Scale Your Auditing Events

Philipp Krenn @xeraa

elastic


THIS IS FINE.

Learn about a breach

FROM THE PRESS OR USERS

Learn about a breach

ATTACKERS ASKING FOR A RANSOM

elastic

Learn about a breach

CLOUD PROVIDER'S BILL

elastic

Learn about a breach

YOURSELF AFTER THE FACT

elastic

Learn about a breach

YOURSELF & YOU CAN PROVE NO HARM

elastic


TH-
THIS IS NOT FINE!!
OH MY GOD EVERY THINGS ON FIRE
WHAT THE HELL IS MY PROBLEM

No silver bullet 

elastic

AUDIT

https://github.com/linux-audit

elastic

"auditd is the userspace component to the Linux Auditing System. It's responsible for writing audit records to the disk. Viewing the logs is done with the `ausearch` or `aureport` utilities."

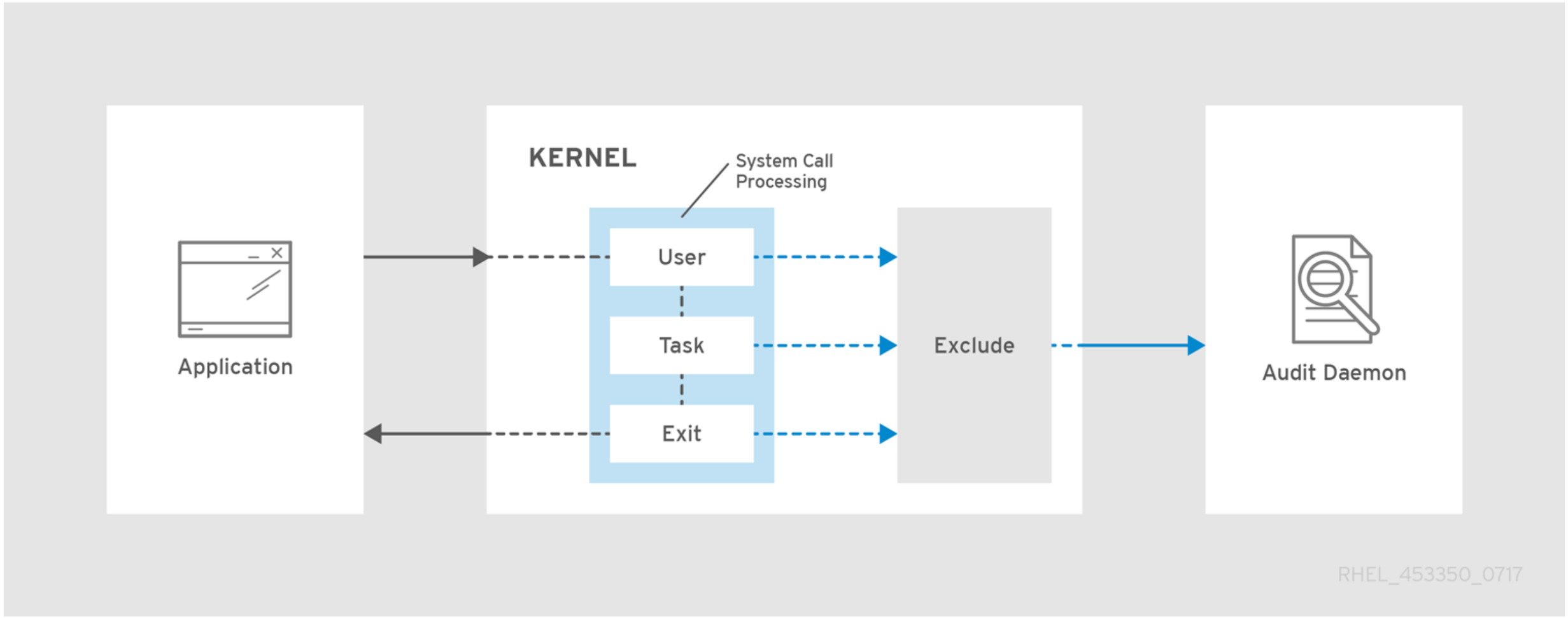
Monitor

File and network access

System calls

Commands run by a user

Security events



https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/security_guide/chap-system_auditing

Demo

Understanding Logs

https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/security_guide/sec-understanding_audit_log_files

elastic

More Rules

https://github.com/linux-audit/audit-userspace/tree/master/rules

Namespaces WIP

https://github.com/linux-audit/audit-kernel/issues/32#issuecomment-395052938


ALL THE THINGS!

Problem

How to centralize?

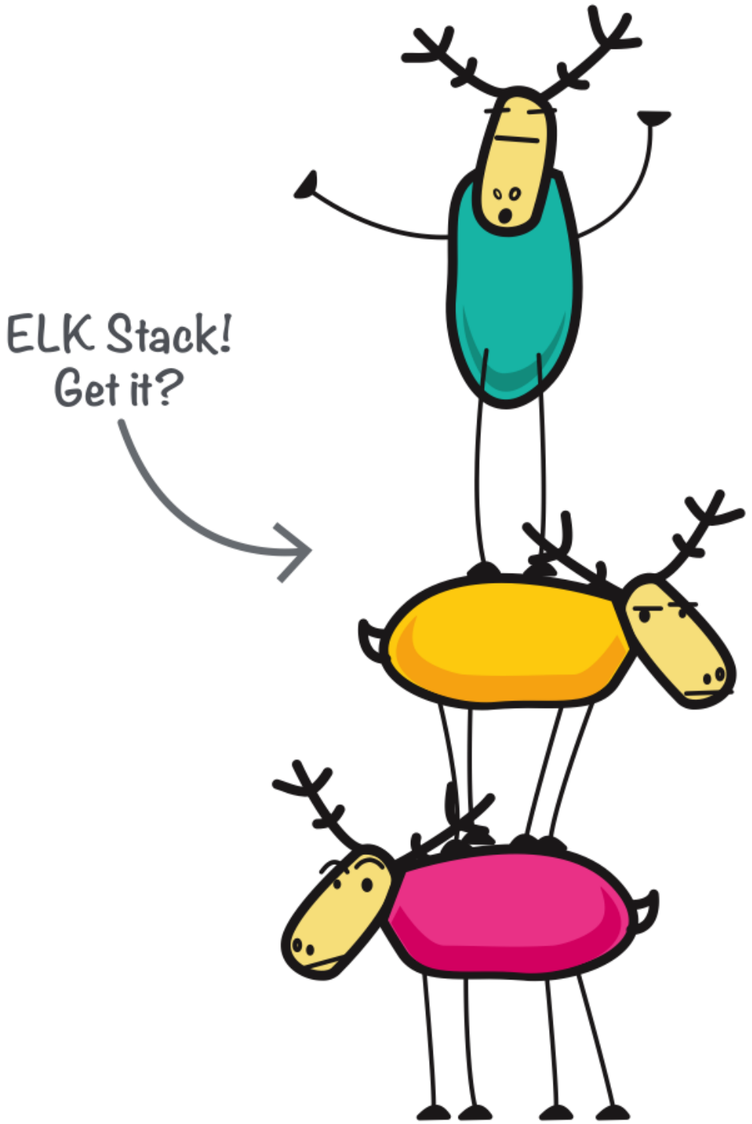
elastic

Developer 🥑

Disclaimer

I BUILD HIGHLY MONITORED HELLO WORLD APPS

elastic

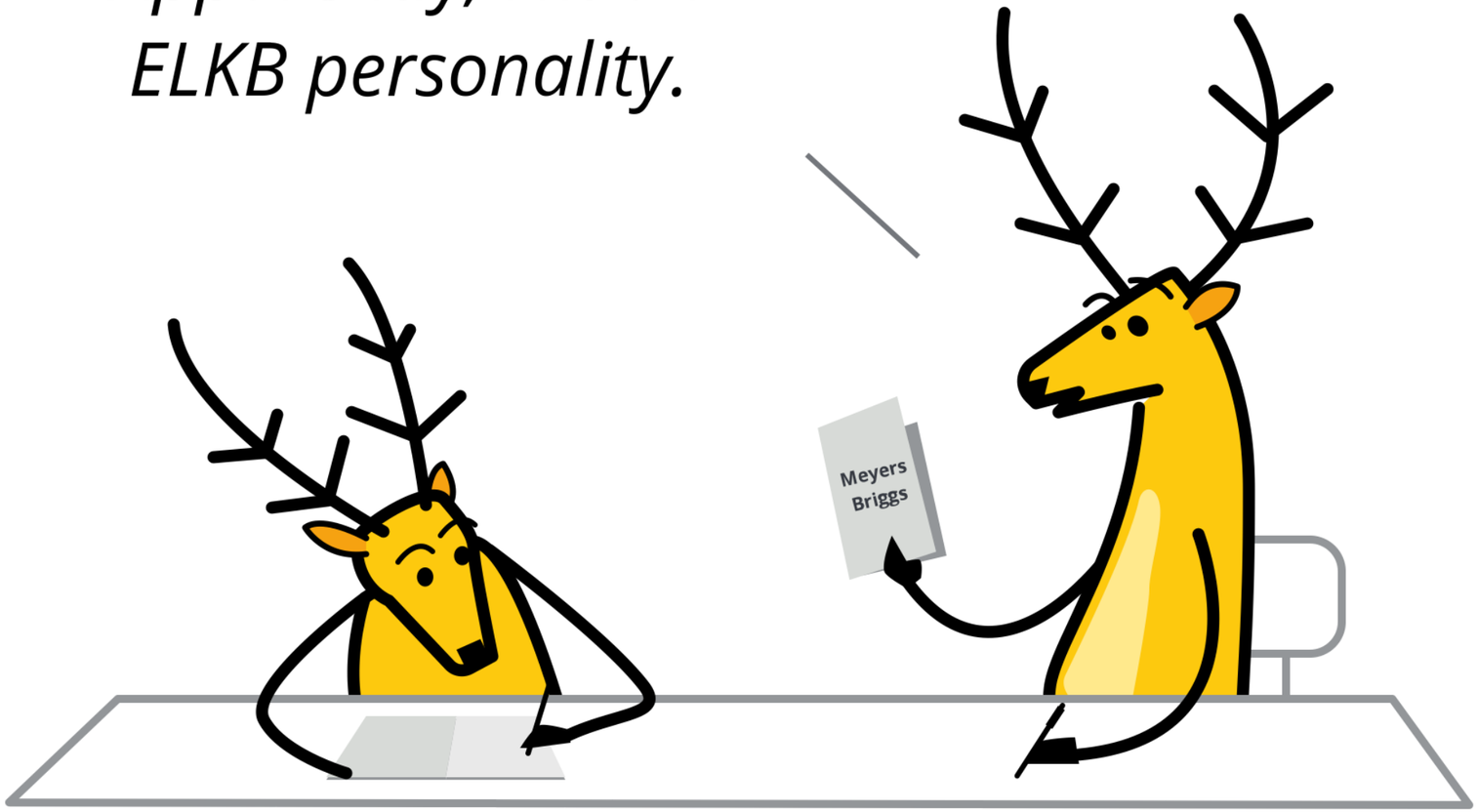


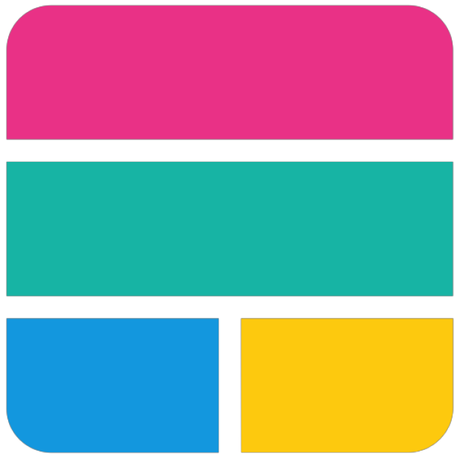
E Elasticsearch

L Logstash

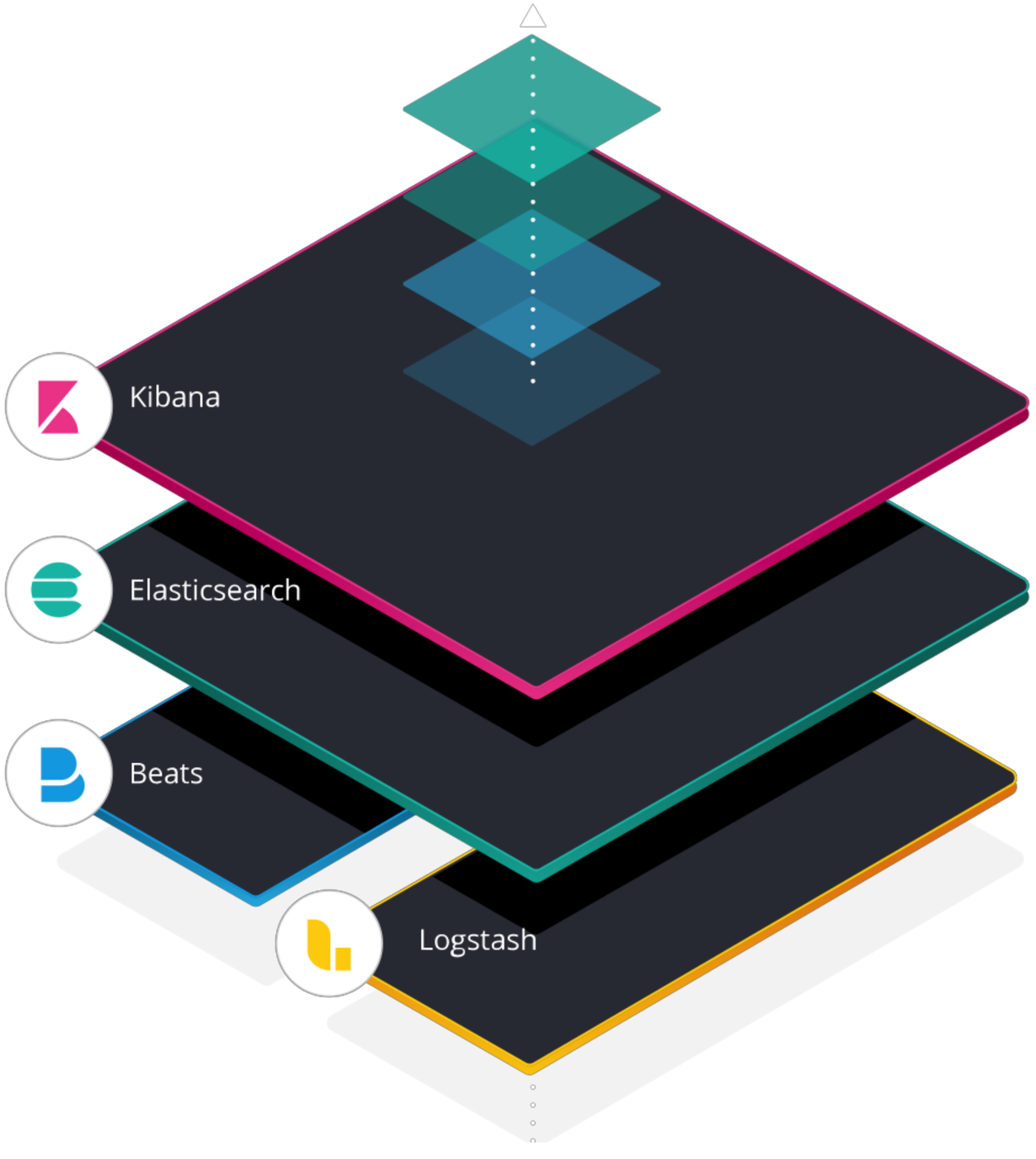
K Kibana

Apparently, I'm an ELKB personality.



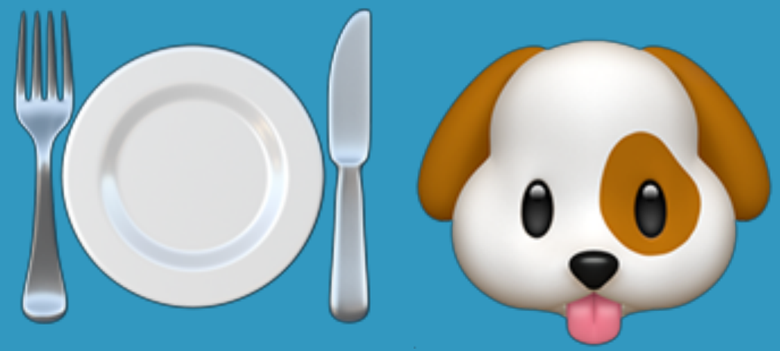


elastic stack


Kibana
Elasticsearch
Beats
Logstash

Filebeat Module: Auditd

Demo



elastic

elastic

elastic cloud

https://cloud.elastic.co

elastic

AUDITBEAT

Auditd Module

Correlate related events

Resolve UIDs to user names

Native Elasticsearch integration

elastic

Auditd Module

eBPF powers on older kernels

Easier configuration

Written in Golang

elastic

Enhance add_docker_metadata to enrich based on PID #6100

Edit

Merged **exekias** merged 2 commits into `elastic:master` from `andrewkroh:feature/libbeat/docker-pid-metadata` on 18 Jan

Conversation 10 | Commits 2 | Checks 0 | Files changed 22 | +424 −70

andrewkroh commented on 17 Jan — Member

This PR enhances `add_docker_metadata` with the ability to enrich events containing process IDs.

The processor uses cgroup membership data from `/proc/pid/cgroup` to determine if the process is running inside of a Docker container. It caches the PID -> CID mapping for 5 minutes (based on time of last access).

The default configuration sets `match_pids: [process.pid, process.ppid]`. It falls back to the PPID in case the process has exited before the processing occurs.

1

Reviewers


ruflin


exekias


dedemorton

Assignees

No one—assign yourself

Labels

:Processors

GO-LIBAUDIT

https://github.com/elastic/go-libaudit

go-libaudit is a library for communicating with the Linux Audit Framework

elastic

Demo

System Module

Easier configuration for host, process, socket, user

Added in 6.6 — not based on Auditd

elastic

Demo

File Integrity Module

inotify (Linux)
fsevents (macOS)
ReadDirectoryChangesW (Windows)

hash_types

blake2b_256, blake2b_384, blake2b_512, md5, sha1, sha224, sha256, sha384, sha512, sha512_224, sha512_256, sha3_224, sha3_256, sha3_384, sha3_512, xxh64

Demo

ELASTIC SIEM

elastic

https://github.com/elastic/ecs

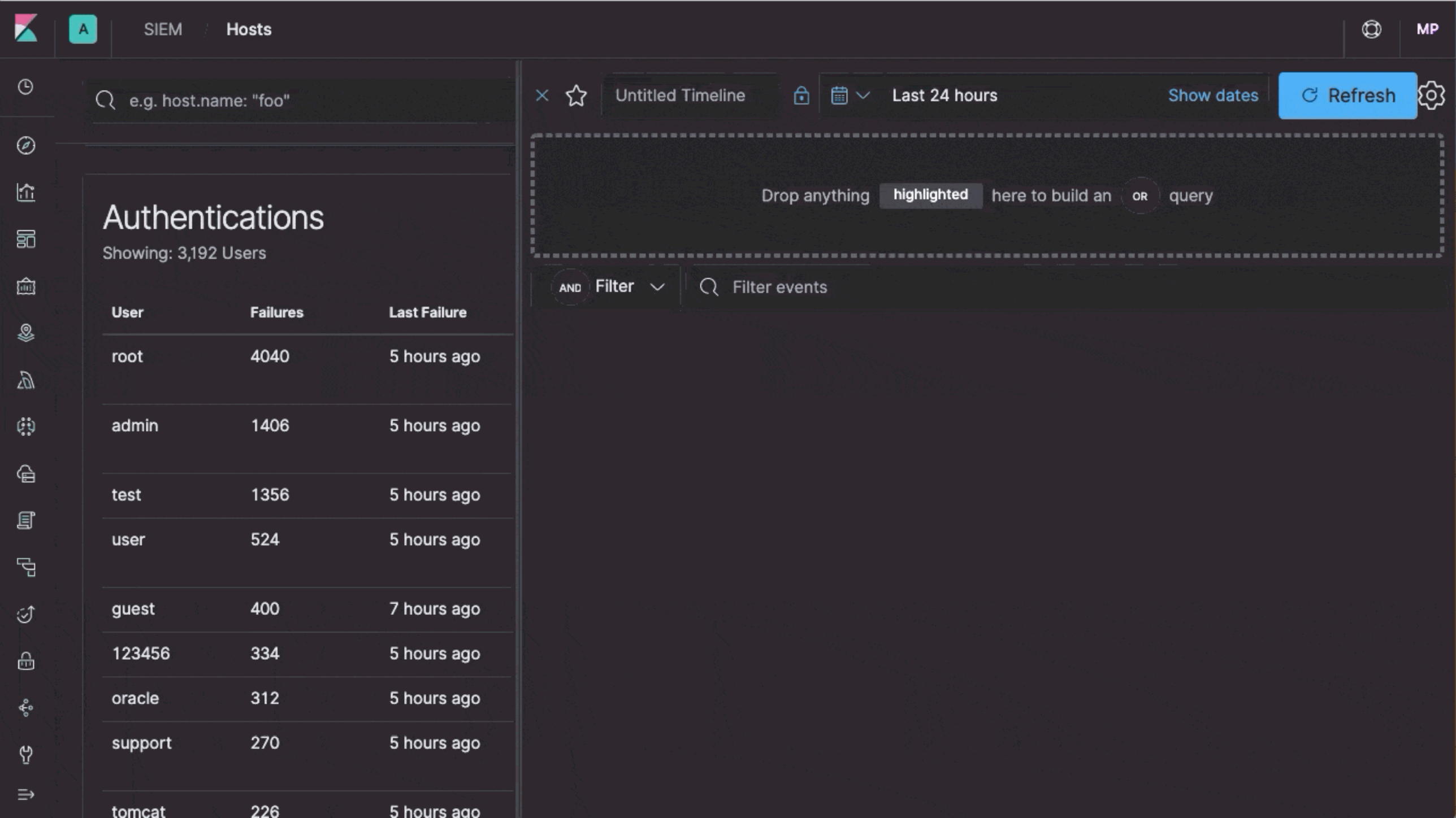
```yaml
- key: ecs
  title: ECS
  description: ECS Fields.
  fields:
  - name: '@timestamp'
    level: core
    required: true
    type: date
    description: 'Date/time when the event originated.

      This is the date/time extracted from the event, typically representing when
      the event was generated by the source.

      If the event source has no original timestamp, this value is typically populated
      by the first time the event was received by the pipeline.

      Required field for all events.'
    example: '2016-05-23T08:05:34.853Z'
  - name: labels
    level: core
```

elastic


A
SIEM
Hosts
MP
e.g. host.name: "foo"
Untitled Timeline
Last 24 hours
Show dates
Refresh
Drop anything highlighted here to build an OR query
AND Filter
Filter events
Authentications
Showing: 3,192 Users
User Failures Last Failure
root 4040 5 hours ago
admin 1406 5 hours ago
test 1356 5 hours ago
user 524 5 hours ago
guest 400 7 hours ago
123456 334 5 hours ago
oracle 312 5 hours ago
support 270 5 hours ago
tomcat 226 5 hours ago

Demo

Conclusion

Auditd
Auditbeat
Logs, Dashboards, SIEM

elastic

Panagiotis Moustafellos @pmoust · Feb 3

Replying to @xeraa @pipedevzero @ynirk

I can share that we do use auditbeat to monitor our Elastic Cloud infra, some thousands VMs and bare metal servers, since it was first released. We should be publishing a blog post about it on elastic.co in the near future.

Code

https://github.com/xeraa/auditbeat-in-action

Similar Solutions

https://github.com/slackhq/go-audit

https://github.com/Scribery/aushape

Questions?

Philipp Krenn @xeraa

PS: Sticker

elastic