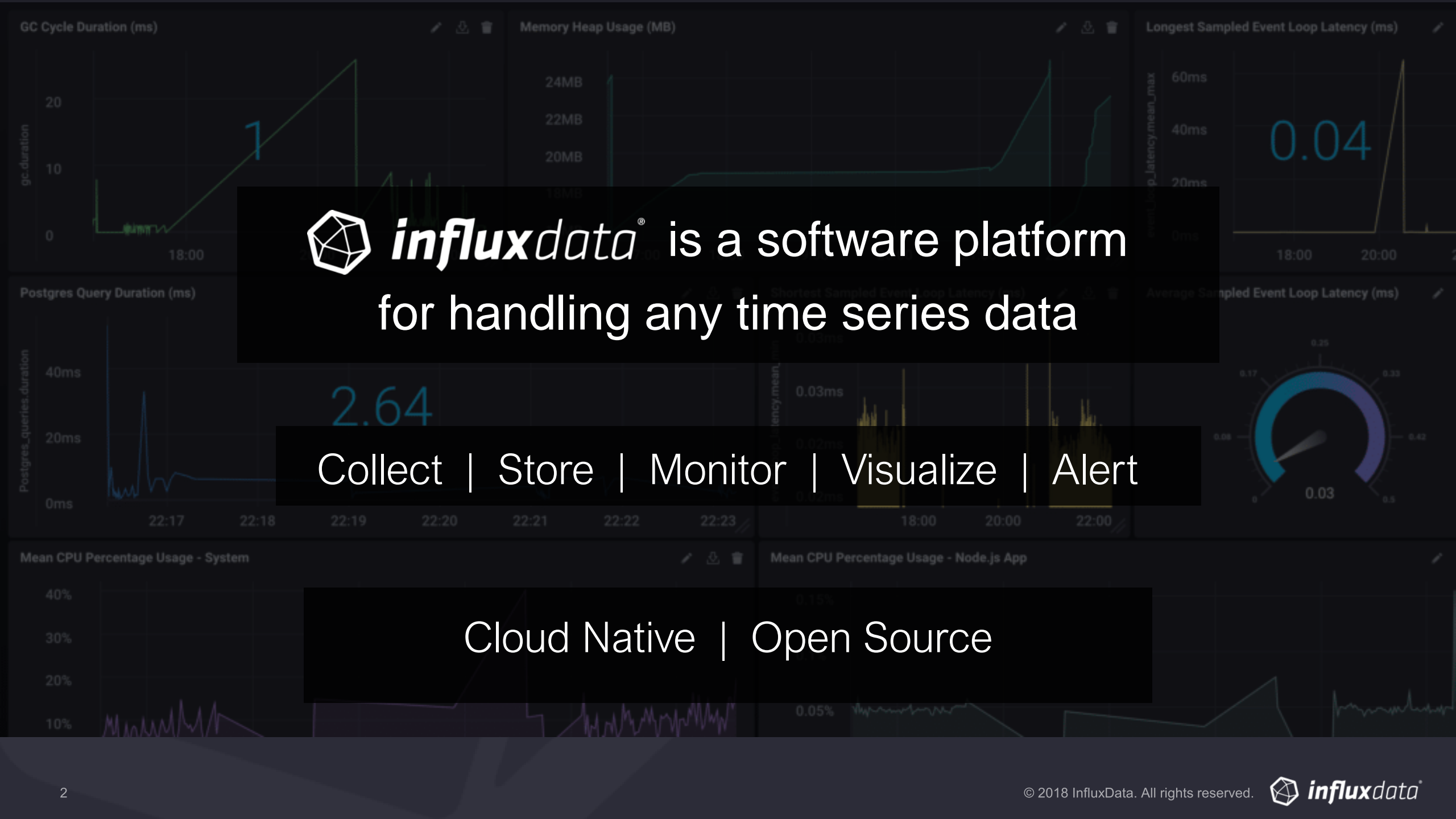





Time Series Platform

(주) 파인애플시스템즈  
[sales@pineandapple.com](mailto:sales@pineandapple.com)





The background of the slide is a dark-themed InfluxData dashboard. It features several panels: 'GC Cycle Duration (ms)' with a line graph showing a sharp peak; 'Memory Heap Usage (MB)' with a line graph showing a spike; 'Longest Sampled Event Loop Latency (ms)' with a large '0.04' value; 'Postgres Query Duration (ms)' with a line graph showing a peak and a large '2.64' value; 'Shortest Sampled Event Loop Latency (ms)' with a line graph showing multiple spikes; 'Average Sampled Event Loop Latency (ms)' with a gauge chart showing a value around 0.03; 'Mean CPU Percentage Usage - System' with a line graph showing fluctuating usage; and 'Mean CPU Percentage Usage - Node.js App' with a line graph showing low usage.

 ***influxdata***® is a software platform  
for handling any time series data

Collect | Store | Monitor | Visualize | Alert

Cloud Native | Open Source

# Open Source Adoption

200,000

Active  
Deployments

InfluxDB

17,000

Github  
Stars

source: GitHub

1<sup>st</sup>

Ranked Time  
Series DB

source: DB Engines

# Commercial Adoption

500+  
Customers



# What is it?

## **time series data**

a series of data points indexed (or listed or graphed) in successive, chronological order

---

### Attributes

- Regular; occur in fixed intervals
- Irregular, occur randomly or by event

# What makes it unique?

## time series data

- Very fast ingestion of data
- Equally fast eviction of data
- High precision data for short term
- Low precision data for long term
- Continuous computation for high precision data
- Query patterns vary vastly by workload

# Use Cases

IoT devices & sensors

Cloud applications & infrastructure

Real-time transactions & analytics



# NORDSTROM

- *Data from Nordstrom retail website*
- *Applications & cloud infrastructure*
- *Metrics from transactions & performance*







- *Data from Tesla automotive batteries*
- *Data from Solar City installations*
- *Monitor the performance and usage of battery units & solar sensors*



# SIEMENS

- *Data from infrastructure behind wind & gas turbines*
- *Monitor health, usage and performance of turbines*
- *Metrics via SaaS*

Why is this happening now?



# Macro trends

Massive growth of connected devices & cloud scale

Explosion of events & metrics is constant

Legacy platforms & tools are not equipped

# Emergence of a new category

**Relational Data** / orders, customers, etc.

SQL

ORACLE

**Big Data** / volume, variety, etc.

Big Data



**Text Data** / web pages, documents, etc.

Search



**Time Series** / events, metrics, etc.

Time Series



# Background

2013



- Y-Combinator
- Monitoring & anomaly detection
- SaaS model

2014



- Series A funding
- First commit on InfluxDB
- Open source model

2016



- Series B funding
- Completion of TICK stack
- Launch InfluxEnterprise



# Today

2019



- Series D funding
- 150 employees
- Product & market expansion

*Investment*

Mayfield

BV  
Battery Ventures

TRINITY  
VENTURES

SAPPHIRE  
VENTURES

NORWEST | VENTURE  
PARTNERS

*Open Source*

**telegraf**

**influxdb**

**chronograf**

**kapacitor**

*Commercial*

**Influxdb** enterprise

**Influxdb** cloud

# The InfluxData Approach

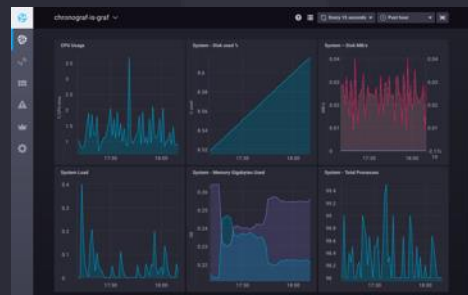
- ① Purpose built for time series data
- ② Committed to open source
- ③ Focus on the developer first

# Purpose built for time series data



## Written in Go

- Modern
- Easy to learn
- Static binaries



## Specialized Tools

- Filter input
- Shape visually
- Tune output



## Platform Approach

- Operate at API & DB level
- Not packaged SaaS



# Committed to open source

## Four Projects

---

-  ***telegraf***
-  ***influxdb***
-  ***chronograf***
-  ***kapacitor***

## Open Interfaces

---

InfluxQL  
TICK Script  
FLUX  
Dashboards

## Community Leadership

---



# Focus on the developer first



## Full Product in Open Source

- Same features as Enterprise
- Easy path from dev to prod



## Self-Service Experience

- Software, Docs, Tutorials are public
- No gates, no need to talk to a human



## Time to Awesome

- Measure ourselves against time
- Dual product & ecosystem effort

# Time to Awesome™

We are singularly focused on reducing Time to Awesome™. We care about helping developers and businesses get to results faster with less complexity and less code.



# IoT data *is* time series data

## Readings are time stamped

node 3124

Last update 2018-03-21 07:34:00:23

Altitude: 28.0

Speed: 10 Km/h

Course: 250

Odometer:254 Km/h

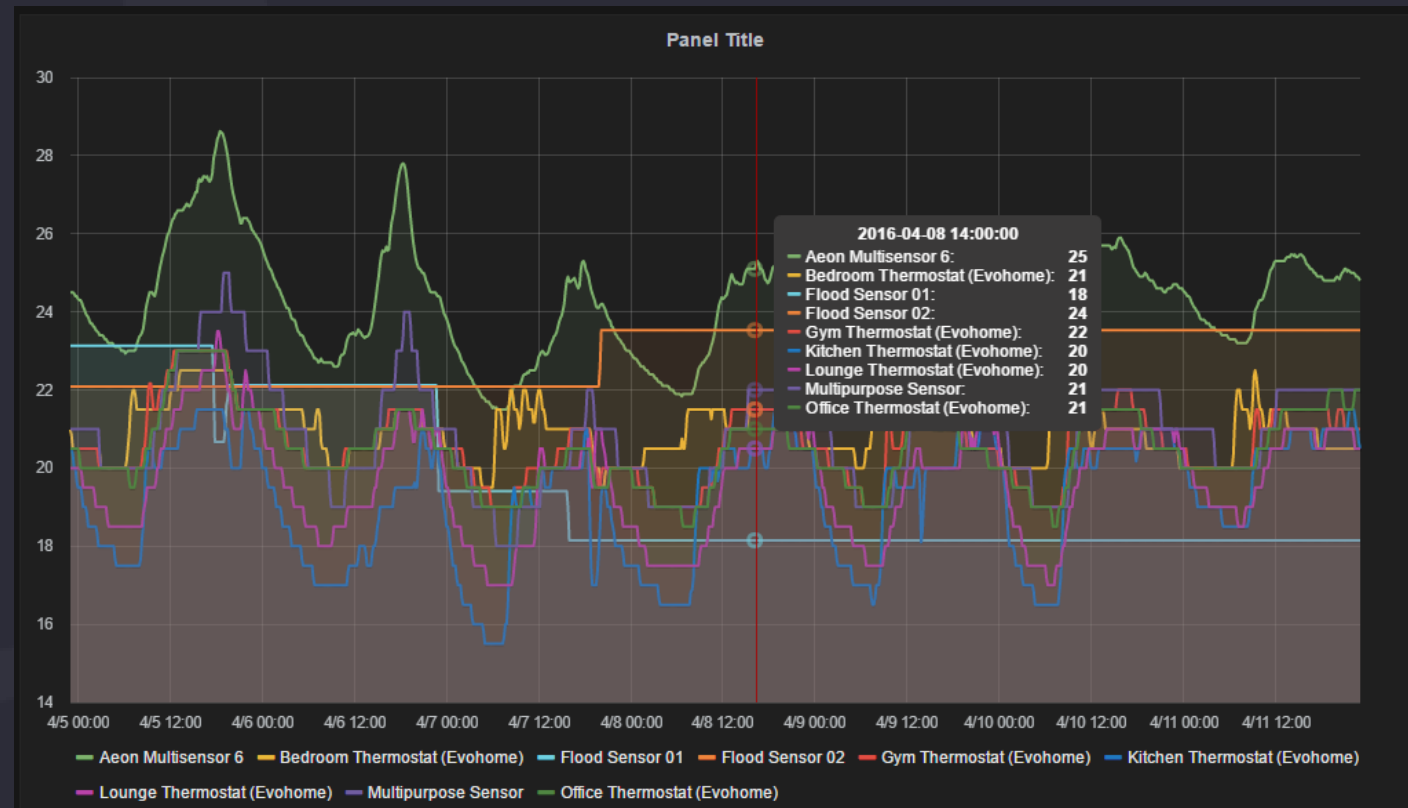
CO: 0.70 mg/m3

Particles: 0.01 mg/m3

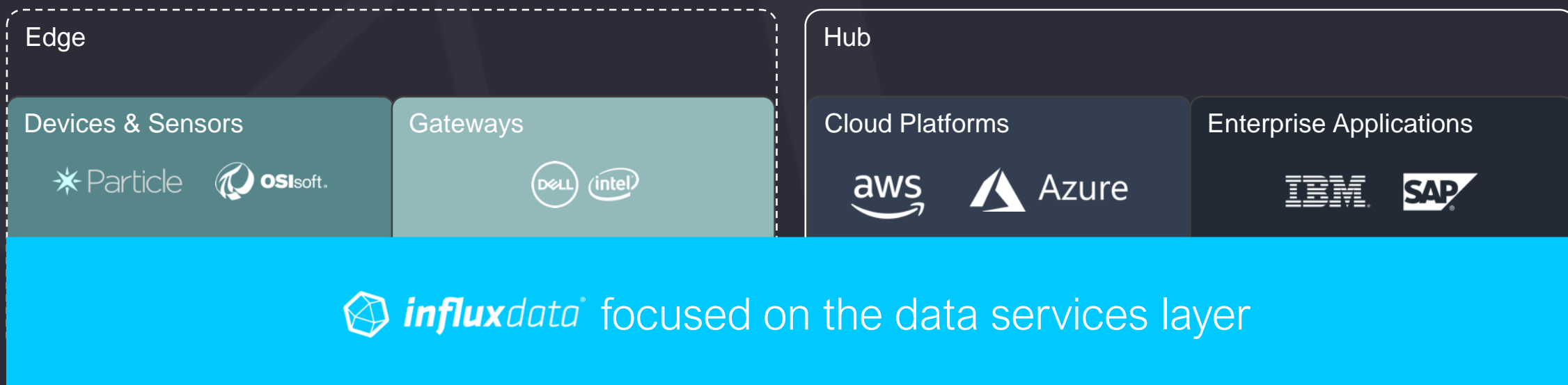
Ozone +NO2: 92.00 ug/m3

Temperature: 7.20° C

- Show change over time
- Improve efficiency; optimize
- Energy, health, materials, production, operation



# Data Layer for IoT



## Collect

- Telegraf
- Open Source TICK
- 3<sup>rd</sup> party integrations

## Act

- InfluxCloud
- InfluxEnterprise
- Kapacitor

# Data Layer for App Stack & Infrastructure



## Collect

- Telegraf
- Container Images
- Open source outputs

## Act

- InfluxCloud
- InfluxEnterprise
- Kapacitor

# Open Source



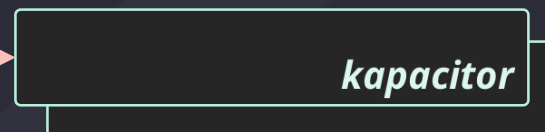
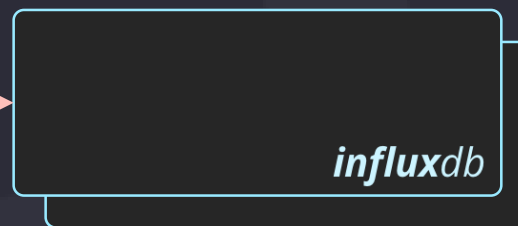
# Platform Architecture



Visualize

Collect

Store, Process, Analyze



## 130+

### Telegraf Plugins

- 110 Open Source
- 15 Partner Certified
- 5 Influx Supported

## 30+

### Chronograf Templates

- 22 pre-created dashboards
- 8 visualization types

## 25+

### InfluxDB Inputs

- 16 client libraries
- 2 query languages
- 7 write protocols

## 20+

### Kapacitor Event Integrations

- 20 Open Source
- 5 Partner Certified



Thank you



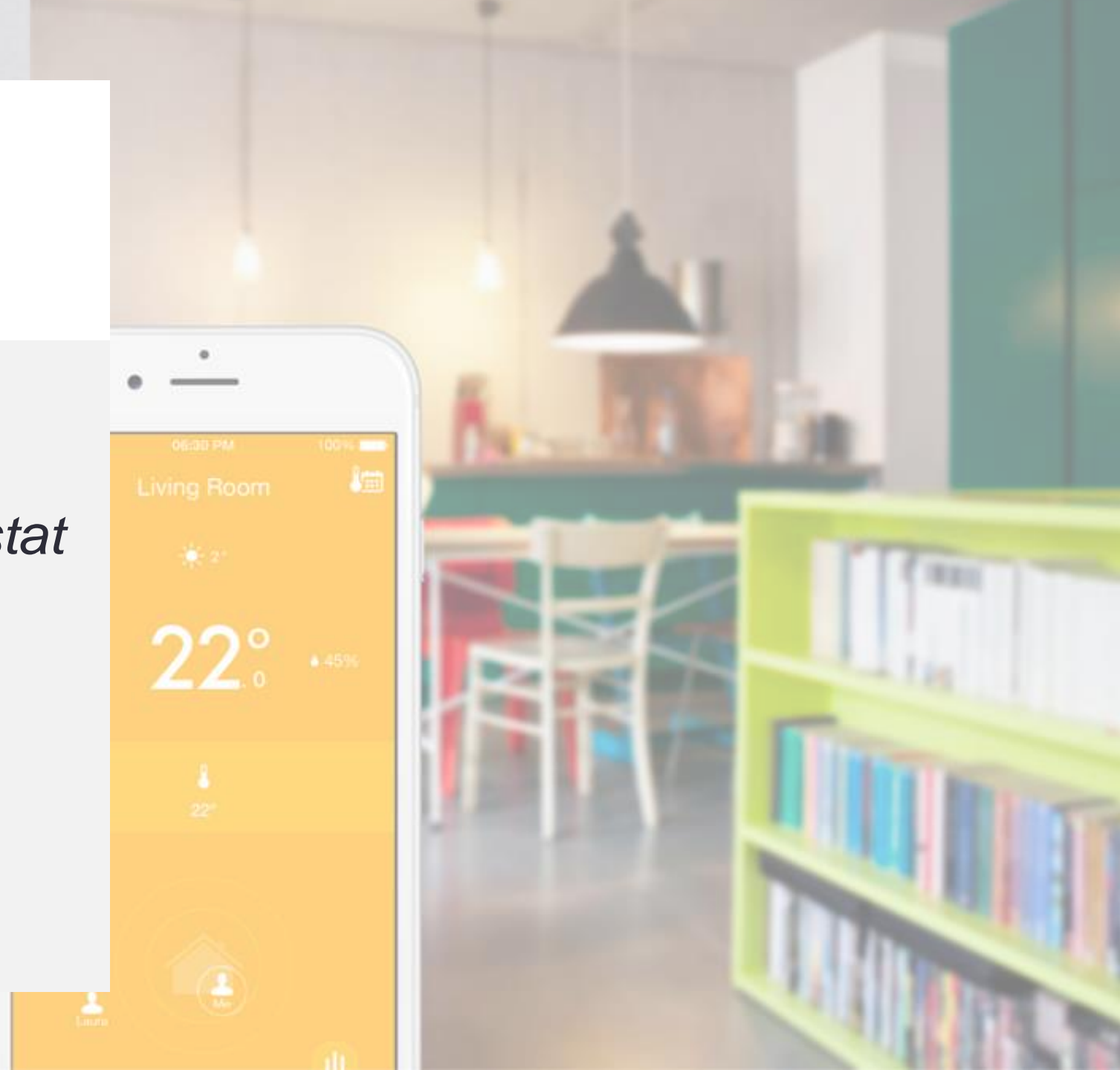
***influxdata***®



# Customers



- *Smart AC control & data*
- *Collect & analyze thermostat data in energy efficient home*
- *InfluxData for collection & analysis in SaaS & mobile app*







- *Green wall irrigation system*
- *Monitor plant data for automated remote irrigation*
- *InfluxData to store tagged data, incl. location, type*
- *Detect events, visualize, alert*

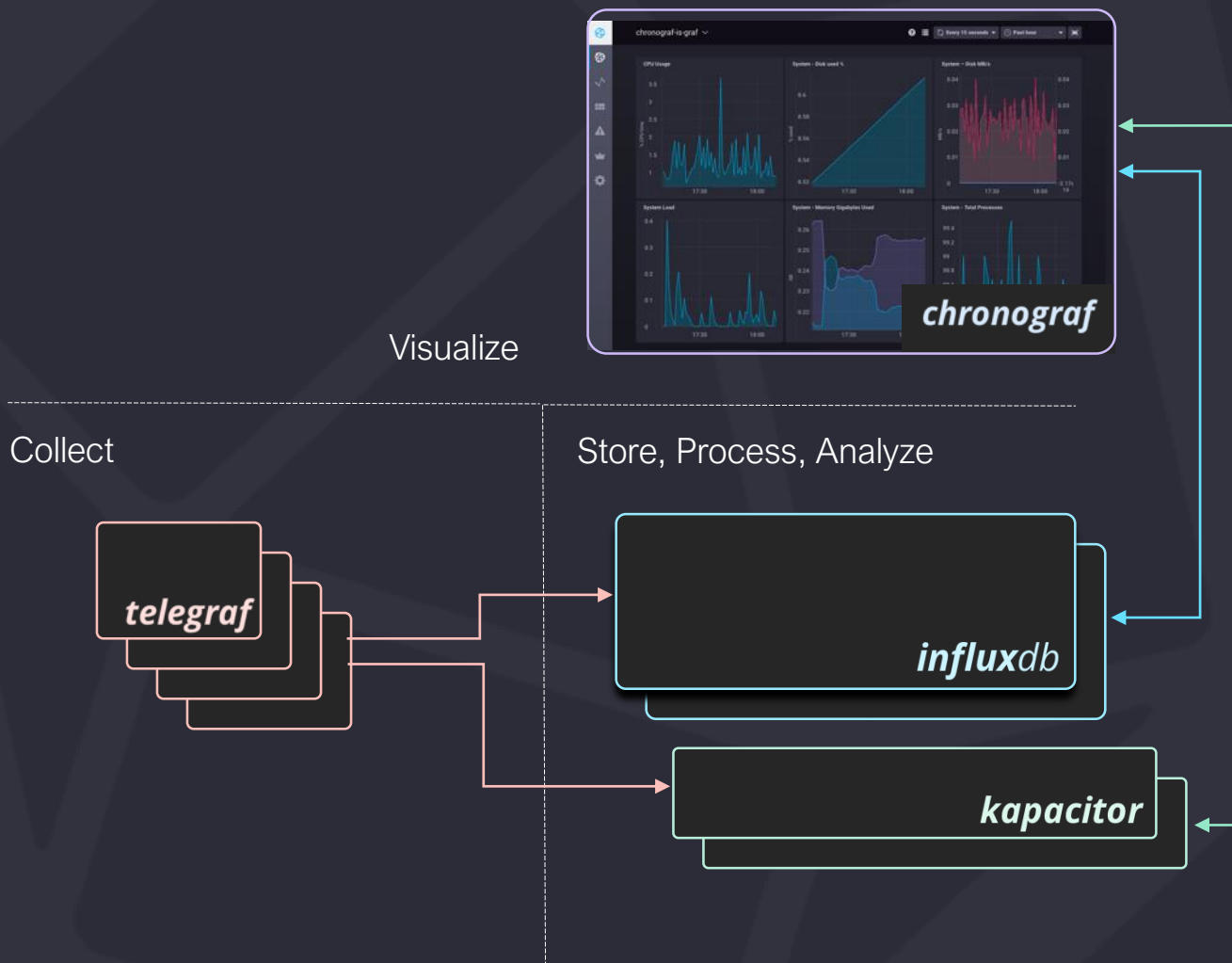




- *Distributed solar installations*
- *85,000 solar units in 35 countries*
- *InfluxData to analyze usage patterns & detect customer usage trends*



# Telegraf



## Collection agent for metrics & events

Plugin-driven server agent for collecting data & reporting metrics

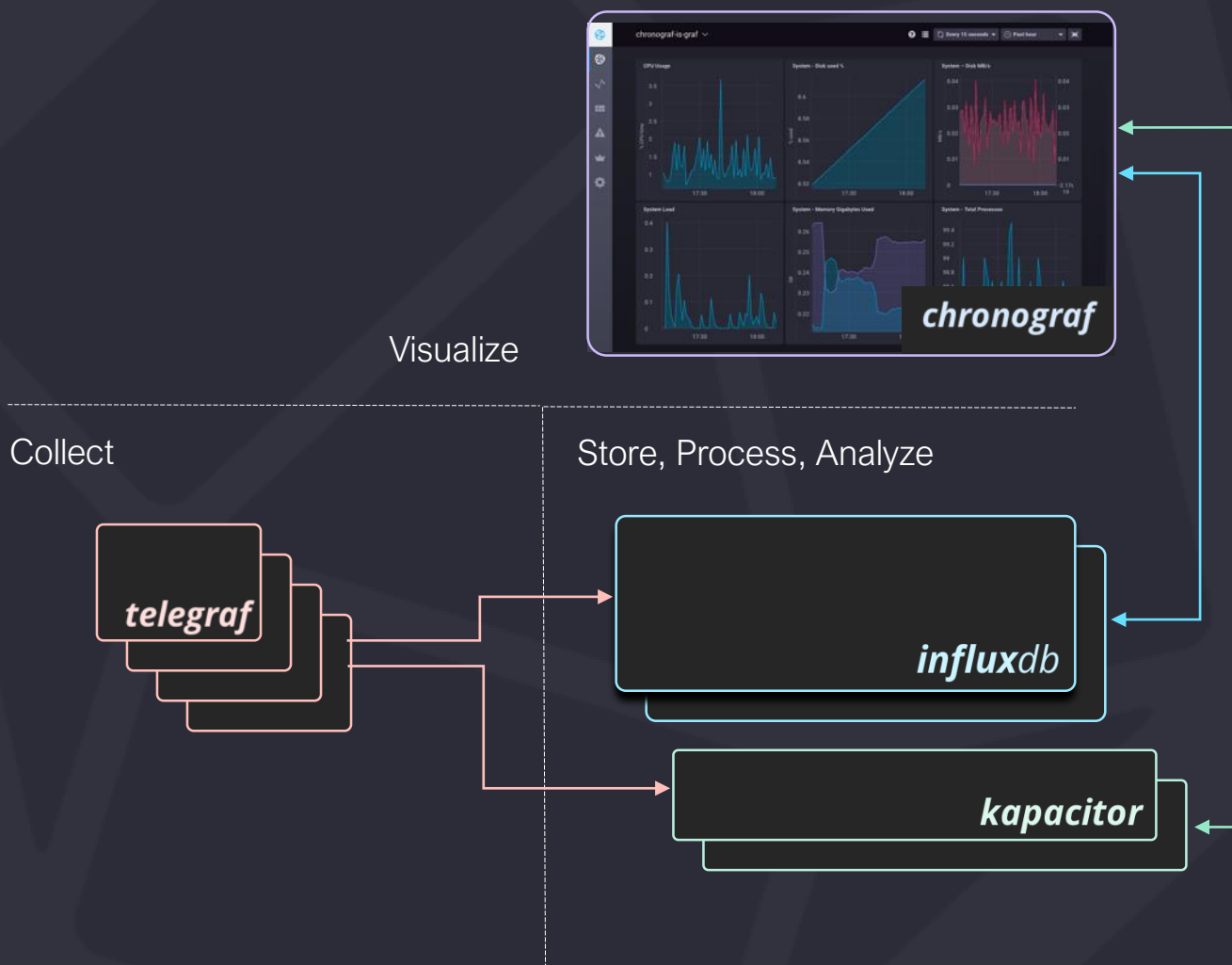
Pull metrics directly from system it's running or via 3<sup>rd</sup> party APIs

Output plugins to send metrics to other data stores, services, message queues

### Telegraf Plugins / 130+

Apache	HTTP Response	RabbitMQ
Bcache	HTTP JSON	Redis
Cassandra	Memcached	RethinkDB
Cloudwatch	Mesos	Riak
Consul	MongoDB	Zookeeper
Couchbase	MySQL	AMQP
Disque	NGINX	MQTT
Docker	NSQ	Graphite
Elasticsearch	PHP FPM	Kinesis
Fluentd	Postgres	NSQ
Haproxy	Prometheus	Kafka
	Salesforce	Graylog

# InfluxDB



## Purpose-built time series database

Time series DB to handle high write & query loads

Conserve space on machine by configuring:

Retention policy, expiration, cold storage

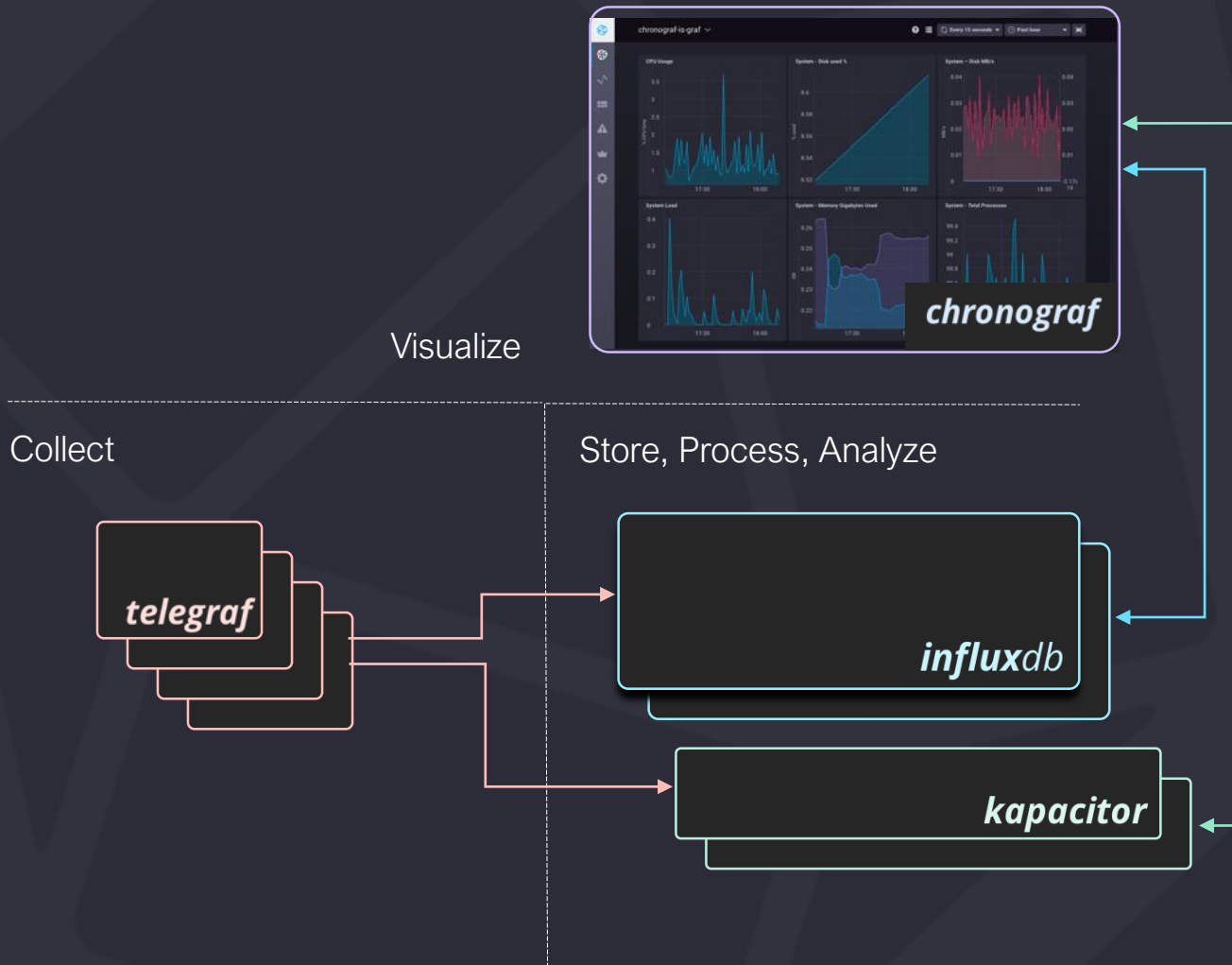
Multiple query languages for data interaction:

InfluxQL for SQL-like queries

FLUX for broad, higher level language



# Kapacitor



## Real-time streaming data processing engine

Native processing engine

Processes both stream and batch data from InfluxDB

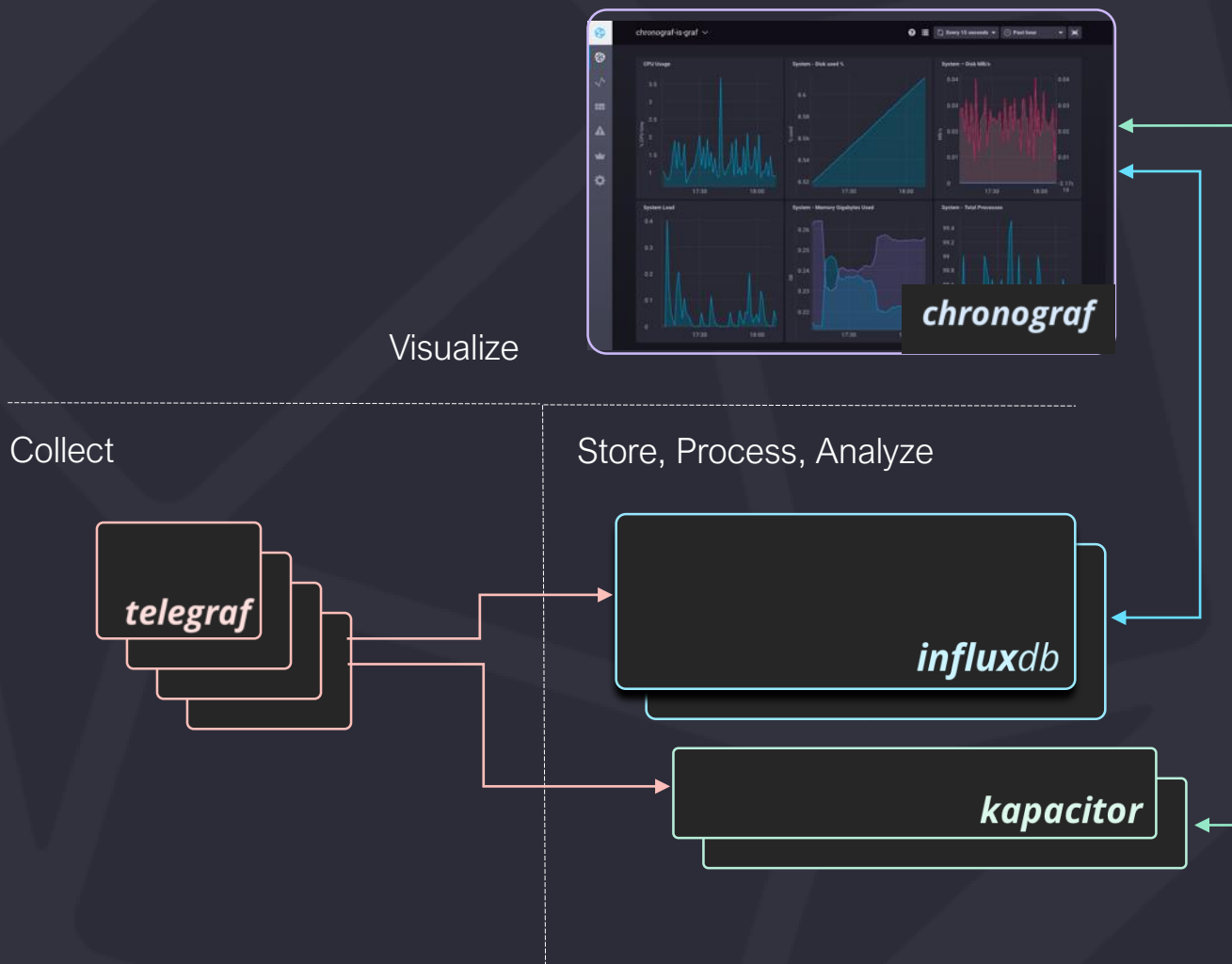
Plug-in custom logic or user-defined functions

Process alerts with dynamic thresholds

Perform specific actions based on alerts

Output integrations for PagerDuty, VictorOps, Slack, HipChat, Twilio, etc.

# Chronograf



## User Interface for InfluxData platform

Native processing engine

Processes both stream and batch data from InfluxDB

Plug-in custom logic or user-defined functions

Process alerts with dynamic thresholds

Perform specific actions based on alerts

# InfluxEnterprise / Clustered Architecture for HA

