Thales PunchPlatform

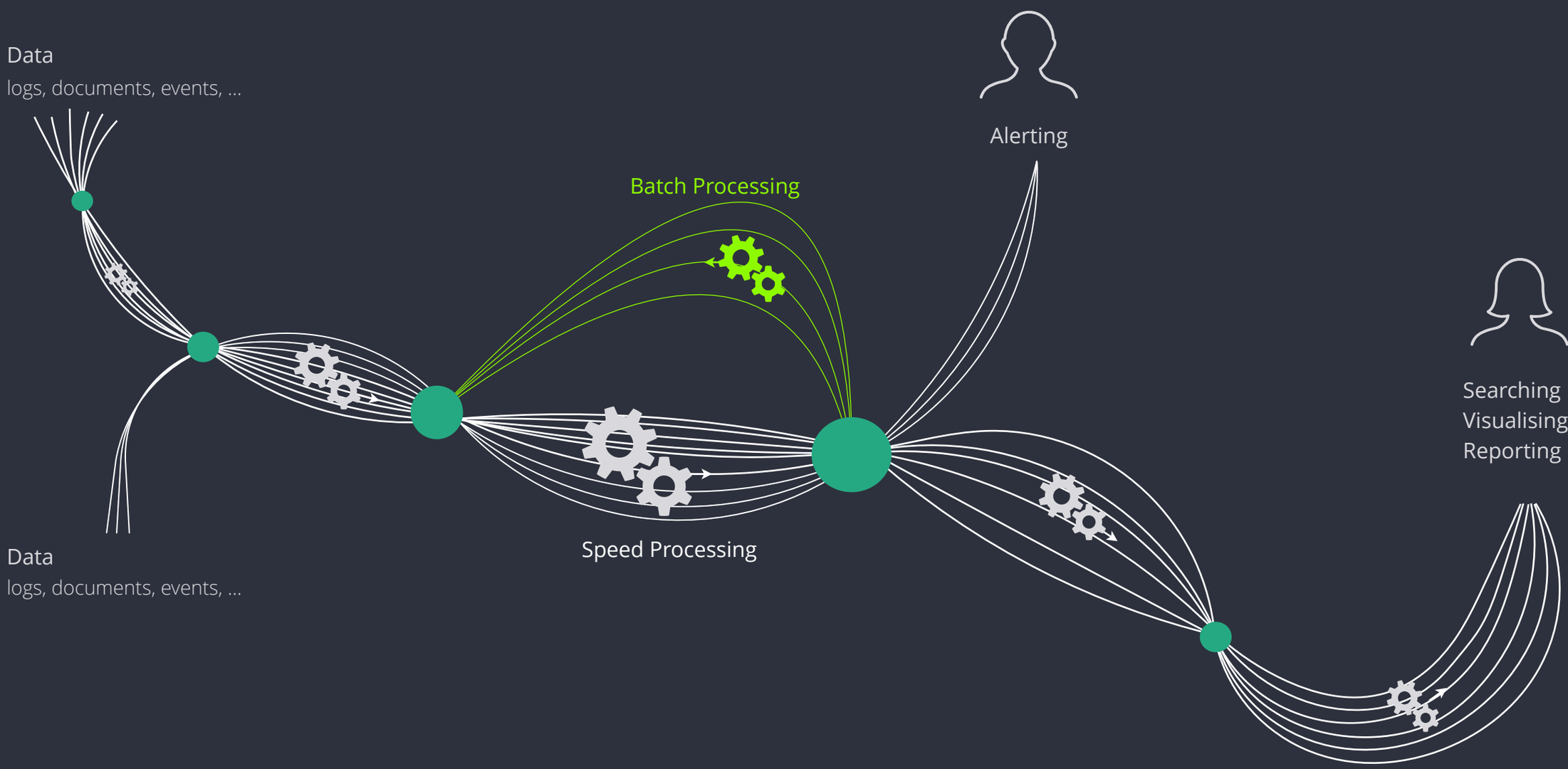
PunchPlatform team

Agenda

- What It Does
- Building Blocks
- Deployment & Operations
- Typical Setups
- Customers and Use Cases
- RoadMap

What It Does

Compose Arbitrary Industrial Data Processing Channels



Building Blocks

DataFlow

Collect and Transport Your Data
Multi-nodes, -racks, -rooms, -sites
Scalable, Resilient, Reliable

DataProcessing

Parse, Normalize, Enrich
Store, Archive, Index
Detect, Raise Alarms
Search
Reprocess, Replay

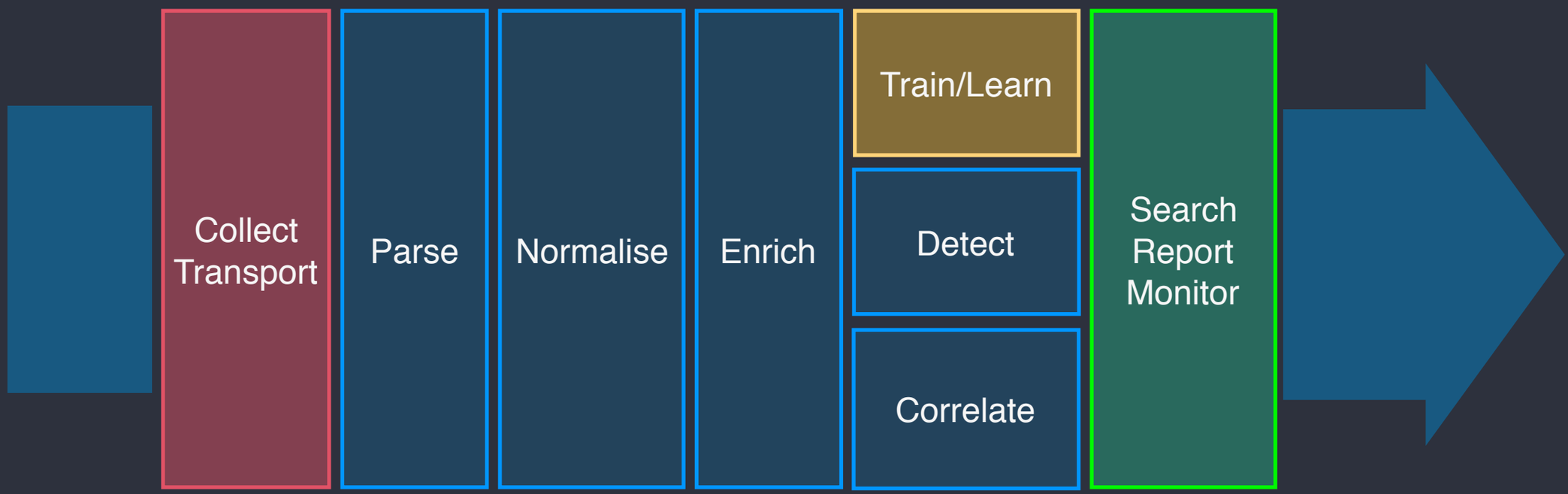
DataVisualization

Create your Dashboards to dig months/years of data
Pick what suits best your needs: Kibana, Grafana, Zeppelin
Data Extraction and Reporting
Multi-Tenant, Secure

DataAnalytics

Plug in Arbitrary Processing
Storm, Spark-Streaming, Flink
Join the Thales Big Data and Analytics Community

Understanding the (CyberSecurity) Data Pipeline



DF DP DV DA

Log Management

Typical Setup

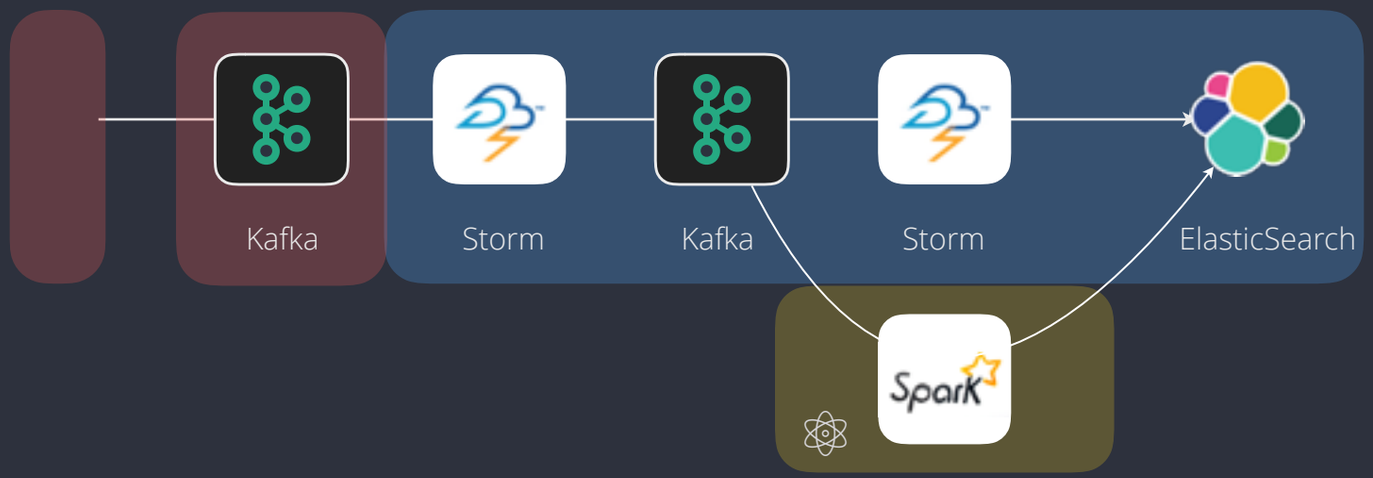
Data Processing

Raw Data

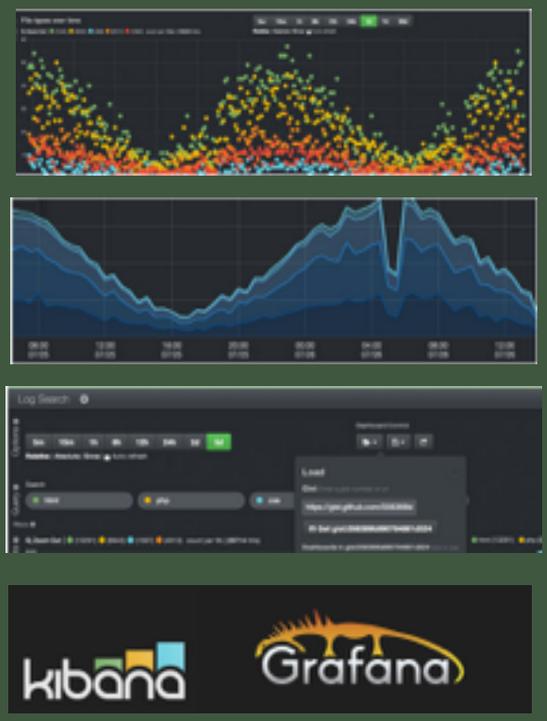
Parsing
Normalising

Alerting

Indexing



Data Analytics:
Machine Learning
Anomaly Detection



Searching
Visualising
Reporting
Alerting

Log Management + Analytics

Typical Setup

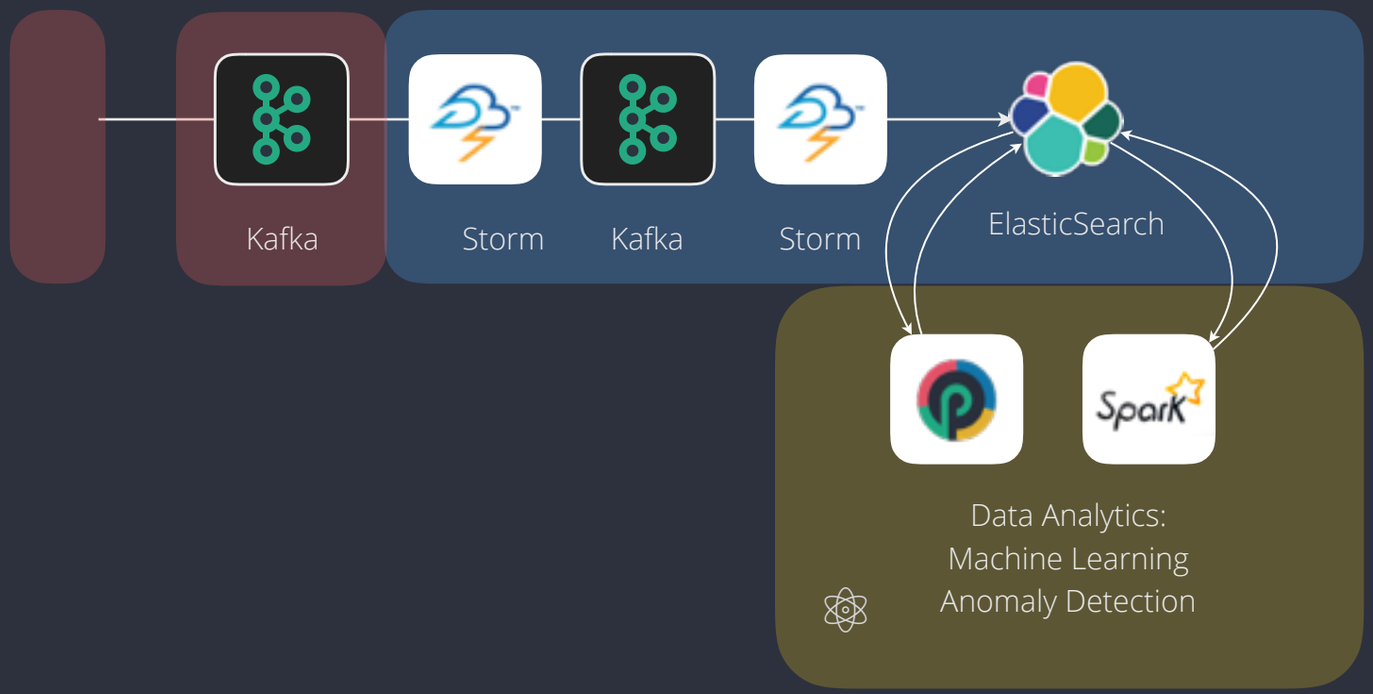
Data Processing

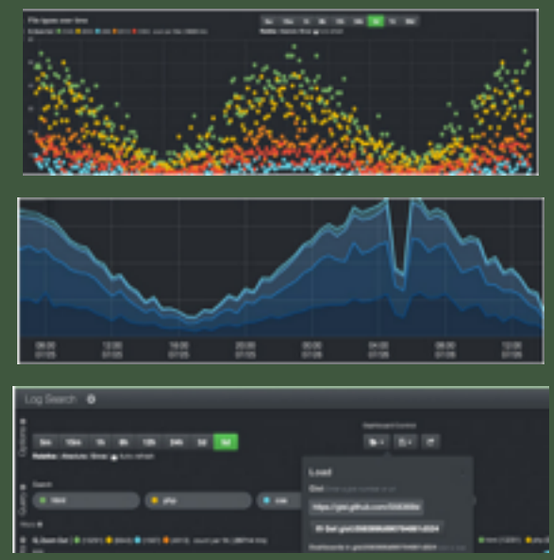
Raw Data

Parsing
Normalising

Alerting

Indexing



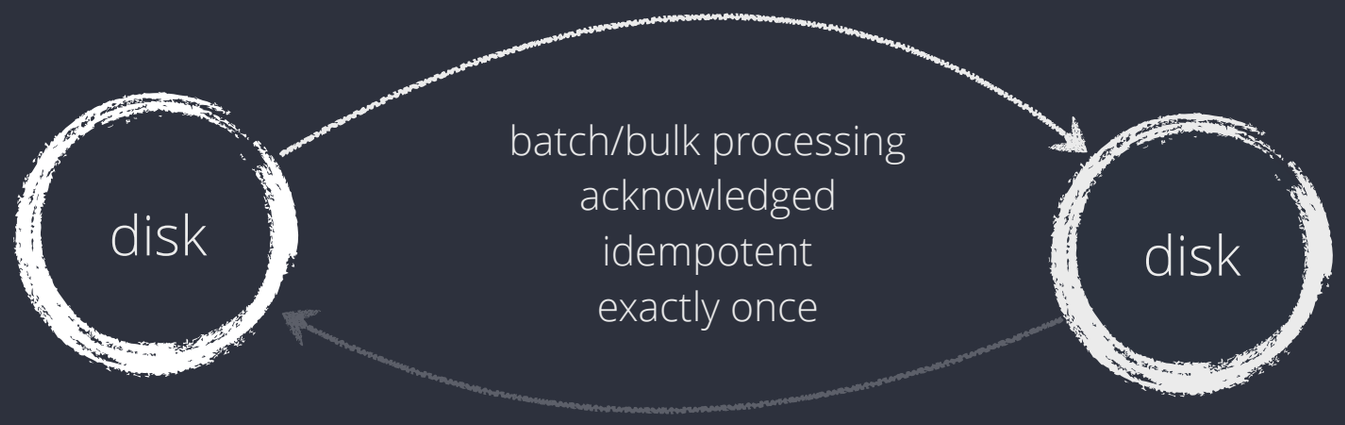


Searching
Visualising
Reporting
Alerting

Architecture

Stream or Batch Processing Architecture

In a nutshell : data processing is designed as follows



if failure then replay

This requires : partition identifiers, timestamping, unique identifiers, batch identifiers, smart kafka offset handling, idempotent bulk file writing, on the fly efficient zero-copy compression, on the fly ciphering ... and of course real time supervision

... in a way manageable by the user. That is what the PunchPlatform provides.

Deployment & Operations

PunchPlatform Benefits : Start from empty servers

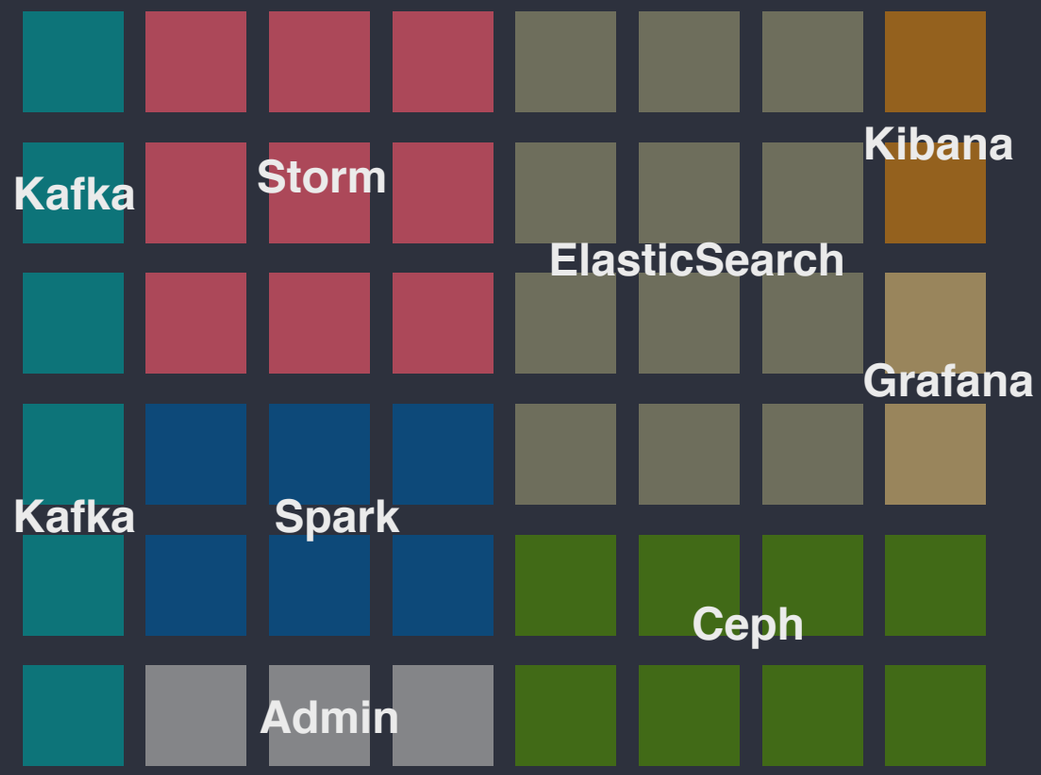
What you need are plain linux servers, with local disks only.
Use dedicated hardware, VMs, Clouds. Whatever.

If you build your own infrastructure use the PunchPlatform infrastructure ansible libraries. Otherwise use Amazon, OpenStack, or any Iaas tool you have.

Deploy your services in minutes

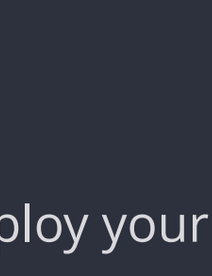
Describe your setup in a configuration file. Use the PunchPlatform deployer to set it all.

Platform configuration file

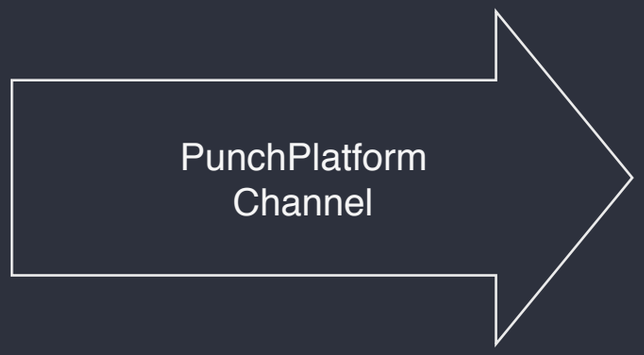


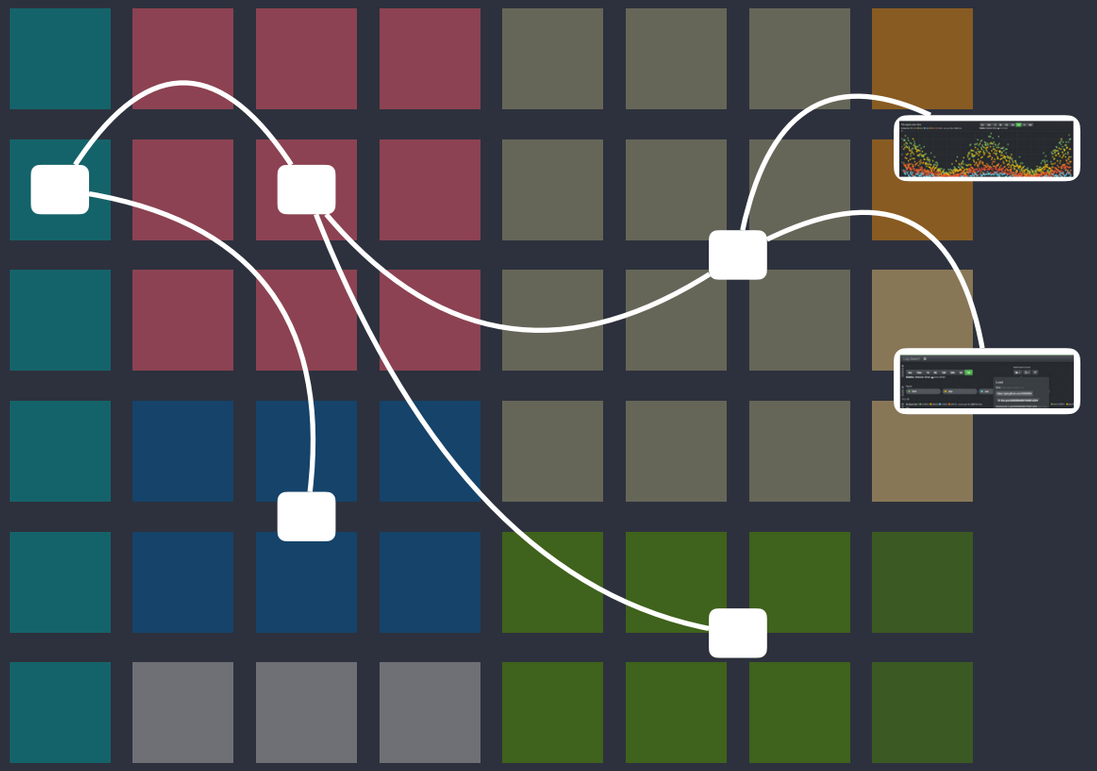
Deploy your business logic in minutes

Describe your data channel in a configuration file. Use the PunchPlatform channel command to set it all. It can be a log parsing pipeline, a scada metric pipeline, whatever.



Channel configuration file

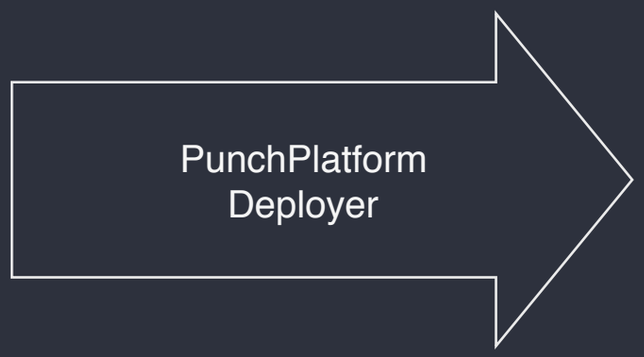


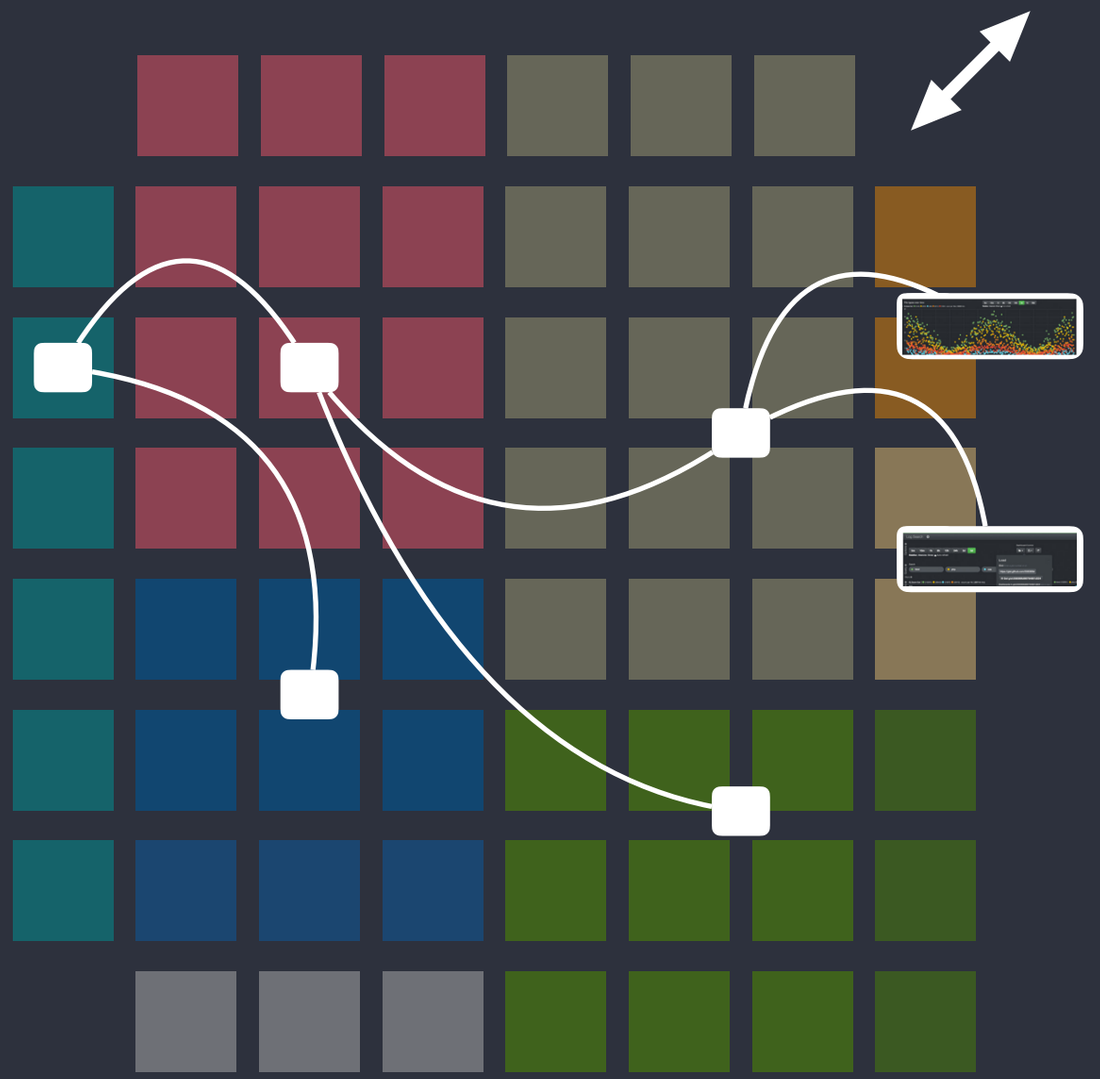


Resize Your Platform in minutes

Give more power to you platform, to scale up to you needs. Do that without service interruption.

Platform configuration file

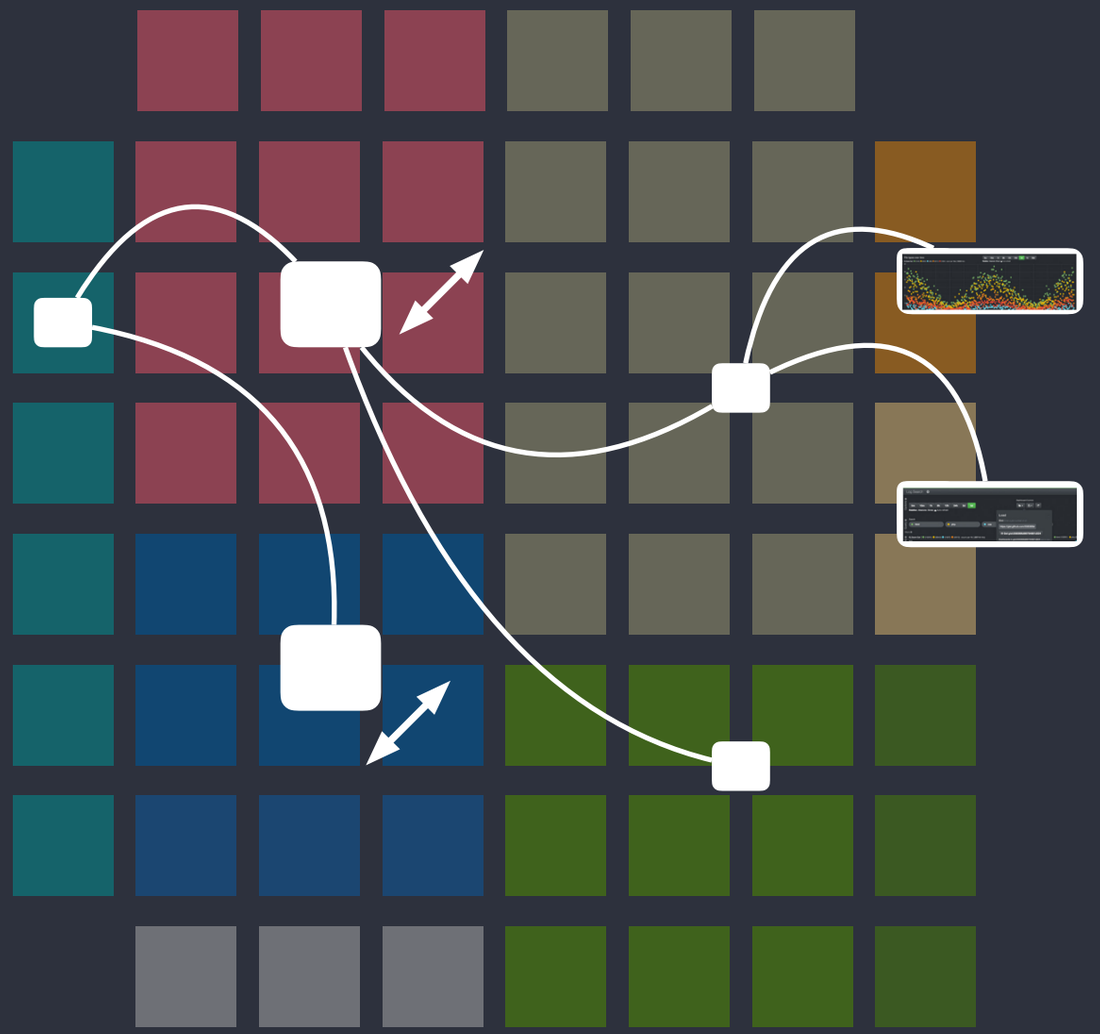




Resize you Processing in seconds

Give more power to you data channel, to scale up to you needs. Do that without service interruption.

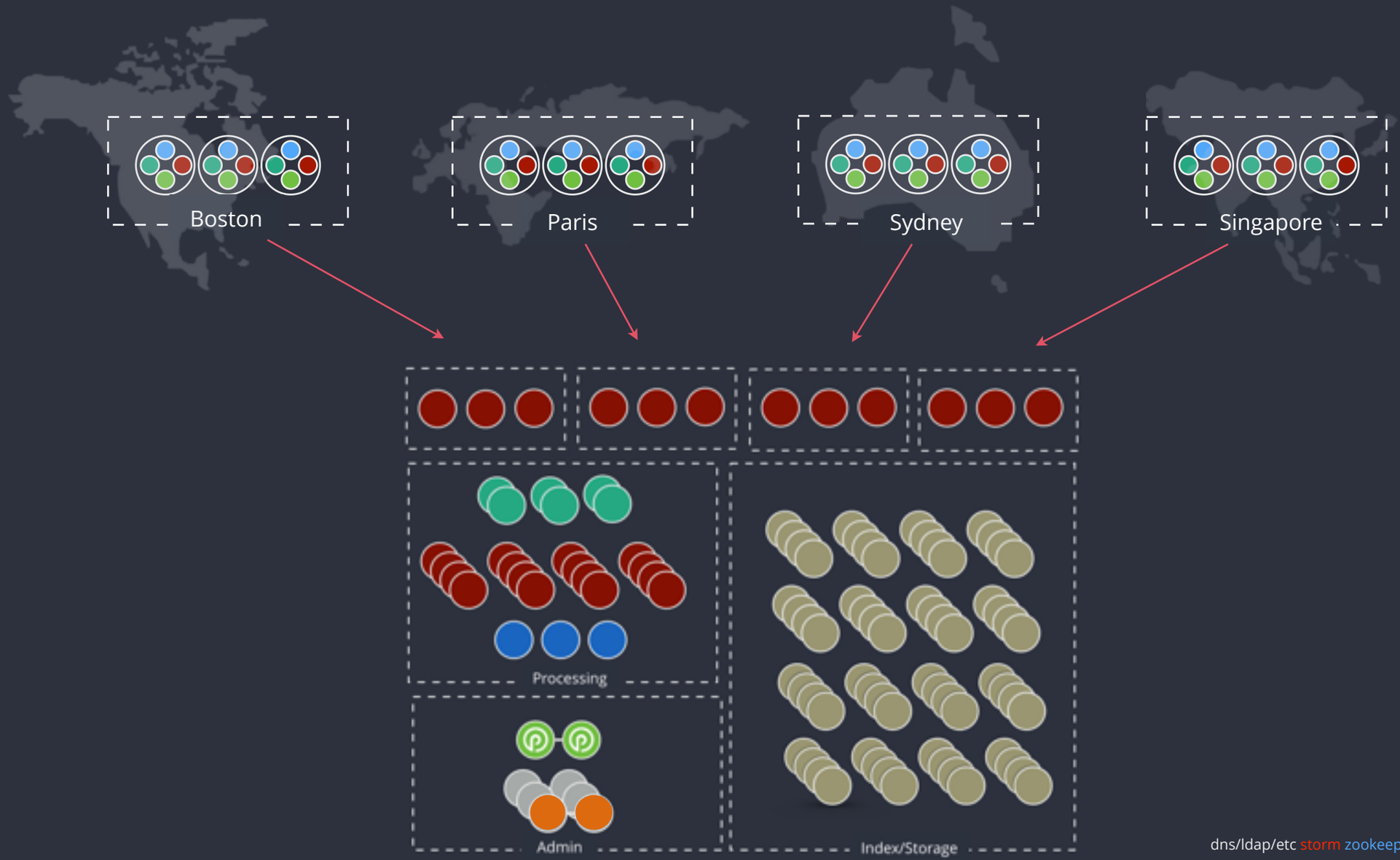
Channel configuration file



Real Example Setups

Connecting Your Sites

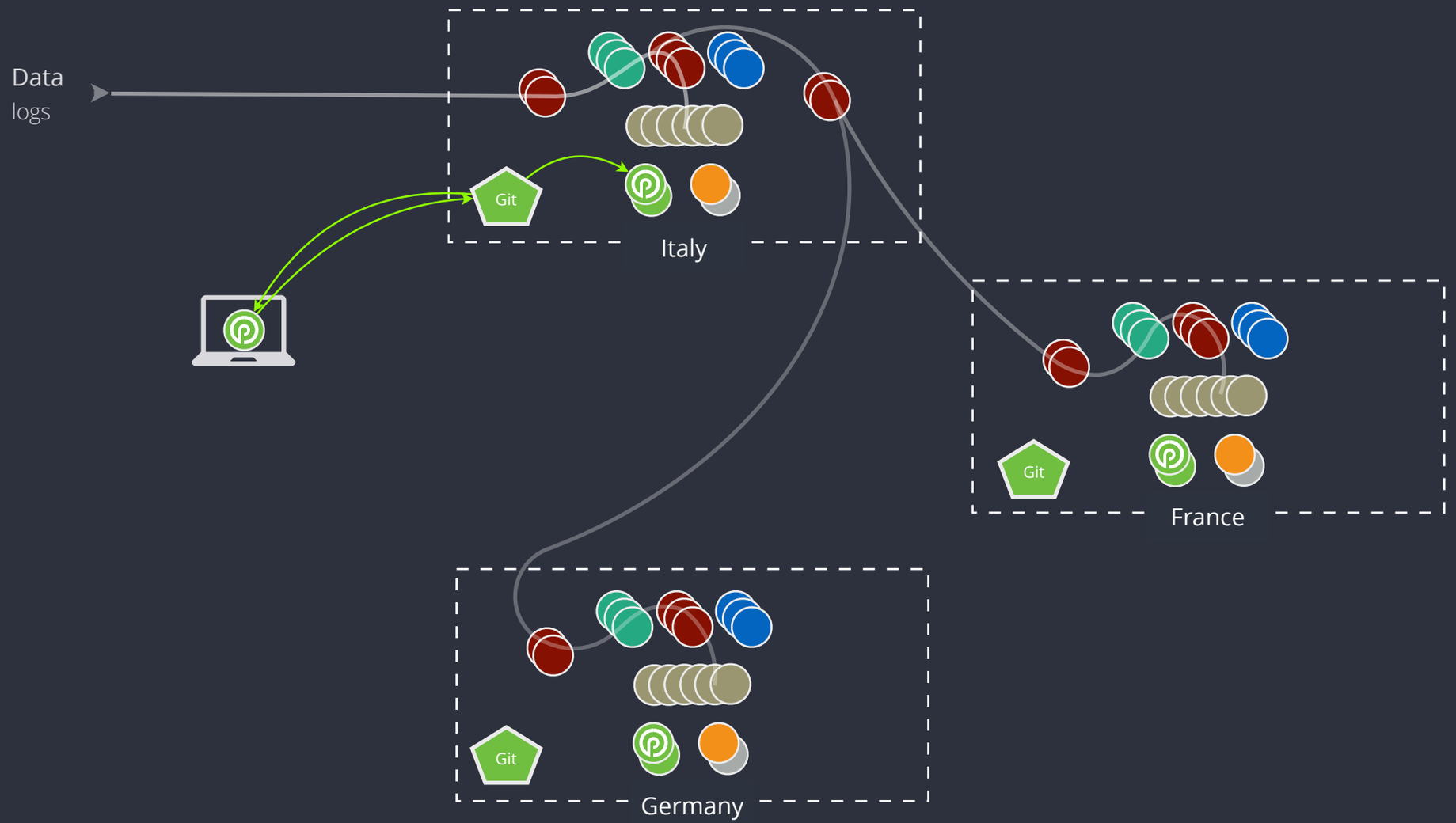
CyberSecurity Platforms : Holland, France, Honk Kong



dns/ldap/etc storm zookeeper kafka elasticsearch ceph

Multi Sites Replication

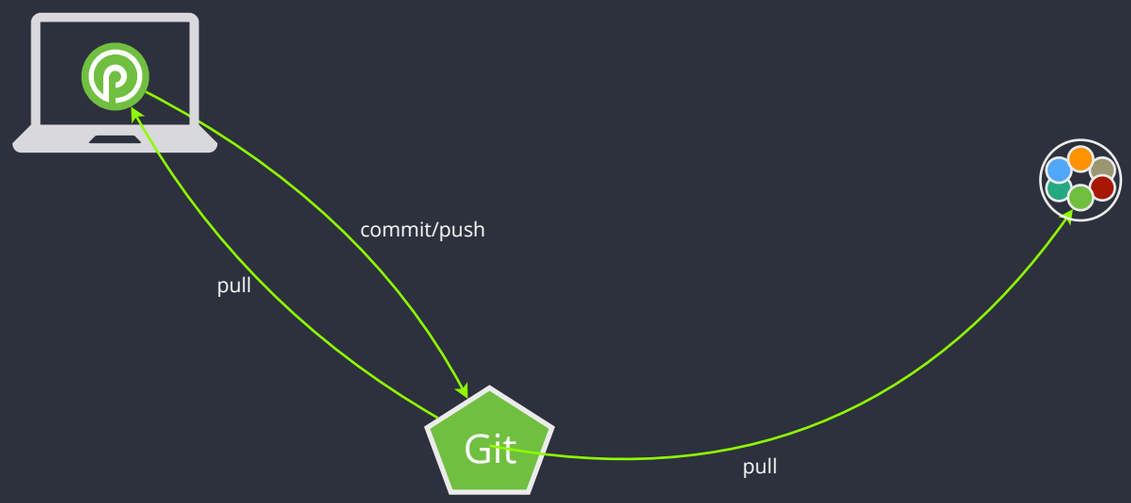
CyberSecurity & Supervision Platform : Toulouse, Thales Avionics



dns/ldap/etc storm zookeeper kafka elasticsearch ceph

Small Scale Deployment

Transportation Monitoring Systems : Toronto



dns/ldap/etc storm zookeeper kafka elasticsearch

Customers and Use Cases

Data Agnostic :
. Logs, XML, Json, text
. Snmp traps, Netflow
. metrics, time series

Open Platform : powered by
. ElasticSearch
. Cassandra
. OpenTsdb
. CEPH
. Storm
. Spark
. Kibana/Grafana/Zeppelin

Wide Range of Business Cases :
. CyberSecurity
. Industry 4.0 : manufacturing, transportation, energy
. Monitoring : IT infrastructures

Summary & Roadmap

PunchPlatform Stack

Parsers and Channels
Simple, straight, industrial

Stream Processing
Takes care of simple but key stream processing

Deployer/Updater
Install, Update. Fully documented.

Elastic Stack
all of it

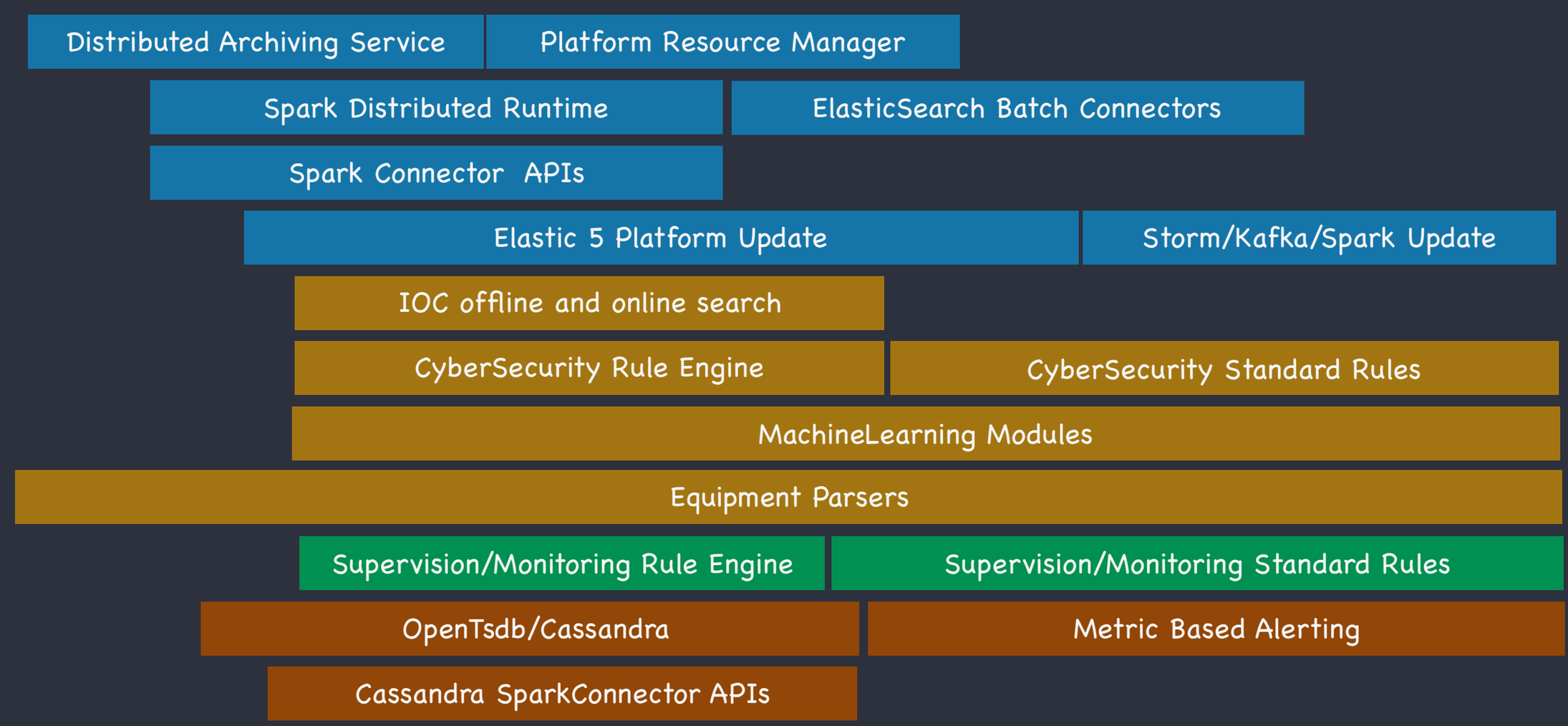
Monitoring
end to end

Machine Learning
By configuration or by coding

Archiving
Long term storage. Secured

2017 RoadMap

Platform | CyberSecurity | Supervision | Industry



2018 RoadMap

Platform

CyberSecurity

Spark Distributed Runtime

Elastic 6 (7 8 ..) Platform Update

IOC/Replay/Extraction Kibana Plugins

Equipment Parsers

MachineLearning

jan

jun

dec

Thanks !