RTCP Extensions for SSM Sessions with Unicast Feedback

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Changes

1. XR Packet alignment completed
2. Clarified the alignment and subsequent Payload numbering
3. Introduced further summary types
4. Clarifications + examples of security requirements
5. IANA considerations

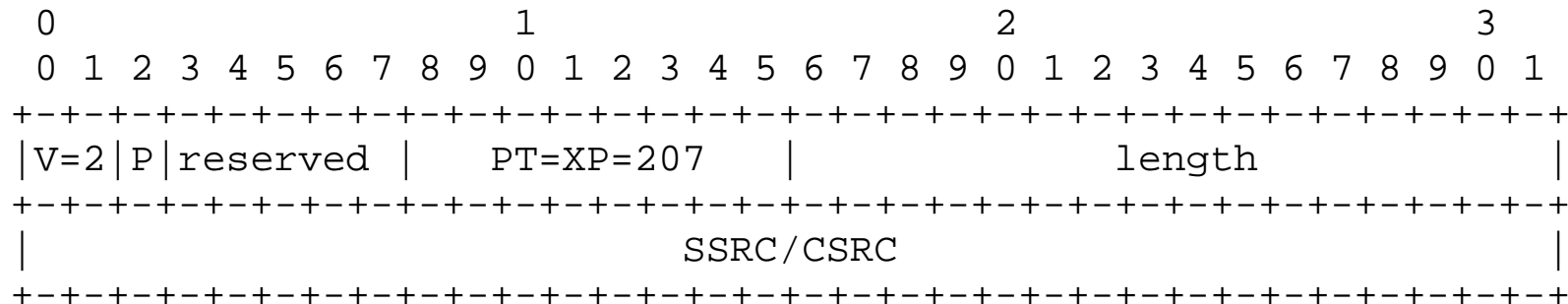# XR Packet Alignment

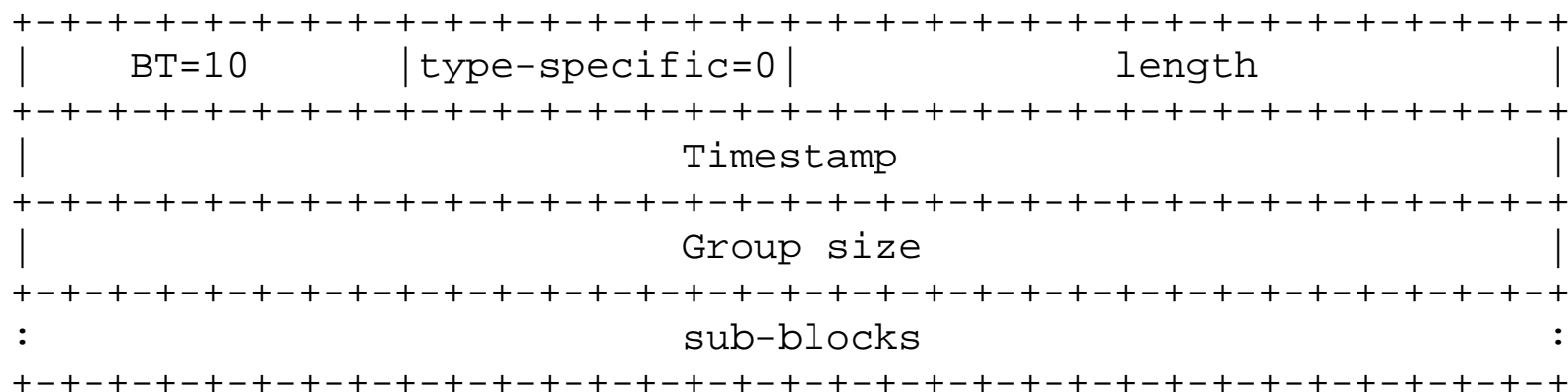**RSI defined as XR packet format, Block type=10. Attached to RSI are the following Sub-block types:**

```
Sub-block Type      Description                         ID number
------------------------------------------------------------------
IPv4 Address        IPv4 Unicast Feedback address           0
IPv6 Address        IPv6 Unicast Feedback address           1
DNS name            DNS name for Unicast Feedback           2
-                   - reserved -                            3
Jitter              Jitter distribution                     4
RTT                 Round trip time distribution            5
Cumulative loss     Cumulative loss distribution            6
Loss                Loss distribution                       7
Collisions          SSRC collision list                     8
BYE                 BYE list                                9
Stats               General statistics                      10
Receiver BW         RTCP Receiver Bandwidth                 11
-                   - reserved -                         12 - 255
```

Example of XR Alignment

XR Packet Header
```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|V=2|P|reserved |    PT=XP=207     |             length             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                          SSRC/CSRC                             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

RSI Block
```
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|     BT=10      |type-specific=0|             length             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                          Timestamp                             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                          Group size                            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
:                          sub-blocks                            :
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Other Changes

- **Example references to implementation of security requirements in SIP and RTSP**
- **IANA considerations**

Open "Issues" / Next Steps

- **Clarification of sender reporting frequency for correct operation of timer reconsideration rules,** *e.g. Sender must forward group size report whenever group size changes (statistics report not necessary)*

- **Consideration of sample group/receiver report aging as a function of source reporting frequency** *i.e. receiver coverage in summarisation reports*

- **Move away from XR format due to limited applicability?**

- **Any implementations of unicast feedback/summarisation?**

=> Once these issues are addressed...ready for last call?