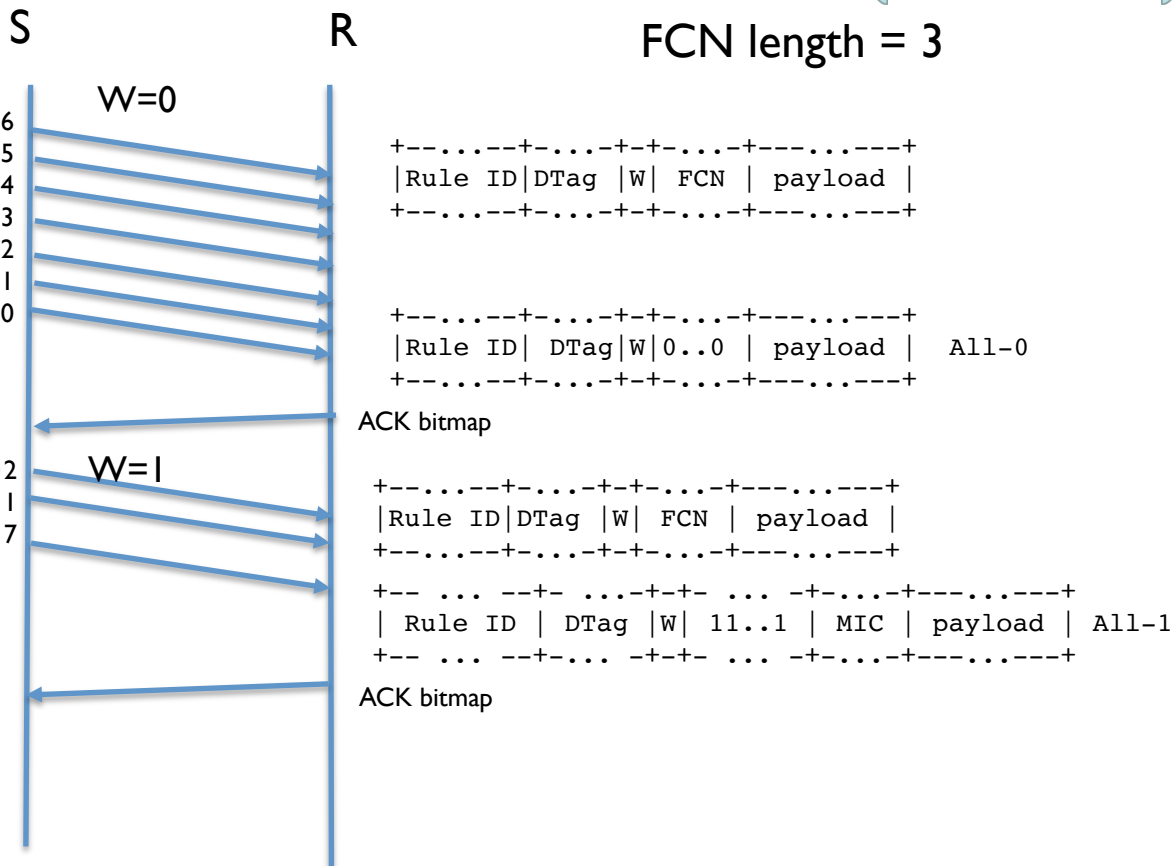
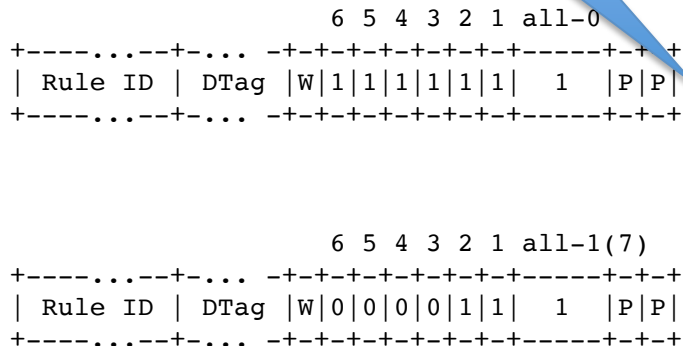
# Fragmentation Formats Packets

- No last-one packets
- ACK format
- All-0 used to know last fragment in window
- All-1 used to know last fragment
- All-0 empty to request ACK
- All-1 empty to request ACK
- All-1 abort
- ACK abort

# Fragmentation Formats

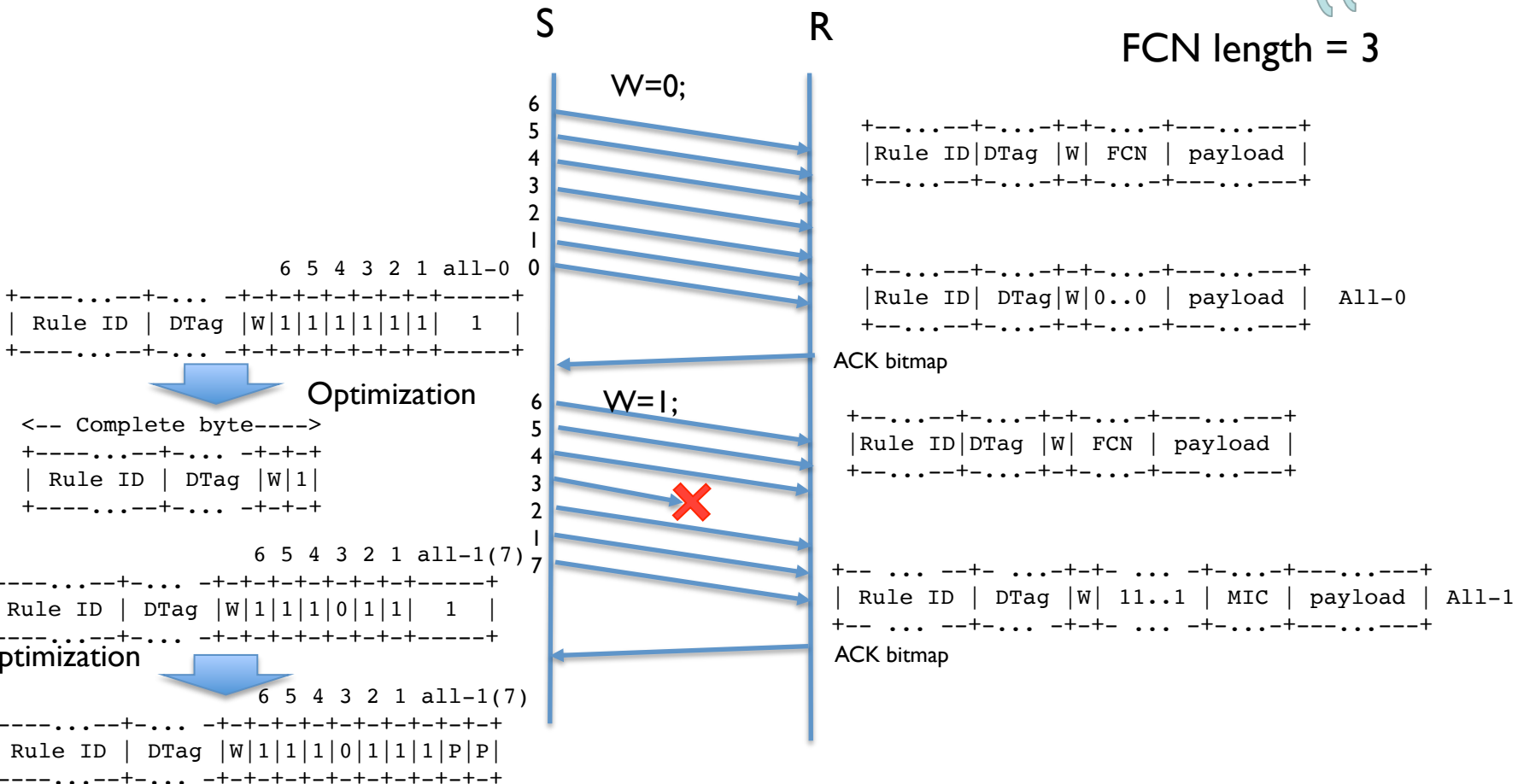
Recommended:  
Little highest value

<-----1 Byte ----->



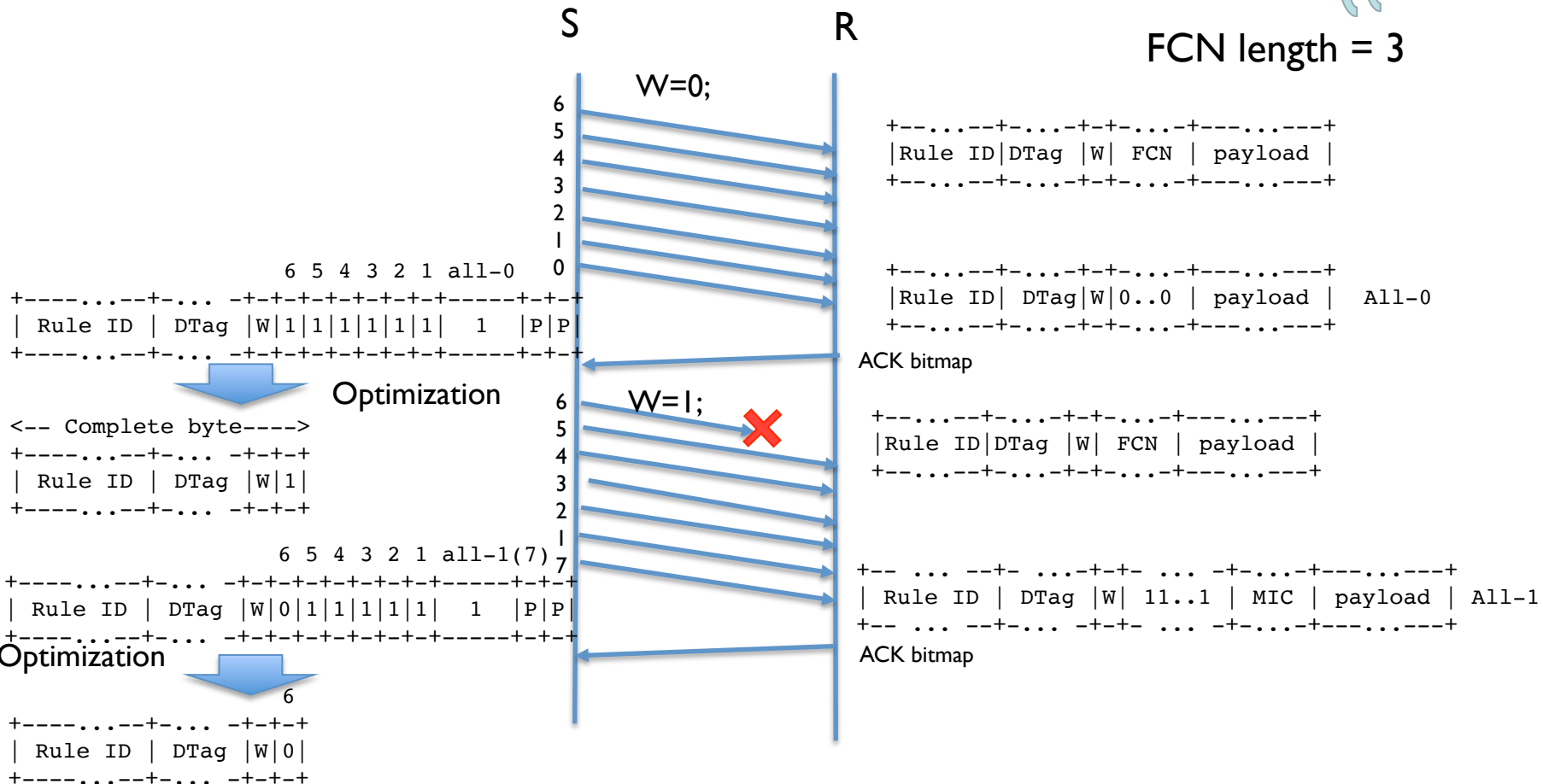
# Fragmentation Formats

FCN length = 3



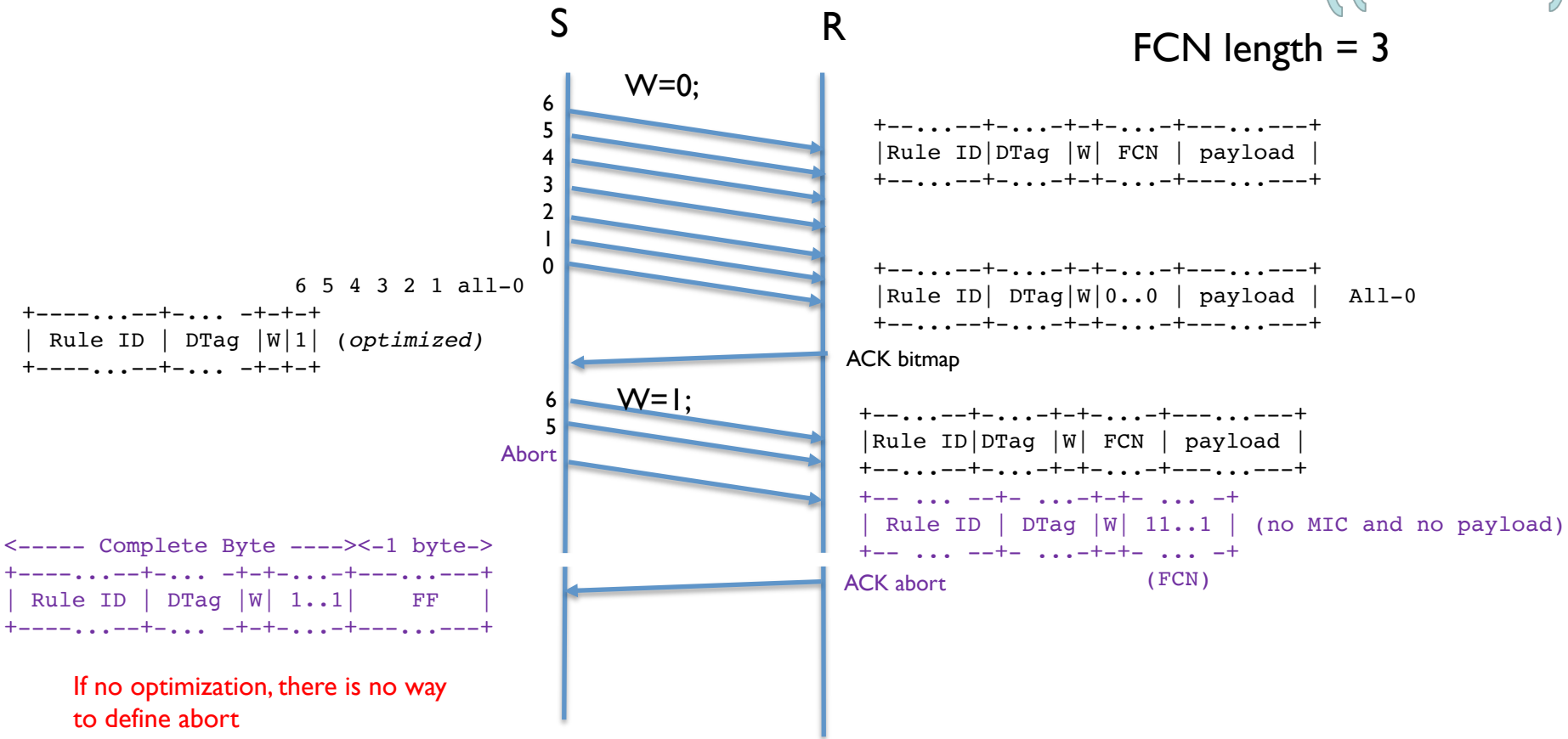
# Fragmentation Formats

FCN length = 3

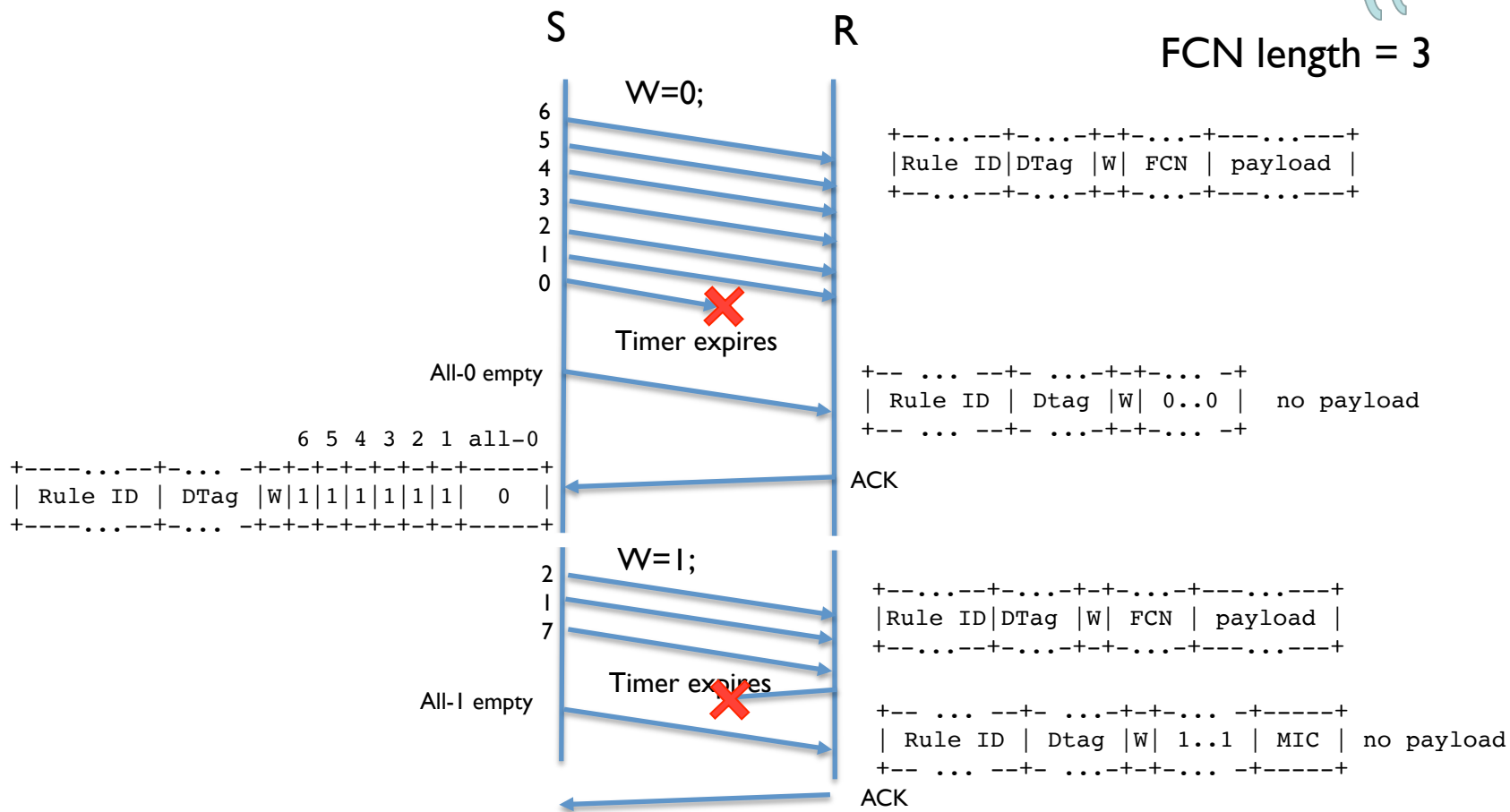


# Fragmentation Formats

FCN length = 3



# Fragmentation Formats



# Missing

- Finish the description of Abort and the on optimization of bitmap
- Rewrite the examples to put this new features
- Missing the padding in the format packets as well as in the text



# Thanks