

# Decoupling TSN YANG modules from .1Q bridge

P802.1Qcw/D1.2 comment resolution

Marina Gutiérrez

TTTech Computertechnik AG

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Comments #13, #14, #15, #16 against P802.1Qcw/D1.2:

<https://www.ieee802.org/1/files/private/cw-drafts/d1/802-1Qcw-d1-2-pdis-v00.pdf>

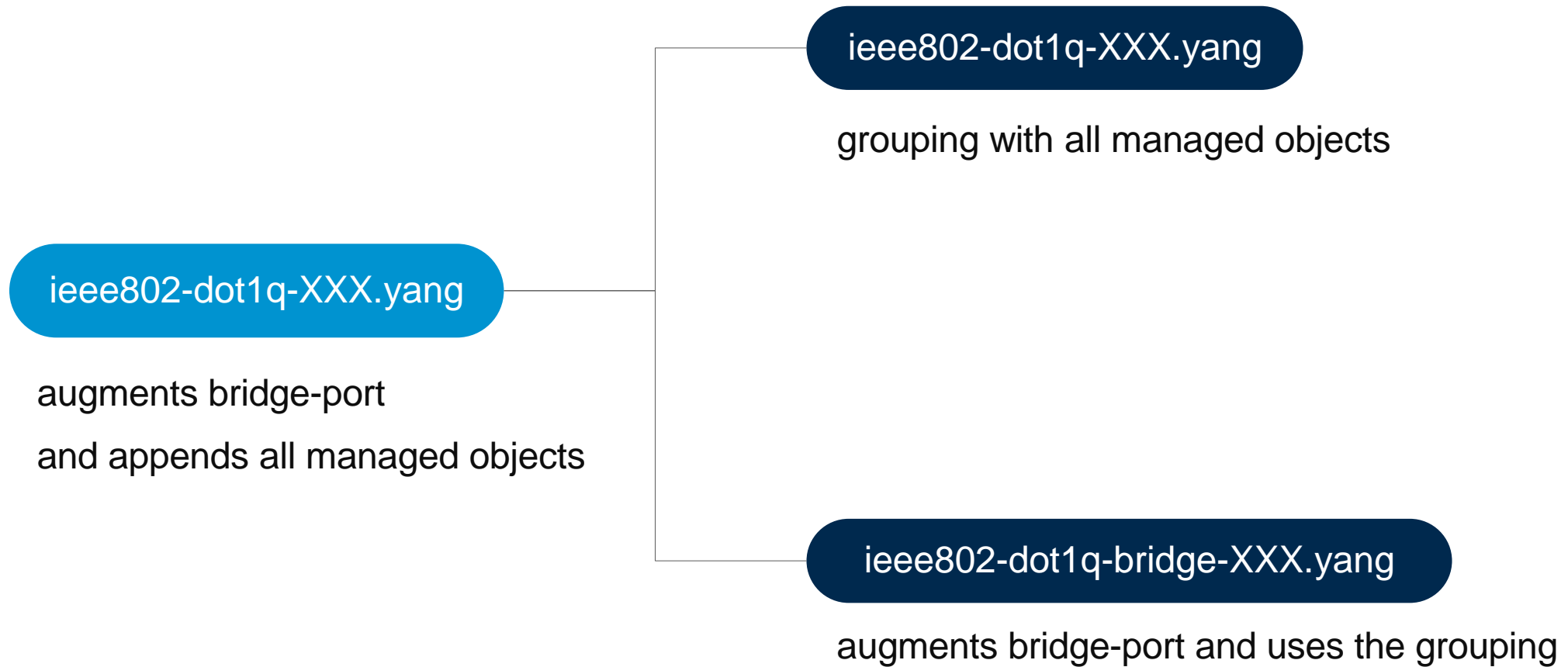
→ *“Tie QoS variables to Interfaces, not bridge-port.”*

<https://www.ieee802.org/1/files/public/docs2020/cw-finn-interfaces-not-ports-1120-v04.pdf>

Proposal from YANGsters (Scott Mansfield)

→ Copy Qcx!

# YANG models and its relationship with .1Q bridge



# Scheduled Traffic and Frame Preemption

## ieee802-dot1q-sched.yang

```
...
grouping sched-parameters {
...
}
```

## ieee802-dot1q-bridge-sched.yang

```
...
augment
"/if:interfaces/if:interface/dot1q:bridge-port" {
    description
        "...";
    uses sched:sched-parameters;
}
```

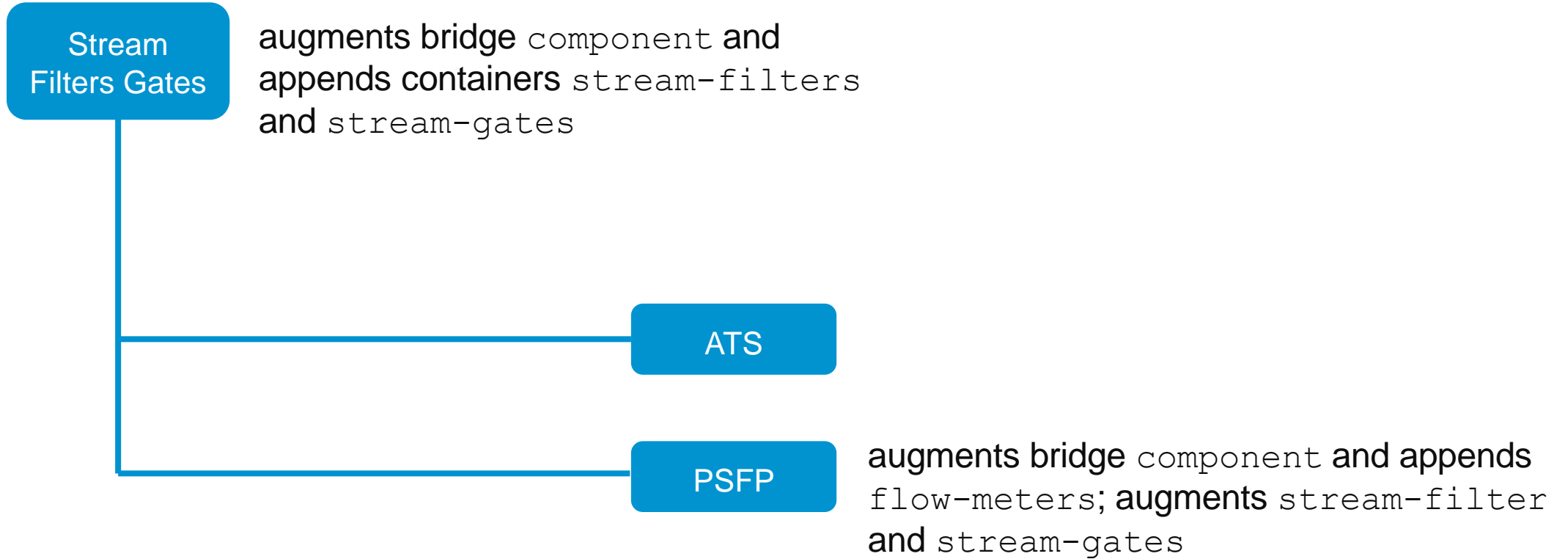
## ieee802-dot1q-preemption.yang

```
...
grouping preemption-parameters {
...
}
```

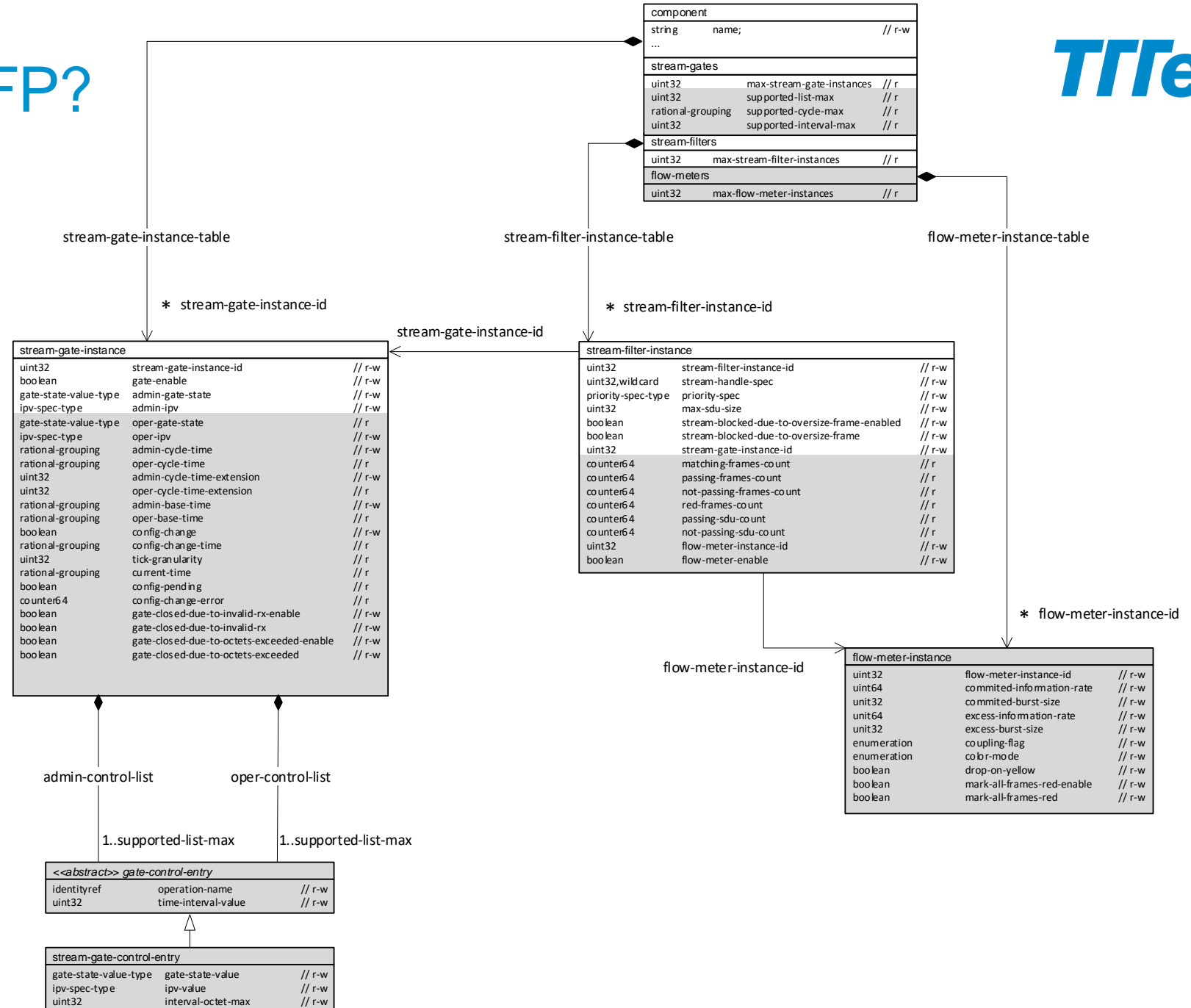
## ieee802-dot1q-bridge-preemption.yang

```
...
augment
"/if:interfaces/if:interface/dot1q:bridge-port" {
    description
        "...";
    uses preempt:preemption-parameters;
}
```

# What about PSFP?



# What about PSFP?



# Stream filters gates and PSFP (1/2)

## ieee802-dot1q-stream-filters-gates.yang

```
...
grouping sfsg-parameters {
  container stream-gates {...}
  container stream-filters {...}
  ...
}
```

## ieee802-dot1q-psfp.yang

```
...
grouping psfp-parameters{
  container flow-meters {...}
  uses sfsg:sfsf-parameters {
    augment "stream-filters/stream-filter-instance-table" {...}
    augment "stream-gates" {...}
    augment "stream-gates/stream-gate-instance-table" {...}
  }
}
```

# Stream filters gates and PSFP (2/2)

## ieee802-dot1q-bridge-stream-filters-gates.yang

```
...
augment "/dot1q:bridges/dot1q:bridge/dot1q:component" {
  description
    "...";
  uses sfsg:sfsg-parameters;
}
```

## ieee802-dot1q-bridge-psfp.yang

```
...
augment "/dot1q:bridges/dot1q:bridge/dot1q:component" {
  description
    "...";
  uses psfp:psfp-parameters;
}
```



# but... what to do with leafrefs?

## ieee802-dot1q-stream-filters-gates.yang

```
typedef stream-gate-ref {
  type leafref {
    path
      '/dot1q:bridges'+
      '/dot1q:bridge'+
      '/dot1q:component'+
      '/sfsg:stream-gates'+
      '/sfsg:stream-gate-instance-table'+
      '/sfsg:stream-gate-instance-id';
  }
  description
    "This type is used to refer to a stream gate instance.";
}
```

# What about other TSN modules?

ATS, Congestion Isolation...

About the general structure of the TSN YANG modules:

- Does the proposed approach satisfy the commenter request?
- Is the proposed approach adequate from a YANG point of view? How do we solve the `leafref` problem?

# What about the types? the imported ones...

## ieee802-dot1q-sched.yang

```
ieee802:rational-grouping;  
ieee802:ptp-time-grouping;  
dot1q-types:traffic-class-type;
```

## ieee802-dot1q-preemption.yang

```
dot1q-types:priority-type;
```

## ieee802-dot1q-stream-filters-gates.yang

## ieee802-dot1q-psfp.yang

```
ieee802:rational-grouping;  
ieee802:ptp-time-grouping;
```

# What about the types? ... and the new ones

sched, preemption and psfp had the same or similar notion of GCL

→ Qcw added grouping base-gate-control-entries to ieee802-dot1q-types.yang

## ieee802-dot1q-types.yang

```
grouping base-gate-control-entries {  
  list gate-control-entry {...}  
  leaf operation-name {...}  
  leaf time-interval-value {...}  
}
```

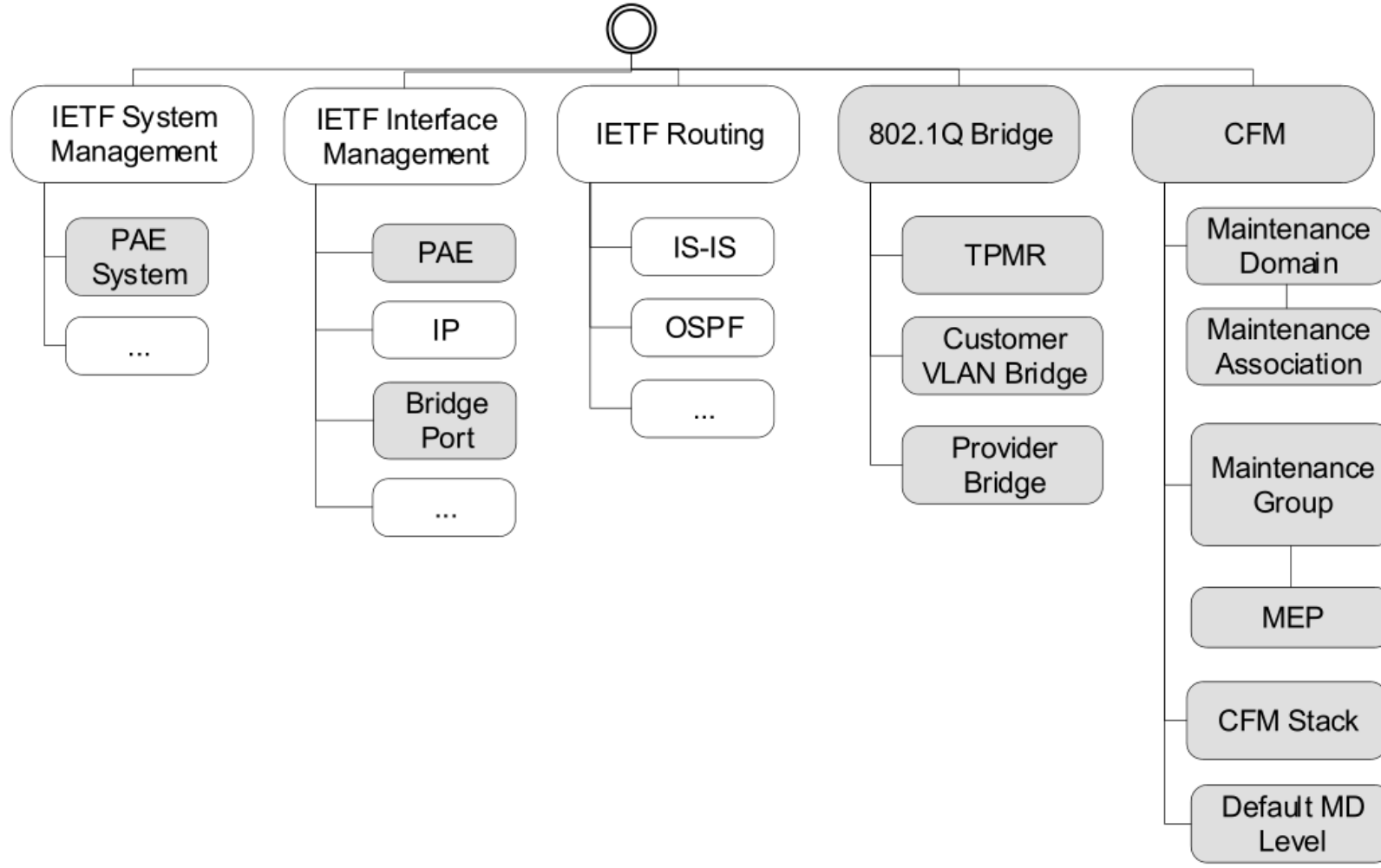
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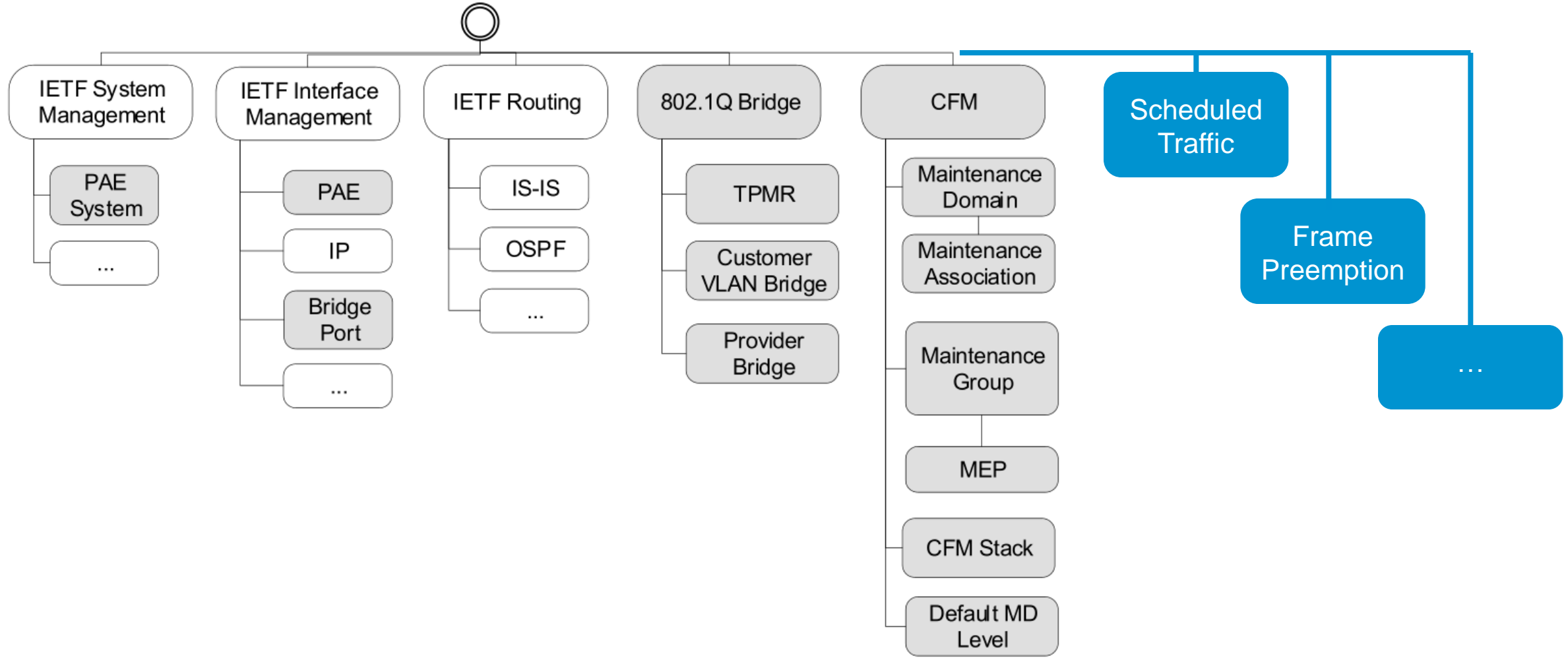
About the types

- Is it ok to have dependencies with `ieee802-types` and `ieee802-dot1q-types`?
- Should “TSN types” be placed in `ieee802-dot1q-types`? or should they be in `tsn-types`?

# YANG Hierarchy

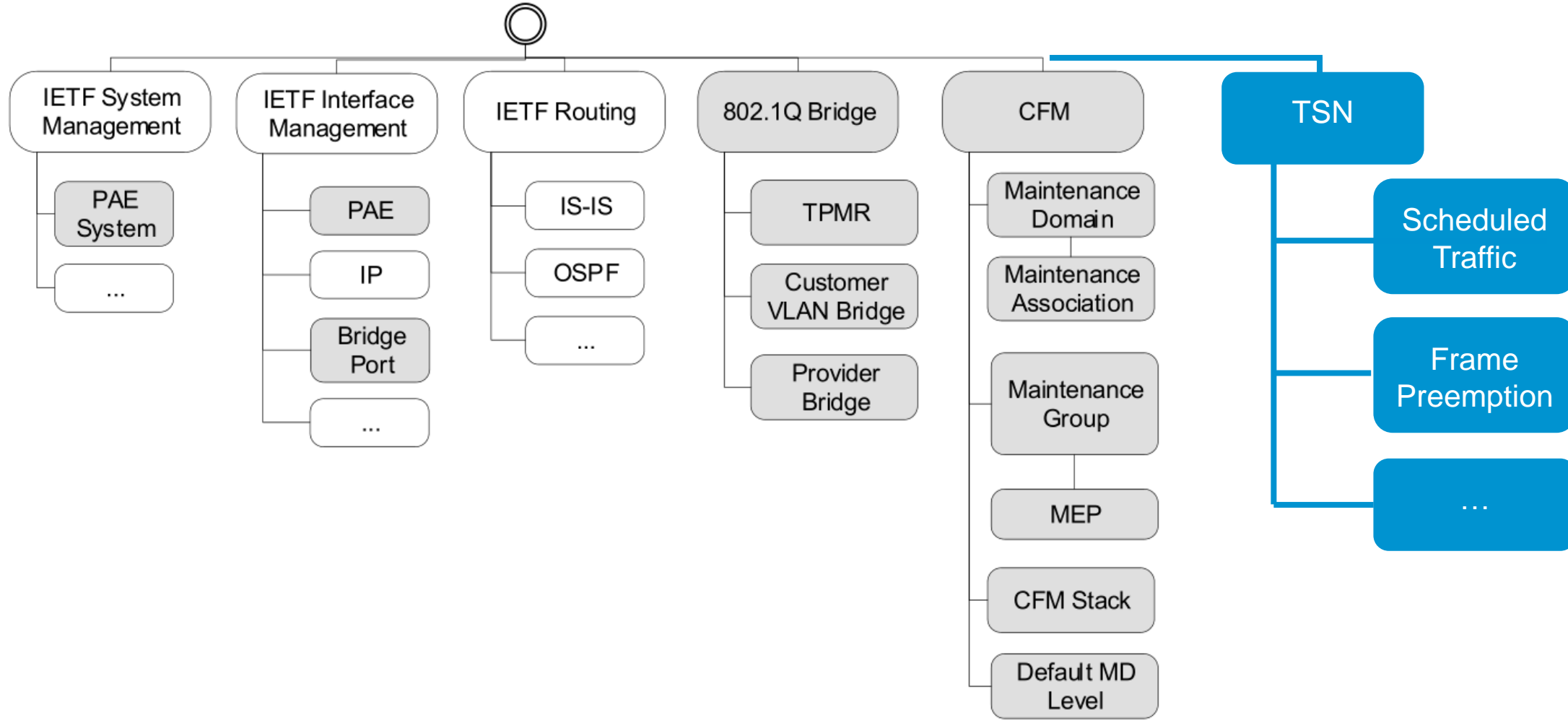


# Proposed YANG Hierarchy: Option 1





# Proposed YANG Hierarchy: Option 2



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## About the types

- Is it ok to have dependencies with `ieee802-types` and `ieee802-dot1q-types`?
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## About the YANG hierarchy

- Should we create a TSN branch? or have completely independent modules?