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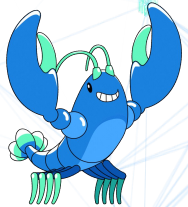
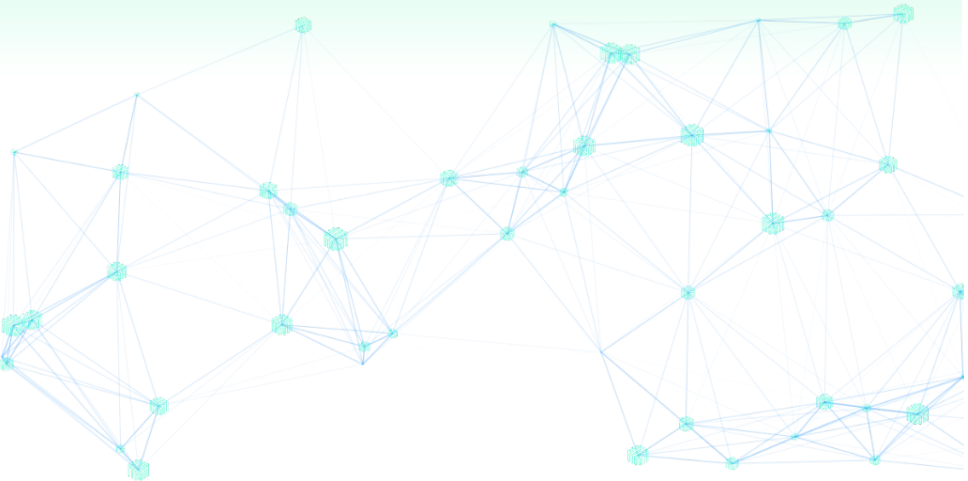
A Guide to Linkerd Production Readiness

Phil Henderson, Customer Success Engineer



What's on the agenda?



- **Production Readiness Scope**
  - Understand what Production Readiness means in the context of Linkerd
- **Core Operational Reliability**
  - Key practices like certificate rotation, resource tuning, and high availability
- **Observability and Alerting**
  - Ensuring visibility and responsiveness using metrics, logs, Buoyant Cloud, etc

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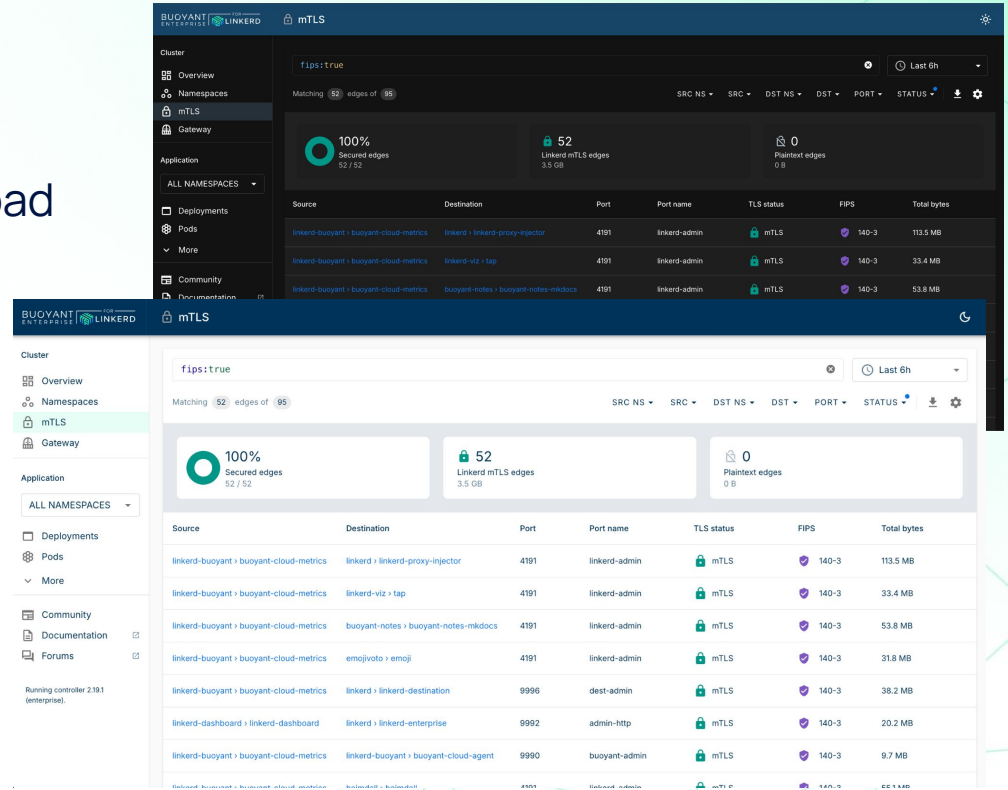
What does Linkerd do?

Security: Transparent mTLS, workload authn, L7 authorization policies

Reliability: Retries, timeouts, load balancing, circuit breaking, failover, multi-cluster communication

Observability: Service-level *golden metrics*: success rates, latencies, throughput, request per second.

All in an ultralight package focused on **simplicity and security**, yet **scalable to complex enterprise demands.**



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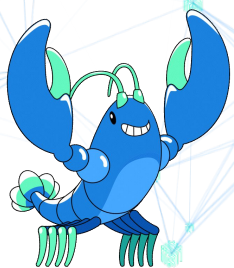
Production Readiness for Linkerd



Linkerd in Production

What does production readiness mean for Linkerd?

- **Reliable operations**
  - The mesh and control plane remain stable under normal and failure conditions
- **Secure-by-default posture**
  - Certificates, identities, policies and trust relationships are actively managed
- **Operational visibility**
  - Teams have clear insight into mesh health, traffic behavior, and failures
- **Prepared for day-2 operations**
  - Upgrades, scaling, and maintenance can be performed safely and predictably

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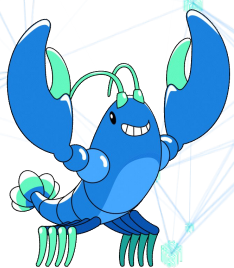
Core Operational Reliability



Core Operational Reliability

What does it take to operate Linkerd reliably in production?

- **Certificate rotation**
- **High availability**
- **Proxy tuning and Resource configuration**
- **Production-grade installation**

Core Operational Reliability

What does it take to operate Linkerd reliably in production?

- **Certificate rotation**
  - Automated or clearly documented processes for rotating control plane certificates before expiration of Trust Anchor and Issuer

Core Operational Reliability

What does it take to operate Linkerd reliably in production?

- **High availability**
  - Deploying critical control plane components across nodes or availability zones with at least 3 replicas
  - Uses PodDisruptionBudgets, pod anti-affinity, resource guarantees, and controlled rolling updates to keep the control plane available during failures and upgrades

Core Operational Reliability

What does it take to operate Linkerd reliably in production?

- **Proxy tuning and Resource configuration**
  - Not all workloads behave the same and may require proxy configuration such as skipping or opaquing ports, or adjusting proxy resource settings
  - Proper CPU and memory requests and limits for control plane components to avoid contention or instability
  - https://linkerd.io/2.19/reference/proxy-configuration/

Core Operational Reliability

What does it take to operate Linkerd reliably in production?

- **Production-grade installation**
  - Install Linkerd using documented, repeatable, and supportable gitops workflows using ArgoCD or Flux
  - Define and configure certificates, resources, and HA correctly from day one

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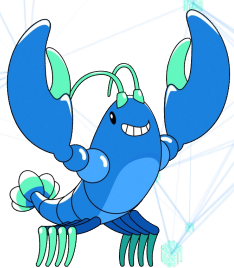
Observability and Alerting



Observability and Alerting

How do teams stay aware of mesh health in production?

- **Metrics coverage**
  - Monitoring both control plane and meshed workload metrics
- **Logging visibility**
  - Ensuring logs are available and reviewable for troubleshooting and audits
- **Actionable alerting**
  - Alerts are configured to surface meaningful issues before customer impact
- **Operational awareness**
  - Teams can quickly detect, diagnose, and respond to mesh-related problems

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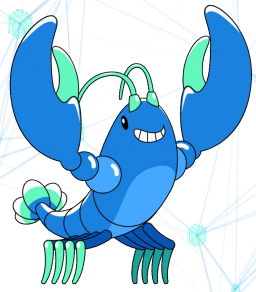
Quick Demo!



Tell us how we can improve!

Your feedback matters!

(We promise it won't take more than a few minutes, and it will help us tremendously — thank you! 🙂)

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Buoyant Enterprise for LINKERD

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- ➔ Built for the enterprise

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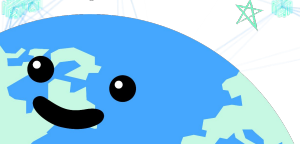

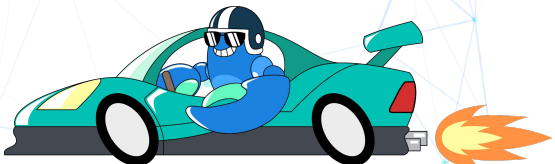

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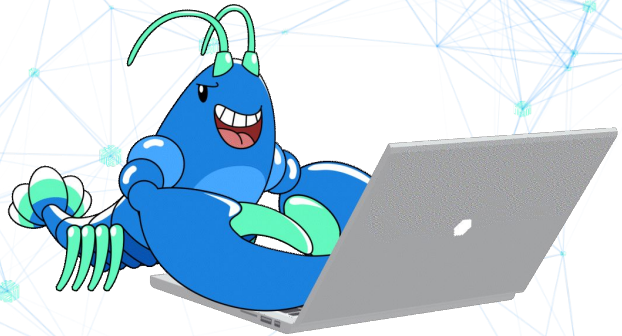
Up Next on February 12th!

Running Linkerd on Amazon EKS

by Phil Henderson

SIGN UP TODAY!
buoyant.io/sma



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Q&A

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Thanks much!

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Phil on slack.linkerd.io