Training

Call for Volunteer Subject Matter Experts (SMEs)

The Linux Foundation (LF) is creating 1 ¼ day Tungsten Fabric training that will be offered as paid online and face-to-face courses. This is a call for SME volunteers to conduct train-the-trainer sessions with the team creating the training materials.

The course outline is provided below. Most chapters below will include lecture (slides/writeup) and hands-on labs. The labs will be on AWS. Each train-the-trainer session is expected to be 30-60 minutes long. The agenda for these train-the-trainer sessions will be:

- Point the training material developer to slides/wiki/documentation that can be used to create slides.
- Show the training material developer a demo of the hands-on lab. If needed, an AWS environment will be stood up before the call.

Please volunteer by putting your name below. If you are interested in contributing to a chapter which already has an SME listed, please add your name to that chapter's list.

	Chapter	SME (Insert Name)	Chapter Length	Status
1	Introduction to Tungsten Fabric • The TF project • Community; benefits of TF • Describe TF architecture and overlay network principles • Explain components of TF • Service Chaining • Monitoring • Multi Tenancy • **TF and Containers**	Sukhdev Kapur Armen Martirosyan winahyu utomo	30 slides	Committed to branch and under review by LF team

	Introduction to Tungsten Fabric Lab
	• Pre-lab: Install **TF & Kubernetes** and make sure the services are up and running.
	• Lab-1: Create and deploy a Kubernetes pod and make sure the Virtual Networks (vrouters/gateways) are configured so that the pod can be accessed.
	  ○ As part of this lab exercise, the pods will be created in k8s and the corresponding configurations will be defined in services yaml file.
	  ○ TF uses the configuration defined in the service yaml file and creates virtual networks.
	• ~~Labs: Create Simple Gateway~~
			30 minute lab	Committed to branch and under review by LF team.
				Final regression testing of labs is pending.

2	Architecture Deep dive • Architecture Overview • TF Control Plane • TF Data Plane • TF Management • TF Basic Troubleshooting • TF Security Policy Framework	No SME required, we will refer to arch page	30 slides	Committed to branch and under review by LF team
3	TF Configuration • Configuration techniques • vRouter configuration • Virtual networks configuration • **Network policy**/security group configuration • TF API • Remote edge	Sukhdev Kapur Shivayogi Ugaji	20 slides	Committed to branch and under review by LF team

	TF Configuration Lab
	• Lab-2: Create multiple tenants (namespaces and pods) and deployments with access restrictions **(Network policy)** and show the communications between pods from different namespaces. This involves:
	  ○ Creating multiple namespaces and a few pods and deploying corresponding services
	  ○ Define network policies to allow and deny communication between two pods
	• ~~Labs: Virtual networks and policies~~
			45 minute lab	Committed to branch and under review by LF team.
				Final regression testing of labs is pending.

4	TF & External Networks • Connecting virtual and physical networks • **Floating IPs** • Simple virtual gateway configuration • EVPN	Edward Ting winahyu utomo	15 ~~20~~ slides	Committed to branch and under review by LF team
	TF & External Networks • Lab-3: Create and deploy a pod using **Floating IP** so that the pod can be accessed externally. ○ This exercise could be combined with Lab-1 because the floating IPs are created automatically by TF upon deploying a service. • ~~Labs: Creating floating IPs and gateways~~		45 minute lab	Committed to branch and under review by LF team. Final regression testing of labs is pending.

5	TF Network Services • Baremetal workloads • BGP-as-a-service • **LBaaS (Load Balancer as a Service)** • vRouter deployment models (Kernel, DPDK, SRIOV, SmartNic) • How to run the DPDK vRouter standalone and pass traffic • vRouter performance monitoring • DNS server • Broadcast/multicast • Device manager • ~~TF and Docker containers~~	Will Stevens Joseph Gasparakis	~~20~~ 25 slides	Committed to branch and under review by LF team
	TF Network Services • Lab-4: Create multiple tenants (namespaces and pods) and deployments with access restrictions and show the communications/access through **Load Balancer** • ~~Labs: Docker containers with TF TF using k8s for container networking~~		45 minute lab	Committed to branch and under review by LF team. Final regression testing of labs is pending.
6	Observing and Logging TF • **Monitoring** • **Logging** • Analytics	Darien Hirotsu	15 slides	Committed to branch and under review by LF team
	Observing and Logging TF • (Optional) Demo/Recorded session of **Logging/Monitoring**			Not done