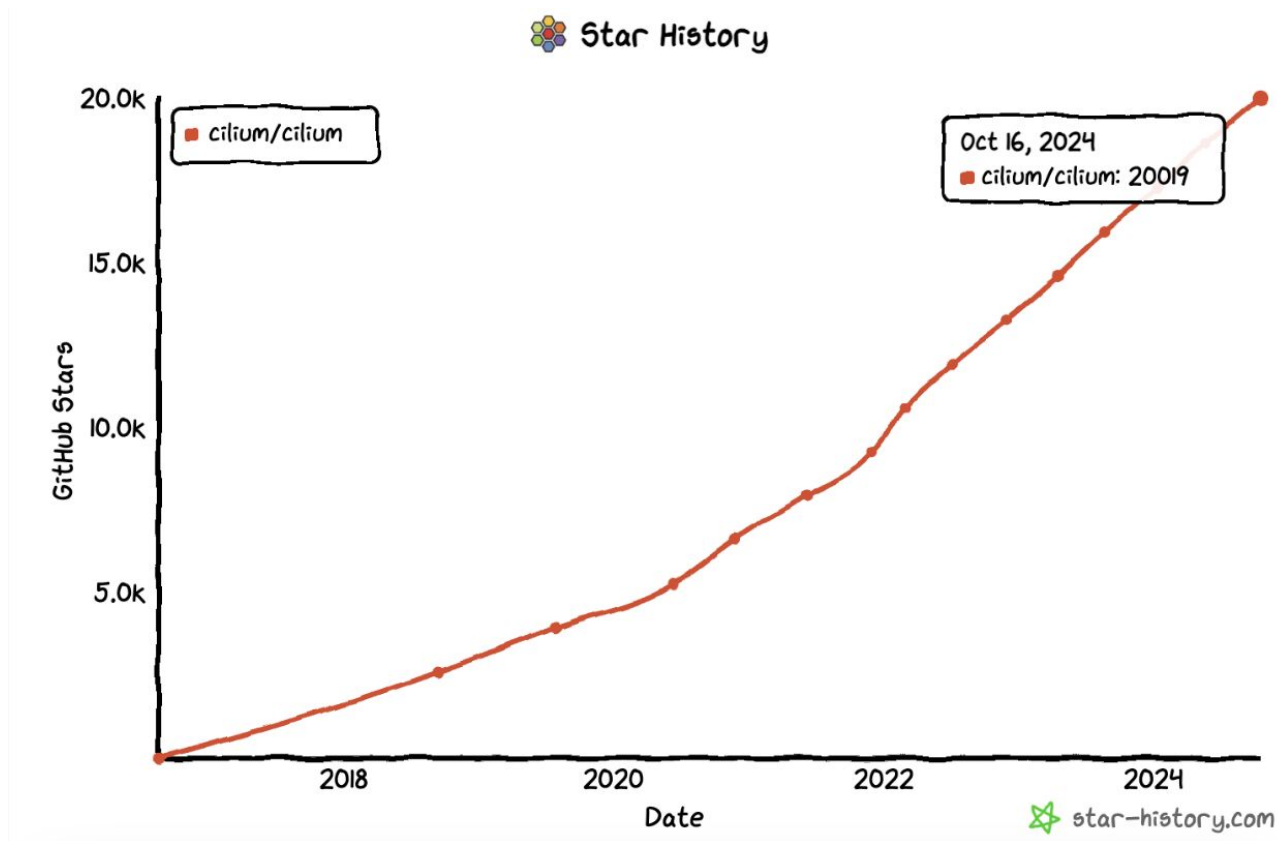




**Opening Remarks and Ecosystem Announcements**

# Cilium @ 20k



# 2nd Cilium Developer Summit



Participants from CoreWeave, Datadog, Google, Isovalent, Microsoft

Thanks to Google for hosting!

# Cilium @ KubeCon

22 talks, a Project Kiosk, Maintainer Track session



# Cilium 1.16 Release



**Cilium netkit:** container-network throughput and latency as fast as host-network

**Multicast Support**

**Gateway API 1.1 and GAMMA Support**

**Port Range** support in Network Policies

Improved DNS-based network policy performance: **5x reduction in tail latency**

**ELF Loader Logic:** Median memory usage of Cilium was decreased by 24%

# 12 New Cilium Case Studies from CNCF

## Alibaba Cloud

Alibaba Cloud turns to Cilium for improved network performance and scalability

### Number One

Cloud service provider in APAC

August 12, 2024

[READ CASE STUDY](#)

## Seznam

Seznam opts for Cilium to boost performance and reduce costs

### 1 MILLION

HTTP requests/second

July 30, 2024

[READ CASE STUDY](#)

## Kakao

Kakao improves network performance and lowers costs with Cilium

### 102.5 Million

Monthly active users

July 29, 2024

[READ CASE STUDY](#)

## Nemlig.com

Boosting performance and security with Cilium

### 50,000 grocery boxes

Delivered daily

June 24, 2024

[READ CASE STUDY](#)

## DigitalOcean

Scaling for the future with Cilium

### 637,000 customers

in 190 countries

June 24, 2024

[READ CASE STUDY](#)

## PostFinance

Enhancing performance, scalability and observability with Cilium

### 4 Million

Customer transactions/day

June 12, 2024

[READ CASE STUDY](#)

## G Data CyberDefense

Migrating to Cilium for Better Networking, Visibility and Security

### 1500+

ArgoCD applications

April 12, 2024

[READ CASE STUDY](#)

## SmartNews

SmartNews leverages Cilium to improve performance and scaling

### 39

EKS Clusters

March 30, 2024

[READ CASE STUDY](#)

## Rabobank

Self-service, Zero Trust Network Security

### 1.6 Billion

Calls per month

February 6, 2024

[READ CASE STUDY](#)

## Form3

Building a Resilient Payments Platform with Cilium

### Billions

Of packets moved securely

January 18, 2024

[READ CASE STUDY](#)

## ilionx

Securing the Networking Stack with Cilium

### 500,000

Data points secured every day

November 23, 2023

[READ CASE STUDY](#)

## Trendyol

Building a Performant Networking Infrastructure with Cilium

### 40%

Performance increase in clusters

September 27, 2023

[READ CASE STUDY](#)

## Certified Cilium Associate (CCA)



**Use your KubeCon coupon to get a discount !**

Beware of the validity !

# Cilium User Survey

## Cilium User Survey - 2024

Hello!

Thank you for your interest in the Cilium user survey. The Cilium community is looking for input on how our users are using Cilium and how we can best improve. Your answers will help the Cilium community prioritize work on existing and new features.

We commit to publishing anonymized results back to the community.

Thank you for taking the time to answer this survey.

bill.mulligan@isovalent.com [Switch account](#)



 Not shared

What is your current use of Cilium?

- ☐ Running in Production
- ☐ Under Evaluation
- ☐ We are blocked and waiting on a feature/bug
- ☐ Other: \_\_\_\_\_

<https://isogo.to/cilium2024>



# eBPF Documentary @ 100k views



## RFC 9669

BPF Instruction Set Architecture (ISA), OCTOBER 2024

File formats:



Also available: [XML file for editing](#)

Status:

PROPOSED STANDARD

Author:

D. Thaler, Ed.

Stream:

[IETF](#)

Source:

[bpf \(int\)](#)

Cite this RFC: [TXT](#) | [XML](#) | [BibTeX](#)

DOI: <https://doi.org/10.17487/RFC9669>

Discuss this RFC: Send questions or comments to the mailing list [bpf@ietf.org](mailto:bpf@ietf.org)

Other actions: [Submit Errata](#) | [Find IPR Disclosures from the IETF](#) | [View History of RFC 9669](#)

“The eBPF verifier is the crucial gatekeeper in terms of the safety of eBPF programs. **Over the past decade, a large amount of security vulnerability research has been carried out** into the verifier and many bugs have been identified and **fixed by the community.**”

1 CVE found and fixed

[github.com/ebpfoundation/publications](https://github.com/ebpfoundation/publications)



eBPF Verifier Code Review

NCC Group  
Version 1.0 – November 11, 2024



# eBPF Threat Model

“By safely enabling custom, kernel-level software without requiring kernel recompilation or reboot, it provides options for **increased security over traditional approaches** due to its rigorous validation of user-supplied code.”

[github.com/ebpfoundation/publications](https://github.com/ebpfoundation/publications)

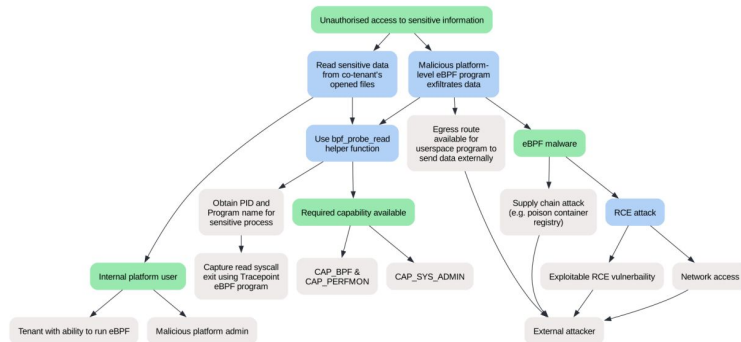
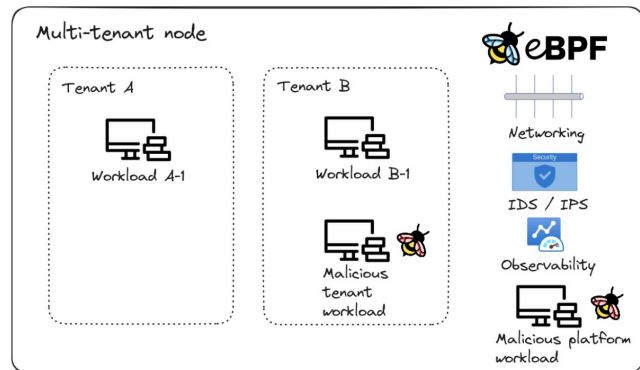


# eBPF Threat Model

“eBPF provides a **platform for building additional security controls** that make systems more robust.”

“eBPF’s abilities enable more precise operations, making it **easier to limit the risks associated with privileged processes** and improving an organization's security posture.”

[github.com/ebpfoundation/publications](https://github.com/ebpfoundation/publications)



# Academic Research - \$250k

✓ Increasing the security of the verifier with formal verification

🧠 Using eBPF for memory management

🔒 Leveraging hardware isolation instead of the verifier for security

🔬 Making a runtime for hosting  $\mu$ s-scale applications

😴 Lazy abstraction to enhance the precision of the eBPF verifier

The 2024 State of eBPF Report, is now available!

eBPF Resources ▾ Project Landscape Become a Member Events ▾ Foundation ▾ Funding Opportunities ▾

## eBPF Foundation Announces \$250,000 in Grant Awards for Five eBPF Academic Research Projects

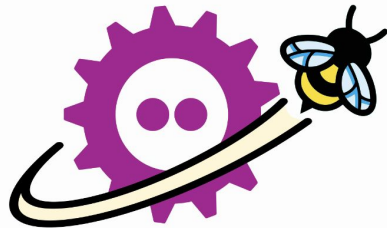
By Dan Brown | August 29, 2024 | 7 min read

*Projects will advance eBPF's open source technology by improving scalability, static analysis, verifier, virtual memory, and more*

**SAN FRANCISCO – August 29, 2024** – The eBPF Foundation, which focuses on advancing the state of the art for eBPF by directing upstream development, promoting the use of the technology and its benefits, and improving the security and robustness of eBPF as a whole, has awarded five universities each a \$50,000 unrestricted grant to perform research to benefit the eBPF community. Twenty-five proposals were submitted by 20 universities for technical projects to develop new features and improvements for eBPF. The eBPF Foundation originally planned one grant, but was able to increase the awards to five due to the significance of the work being proposed. The five winners were selected after a detailed review of all proposals by the eBPF Steering Committee, which consists of lead maintainers in the eBPF ecosystem.

## FOSDEM 2025 eBPF Devroom Call for Participation

We are delighted to announce the Call for Participation for the very first eBPF Devroom at FOSDEM!



### Mark the Dates

- **December 1st, 2024: Submission deadline**
- December 15th, 2024: Announcement of accepted talks and schedule
- February 1st, 2025 (Saturday afternoon): eBPF Devroom at FOSDEM

### eBPF at FOSDEM

Originally introduced to make the Linux kernel more programmable, eBPF allows users to load safe and efficient programs into the kernel, in order to implement custom logic running on specific events. The main use cases include kernel or user-space tracing and monitoring, network packet processing, security policies enforcement, or process scheduling. Today, eBPF also extends to Windows, user-space runtimes, or hardware offloads. The depth of the ecosystem has expanded far beyond its original goals and has seen increasing adoption from both enthusiasts and professionals within the open-source community, while the list of use cases and eBPF-based projects continues to grow.

**Thank you to our Diamond Sponsor!**



**ISOVALENT**  
now part of **cisco**