

NOSAD & SBOM

Network Open Source and Data

- About CMS
 - Cybernode & Wordpress
 - Nosad
 - Bomresolver + Nosad + Kubernetes (CDN)
- Demo
 - Generate content
 - Create static content container
 - Deploy static container with Kubernetes

NOSAD Meetup 2023-06-08

Johan Linåker RISE



Follow up 2023-06-12
Hans Lamm
Jonas Södergren
Håkan Persson

<https://nosad.se/>

<https://codeberg.org/>

<https://designsystem.arbetsformedlingen.se/>

<https://designsystem.skolverket.se/>

[Förvaltningsmodeller för öppen källkod | Goto 10](#)

Hans Thorsen Lamm (hans@lammda.se)

<https://whatcms.org>

✓ Success

JSON

cybernode.se uses

Category	Software	Version
Blog, CMS	WordPress	6.1.1
Programming Language	PHP	7.4.33
Database	MySQL	
Web Server	LiteSpeed	

Social Media

Network	Profile	Url
LinkedIn	cybernode-se	https://www.linkedin.com/company/cybernode-se/

Help us improve these results

<https://whatcms.org>

Sorry

We couldn't detect a CMS at nosad.se

Sorry

We couldn't detect a CMS at services.lammda.se/nosad

<https://whatcms.org>

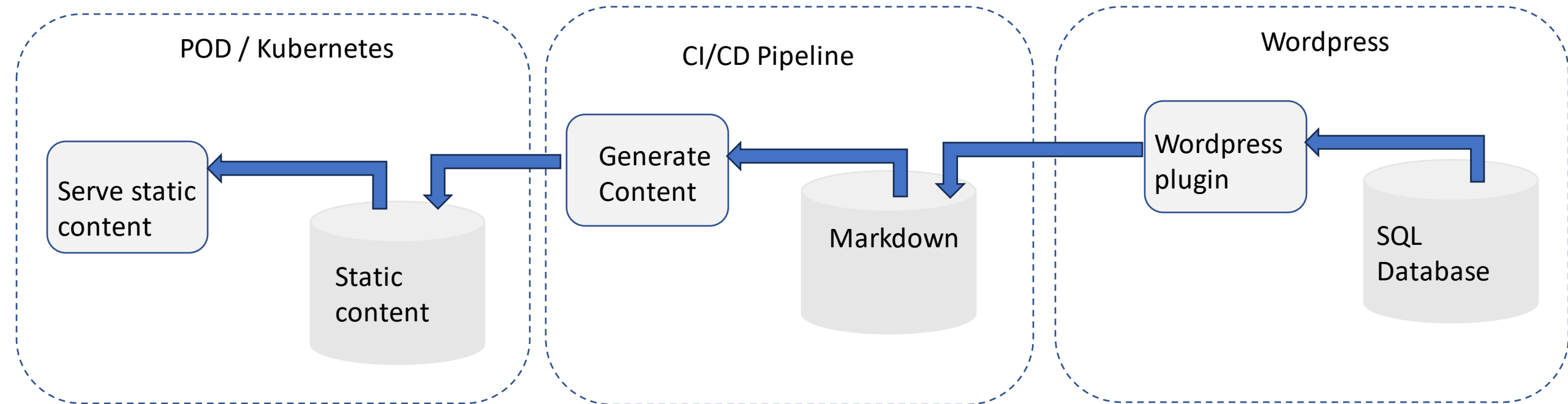
Sorry

We couldn't detect a CMS at nosad.se

Sorry

We couldn't detect a CMS at services.lammda.se/nosad

Proposal from presentation 2023-05-12



[The world's fastest framework for building websites | Hugo \(gohugo.io\)](https://gohugo.io)

[Wordpress-to-hugo-exporter](#)

A few years ago, dynamic content was the way to go: everything could be easily changed and updated, allowing for an entire website redesign within seconds.

But then, [speed](#) became the top priority, and static content suddenly became cool again

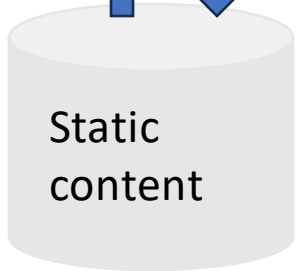
NOSAD

Serve static content

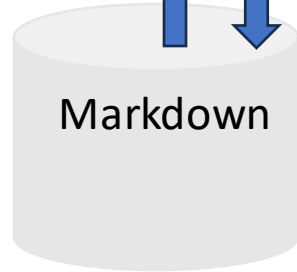
Generate static content

Gitlab Wiki

thttpd



mustache
marked

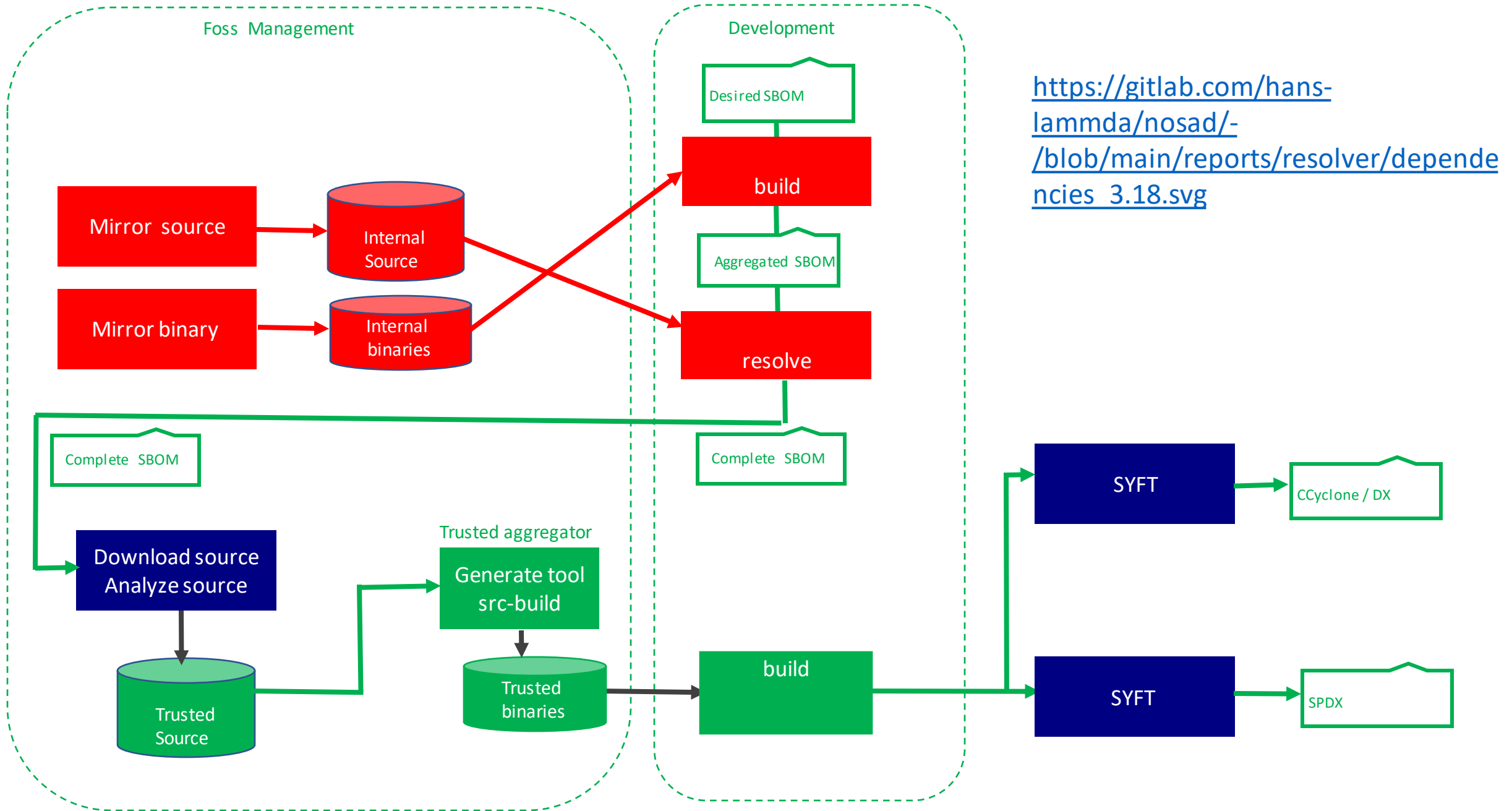


Curl



<https://gitlab.com/open-data-knowledge-sharing/open-data-knowledge-sharing.gitlab.io/-/blob/master/Dockerfile>

Rebuild in Isolation



OPENSSEF & SBOM

The screenshot shows a presentation slide on the left and a video feed on the right. The slide is titled "What's New in the World of SBOMs?" and lists several panelists. The video feed shows two people, a woman and a man, in a virtual meeting. The OpenSSF Day logo is visible in the bottom right of the slide area.

OpenSSF Day
NORTH AMERICA 2023
May 10 | Vancouver, BC, Canada
#openssfday

What's New in the World of SBOMs?

Tracy Ragan, *CEO, DeployHub, Inc.*
Adolfo García Veytia, *Staff Software Engineer, Chainguard*
Gopi Krishnan Rajbahadur, *Senior Researcher, Huawei*
Karen Bennett, *Officer and Member of AI Ethics Standards, IEEE*
Guy Chernobrov, *Co-Founder, VP R&D, Scribe Security*
Josh Bressers, *Vice President of Security, Anchore*

OpenSSF Day
NORTH AMERICA 2023

For the virtual attendees here we also have a Q&A that you can use when the time is right.

Dr. Amanda Martin to [Everyone](#)

DA

Lucas, Thanks for sharing the repo. I like to sort by stars to see which ones others find significant, the default of time is also useful to see where the active work is happening.

Dr. Amanda Martin to [Everyone](#)

DA

Feel free to ask questions and we will shout them out for you

Me to [Hosts and panelists](#)

H

Is it possible to rebuild a package in a air-gapped build system based on SBOM ?

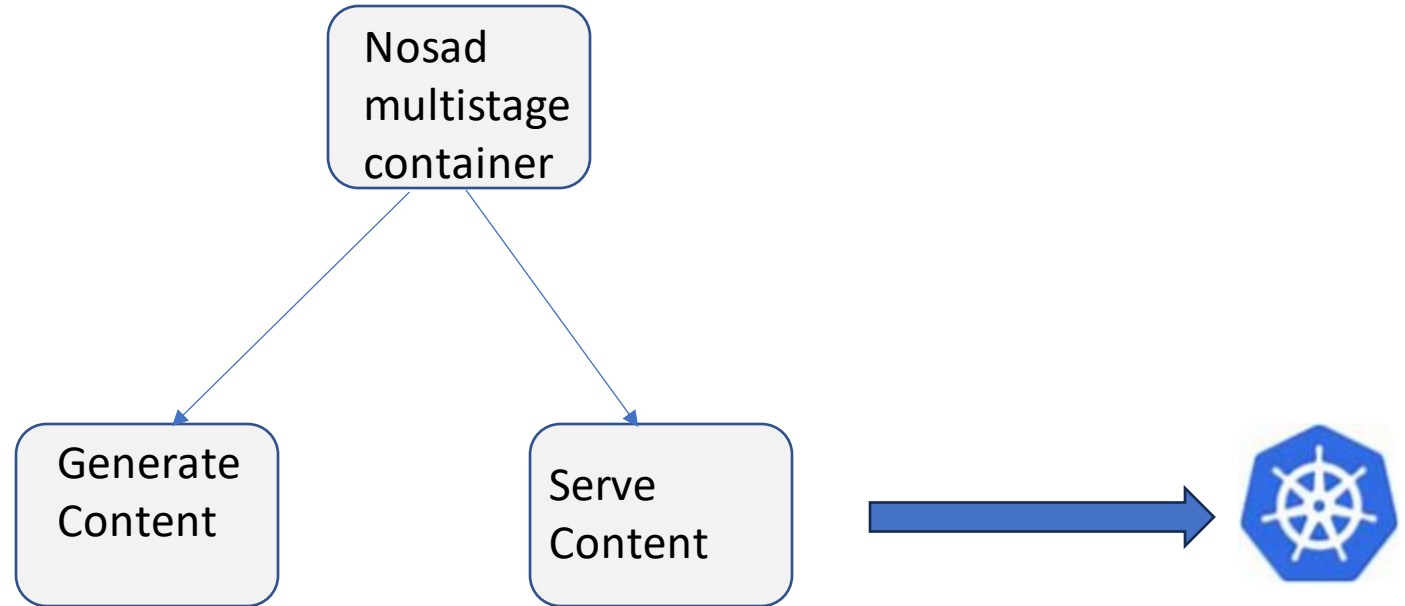
[Reproduce in Isolation question from Hans \(11 minutes from start \)](#)

Adapt Nosad to Bom Resolver

Analyze existing code from Gitlab
Replace thttpd with lighttpd
Divide one container into two
Generate SBOMS:
(Cyclone/DX , SPDX and BomResolver)

Deploy on Kubernetes

<https://gitlab.com/hans-lamma/nosad>



3 Layer container
Service (build.sh)
Middleware (npm)
Base (Alpine)

2 Layer container
Service (lighttpd.conf)
Base (Alpine)

DEMO / GENERATE

```
rm -rf static
mkdir -p static
podman run -v "/home/hans/development/git-clones/nosad/content/service/static:/static" content_builder:1.0.1
generate
Processing build/staging/Anmälan-till-Meetup
Processing build/staging/Benchmarking-2019
Processing build/staging/Brno
```

DEMO / SERV

```
kubectl get pods -n nosad
```

NAME	READY	STATUS	RESTARTS	AGE
nosad-6c4f776cb5-rz4qp	1/1	Running	0	5d1h

```
kubectl get pods -n nosad
```

NAME	READY	STATUS	RESTARTS	AGE
nosad-6c4f776cb5-h92hc	1/1	Running	0	4s
nosad-6c4f776cb5-kbjtf	1/1	Running	0	4s
nosad-6c4f776cb5-nckw2	1/1	Running	0	4s
nosad-6c4f776cb5-npswk	1/1	Running	0	4s
nosad-6c4f776cb5-rz4qp	1/1	Running	0	5d1h

DEMO / SCALE

```
kubectl get pods -n nosad
```

NAME	READY	STATUS	RESTARTS	AGE
nosad-6c4f776cb5-rz4qp	1/1	Running	0	5d1h

```
kubectl get pods -n nosad
```

NAME	READY	STATUS	RESTARTS	AGE
nosad-6c4f776cb5-h92hc	1/1	Running	0	4s
nosad-6c4f776cb5-kbjtf	1/1	Running	0	4s
nosad-6c4f776cb5-nckw2	1/1	Running	0	4s
nosad-6c4f776cb5-npswk	1/1	Running	0	4s
nosad-6c4f776cb5-rz4qp	1/1	Running	0	5d1h

Next Step

Bom Resolver use Nosad Wiki
Nosad wiki migrated to Kubernetes

C.I.A

- Confidentiality
- Integrity
- **Availability**

Cornerstone in many security standards / frameworks

Mitigate

Ingress (Incoming traffic)
Egress (Outgoing traffic)

Absorb

(Business as usual)

Caching

Content Delivery Network

Kubernetes POD

(webservice with static content embedded in container)

Record breaking DDOS attack !!!

[Cloudflare mitigates record-breaking 71 million request-per-second DDoS attack](#)

This was a weekend of record-breaking [DDoS attacks](#). Over the weekend, Cloudflare detected and mitigated dozens of *hyper-volumetric* DDoS attacks. The majority of attacks peaked in the ballpark of 50-70 million requests per second (rps) with the largest exceeding **71 million rps**. This is the largest reported **HTTP DDoS** attack on record, more than 54% higher than the previous reported record of 46M rps in June 2022. The attacks were HTTP/2-based and targeted websites **protected by Cloudflare**. They originated from over **30,000** IP addresses. Some of the attacked websites included a popular gaming provider, cryptocurrency companies, hosting providers, and cloud computing platforms. The attacks originated from numerous cloud providers, and we have been working with them to crack down on the botnet

Rate: 71 000 000 Request per second

Protocol: HTTP

Source: 30.000 individual IP addresses

Destination: Let's assume one target for the attack

Migration of BomResolver to RISE Datacenter

<https://www.ri.se/sv/ice-datacenter>

recordedfuture.com. 7099 IN NS leah.ns.cloudflare.com.

services.lammda.se digital ocean

Is it possible to absorb DDOS attack ?

[Considerations for large clusters | Kubernetes](#)

A cluster is a set of [nodes](#) (physical or virtual machines) running Kubernetes agents, managed by the [control plane](#). Kubernetes v1.27 supports clusters with up to 5,000 nodes. More specifically, Kubernetes is designed to accommodate configurations that meet *all* of the following criteria:

- No more than 110 pods per node
- No more than 5,000 nodes
- No more than 150,000 total pods
- No more than 300,000 total containers

You can scale your cluster by adding or removing nodes. The way you do this depends on how your cluster is deployed

Assume 80.000.000 RPS being distributed among 300.000 containers, each container get sprayed with **266** RPS.

(The container may contain different servers that server request by threads and processes)

[Industry Q&A with NaWAS Anti-DDoS | Netnod](#)

[WE DO Security - WEDOS WE DO Security - WEbhosting DOmains Servers](#)