



Weather report

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LATEST

Unikraft releases v0.11.0 (Janus)! >

Unikraft is a fast, secure and open-source Unikernel Development Kit

By tailoring the operating system, libraries and configuration to the particular needs of your application, it vastly reduces virtual machine and container image sizes and shrinks down your software stack's attack surface.

- ✓ Blazing fast
- ✓ Cloud-native ready
- ✓ Research-backed
- ✓ Developer friendly
- ✓ POSIX-compliant
- ✓ Feature-rich

The screenshot shows the GitHub profile for the 'Unikraft' organization. The profile includes a logo, a bio, and navigation tabs for Overview, Repositories (189), Discussions, Projects (22), Packages, Teams (93), and People (72). The 'Pinned' section displays three repositories: 'unikraft' (Public), 'docs' (Public), and 'kraftkit' (Public). Each repository card shows a brief description, the programming language, and the number of stars and forks.

github.com/unikraft

Search or jump to...

Pull requests Issues Codespaces Marketplace Explore

Unikraft

A Unikernel Development Kit. Extreme Specialization for Security and Performance.

67 followers <https://unikraft.org> @UnikraftSDK user-discuss@unikraft.org Verified

Overview Repositories 189 Discussions Projects 22 Packages Teams 93 People 72

Pinned

unikraft Public

Unikraft is an automated system for building specialized OSes known as unikernels. Unikraft can be configured to be POSIX-compliant. (Core repository)

C 1.2k 1.1k

docs Public

The front page and documentation for the Unikraft Open-Source Project.

C 27 31

kraftkit Public

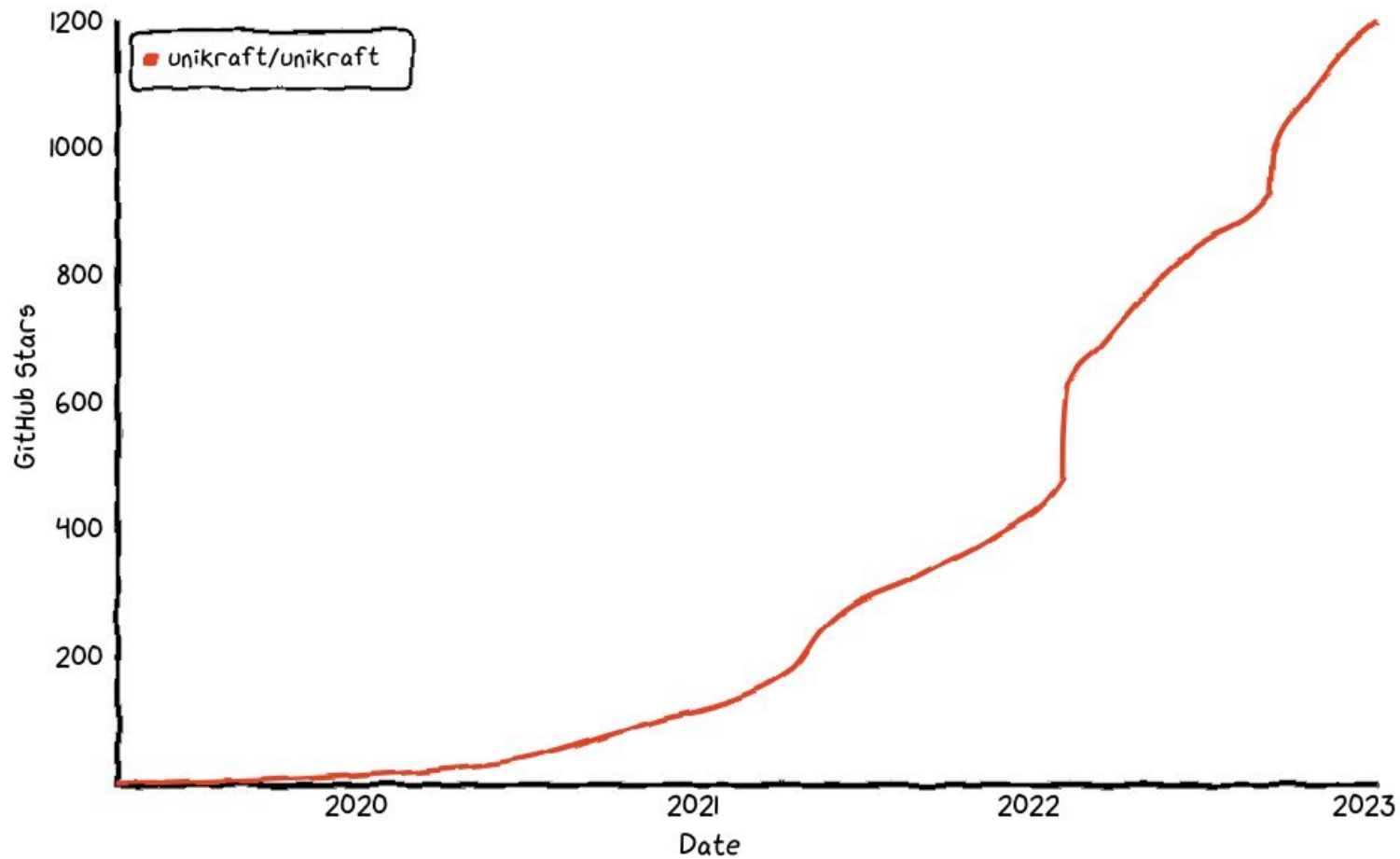
Build and use highly customized and ultra-lightweight unikernel VMs.

Go 50 12

The state of the
community is strong!



Star History



FOSDEM 2022

around 500 GitHub stars

around 300 Discord users

release 0.7 (Mimas)

1 online hackathon (USoC'21)

1548 commits

FOSDEM 2023

1210 GitHub Stars

607 Discord users

release 0.12 (Epimetheus)

3 live hackathons, USoC'22,
Hacktoberfest
local online hackathons

2065 commits

Hackathons

weekly 4 hour hackathons on Saturday (online, face-to-face)

ENS Lyon, May 14-15, 2022

RWTH Aachen, June 25-26, 2022

TU Munich, October 22-23, 2022

Unikraft Summer of Code 2022, August 29-September 9, online





Free to attend!

Unikraft Athens Hackathon

March 30-31, 2023



<https://unikraft.org/community/hackathons/2023-03-athens/>

Thanks Anastassios, Babis, George, Manos, Michalis,
Nectarios, Panagiotis!

Unikraft Meetup



Unikraft Meetup



Unikraft Meetup

What happens in Siniaia
stays in Siniaia!

Student Engagement

diploma, master, PhD projects

student mentorship

Google Summer of Code 2022

Unikraft Summer of Code “graduates”

hackathon challenges

Community Roles



maintainer

owner

tech lead

reviewer

community lead

Work Groups and Meetings

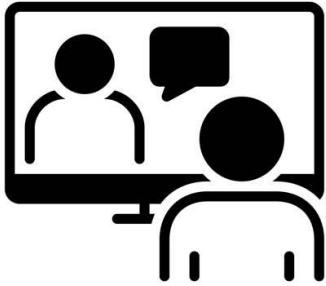
Discord channel

work group meetings

weekly community meeting

bi-weekly maintainers meeting

bi-weekly community leaders meeting



Documentation

The screenshot shows the documentation website for Unikraft. The browser address bar displays `unikraft.org/docs/`. The navigation bar includes a 'U' logo, links for 'Docs', 'Releases', 'Blog', and 'Community', and a search box. A breadcrumb trail shows 'Home > Docs'. The left sidebar lists various sections: 'Getting Started', 'Concepts', 'Features', 'Usage', 'Development', 'Operations', 'Contributing', 'Help & Support', and 'FAQ'. A blue callout box highlights 'Automatically deploy lightweight VMs with 20-50% savings with Unikraft Cloud.' The main content area features a 'Welcome to Unikraft's Documentation!' heading with a hand icon, followed by an introductory paragraph. Below this is a 'What to read next' section with a list of links. Two callout boxes are visible: a pink one for 'What's a unikernel?' and a blue one for 'Building your first unikernel'.

unikraft.org/docs/

U Docs Releases Blog Community

Search d

Home > Docs

Getting Started

Concepts >

Features >

Usage >

Development >

Operations >

Contributing >

Help & Support

FAQ

Automatically deploy lightweight VMs with 20-50% savings with [Unikraft Cloud](#).

Welcome to Unikraft's Documentation! 🙌

Unikraft is a Unikernel Development Kit and consists of an extensive build system in addition to core and external libraries which facilitate the underlying functionality of a unikernel.

This documentation is organized into guides for operators of Unikraft unikernels who wish to run lightweight VMs; developers who wish to integrate pre-existing applications into a unikernel; and, hackers, researchers and staff who wish to extend Unikraft itself.

What to read next

Get familiar with some of the core concepts which makes using a unikernel:

- 01 10 What's a unikernel?**
Learn about the core concepts and how Unikraft is able to achieve extreme performance and security benefits compared to existing technologies.
- Building your first unikernel**
You're convinced of unikernels, "they're the future" now you want to learn how to quickly and easily build the tutorial for you.

Features since FOSDEM'23

virtual memory support

SMP support

internal metrics (ukstore)

Musl support

binary compatibility (official!)

ARM security features

OSS roadmap

(Almost there) Features

tooling upgrade (kraftkit)

Rust support

integrated SMP support, synchronization

integration testing

Other security features (ASLR, W^X, shadow stack)

RISC-V support

VMware, Hyper-V, Firecracker support

Challenges

easy of use, adoption

porting new applications / libraries

attracting experienced contributors

maintaining / improving code quality

permeating good practices in community

Next Steps

full switch to kraftkit

full internal API documentation

unit tests in internal and external libraries

platform re-architecting

code conventions

improved documentation, common pitfalls

Come to the monkey side!

core: low-level programming, kernel, C, assembly

tooling: Go, containers, K8s, CI/CD

app/lang/lib support: Rust, Go, Javascript etc.

expansion: metrics, platforms, benchmarking

Unikernel Discussion Group

share knowledge, share code, share love

potential standardization (whatever that means)

evangelize unikernels in OSS, academia, tech groups

promote unikernels in business, research

suggestions welcome

The state of the community is strong!



<https://unikraft.org/>

<https://github.com/unikraft>

<https://bit.ly/UnikraftDiscord>