Program.p4

Data Declaration

```
header_type ethernet_t   { ... }
header_type l2_metadata_t { ... }

header  ethernet_t    ethernet;
header  vlan_tag_t    vlan_tag[2];
metadata l2_metadata_t l2_meta;
```

Parser Logic

```
parser parse_ethernet {
 extract(ethernet);
 return switch(ethernet.etherType)
 {
  0x8100 : parse_vlan_tag;
  0x0800 : parse_ipv4;
  0x8847 : parse_mpls;
  Default: ingress;
 }
}
```

Match+Action Tables and Control Flow

```
table port_table { ... }

control ingress {
 apply(port_table);
 if(l2_meta.vlan_tags == 0) {
  process_assign_vlan();
 }
}
```


Parser

Header/Metadata Bus

Ingress Table$_1$ ... Ingress Table$_n$

Packet Queuing Replication and Scheduling

Header/Metadata Bus

Egress Table$_1$ ... Egress Table$_m$

Deparser