Ligato as an integration platform
(Golang integration of a BGP daemon with vpp)

Miroslav Miklus
VP of Engineering
“Ligato is an open source project that provides a platform and code samples for development of cloud native VNFs. It includes a VNF agent for VPP (FD.io) and a Service Function Chain (SFC) Controller for stitching virtual and physical networking.”
CLOUD-NATIVE CONTAINER NETWORKING

**Ligato/NFV orchestration**
- Cloud-native infrastructure
- VPP Agent
- Service function chaining
- BGP agent

**Kubernetes/Cloud orchestration**
- Deployment automation
- Scaling
- Management

**FD.io/Network dataplane**
- Vector packet processing
- GoVPP
Option 1: BGP-agent Connector

BGP INTEGRATION

BGP - Agent CN - Infra

Lifecycle SPI

BGP - Agent Specific Plugins

Core

Lifecycle Management

Watch/Notify

BGP-Agent

BGP-Agent Clients

GoBGP, ExaBGP, Quagga, BIRD

<<REST/NETCONF/gRPC/CLI/…>>

Connector

BGP-Agent Specific Plugins

<<BGP>>
Option 2: BGP-agent API & client

BGP

Agents

Specific Plugins

Lifecycle Management

BGP-Agent Clients

Watch/Notify

BGP-agent common API

Lifecyle SPI

Core

Plugin Lifecycle Management

CN-Infra

GoBGP

BGP-C

OPEN DAYLIGHT

BGP-C

ExaBGP

BGP-C

Quagga

BGP-C

BIRD

BGP-C

<<REST/gRPC/ETCD/Kafka/Cassandra>>

<<BGP>>
Option 3: BGP-agent with BGP
**BGP INTEGRATION**

**Lifecycle**

```
1 Init()
- GoBGP server instantiation

2 Init()
- WatchIPRoutes()
  - returned WatchRegistration

3 AfterInit()
- GoBGP server start

4 Close()
- watchRegistration.Close()

5 Close()
- GoBGP server stop
```

Regular microservice operation (gobgp plugin will notify about learned routes)

CN-Infra

Core

Plugin Lifecycle Management

VPPL3BGP

GoBGP

GoBGP server start

WatchIPRoutes()

WatchIPRoutes()

GoBGP server stop

GoBGP server instantiation
BGP MVP done by 2 former Java developers in ~1 month

**Ligato** as an integration platform not only for **cloud native VNFs** but also for **your** existing **services and applications**
Pantheon Technologies s.r.o.
Mlynské Nivy 56
821 05 Bratislava, Slovakia

+421 2 206 65 111
sales@pantheon.tech
pantheon.tech