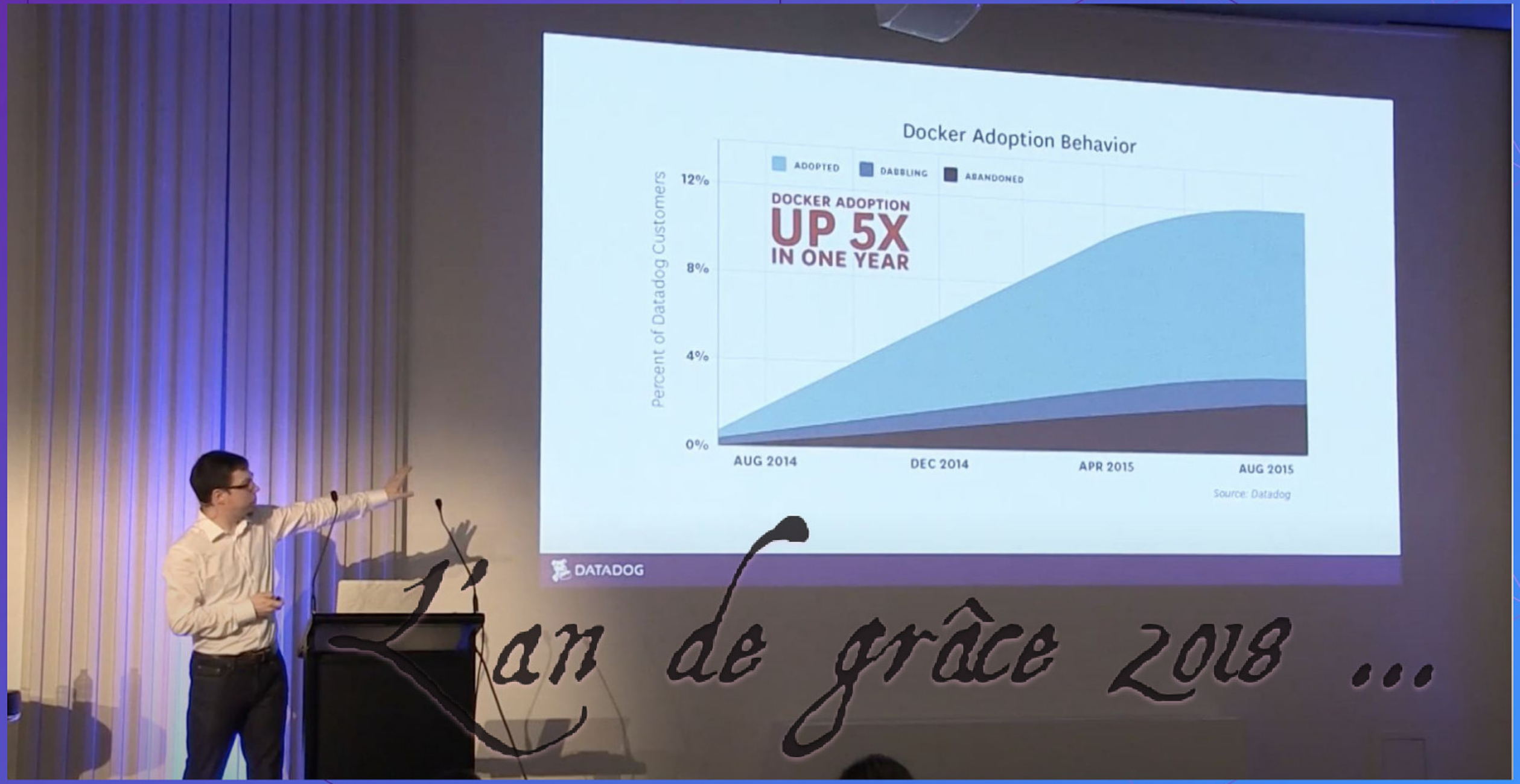
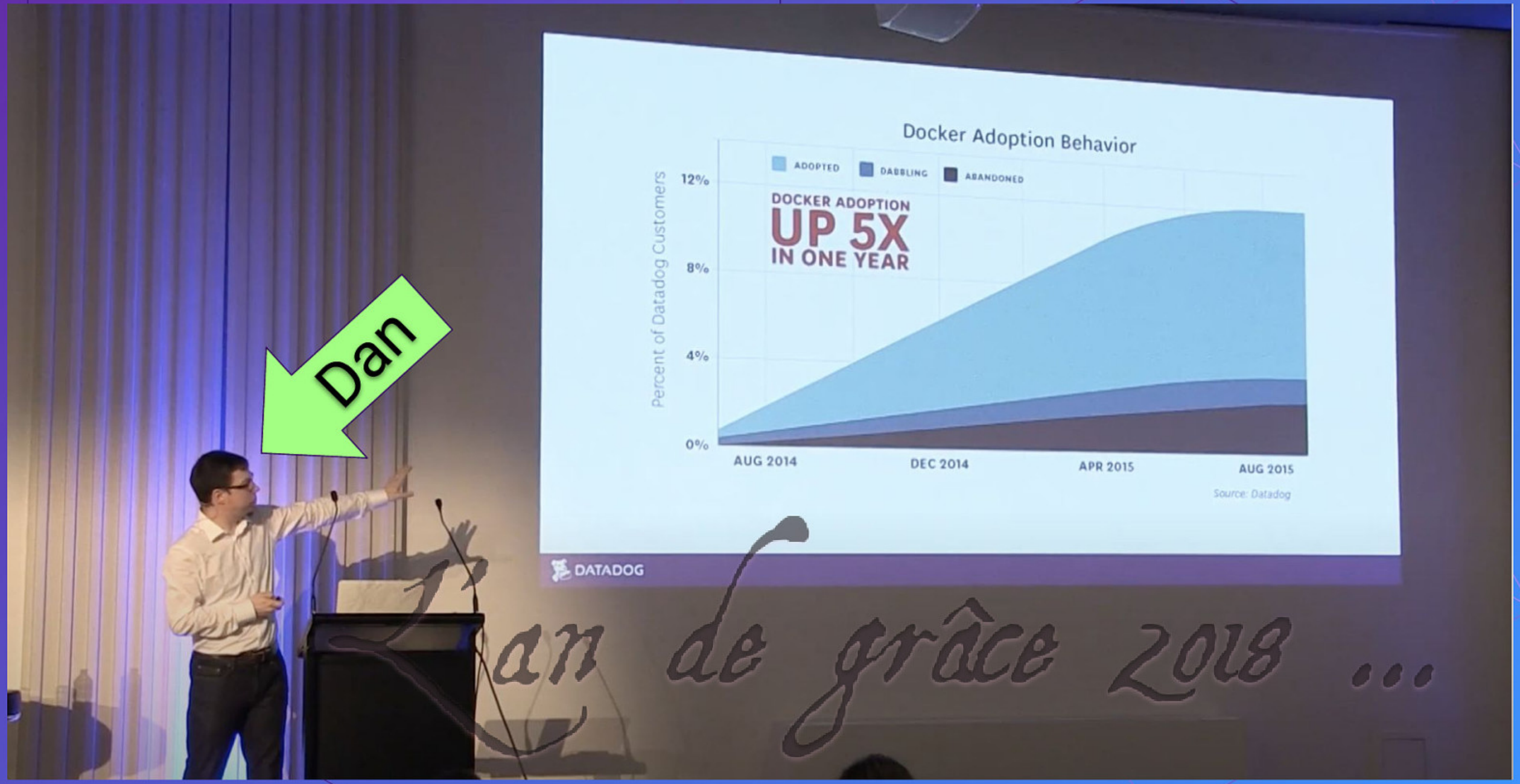
Facts About Real-World Container Use

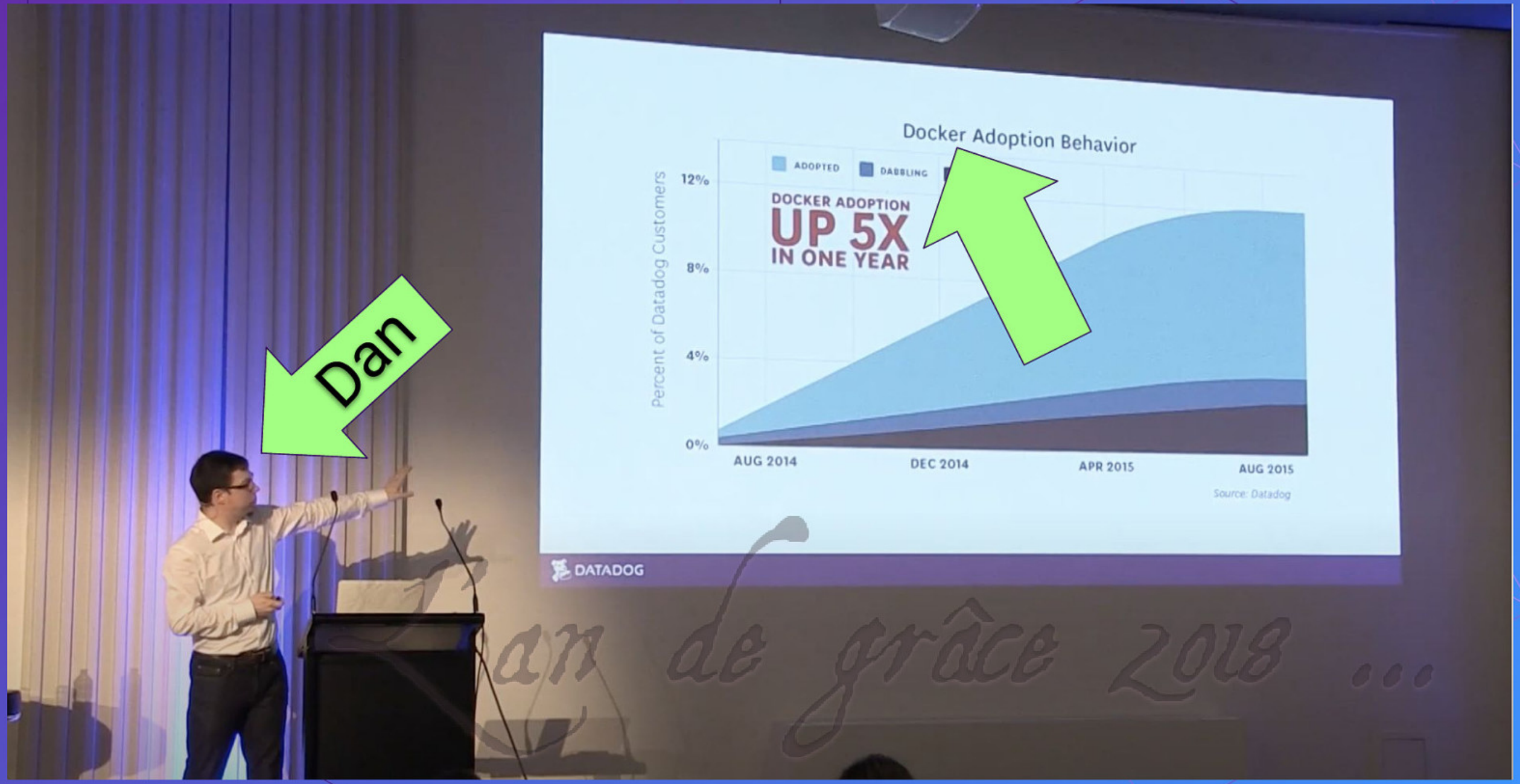
Daniel “phrawzty” Maher
Developer Relations

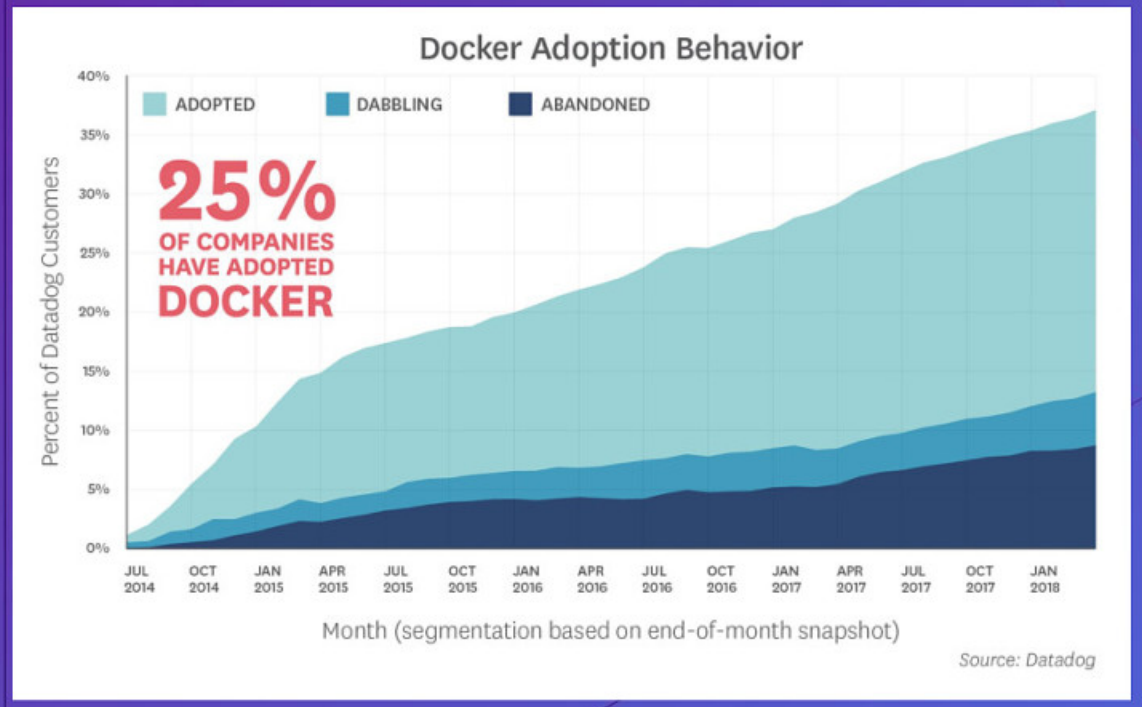


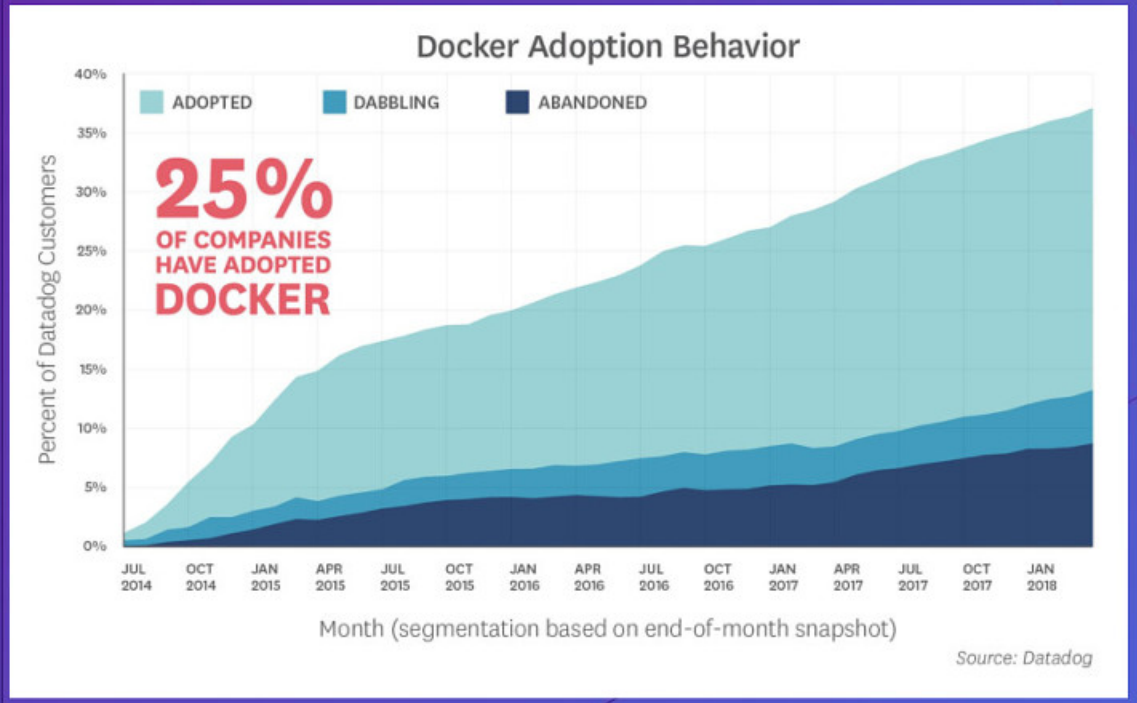
L'an de grâce 2018 ...

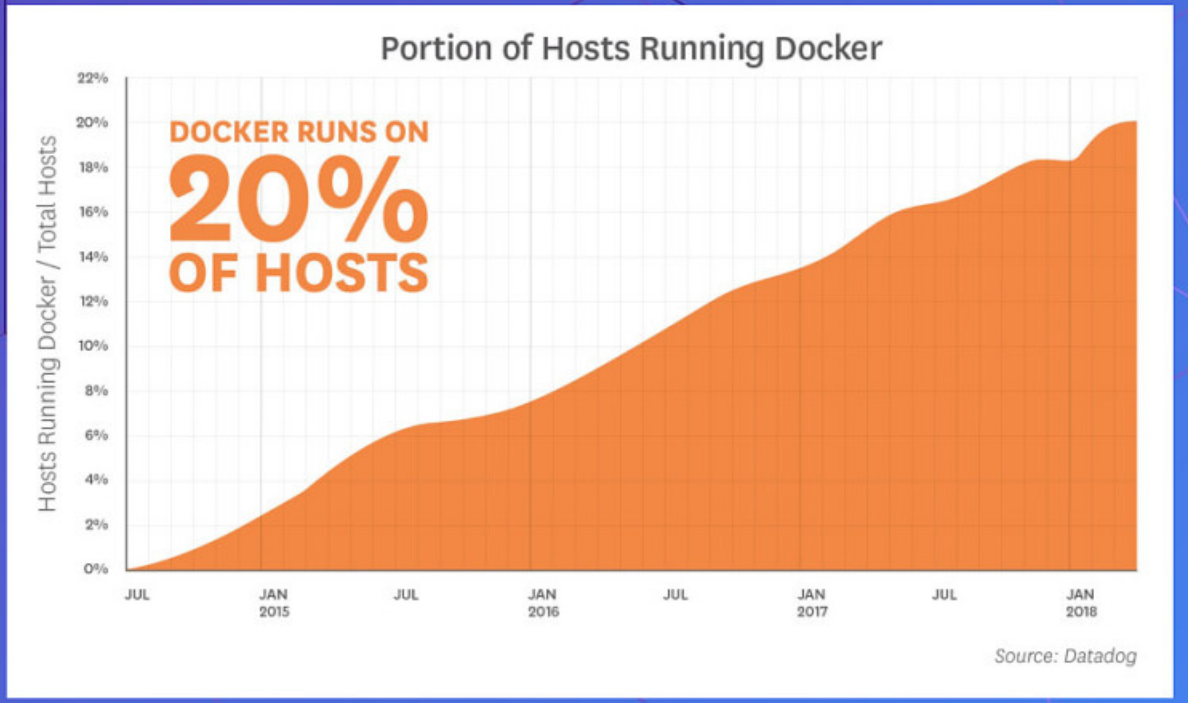

Docker Adoption Behavior
ADOPTED
DABBLING
ABANDONED
DOCKER ADOPTION
UP 5X
IN ONE YEAR
Percent of Datadog Customers
12%
8%
4%
0%
AUG 2014
DEC 2014
APR 2015
AUG 2015
Source: Datadog
DATADOG
L'an de grâce 2018 ...

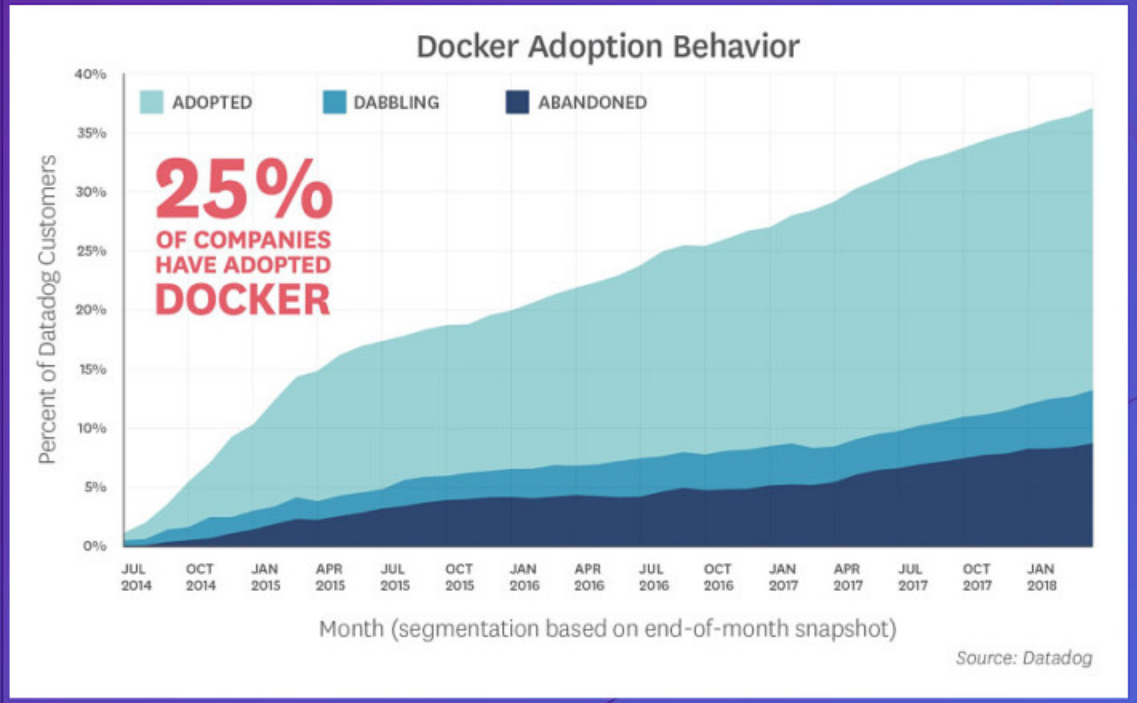

Dan
Docker Adoption Behavior
ADOPTED
DABBLING
ABANDONED
DOCKER ADOPTION
UP 5X
IN ONE YEAR
Percent of Datadog Customers
12%
8%
4%
0%
AUG 2014
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APR 2015
AUG 2015
Source: Datadog
DATADOG
L'an de grâce 2018 ...

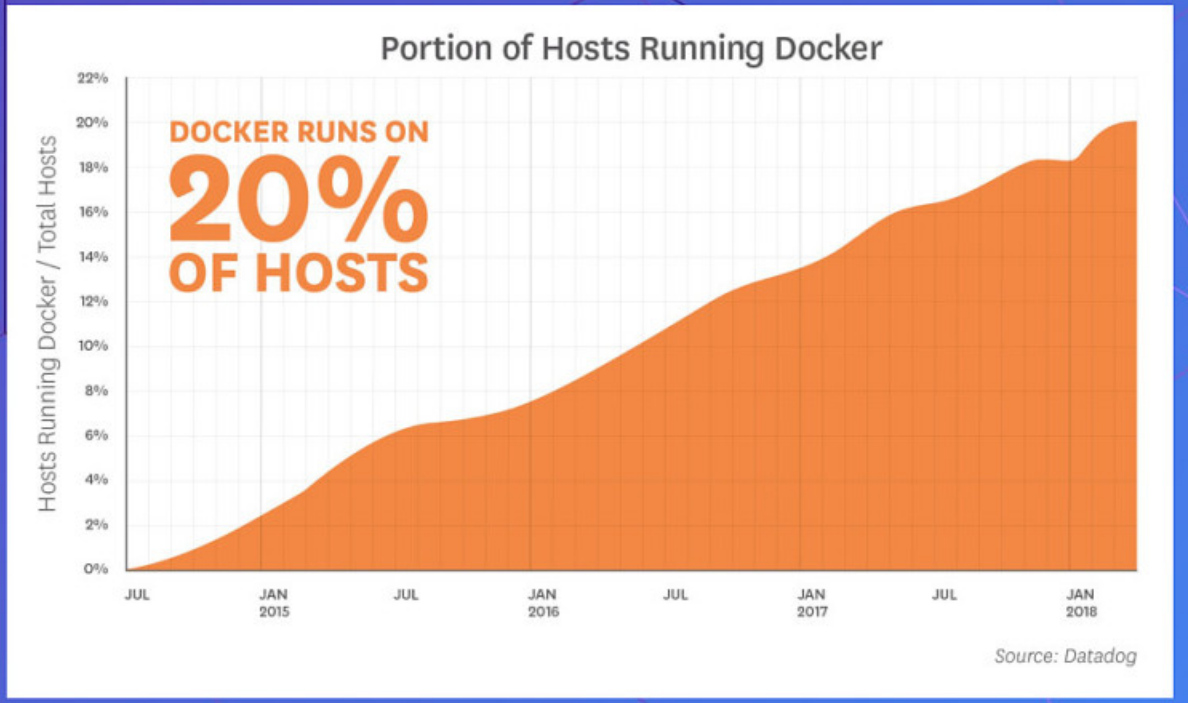

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Docker Adoption Behavior
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IN ONE YEAR
Percent of Datadog Customers
12%
8%
4%
0%
AUG 2014
DEC 2014
APR 2015
AUG 2015
Source: Datadog
DATADOG
an de grâce 2018 ...

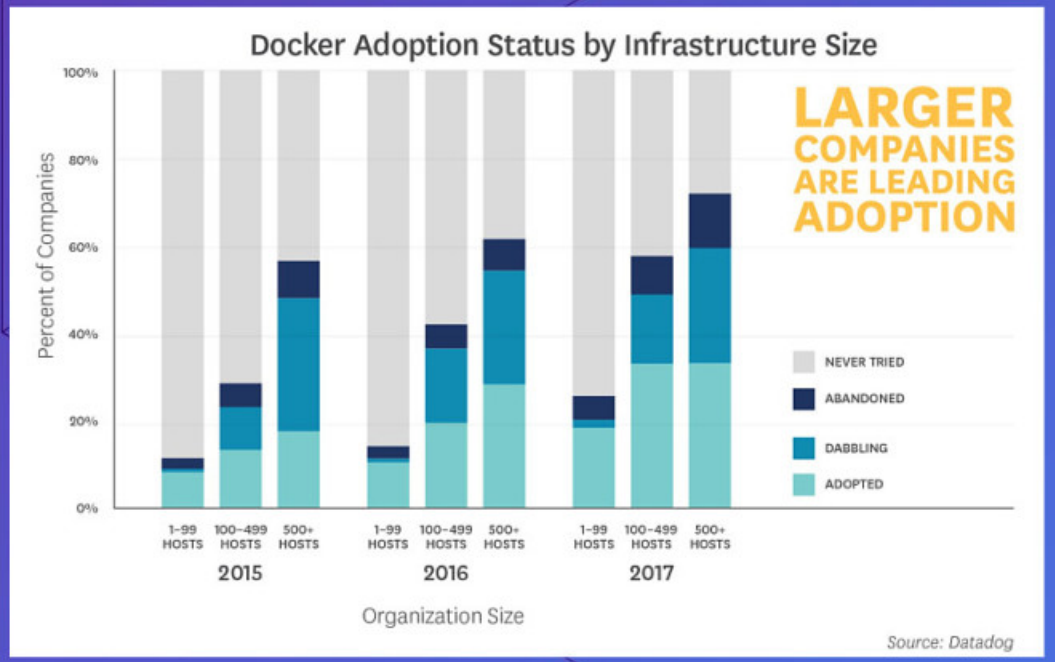

Docker Adoption Behavior
ADOPTED
DABBLING
ABANDONED
25%
OF COMPANIES
HAVE ADOPTED
DOCKER
Percent of Datadog Customers
40%
35%
30%
25%
20%
15%
10%
5%
0%
JUL 2014
OCT 2014
JAN 2015
APR 2015
JUL 2015
OCT 2015
JAN 2016
APR 2016
JUL 2016
OCT 2016
JAN 2017
APR 2017
JUL 2017
OCT 2017
JAN 2018
Month (segmentation based on end-of-month snapshot)
Source: Datadog


Docker Adoption Behavior
ADOPTED
DABBLING
ABANDONED
25%
OF COMPANIES
HAVE ADOPTED
DOCKER
Percent of Datadog Customers
40%
35%
30%
25%
20%
15%
10%
5%
0%
JUL 2014
OCT 2014
JAN 2015
APR 2015
JUL 2015
OCT 2015
JAN 2016
APR 2016
JUL 2016
OCT 2016
JAN 2017
APR 2017
JUL 2017
OCT 2017
JAN 2018
Month (segmentation based on end-of-month snapshot)
Source: Datadog

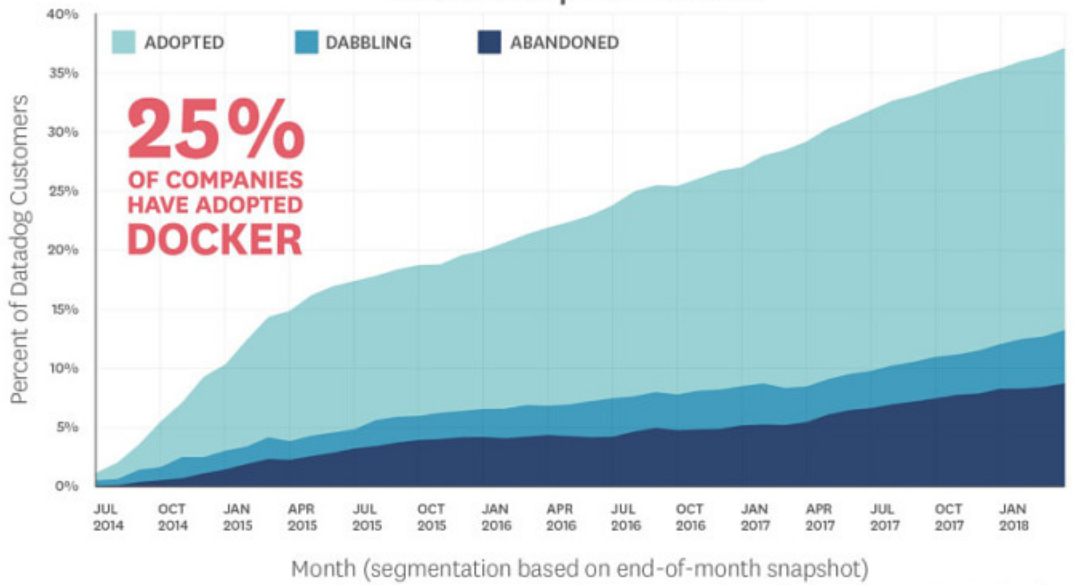

Portion of Hosts Running Docker
DOCKER RUNS ON
20%
OF HOSTS
Hosts Running Docker / Total Hosts
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
JUL
JAN 2015
JUL
JAN 2016
JUL
JAN 2017
JUL
JAN 2018
Source: Datadog


Docker Adoption Behavior
ADOPTED
DABBLING
ABANDONED
25%
OF COMPANIES
HAVE ADOPTED
DOCKER
Percent of Datadog Customers
40%
35%
30%
25%
20%
15%
10%
5%
0%
JUL 2014
OCT 2014
JAN 2015
APR 2015
JUL 2015
OCT 2015
JAN 2016
APR 2016
JUL 2016
OCT 2016
JAN 2017
APR 2017
JUL 2017
OCT 2017
JAN 2018
Month (segmentation based on end-of-month snapshot)
Source: Datadog


Portion of Hosts Running Docker
DOCKER RUNS ON
20%
OF HOSTS
Hosts Running Docker / Total Hosts
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
JUL
JAN 2015
JUL
JAN 2016
JUL
JAN 2017
JUL
JAN 2018
Source: Datadog

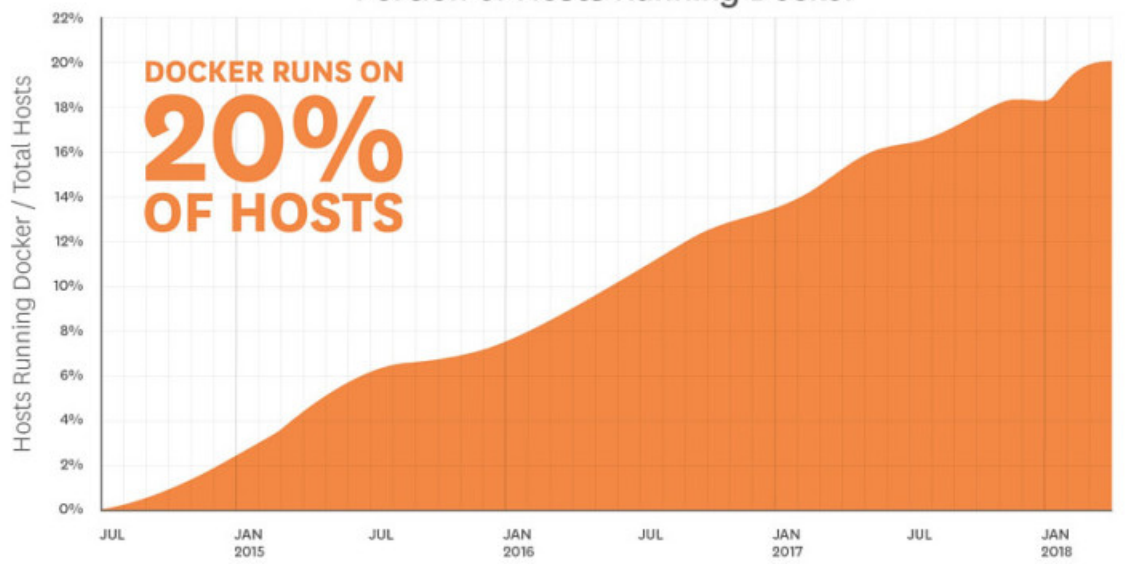

Docker Adoption Status by Infrastructure Size
LARGER
COMPANIES
ARE LEADING
ADOPTION
Percent of Companies
100%
80%
60%
40%
20%
0%
NEVER TRIED
ABANDONED
DABBLING
ADOPTED
1-99 HOSTS
100-499 HOSTS
500+ HOSTS
2015
2016
2017
Organization Size
Source: Datadog

Docker Adoption Behavior



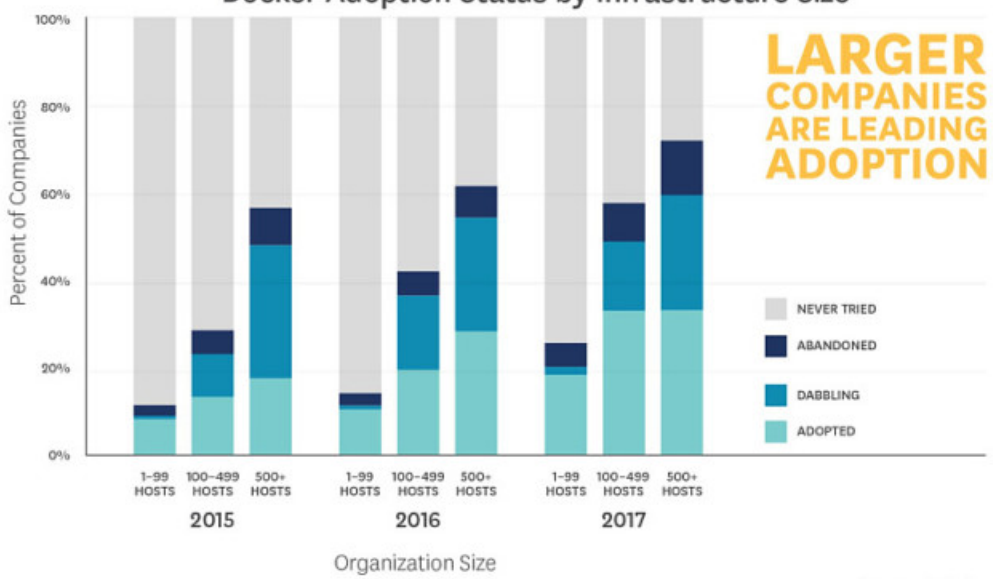
Source: Datadog

Portion of Hosts Running Docker



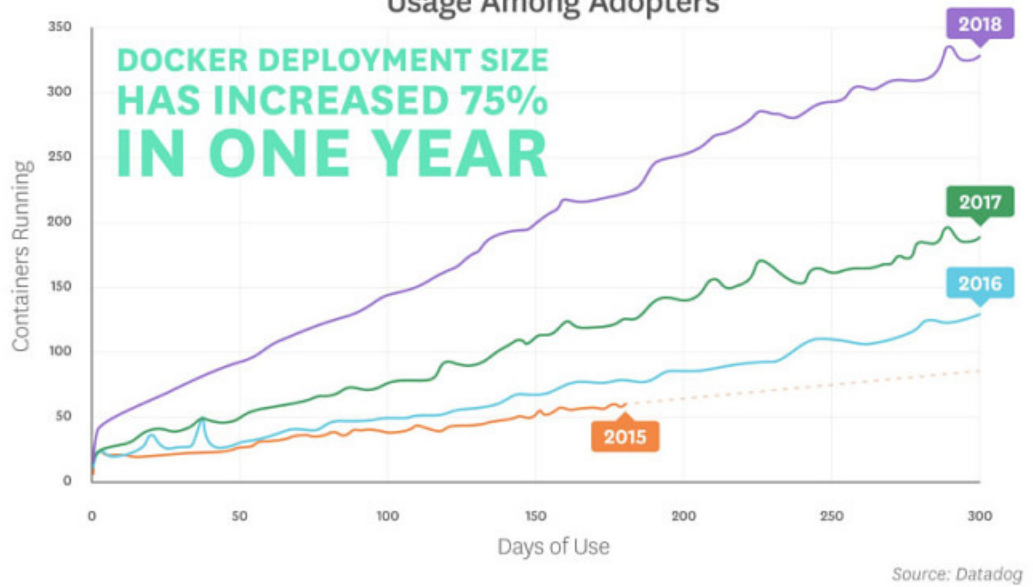
Source: Datadog

Docker Adoption Status by Infrastructure Size



Source: Datadog

Usage Among Adopters

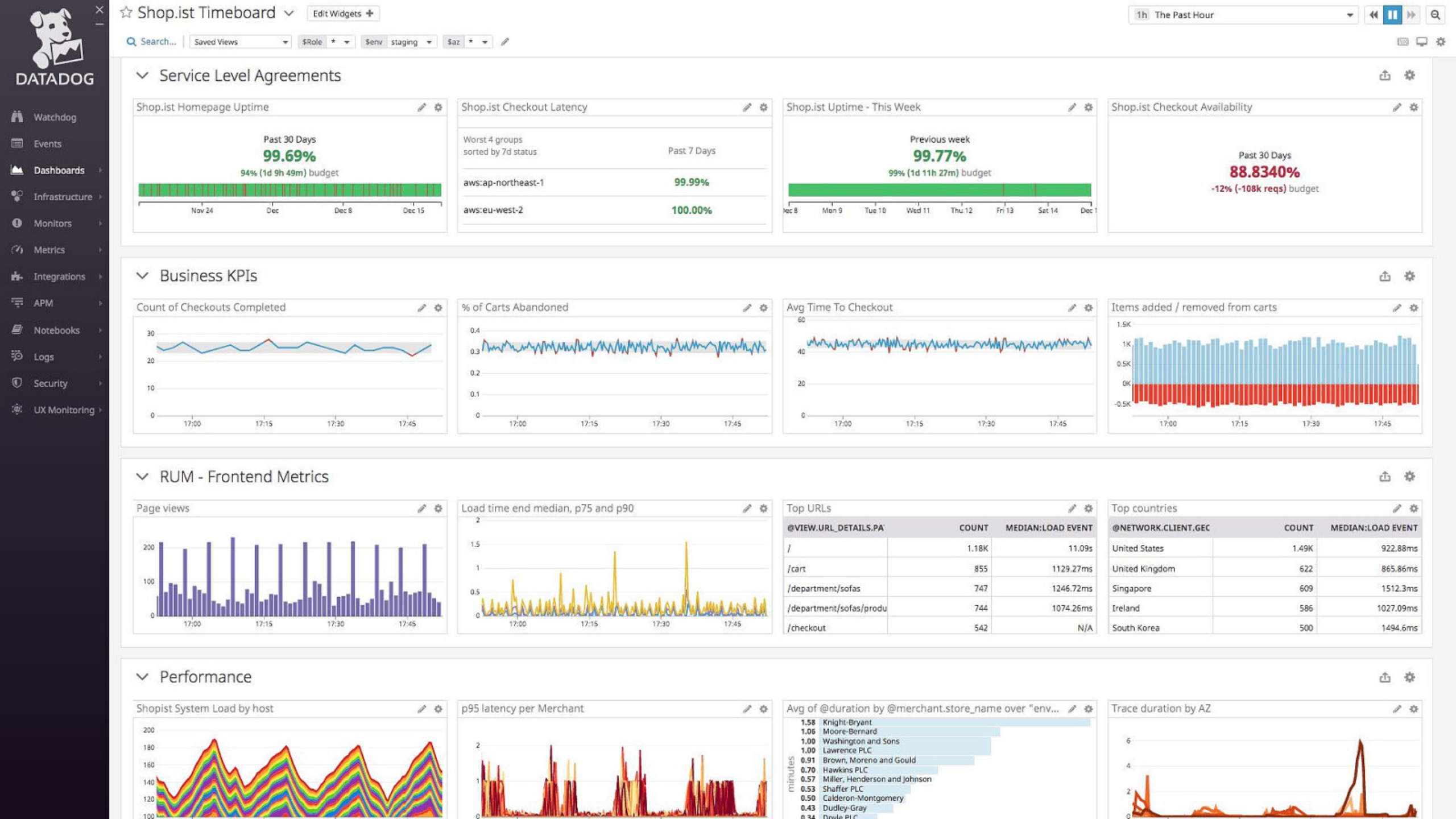


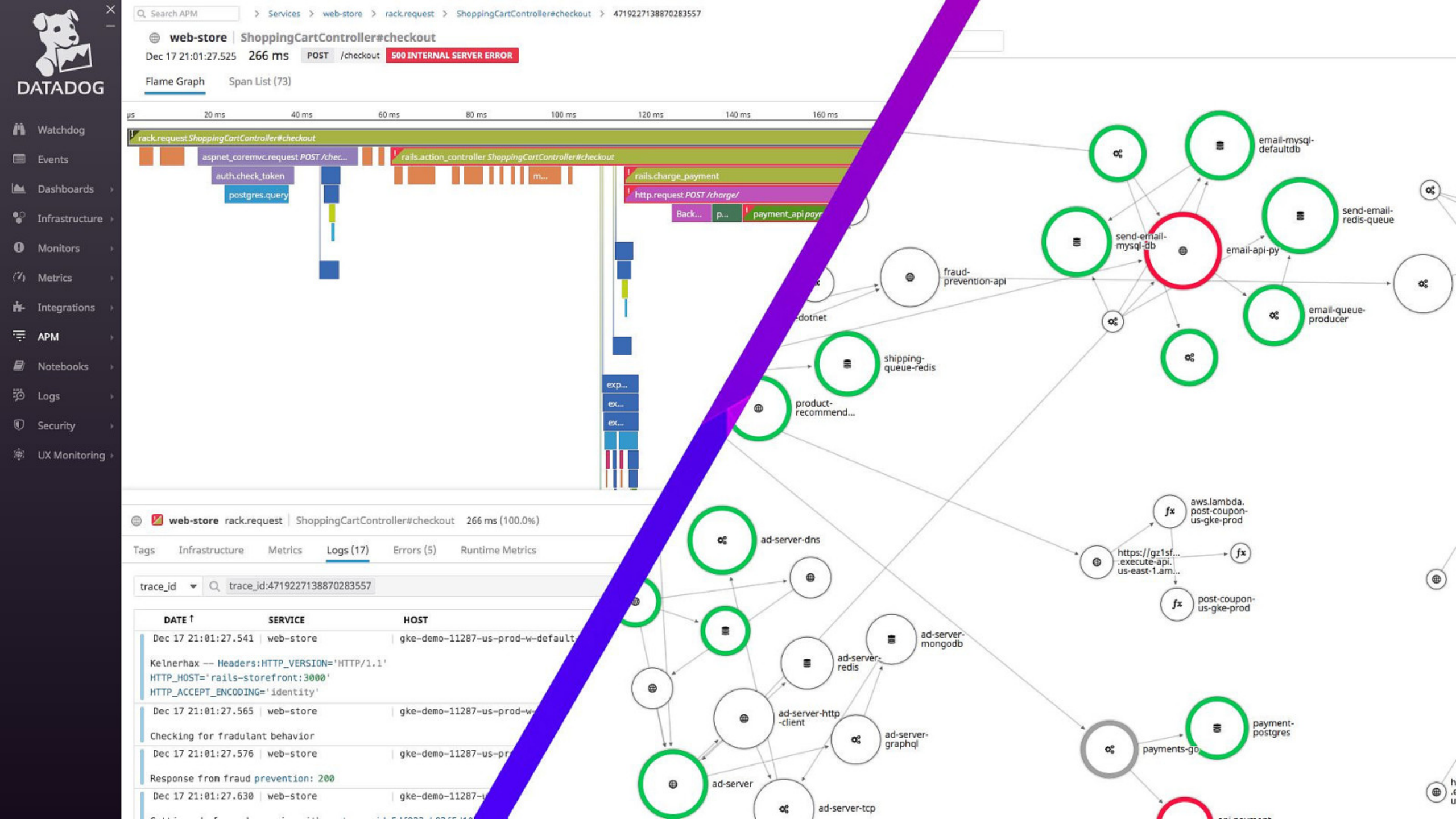
Source: Datadog


ARRÊT
SETEN



https://www.datadoghq.com/container-report/


DATADOG
Watchdog
Events
Dashboards
Infrastructure
Monitors
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Integrations
APM
Notebooks
Logs
Security
UX Monitoring
Shop.ist Timeboard
Edit Widgets
1h The Past Hour
Search...
Saved Views
$Role *
$env staging
$az *
Service Level Agreements
Shop.ist Homepage Uptime
Past 30 Days
99.69%
94% (1d 9h 49m) budget
Nov 24
Dec
Dec 8
Dec 15
Shop.ist Checkout Latency
Worst 4 groups
sorted by 7d status
Past 7 Days
aws:ap-northeast-1
99.99%
aws:eu-west-2
100.00%
Shop.ist Uptime - This Week
Previous week
99.77%
99% (1d 11h 27m) budget
Mon 9
Tue 10
Wed 11
Thu 12
Fri 13
Sat 14
Shop.ist Checkout Availability
Past 30 Days
88.8340%
-12% (-108k reqs) budget
Business KPIs
Count of Checkouts Completed
% of Carts Abandoned
Avg Time To Checkout
Items added / removed from carts
17:00
17:15
17:30
17:45
RUM - Frontend Metrics
Page views
Load time end median, p75 and p90
Top URLs
@VIEW.URL_DETAILS.PA
COUNT
MEDIAN:LOAD EVENT
/ 1.18K 11.09s
/cart 855 1129.27ms
/department/sofas 747 1246.72ms
/department/sofas/produ 744 1074.26ms
/checkout 542 N/A
Top countries
@NETWORK.CLIENT.GEC
COUNT
MEDIAN:LOAD EVENT
United States 1.49K 922.88ms
United Kingdom 622 865.86ms
Singapore 609 1512.3ms
Ireland 586 1027.09ms
South Korea 500 1494.6ms
Performance
Shopist System Load by host
p95 latency per Merchant
Avg of @duration by @merchant.store_name over "env...
minutes
1.58 Knight-Bryant
1.06 Moore-Bernard
1.00 Washington and Sons
1.00 Lawrence PLC
0.91 Brown, Moreno and Gould
0.70 Hawkins PLC
0.57 Miller, Henderson and Johnson
0.53 Shaffer PLC
0.50 Calderon-Montgomery
0.43 Dudley-Gray
Trace duration by AZ


DATADOG
Watchdog
Events
Dashboards
Infrastructure
Monitors
Metrics
Integrations
APM
Notebooks
Logs
Security
UX Monitoring
Search APM
Services > web-store > rack.request > ShoppingCartController#checkout > 4719227138870283557
web-store | ShoppingCartController#checkout
Dec 17 21:01:27.525 266 ms POST /checkout 500 INTERNAL SERVER ERROR
Flame Graph
Span List (73)
rack.request ShoppingCartController#checkout
aspnet_coremvc.request POST /chec...
rails.action_controller ShoppingCartController#checkout
auth.check_token
postgres.query
rails.charge_payment
http.request POST /charge/
web-store rack.request | ShoppingCartController#checkout 266 ms (100.0%)
Tags
Infrastructure
Metrics
Logs (17)
Errors (5)
Runtime Metrics
trace_id
trace_id:4719227138870283557
DATE
SERVICE
HOST
Dec 17 21:01:27.541 | web-store | gke-demo-11287-us-prod-w-default
Kelnerhax -- Headers:HTTP_VERSION='HTTP/1.1'
HTTP_HOST='rails-storefront:3000'
HTTP_ACCEPT_ENCODING='identity'
Dec 17 21:01:27.565 | web-store
Checking for fradulant behavior
Dec 17 21:01:27.576 | web-store
Response from fraud prevention: 200
Dec 17 21:01:27.630 | web-store
email-mysql-defaultdb
send-email-redis-queue
send-email-mysql-db
email-api-py
fraud-prevention-api
email-queue-producer
shipping-queue-redis
product-recommend...
ad-server-dns
aws.lambda.post-coupon-us-gke-prod
https://gz1sf....execute-api.us-east-1.am...
post-coupon-us-gke-prod
ad-server-mongodb
ad-server-redis
ad-server-http-client
ad-server-graphql
ad-server
ad-server-tcp
payment-postgres
payments-go

DATADOG

- Watchdog
- Events
- Dashboards
- Infrastructure
- Monitors
- Metrics
- Integrations
- APM
- Notebooks
- Logs
- Security
- UX Monitoring
- Help

Copy Link

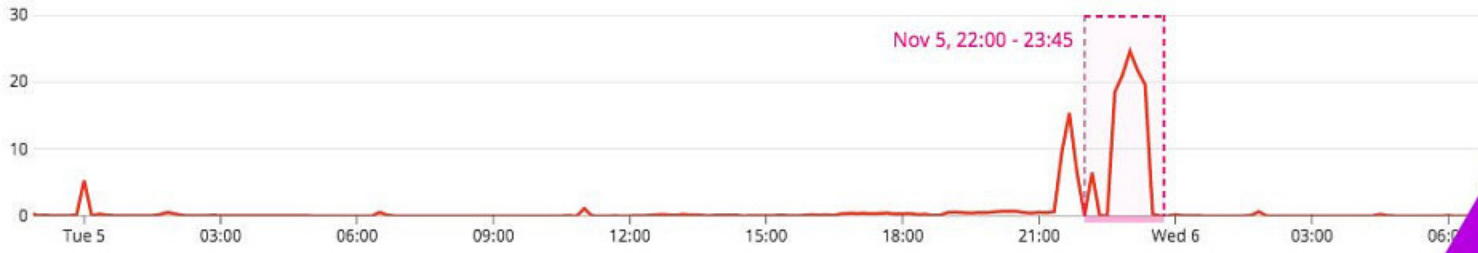
2d Nov

Starting on November 5th, **error rate was up** for more than 1 hour on **multiple** resources in **nginx-mcnulty-query**

nginx-mcnulty-query

env:datad0g.com service:nginx-mcnulty-query

% Error Rate 182 total (1.2 err/s)



Value	Min	Avg	Max	Metric
0 n%	0 n%	0.63 %	24.62 %	default((100 * (trace.nginx.request.errors / trace.nginx.request.hits)),0.0)

Tags

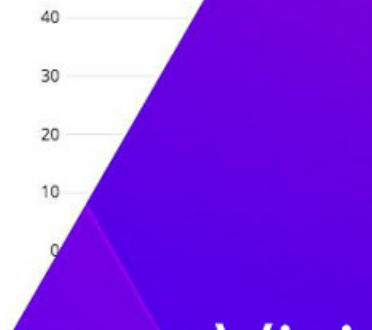
Error rate also **was up** for:

nginx-mcnulty-query | series.batch_query



Error rate also **was up**

nginx-mcnulty-query



Error rate also **was up** for:

nginx-mcnulty-query | api/series.query



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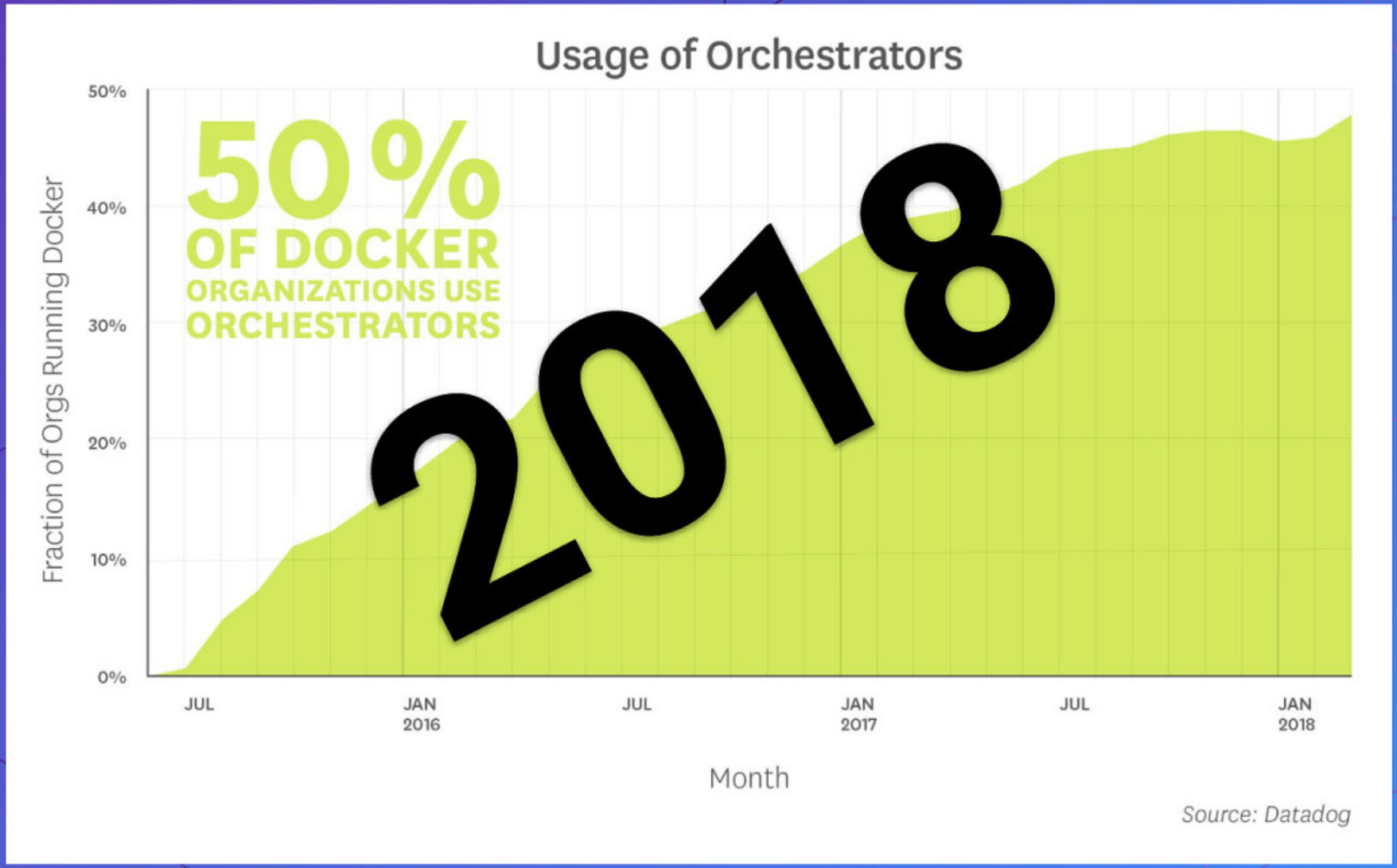


https://www.datadoghq.com/container-report/



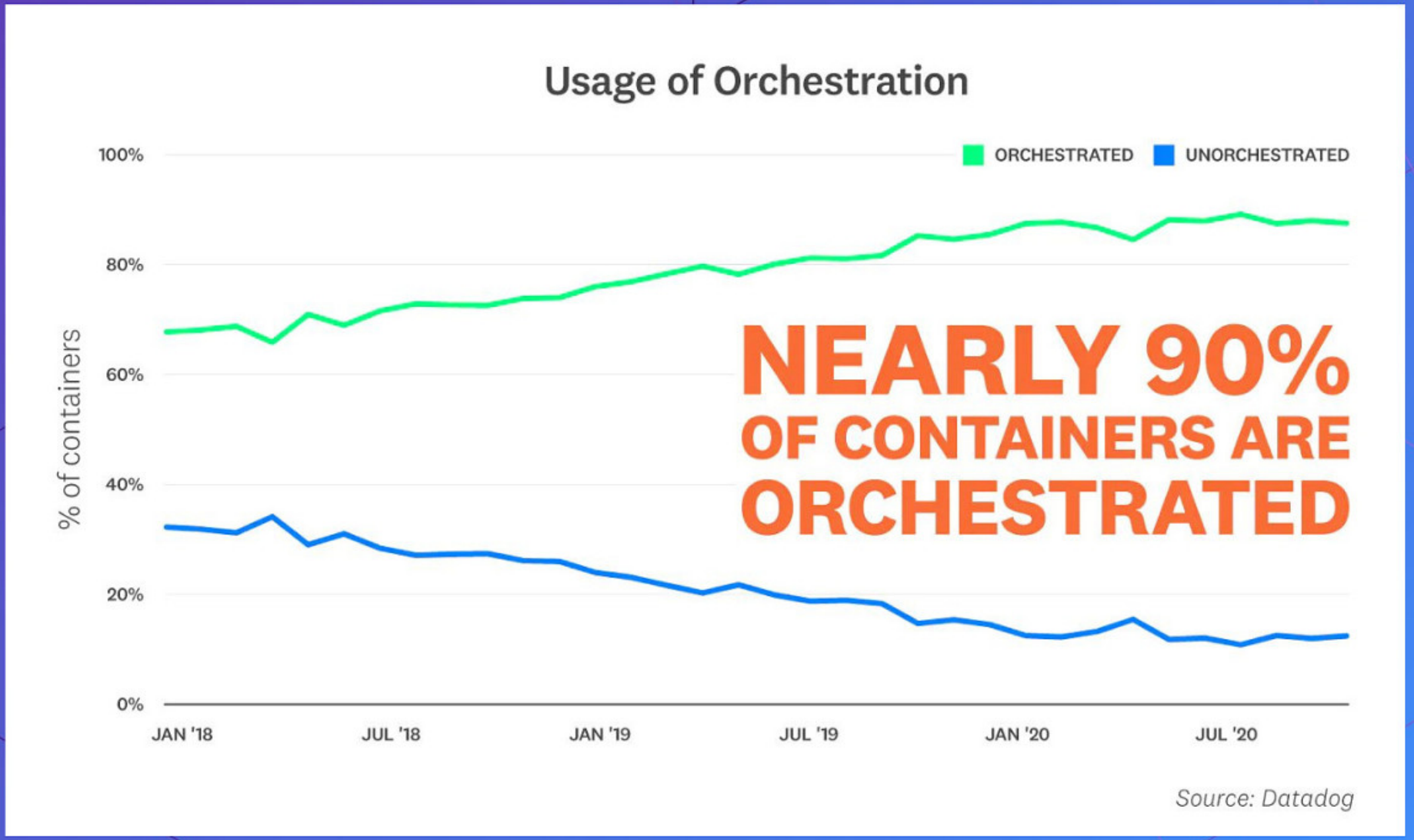


Orchestration en 2018 ...



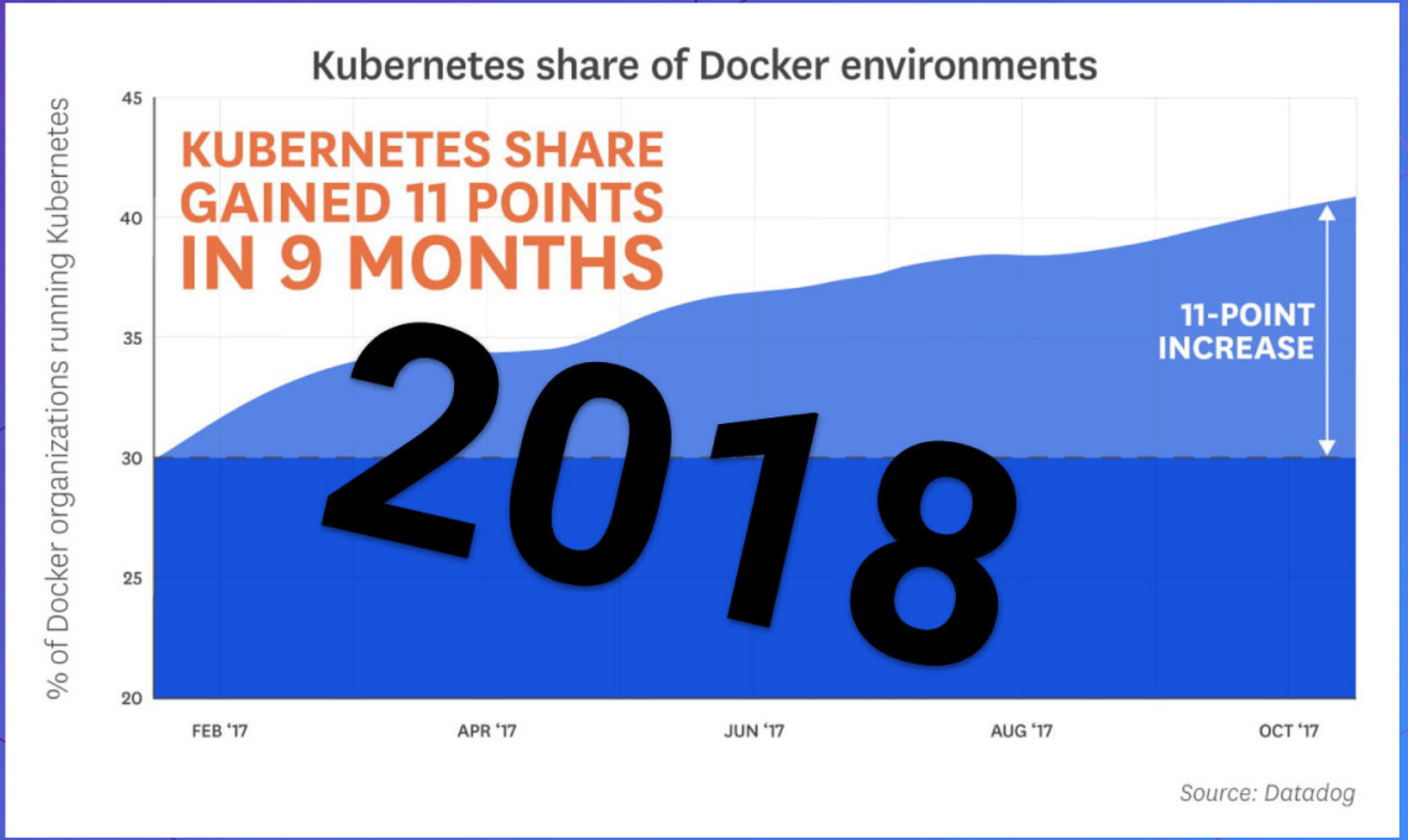


Presque 90 % des conteneurs sont orchestrés



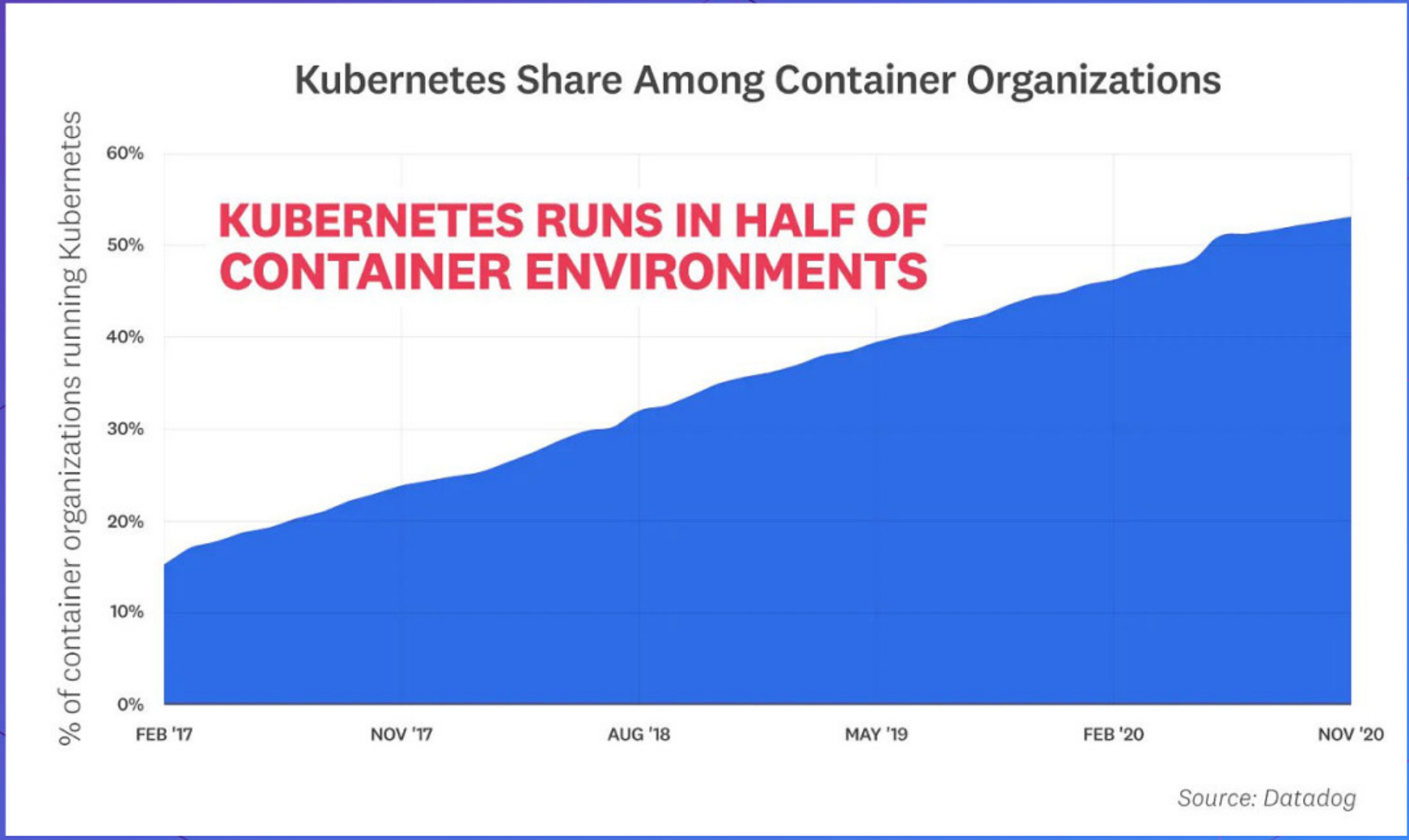


Kubernetes : la montée d'une puissance



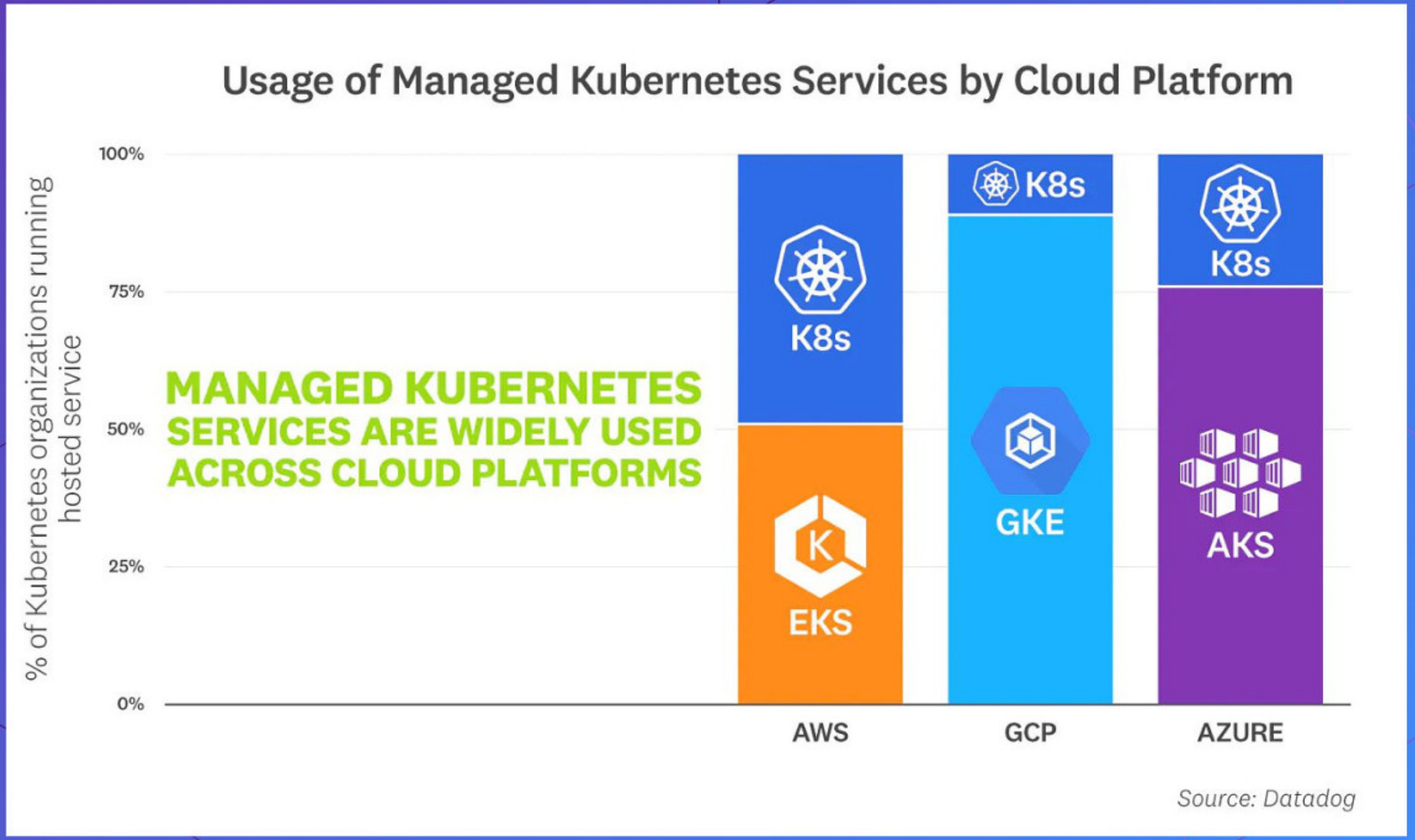


Kubernetes == la moitié des envs conteneurisés





K8s dans le cloud == service spécifique

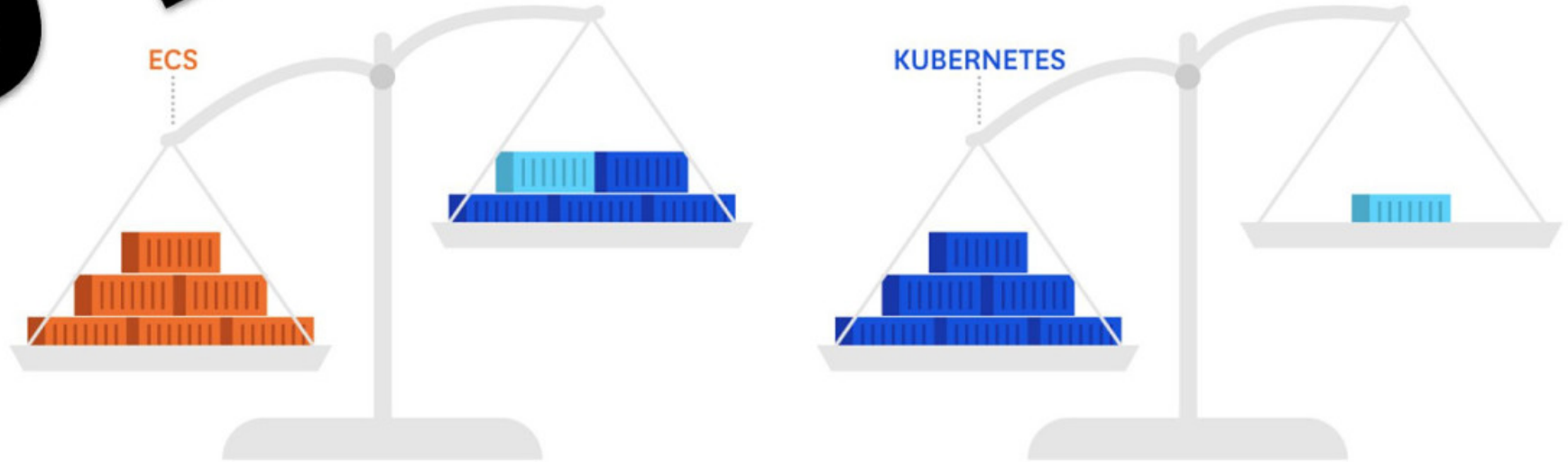




K8s dans le cloud en 2018 …

2018

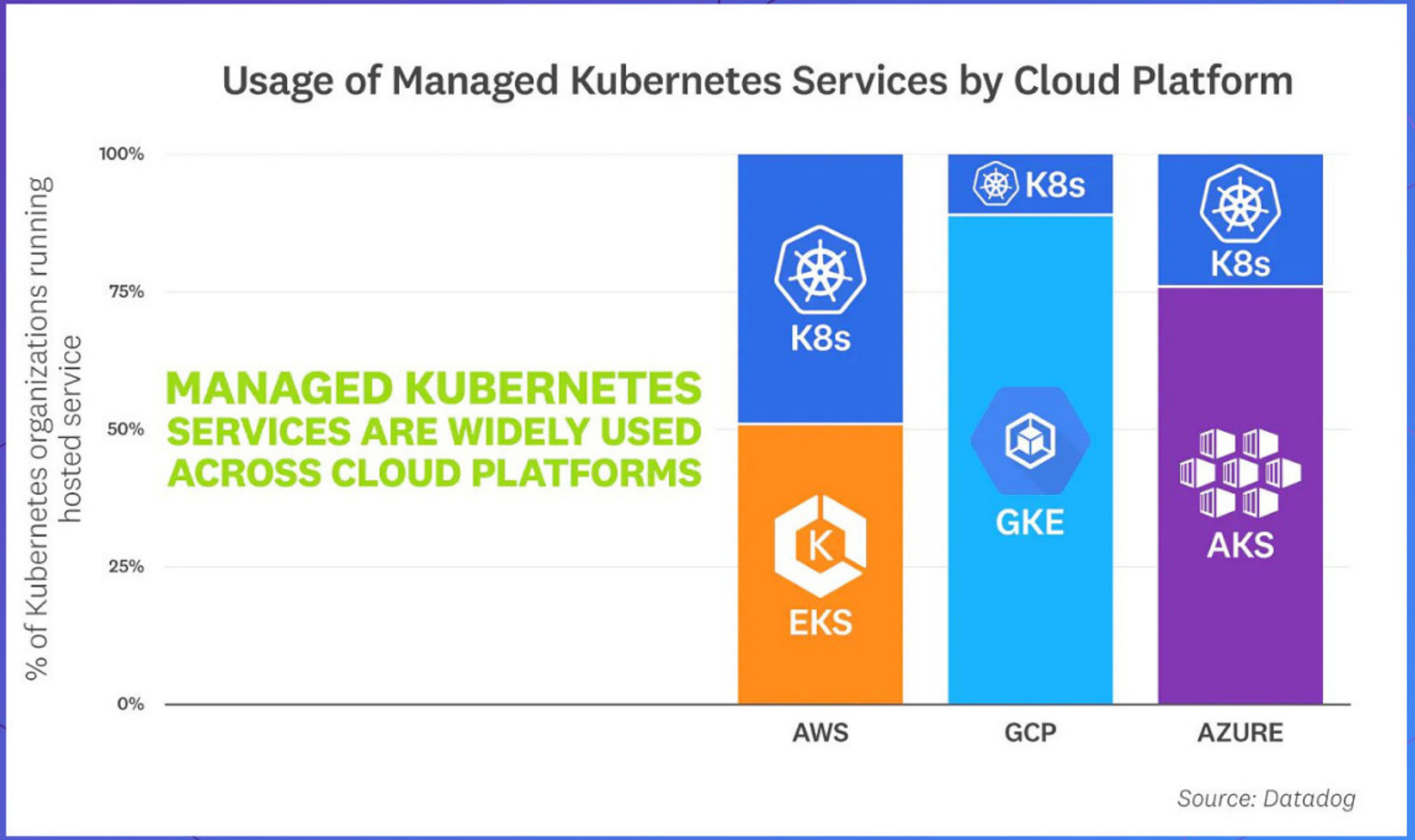
ECS PREVAILS IN AWS BUT KUBERNETES LEADS ELSEWHERE



Source: Datadog

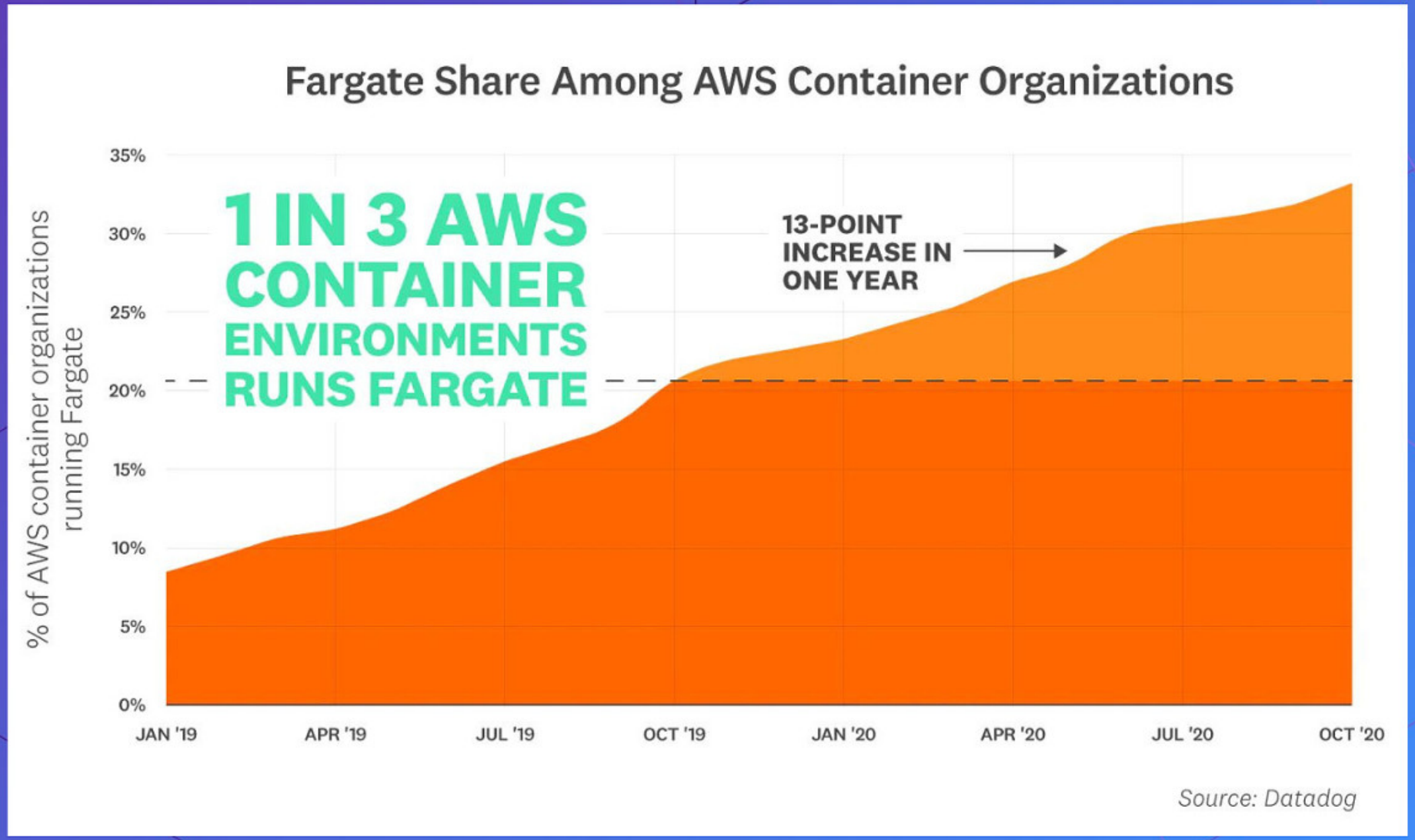


K8s dans le cloud == service spécifique



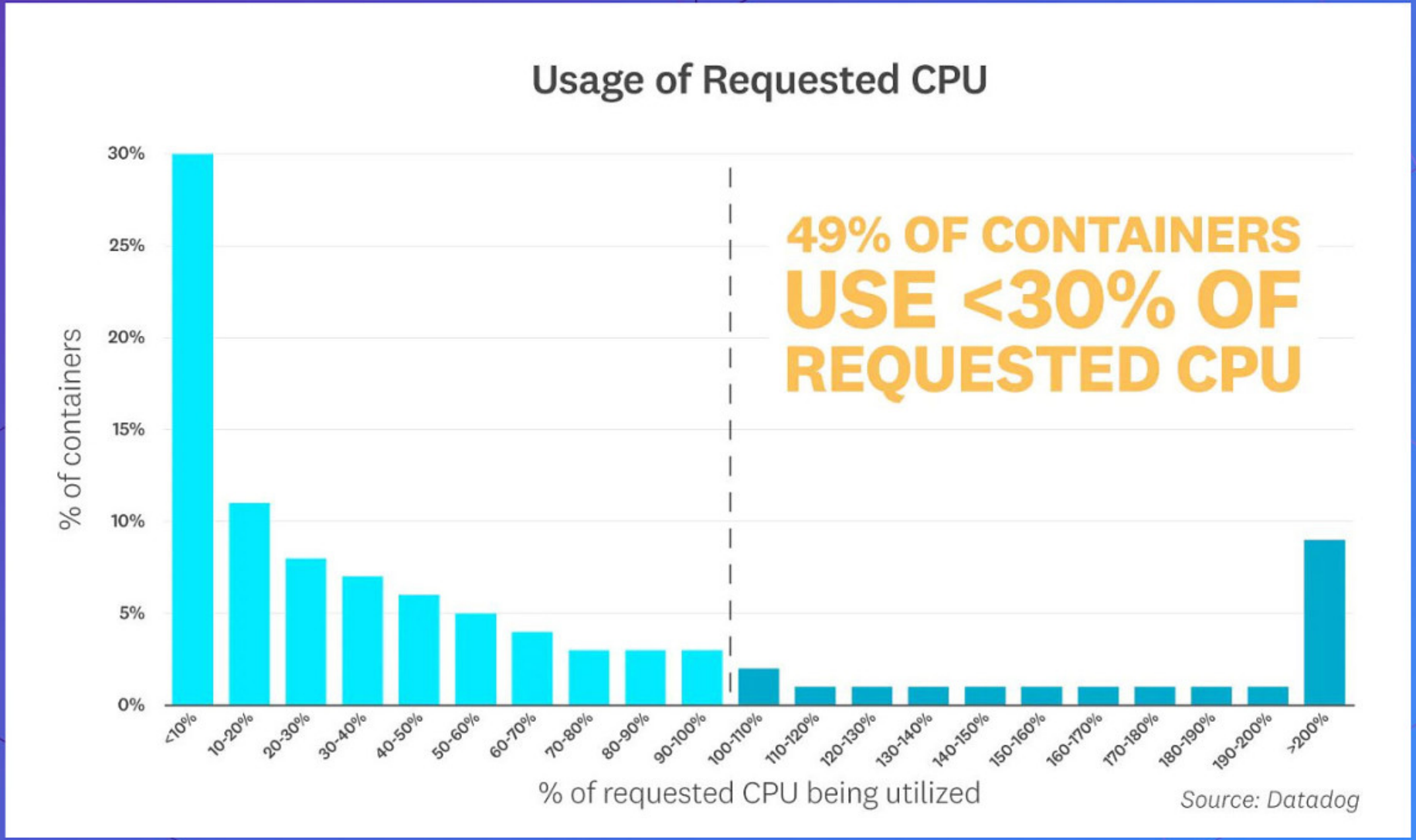


AWS Fargate : usurpateur du trône ?



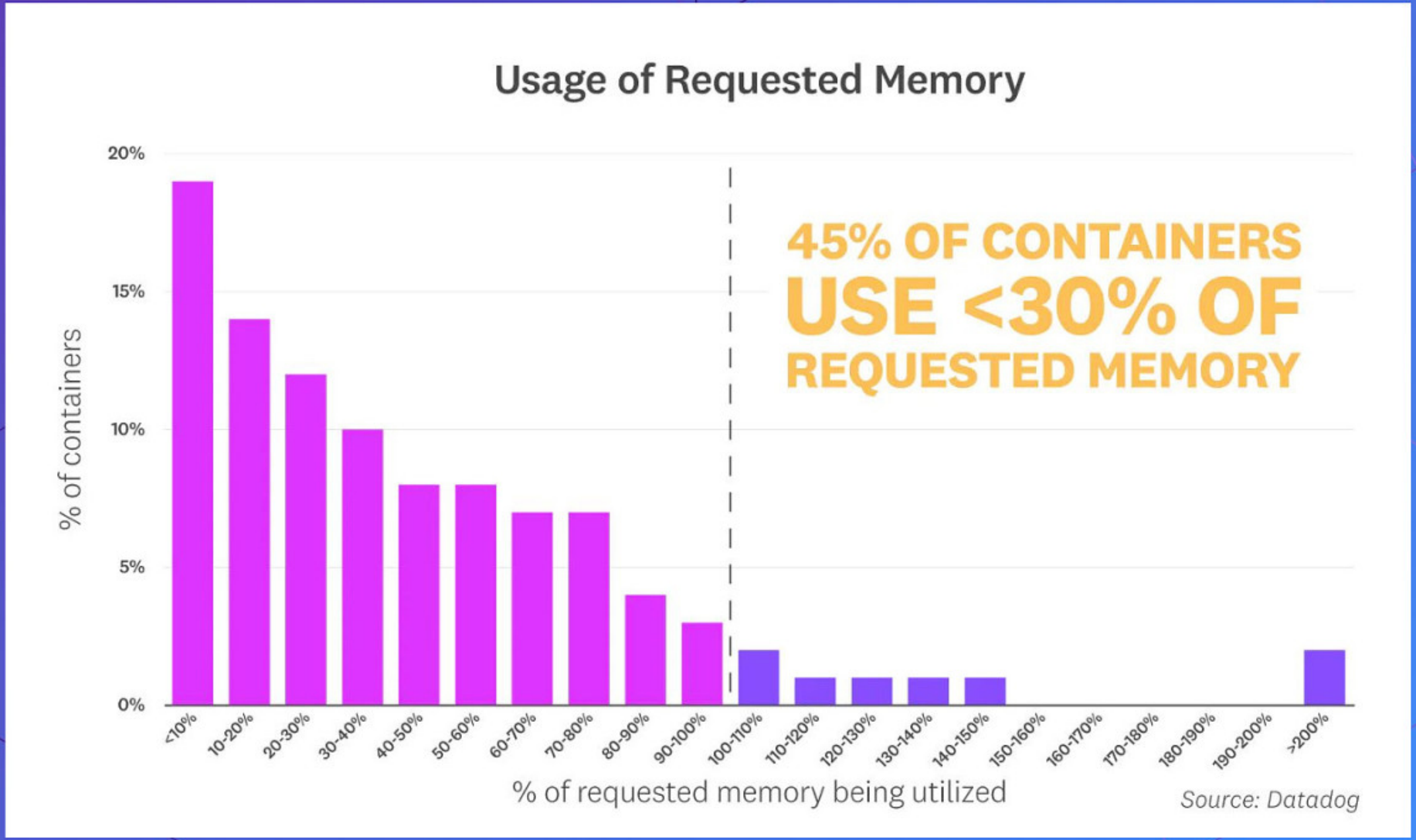


K8s : sur-allocation des ressources



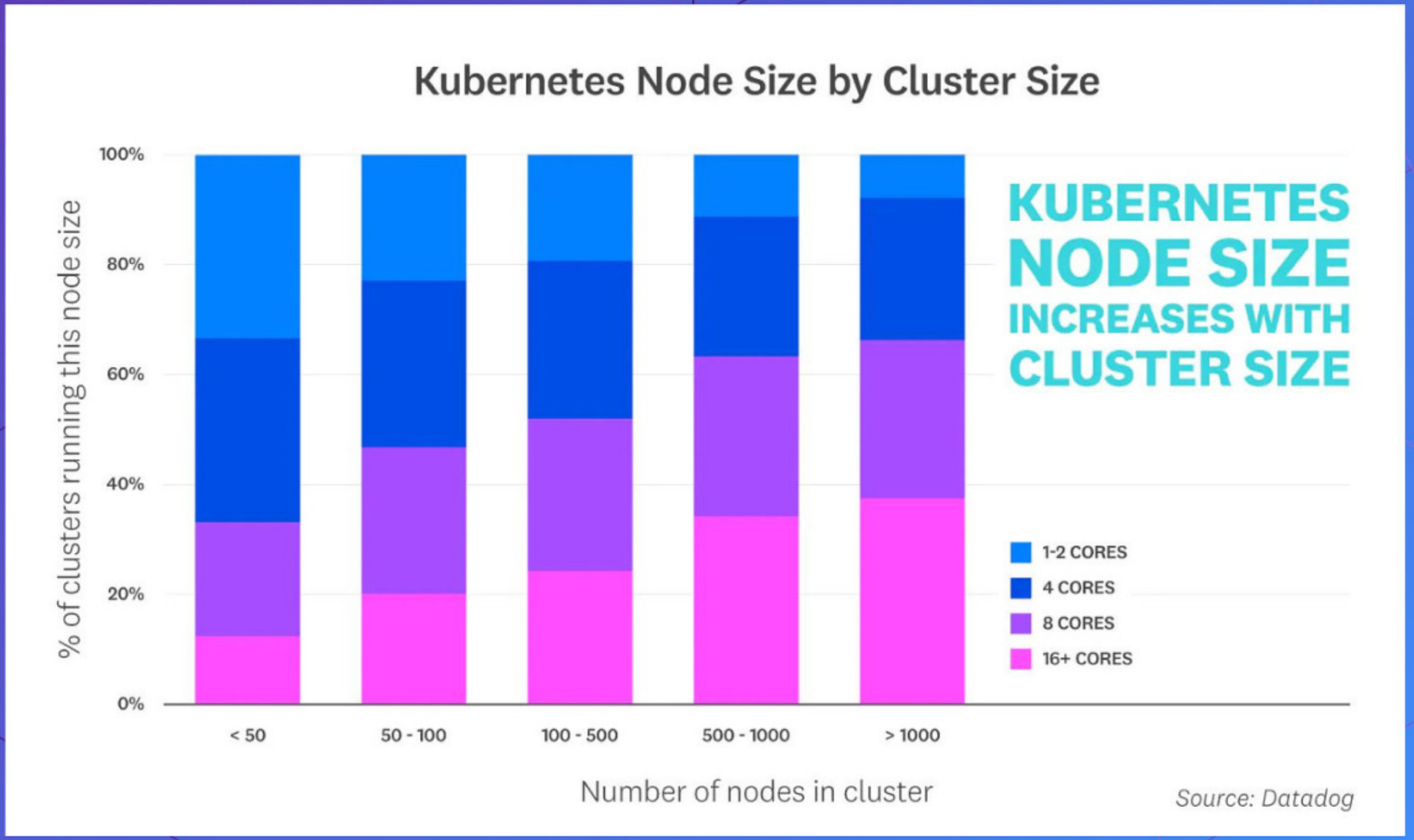


K8s : sur-allocation des ressources



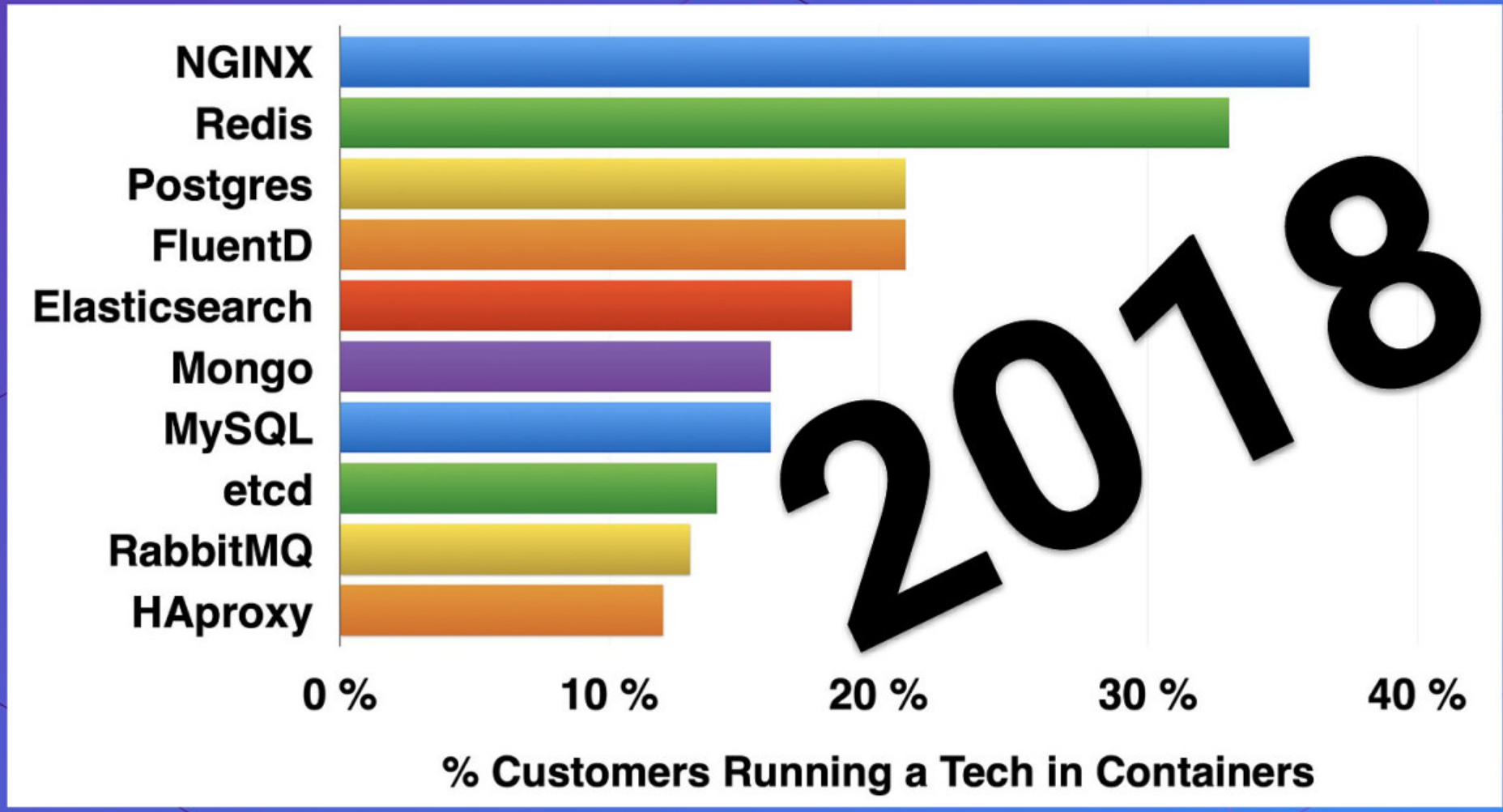


corr(cluster,node);



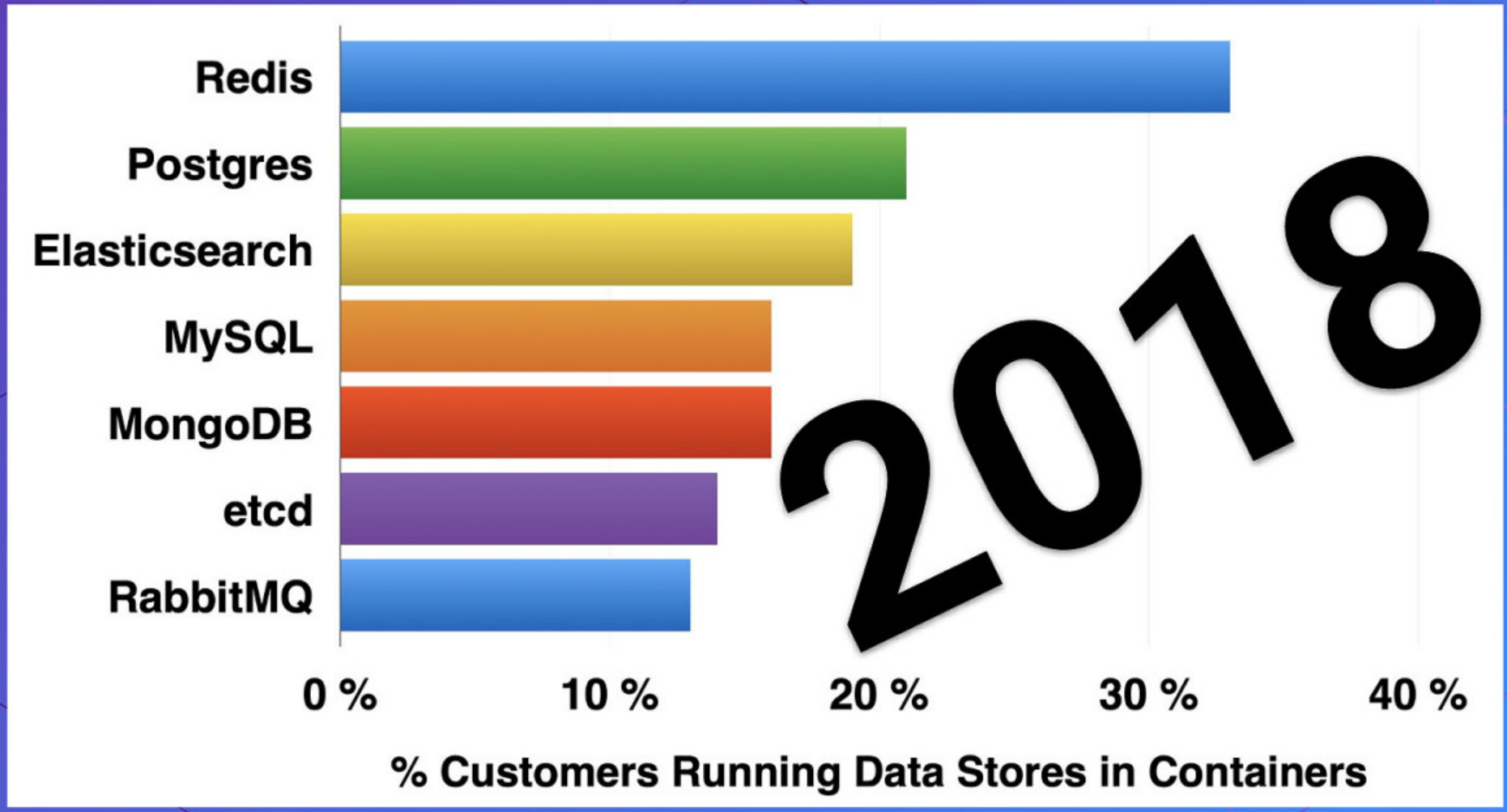


🎊 Bonus : les images dans les conteneurs



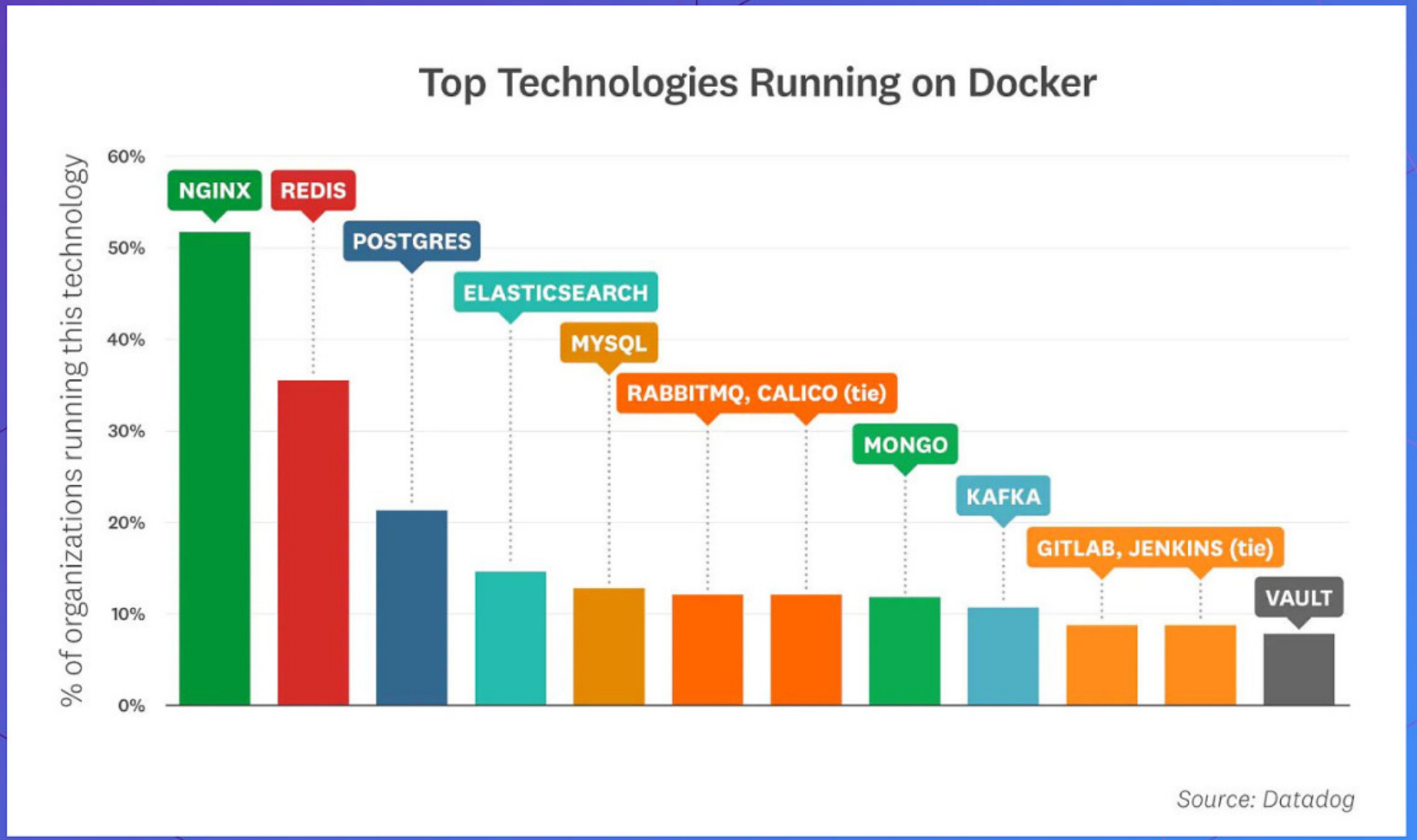


Bonus : les images dans les conteneurs



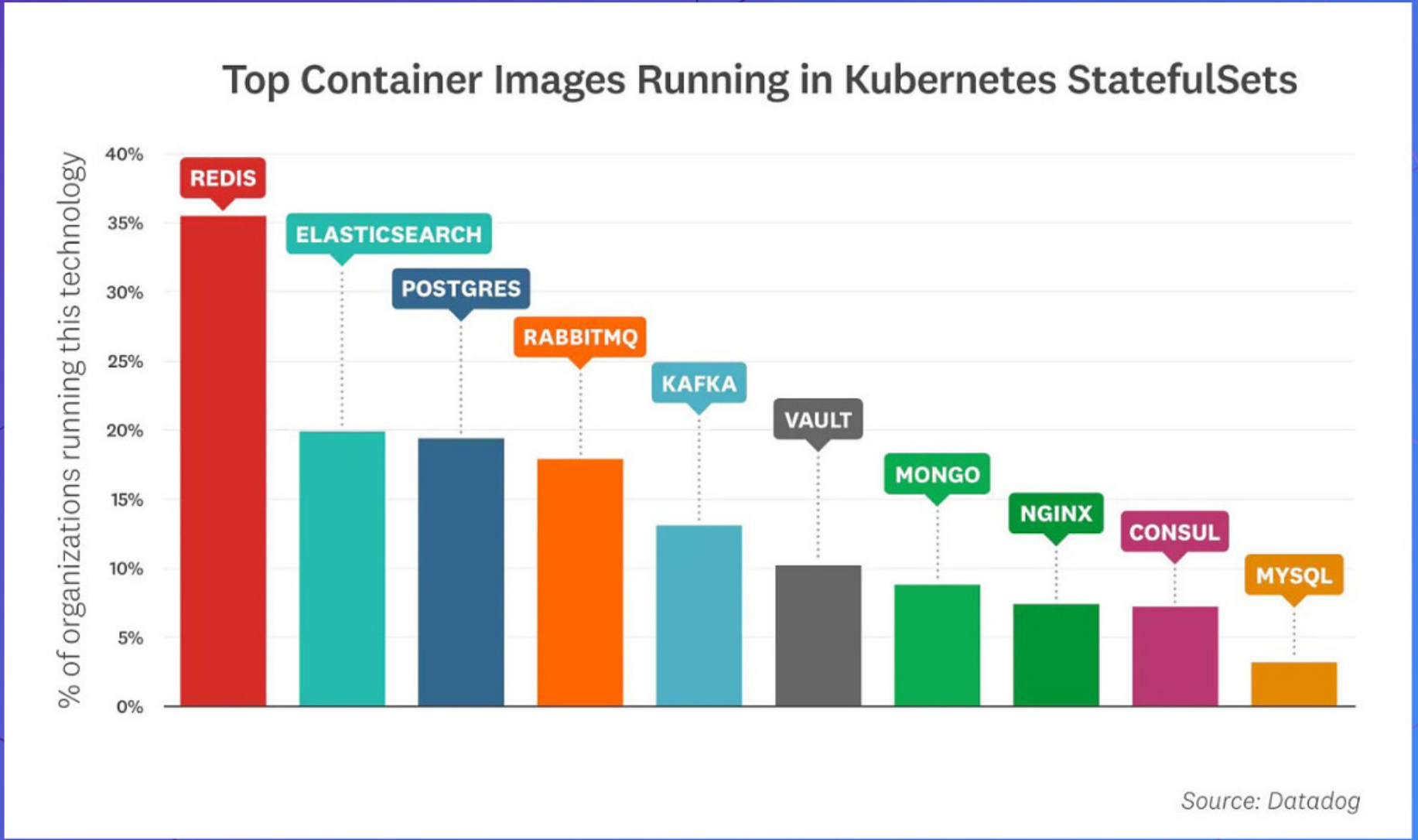


Les images dans Docker





Les images dans `StatefulSets`



https://www.datadoghq.com/container-report/

Moi : @phrawzty on all the things :)

Merci !

