



STARLINGX

Tungsten Fabric
Kubernetes Networking

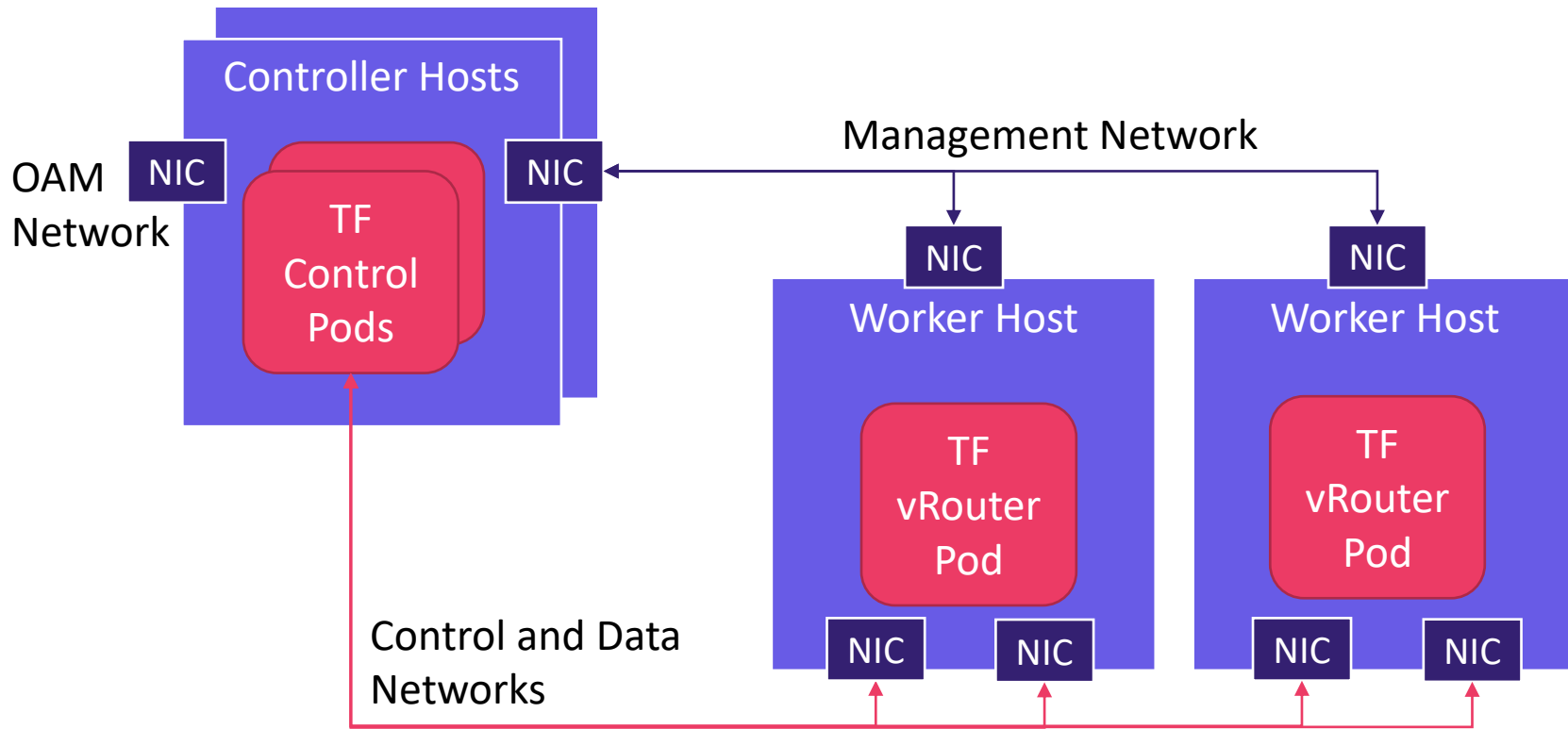


Tungsten Fabric Kubernetes Networking

- Tungsten Fabric as an integrated CNI for StarlingX Kubernetes platform:
 - Deployable by StarlingX Ansible Playbook during initial bootstrap
 - Containerized Service Deployment of TF control plane and data plane
 - Control plane deployment should be optional for multi-cluster deployments
 - Data plane deployment should support Kernel, DPDK, SRIOV and SmartNIC data paths
- Shared control plane for Distributed Cloud deployments:
 - Control deployed to central region (configdb, config, control, analyticsdb, analytics and webui)
 - Agents deployed on sub-clouds with vRouter data path
- <https://tungsten.io/>



StarlingX TF Deployment Model





Integration Investigation

- Cluster Deployment Architecture
 - StarlingX supports 1 and 2 node control node deployment architectures which must support the clustering requirements of TF (quorum requirements – 3, 5, 7, etc nodes)
- Network Interface Configuration
 - System Inventory and Configuration of StarlingX handles all infrastructure management of the host and network interfaces which would need to be coordinated with TF
 - TF assumes the role of managing the control and data network interfaces
- Data Path Integration
 - vRouter kernel data path requires a kernel module built for the StarlingX kernels (CentOS based)
 - vRouter DPDK data path requires access to huge pages and VFIO device binding
 - Standard setup for a containerized DPDK application
- Host Network Firewall
 - StarlingX OAM Network host firewall policies are currently based on Calico GlobalNetworkPolicy and HostEndpoint CRD resources
- Shared Control Plane for OpenStack
 - Rather than deploy a standalone instance of TF for the containerized OpenStack, it would be ideal to share the same control plane for both the Container and Virtualized Workloads



A Fully Featured Cloud For The Distributed Edge

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Mailing Lists: lists.starlingx.io

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