Identifier les menaces avec Elastic SIEM

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elastic


THIS IS FINE.

Les incidents de sécurité ont 3 niveaux

FYI, WTF ET OMG

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

Découvrir une faille par

LA PRESSE OU

LES UTILISATEURS

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Découvrir une faille par

LES PIRATES DEMANDANT UNE RANÇON

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Découvrir une faille par

VOTRE FACTURE CLOUD

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Découvrir une faille par

VOUS-MÊME APRÈS LES FAITS

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Découvrir une faille par

VOUS-MÊME ET POUVOIR PROUVER QU'IL N'Y A PAS EU DE DÉGATS

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AUDIT

https://github.com/linux-audit

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"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."

Pour monitorer

Accès fichier et réseau

Appels système

Commandes lancées par un utilisateur

Evènements de sécurité

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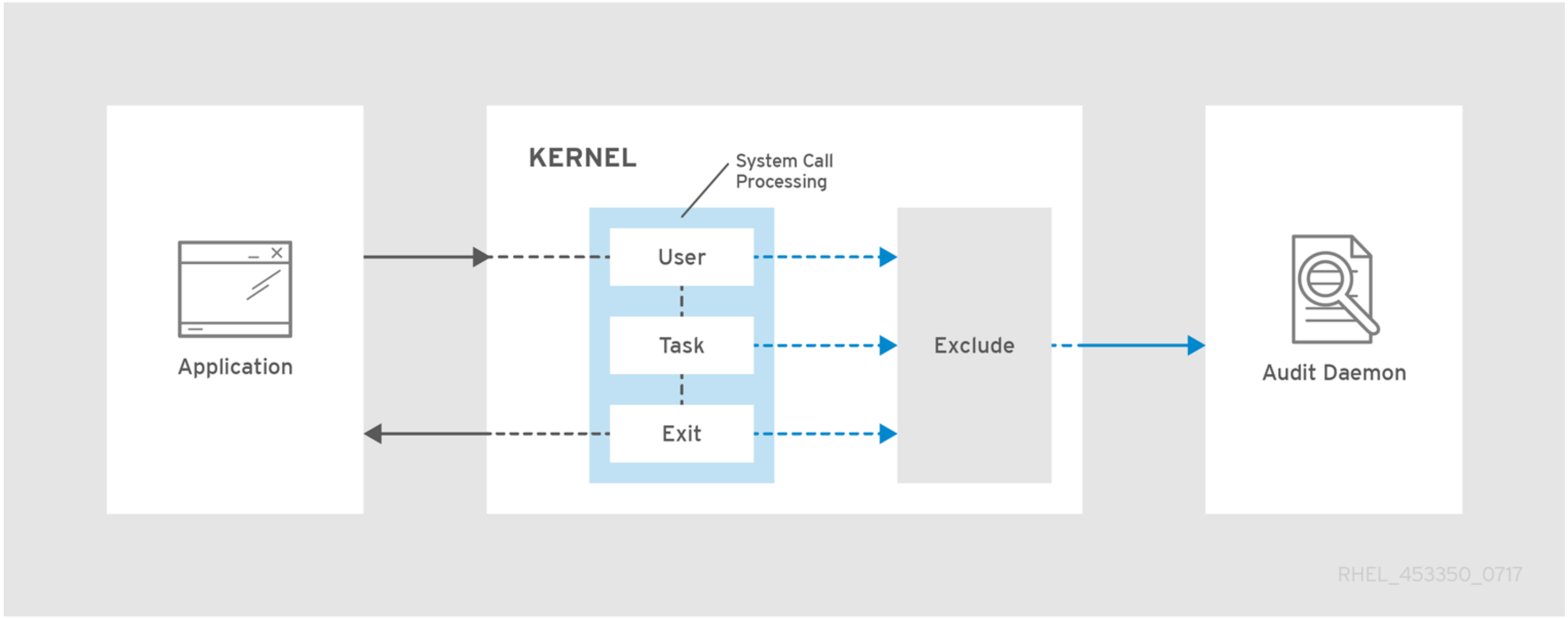

https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/security_guide/chap-system_auditing

Demo


ALL THE THINGS!

Problem

How to centralize?

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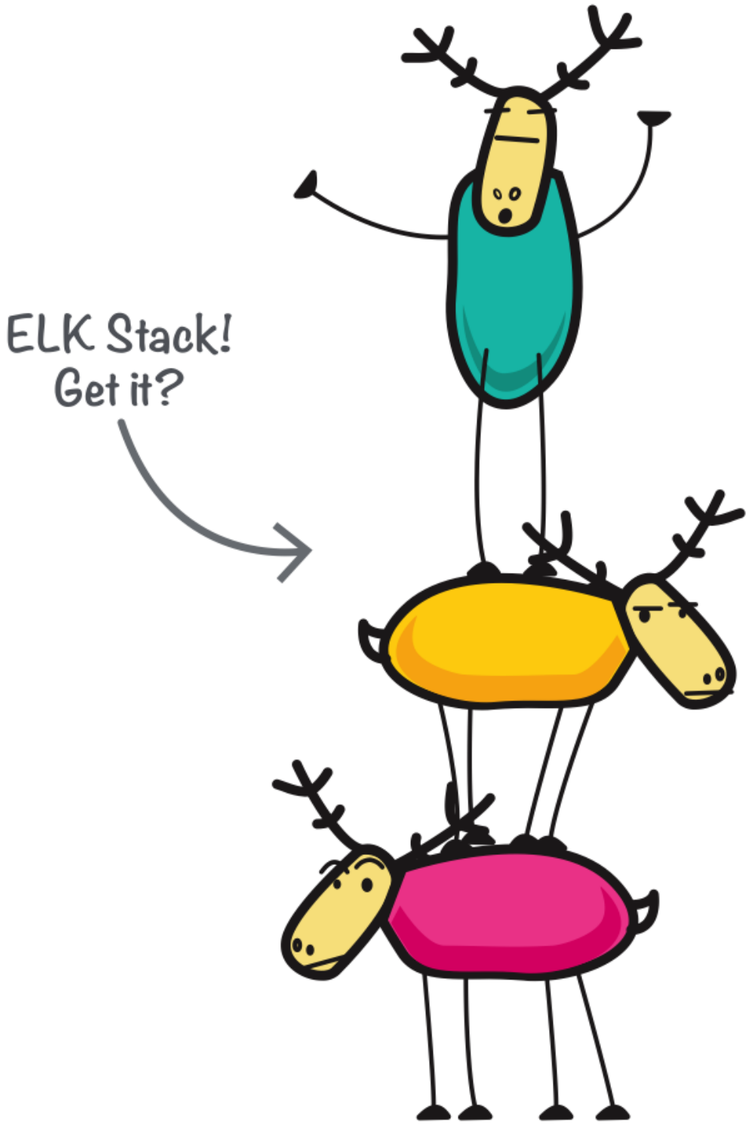
Developer | Evangelist

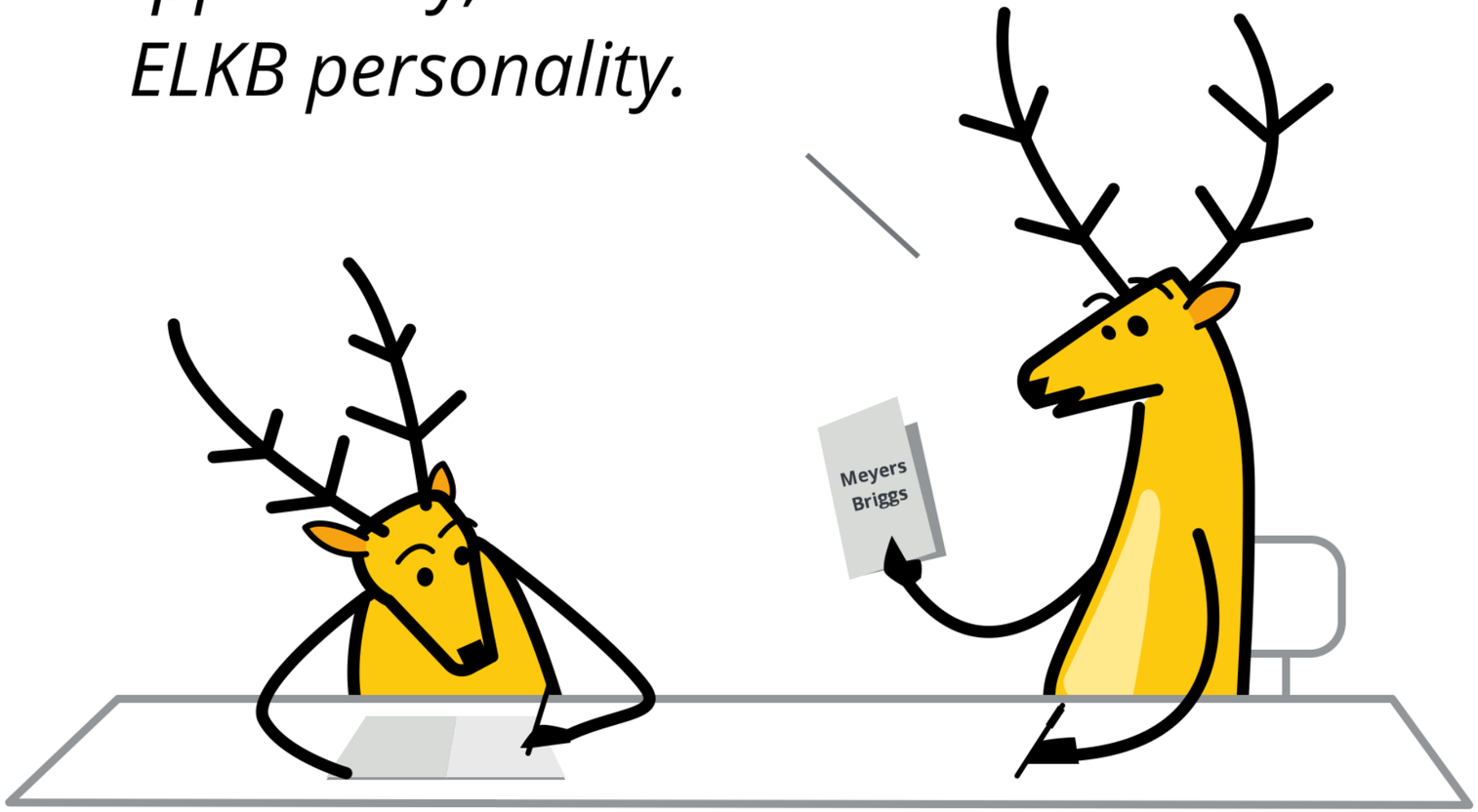


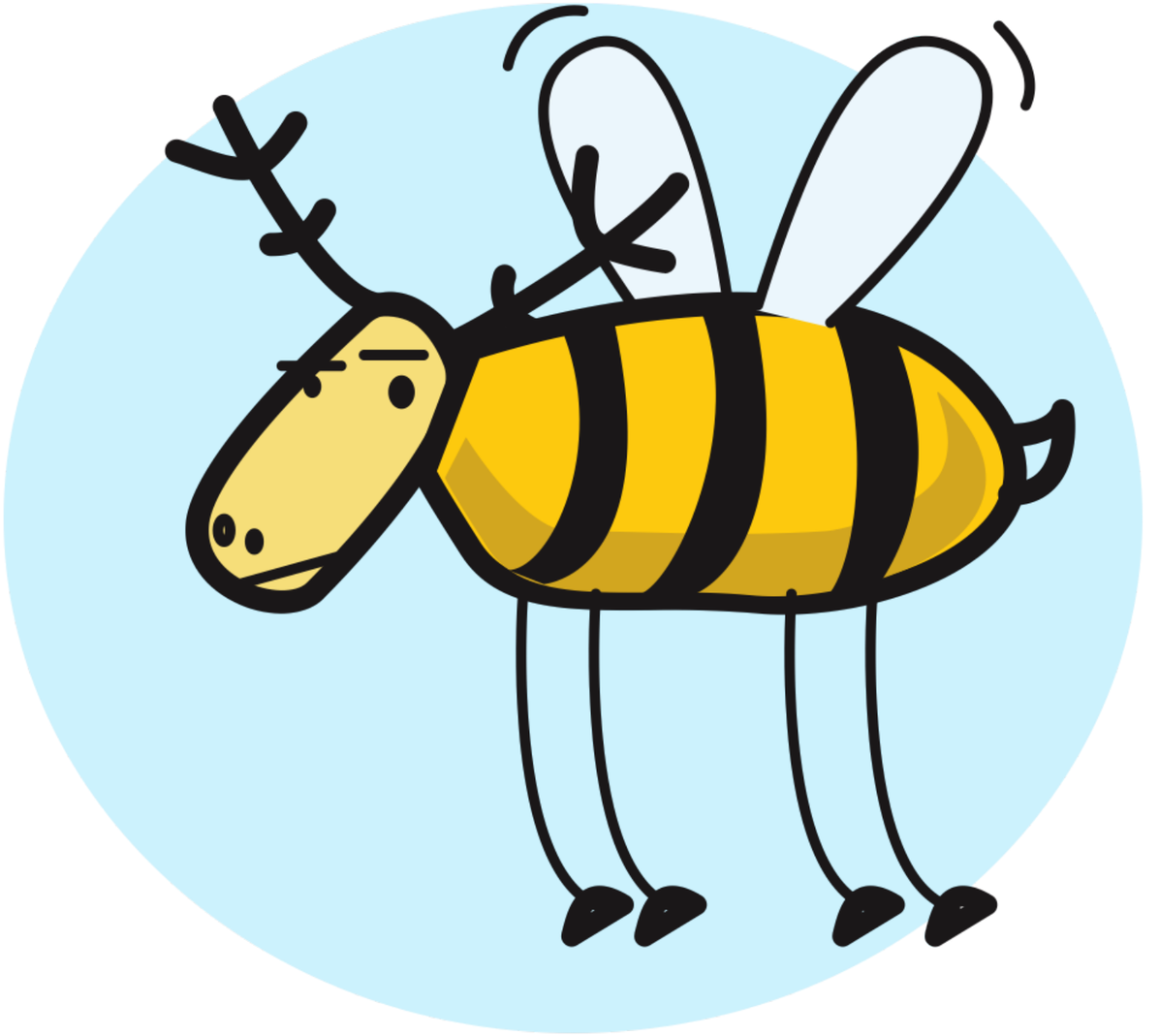
E Elasticsearch

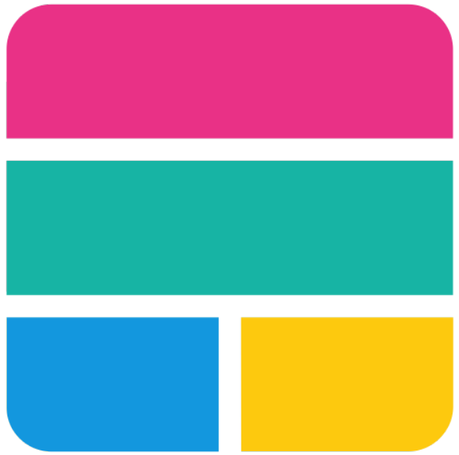
L Logstash

K Kibana

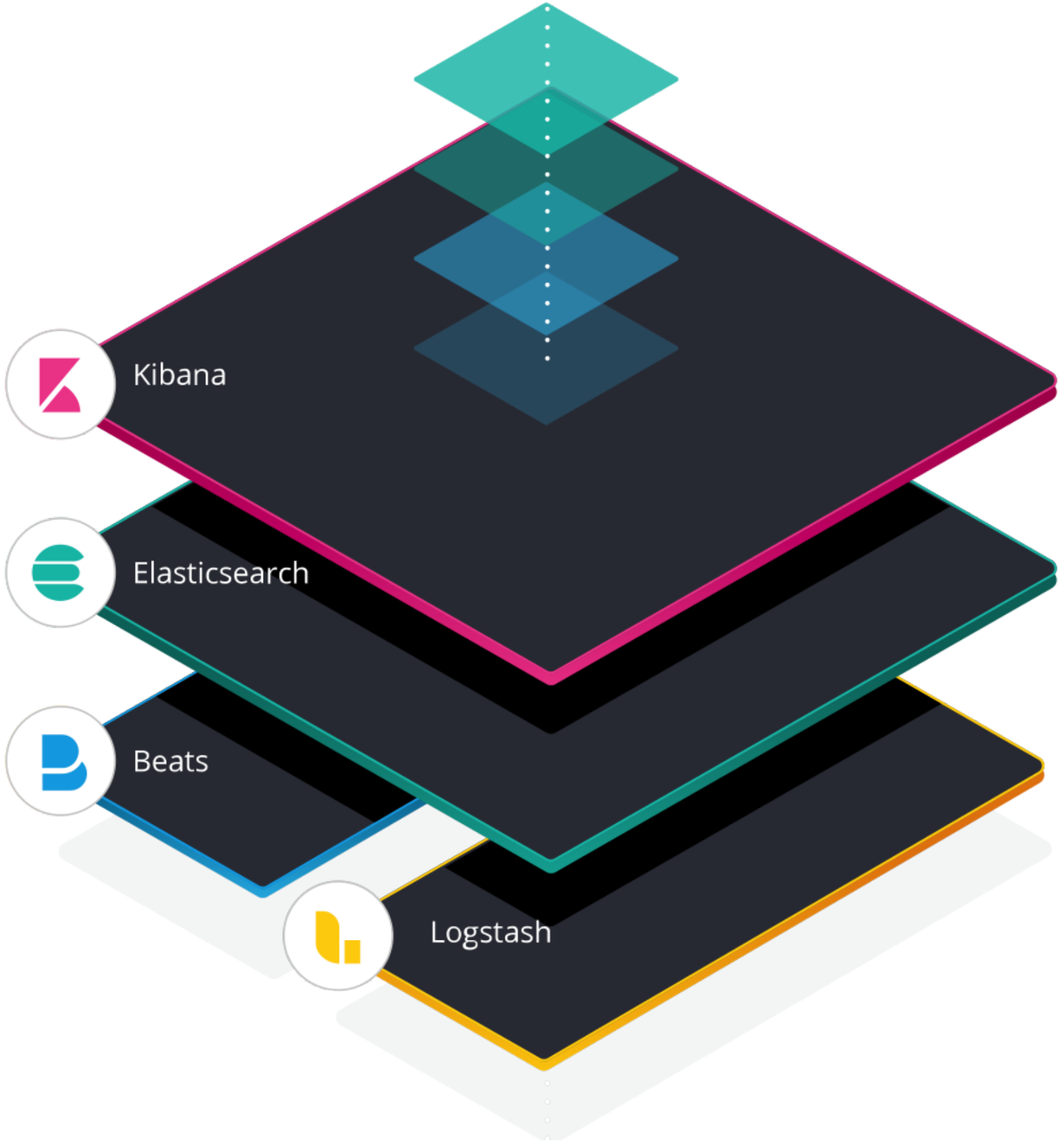
Apparently, I'm an ELKB personality.







elastic stack


Kibana
Elasticsearch
Beats
Logstash

Filebeat Module: Auditd

Demo

AUDITBEAT

elastic

Auditd Module

Correlate related events

Resolve UIDs to user names

Native Elasticsearch integration

Auditd Module

eBPF powers on older kernels

Easier configuration

Written in Golang

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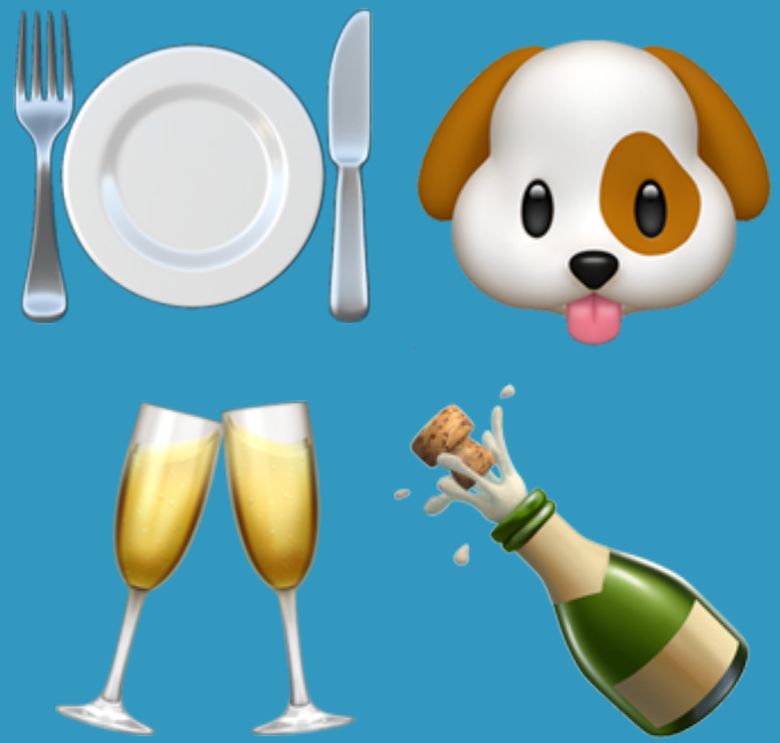
Demo



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elastic cloud

https://cloud.elastic.co

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System Module

Simpler syntax for host, process, socket, user

1. Host dataset works for Windows, macOS, and Linux and is using system APIs for the most part
2. Process dataset works for all three OS as well, and is using `/proc` on Linux, and system APIs on macOS and Windows

Demo

File Integrity Module

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

Demo

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

Running on Kubernetes

Where to run it

DaemonSet

How to run it

https://github.com/elastic/beats/tree/master/deploy/kubernetes/auditbeat

add_docker_metadata

add_kubernetes_metadata


ALL THE THINGS!

Elastic Common Schema

https://github.com/elastic/ecs

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```yaml
---
- name: base
  root: true
  title: Base
  group: 1
  short: All fields defined directly at the top level
  description: >
    The `base` field set contains all fields which are on the top level.
    These fields are common across all types of events.
  type: group
  fields:
    - name: "@timestamp"
      type: date
      level: core
      required: true
      example: "2016-05-23T08:05:34.853Z"
      short: Date/time when the event   originated.
      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.
```

ELASTIC SIEM

Security Information and Event Management

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Demo

PS: Machine Learning

aka Anomaly Detection

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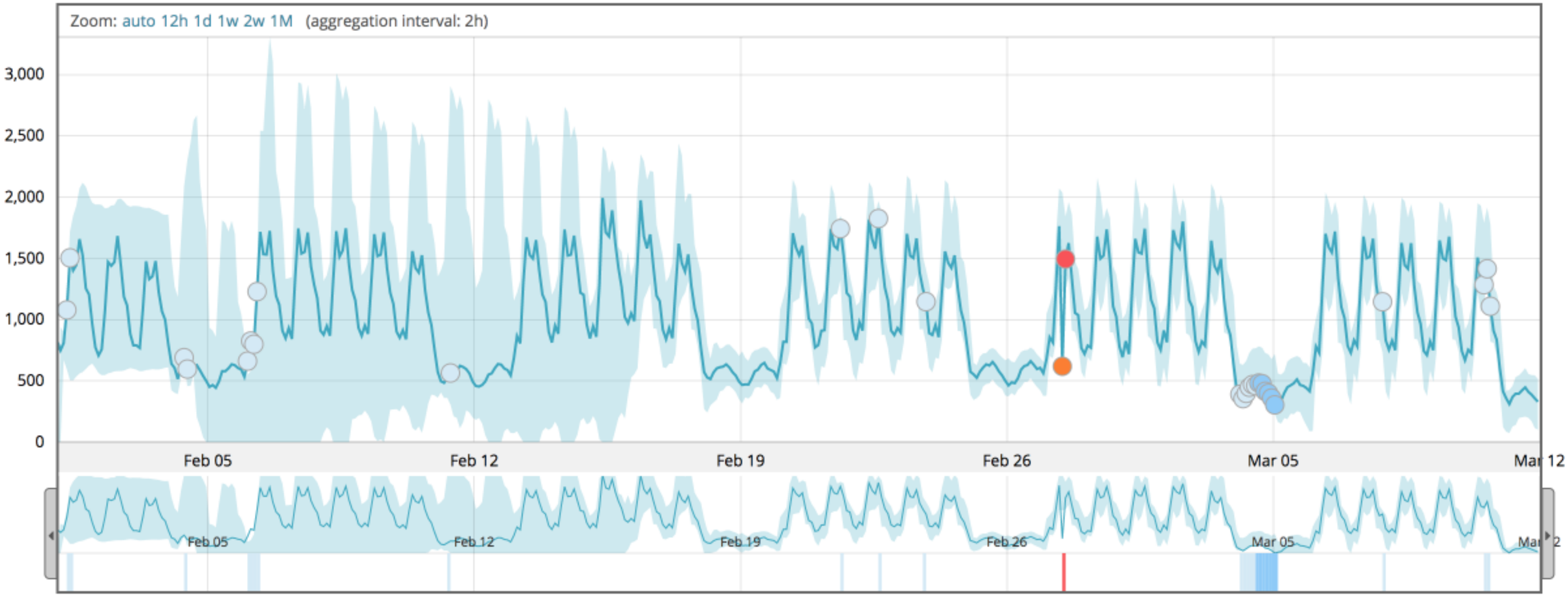
Job Management Anomaly Explorer Single Metric Viewer

Job nginx-demo

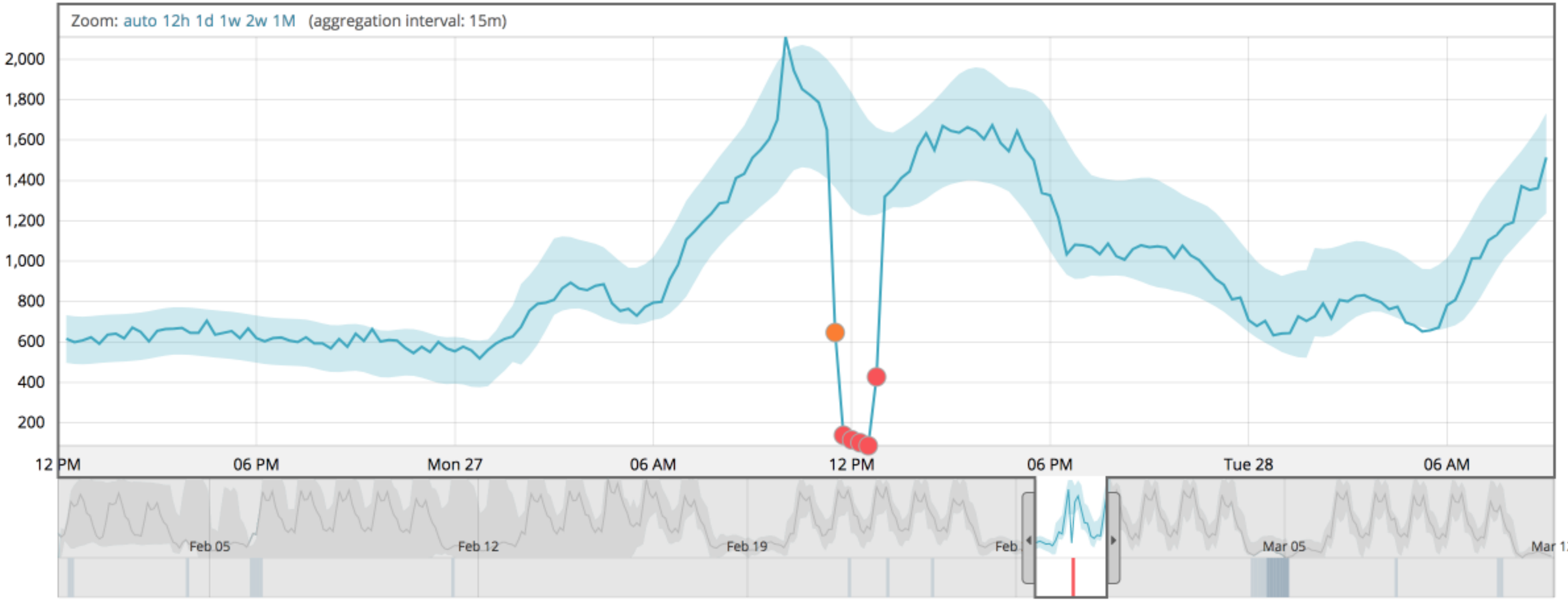
Detector: distinct_count (nginx.access.remote_ip.keyword)

Single time series analysis of cardinality nginx.access.remote_ip.keyword



Anomalies

Single time series analysis of cardinality nginx.access.remote_ip.keyword



Anomalies

Severity threshold: warning **Interval:** Auto

time	max severity	detector	actual	typical	description	job ID
February 27th 2017, 12:00	97	distinct_count (nginx.access.remote_ip.keyword)	86	1453.6	17x lower	nginx-demo
February 27th 2017, 11:00	86	distinct_count (nginx.access.remote_ip.keyword)	138	1575.97	11x lower	nginx-demo

Elastic Endpoint

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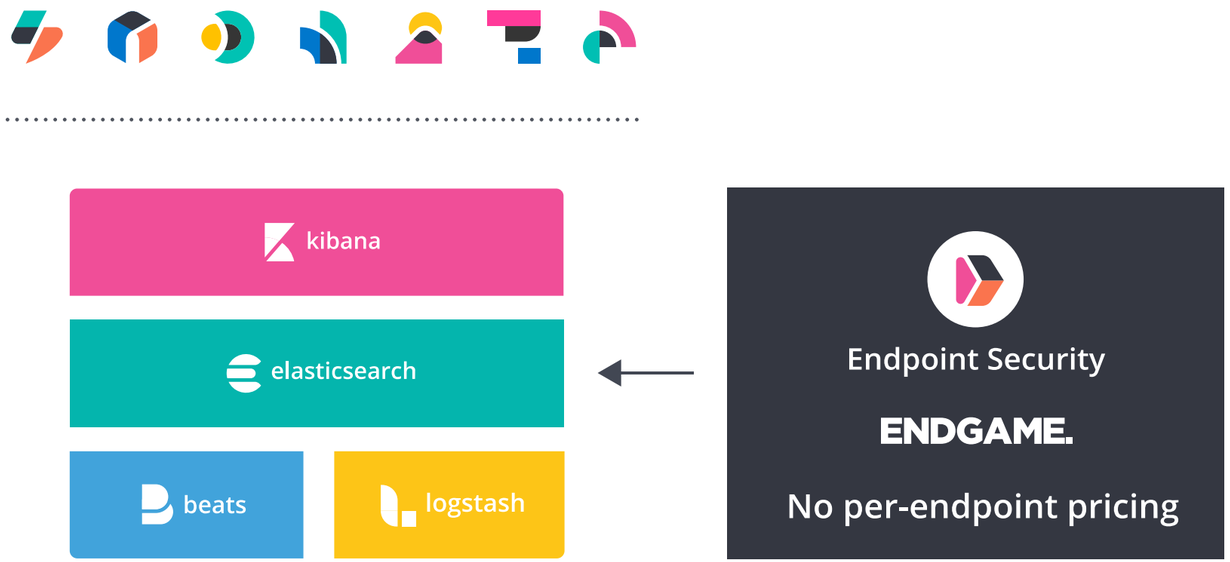
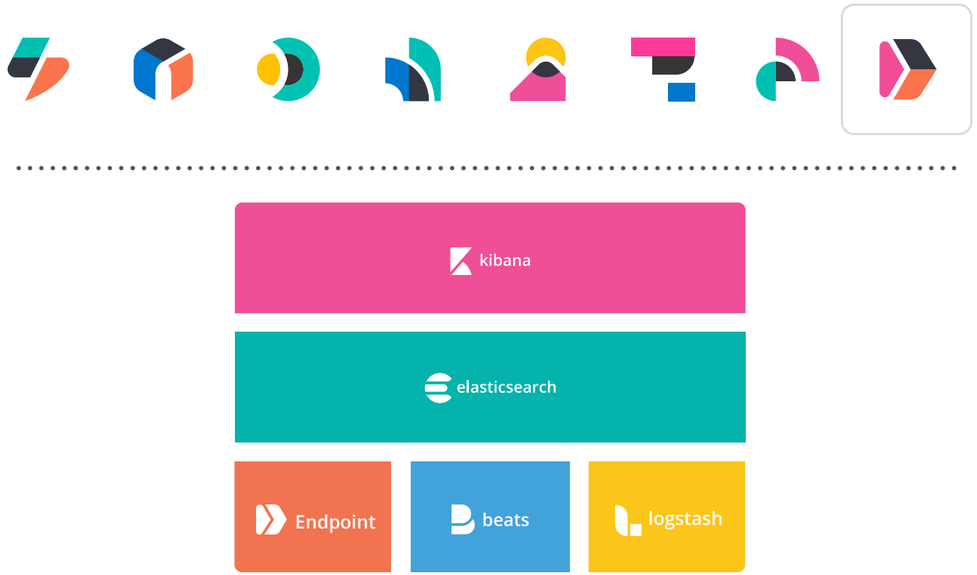
Today

Comprehensive endpoint protection, detection, and response (EPP+EDR) and no per-endpoint pricing. Just pay for what you use.



Future

EPP, EDR, and SIEM delivered in a single, simplified architecture: Elasticsearch, Kibana, Elastic Endpoint.



Conclusion

Topics

Auditd

Filebeat, Auditbeat

SIEM

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Code

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

Identifier les menaces avec Elastic SIEM

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