

YOU **CAN'T** TEST EVERYTHING

BUT YOU **SHOULD** MONITOR IT!

Our journey to OpenSearch



Hi, I am Michi!
Head of Code at



@michilehr

What is doing?

"As Europe's **leading photo booth provider**, we have made it our mission to help our brides and grooms with their complete journey to their dream wedding. This is something we work tirelessly on with our team."



Philipp Schreiber - Co-Founder, KR UU.com

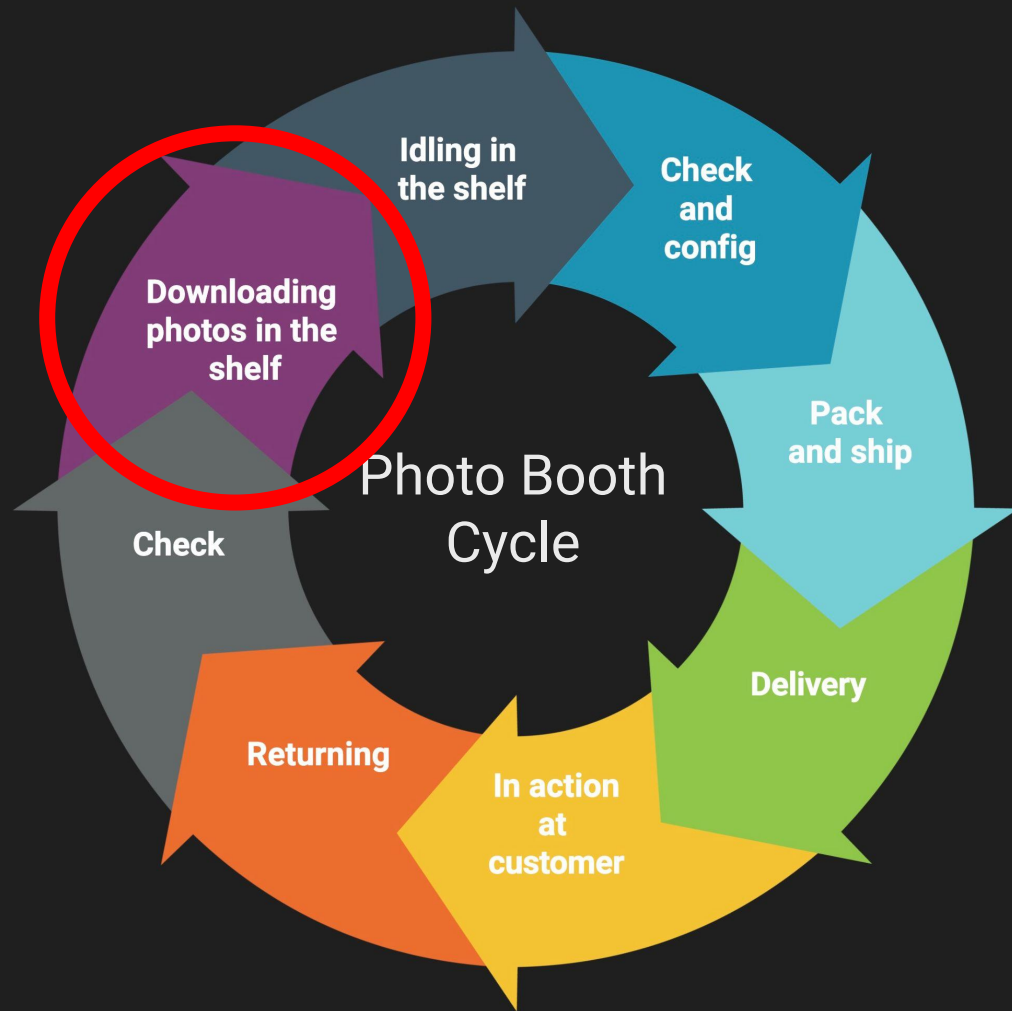








The Incident





Good

-  FB [redacted] ip: [redacted]: Saved 389 images (1.3G) of booking (id: [redacted] reference: [redacted]) in 1m 56s
-  FB [redacted] ip: [redacted]: Saved 248 images (726M) of booking (id: [redacted] reference: [redacted]A) in 1m 5s
-  FB [redacted] ip: [redacted]: Saved 415 images (1.5G) of booking (id: [redacted] reference: [redacted]) in 2m 14s
-  FB [redacted] ip: [redacted]: Saved 225 images (729M) of booking (id: [redacted] reference: [redacted]) in 1m 5s
-  FB [redacted] ip: [redacted]: Saved 622 images (2.0G) of booking (id: [redacted] reference: [redacted]) in 2m 59s
-  FB [redacted] ip: [redacted]: Saved 355 images (1.2G) of booking (id: [redacted] reference: [redacted]5) in 1m 46s
-  FB [redacted] ip: [redacted]: Saved 1199 images (4.0G) of booking (id: [redacted] reference: [redacted]) in 5m 59s


~12 MB/s


Bad


 FB [redacted] (id: [redacted], ip: [redacted]): Saved 390 images (1.2G) of booking (id: [redacted], reference: [redacted]) in 21m 1s


 FB [redacted] (id: [redacted], ip: [redacted]): Saved 344 images (1.2G) of booking (id: [redacted], reference: [redacted]) in 22m 22s

 FB [redacted] (id: [redacted], ip: [redacted]): Saved 624 images (2.3G) of booking (id: [redacted], reference: [redacted]) in 42m 59s

 FB [redacted] (id: [redacted], ip: [redacted]): Saved 598 images (2.2G) of booking (id: [redacted], reference: [redacted]) in 40m 35s

 FB [redacted] (id: [redacted], ip: [redacted]): Saved 354 images (1.1G) of booking (id: [redacted], reference: [redacted]) in 21m 44s

 FB [redacted] (id: [redacted], ip: [redacted]): Saved 680 images (2.7G) of booking (id: [redacted], reference: [redacted]) in 53m 37s

 FB [redacted] (id: [redacted], ip: [redacted]): Saved 442 images (1.3G) of booking (id: [redacted], reference: [redacted]) in 25m 11s

0.95 MB/s



What could it be?

- Hardware error
- Bug in code
- Network
- OS

What could it be?

Transferring some sample
data was fast

Investigate

1. When did it start?
2. Why did it happen?
3. How to prevent?
4. How to notice early?

When did it start?

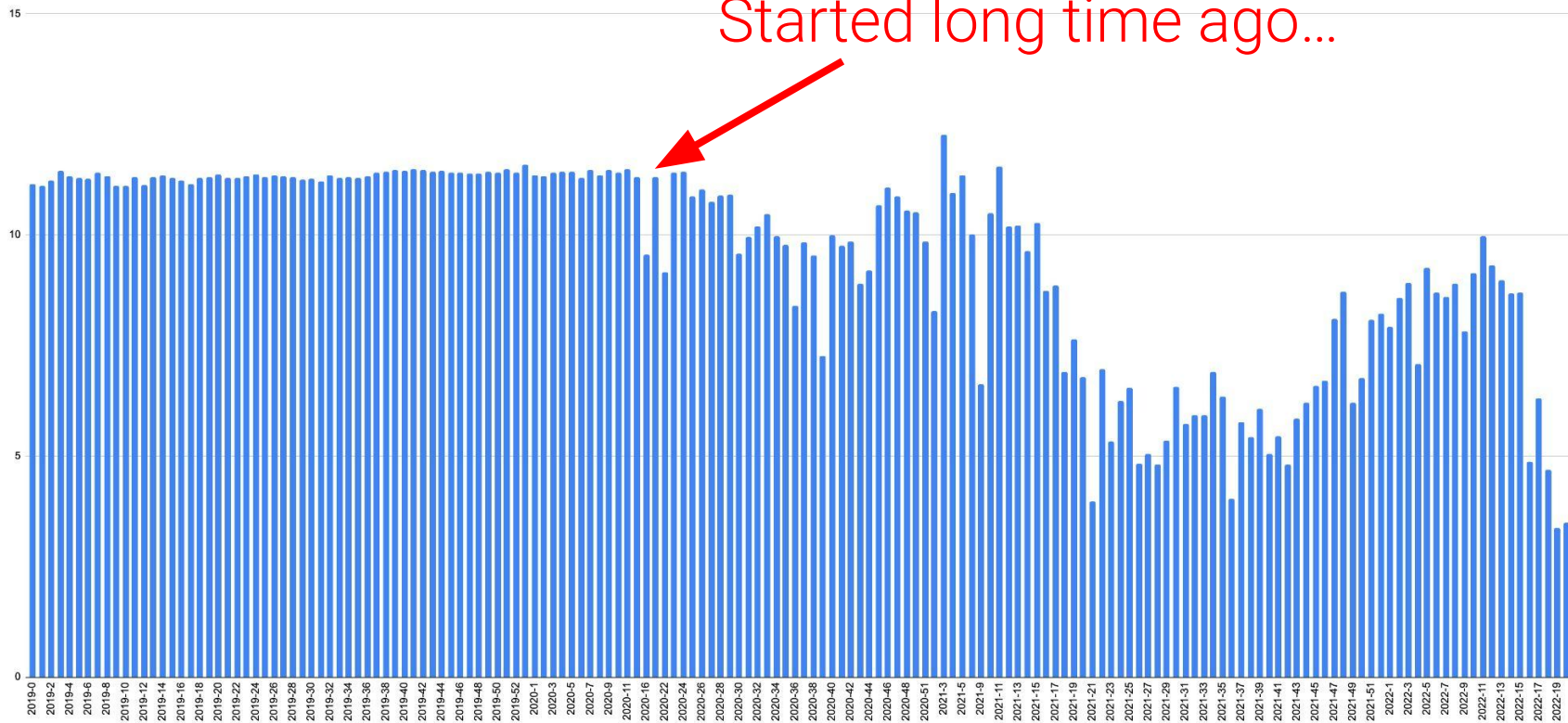
We had data in our Slack Channel, but...

Name	Size	Kind
2017-07-12.json	67 KB	All Files
2017-07-13.json	5 KB	All Files
2017-07-14.json	18 KB	All Files
2017-07-16.json	4 KB	All Files
2017-07-17.json	5 KB	All Files
2017-07-18.json	147 KB	All Files
2017-07-19.json	150 KB	All Files
2017-07-20.json	6 KB	All Files
2017-07-21.json	5 KB	All Files
2017-07-23.json	6 KB	All Files
2017-07-24.json	8 KB	All Files
2017-07-25.json	172 KB	All Files
2017-07-26.json	163 KB	All Files
2017-07-27.json	23 KB	All Files
2017-07-28.json	4 KB	All Files
2017-07-30.json	2 KB	All Files
2017-07-31.json	38 KB	All Files
2017-08-01.json	118 KB	All Files
2017-08-02.json	117 KB	All Files
2017-08-07.json	22 KB	All Files
2017-08-08.json	157 KB	All Files
2017-08-09.json	75 KB	All Files
2017-08-10.json	19 KB	All Files
2017-08-11.json	908 bytes	All Files
2017-08-13.json	3 KB	All Files
2017-08-14.json	15 KB	All Files
2017-08-15.json	164 KB	All Files
2017-08-16.json	68 KB	All Files
2017-08-17.json	14 KB	All Files
2017-08-18.json	455 bytes	All Files
2017-08-20.json	2 KB	All Files
2017-08-21.json	454 bytes	All Files
2017-08-22.json	177 KB	All Files
2017-08-23.json	62 KB	All Files
2017-08-24.json	14 KB	All Files
2017-08-25.json	918 bytes	All Files
2017-08-28.json	4 KB	All Files
2017-08-29.json	169 KB	All Files
2017-08-30.json	71 KB	All Files

1. Write a script to extract the data as CSV
2. Import data to MySQL
3. Write query to aggregate by day
4. Create nice chart

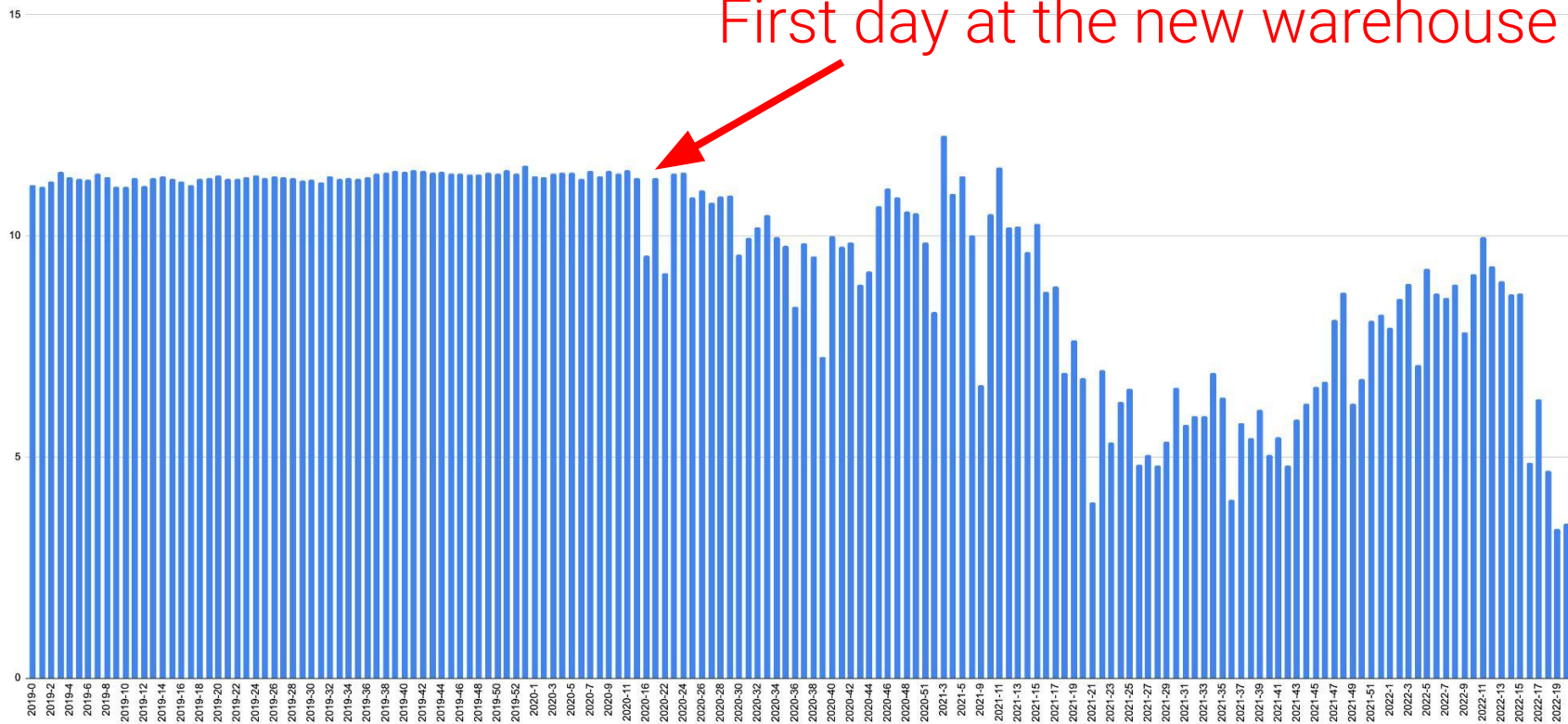
Many
hours
later

Started long time ago...



What happened?

First day at the new warehouse



Network configuration error



How to prevent or test?

How to notice early?

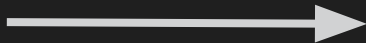




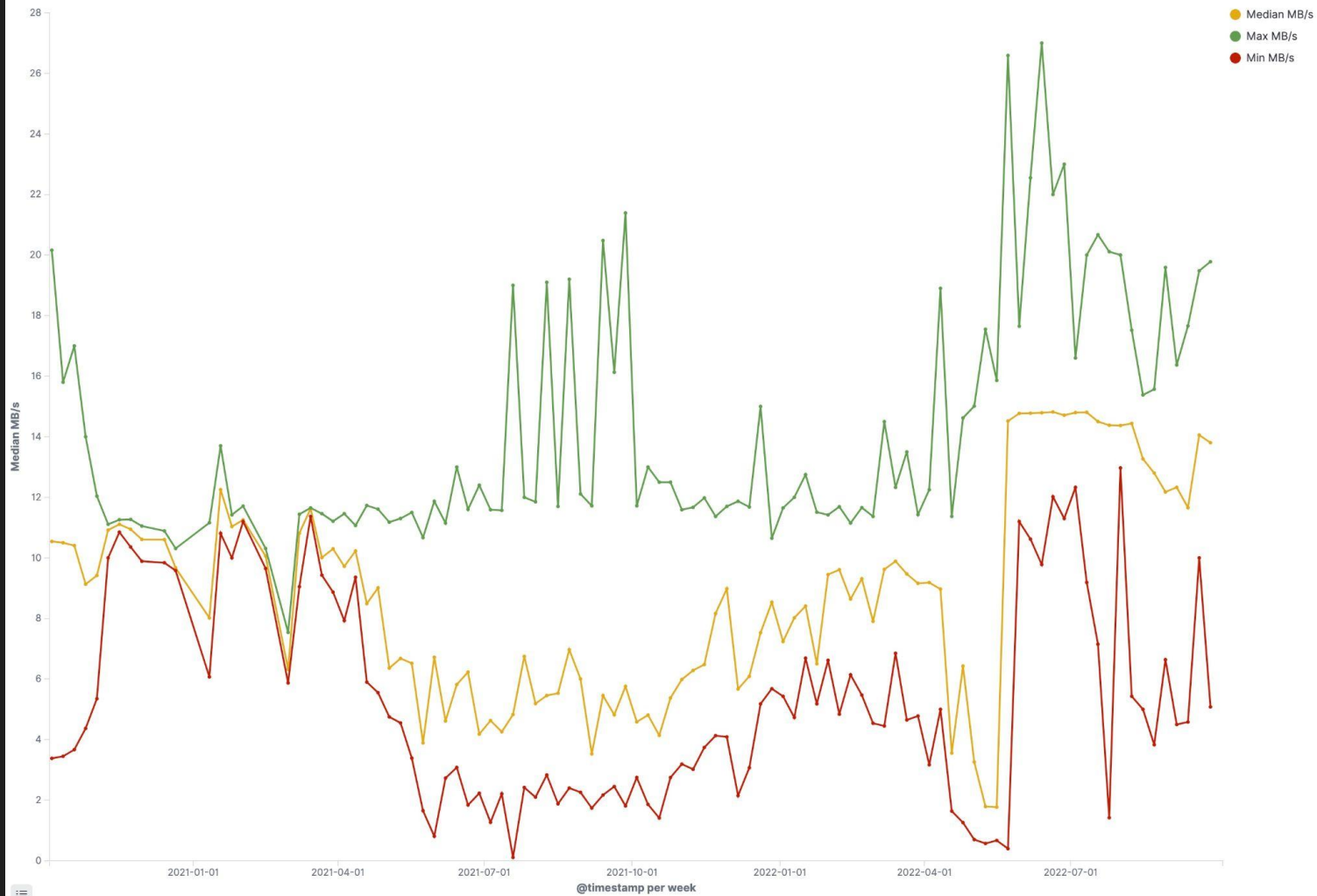
Metrics



```
loggingToFile.info(  
  LogMessage,  
  meta: {  
    type: 'photo_booth_download',  
    meta: {  
      booking: {  
        booking_id: bookingId,  
      },  
      statistics: {  
        size_in_kb: parseInt(fileSize),  
        count_images: imagesCount,  
        duration_in_seconds: onlySeconds,  
        speed_in_mb_s: speedInMbPerSeconds,  
      },  
      photo_booth: {  
        id: fotobox.id,  
        barcode: fotobox.barcode,  
        ip: fotobox.ip,  
        version: fotobox.versionFromBackend,  
      },  
    },  
  },  
);
```







But **HOW** to notice early?

Monitoring and Alerts!

Monitor

Monitor details

Monitor name

Fulfillment Download Speed

Monitor type



Per query monitor

Per query monitors run a query and generate alerts based on trigger criteria that match query results.



Per bucket monitor

Per bucket monitors run a query that evaluates trigger criteria based on aggregated values in the dataset.



Per cluster metrics monitor

Per cluster metrics monitors run API requests to monitor the cluster's health.



Per document monitor

Per document monitors run queries that return individual documents matching the trigger conditions.



Composite monitor

Composite monitors chain the outputs of different monitor types and focus trigger conditions to reduce alert noise and generate finer results.

Monitor defining method

Specify the way you want to define your query and triggers. [Learn more](#)



Visual editor



Extraction query editor



Anomaly detector

Schedule

Frequency

By interval

Monitor → Data Source

Data source

Index

filebeat-7* ×



You can use a * as a wildcard or date math index resolution in your index pattern

Monitor → Data Source → Query

```
{
  "size": 0,
  "query": {
    "bool": {
      "must": [
        {
          "match": {
            "type": {
              "query": "photo_booth_download"
            }
          }
        }
      ],
      "filter": [
        {
          "range": {
            "@timestamp": {
              "from": "{{period_end}}||-10m",
              "to": "{{period_end}}"
            }
          }
        }
      ]
    }
  },
  "aggregations": {
    "metric": {
      "avg": {
        "field": "meta.statistics.speed_in_mb_s"
      }
    }
  }
}
```

Monitor → Data Source → Query → Trigger

▽ Alert when avg speed drops below

Trigger name

Alert when avg speed drops below

Severity level

1 (Highest)



Trigger condition [Info](#)

```
1 return [(ctx.results[0].aggregations.metric.value !== null && ctx.results[0].aggregations.metric.value < 10)
```

Monitor → Data Source → Query → Trigger → Notification

▽ Slack notification: Slack Alerting

Action name

Slack Alerting

Names can only contain letters, numbers, and special characters

Channels

[Channel] Slack #kruu-wm-hosting



Manage channels 

Message subject

Fulfillment Download Speed Alert

Message

Embed variables in your message using Mustache templates. [Learn more](#) 

- *AVG Download Speed*: {{ctx.results.0.aggregations.metric.value}} MB/s
- *Period start*: {{ctx.periodStart}}



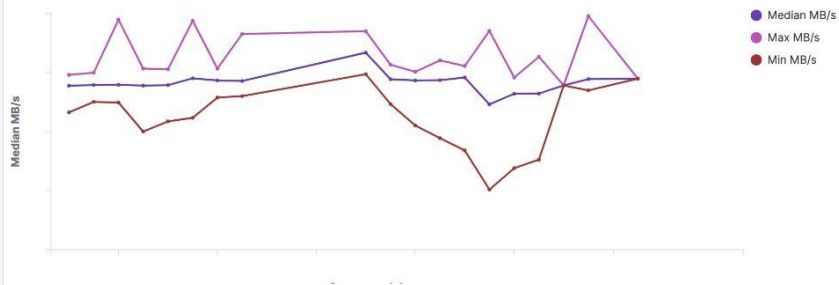
We-Manage Bot APP 4:05 PM

Alerting-Notification Action

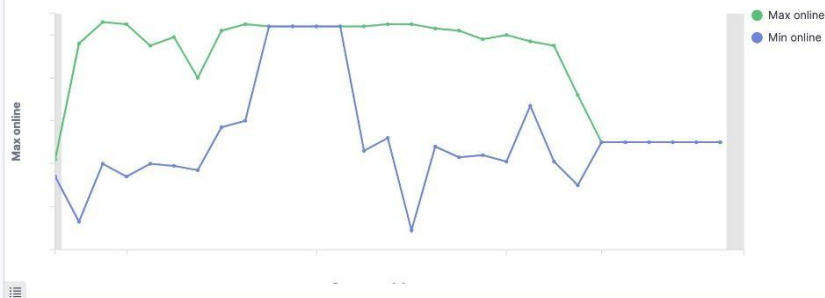
Fulfillment Download Speed Alert

- AVG Download Speed: 9.842799949645997 MB/s
- Period start: 2022-09-28T13:55:12.559Z

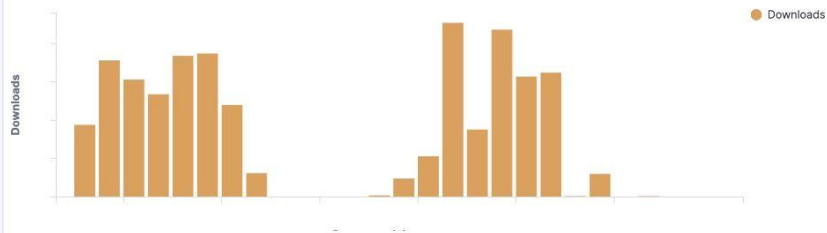
[Fulfillment] - Photo Booth Download Speed



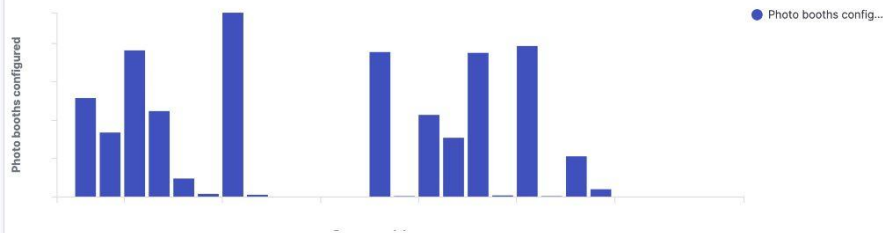
[Fulfillment] Photo booths online



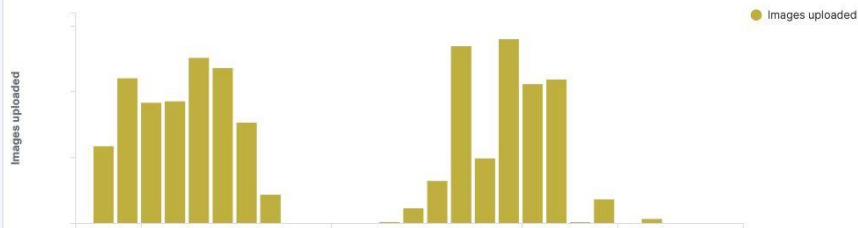
[Fulfillment] Photo Booth Downloads



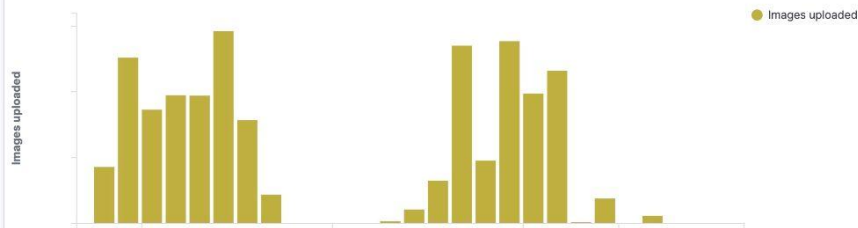
[Fulfillment] Photo booths configured



[Fulfillment] Images Downloaded



[Fulfillment] Images Uploaded



What else?

Online Photo Booths alert



Alerting APP 10:05 PM

Zero photo booths are currently online in US

Please check!

What's Next?

404 monitoring

YOU **CAN'T** TEST EVERYTHING

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Thank you for your time!

Questions?

Feedback?

Notes?