Introductions
What is time series data?
Time series data comes in two forms

Regular: A sequence of data points, typically consisting of successive measurements made from the same source over a regular time interval.
• Plot the points on a graph and one of your axes would always be time.

Irregular: A sequence of data points, generated from the same source when meaningful changes occur. (aka events)
Why? The move to autonomy and Industry 4.0

INSTRUMENT → OBSERVE → LEARN → AUTOMATE
The age of instrumentation

Sensors in the physical world (IoT)

Instrumentation of virtual world (DevOps)
Purpose-built platform for all metrics & event workloads

Accumulate

Events

Metrics

Logs

Traces

Analyze

Visualization

Alerts

Triggers

Act
Core Focus:
Developers and builders

- Developer happiness
- Time to awesome
- Reliable operations in a lights-out environment
Some of our customers

IoT monitoring

Software

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InfluxDB 2.0 Offerings

**InfluxDB 2.0** (open source)
- Single Binary

**InfluxDB Cloud 2.0** (AWS, GCS, Azure)
- Free Tier
- Pay Per Use
- Pre-Pay
- Dedicated Instance

**InfluxDB Enterprise 2.0** (on-premise/own compute)
- Node Based
- Cloud Native
Broad Solution Architecture
Data Acquisition

Agent-based, Agent-less, Native, Client Libraries
Data Acquisition

- Agent-based
- Native/Ecosystem
- Agent-less
- Client Libraries
IoT Data Acquisition via Telegraf

- 2015: Ubuntu 16.04 (0.10.3)
  - Fiber
  - MQTT
- 2016: Ubuntu 16.04 (0.2.3)
  - Kafka Consumer
- 2017: Ubuntu 18.04 (1.10)
  - Neptune Apex
  - AWS Kinesis
  - GCP Pub/Sub
- 2018: Ubuntu 18.04 (1.7)
  - APCUPSd
  - Fireboard
- 2019: Ubuntu 18.04 (1.12)
  - Azure IoT Event Hub
  - OPC/UA Modbus
- 2020: Ubuntu 18.04 (1.14)
- July: Ubuntu 18.04 (1.16)
Near term roadmap
Agent-less: Cloud Native

Within a CSP, connect your InfluxDB Cloud instance with messaging service of your choice

Examples: Azure EventHub, Google Pub/Sub, AWS Kinesis

Direct ingest using supported formats to specific buckets
Developer Tooling and Client Libraries

Flux
InfluxData | 1,623 installs | ★★★★★ (2) | Free

Flux language extension for VSCode

Install Trouble Installing!

Overview Version History Q & A Rating & Review

Flux

A Visual Studio Code extension with support for the Flux language.

Features:
- Syntax highlighting
- Autocompletion
- InfluxDB server integration
  - Run flux scripts natively and show results
  - Environment-specific autocompletion (bucket names, etc)
- Error highlighting
- Find references
- Go to definition
- Function signatures
- Code folding
- Symbol renaming

https://github.com/influxdata/flux-lsp-cli
Reference Application

IoT Center: Capturing Common Use Cases

- Device registration and token handling
- Custom visualization
- Administration and configuration
- Multiple implementations starting with Node.js

Developer’s Guide

- Breakdown of Application components
- Detailed examples of working with APIs
- Guidance for building custom applications
Sharing Expertise via InfluxDB Templates

43 InfluxDB Templates and counting

Covering:
- Networks,
- Infrastructure,
- Software,
- IoT,
- Games,
- and more...

https://github.com/influxdata/community-templates

Templates

Get started with a pre-built monitoring system from InfluxDB community experts

1. Find a template then return here to install it

2. Paste the Template’s GitHub URL below

Activity Log

<table>
<thead>
<tr>
<th>Template Name</th>
<th>Resources Created</th>
<th>Install Date</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>example_template</td>
<td>TemplateDashboard, TemplateTask, TemplateTelegrafConfig</td>
<td>May 21, 2020</td>
<td>GitHub</td>
</tr>
<tr>
<td>kubernetes...</td>
<td>KubernetesDashboard</td>
<td>May 7, 2020</td>
<td>File Upload</td>
</tr>
</tbody>
</table>
OSS at the Edge
Connecting the Edge with InfluxDB Cloud
Example Deployments

Challenges to Address
- Single pane of glass observability
- Single pane of glass administration
- TSDB integration
- Metadata integration
- Data transformation
Near term roadmap: Connect the OSS Edge(s) to the Cloud

InfluxDB OSS to InfluxDB Cloud
Supported feature(s) with each edition

- OSS registration to Cloud
- Staged GitOps deployment of stacks and templates
- Make connected “edges” completely observable, layering in controls for change management and more

Telegraf and InfluxDB

- Telegraf unique identifier
- Expand and simplify configuration/editing capabilities across the board
- Make data ingestion completely observable, layering in controls based on observed behavior
Thank You