

Cloud-native Container Networking

Orchestration at Cloud Scale, Data Plane with Terabit Performance



Cloud-native Container Networking

Using Best of Breed to Get **Kick-Ass Cloud Networking Platform**

Cloud-native Networking Platform

Network-as-a-Service
Network-as-a-Service
Network-as-a-Service



kubernetes



LIGATO



kubernetes

Production-Grade Container Orchestration

- Most portable on the planet
- Superior extensibility and self-healing



LIGATO

Cloud-native NFV Orchestration

- Scalability, performance and agility
- Marries K8s with NFV topologies



Fast Data Input/Output

- Most efficient on the planet
- Top performance, flexibility and extensibility



Production-Grade Container Orchestration

For Native Cloud Network Services



PORTABILITY

Public, private, hybrid, multi-cloud.



EXTENSIBILITY

Modular, pluggable, hookable, composable.



SELF-HEALING

Automatic: placement, restart, replication, scaling.



CLOUD SERVICES

Foundation for cloud native network services



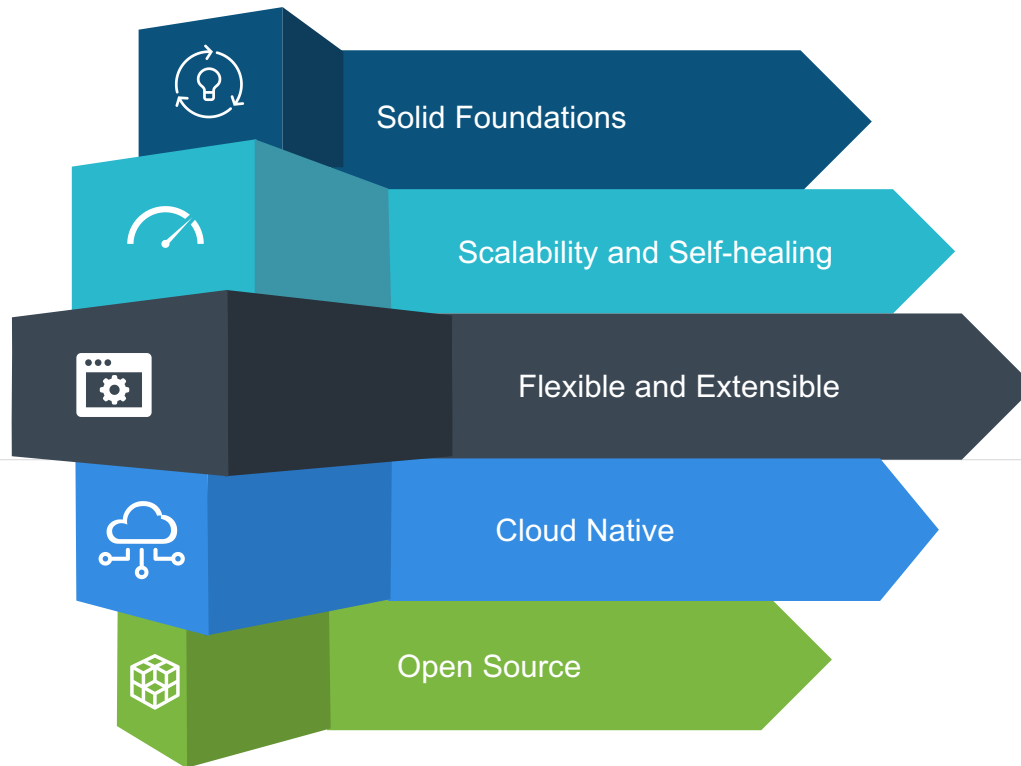
LINUX FOUNDATION

Open source collaborative project in Linux Foundation



Cloud-native NFV Orchestration

For Native Cloud Network Services



SOLID FOUNDATIONS

Kubernetes for automated deployment and lifecycle of containers, **FD.io** for efficient and performant data plane.



SCALABILITY and SELF-HEALING

Follows Kubernetes scale and self-healing principles.



SOFTWARE DEFINED NETWORKING

Software programmable, extendable and flexible.



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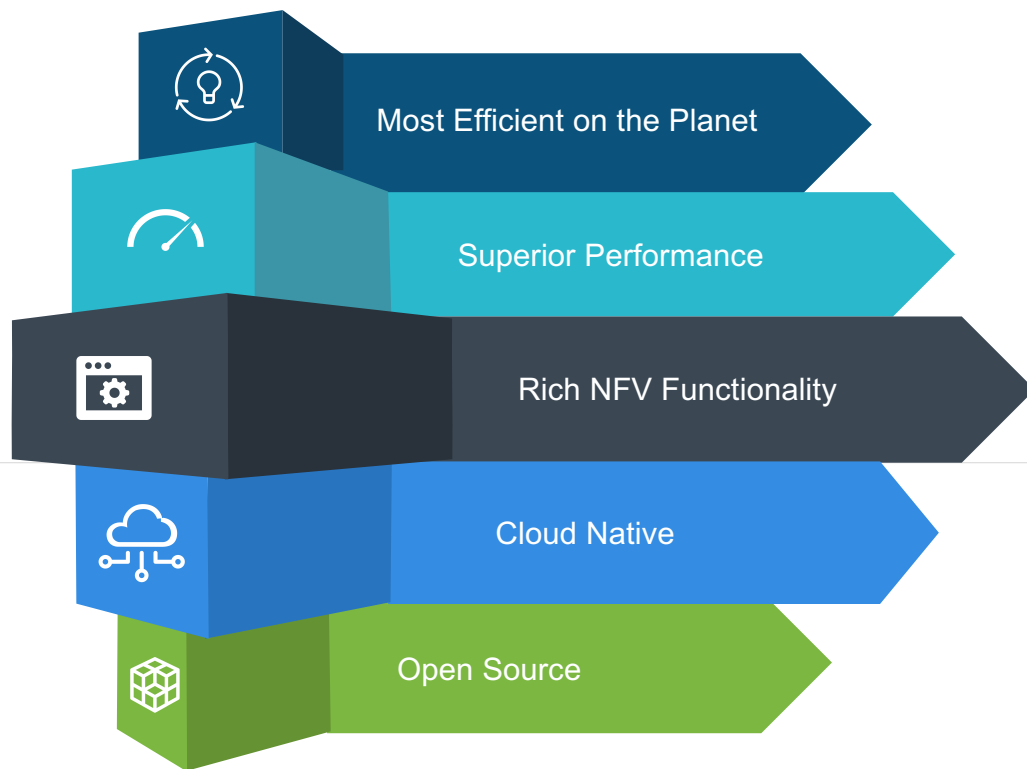
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FD.io – Fast Data Input/Output

For Native Cloud Network Services



EFFICIENCY

The most efficient software data plane Packet Processing on the planet



PERFORMANCE

FD.io on x86 servers outperforms specialized packet processing HW



RICH NFV FUNCTIONALITY

Switching, routing, overlays, crypto, security, the list is very long, very network feature rich.



CLOUD SERVICES

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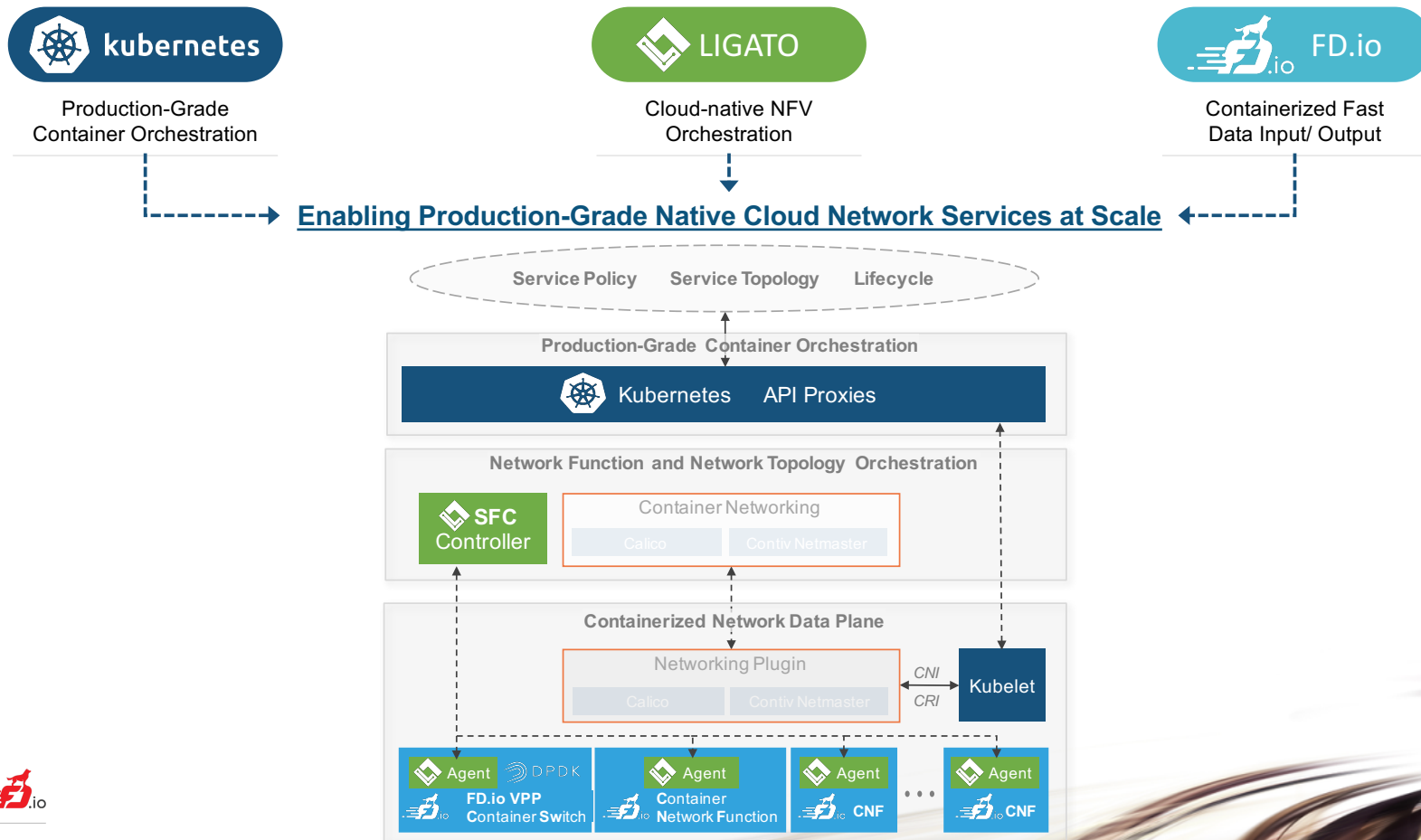


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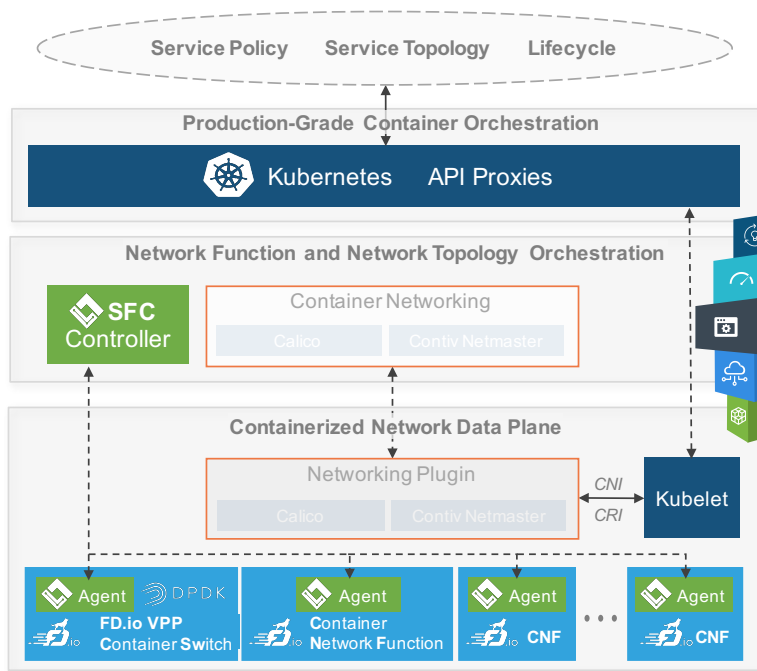
For Native Cloud Network Services



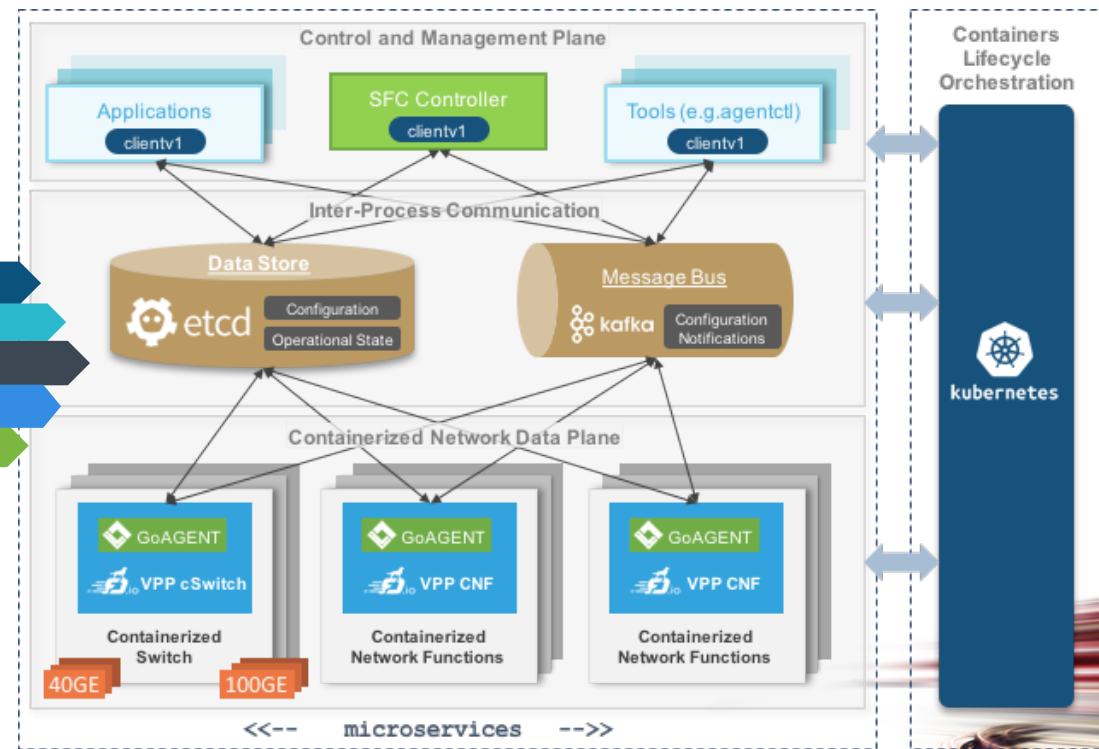
Cloud-native Container Networking

Putting It All Together Now – The System Design

Functional Layered Diagram



Implementation Diagram as Demonstrated



Demonstration

Prepare System Environment

- 1 Install Container orchestration infrastructure
- 2 Define Kubernetes PODs with Docker Containers in .yaml files

Deploy Network Services

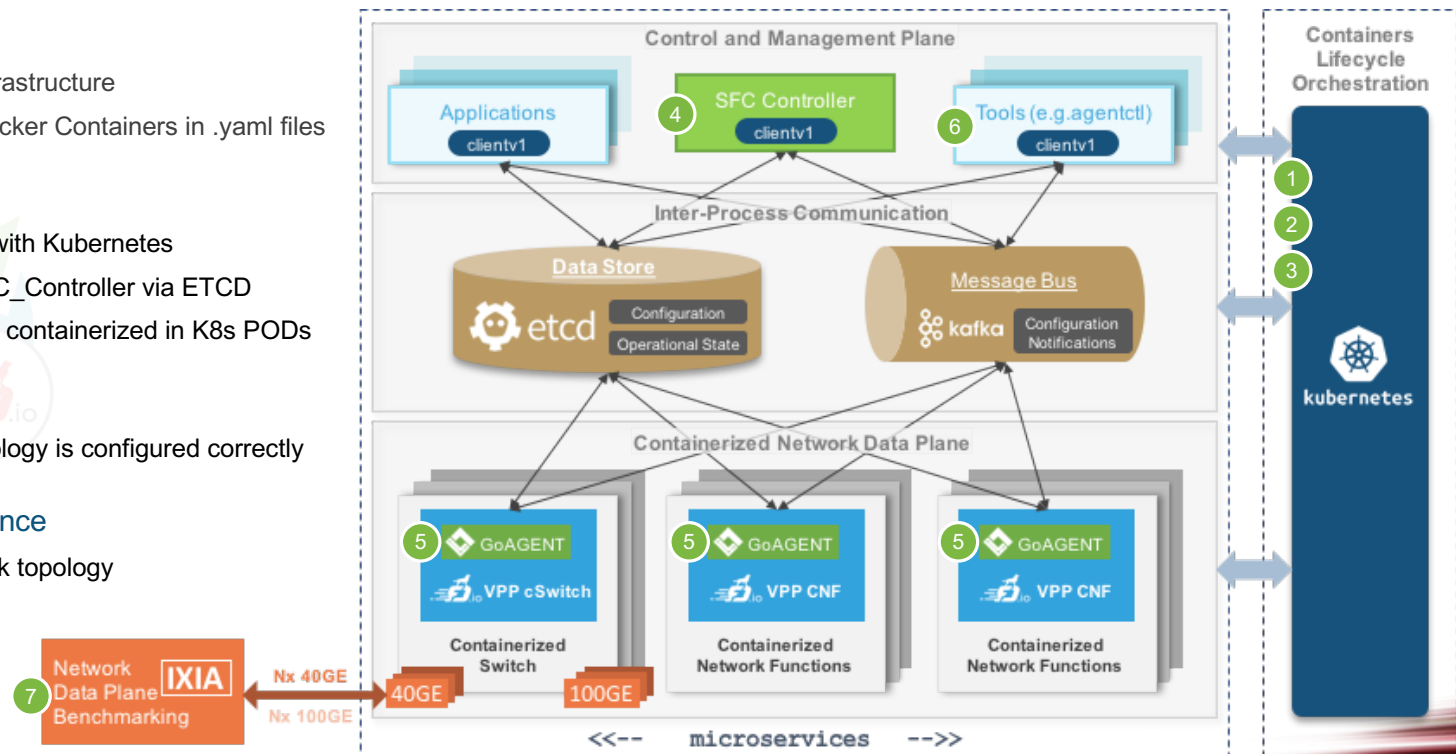
- 3 Deploy defined Container PODs with Kubernetes
- 4 Deploy network topology with SFC_Controller via ETCD
- 5 Agents configure their local VPPs containerized in K8s PODs

Verify Service is Up

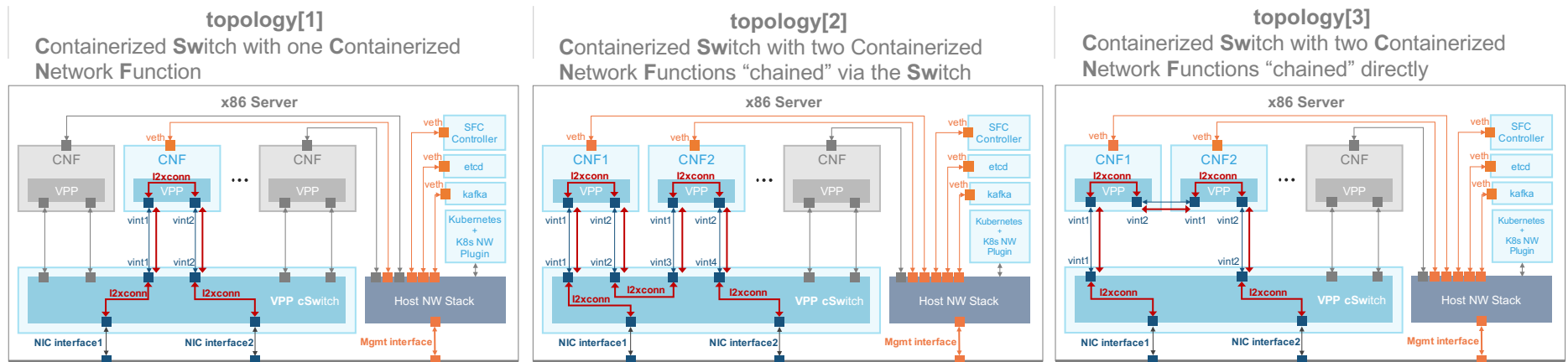
- 6 Verify Containerized network topology is configured correctly

Benchmark for Service Acceptance

- 7 Benchmark Containerized network topology



Demonstration – Containerized NFV Scenarios



Type of <u>virtual interface</u>	topology[1]	topology[2]	topology[3]
memif	scenario1	scenario2	scenario3
af_packet	scenario4	scenario5	scenario6