Using YANG for code generation

Full circle back to ASN.1

Maria Matejka, Vojtech Vilimek • 31 Oct 2024

CZ DOMAIN REGISTRY

The Problem

Users want an API described by YANG

The Problem

Users want an API described by YANG

but what if the YANG diverges from the code?

The Problem

Let’s **define the API** by YANG.

The Problem

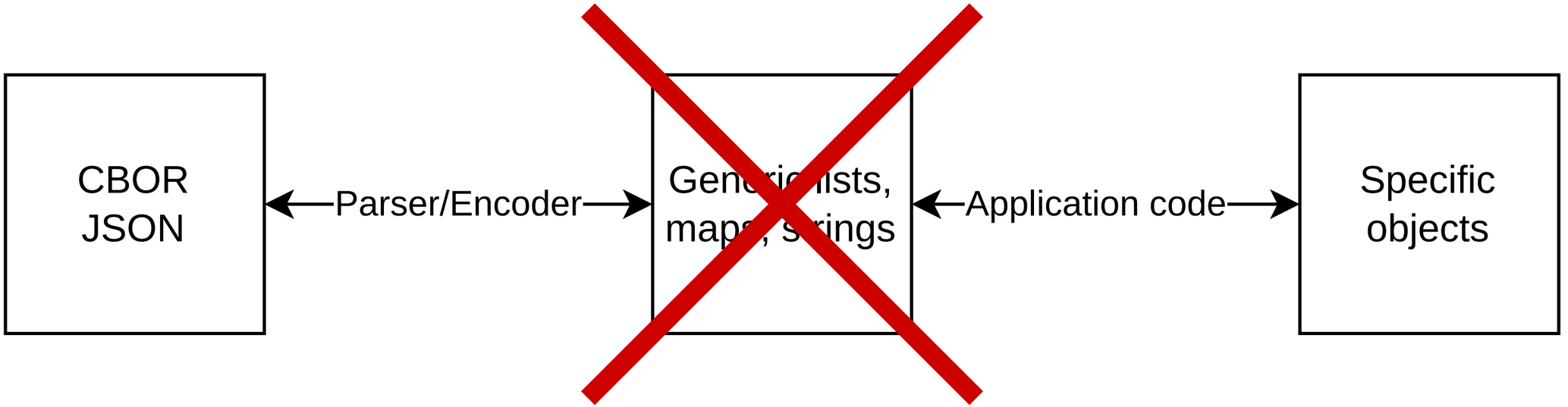
Let’s **define the API** by YANG.

But what if the code diverges from YANG?

Current Approaches

Too complex, eats memory, prone to weird errors.

The Goal



Example

```
{
  "network": "2001:db8::/48",
  "nexthop": "2001:db8:fff::1",
  "communities": [ 42, 64, 66666 ],
}
```

```
Route(IPv6Network('2001:db8::/48'),
      nexthop=IPv4Address('2001:db8:fff::1'),
      communities=set((0,42),(0,64),(1,1130)))
```

Universal YANG To Code: The Recipe

- Vanilla YANG
- Application-specific definition file
- The Tool (in progress, not public yet)

Result: an application-specific parser and encoder.

Thoughts, hints and pointers welcome.

Questions, Explanations, Discussion

Maria Matejka, Vojtech Vilimek • 31 Oct 2024

CZ DOMAIN REGISTRY