

Adform case: from 0 to business metrics

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adform – Ad serving company



3000 clients

35 countries

150 employees

adform – Ad serving company



300
physical
servers

70k
transactions
per second

~65
applications



We started at zero..

Operations team tool – “perfmon”

Free email:
info@business.com

Most Coupled Summary	Total (MAD) Errors
0.00	0.00

Summary	Missouri	Illinois
QALY	0.00	0.00

[illegible]

El Comallo	
Curatones Totales	1570 028
Curatones Activos	1570 072
Pumas Inactivos	1570 028
Pumas Inactivos	1570 028
Pumas Activos	1570 028
Pumas Inactivos	1570 028
Pumas Activos	1570 028

1999

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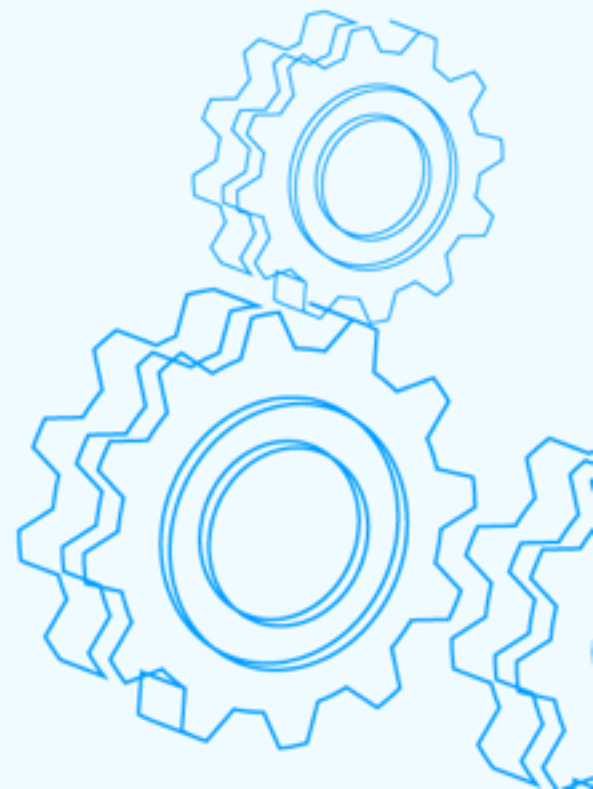
Monitoring - Part of Continuous Deployment

- SCOM, Nagios+cacti, Zenoss, Splunk, Zabbix



- Why – **ZABBIX** ?

- Templates
- Screens
- User Parameters



Metrics - is (not) for operations team



The diagram consists of two large light blue circles with white borders, one on a light blue background and one on a dark blue background. A small dark blue circle with the word 'BUT' in white is positioned between them. The left circle contains the text 'OPS know infrastructure' and the right circle contains the text 'Engineers write applications'.

OPS know
infrastructure

BUT

Engineers
write
applications

Attracting DEV: shot 1

- Joint server for OPS and DEV
- DEV provides templates for OPS
- OPS supervises and implements

FAILED

DEV

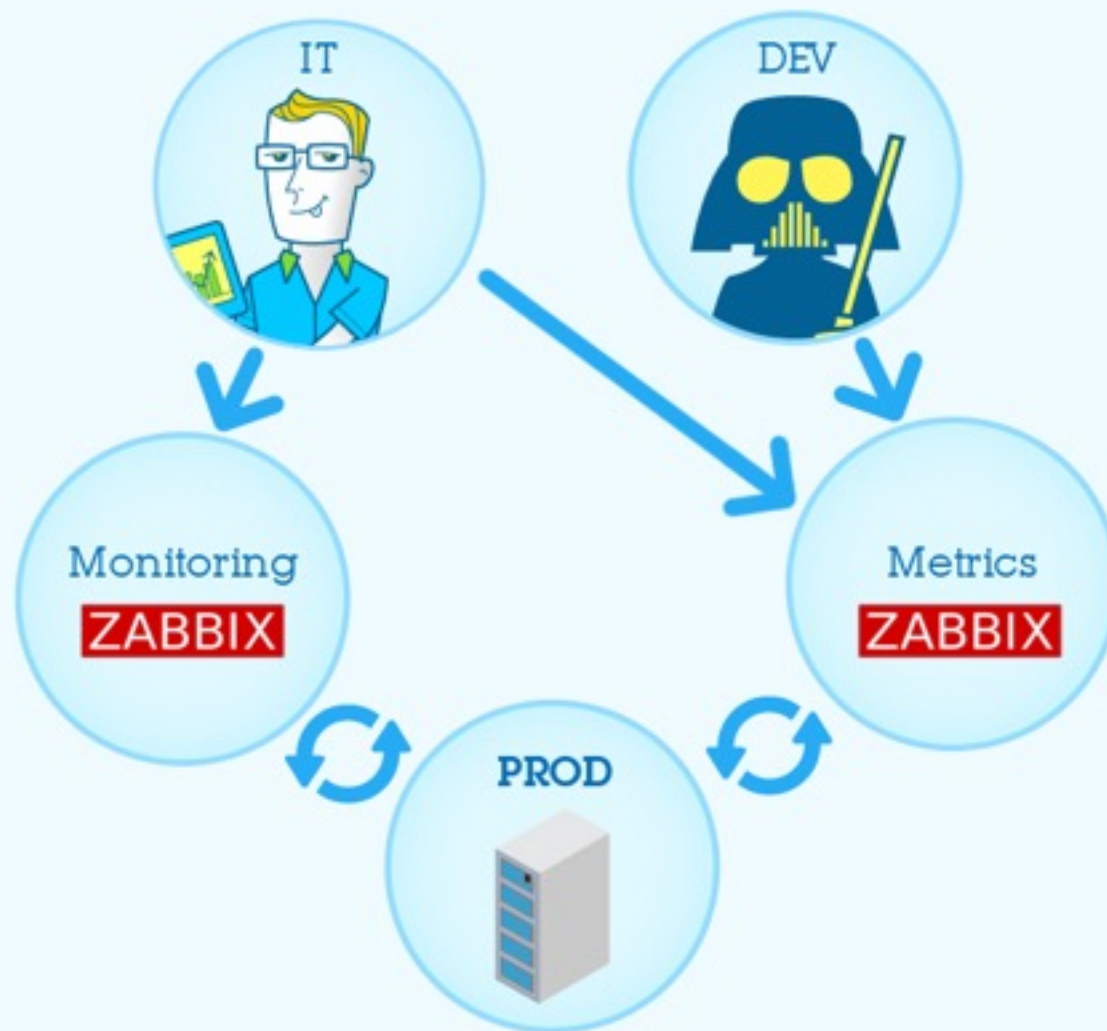


IT



ZABBIX

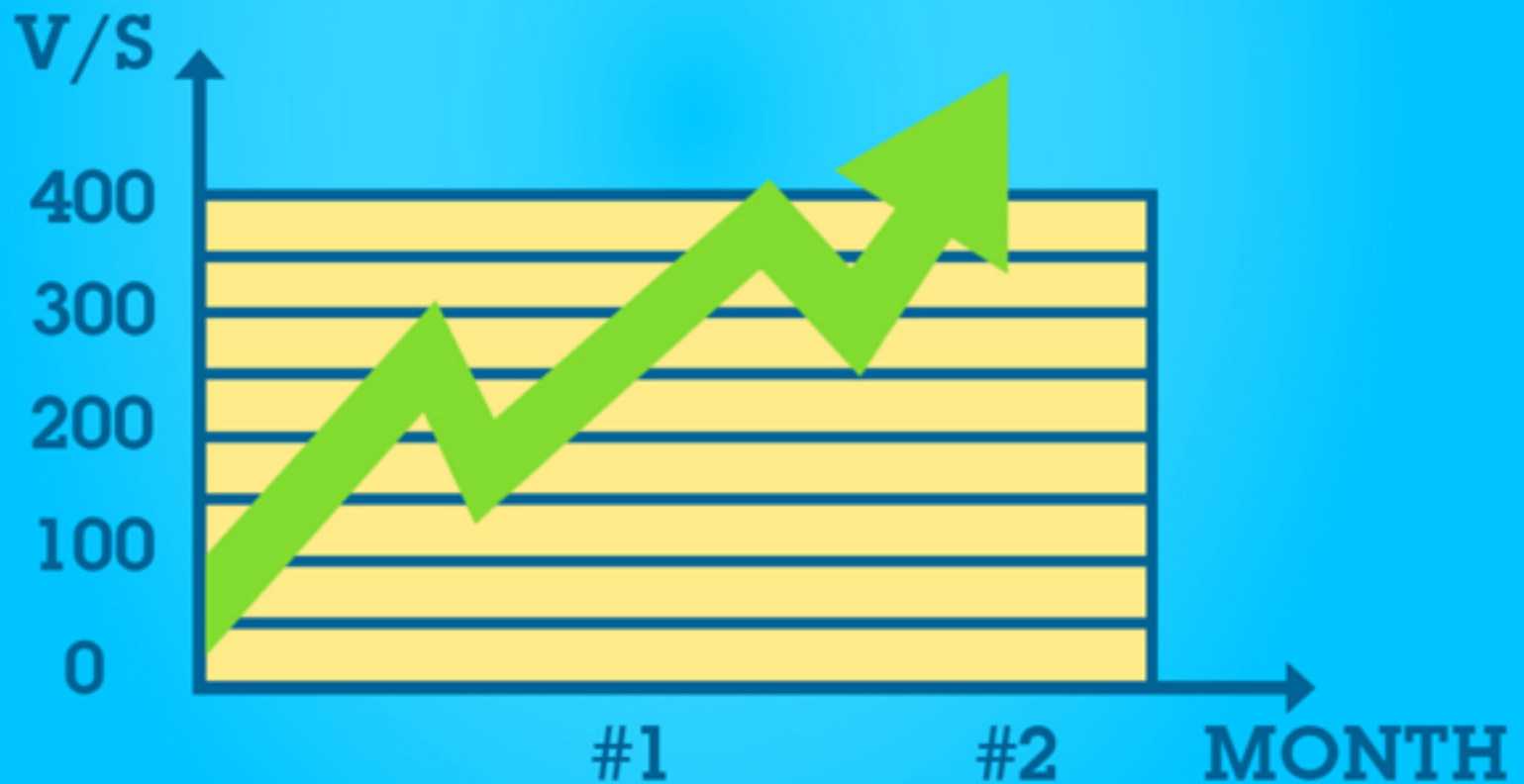
Attracting DEV: shot 2



Success!!! - First adopters

“Monitor everything”

“Monitor frequently”



Real-time bidding...

Real-time bidding - use case



**Throughput only ~ 5000
QPS
~25% failed requests**

What we are missing?



001101010100001001101010100001001101010101
01101010100001001101010100001001101010100
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The Prescription

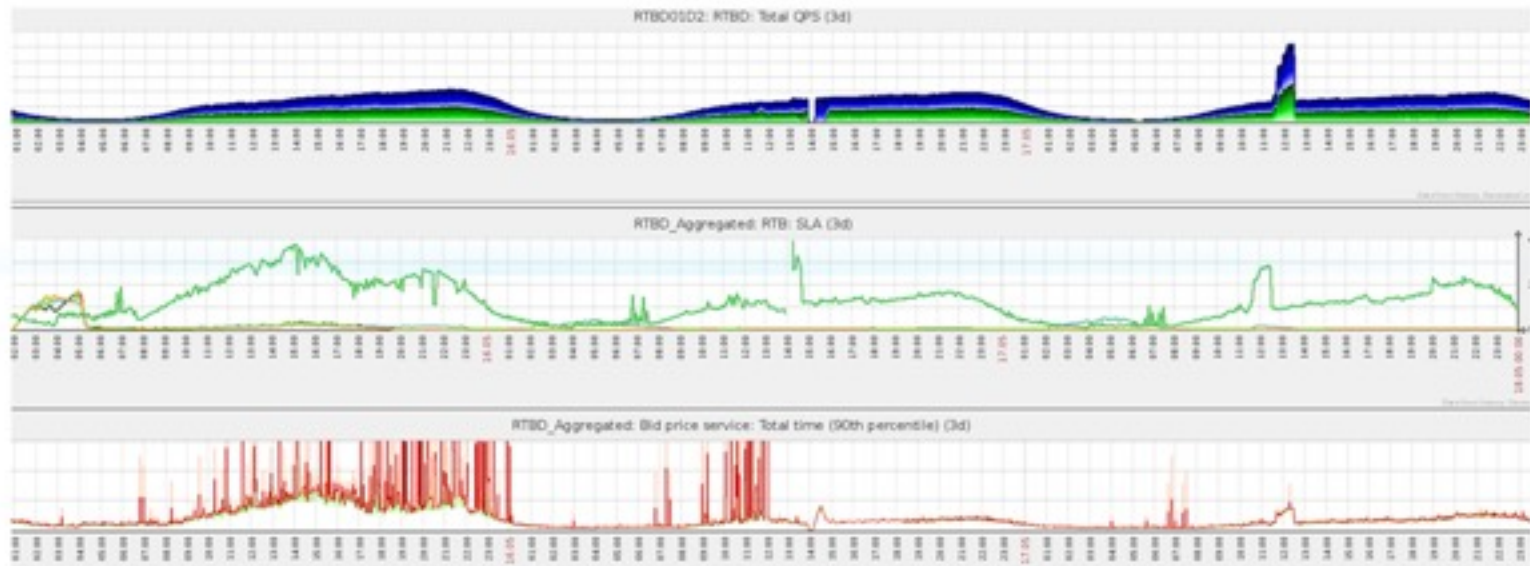
- Organized data
- Correlated data
- Added additional counters
- Picked really important metrics



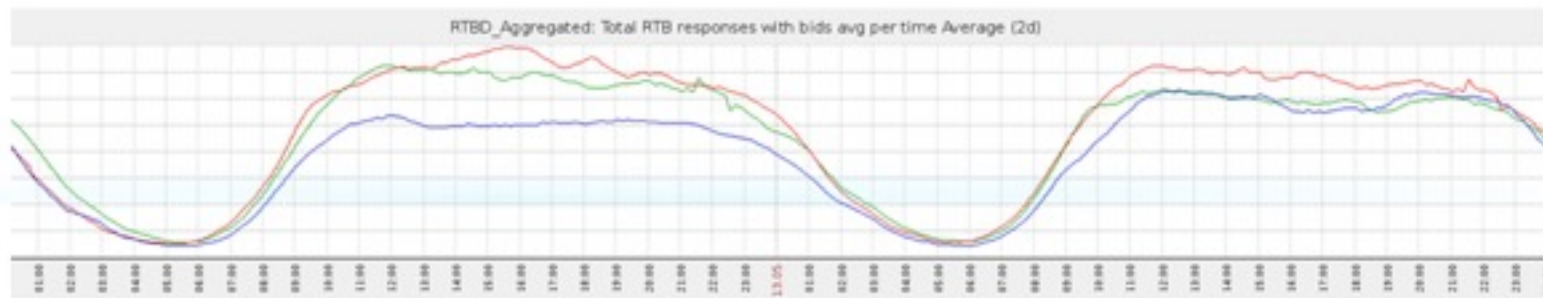
Organize data

- 
- A decorative graphic on the left side of the slide. It features a vertical ruler with markings from 1 to 10 on a green background. Overlapping the ruler is a semi-circular protractor with degree markings from 0 to 180. The protractor is white with black markings and numbers. The ruler and protractor are positioned as if they are part of a measurement tool.
- Infrastructure metrics
 - Application metrics
 - Latencies
 - Business metrics

Correlate - recent data



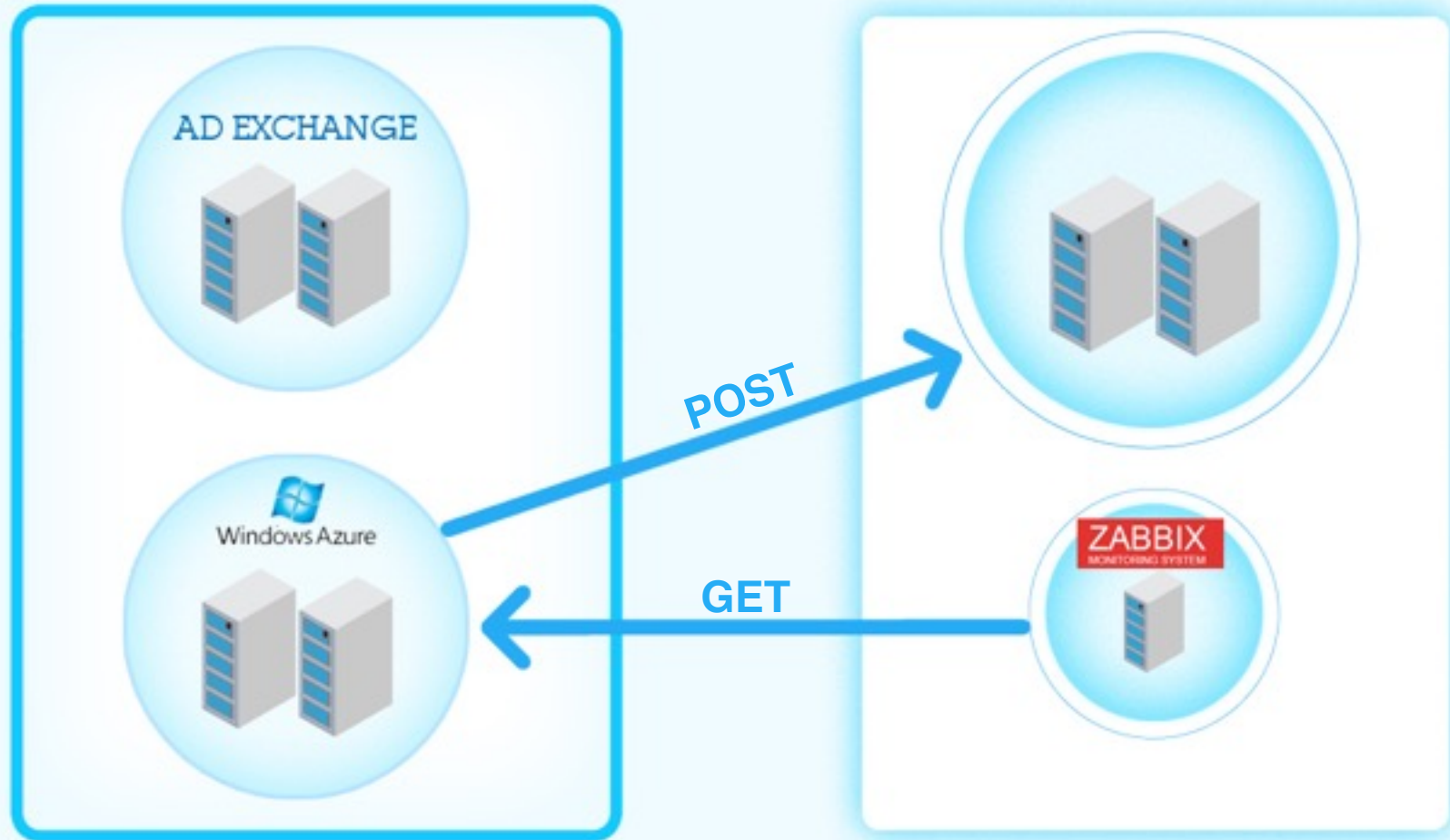
Correlate - time shifted data



Add additional counters

SAME GEO LOCATION

adform



Pick only key metrics

QPS

Traffic IN Memory

Write latency

Ping Data growth

Write latency Calculation

Latency CPU LOAD

Traffic OUT Processing

Read latency

Processing time

Traffic IN Memory

Write latency

Ping Data growth

Write latency Calculations

Latency CPU LOAD

Traffic OUT Processing time

Read latency

Processing time

SLA

Traffic IN Me

Write later

Ping Data

Write latency Calc

Latency CPU I

Real-time bidding - result

QPS increased ~14 times ($>70k$)

Fails decreased ~50 times ($<0.5\%$)

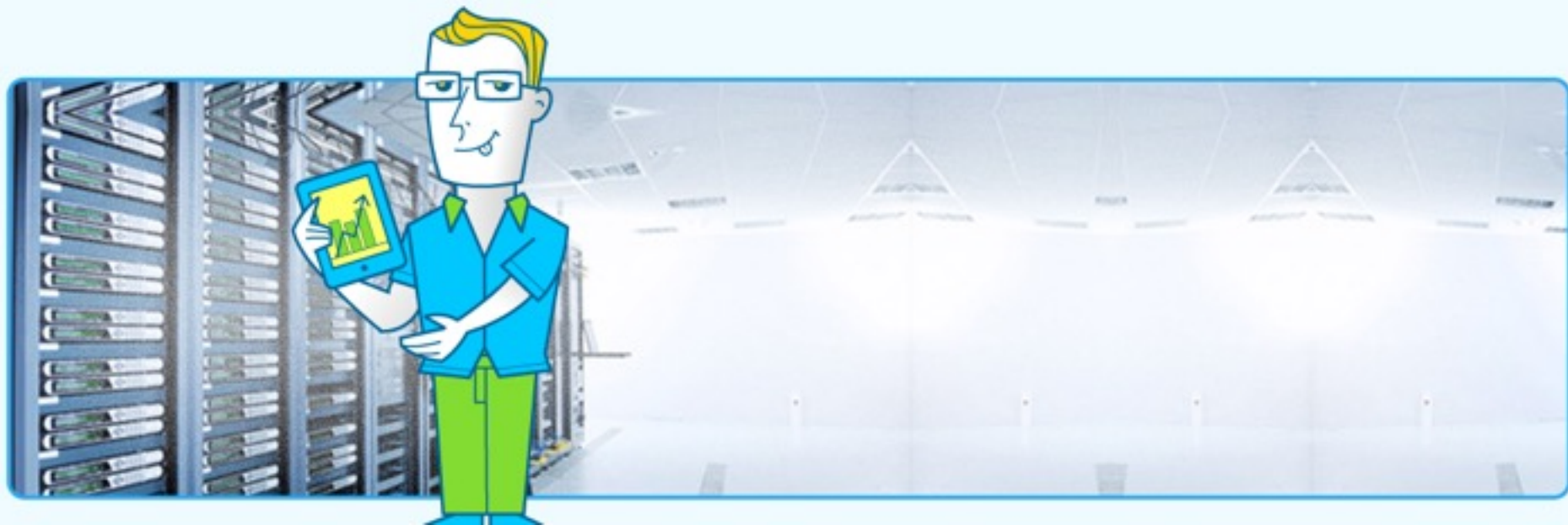
Same Hardware



What we have now

Monitoring Infrastructure

- Zabbix – Monitoring application
- 2 servers
- > 230 hosts
- > 20 000 items
- > 5 000 triggers
- ~ 400 values per second

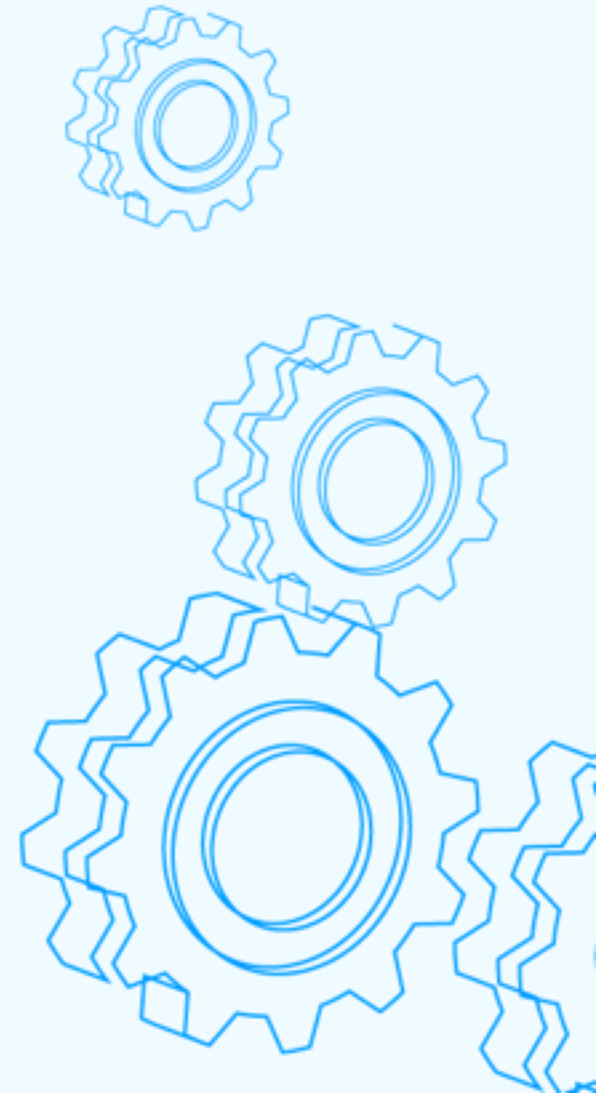


What we monitor

Servers
Applications
Latencies
Team performance
Network devices

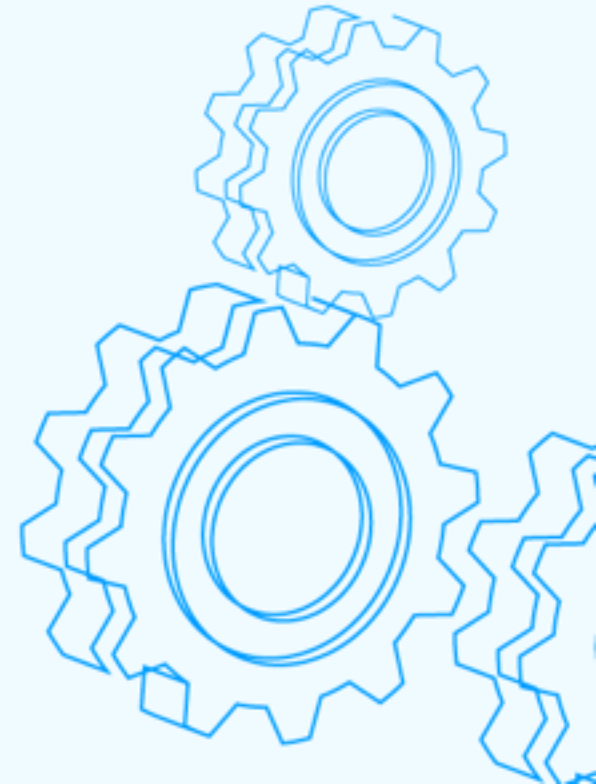
Money

AWS



DEV, PM and Metrics

- SCRUM team monitors their applications
- SCRUM team decides & implements what and how shall be monitored
- Product managers monitor business side
- If it is critical to do “night watch”, OPS gets involved



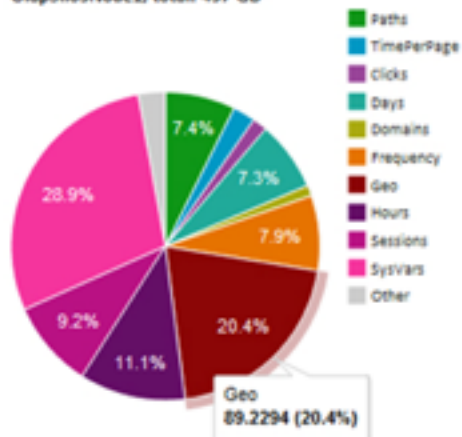
DEV comments

- “We are blind without metrics/”
- “We would like to know what is happening with our application, what features are used and how our performance changes after release.”
- “(2012.05.13 23:02:42) Ramunas Urbonas: Have a look. It’s almost finished now.”

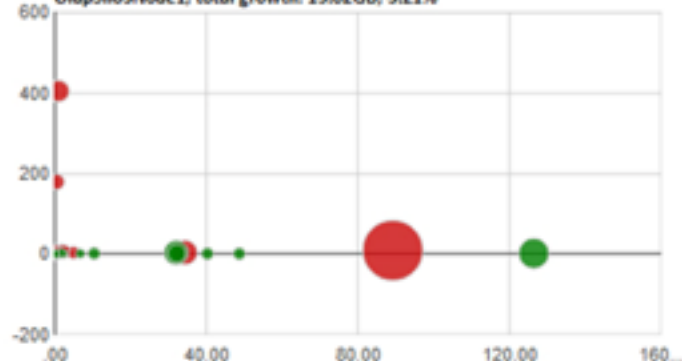


More difficult/ interesting cases

OlapSilo3Node1, total: 437 GB



OlapSilo3Node1, total growth: 13.62GB, 3.21%



More difficult/ interesting cases

Successful regular deployments in a row
If we reach 50 - we'll celebrate with pizzas



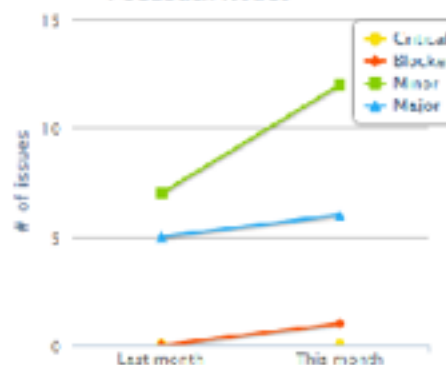
Deployment status for this month
(via Release)



Deployment types for this month
(via Release)



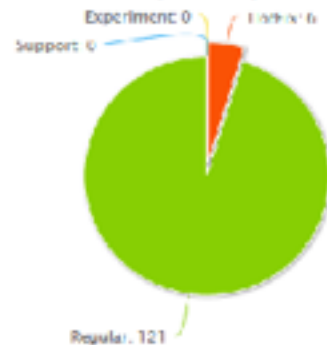
Feedback issues



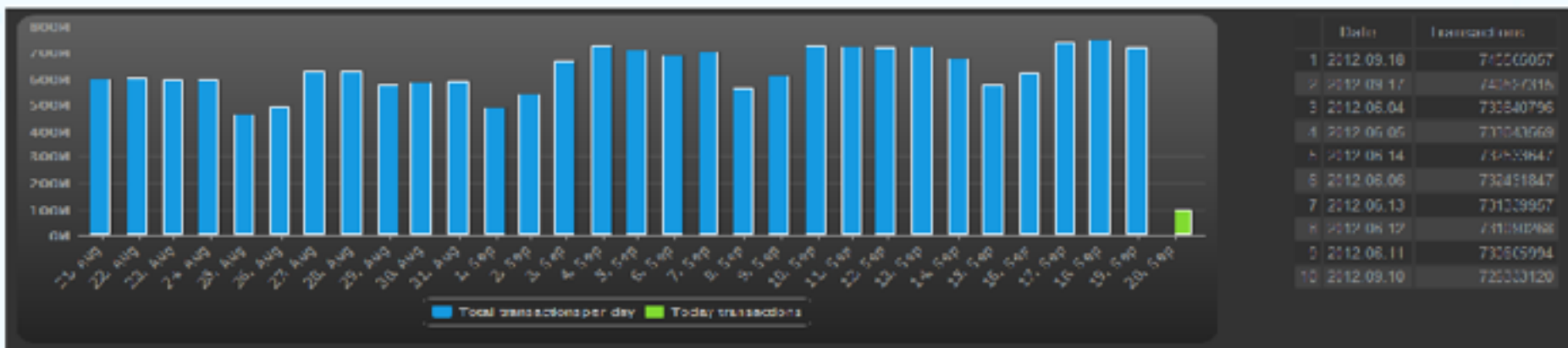
Deployment status for last month
(via Release)



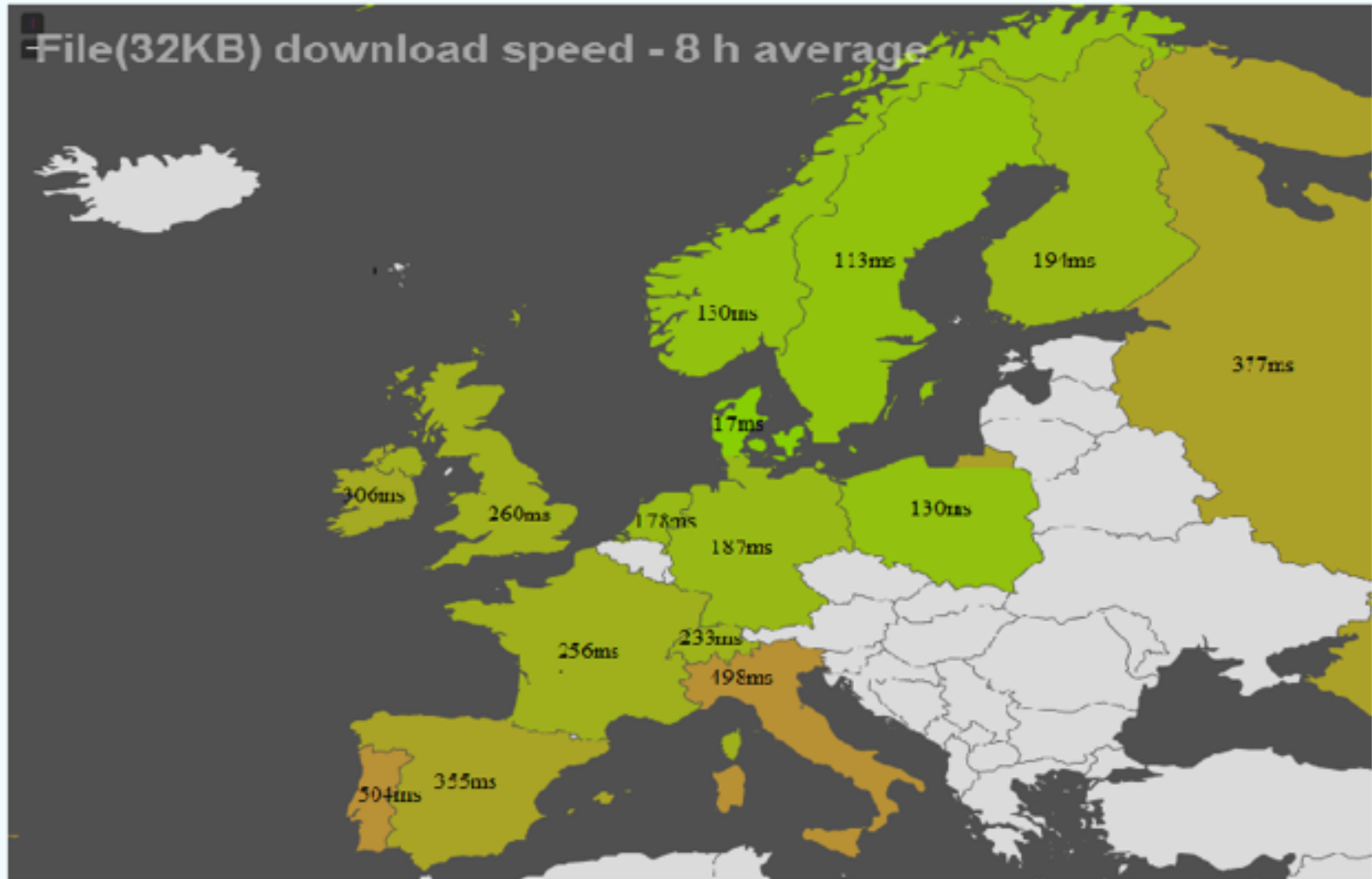
Deployment types for last month
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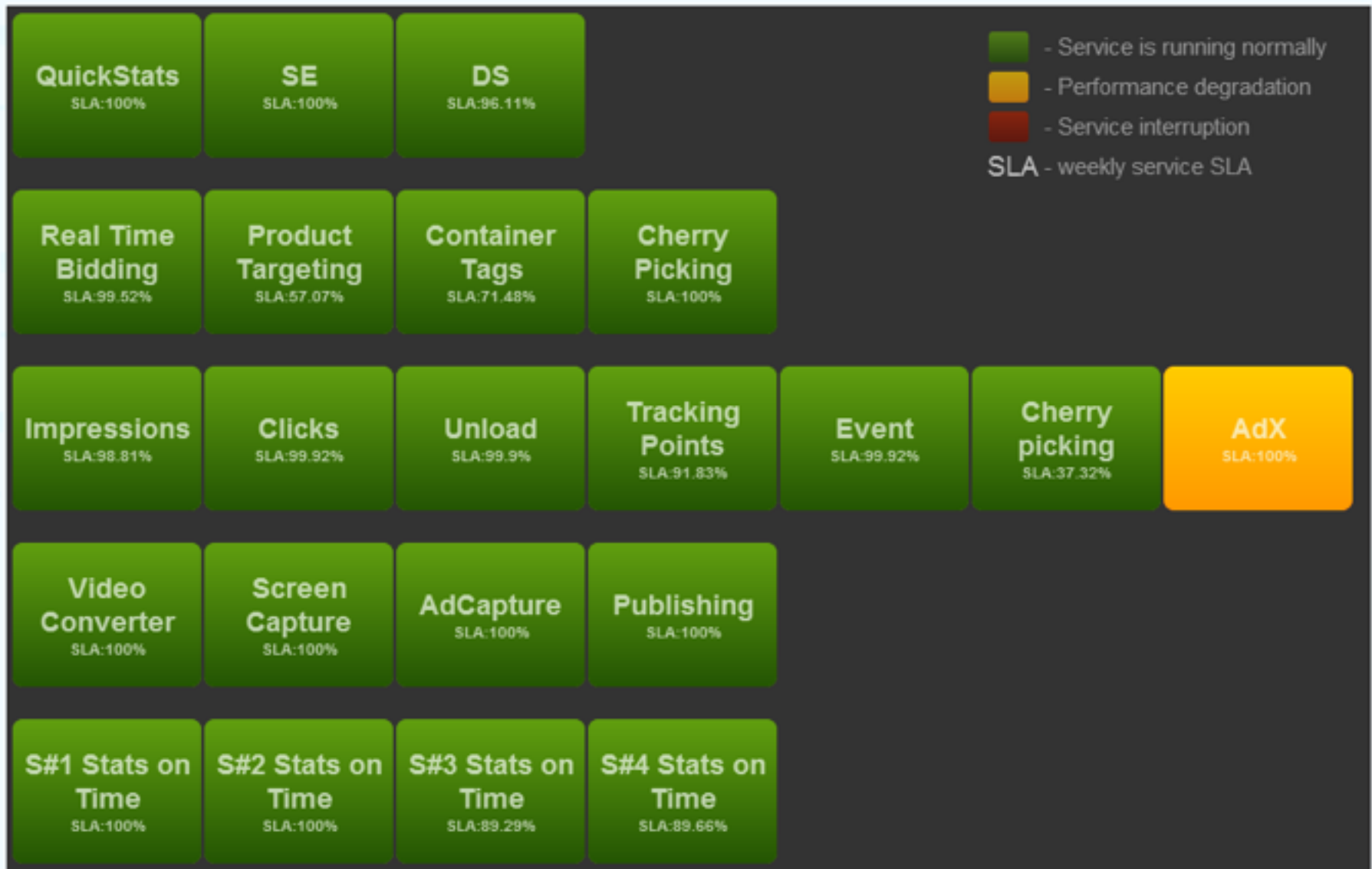
More difficult/ interesting cases



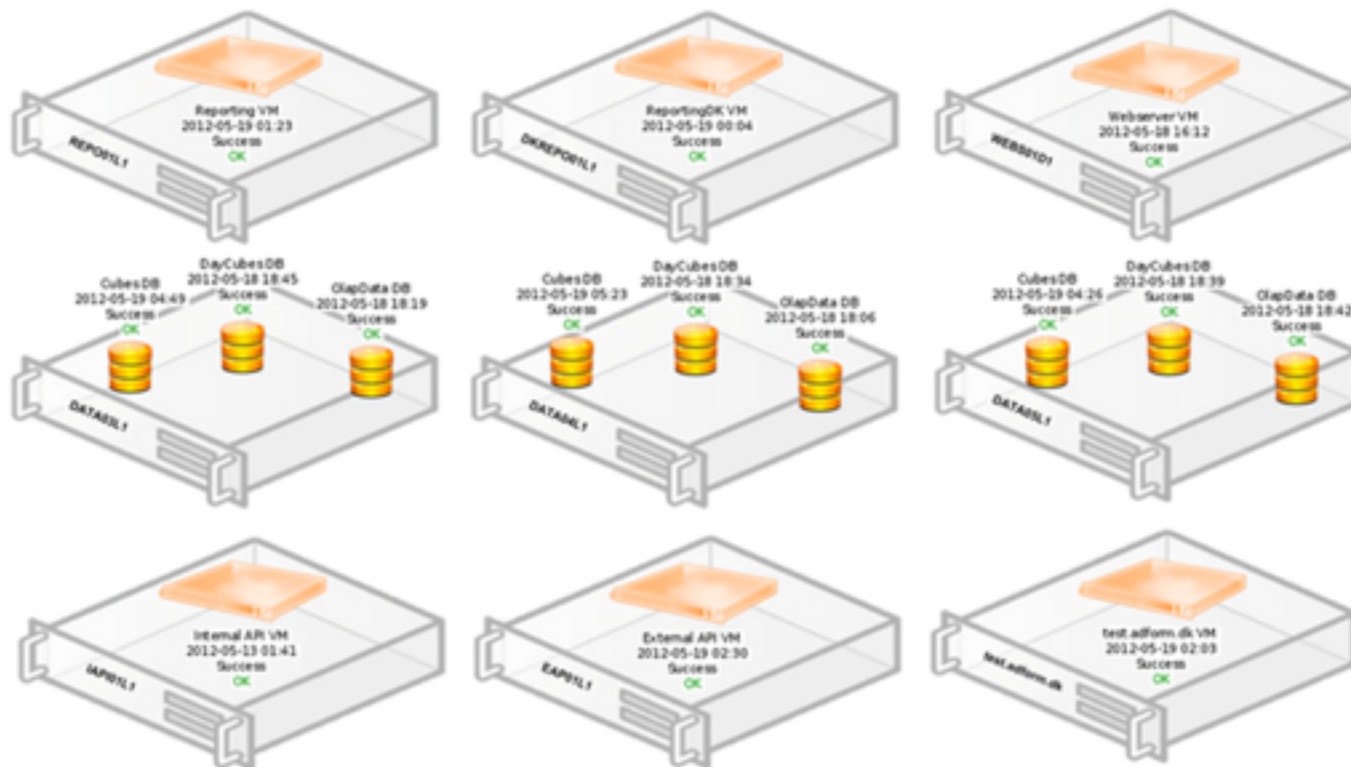
More difficult/ interesting cases



More difficult / interesting cases



More difficult/ interesting cases

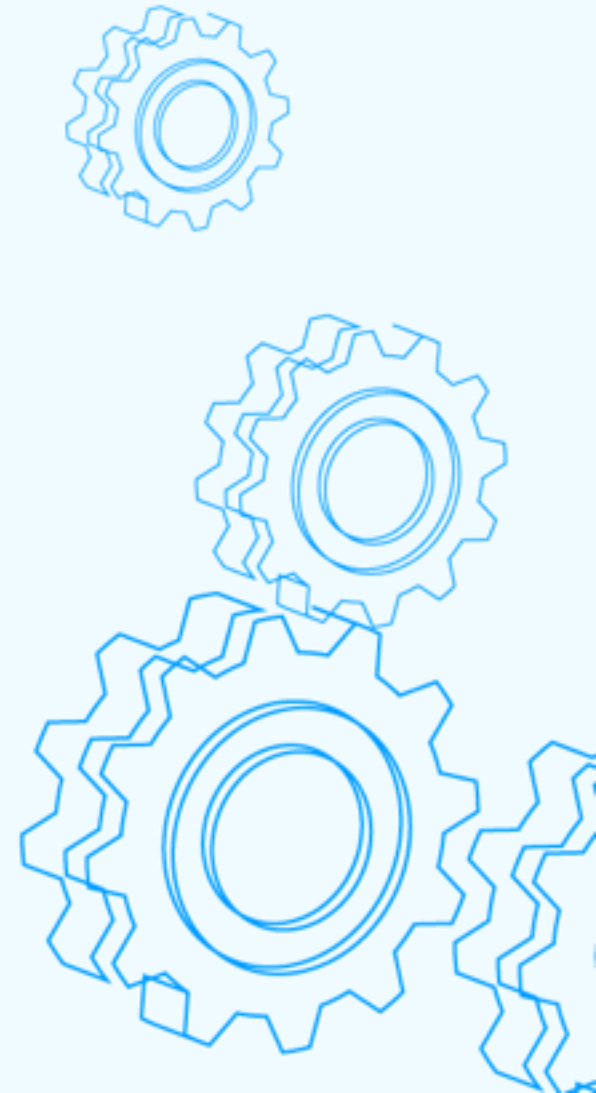




Summarise

Why it worked

- True value
- Right tools
- No man in the middle
- Management support





Questions?