



Getting Started as an Upstream Contributor

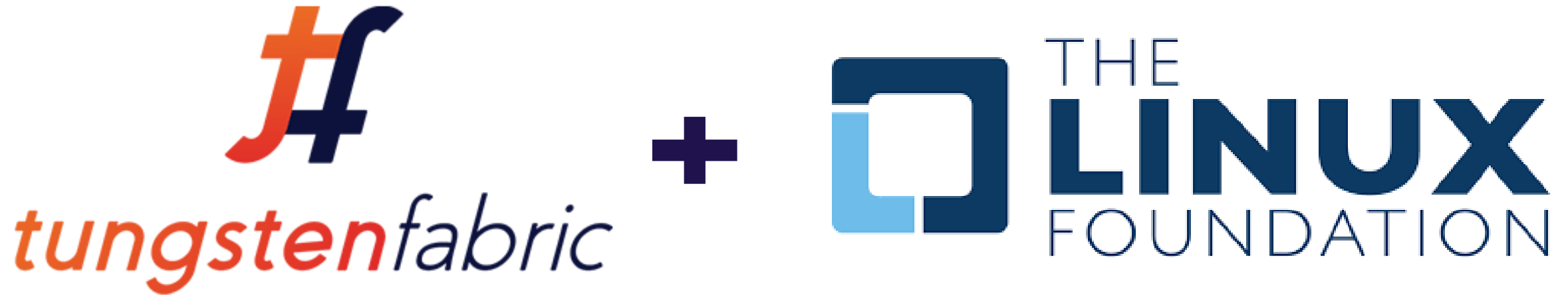
Marc Rapoport

Open Source Networking Days, Bay Area
November 1st 2018



Project Overview

Tungsten Fabric Mission



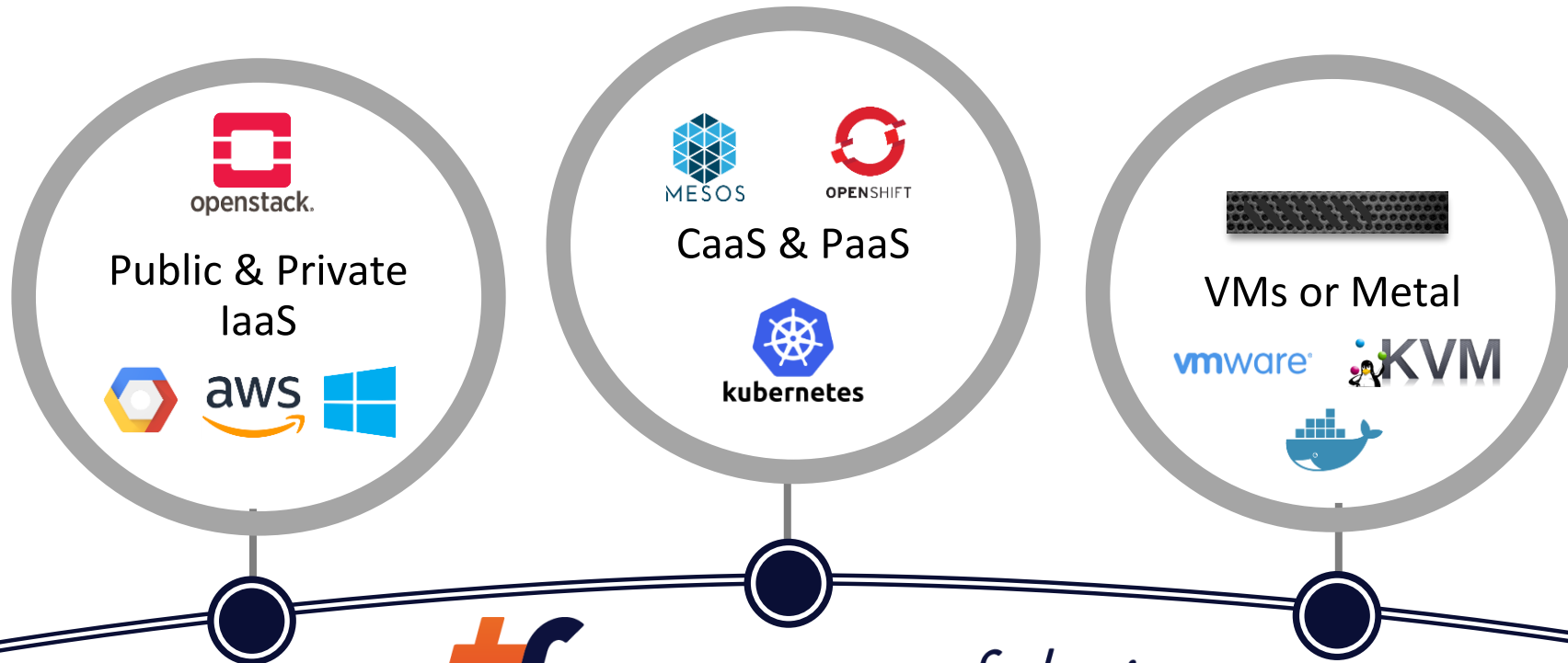
Build the world's most **ubiquitous, easy-to-use, scalable, secure**, and cloud-grade SDN stack, providing a network fabric connecting all **environments, all clouds, all people.**

<https://tungsten.io/>

Tungsten Fabric as SDN controller

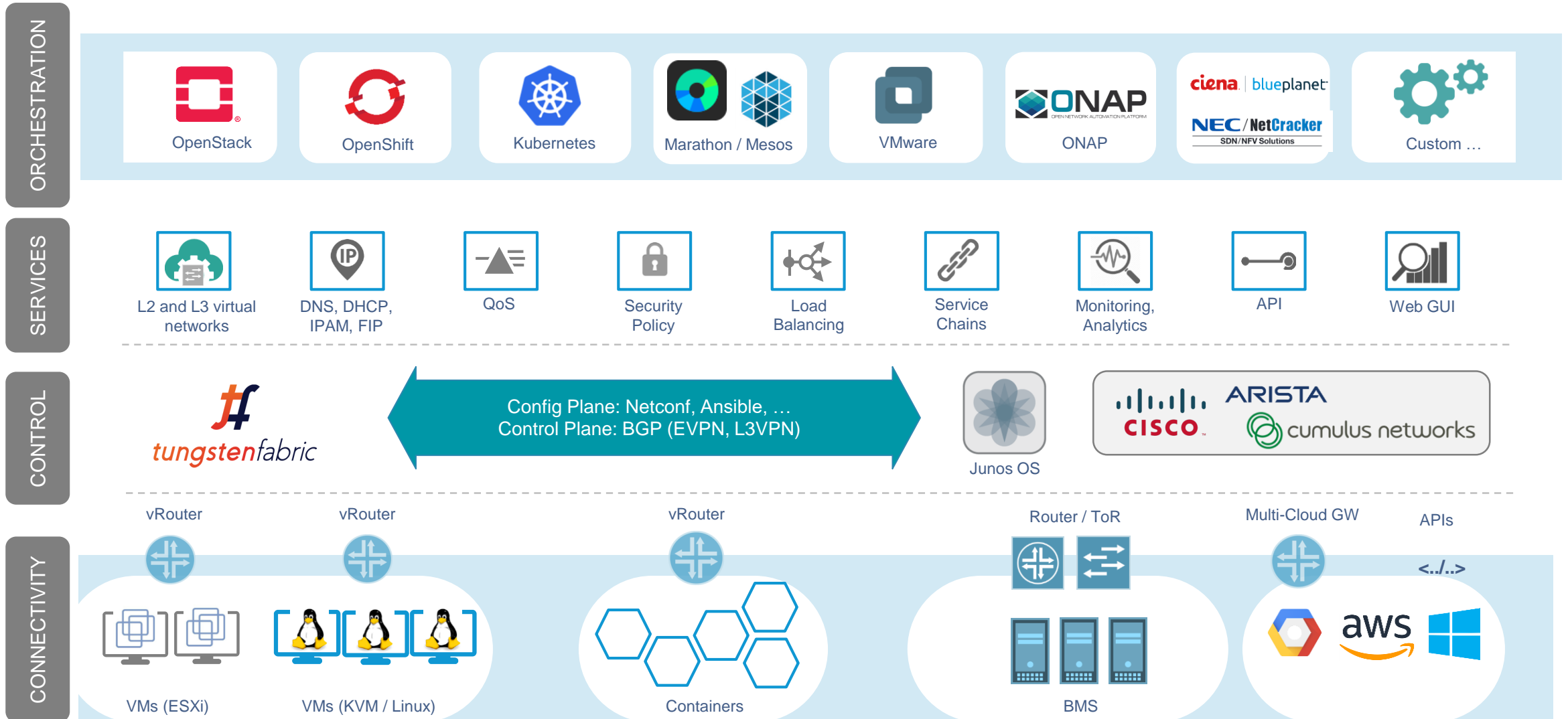
RULE THEM ALL WITH ONE

automated secure open SDN Controller



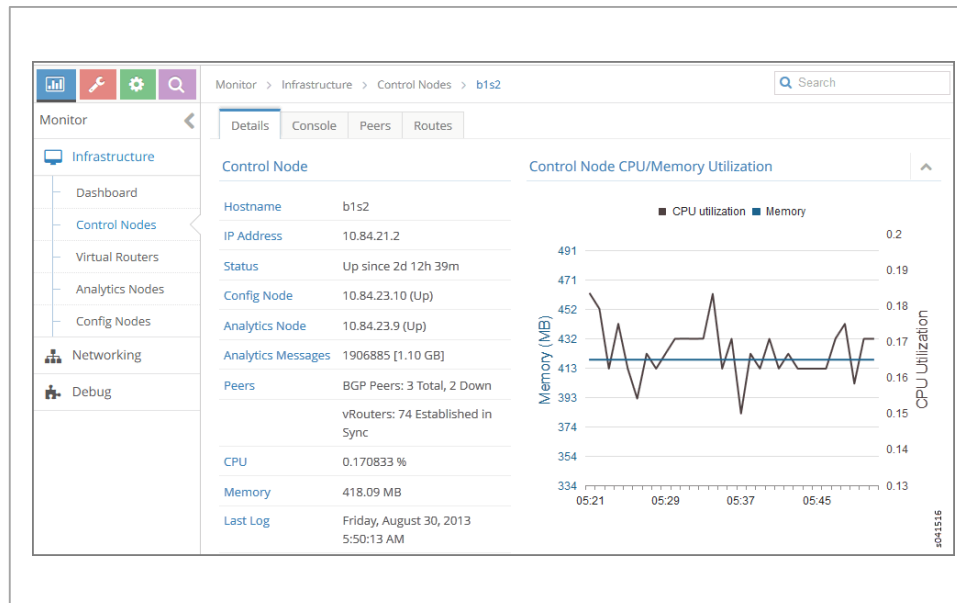
 *tungstenfabric*

Tungsten Fabric Overview



User Experience

GUI

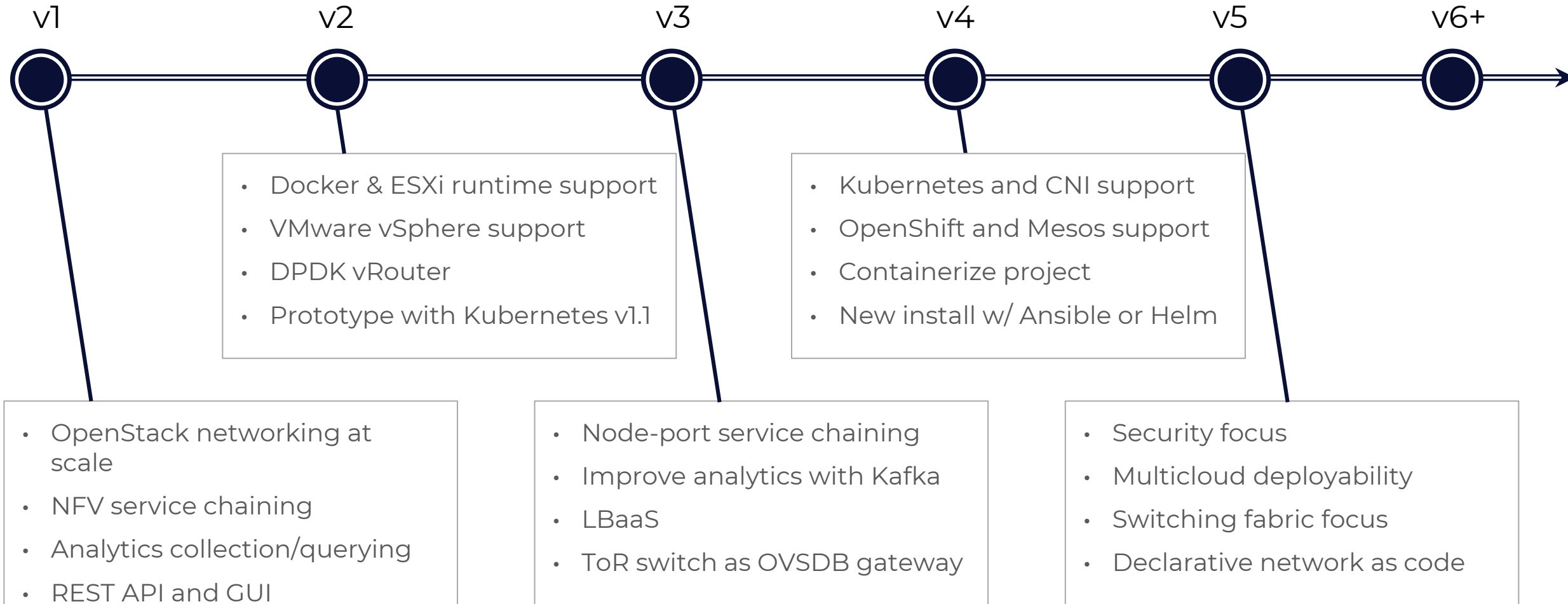


NORTH-BOUND
API



- REST API
- HTTPS authentication and role-based authorization
- Used for GUI
- Used for declarative configurations as code
- Generated from data model

Past, Present & Future



CODE & COMMUNITY



tungstenfabric

Community



Principles:

- Open and inclusive
- Provide strong technical and architectural oversight
- Competitive ideas welcome
- Rough consensus and running code will always win
- Iterate and evolve

Community Members



Community Members



Community Members



Community Members



Governance

Technical Steering Committee: Overall Project Governing Body

This primary interface to LF and LF-N for project-wide issues is divided into two permanent working groups:

- 11 members in the TSC: 5 from CWG, 5 from TWG, 1 from ARB

Community Working Group

Focused on business governance, the CWG handles policy, marketing, and budget

- Meets every Fri 11am PT
- Members are AT&T, Juniper, CloudOps, Intel, SDNessentials

Technical Working Group

Focused on technical governance, the TWG handles use cases, architecture, lifecycle, and subprojects

- Meets every Tue 9am PT
- Members are Intel, AT&T, Juniper, Aricent, Yandex

Working groups within the TWG outlined on the next slide

Community Calendar: <https://tungstenfabric.io/community/>

TWG Working Groups

Architecture Review Board (ARB)

Architecture consistency

- Define detailed Architecture
- Review Design Specs and Code
- delegated by Tech WG
- Members: AT&T, Intel, Juniper

Infrastructure Working Group (IWG)

Technical backlog

- Build a community CI
- Define documentation and test requirements
- Meets every other Tue at 5am or 11am PST
- Members: Tech TrueUp, Aricent, AT&T, Codilime, Juniper

Marketing Working Group (MWG)

Interface to LF-N Marketing Adv. Council (MAC)

- Marketing plans and outreach
- Cross Community coordination
- Members: Juniper, Intel

Documentation Working Group (DWG)

User and developer documentation

- Release Note - Lenovo
- Feature Docs – Juniper/Lenovo
- Developer Docs - General Community
- Meets every other Thu at 9am PST
- Members: AT&T, Lenovo, Juniper

GETTING STARTED



tungstenfabric

Getting started

Carbide Quick Start — <https://tungsten.io/start>

Deploy a sandbox with Tungsten Fabric cluster orchestrated by Kubernetes in AWS

Standalone Ansible deployment — <https://github.com/Juniper/contrail-ansible-deployer>

Installer integrations

Helm — <https://github.com/Juniper/contrail-helm-deployer>

Kolla Ansible - <https://docs.openstack.org/kolla-ansible/latest/>

RDO TripleO/RedHat OSD - <https://contrail-tripleo.readthedocs.io/en/latest/>

Canonical Juju/Charms

Mirantis MCP

0-60 in 15 Minutes w/Carbide (TF+k8s on AWS)

The screenshot shows the AWS CloudFormation console interface. At the top, the AWS logo is on the left, and navigation links for 'Services', 'Resource Groups', a notification bell, user 'Randy L Bias', region 'N. California', and 'Support' are on the right. Below the navigation bar, the 'CloudFormation' service is selected, and the 'Stacks' view is active. A toolbar contains 'Create Stack', 'Actions', and 'Design template' buttons. A filter dropdown is set to 'Active' and a search box contains 'By Stack Name'. The text 'Showing 1 stack' is displayed on the right. A table lists the stack details:

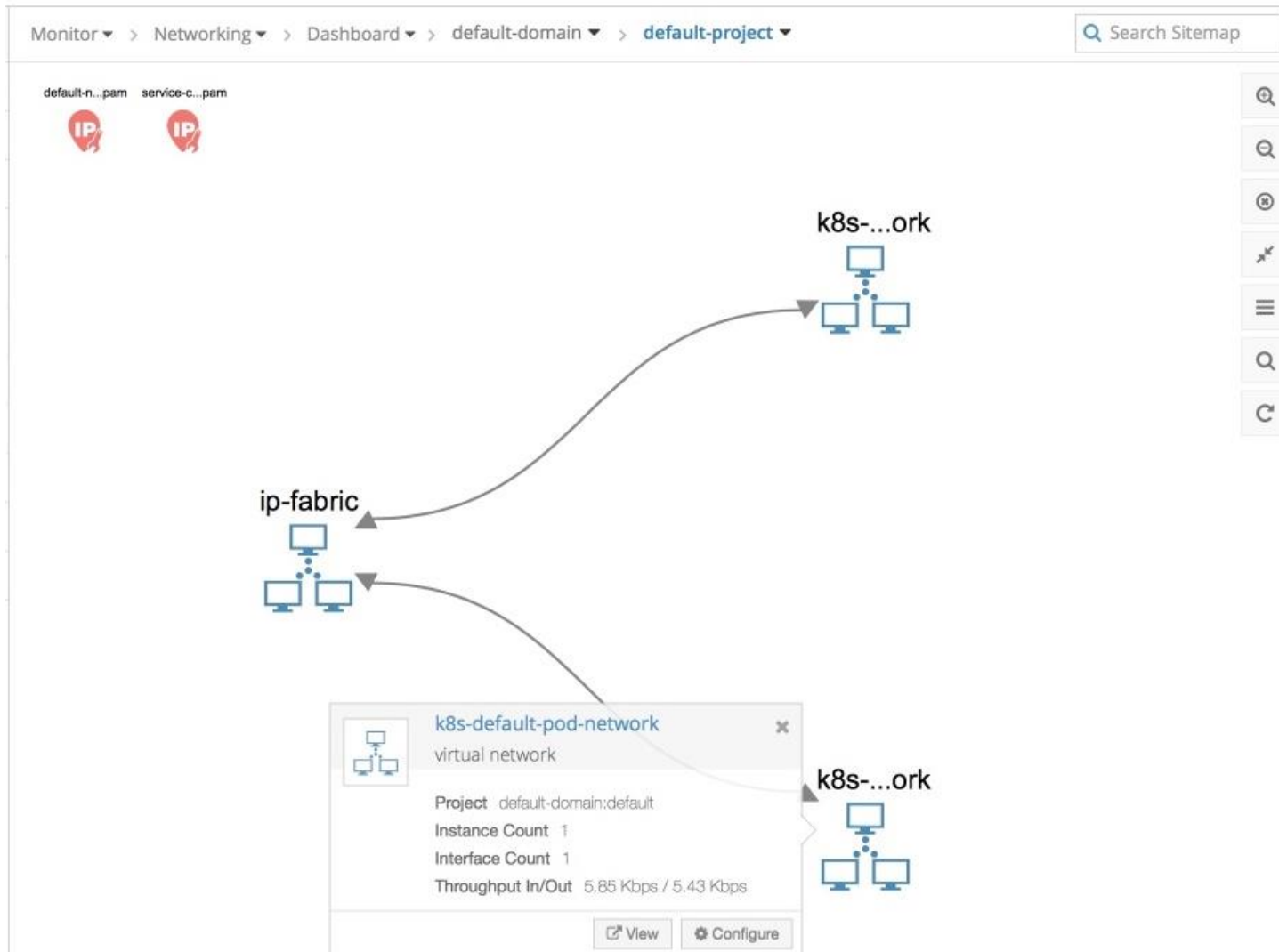
	Stack Name	Created Time	Status	Description
<input checked="" type="checkbox"/>	tungsten-carbide-eval	2018-06-23 15:55:34 UTC-0700	CREATE_COMPLETE	Tungsten Fabric Sandbox

Below the table, a series of tabs are visible: Overview, **Outputs**, Resources, Events, Template, Parameters, Tags, Stack Policy, Change Sets, and Rollback Triggers. The 'Outputs' tab is selected, showing a table of stack outputs:

Key	Value	Description	Export Name
MasterNodeURL	https://ec2-54-183-143-157.us-west-1.compute.amazonaws.com	URL for Master node of Sandbox (u...	



0-60 in 15 Minutes w/Carbide (TF+k8s on AWS)



Community resources

- Slack — tungstenfabric.slack.com
 - #Dev – developer focus
 - #Documentation – software documentation
 - #General – general discussion
 - #Users – user focus
- Mailing Lists — <https://lists.tungsten.io>
 - Main – everybody needs to subscribe
 - Dev – developer focus
 - Discuss – general discussion
 - ARB – architectural review board
 - Marketing – events and other outreach
 - Security – Security bug escalations
 - TSC – Governance

Slack Channels

Tungsten Fabric | marc.rapoport

#dev | 1,075 members | Add a topic

Today

`./create_control.yml`
`./create_vcenter_plugin.yml`
`./create_vrouter_Linux.yml`
`./create_webui.yml`

these files contain 'docker pull' command

Egor 7:52 AM
@andrey-mp @tnaganawa Folks, is it vrouter possible build vrouter for aarch64 (Marvell processor) without DPDK support. If it possible may you can give me some refs to corresponding manuals, Thanks!

andrey-mp 8:37 AM
Hi @Egor, I'm sorry, I don't know

Egor 8:54 AM
@andrey-mp As far as I understand, TF's vrouter doesn't support Arm architecture. Is it truth?

andrey-mp 9:32 AM
I don't know, I'm not an expert in vrouter's codebase

Jennifer Fowler 9:33 AM
Don't miss the opportunity to share your TF Story at KubeCon North America. **Submit your proposal today!** Users and developers are invited to participate in the Tungsten Fabric Developers Summit on December 10. Today is the deadline for CFPs <https://tungstenfabric.io/kubeconcfp/>

Tungsten Fabric
Calls for Papers: Tell Your Story at Two Upcoming Tungsten Fabric Events
Users and developers in the Tungsten Fabric community are invited to participate in the calls for papers at two upcoming events: Tungsten Fabric Workshop at KubeCon China (Nov. 13 in Shanghai) Tung...

Oct 1st

artgromov 9:47 AM
joined #dev.

HOW TO CONTRIBUTE CODE



tungstenfabric

The big picture

- 1) Sign up for mailing lists, Slack, Gerrit, and Launchpad, plus sign the CLA.
- 2) submit your blueprint via Launchpad. Notify the #dev channel on Slack, as well as both the “dev” and “arb” mailing lists.
- 3) Once your blueprint is approved, create a spec – detailed design
- 4) Once approved, you’re ready to write your code and post for review to review.opencontrail.org.

Start: Submit your CLA

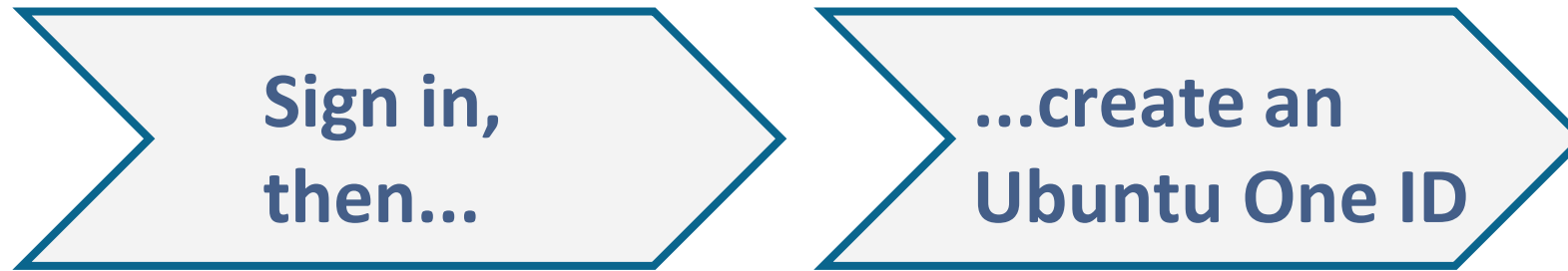
There are two CLAs:

- Corporate Contributor Licence Agreement (CCLA)
<https://drive.google.com/open?id=1DOBC0RuBhJpBDpamliaUF-TUV-m2PGti>
- Individual Contributor License Agreement (ICLA)
https://drive.google.com/open?id=15kY8BmdXJEaq7mbHqM_O_7vbi7Nmx3ZD

Choose the right one for you, sign, and submit it.

3. Create a Gerrit account

Create a Gerrit account on review.opencontrail.org



Email cla@lists.tungsten.io with your CLA to get access to Gerrit.

Is it a feature, or is it a bug?

I'm working
on a **BUG**

I'm working
on a **FEATURE**

It all starts in Launchpad: <https://launchpad.net/opencontrail>

Attend a Tuesday meeting ask TC to
accept the bug fix.

Submit a blueprint <https://launchpad.net/opencontrail>

Pay attention to the code completion deadlines! www.tungsten.io/community

What is a blueprint?

A blueprint is a use case. Here's an example:

<https://blueprints.launchpad.net/opencontrail/+spec/ip6-arpa-zone>

Ask yourself...

- Does the community need it? Does it fit our current architecture?
 - Alternative implementations not a good idea
 - If current implementation is broken, jump in and fix it
 - Technology placement for its own sake is not welcome
 - We are not a universal SDN big tent. Read the architecture, follow the architecture
- Provide just enough detail for review
 - Save the implementation details for the spec.

blueprints.launchpad.net



















































Overview Code Bugs **Blueprints** Translations Answers

Blueprint assignments for "OpenContrail"

This listing shows the assignment of work for blueprints currently associated with OpenContrail. The drafter is responsible for getting the specification correctly written up and approved. The approver is usually the person who would sign off on the specification.

1 → 54 of 54 specifications

First • Previous • Next ▶ • Last

Priority	Name	Definition	Delivery	Assignee	Drafter	Approver
High	 LBAASv2 support in OpenContrail	Review	Good progress	 Yuvaraja Marlappan	 Rudra Rugge	 Rudra Rugge
High	 Service health check	Drafting	Started	 Rudra Rugge	 Rudra Rugge	 Ashish Ranjan
High	 Third party IPAM integration in OpenContrail	Drafting	Unknown	 Atul Moghe	 Atul Moghe	 Rudra Rugge
High	 Vcenter plugin to vrouter rest interface	Drafting	Started	 Andra Cismaru	 Andra Cismaru	 Rudra Rugge
High	 ZTP of Greenfield devices using CFM	New	Unknown	 Rishabh Tulsian	 Rishabh Tulsian	
High	 Contrail helm charts for microservices architecture	New	Started	 mnayakbomman@juniper.net	 mnayakbomman@juniper.net	 Rudra Rugge
High	 Allow custom attributes for configuring tenant Ibaas	New	Unknown	 Varun Lodaya	 Varun Lodaya	 Rudra Rugge
High	 mellanox-nic-support	New	Started	 Jeya ganesh babu J	 Jeya ganesh babu J	
High	 Support vcenter only service chaining	New	Unknown	 Sachchidanand Valdyia	 Sachchidanand Valdyia	 Rudra Rugge
Medium	 EVPN type 5 support in contrail router	Approved	Good progress	 Manish Singh	 Manish Singh	 Ananth Suryanarayana
Medium	 IPv6 Reverse Zone Support for contrail-dns	Approved	Needs Code Review	 Valentin Sinitsyn	 Valentin Sinitsyn	 Ananth Suryanarayana
Medium	 Integrate OpenContrail vRouter with DPDK 17.11	Approved	Good progress	 Yi-yang	 Joseph Gasparakis	 Raja
Medium	 IPv6 Underlay Support	Pending Approval	Deferred	 Valentin Sinitsyn	 Valentin Sinitsyn	 Nischal Sheth

How Blueprints get approved

Blueprints are reviewed and approved by the TC

Joseph Gasparakis, Chair

Tuesday meeting—get on the agenda (Slack Joseph)

Mind the blueprint deadline for the current release!

After your blueprint is approved, create a spec

A specification (spec) is a detailed feature design. Here's an example:

[https://review.opencontrail.org/#/c/37214/3/specs/ipv6 reverse zone for vdns.md](https://review.opencontrail.org/#/c/37214/3/specs/ipv6_reverse_zone_for_vdns.md)

Specs can be approved by one member of the ARB. Start that process by sending an email to arb@lists.tungsten.io. Contact members on Slack.

Once your spec is approved, commit your code and test it (unit and integration) by the code completion deadline:

- Create a commit bug on Launchpad.
- Do your tests and fix your code.
- Submit a review request on Gerrit (review.opencontrail.org).
- Ask dev channel for code review on Slack. << VERY IMPORTANT!

Writing a great spec

Explain how the code fits the current architecture.

Explain how your code is simple, coherent, scalable, high performance, and production ready.

Specify all external and the most important internal interfaces, design, algorithms.

Show how will you test, and have a test plan ready.

Approval responsibilities

The ARB is responsible for approving specs.

The ARB, PTL and core contributors are responsible for code reviews.

Get help from Joseph Gasparakis, Suhkdev Kapur, and Paul Carver via Slack.

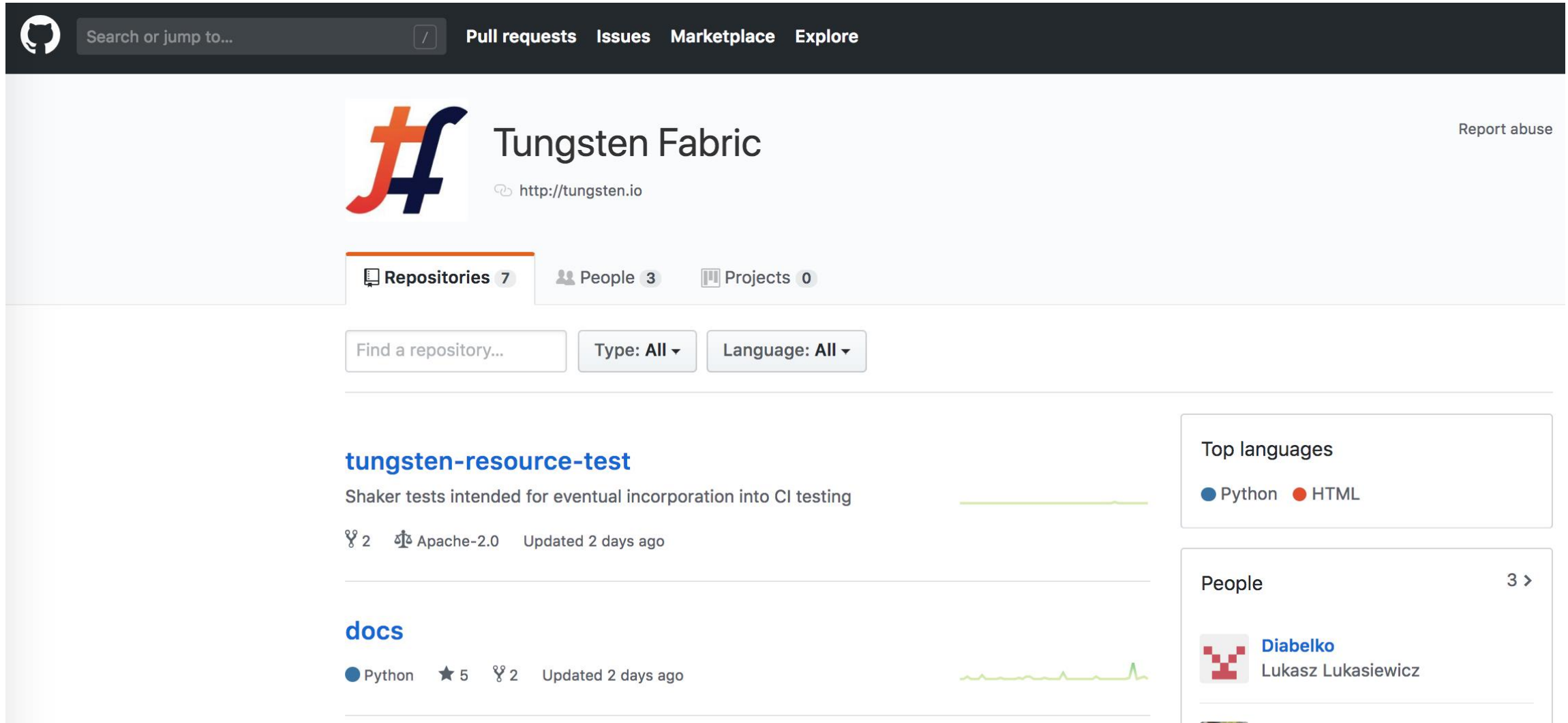
Release schedule

Releases goals and deadlines are set by TC, published on Slack and at www.tungsten.io/community.

Train model...


Releases go out on time, so features that don't make it catch the next release. You'll need a new ticket, and TC must approve your blueprint for next release.

Push your code



The screenshot shows the GitHub profile page for Tungsten Fabric. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. The profile header includes the Tungsten Fabric logo, the name 'Tungsten Fabric', and the website URL 'http://tungsten.io'. Below the header, there are tabs for Repositories (7), People (3), and Projects (0). A search bar and filters for repository type and language are also present. The main content area displays two repositories: 'tungsten-resource-test' and 'docs'. The 'tungsten-resource-test' repository is described as 'Shaker tests intended for eventual incorporation into CI testing' and has 2 forks and Apache-2.0 license. The 'docs' repository is in Python, has 5 stars and 2 forks, and is also updated 2 days ago. On the right side, there are sections for 'Top languages' (Python and HTML) and 'People' (Lukasz Lukaszewicz).

Search or jump to... / Pull requests Issues Marketplace Explore

 **Tungsten Fabric** <http://tungsten.io> [Report abuse](#)


Repositories **7** People **3** Projects **0**

Find a repository... Type: All Language: All

tungsten-resource-test
Shaker tests intended for eventual incorporation into CI testing
🍴 2 📄 Apache-2.0 Updated 2 days ago

docs
Python ★ 5 🍴 2 Updated 2 days ago

Top languages
● Python ● HTML

People **3** >
 **Diabelko**
Lukasz Lukaszewicz

Get it reviewed

Code Review

Search for status:merged

	Subject	Status	Owner	Project	Branch	Updated	Size	A	CR	V	
☆	On route table cleanup, delete EVPN_ROUTING_PEER added paths	Merged	Pranavadatta DN	Juniper/contrail-controller	R5.0 (bug/1798912)	3:49 PM			✓	✓	✓
☆	[DM][Ansible]: Fixes for FIP issue	Merged	Suresh Balineni	Juniper/contrail-controller	R5.0	3:43 PM			✓	✓	✓
☆	Initial commit for DC GW functionality	Merged	Senthilnathan Murugappan	Juniper/contrail-test	R5.0 (bug/1799302)	11:38 AM			✓	✓	✓
☆	Reenable Project integration test	Merged	Michal Blotniak	Juniper/contrail	master (bug/1794740)	10:58 AM			✓	✓	✓
☆	Add more sync tests and fix watchers issues	Merged	Michal Blotniak	Juniper/contrail	master (bug/1794740)	10:58 AM			✓	✓	✓
☆	Handle fieldmask in Sync properly	Merged	Kamil	Juniper/contrail	master (bug/1799494)	10:48 AM			✓	✓	✓
☆	Wait for VM network device to be connected to DVport	Merged	Adrian Szczepanski	Juniper/contrail-vcenter-manager	R5.0 (set-vlan-on-power-on)	9:47 AM			✓	✓	✓
☆	Fixed reding of num_tokens for cassandra	Merged	alexey-mr	Juniper/puppet-contrail	R4.1 (bug/1800547)	9:32 AM			✓	✓	✓
☆	Create repo files with every run	Merged	Lukasz Lukasiewicz	Juniper/contrail-test	master	9:03 AM			✓	✓	✓
☆	Add package lists for RHEL7.6	Merged	Jarek Lukow	Juniper/contrail-packages	master (rhel76_pkg)	8:42 AM			✓	✓	✓
☆	Added ability to switch to fqdn	Merged	alexey-mr	Juniper/contrail-tripleo-heat-templates	stable/queens (bug/1800198)	8:27 AM			✓	✓	✓
☆	Added selinux rule for /var/run:/var/run	Merged	alexey-mr	Juniper/contrail-tripleo-heat-templates	stable/queens (bug/1800345)	8:24 AM			✓	✓	✓
☆	Windows should use opencontrailnightly registry.	Merged	Michal Kostrzewa	Juniper/contrail-ansible-deployer	master (contrail-windows)	8:21 AM			✓	✓	✓
☆	Make sure librdkafka is installed from tpc.	Merged	Michal Krawczyk	Juniper/contrail-packages	R5.0	8:12 AM			✓	✓	✓
☆	Make sure librdkafka is installed from tpc.	Merged	Michal Krawczyk	Juniper/contrail-packages	master	7:38 AM			✓	✓	✓
☆	Add package lists for RHEL7.6	Merged	Jarek Lukow	Juniper/contrail-packages	R5.0 (rhel76_pkg)	7:15 AM			✓	✓	✓
☆	Wait for VM network device to be connected to DVport	Merged	Adrian Szczepanski	Juniper/contrail-vcenter-manager	master (bug/1800034)	6:58 AM			✓	✓	✓
☆	Add RHEL test job to contrail-packages	Merged	Jarek Lukow	Juniper/contrail-project-config	master	5:07 AM			✓	✓	✓
☆	Adjust timeout for UT job	Merged	Pawel Rusak	Juniper/contrail-zuul-jobs	master (ut-timeout)	1:29 AM			✓	✓	✓
☆	Adjust timeout for UT job	Merged	Pawel Rusak	Juniper/contrail-project-config	master (ut-timeout)	1:29 AM			✓	✓	✓
☆	Update VLAN ID assignment logic	Merged	Adrian Szczepanski	Juniper/contrail-vcenter-manager	R5.0 (set-vlan-on-power-on)	Oct 30			✓	✓	✓

Code review

OPENCONTRAIL

All My Projects People Documentation
Open Merged Abandoned

Search term

Search

Marc Rapoport

Code Review

Change 47330 - Merged

Reply...

Included in

Patch Sets (2/2)

Download



On route table cleanup, delete EVPN_ROUTING_PEER added paths

Route table cleanup did not delete EVPN_ROUTING_PEER added paths. This results in routes lingering after route table delete, causing the VrfFlowMgmtEntry -> AgentRouteTable -> VrfEntry delete cascade blocked. This eventually leads to VrfEntry delete timeout and agent core. Added code to cleanup EVPN_ROUTING_PEER paths on route table cleanup.

Change-Id: I4c9a54087c7184ae4080c59fc98798246b5277ab
Closes-bug: #1798912

Owner: Pranavadatta DN

Reviewers: Contrail Windows CI, Sudheendra Rao, Zuul v3 CI, sangarshan p, Vinay Vithal Mahuli, opencontrail-admin

Project: Juniper/contrail-controller

Branch: R5.0

Topic: bug/1798912

Updated: 19 minutes ago

Cherry Pick Revert

Author	Pranavadatta D N <pranavad@juniper.net>	Oct 28, 2018 10:51 PM
Committer	Pranavadatta D N <pranavad@juniper.net>	Oct 29, 2018 2:55 AM
Commit	7f147316b1bff390d71ddc498c8f0b167c297319	(gitweb)
Parent(s)	2570fdd7c03bde5f10831b24b8cac29121c6fe40	(gitweb)
Change-Id	I4c9a54087c7184ae4080c59fc98798246b5277ab	

Approved +1 Sudheendra Rao

Code-Review +2 sangarshan p

Verified +2 Zuul v3 CI
+1 Contrail Windows CI

Zuul v3 CI check (3 rechecks)	3:46 PM
contrail-vnc-build-unittest-ubuntu-trusty	SUCCESS in 2h 04m 32s
contrail-vnc-unittest-centos7	FAILURE in 1h 22m 18s (non-voting)
contrail-vnc-build-package-centos74	SUCCESS in 1h 15m 58s
contrail-build-containers-centos7-ocata	SUCCESS in 1h 02m 17s
contrail-build-test-containers	SUCCESS in 11m 29s
contrail-build-containers-centos7-queens	SUCCESS in 38m 41s
contrail-sanity-centos7-kolla-ocata	SUCCESS in 32m 30s
contrail-sanity-centos7-kolla-queens	SUCCESS in 36m 06s
contrail-sanity-centos7-k8s	SUCCESS in 14m 52s
Zuul v3 CI gate	3:49 PM
noop	SUCCESS in 0s
Contrail Windows CI check	Oct 29 3:16 AM
ci-contrail-windows-production	SUCCESS in 2s

CI and Test infrastructure

All community-wide tests run through CI.

For check-in/unit tests, Gerrit kicks Zuul, which does a build, then Zuul goes to OpenStack and runs the build.

Quick test are done using an all-in-one install (installed on a single VM), nested OpenStack-on-OpenStack. All tests run in a nested virtualized environment.

Code Acceptance and Maintenance: Fix Your Bugs!

Code with outstanding bugs will be reverted.

All code must be production ready

- no bugs
- stable
- scalable
- high performance (supports wire speed)

Only incubation/experimental subprojects are allowed to keep buggy code in the tree.

Downstream Releases and Community Code

Currently, three downstream distros: Juniper, Mirantis, Lenovo

All use open core model

Community code which passed through QA cycle will be present, but may not be officially supported in a given commercial distribution.

Technical resources

Wiki: wiki.tungsten.io

Doc repo: <https://github.com/tungstenfabric/docs>

Github: <https://github.com/tungstenfabric>

- Repos are being migrated from <https://github.com/Juniper>
- Meanwhile, if you need any code: <https://github.com/Juniper/Contrail->*

Getting started: <https://github.com/tungstenfabric/docs/blob/master/Contributor/GettingStarted/getting-started-with-opencontrail-development.md>

Gerrit

- Current – <https://review.opencontrail.org/>
- Future (migration in progress) – <https://review.tungsten.io/>

Bugs and Blueprints

- Current – <https://launchpad.net/opencontrail>
- Future – <https://jira.tungsten.io/>

Questions?

Randy Bias

VP Technology [Acting Tungsten Fabric Community Director]

- tungstenfabric.slack.com
- <https://www.linkedin.com/in/randybias/>
- rbias@juniper.net

Sukhdev Kapur

Distinguished Engineer

- tungstenfabric.slack.com
- sukhdev@juniper.net

Getting Started as an Upstream Contributor

Sept. 2018

