



# Some BIR Questions and Comments

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# Questions



- Would “header type” be clearer than “header”?
- What is “standard metadata”?
- Would it be useful to include input and output information for other\_processor objects?
- How is a basic\_block referenced in an offset\_block?
  - Does the basic\_block need an name/ID attribute?
- Why does a basic\_block include a header type attribute?
  - Isn't this determined by the offset\_block?
- Is local header reference changeable within a basic\_block?



# Questions



- Why is the metadata field list ordered?
- What is the table depth attribute (capacity or current entry count)?
- Why are table request and response ordered lists?





- Allow a list of headers (<header type, offset> pairs)
  - Enable table lookup using fields from multiple headers
  - Avoid two less desirable options:
    - Defining multiple header formats for stacked headers
    - Copying header fields to metadata (and metadata field assignment)
- Need to define the “pipeline stage interface”
  - Information passed between stages (packet, metadata)
  - Consider a mechanism for cloning packets between pipeline stages
    - Support multicast, mirroring, etc.
    - Equivalent to OpenFlow ALL group type





- Discuss making `offset_block` independent of `basic_block`
  - `Basic_block` includes an `offset_block` reference (not the `offset_block` itself)
  - `Basic_blocks` can share control logic by referencing the same `offset_block`
  - Clearer distinction between Control Flow and Basic Block levels
- Discuss support for variable size header fields
  - Allow expression for field size?
- Table operations (e.g., add, modify, delete entry) should be identified as control plane (not data plane) operations.





- Do we need M type instructions Entry insert and Entry remove?
  - Table entry control can be modeled as control plane operations (i.e., pass data to controller and let controller modify table entries).
  - Do we need a mechanism for passing information to control plane?
- Flow state requires the ability to write data to a table
  - Lookup flow state entry (same as table lookup?) – need instruction for this
  - Write flow state entry (implicit create)

