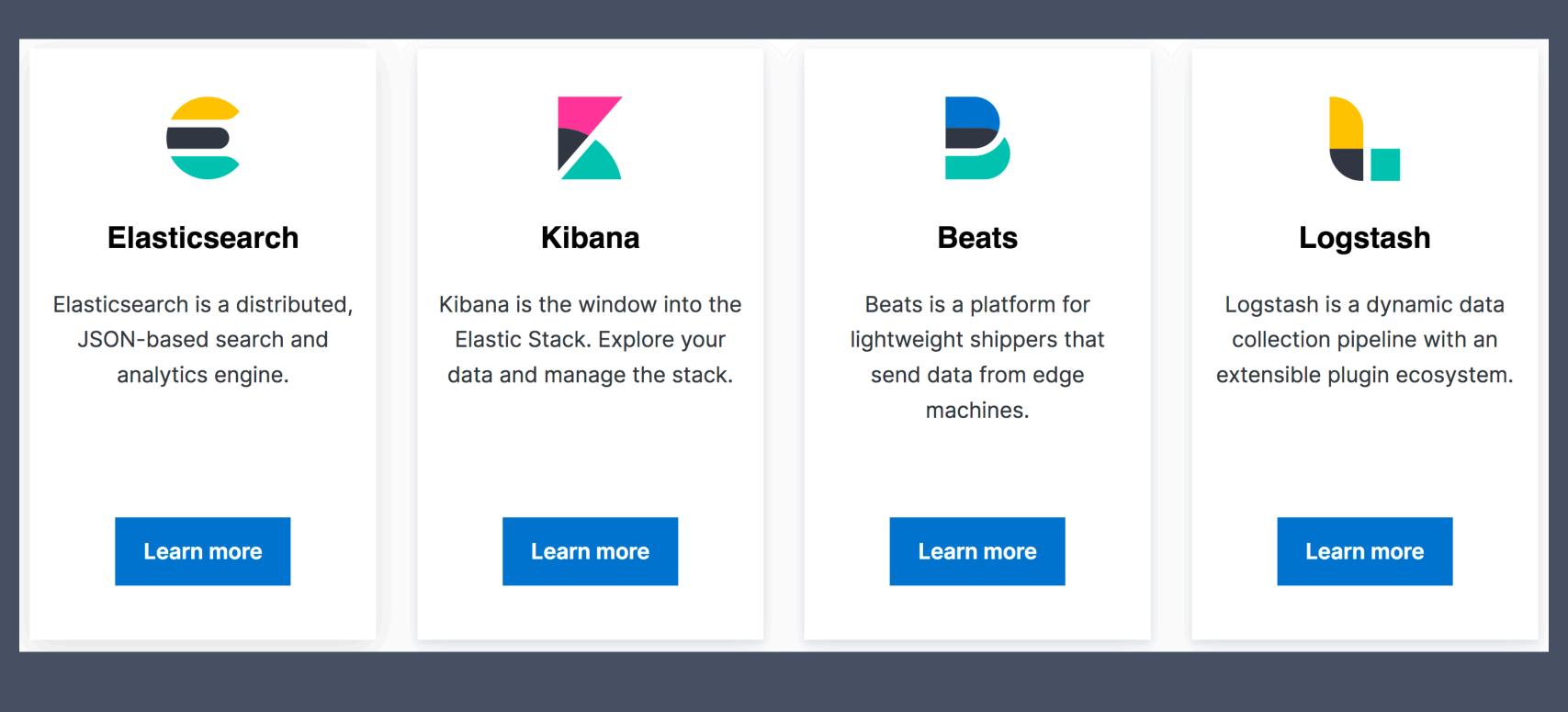# NOW WHERE DID I LEAVE MY KEYS?

elastic

@EMANUIL_TOLEV

Community engineer at Elastic.
^ Ran a cluster, small co, on call, etc.

WHAT IS THE ELASTIC STACK?

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Elasticsearch	**Kibana**	**Beats**	**Logstash**
Elasticsearch is a distributed, JSON-based search and analytics engine.	Kibana is the window into the Elastic Stack. Explore your data and manage the stack.	Beats is a platform for lightweight shippers that send data from edge machines.	Logstash is a dynamic data collection pipeline with an extensible plugin ecosystem.
Learn more	Learn more	Learn more	Learn more

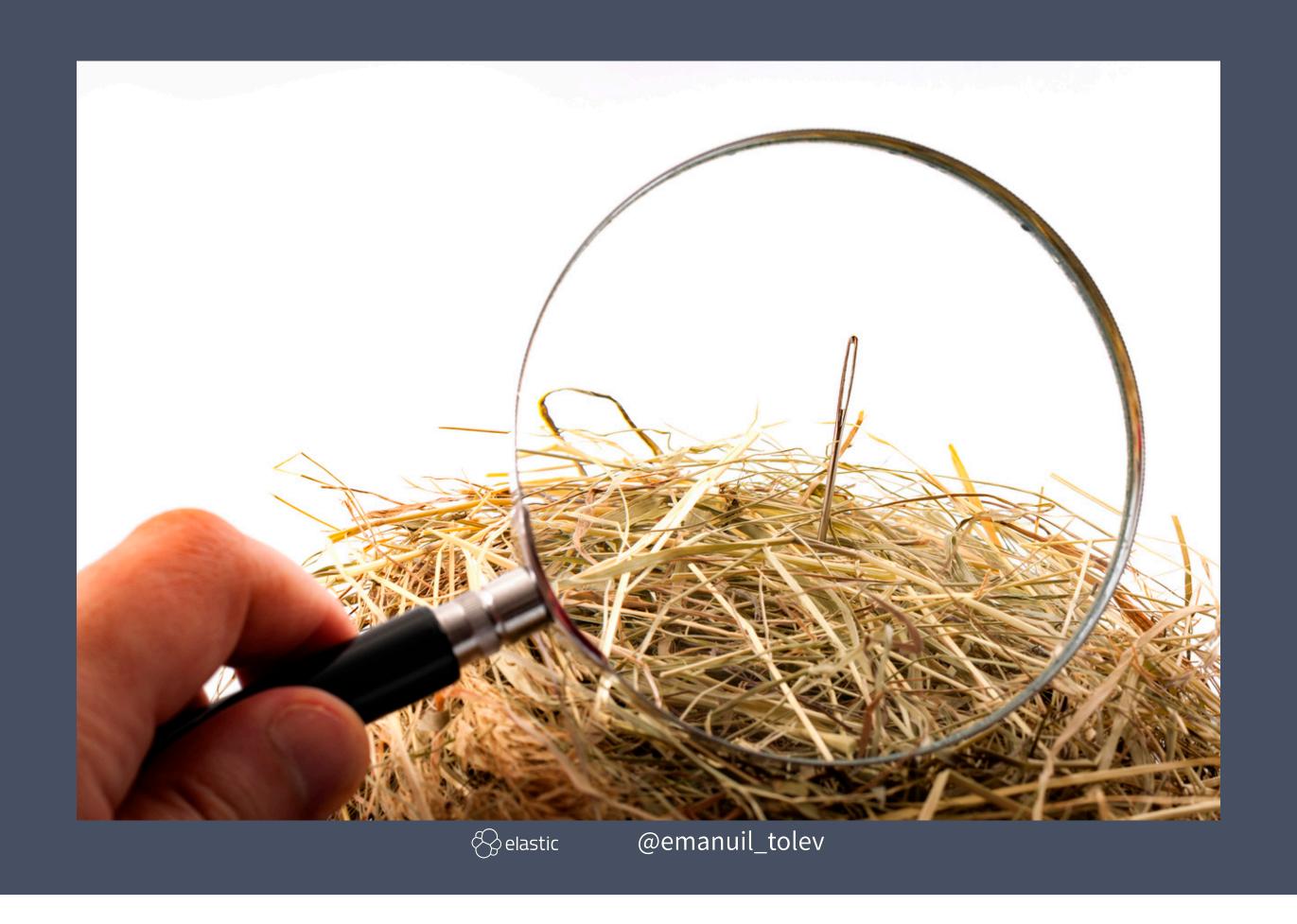elastic   @emanuil_tolev

Large open source projects: Elasticsearch, Kibana, Beats and Logstash
^ At the heart is Elasticsearch, an open source search and data analytics engine.
^ Kibana is an open source visualisations and dashboarding tool
^ The rest support logging, metrics and tracing, a use case with 1000s of big company and millions of smaller users.

Search. We often think of it as a needle in a haystack. Let's have a look at some dictionary definitions.

SEARCH

GENERAL: "TRY TO FIND SOMETHING BY LOOKING OR OTHERWISE SEEKING CAREFULLY AND THOROUGHLY."

COMPUTING: "THE SYSTEMATIC RETRIEVAL OF INFORMATION, OR THE FACILITY FOR THIS."

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2 examples: DOAJ and nuclear reactor database

VISUALISATION

We'll see many examples in a minute. But those are the two main principles underlying the technology: search (aka information retrieval) and summarising the information in visualisations. Everything is built on those two principles and they are the two core human cognitive processes that our tech enhances.

ELASTICSEARCH SCALES HORIZONTALLY – YOU CAN ADD MORE PIECES

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ES is famous for this.
^ & thus memory/CPU/etc. Its strength is the easy addition and coordination with new nodes. Your computations can scale as much RAM as a whole cluster, but the interface and commands you use remain as if it were just one node on your laptop.

USE IN PRODUCTION

> SEARCH (ONLINE SHOP FRONT, ADMIN TOOLING, RECOMMENDATION SYSTEMS, ...)

> WEB APP MONITORING: "LOGGING, METRICS, TRACES"

> NOW SECURITY TOO

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USE IN PRODUCTION

> INTERACTIVE DASHBOARDING
> UNSUPERVISED LEARNING (THOUGH THIS IS PAID)
> ANALYTICS (BUSINESS METRICS)

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under the hood Apache
Lucene
^ Elasticsearch is the glue

1: Winter is coming.
2: Ours is the fury.
3: The choice is yours.

→

term	freq	documents
choice	1	3
coming	1	1
fury	1	2
is	3	1, 2, 3
ours	1	2
the	2	2, 3
winter	1	1
yours	1	3

Dictionary   Postings

DEMO TIME!

So far you've seen some in depth open source but this would be about as commercially successful and sustainable as Linux on the Desktop has been so far, without some eye catching stuff.

Quick flash of what is possible.

MAYBE IT CAN'T HELP YOU FIND YOUR KEYS, BUT ALONG THE WAY, ELASTICSEARCH HAS HELPED PEOPLE DO:

> INTERPLANETARY RESEARCH WITH JPL
> JPL CURIOSITY MARS ROVER AND MORE
> THE SEARCH FOR FOOD AT JUST EAT
> NUCLEAR ENERGY COMPUTING AT FERMI LABS
> PRIMARY SEARCH AT EBAY
> PLAYING WITH TECH AT ENGADGET
> TECH DIY SEARCH AT INSTRUCTABLES

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Elasticsearch has powered all kinds of search. From the analytics of the Mars rover, to allowing you to do your last minute Christmas shopping at John Lewis, Marks & Spencers & eBay, through finding an Uber on Christmas day when transport is out, to finding love on Tinder (or at least companionship).
^ The power of that technology is also in your hands, Elasticsearch being open source.
^ Links in this slide – will be posted in meetup group.

USEFUL LINUX USES AND OTHER RESOURCES

> MONITORING LINUX COMMAND EXECUTION WITH AUDITBEAT AND ELASTIC STACK

> CHRISTMAS TREE LIGHTS WITH MICRO:BIT

> "AWESOME LIST" FOR ELASTICSEARCH

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THANK YOU!

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