What Remains of Dashboards and Metrics without the Hype and the Anti-Patterns

Björn “Beorn” Rabenstein
Velocity Berlin – 2019-11-06
Instrumentation

Orchestration
Instrumentation

Orchestration
1 Der Autor
Louis-Hector Berlioz, französischer Komponist, * 11.12.1803 in La Côte - St. André, Isère, + 08.03.1869 in Paris
Berlioz beherrschte kein Orchesterinstrument und auch nicht das Klavier.

2 Das Werk und sein Umfeld
a) Entstehungsumstände. Traité général d’instrumentation (1837) des Berliozfreundes Jean-Georges Kastner regte Berlioz wohl an, seine Instrumentationslehre zu schreiben.
Berlioz meint, daß Neuerungen in der Musik immer zunächst auf Ablehnung durch die Autoritäten stießen, bald darauf aber radikal übertrieben werden. Erst mit der Zeit pendeln sie sich auf das "richtige Maß" ein, was schließlich bedeutet, daß die Art des Musikschaffens nicht nach irgendwelchen Regeln, sondern nach dem Klang beurteilt wird.
Harmonie, Melodie und Modulation hätten diesen Weg schon durchlaufen, die Instrumentation hingegen stehe kurz vor der "Übertreibungsphase".
"Heute" (d.h. Mitte des 19. Jh.) werde so viel vom Instrumentation geredet wie nie zuvor.
darauf hin, dass die Grenzen einer dichten, weder sich noch sich widersprechenden Beziehung zwischen musikalischem Material und musikalischen Formen oft zu sehr differenziert sein könnten. Die Idee einer "richtigen" Musikform wird in der dritten Generation noch einmal neu aufgegriffen, in der Form "Instrumentation".

Abb. 4: Hector Berlioz von Etienne Carjat (1828–1906); hier ist auch im Zerobild noch etwas von der geistigen Größe des so oft übertrieben karikierten Meisters spürbar geblieben.

(aus MGG)
#monitoringsucks

in 2012
The Key Message from KubeCon NA 2018: Prometheus is King

KubeCon North America — Seattle

I made the trip up to Seattle for KubeCon North America at the end of 2018 along with a bunch of...
If you can graph it, you can alert on it.
@lizthegrey telling horror stories right off the bat. "So I spun up an infra, I did all the right things... now I have a bazillion dashboards and outages take forever and only one person actually knows how to debug anything and holy shit are my engineers getting cranky"
the mood that birthed honeycomb, lol

(and more importantly, a bunch of stickers....)
Prediction #1: Correlation

Grafana Loki ➔ Elasticsearch ➔ Zipkin ➔ OpenCensus

Put a link from Kibana to Zipkin. Handy!

https://medium.com/observability/want-to-debug-latency-7aa48ecbe8f7

Slide from a keynote at KubeCon + CloudNativeCon Europe 2019:
Metrics, Logs & Traces; What Does the Future Hold for Observability?
Tom Wilkie, VP Product, Grafana Labs & Frederic Branczyk, Software Engineer, Red Hat
Watch it all at https://youtu.be/MkSdvPdS1oA
Dashboards...

1. ...use the power of visualization to help humans understand complex scenarios.
2. ...are the start of an exploration, not its end.
3. ...are for more than just graphing time series.
4. ...on a wall screen are just for fun.
Metrics
Metrics vs. Cardinality
Chapter 4. The Three Pillars of Observability

Logs, metrics, and traces are often known as the three pillars of observability. While plainly having access to logs, metrics, and traces doesn’t necessarily make systems more observable, these are powerful tools that, if understood well, can unlock the ability to build better systems.

Event Logs

An event log is an immutable, timestamped record of discrete events that happened over time. Event logs in general come in three forms but are fundamentally the same: a timestamp and a payload of some context. The three forms are:

Plaintext

A log record might be free-form text. This is also the most common format of logs.

Structured
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Structured
<table>
<thead>
<tr>
<th>Logs</th>
<th>Metrics</th>
<th>Dist. Traces</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCO scales gracefully</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Accounts for all data (i.e., unsampled)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Immune to cardinality</td>
<td>✓</td>
<td>-</td>
</tr>
</tbody>
</table>
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*Metrics, Logs & Traces; What Does the Future Hold for Observability?*

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Watch it all at [https://youtu.be/MkSdvPdS1oA](https://youtu.be/MkSdvPdS1oA)
1. Metrics should be used where it makes sense. Not more and not less!
2. Metrics are cheap and robust to collect. Do so. You’ll need them anyway.
3. Metrics are indispensable for reliable, fast, and meaningful alerts.
4. Metrics require you to be judicious with cardinality.
Rate this session

Cyberconflict: A new era of war, sabotage, and fear

We’re living in a new era of constant sabotage, misinformation, and fear, in which everyone is a target, and you’re often the collateral damage in a growing conflict among states. From crippling infrastructure to sowing discord and doubt, cyber is now the weapon of choice for democracies, dictators, and terrorists.

David Sanger explains how the rise of cyberweapons has transformed geopolitics like nothing since the invention of the atomic bomb. Moving from the White House Situation Room to the dens of Chinese, Russian, North Korean, and Iranian hackers to the boardrooms of Silicon Valley, David reveals a world coming face-to-face with the perils of technological revolution—a conflict that the United States helped start when it began using cyberweapons against Iranian nuclear plants and North Korean missile launches. But now we find ourselves in a conflict we’re uncertain how to control, as our adversaries exploit vulnerabilities in our hyperconnected nation and we struggle to figure out how to deter these complex, short-of-war attacks.

David Sanger
The New York Times

David E. Sanger is the national security correspondent for the New York Times as well as a national security and political contributor for CNN and a frequent guest on CBS This Morning, Face the Nation, and many PBS shows.

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