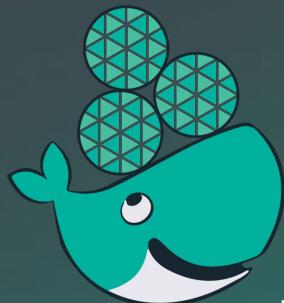




Expect more from your infrastructure



Meshery
Docker
Extension
Live YAML free



Pranav Singh

LFX intern at **LAYERS**



layer5.io/community/members/pranav-singh



[@theBeginner86](https://twitter.com/theBeginner86)



github.com/theBeginner86



Distributed systems management is hard

Particularly without openly governed, enterprise-grade management software

Physical networking is difficult.



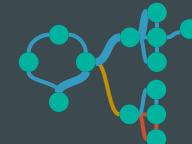
Cloud native networking is even more challenging.

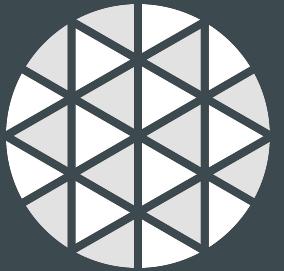


Networking is unfamiliar to developers and operators.



Networking has never been more significant to developers and operators.





Cloud Native Management



The cloud native management platform

Meshery



CLOUD NATIVE
COMPUTING FOUNDATION

- ✓ Kubernetes, Mesh and Application Lifecycle
- ✓ Continuous Optimization
 - Operational resiliency and business performance optimizers
- ✓ Low-Code Visual Configuration
 - GitOps-based, ready-made GitHub Actions, dry run
- ✓ Service Catalog
 - Operational best practices
 - Chaos patterns, WASM filters, eBPF programs
- ✓ Policy-driven Workflow*
 - Governance w/multi-cluster, multi-cloud, multi-tenancy

Supporting Kubernetes and service meshes



*Roadmap item

The screenshot shows the Meshery dashboard interface. On the left is a sidebar with navigation links: Dashboard, Lifecycle, Citrix Service Mesh, Consul, Istio, Kuma, Linkerd, Network Service Mesh, Octarine, Open Service Mesh, Traefik Mesh, Configuration, Applications, Filters, Patterns, Performance, Profiles, Conformance, and Service Mesh Interface.

Service Mesh

Istio

Control Plane Pods	Component	Version
istiod-6bf8dd57f8-lz8x9	istiod	1.10.3
grafana-56585969bcd-pb24g	grafana	7.5.5
istio-ingressgateway-67c99c69bd-z59lc	istio	1.10.3
prometheus-55db9cf9b6-bq4gn	prometheus	v0.5.0

Kuma

Control Plane Pods	Component	Version
kuma-control-plane-5475f9d66-ncdv6	kuma	1.2.2

Open Service Mesh

Control Plane Pods	Component	Version
osm-controller-568f88d8f-hz9nw	osm	v0.9.1
osm-injector-5d65bf7d67-x6qvh	osm	v0.9.1

Connection Status

Kubernetes

- docker-desktop

Adapters

- meshery-consul
- meshery-cpx
- meshery-istio
- meshery-kuma
- meshery-linkerd
- meshery-nsm
- meshery-octarine
- meshery-osm
- meshery-traefik-mesh

Metrics

- <http://host.docker.internal:9090>
- <http://10.98.168.114:3000>

Release

Channel Subscription	Version
Edge	edge-latest

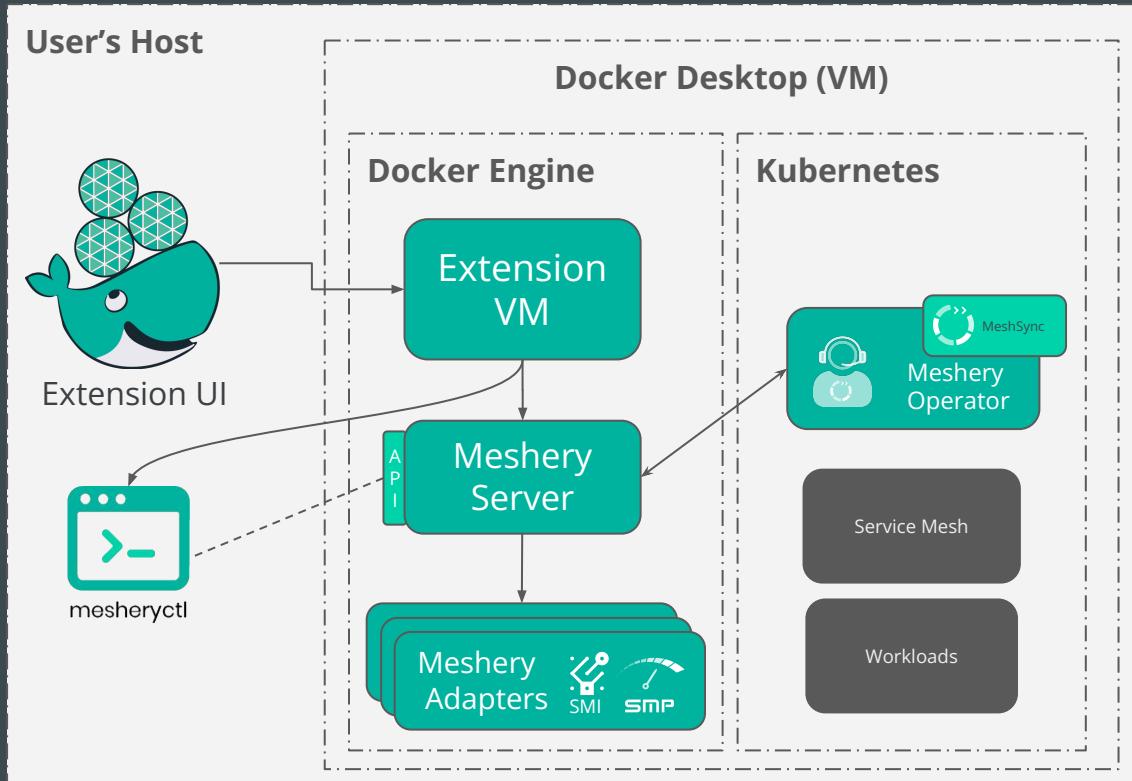
Running latest Meshery version.

Meshery Architecture

Meshery Architecture



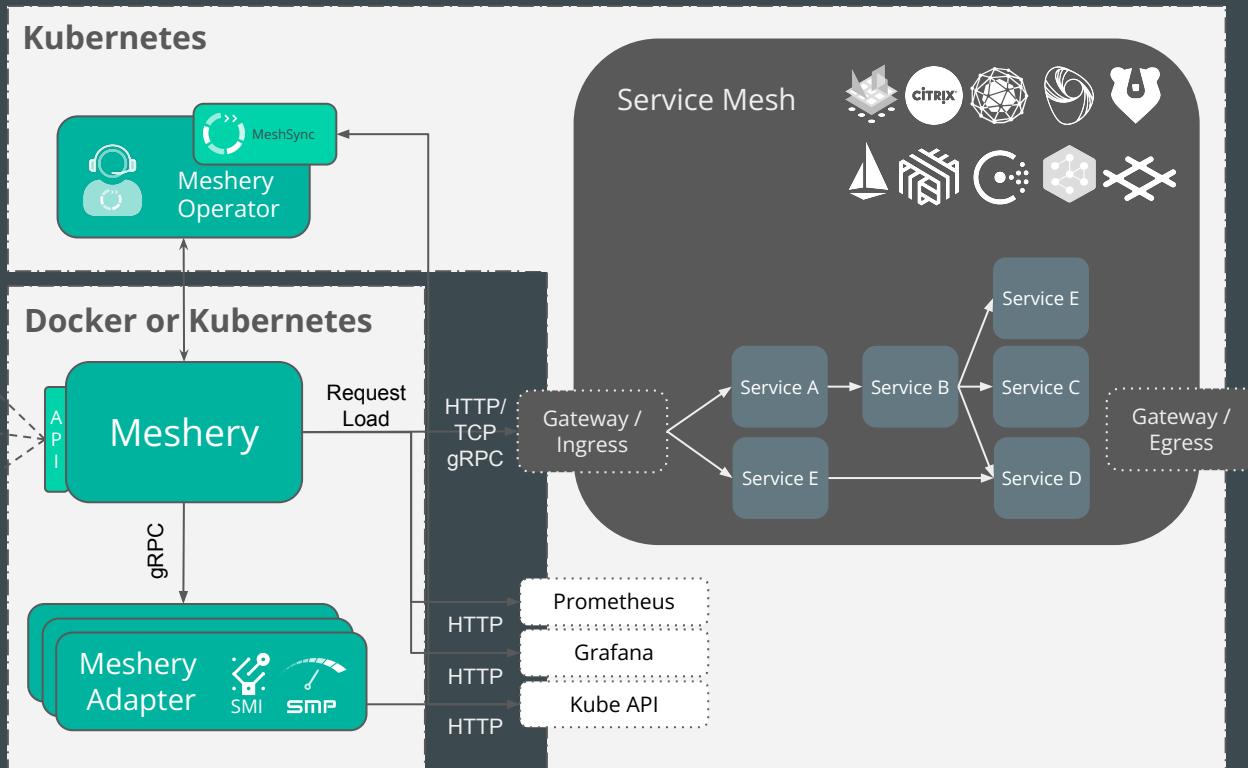
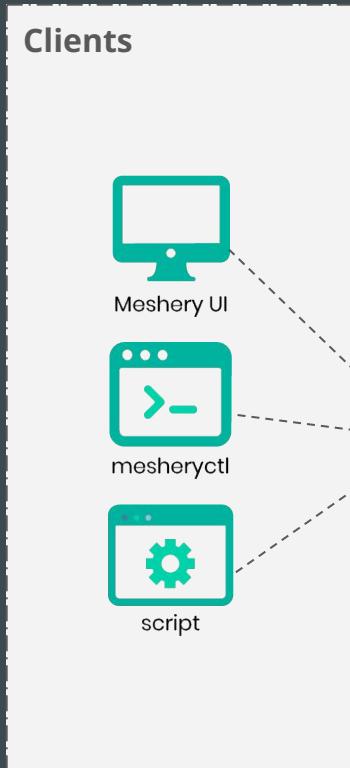
Docker Extension



Meshery Architecture



Clients





smp-spec.io

Performance and Metrics

Single pane of glass

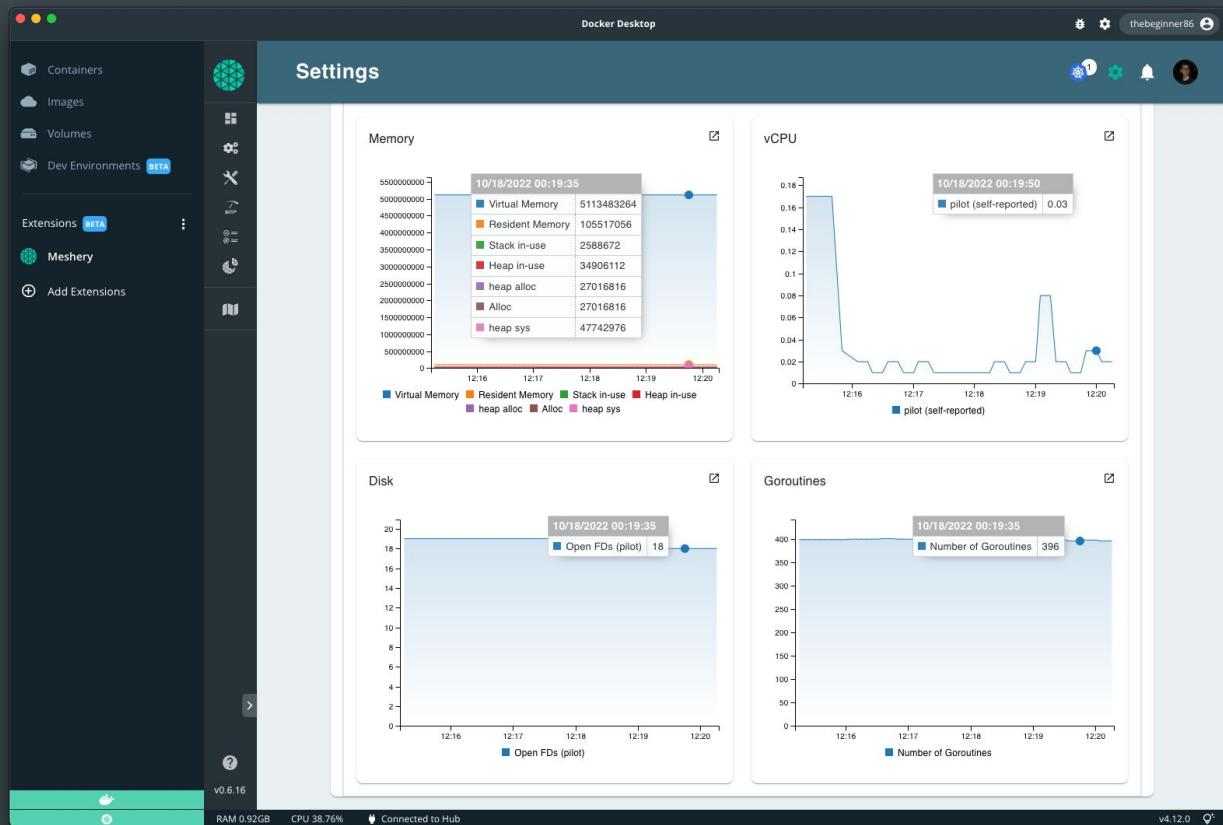


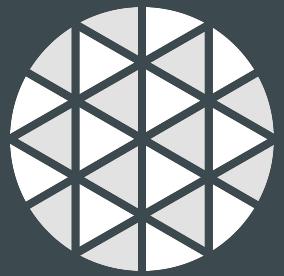
Metrics:

- ✓ Auto detects connection
- ✓ Import existing boards
- ✓ Customizable view
- ✓ View multiple boards

Performance:

- ✓ Vendor neutral, cloud native performance standard
- ✓ benchmarking of service mesh performance





Configurations



Discover best practices. Publish design patterns.

Meshery Catalog meshery.io/catalog



- Users can share:
- Operational designs
 - Network Filters
 - Governance Policies
 - Mesh Add-ons



- Teams can:
- Create private catalogs visible only to your teams and approved by your org.



- Advanced users can:
- Build your WASM Filters and eBPF Programs



WASM Filters

TRAFFIC MGMT

Singleton Queue

WEBASSEMBLY

WA MESHERY023

SECURITY

Sesson Authorizer

WEBASSEMBLY

WA MESHERY019

TRAFFIC MGMT

JWT Transformer

WEBASSEMBLY

WA MESHERY034

OBSERVABILITY

HTTP Metrics

WEBASSEMBLY

WA MESHERY028

Service Patterns

TRAFFIC MGMT

Circuit Breaker

MESHERY003

RESILIENCY

Retries

MESHERY012

SECURITY

Mutual TLS

MESHERY014

DEPLOYMENT

Multi-Cluster

MESHERY013

eBPF Programs

OBSERVABILITY

L7 Traces

WA MESHERY045

SECURITY

L7 Denial

WA MESHERY046

RESILIENCY

Retry Deadline

WA MESHERY044

DEPLOYMENT

Node Agent

WA MESHERY043

OPA Policies

OBSERVABILITY

Correlate Event

WA MESHERY055

SECURITY

Single Tenant

WA MESHERY059

RESILIENCY

Only w/Agent

WA MESHERY057

DEPLOYMENT

Pre-provision

WA MESHERY056



Collaborative,
Visual
Infrastructure
as Code

MeshMap, a Figma for DevOps experience



A screenshot of the Docker Desktop application interface. At the top, there are three red, yellow, and green window control buttons. The title bar includes the text "Docker Desktop" and "Upgrade plan". On the right side of the title bar are icons for settings, a gear, and a user profile, along with a "Sign in" button. The main content area has a dark background. On the left, a sidebar menu lists "Containers", "Images", "Volumes", "Dev Environments BETA", "Extensions BETA", "Meshery", and "+ Add Extensions". Below the sidebar is a "stable-v0.6.17" status bar with icons for file, copy, paste, and GitHub, followed by the text "Running latest". The main panel is titled "Extensions" and features two sections: "MeshMap" and "Meshery Catalog". The "MeshMap" section contains a green location pin icon, the text "Collaboratively design and manage your Kubernetes clusters, service mesh deployments, and cloud native apps. MeshMap is now in private beta. Sign-up today for early access!", and a "Sign Up" button. The "Meshery Catalog" section contains a green cloud icon with arrows, the text "Enable access to the cloud native catalog, supporting Service Mesh Patterns, WebAssembly filters, eBPF programs (soon), and OPA policies (soon). Import any catalog item and customize.", and a "Explore the Meshery Catalog" link. A large black callout box with white text "Extensions for the extension!" is positioned to the left of the sidebar. Another black callout box with white text "Get early access!" is positioned to the right of the "Meshery Catalog" section. The bottom of the screen shows system status: "RAM 11.32GB", "CPU 11.61%", and "Not connected to Hub". The footer of the Docker Desktop window displays the version "v4.12.0" and a small gear icon.

Extensions for the extension!

Get early access!

Create

MeshMap Designer



Meshery Applications

Import Docker Compose apps, Helm Charts, or Kubernetes Manifests for visual configuration

WebAssembly Filters

Import, configure, chain, and deploy your WASM filters

Cloud Native Components

Hundreds of versioned components to choose from

Designs and Patterns

Compose designs. Reuse designs as patterns.

MeshMap



Components



Designs



Applications



Filters

DESIGNS (15,915)

Search design...

Name	Date Modified
Untitled Design	Sep 21st 2022
Untitled Design	Sep 21st 2022
Changed Name with cypress	Sep 21st 2022
Changed Name with cypress	Sep 21st 2022

MeshMap



Components



Designs

DESIGNS (28)

Search...



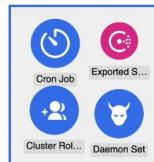
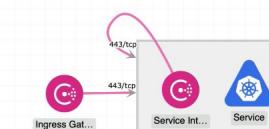
Up



Name

Date Modif...

Consul two-tier app	Apr 25th 2022
Consul - Two-tier Service	Apr 25th 2022
Multi-cluster Persistent Volu...	Apr 25th 2022
Multi-tenant JWT enforcement	Apr 25th 2022
Backup mesh configuration	Apr 25th 2022
Locality-based load balancin...	Apr 25th 2022
Authorization via Gateway - ...	Apr 25th 2022
Istio Native CA	Apr 21st 2022
Circuit breaking with NGINX ...	Apr 21st 2022
Untitled Design	Apr 21st 2022



Rows 10 < 1-10 - 28 >

default

Operate

MeshMap Visualizer



The screenshot shows the MeshMap Visualizer interface running at localhost:9081/extension/meshmap. The left side features a cluster map with two main components: "meshery" and "meshery-br...". The "meshery" component contains pods like "kube-rbac...", "manager", "meshery-o...", "reloader", "nats", and "meshync". The "meshery-br..." component contains "meshery-meshsync-77667f87dd-wbqc9". The right side displays historical and real-time performance metrics for a specific pod, along with an interactive terminal and a log stream.

Historical Performance Metrics
Sliding window of past performance

Real-time Performance Metrics
Object-specific metrics and alerts

Interactive Terminal
Establish sessions with one or more pods at-a-time

Log Stream
Live tail a stream of logs from one or more pods at-a-time. Apply search filter for log keywords.

Demo

Join the Layer5 Community!



Where do I start?

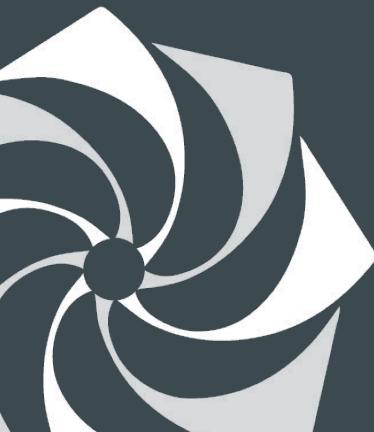
- Jump into our [Slack](#)
- Go over our [beginner guides](#)
- Ask a [MeshMate](#) questions

How do I become a member?

- Submit a Community [Member Form](#)
- Earn a [member profile](#) through consistent engagement
- Join the [Newcomers' meeting](#)

Where do I find an area to contribute?

- Explore the [GitHub repositories](#)
- Request an issue
- Create an issue
- Jump on discussions in the forum, slack, & meetings





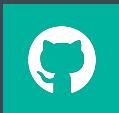
#1 Most Popular Project

in Linux Foundation Mentorship Program



Participate!

It's Hacktoberfest every month at Layer5



github.com/layer5io



twitter.com/layer5



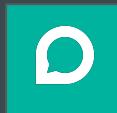
linkedin.com/company/layer5



slack.layer5.io



youtube.com/c/Layer5io



discuss.layer5.io

Thank you