

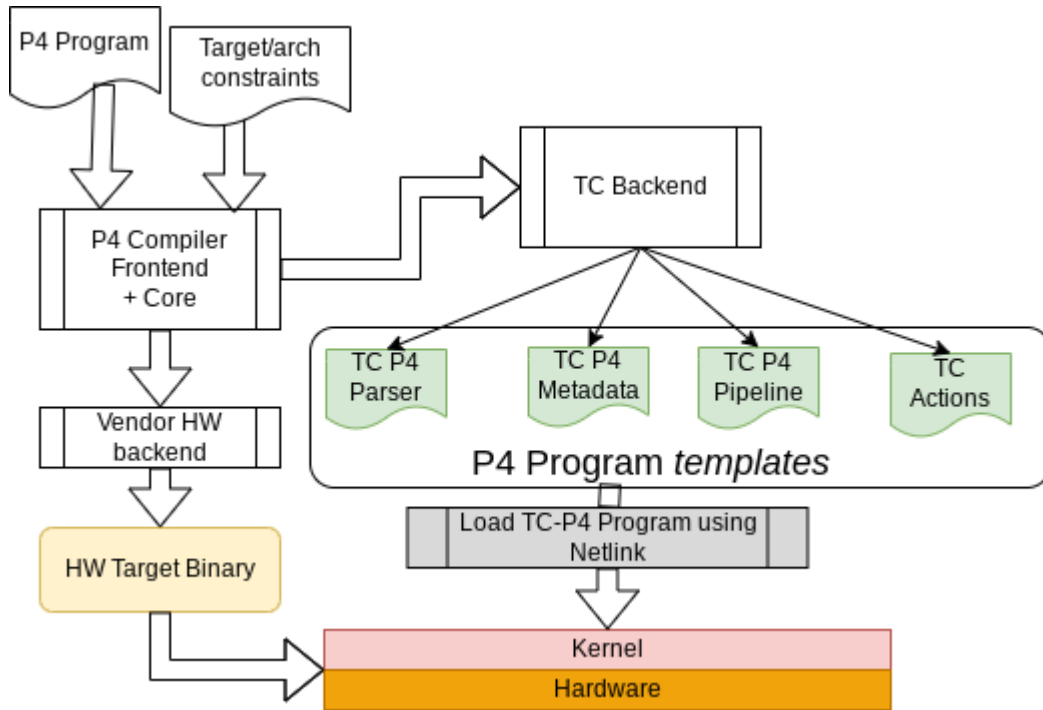
Netdev Conf 0x16

Introspection

The Intel logo is located in the bottom left corner of the slide. It consists of the word "intel" in a lowercase, sans-serif font, with a registered trademark symbol (®) to its upper right. The logo is white and is partially overlaid by a dark blue square graphic element.

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Scriptability



- P4C emits a json file that defines pipeline entities per P4 program.
- This json file has hardware independent information.
- Introspection code consumes this file and constructs a tree like data structure that describes the contents in JSON file.

- JSON includes:
 - Parser info

```
"parser": [{  
  "name": "test_parser",  
  "id": 1,  
  "header_fields": [{  
    "name": "ipv4",  
    "field_name": "dstAddr",  
    "type": "ipv4",  
    "id": 4  
  }]  
}]
```

Sample runtime commands :

```
$TC p4template create
```

```
hdrfield/simple_l3_pna/test_parser/ipv4/dstAddr  
parserid 1
```

Metadata info:

```
"metadata": [{  
    "name": "direction",  
    "type": "bit1",  
    "id": 4  
},  
{  
    "name": "global/drop",  
    "type": "bit1",  
    "id": 4  
}  
]
```

Sample runtime commands :

```
$TC p4template create  
metadata/simple_l3_pna/global/drop mid 4 type  
bit1
```

Tables/key/actions

```
"tables": [{  
  "name": "MainControlImpl/l3_match_rx",  
  "id": 1,  
  "size": 2048,  
  "keys": [{  
    "id": 1,  
    "parser_instance": 1,  
    "name": "dstAddr",  
    "mandatory": false,  
    "match_type": "exact",  
    "width": 32,  
    "type": "bit32"  
  }],  
}],
```

```
"actions": [{  
  "id": 1,  
  "name": "pna/send_to_port",  
  "action_scope": "TableAndDefault",  
  "data": [{  
    "id": 1,  
    "name": "port",  
    "width": 9,  
    "type": "dev"  
  }]  
}]
```

Sample runtime commands :

```
$TC p4template create tclass/simple_l3_pna/MainControlImpl/l3_match_rx tbcid 1 \  
  keysz 32 nummasks 8 tentries 2048 \  
  keys id 1 action gact ok \  
  postactions action ok
```

Table entry programming.

```
root@(none):/home/admin/demo/iproute2# $TC p4runtime get simple_l3_pna/table/MainControlImpl/l3_match_rx/l3_match_rx
pipeline name simple_l3_pna
pipeline id 1
table class id 1

table instance id 1

entry priority 17
key blob 0900007f
mask blob ffffffff
  entry actions:

    action order 1: simple_l3_pna/pna/send_to_port  index 12 ref 2 bind 1
    params:
      port type dev value dummy0 id 1

    Instruction: send_port_egress
    control: pipe / pipe
    operands:
      operand A type param
      pipeid 1
      actid 1
      param id 1

create whodunnit tc
created 116 sec used 116 sec
```

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