

nerdctl: Docker-compatible CLI for containerd

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Maintainer of Containerd/Nerdctl



Content

01 Introduction

02 Features

03 Ecosystem



Part 01

Introduction



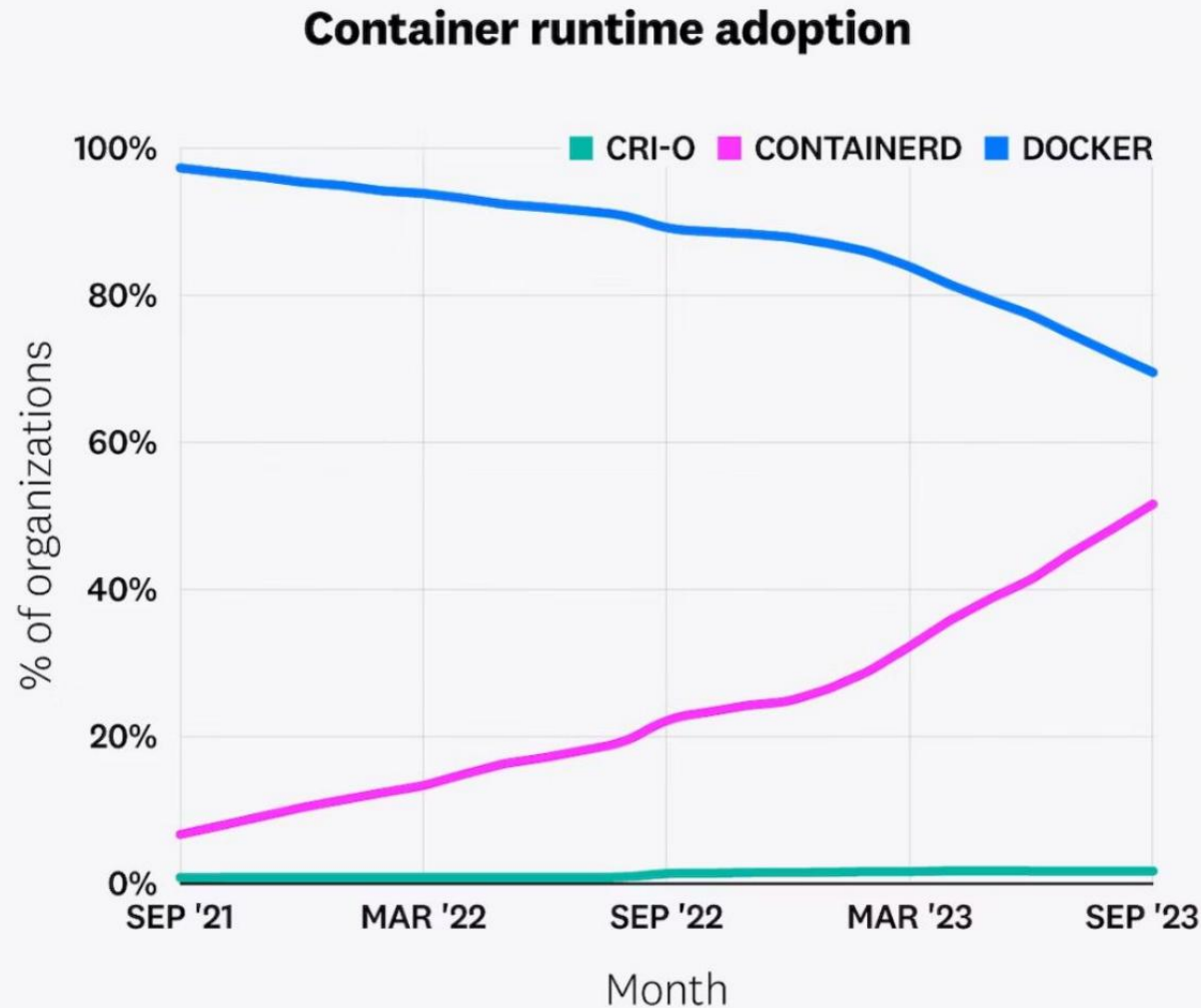
What is nerdctl

Contai nerd

CTL



Containerd Usage Growth



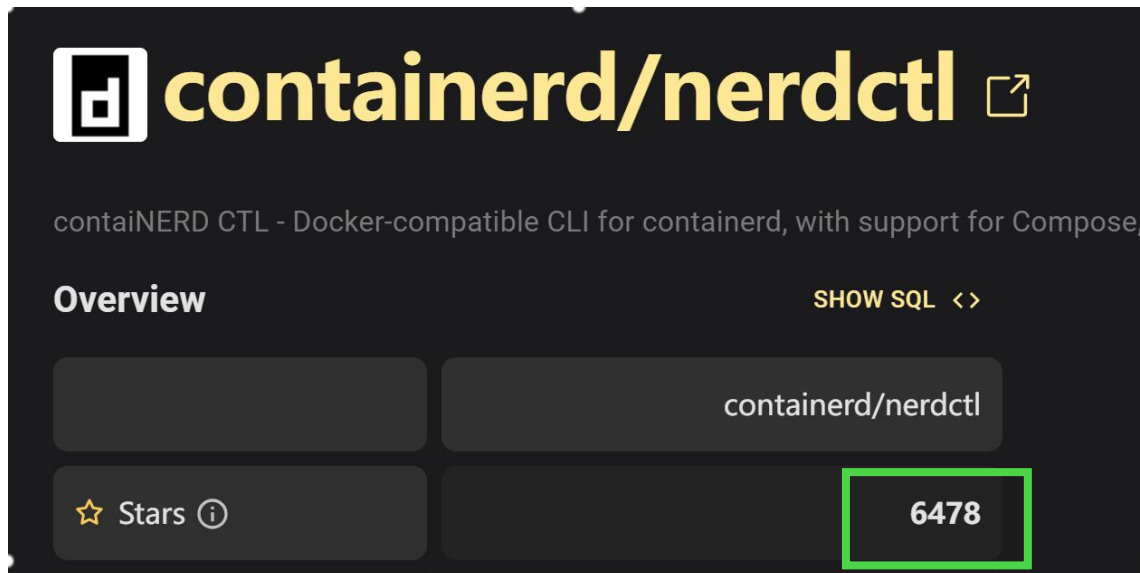
**CONTAINERD
ADOPTION HAS
MORE THAN
DOUBLED IN THE
LAST YEAR**

Source: Datadog

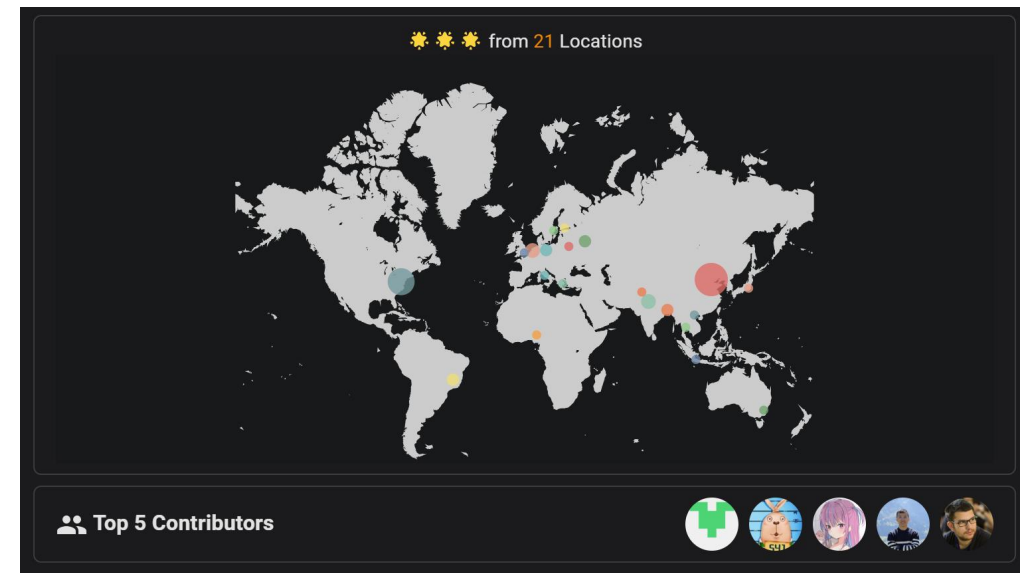
<https://www.datadoghq.com/container-report/>

What is nerdctl

- Docker-compatible CLI for containerd (and buildkitd)
- Made for facilitating new experiments in the containerd platform
- Useful for debugging Kubernetes nodes too



The image shows the GitHub repository page for `containerd/nerdctl`. The repository name is displayed in large yellow text. Below it, a description reads: "contaiNERD CTL - Docker-compatible CLI for containerd, with support for Compose,". The "Overview" tab is selected. In the repository statistics section, the number of stars is 6478, which is highlighted with a green rectangular box. A "SHOW SQL <>" link is visible to the right of the "Overview" tab.



The image shows the GitHub repository page for `containerd/nerdctl`, focusing on the "Stargazers over time" and "Top 5 Contributors" sections. A world map is displayed with colored dots indicating the locations of users who starred the repository. Above the map, it says "from 21 Locations". Below the map, the "Top 5 Contributors" section shows five circular avatars of the top contributors.

Part 02

Features



DEMO - RUN

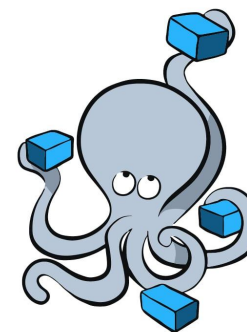
```
root@kay201: ~  
root@kay201:~#  
  
Demo 视频请查看:  
https://www.bilibili.com/video/BV1Cz42167qP
```

alias
docker=nerdctl

DEMO – Compose Up

```
root@kay201: /tmp/test#
```

Demo 视频请查看：
<https://www.bilibili.com/video/BV1Cz42167qP>



docker
Compose

Advanced features of containerd & nerdctl

- Lazy-pulling with eStargz/SOCI/Nydus/OverlayBD
- Registry-less P2P image distribution with IPFS *
- Image encryption with OClcrypt *
- Image signing with Cosign / Notation *
- “Real” read-only mounts with mount_setattr
- Slirp-less rootless containers with bypass4netns *
- Interactive debugging of Dockerfiles, with buildg *



Part 03

Ecosystem



Containerd Clients

ctr

command-line dev
tool, part of core
containerd project

nerdctl

non-core
containerd project,
Docker-like CLI

added features for
lazy-loaded, image
encryption, signing

crictl

a CLI for the CRI
API; a Kubernetes
project (cri-tools)

docker(moby)

further integration
with containerd
image store

allows use of
snapshotters,
containerd features

- developer platforms using containerd -

- **Colima** - container runtimes on macOS (and Linux) with minimal setup
- **Finch** - Docker-like CLI for MacOS
- **Rancher Desktop** - Docker-like experience on MacOS, Windows, and Linux

Tools using nerdctl

Lima

Linux virtual machines, with a focus on running containers

Github Star(13k)



Colima - container runtimes on macOS (and Linux) with minimal setup.

Github Star(15k)



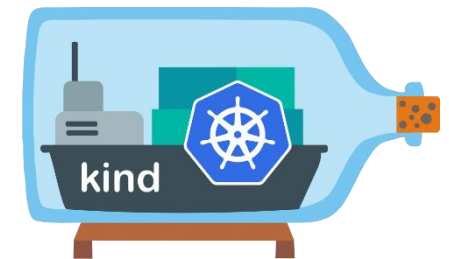
AWS : The Finch CLI an open source client for container development



Electron-based application that wraps other tools while providing a simple user experience.



DaoCloud Enterprise 5.0



New!



Thanks.

