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Europe 2026

#KubeCon #CloudNativeCon

Let Your Network Speak!

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NetObserv introduction



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Cloud-native components used to observe network traffic in Kubernetes:

- Based on eBPF, managed by an operator
- Fully open-source
- For the most part, CNI-agnostic

<https://netobserv.io/about/>

NetObserv introduction



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- Network flows generation from packet headers: IPs, ports, etc.
 - K8S resources correlation
 - DNS decoding
 - RTT
 - Drops
 - NAT
 - Cloud AZ
 - Soon: TLS & QUIC usage
- With OVN-Kubernetes: network events and UDN enrichment.
- API extensions: customize metrics and health dashboard.



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NetObserv demo



NetObserv demo



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NetworkPolicies and how to debug them



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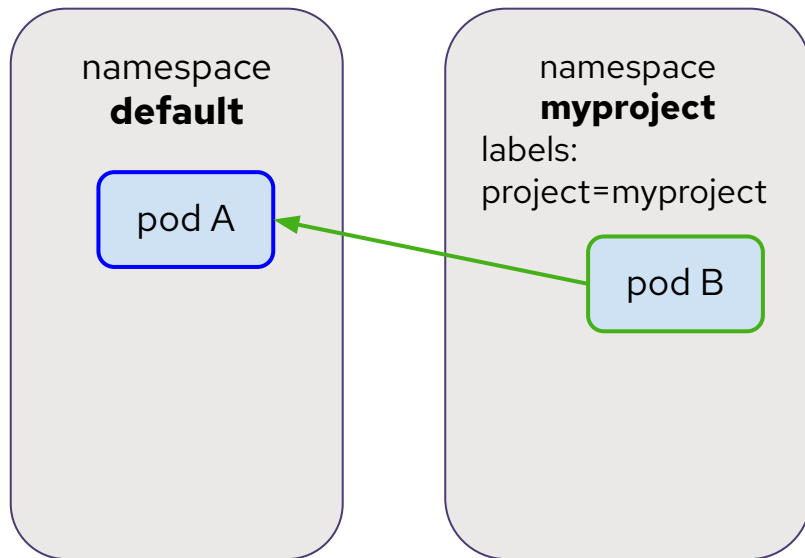
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NetworkPolicy is a kubernetes API that ensures network security, by specifying connections that should be allowed for a namespace. All the other connections for a namespace will be denied.

```
apiVersion: networking.k8s.io/v1
kind: NetworkPolicy
metadata:
  name: test-network-policy
  namespace: default
spec:
  podSelector: {}
  ingress:
    - from:
      - namespaceSelector:
          matchLabels:
            project: myproject
```

pods that
are isolated

pods, from
which
connections
are allowed



NetworkPolicies and how to debug them



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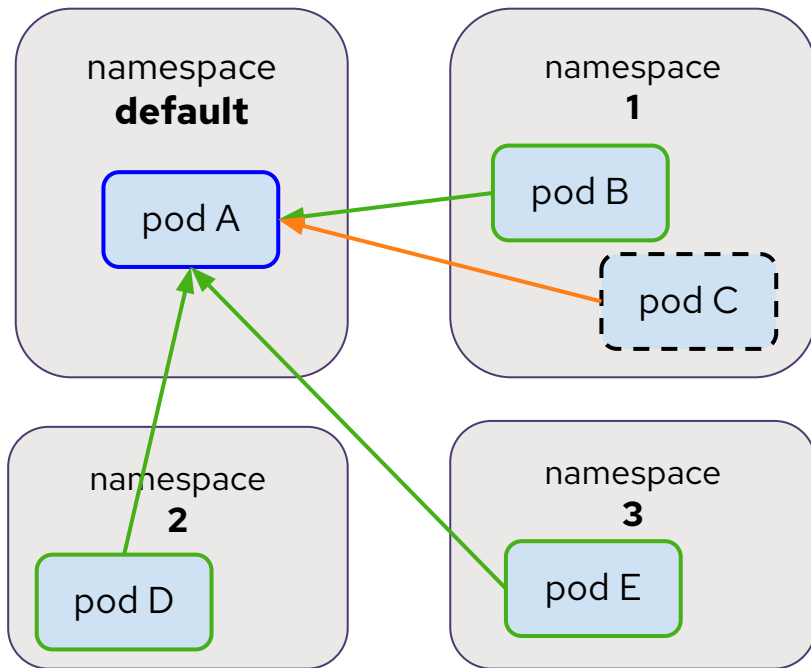
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In real clusters, the amount of Network Policies may go beyond thousands.

It gets difficult to understand, why exactly some connection is allowed or denied.

AdminNetworkPolicy (ANP) is a cluster-scoped resource that defines security rules for the network. It adds a new persona to the picture: cluster admin may configure ANPs that namespace owners don't know about.



Let's ask the network!



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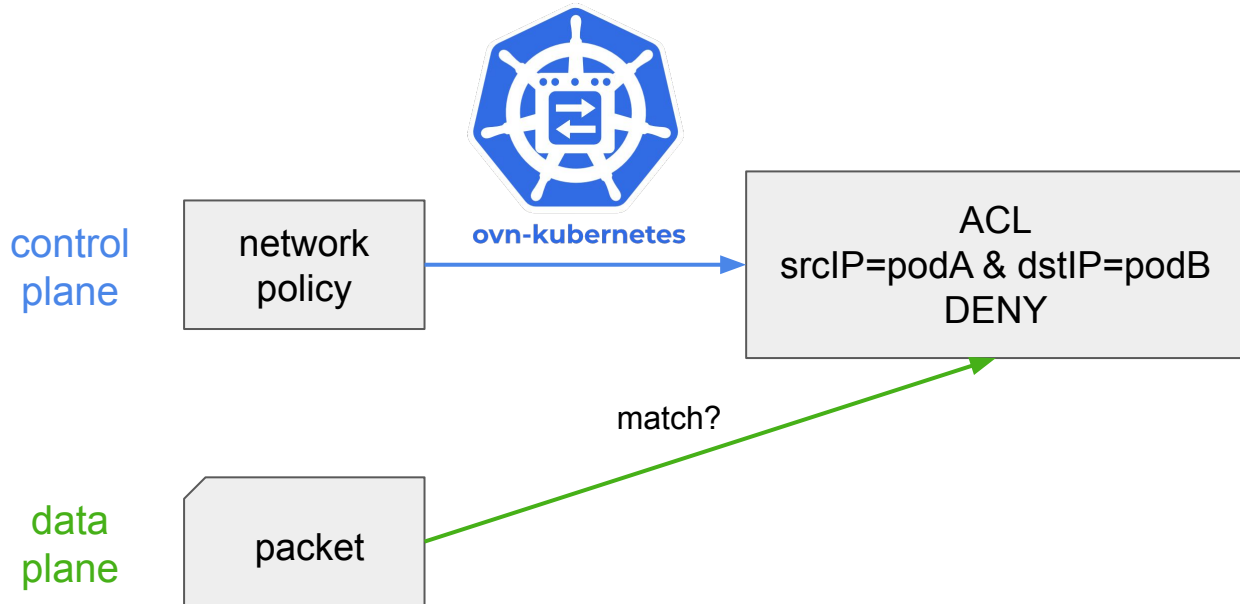


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OVN-kubernetes is a networking plugin that translates k8s objects into OVN (Open Virtual Network) database entries.

OVN then translates everything into OVS (Open vSwitch) flows.



Let's ask the network!



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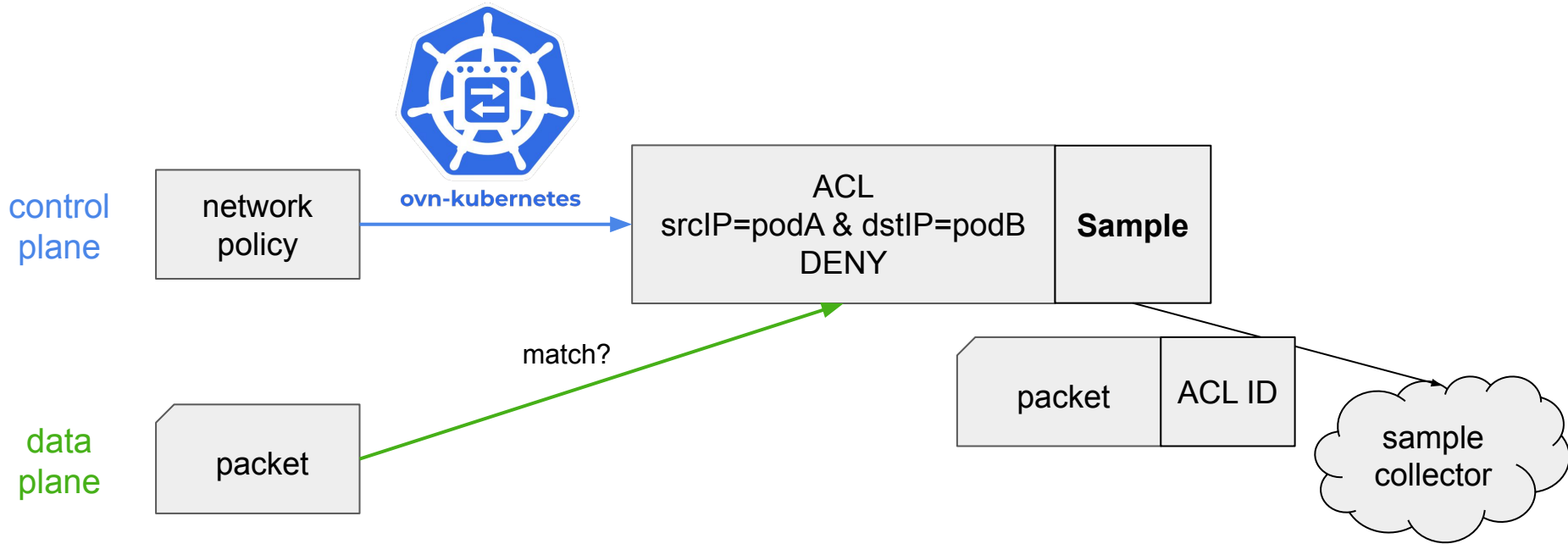


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That will be easy, right?

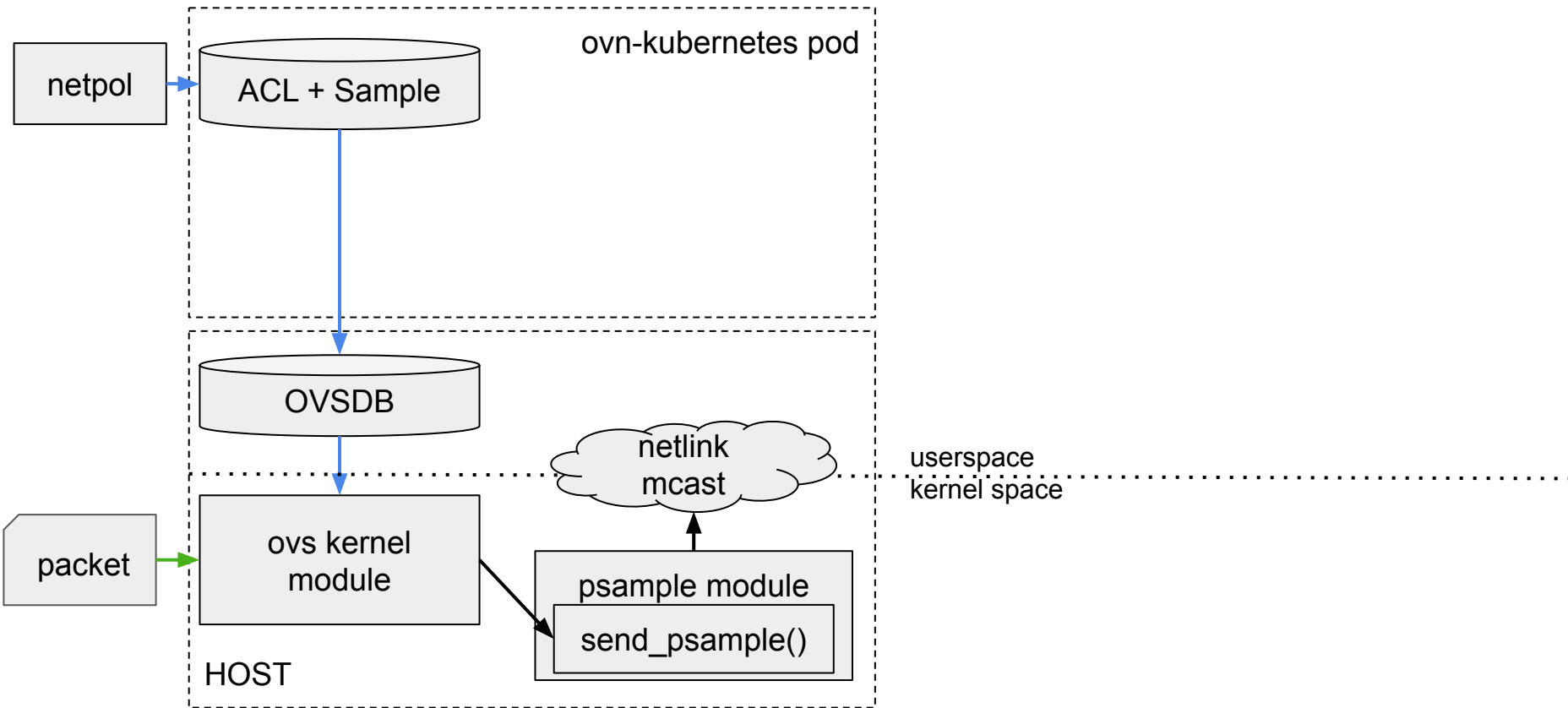


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That will be easy, right?

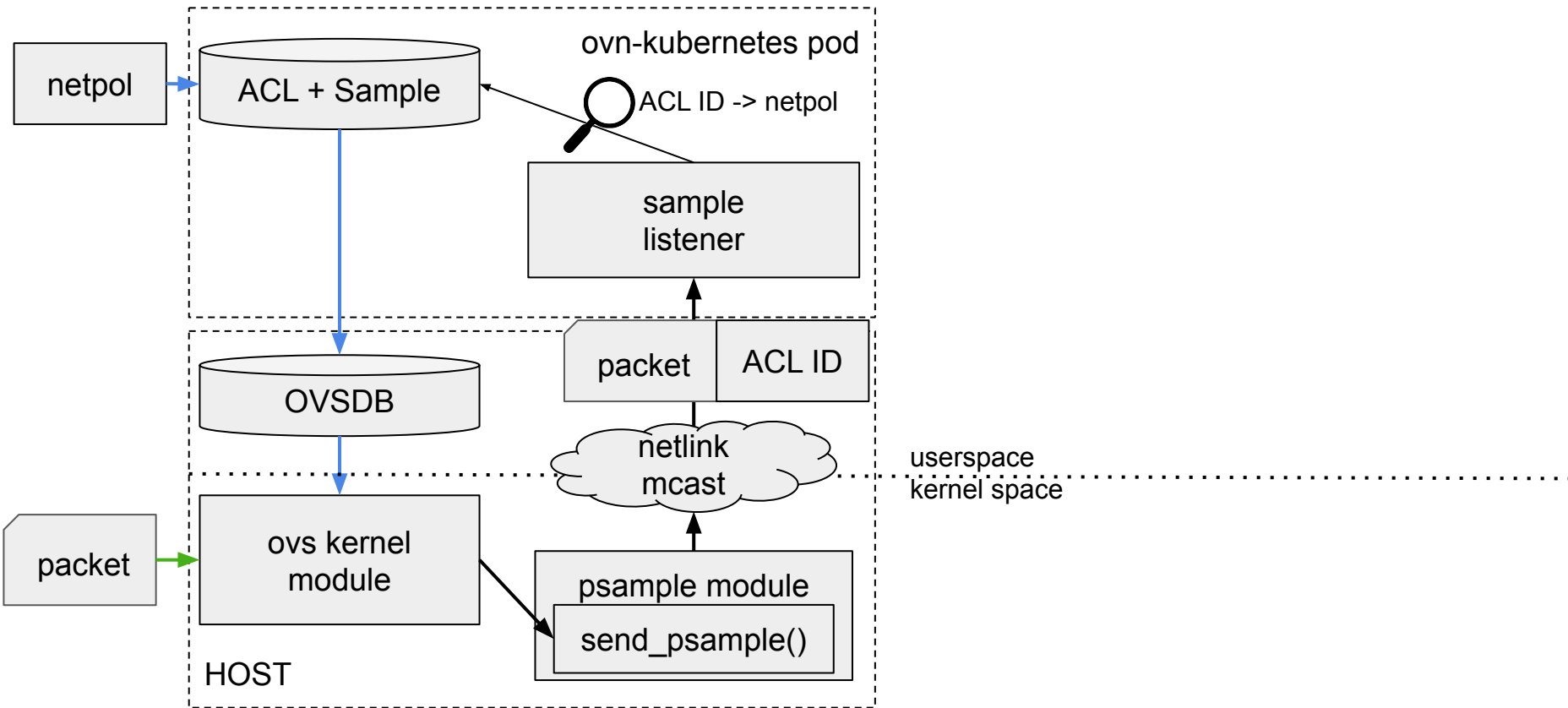


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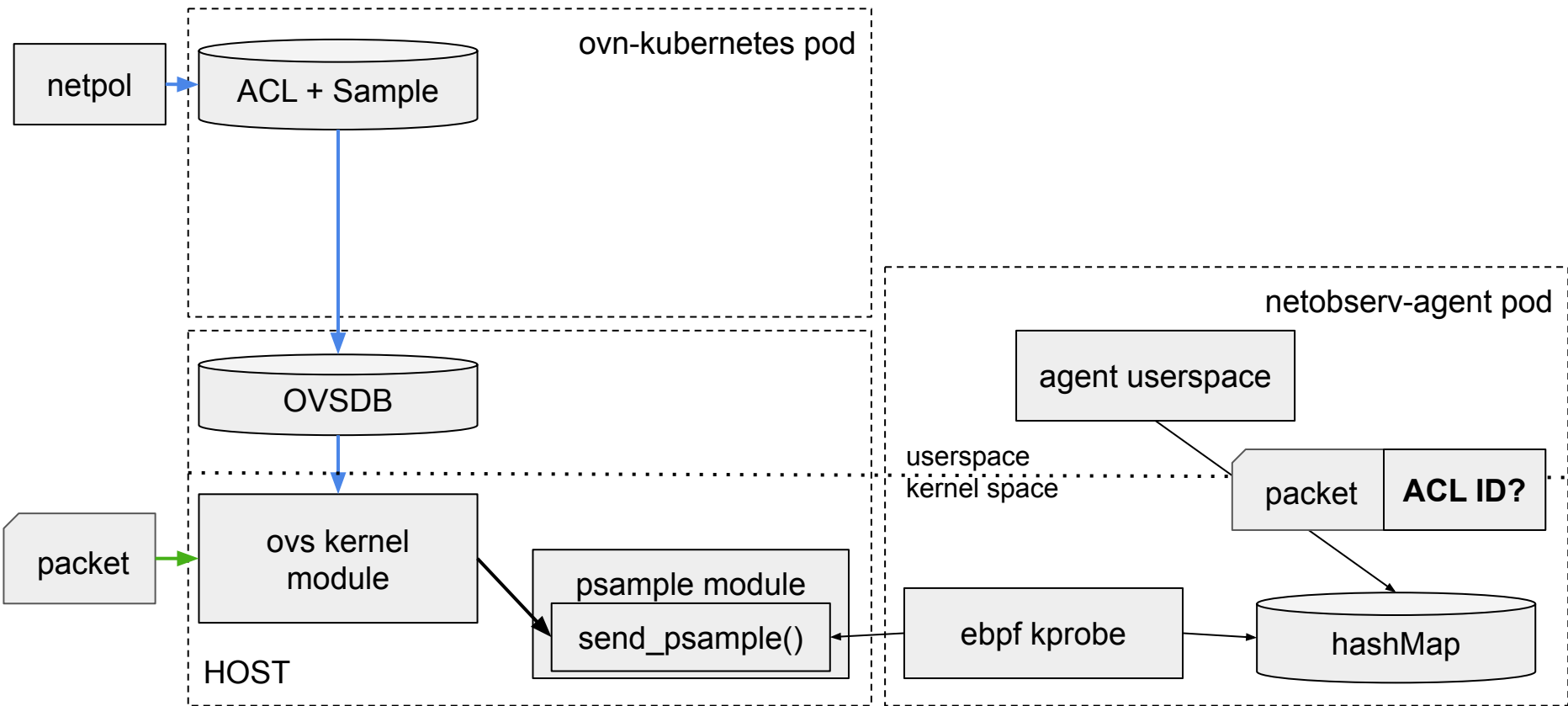


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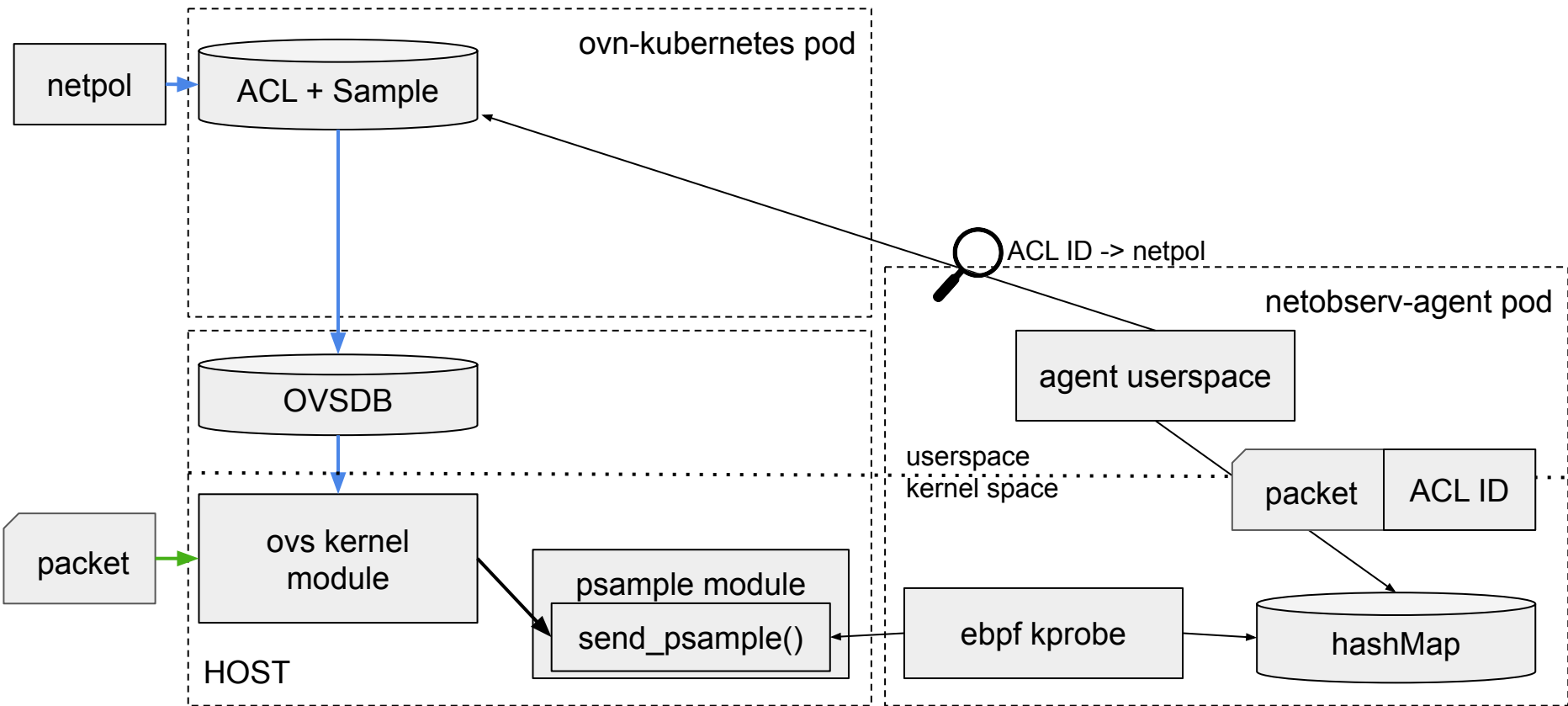


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Demo



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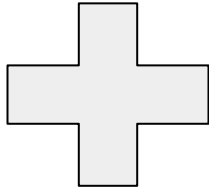


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ovn-kubernetes



npinaeva@94f3a3e-lcelt: ~\$

Why it's useful?



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- cross-persona communication
 - AdminNetworkPolicies are created by the admin and may not even be visible to the users
 - namespace owners may be affected by ANPs with almost no way to debug
- fast debugging of dropped connections, no need to extra tools
- sometimes connections are allowed, but for the wrong reason
 - usually this case wouldn't catch anyone's attention
- more types of Samples may be added for other types of networking information
- netobserv allows you to create custom metrics and alerts based on the network events



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Thank you

