



# Père Castor 🐻, raconte nous une histoire (d'OPS)

David Aparicio | 21 Janvier 2022 | 10h10 | Salle Pascal

1993-1994 - 1995-1996 - 1996-1997 - 1997-1998 - 1998-1999 - 1999-2000 - 2000-2001 - 2001-2002 - 2002-2003 - 2003-2004 - 2004-2005 - 2005-2006 - 2006-2007 - 2007-2008 - 2008-2009 - 2009-2010 - 2010-2011 - 2011-2012 - 2012-2013 - 2013-2014 - 2014-2015 - 2015-2016 - 2016-2017 - 2017-2018 - 2018-2019 - 2019-2020 - 2020-2021 - 2021-2022

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@dadideo

# David Aparicio

15/ DD INSA de Lyon / UNICAMP (Brésil)

Facebook Open Academy / MIT AppInventor

17/ Dev(Sec)Ops @ AMADEUS (Nice, 2 ans)

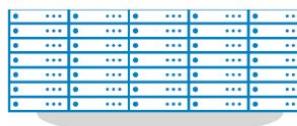
19/ Data(Sec)Ops @ OVHcloud (Lyon, 3 ans)



# OVHcloud: un leader européen

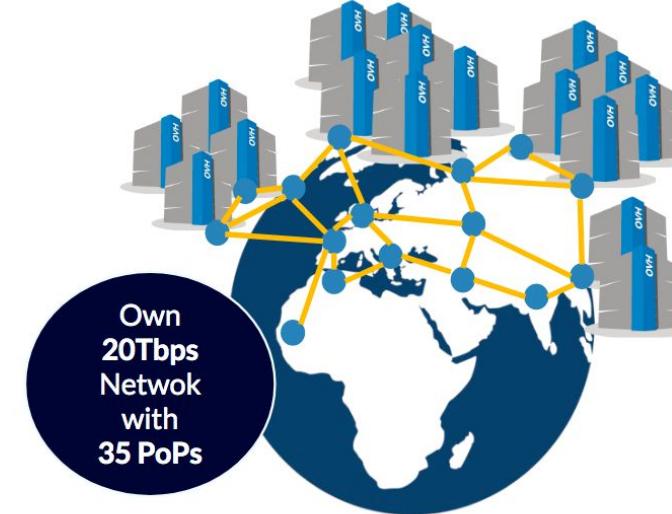
200k Private cloud

VMs running

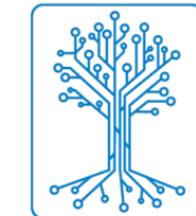


Hosting capacity :  
1.3M Physical  
Servers

360k  
Servers already  
deployed



> 1.3M Customers in 138 Countries



GAIA-X



Depuis Déc. 2020

# OVHcloud: 4 univers de produits

**Domain / Email**

- Domain names, DNS, SSL, Redirect
- Email, Open-Xchange, Exchange
- Collaborative Tools, NextCloud

**PaaS for Web**

- Mutu, CloudWeb
- Plesk, CPanel
- PaaS with Platform.sh

**Virtual servers**

- VPS, Dedicated Server

**SaaS**

- Wordpress, Magento, Prestashop
- CRM, Billing, Payment, Stats
- MarketPlace

**Support, Managed**

- Support Basic
- Support thought Partners
- Managed services

**Standalone, Cluster**

General Purpose	SuperPlan
Game	T2 >20e
Virtualization	T3 >80e
Storage	T4 >300e
Database	T5 >600e
Bigdata	T5 >600e
HCI	12KVA /32KVA
AI	
VDI	Cloud Game
Network	

**VPS aaS**

- pCC DC
- Virtuozzo Cloud

**Wholesales**

- IT Integrators, Cloud Storage,
- CDN, Database, ISV, WebHosting
- High Intensive CPU/GPU,

**Encrypt**

- KMS, HSM
- Encrypt (SGX, Network, Storage)

**Compute**

VM	K8S, IA IaaS
Baremetal	PaaS for DevOps

**Storage**

- File, Block, Object, Archive

**Databases**

- SQL, noSQL, Messaging, Dashboard

**Network**

- IP FO, NAT, LB, VPN, Router, DNS, DHCP, TCP/SSL Offload

**Security**

- IAM, MFA, Encrypt, KMS

**IA, DL**

- Standard Tools for AI, AI Studio, IA IaaS, Hosting API AI

**Bigdata, ML, Analytics**

- Datalake, ML, Dashboard

**Hosted Private Cloud**

**VMware**

- SDDC, vSAN 1AZ / 2AZ
- vCD, Tanzu, Horizon, DBaaS, DRaaS

**Nutanix**

- HCI 1AZ / 2AZ, Databases, DRaaS, VDI

**OpenStack**

- IAM, Compute (VM, K8S)
- Storage, Network, Databases

**Storage**

- Ontap Select, Nutanix File
- OpenIO, MinIO, CEPH
- Zerto, Veeam, Atempo

**AI**

- ElementAI, HuggingFace, Deepomatic, Systran, EarthCube

**Bigdata / Analytics / ML**

- Cloudera over S3, Dataku, Saage, Tableau,

**Hybrid Cloud**

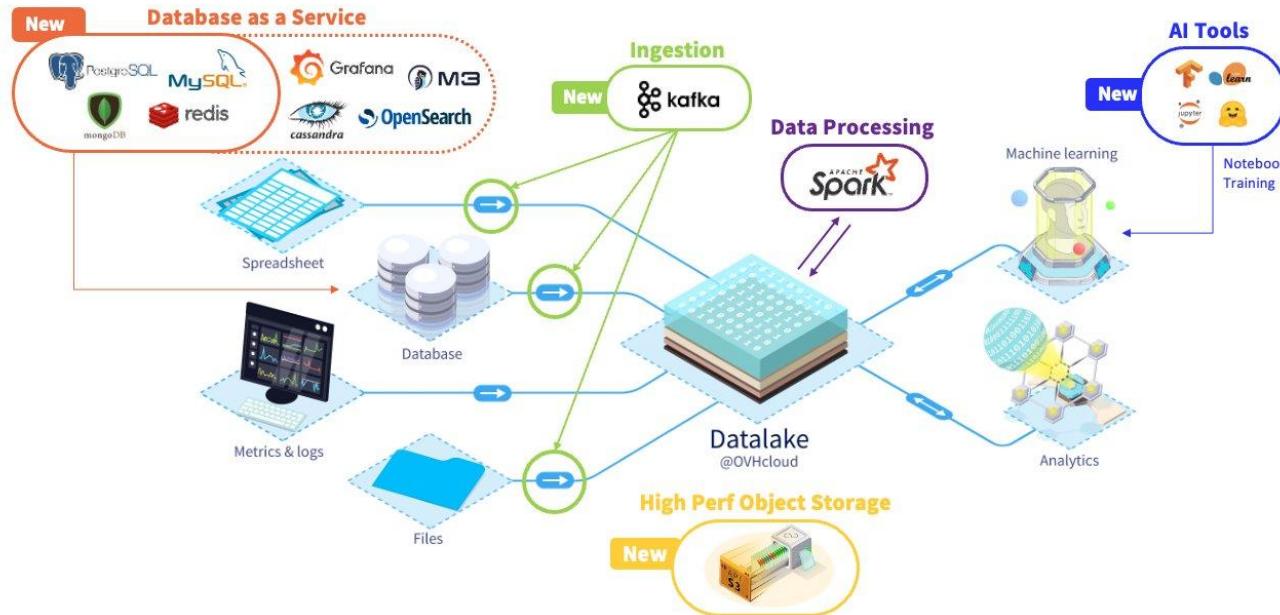
- vRack Connect, Edge-DC, Private DC
- Dell, HP, Cisco, OCP, MultiCloud

**Secured Cloud**

- GOV, FinTech, Retail, HealthCare

# Data @ OVHcloud

2021 : Improving our Public Cloud ecosystem for data projects

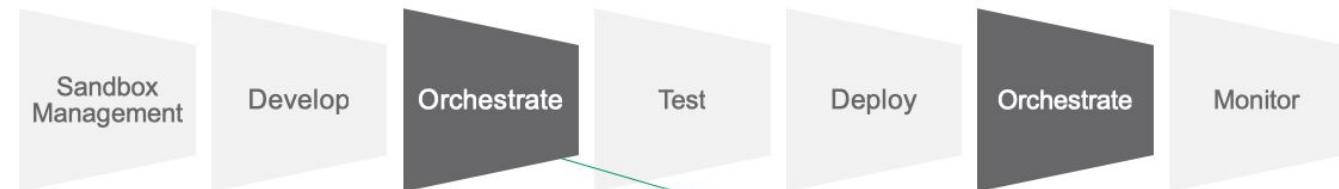


Bastien Verdebou

# DataOps @ GIS-DATA

- RéPLICATION des données
- Opérations Scaling (up/down), Maintenance (compactions, cleaning DB)
- PoC / Benchmarks / Performance tuning
- Industrialisation / Automatisation des procédures
- Mise en place de plate-forme de machine learning
- Urbanisation du Datalake
- Réalisation des Audits / Security assessment
- Migration des solutions
- Onboarding des projets
- RUN/BAU

## DataOps Process



There are thousands of tools, languages and vendors for Data





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# Qui êtes-vous ?

Plutôt Dev, Ops, Étudiant ?



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# Qui a déjà possédé un téléphone d'astreinte ?

# Agenda

Introduction

Elliot

Legacy

CDN

Retour du Legacy

Blast effect

Same JVM, shoot again

NewsBlur

Foxstuck

DNS

( Split-Brain )

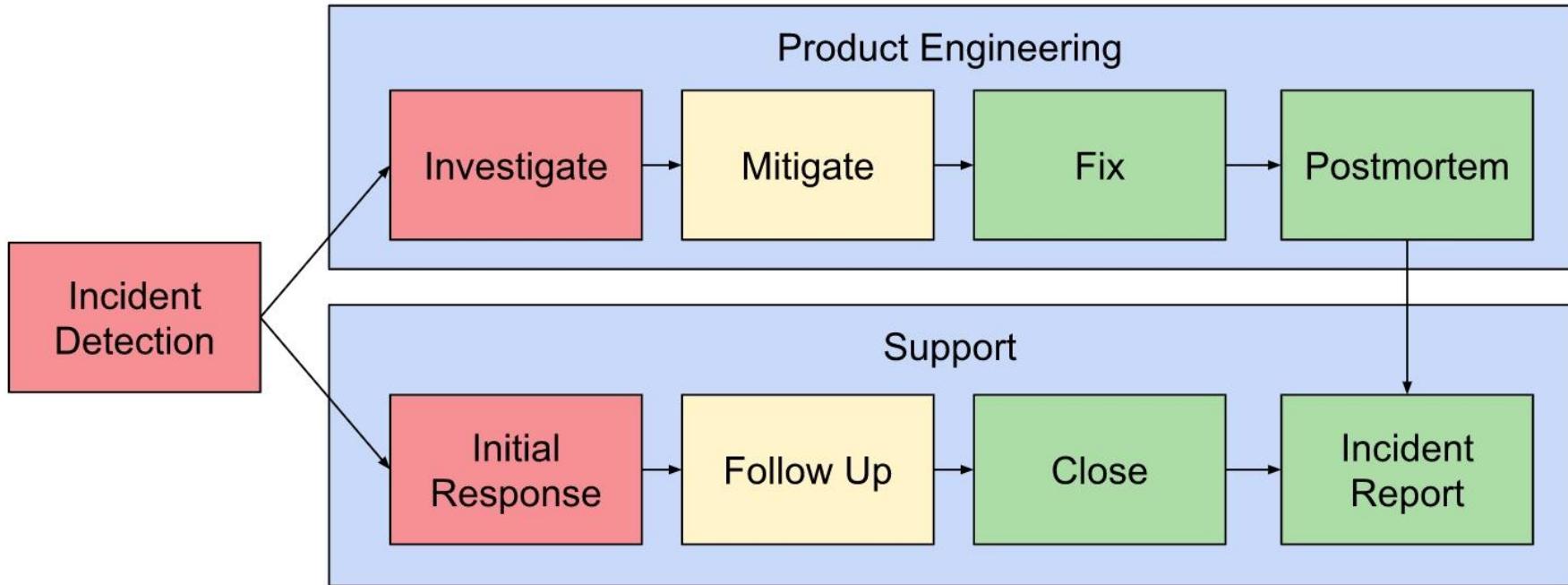
Conclusion



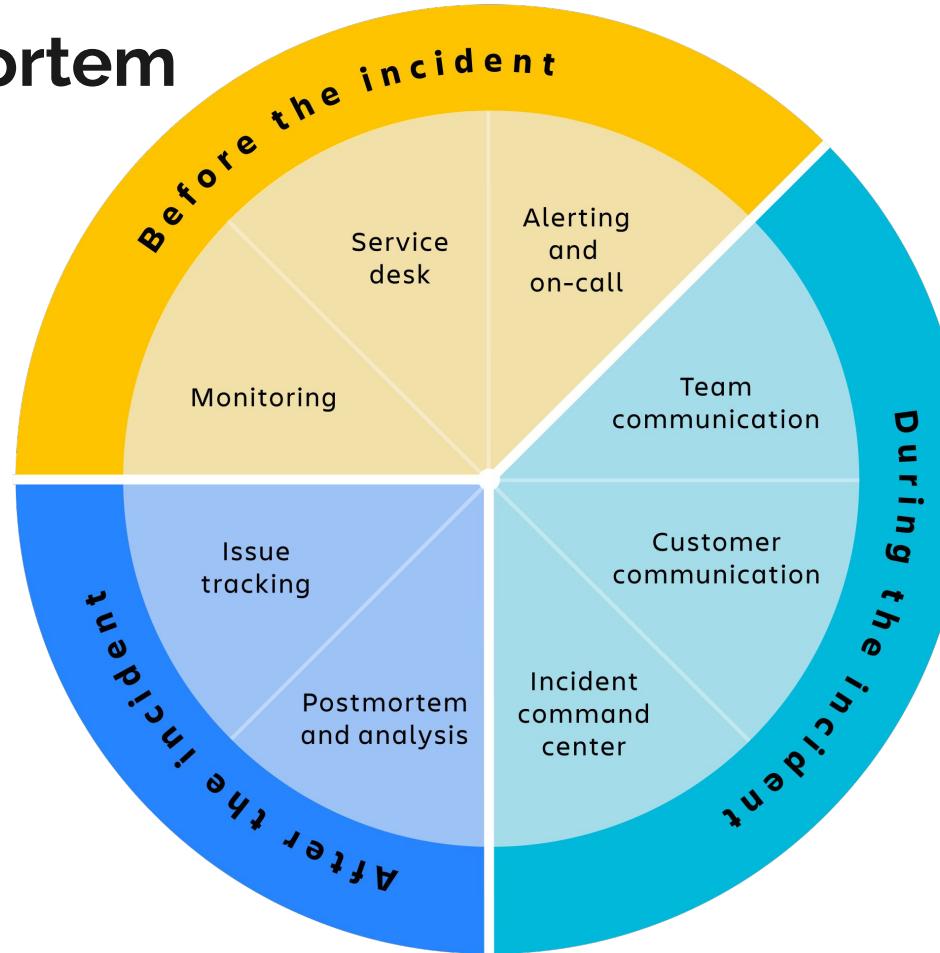
# Introduction



# Post-mortem



# Post-mortem



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# Examen post-incident

Identification de l'incident (détection, sonde)

Flux d'informations et communication (canaux)

Structure (organisation)

Utilisation des ressources (vitesse, optimum)

Processus (SLA)

Création de rapports (interne et externe)



[Le guide complet de gestion des incidents ITIL](#)



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# Regroupés en chapitres

Background

Incident timeline / What Happened

Root cause

Workaround / Mitigation

Impact / Customers

Next steps / Action item

(Engineering & Architecture,  
Process & Communications)



Exemples: [GitHub](#) / [Elastic](#)



October 30, 2018 — Engineering, Product

# October 21 post-incident analysis



Jason Warner

Last week, GitHub experienced [an incident](#) that resulted in degraded service for 24 hours and 11 minutes. While portions of our platform were not affected by this incident, multiple internal systems were affected which resulted in our displaying of information that was out of date and inconsistent. Ultimately, no user data was lost; however manual reconciliation for a few seconds of database writes is still in progress. For the majority of the incident, GitHub was also unable to serve webhook events or build and publish GitHub Pages sites.

All of us at GitHub would like to sincerely apologize for the impact this caused to each and every one of you. We're aware of the trust you place in GitHub and take pride in building resilient systems that enable our platform to remain highly available. With this incident, we failed you, and we are deeply sorry. While we cannot undo the problems that were created by GitHub's platform being unusable for an extended period of time, we can explain the events that led to this incident, the lessons we've learned, and the steps we're taking as a company to better ensure this doesn't happen again.

## Background #

### Share

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 Twitter

 Facebook

 LinkedIn



# First blood





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# Quand date le premier bug de Grace Hooper ?

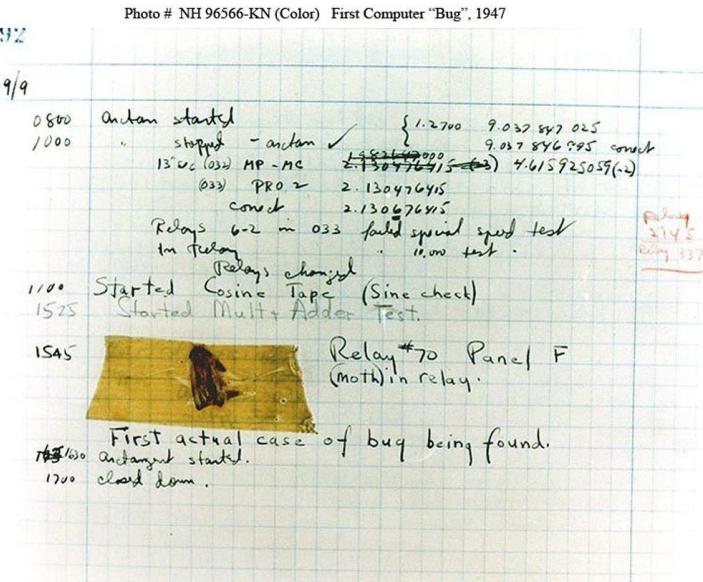


# Un vrai bug (insecte)

Bureaux de EMCC

# 1947

Inventeur du COBOL



# Cette anecdote n'est pas "isolée"

## Past Incidents

Tuesday 22nd June 2021

22 Juin

# 2021

Inondation de la fibre optique  
d'un datacenter

 Infrastructure PAR: connectivity issue / high latency  
3 months ago

**2021-06-22**

We are currently having connectivity issue or high latency to some part of our Paris infrastructure. Our network provider is aware of the issue and is currently investigating.

10:03 UTC: It seems like the issue is only affecting one of the datacenter. Applications that use services deployed on another datacenter might suffer from connectivity issue or increased latency

10:15 UTC: We are removing the IPs of the affected datacenter from all DNS records of load balancers (public, internal and Clever Cloud Premium customers) and are awaiting more info from our network provider.



# Elliot

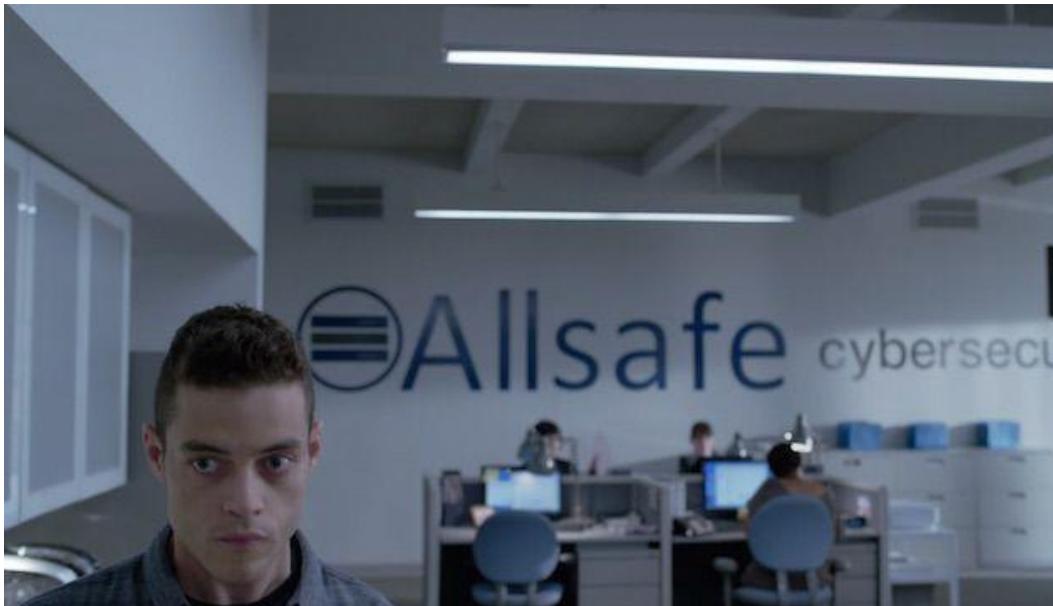




# Elliot Alderson



# Allsafe, great place to work 2021

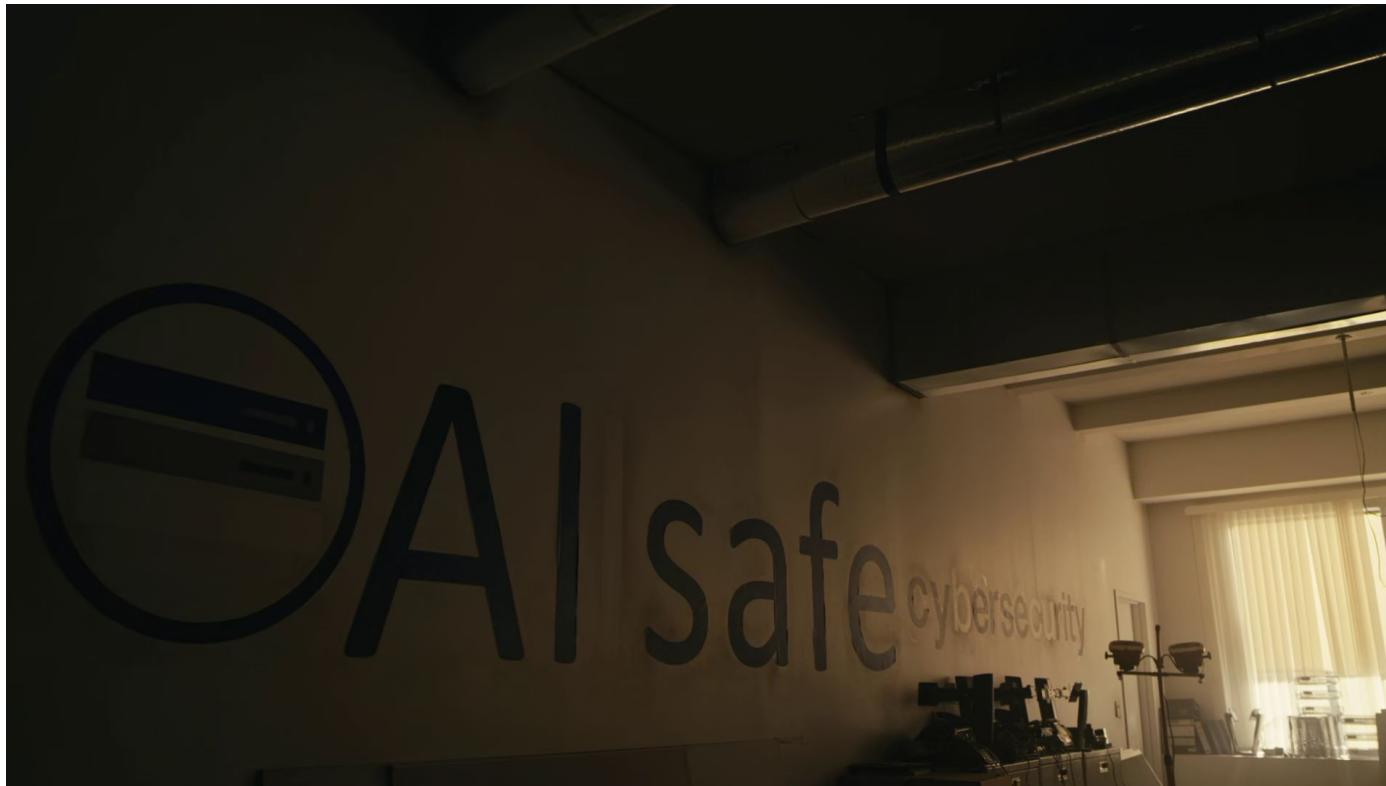


# P1 detected, tout le monde sur le pont





# Time is money



# Beware Prod behind

"With great power comes great responsibility"





# Cas non isolé: le stagiaire

5:30 ↗

5G



Integration Test Email #1

Inbox



HBO Max 5:24 PM

[to me](#) ▾

This template is used by integration tests only.



**HBO Max Help**  @HBOMaxHelp

We mistakenly sent out an empty test email to a portion of our HBO Max mailing list this evening. We apologize for the inconvenience, and as the jokes pile in, yes, it was the intern. No, really. And we're helping them through it. ❤️

4:21 AM · Jun 18, 2021

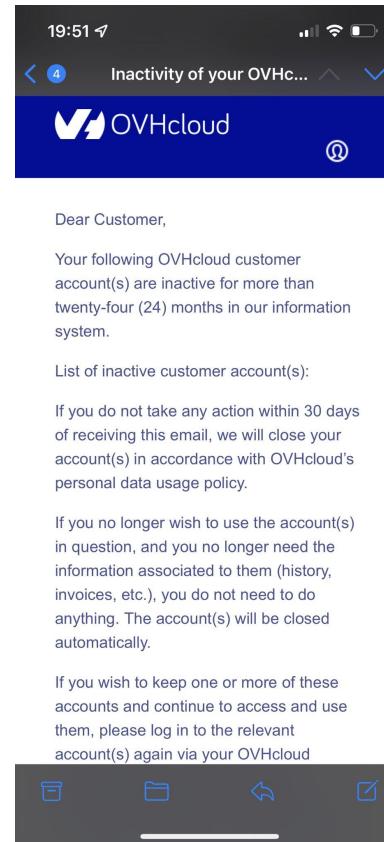
 162.1K  6.5K  Copy link to Tweet

[Tweet your reply](#)



[Today](#) - HBO Max explains cryptic email that accidentally went to subscribers (18 June 2021)

# Watchdog



OVHcloud

Dear Customer,

Earlier today, we have sent you an email by mistake.

Indeed, as part of our ongoing activities to maintain our compliance with GDPR, we are constantly conducting campaigns towards our inactive customers.

Due to a settings issue, you have received this communication. Please disregard it.

We sincerely apologize for the inconvenience.

Kind regards,

OVHcloud team



OVHcloud - Answer (11 October 2021)

# AWS, GitLab, DigitalOcean

AWS / Drop database <a href="https://aws.amazon.com/message/680587/">https://aws.amazon.com/message/680587/</a>	24/12/2012
Gitlab / Drop database <a href="https://about.gitlab.com/blog/2017/02/10/postmortem-of-database-outage-of-january-31/">https://about.gitlab.com/blog/2017/02/10/postmortem-of-database-outage-of-january-31/</a>	31/01/2017
DigitalOcean / Drop database <a href="https://www.digitalocean.com/blog/update-on-the-april-5th-2017-outage/">https://www.digitalocean.com/blog/update-on-the-april-5th-2017-outage/</a>	05/04/2017

# Conseils

Insérer une approbation manuelle / revue

Auditer et protéger l'environnement (SIEM, RBAC)

Informations d'identification/connexion protégé en lieu sûr (Vault, KeePass)

Tester vos procédures de restauration (backup)



# Legacy



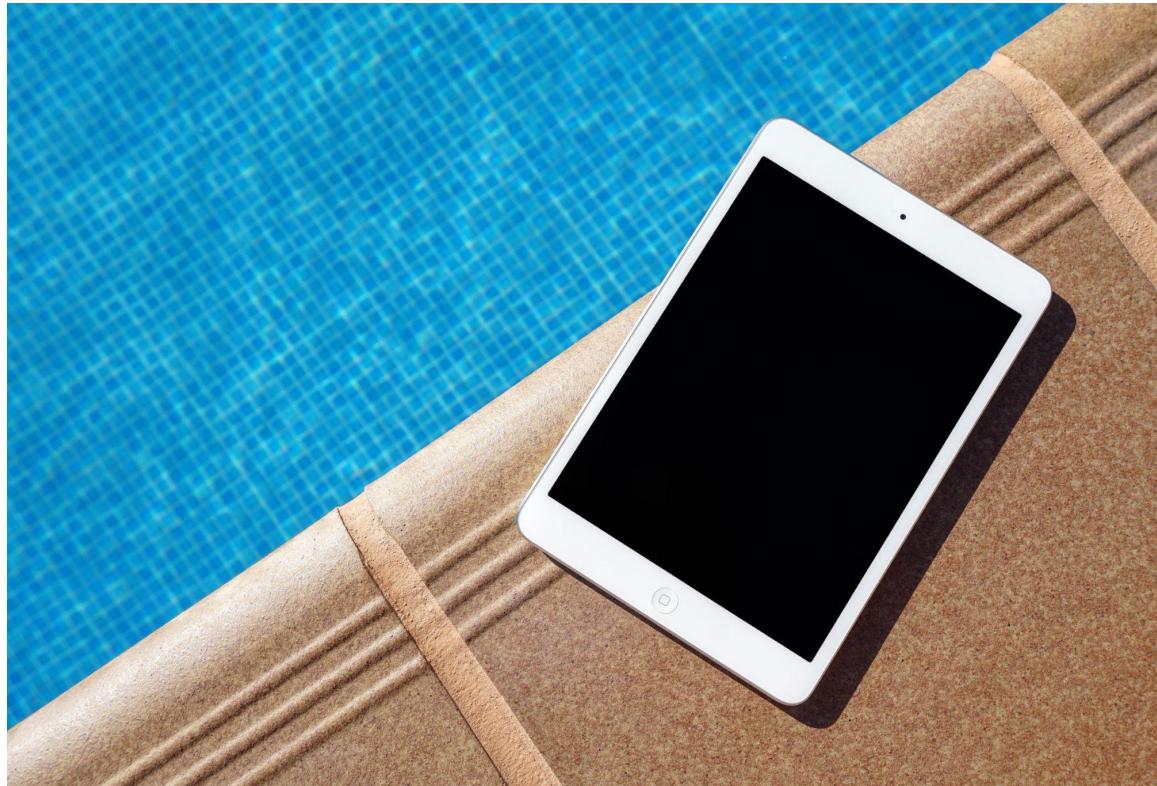


# Il était une fois.. (en 2020)



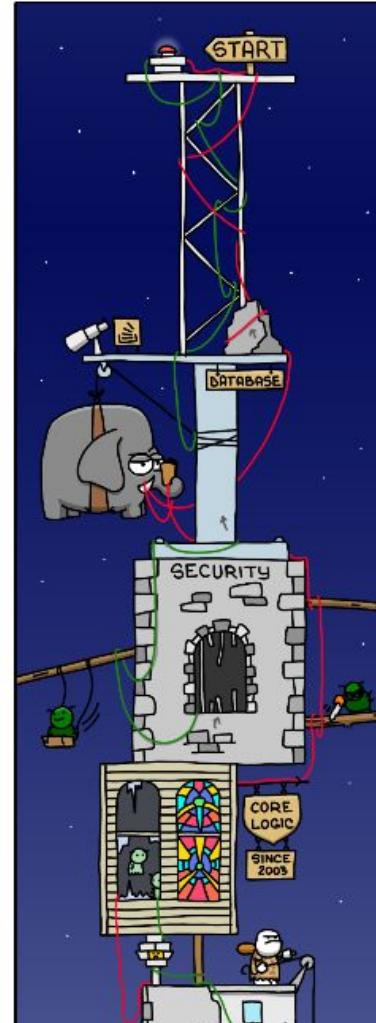


# Quand soudain l'astreinte sonne

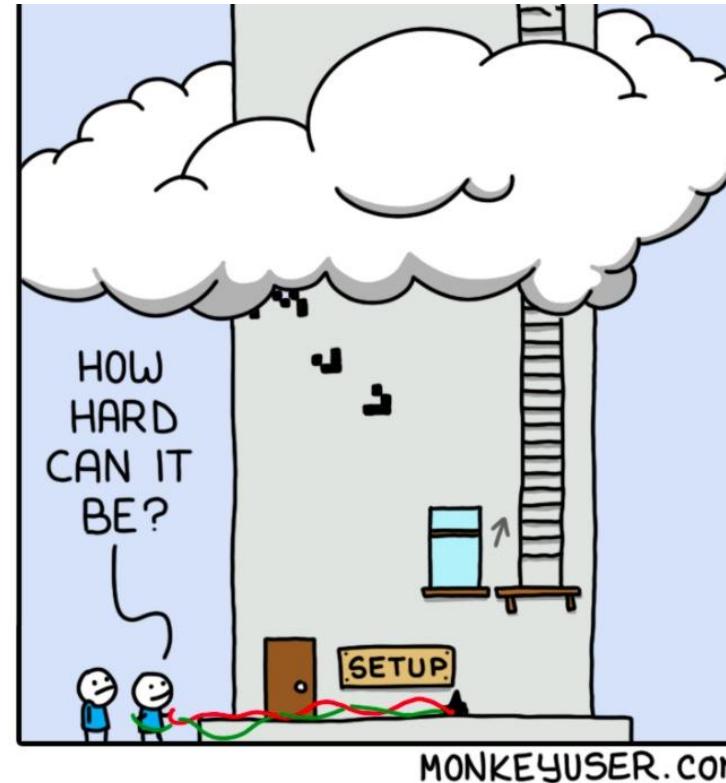




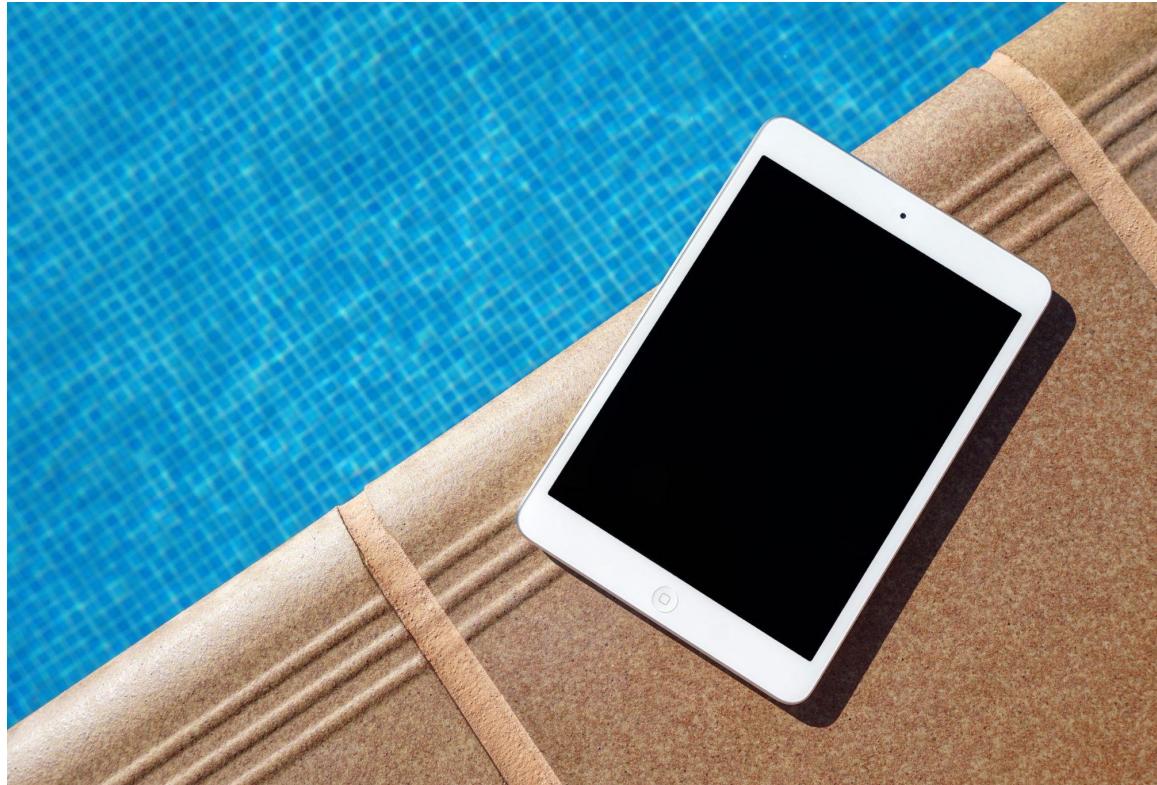
# Legacy



# Legacy..



# L'astreinte sonne à nouveau

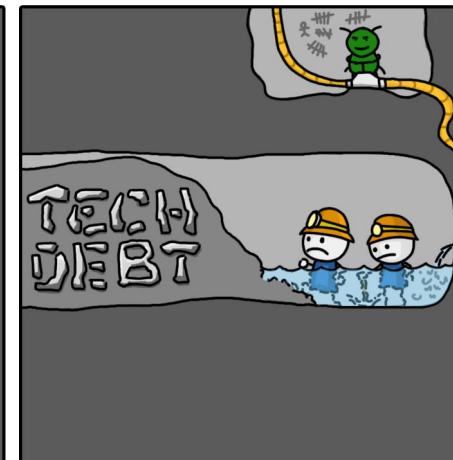
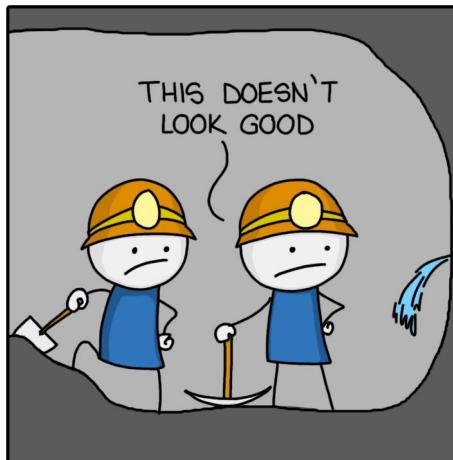
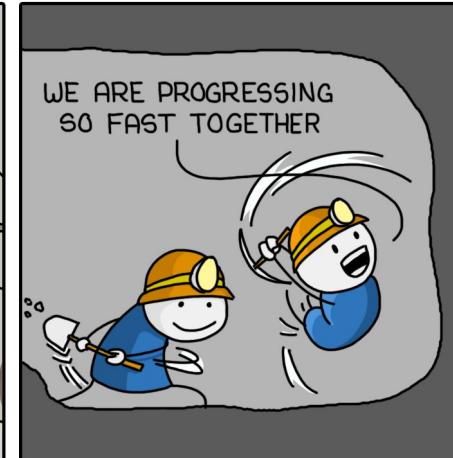
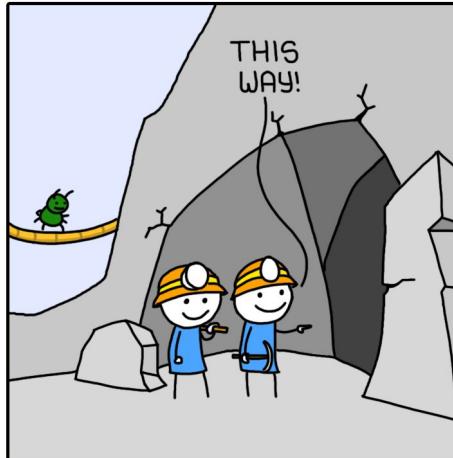


# TECH DEBT

@dadideo

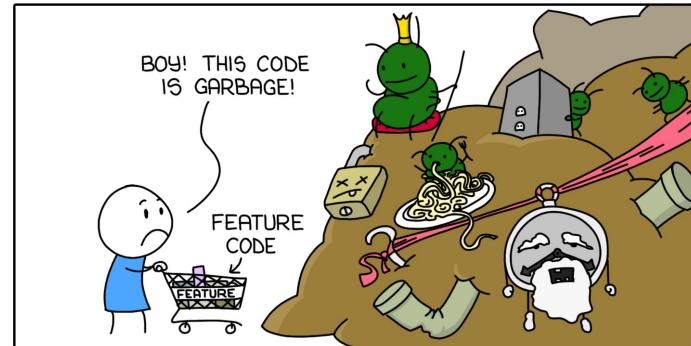


36



# Codons! Le bon et le mauvais patch (dev)

CODE ENTROPY



# Legacy



# Méthode KISS



KEEP  
CALM  
AND  
KISS

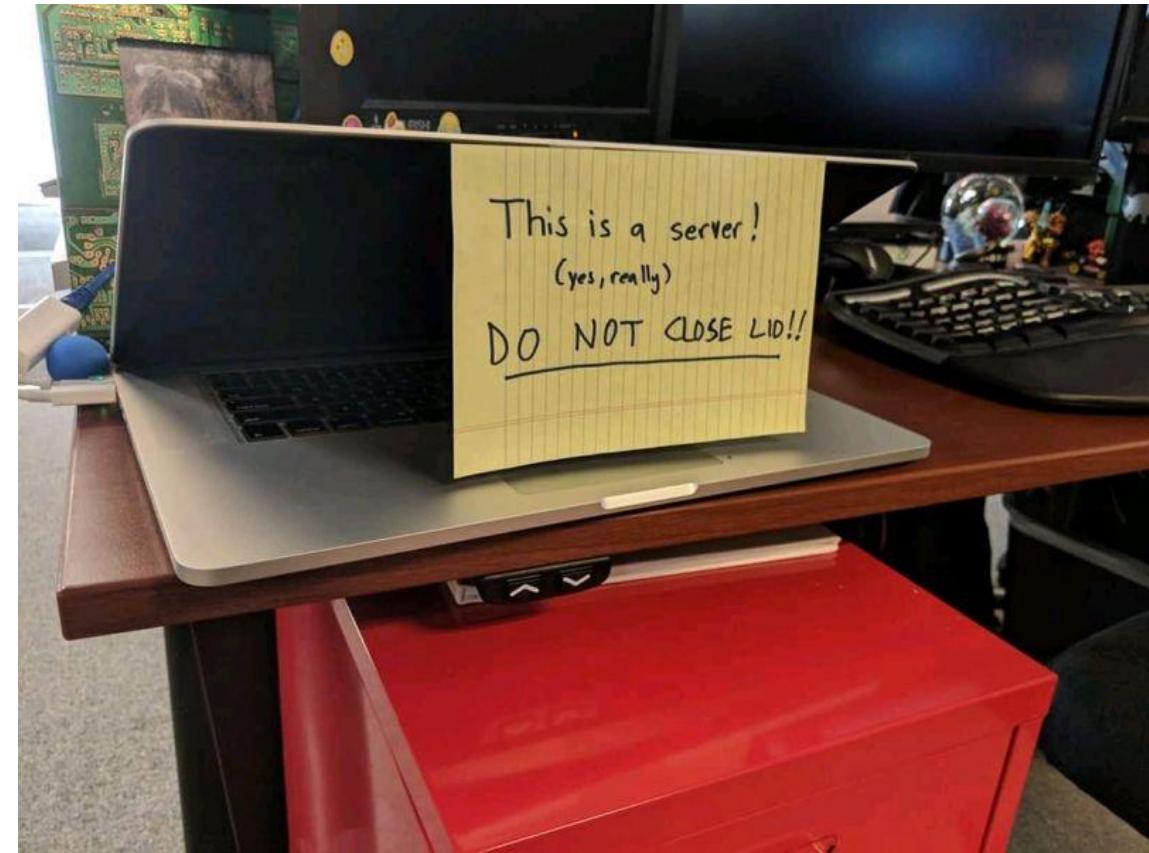
*Original:* Variante :

Keep      Keep  
It      It  
Simple      Super  
Stupid      Simple

# Attention: Serveur



Image trouvée sur la twittosphère

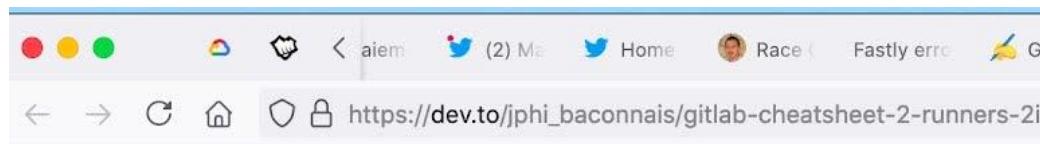




# CDN



# Marmiton



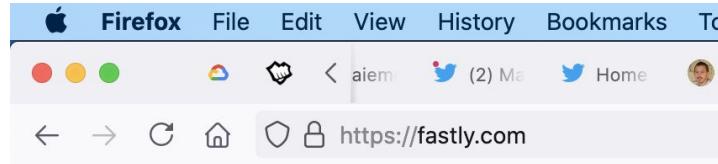
A screenshot of a web browser window. The address bar shows the URL [https://dev.to/jphi\\_baconnais/gitlab-cheatsheet-2-runners-2ib](https://dev.to/jphi_baconnais/gitlab-cheatsheet-2-runners-2ib). Below the address bar, the text "connection failure" is displayed.



A screenshot of a web browser window. The address bar shows the URL <https://dev.to/rinkiyakedad/race-conditions-in-golang-57n2>. The page content displays the message "Fastly error: unknown domain: dev.to." followed by "Details: cache-ams21071-AMS".



# Fastly



## Error 503 Service Unavailable

Service Unavailable

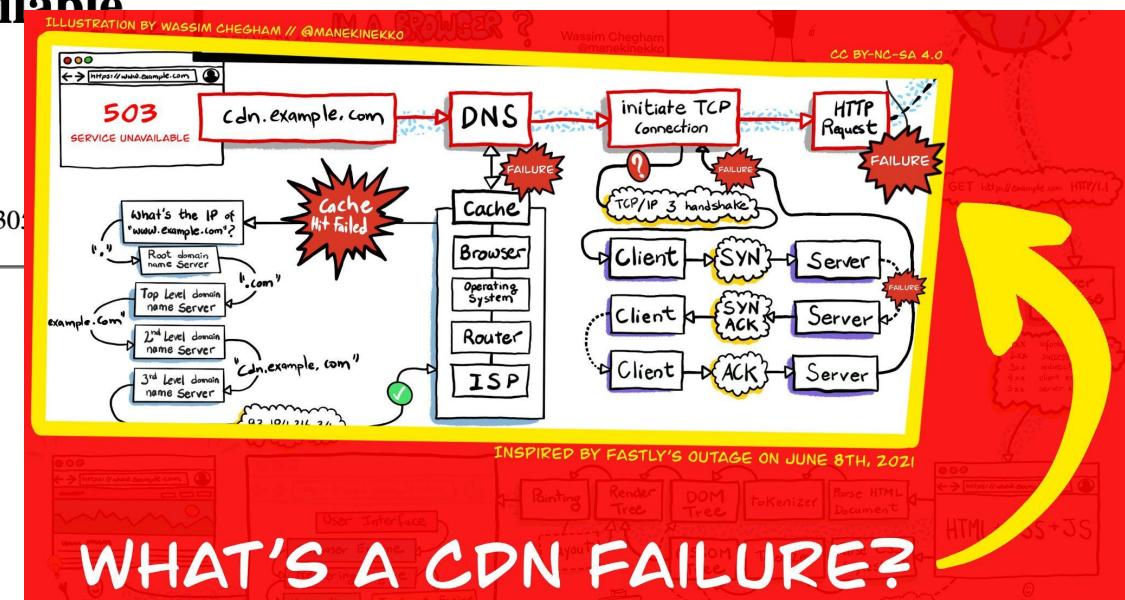
### Guru Mediation:

Details: cache-ams21041-AMS 1623148153 16274930

Varnish cache server



Schéma de [@manekinekko](#)



# Resilience

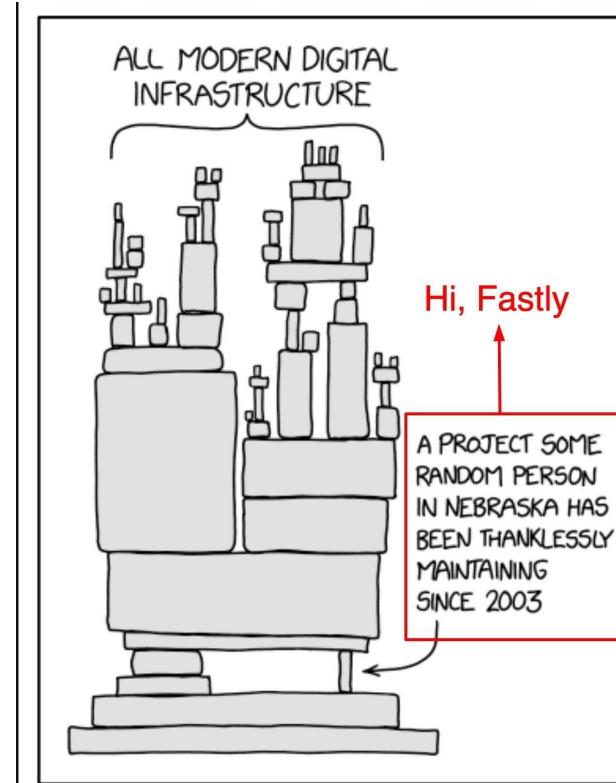


Image trouvée sur la twittosphère

# Details

## Summary of June 8 outage

We experienced a global outage due to an undiscovered software bug that surfaced on June 8 when it was triggered by a valid customer configuration change. We detected the disruption within one minute, then identified and isolated the cause, and disabled the configuration. Within 49 minutes, 95% of our network was operating as normal.

This outage was broad and severe, and we're truly sorry for the impact to our customers and everyone who relies on them.

### What happened?

On May 12, we began a software deployment that introduced a bug that could be triggered by a specific customer configuration under specific circumstances.

Early June 8, a customer pushed a valid configuration change that included the specific circumstances that triggered the bug, which caused 85% of our network to return errors.

# Conseils

Personnaliser les messages d'erreur

Tester les demandes clients (E2E/Staging/Red-Black plate-forme)

Tester les procédures du IT Runbook (Role-play afternoon)

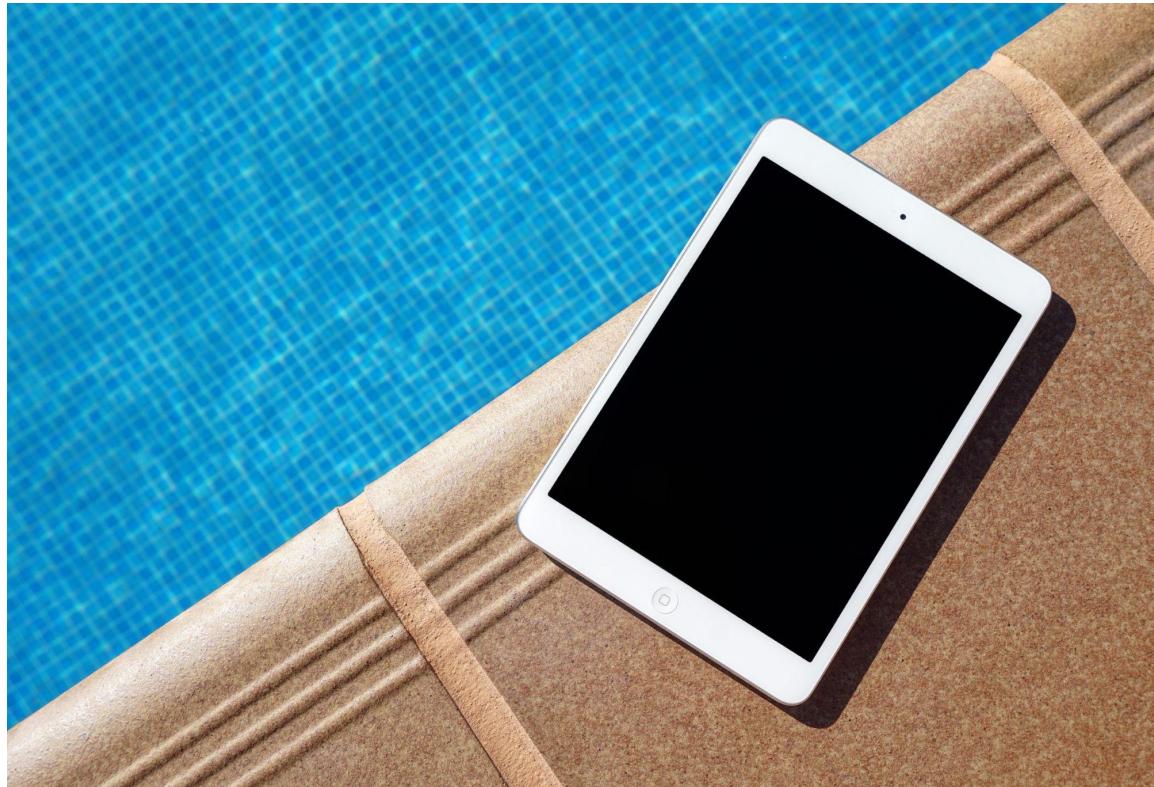


# Le retour du Legacy





# L'astreinte sonne.. ...



# Il était une autre fois.. (en 2021)



# Message de Santé Publique France



LEGACY

## LE CODE LEGACY, POUR SE PROTÉGER ET PROTÉGER LES AUTRES

- 

Se laver les mains avant, pendant et après avoir touché cette merde inmaîtrisable
- 

Protéger ses yeux de ce code imbuvable en profitant notamment des compilations
- 

Utiliser des mouchoirs propres quand l'envie de pleurer vous vient et que vous questionnez votre choix de vie pour ce poste
- 

Ne saluez plus et n'adressez plus la parole à la personne responsable de ce code de merde

Vous avez des questions sur le code legacy ?

 [LESJOIESDUCODE.FR](http://LESJOIESDUCODE.FR)

# Senior vs Junior

OBSERVER

WATCHING A SENIOR DEV



MONKEYUSER.COM

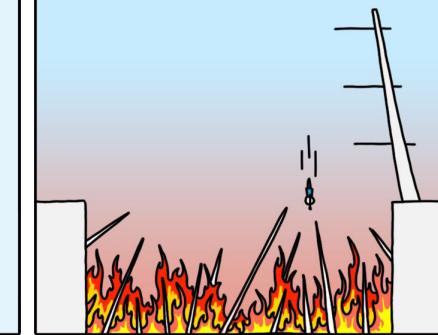
GRACEFULLY AND CONFIDENTLY



DIVE INTO



LEGACY CODE





# Blast Effect



# Apache Zookeeper

- Créé en même temps qu'à Hadoop
- Base de beaucoup de systèmes distribués (Kafka v<2.8 / KIP-500)
- Ancêtre de consul/etcd
- Key-Value Store hiérarchique
- Très bons résultats aux tests Jepsen
- Avantages
  - Suivre des changements sur un path (watcher)
  - Noeuds éphémères
  - Notion de sessions

# Architecture

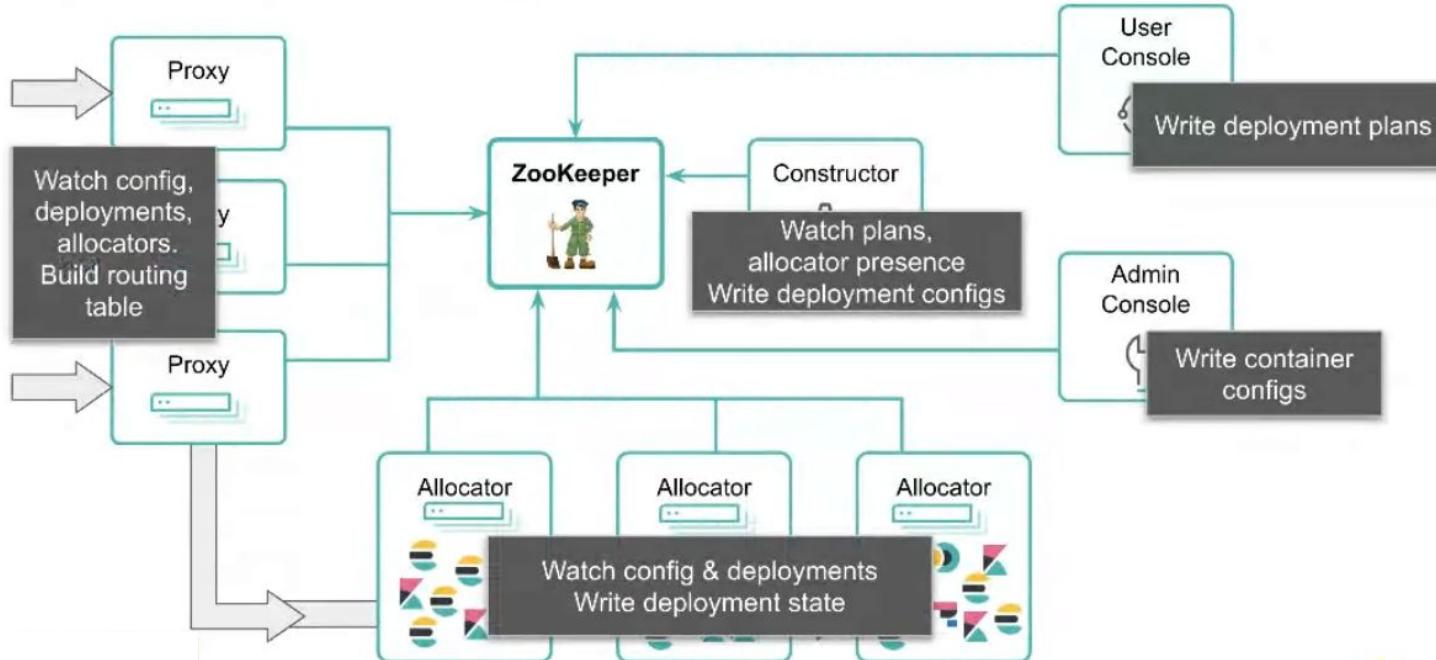


Schéma issu du meetup Toulouse JUG: [War Story, comment les pauses du GC ont pété la prod](#)

# Conseils

Avoir un système d'automatisation des incidents (ouverture d'une war room, d'un document collaboratif, etc.)

Maintenir les versions à jour pour gagner les patch/bug fixes

Mise en place d'un circuit breaker

Règles de Warm-up / Slow startup (mode Diesel)

Ajout d'une liste d'attente (Cloudflare Waiting Room)

Chaos Monkey / Analyse des effets de bord

# Same JVM, Shoot again



# Les limites de la technologie

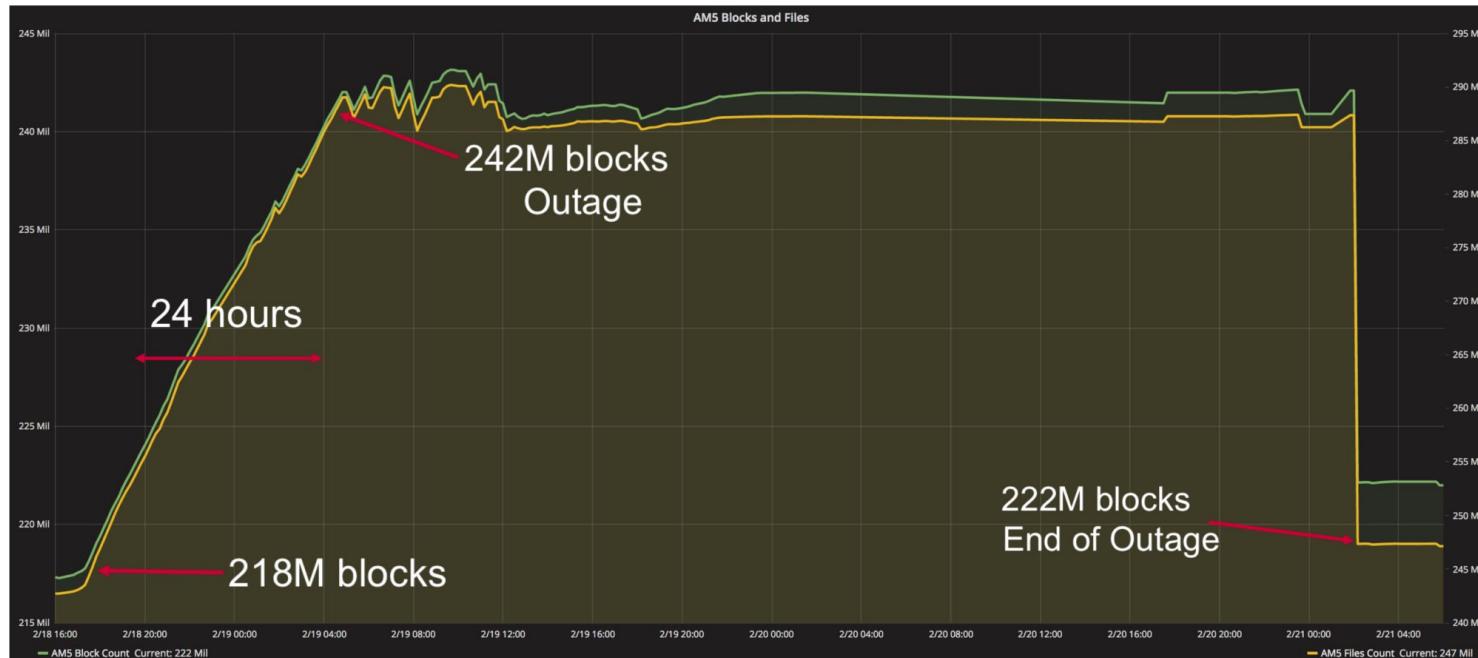


Schéma extrait de Medium : [+40PB per year – The challenge of data growth at Criteo](#)  
Hadoop sous pression Retour sur une année d'exploitation à Criteo ([Rémy Saissy](#))

# Conseils

Tests de performance

Monitoring des KPI OS

Observabilité / Sondes applicatives

Serveurs de délestage (backup) pour les applications critiques



# NewsBlur



# Attaque ? Pas de sécurisation sur la DEV->PRD



The screenshot shows a blog post from "The NewsBlur Blog". The title of the post is not visible. The first section contains a code block with the following text:

```
"query killed during yield: renamed collection 'newsblur.feed_icons' to  
'newsblur.system.drop.1624498448i220t-1.feed_icons'"
```

The main content of the post reads:

There is honestly no set of words in that error message that I ever want to see again. What is `drop` doing in that error message? Better go find out.

Logging into the MongoDB machine to check out what state the DB is in and I come across the following...

```
nbset:PRIMARY> show dbs
READ__ME_TO_RECOVER_YOUR_DATA  0.000GB
newsblur                         0.718GB

nbset:PRIMARY> use READ__ME_TO_RECOVER_YOUR_DATA
switched to db READ__ME_TO_RECOVER_YOUR_DATA

nbset:PRIMARY> db.README.find()
{
    "_id" : ObjectId("60d3e112ac48d82047aab95d"),
    "content" : "All your data is backed up. You must pay 0.03 BTC to
XXXXXXXXFTHISGUYXXXXXXX 48 hours for recover it. After 48 hours expiration we
will leaked and exposed all your data. In case of refusal to pay, we will
contact the General Data Protection Regulation, GDPR and notify them that you
store user data in an open form and is not safe. Under the rules of the law,
you face a heavy fine or arrest and your base dump will be dropped from our
server! You can buy bitcoin here, does not take much time to buy
https://localbitcoins.com or https://buy.moonpay.io/ After paying write to me
in the mail with your DB IP: FTHISGUY@recoverme.one and you will receive a link
to download your database dump."
}
```



Capture d'écran du post: [How a Docker footgun led to a vandal deleting NewsBlur's MongoDB database](#)



# Twitch

twitch-leaks-part-one

Torrent Management Mode: Manual

Save at

E:\Torrent Downloads

Remember last used save path

Torrent settings

Category:  

Set as default category

Start torrent       Download in sequential order

Keep top-level folder       Download first and last pieces first

Skip hash check

Torrent information

Size: 125.89 GiB (Free space on disk: 819.50 GiB)

Date: Not available

Hash:

Comment:

Name	Size	Download Priority
twitch-leaks-part-one	125.89 GiB	Normal
twitch-payouts	4.88 GiB	Normal
3rdparty.zip	15.1 KiB	Normal
abuse.zip	3.9 MiB	Normal
admin-services.zip	37.2 MiB	Normal
ads.zip	1.14 GiB	Normal
ags-sonic.zip	544.8 MiB	Normal
amzn.zip	44.6 MiB	Normal
andaries.zip	22.1 KiB	Normal
archive.zip	73.2 MiB	Normal
astith.zip	810.3 KiB	Normal
availability.zip	239.0 MiB	Normal
awsi.zip	164.4 MiB	Normal
beefcake.zip	5.8 MiB	Normal
benherr.zip	3.9 MiB	Normal
blade-legacy.zip	2.67 GiB	Normal
bobbcarp.zip	382.4 KiB	Normal
bootcamp.zip	33.9 MiB	Normal



Capture d'écran : [Twitch confirms hack after source code and creator payout data leaks online](#)

# ELYZE - Présidentielle 2022



 **ELYZE - Présidentielle 2022** @ElyzeApp · 18h

Ce soir, @GCazcarra a fait deux annonces importantes au micro d'@HugoDecrypte

- 1 @ElyzeApp supprime TOUTES LES DONNÉES de l'application.
- 2 @ElyzeApp devient OPEN SOURCE.

#Elyze



► 22.4K views      0:01 / 1:09

8    74    222



@GCazcarra a fait deux annonces importantes au micro d'@HugoDecrypte, cf [Twitter](#)

# Avoid HDD

## Hype Driven Development ou face au code du monde réel



[Quentin ADAM](#)

CEO @ Clever Cloud  
[@waxzce](#) on twitter



2018 - [Hype Driven Development - Quentin Adam](#)

# Conseils

Hype-driven development

CI/CD

DevSecOps: Tests automatique de penetration (pentest) sur des admin:admin, no password etc..

Isolation de la configuration DEV // PROD (Différent Jenkins ou Vault, Approbation manuelle)



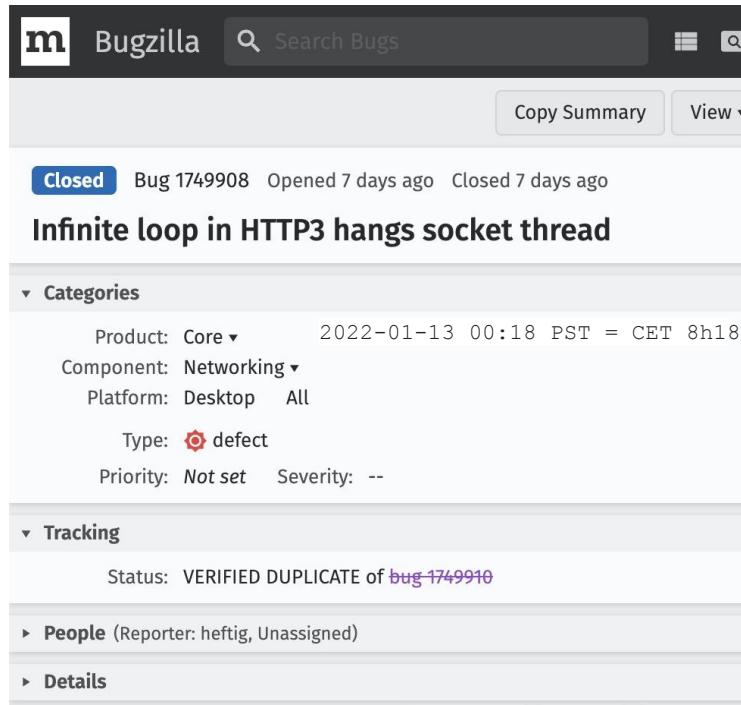
# Foxstuck



 Fox

Foxstuck: Firefox browser bug boots legions of users offline ([The Register](#))

# network.http.http3.enabled: false



**Closed** Bug 1749908 Opened 7 days ago Closed 7 days ago

**Infinite loop in HTTP3 hangs socket thread**

**Categories**

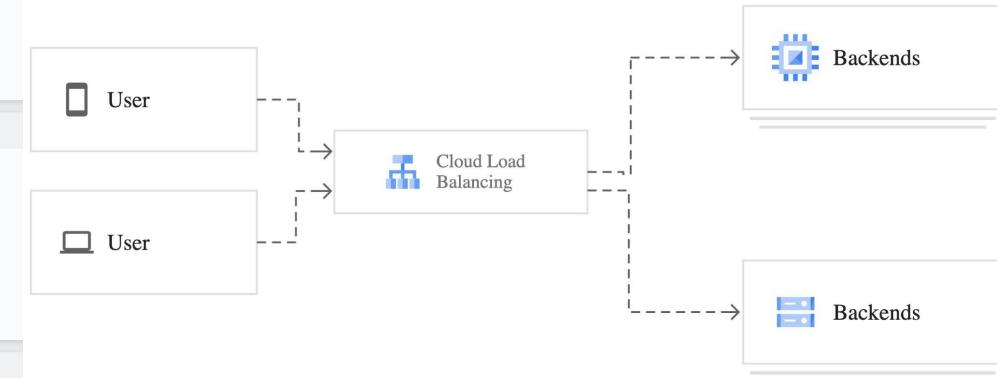
- Product: Core
- Component: Networking
- Platform: Desktop All
- Type: defect
- Priority: Not set Severity: --

**Tracking**

Status: VERIFIED DUPLICATE of [bug-1749910](#)

**People** (Reporter: heftig, Unassigned)

**Details**



Mozilla Bugzilla [#1749908](#)



# DNS



# Disaster Nominal Source

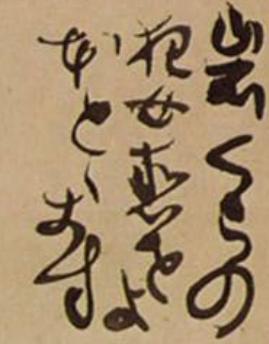


# It's not DNS



# There's no way it's DNS

# It was DNS



やまと  
にわか  
のこゑ  
すよ



Source: [Imgur](#) [21/10/16]



# Slack



## Thursday September 30, 2021

### ⚠ Incident

**Less than 1% of users may be experiencing trouble connecting to Slack**



We've confirmed this issue is now resolved. If you're still encountering any issues connecting, please reload Slack using Ctrl + Shift + R (Windows/Linux) / Command + Shift + R (Mac) on desktop, or fully quit and reopen Slack on mobile. If that doesn't help, let us know at [feedback@slack.com](mailto:feedback@slack.com).

If you tried switching to Google DNS during the course of this issue, you can choose to keep this enabled, or switch back using these steps:

[https://developers.google.com/speed/public-dns/docs/using#switch\\_back\\_to\\_your\\_old\\_dns\\_settings](https://developers.google.com/speed/public-dns/docs/using#switch_back_to_your_old_dns_settings)

Our sincere apologies for the interruption to your work, and we appreciate you bearing with us in the meantime. We'll be back with a full summary of the issue.

Note: We've adjusted the timestamp of this update to accurately reflect the issue's time of resolution.

Oct 1, 5:49 PM GMT+2

Apologies for the continued trouble. It will take some time for the DNS changes to resolve this issue for everyone. If organization policy permits, and if you are comfortable making this change, switching to Google DNS may improve things in the meantime. Please find guides below:



Capture d'écran du PM 30/09/2021: [Slack Status](#)



# DNS workaround

shacky003

Pointing your DNS queries to Google (8.8.8.8) or Cloudflare (1.1.1.1) isn't a solution as the article clearly states that BGP route lists were removed globally for the affected domains. It may have worked temporarily due to stale records, but it isn't a fix, as the BGP routes were removed from all public DNS providers.

If a phone number is erased from all phonebooks, getting another phonebook isn't going to help. The routes have to be refreshed/reloaded from the top down..

Posted on Oct 4, 2021 | 1:46 PM

THERE ARE 40 COMMENTS.

Pixelated

Just change it to 8.8.8.8

Posted on Oct 4, 2021 | 12:08 PM

Tommy\_P

Or 1.1.1.1

Posted on Oct 4, 2021 | 12:26 PM

descendency

Tried both. Neither are showing records for facebook.

Posted on Oct 4, 2021 | 12:49 PM

mobile\_phoney

Or 1-800-PP5-1-DOODOO

Posted on Oct 4, 2021 | 2:19 PM

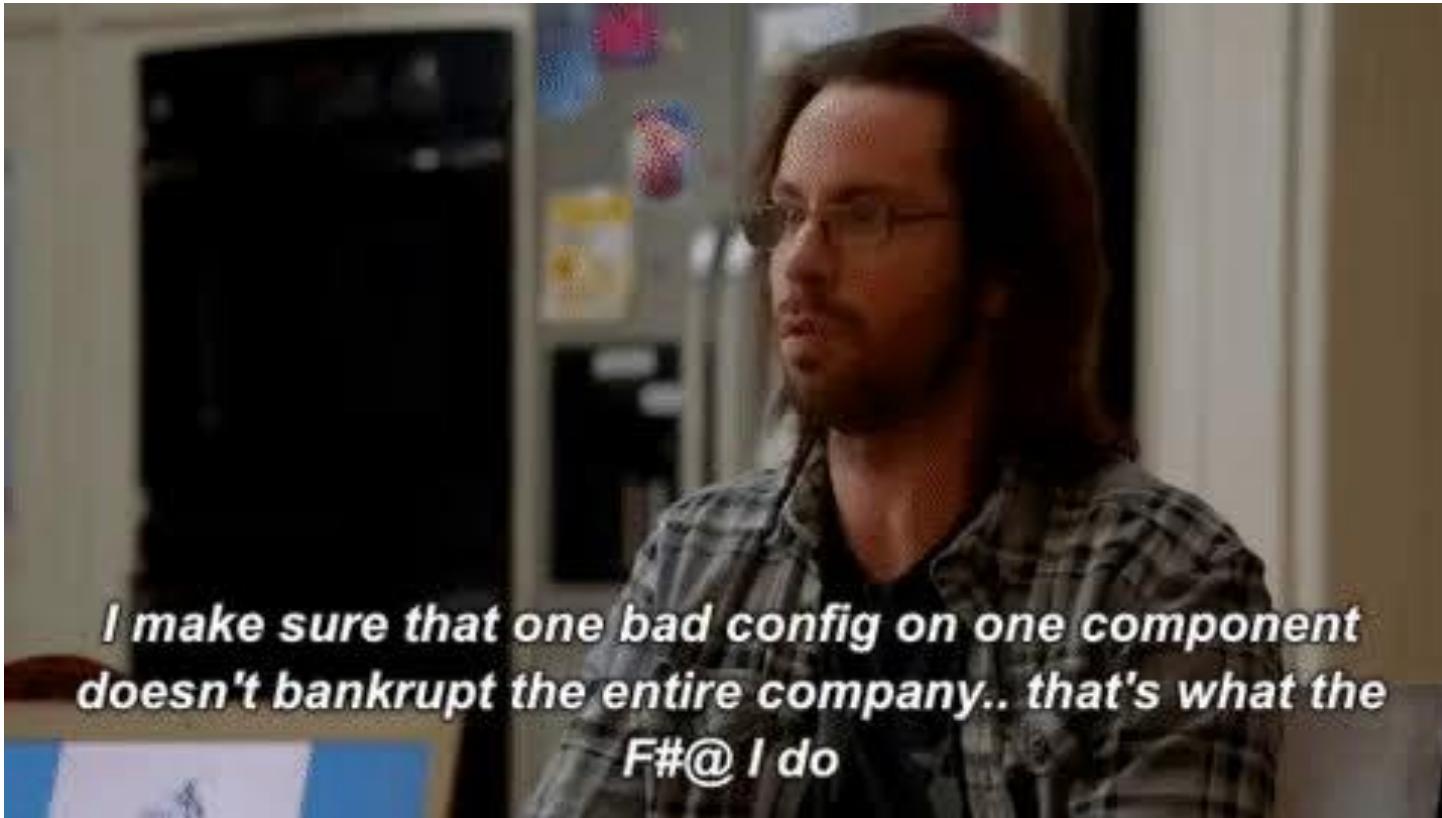
NukedKaltak

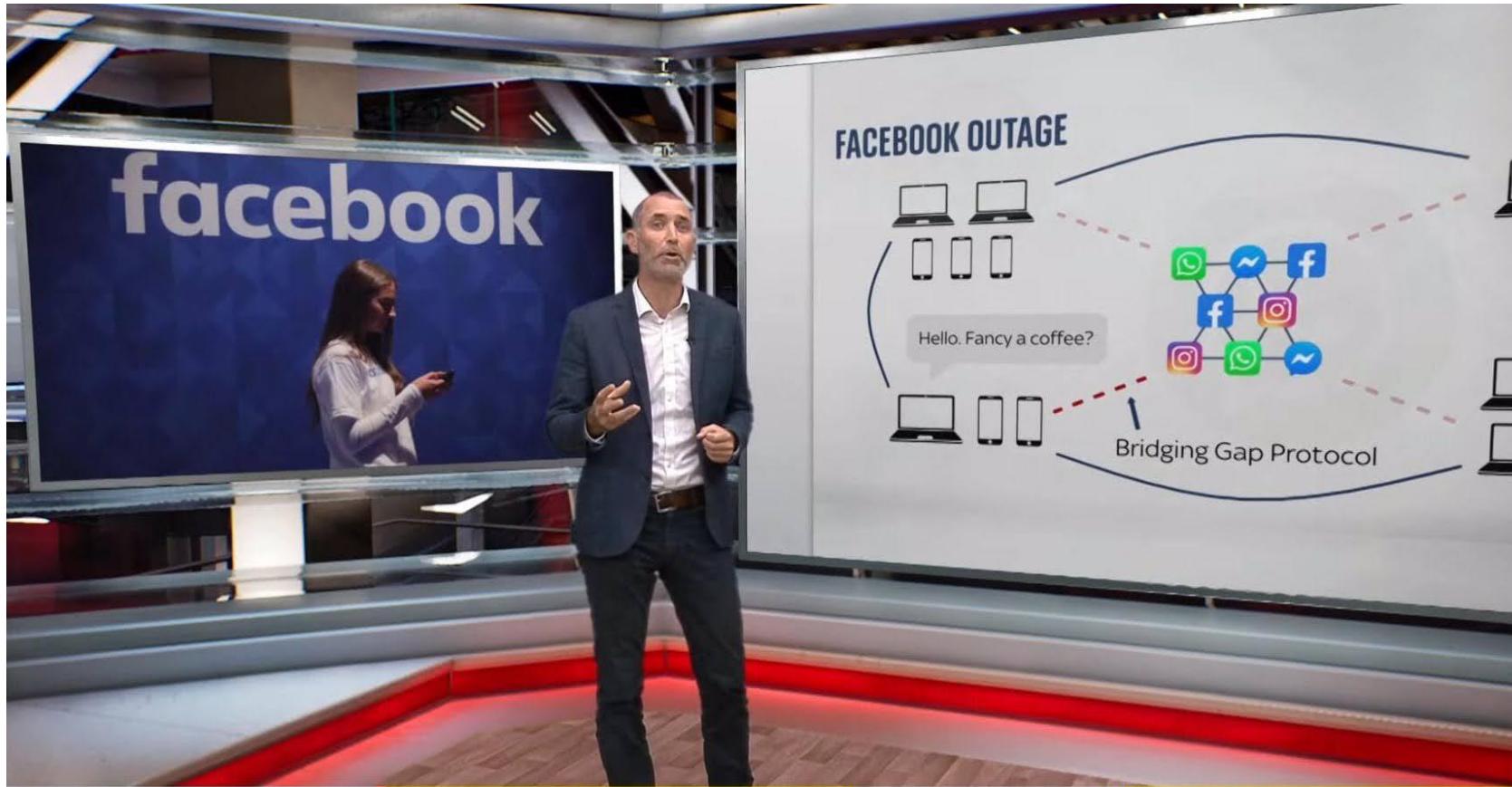
That's not how it works.



Capture d'écran [TheVerge](#) [4/10/21 20h52], [Post-Mortem](#)

# Slack & FB





## Tools to explore BGP

 Julia Evans   @bOrk · Oct 5

ok I think I understand it better thanks to this tweet! it's much easier to look at the route announcements right before / right after all the routes were deleted because it's a lot less messy

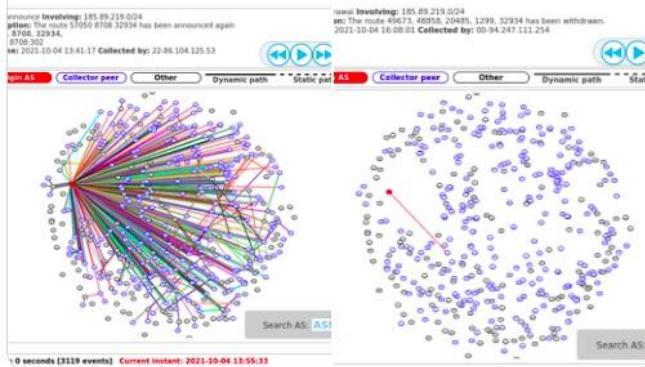
## Lectures

 NAYFIELD @Nayfield · Oct 4

Replying to @Nayfield and @JaneLytv

This is connectivity of that network block before and after the configuration change.

Factual summary: The network used to be well connected to the Internet. After a config change, it's not connected. This network contains half of the DNS servers for Facebook and properties.



## Mon blog



### Autres trucs

Accueil

Seulement les RFC

Seulement les fiches de lecture

### La panne Facebook du 4 octobre 2021

Première rédaction de cet article le 4 octobre 2021  
Dernière mise à jour le 5 octobre 2021

Aujourd'hui, Facebook a connu une panne importante. Que s'est-il passé ? On sait désormais que la cause racine était un p configuration des routeurs BGP. A-t-on des détails ?

Le message d'erreur de beaucoup d'utilisateurs :

Hum, nous ne parvenons pas à trouver ce site.

**Mathis Hammel** @MathisHammel · Oct 5

THREAD : Hier, une panne massive a affecté Facebook et plein de ses services (Instagram, WhatsApp, Messenger, ...)

Mais il s'est passé quoi au juste ? Je vous explique tout ça. 

#FacebookDown #InstagramDown



The Cloudflare Blog

Thanks for being here, come back so

Email Address

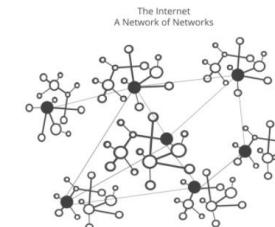
Product News Speed & Reliability Security Serverless Zero Trust Developers Deep Dive

## Understanding How Facebook Disappeared from the Internet

04/10/2021

 Celso Martinho

 Tom Strickx



@dadideo



75

Cécile @AtaxyaN

Oct 4

Bon, on va faire un petit thread plus technique ou je vais tenter d'expliquer au fur et à mesure que je récupère des infos de vous expliquer ce qui se passe chez Facebook !

(Spoiler alert: je suis pas la plus grande experte du réseau, alors il peut avoir des choses inparfaite)

 Cécile @AtaxyaN · Oct 4

On peut dire que j'ai franchi un nouveau palier ? 😊  
[bfmtv.com/tech/facebook-down](http://bfmtv.com/tech/facebook-down)

demandé, qui prend en réalité la forme d'une suite de chiffres baptisée adresse IP.

"Vers 15h50, Facebook a arrêté d'envoyer ses IPs au reste du monde. En conséquence, les serveurs DNS ne sont plus accessibles par les opérateurs, et donc la traduction du nom de domaine vers l'adresse IP ne peut plus se faire. Ce qui entraîne l'inaccessibilité partout dans le monde des services Facebook (Facebook, Instagram, WhatsApp)" résumé Cécile Morange, technicienne réseau, auprès de BFMTV.

Par analogie, le système de DNS d'Internet peut être assimilé à un GPS



29



515



907



Tip



GRZ

@GuillaumeRozier

Comment Facebook, Insta et WhatsApp ont pu tomber ?

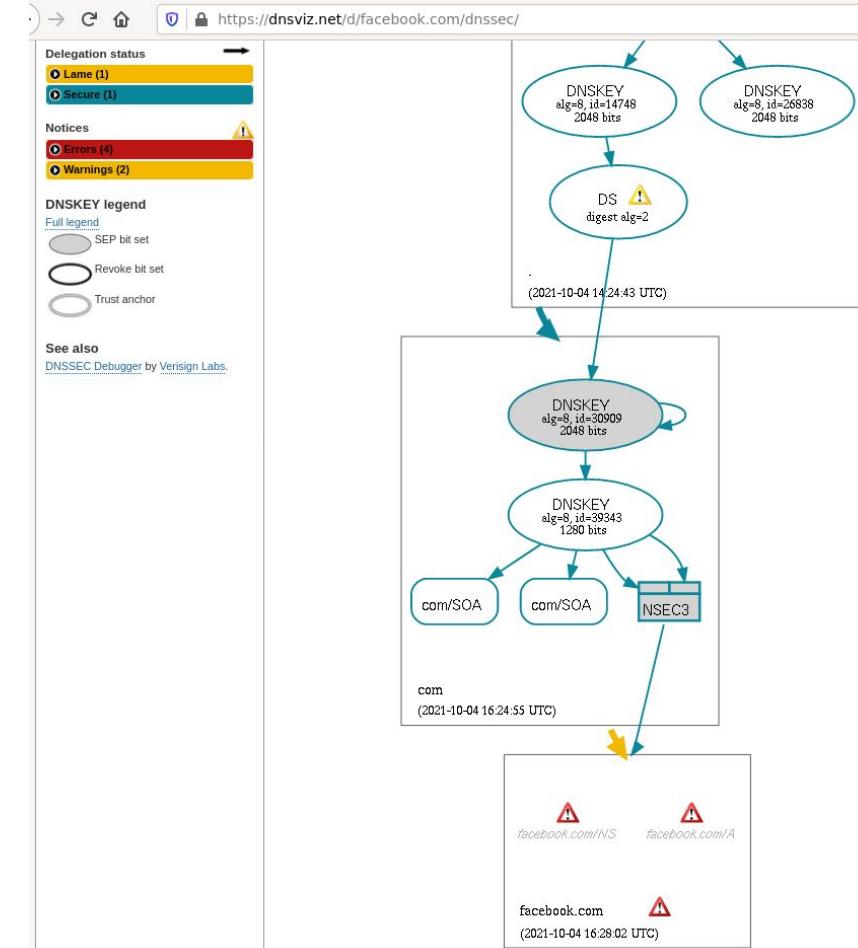
Cloudflare (qui fournit un CDN très utilisé), a écrit un article complet qui détaille ce qui s'est passé hier soir.  
[blog.cloudflare.com/october-2021-f...](http://blog.cloudflare.com/october-2021-f...)

J'essaye de vous le résumer en Français #Thread

Translate Tweet

# Visualisation de la requête

**DNS (TTL=300s)**  
**-> trop court!**



Blog Stéphane Bortzmeyer:  
[La panne Facebook du 4 octobre 2021](#)



# Consequences

-5% du cours de la bourse  
6 Milliards \$ (121.6B)

30x DNS queries @ Cloudflare (1.1.1.1)

A peek at [Down Detector](#) (or your Twitter feed) reveals the problems are widespread. While it's unclear exactly why the platforms are unreachable for so many people, their DNS records show that, [like last week's Slack outage](#), the problem is apparently DNS ([it's always DNS](#)). Cloudflare senior vice president Dane Knecht [notes](#) that Facebook's border gateway protocol routes — [BGP](#) helps networks pick the best path to deliver internet traffic — have been "withdrawn from the internet."



[Instagram.com](#) is flashing a 5xx Server Error message, while the Facebook site merely tells us that something went wrong. The problem also appears to be affecting its virtual reality arm, Oculus. Users can load games they already have installed and the browser works, but social features or installing new games does not. The outage is thorough enough that it's affecting Workplace from Facebook customers and, [according to Jane Manchun Wong](#), Facebook's internal sites.



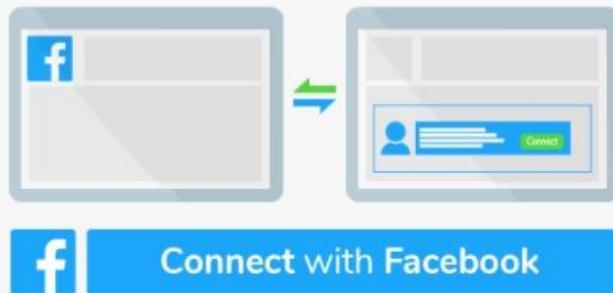
# Conséquences latérales

Alexis Kauffmann @framaka · Oct 4

Je ne veux pas en rajouter une couche mais y'a aussi ça.

Tu es seul ce soir au milieu de nulle part car tu n'as pas réussi à ouvrir ton compte Airbnb inscrit avec Facebook Connect...

#facebookdown



...



Sheera Frenkel   
@sheeraf

Was just on phone with someone who works for FB who described employees unable to enter buildings this morning to begin to evaluate extent of outage because their badges weren't working to access doors.

1:51 PM · 10/4/21 · Twitter for iPhone

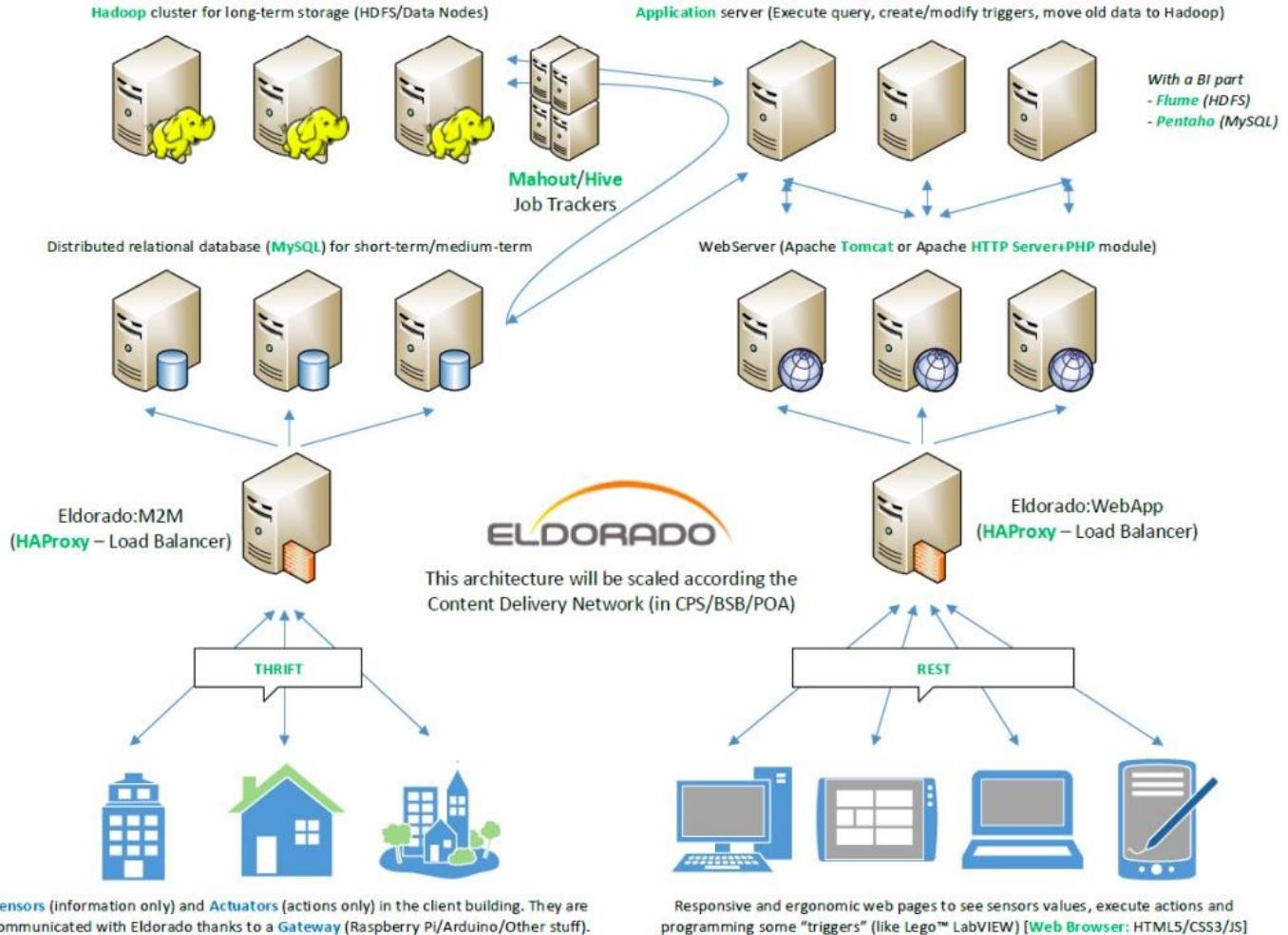


Kevin Collier   
@kevincollier

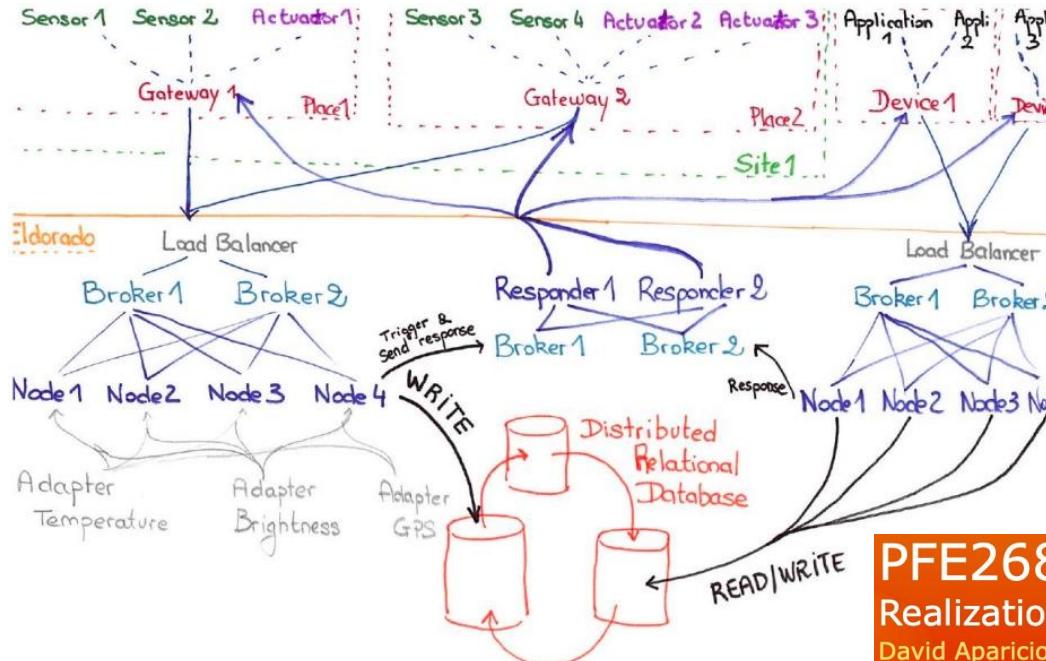
Don't yet know exactly what's behind the DNS issue that's knocked Facebook/Instagram/WhatsApp offline, but it's really bad. Pretty much everything that runs through those three companies are inaccessible. Employees can't even enter conference rooms because they're IoT!

1:07 PM · 10/4/21 · Twitter Web App

# Channels



# Entrypoint / Exitpoint (Separation of concerns)



Modules: Hadoop, BI, Jobs, Loas Billing  
 Capture d'écran PFE268 (2014)

**PFE268 – IoT**  
**Realization of a distributed system**  
 David Aparicio – Institute Eldorado  
 August 2013 – July 2014  
 Presentation



ELDORADO

# Conseils

Ne pas avoir un même DNS centralisé à tous les produits (SPOF)

Avoir un TTL plus grand (cache)

Avoir des routes de secours (Inbound/out of bound, bastions, PoP chez d'autres cloud providers)

Avoir la documentation (accessible papier/pdf au cas où, pour réparer le réseau/liste d'IPs)

Ne pas mettre Statuspage au même endroit que l'INFRA, idem pour la messagerie (Messenger ou Slack)

Sinon impossible de communiquer aux clients

Séparation des préoccupations

Ne pas se reposer uniquement sur les logiciels d'audit (code/ops)

Multi-IPs et nom de domaines (au lieu de sous-domaine)

QoS / Prioriser les flux importants de l'entreprise (lot/Web/etc..)

Ne pas changer ses DNS (1.1.1.1) ou (8.8.8.8) de manière permanente

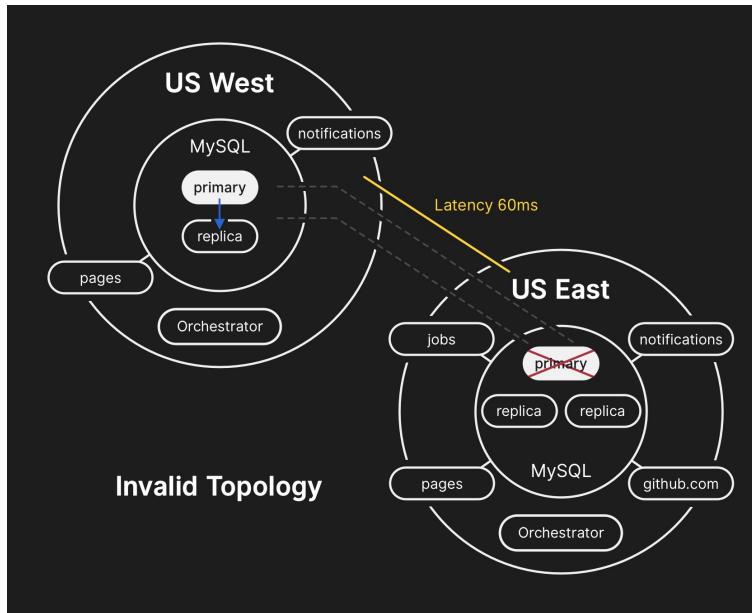
(car ainsi ils ont l'historique de votre navigation web)



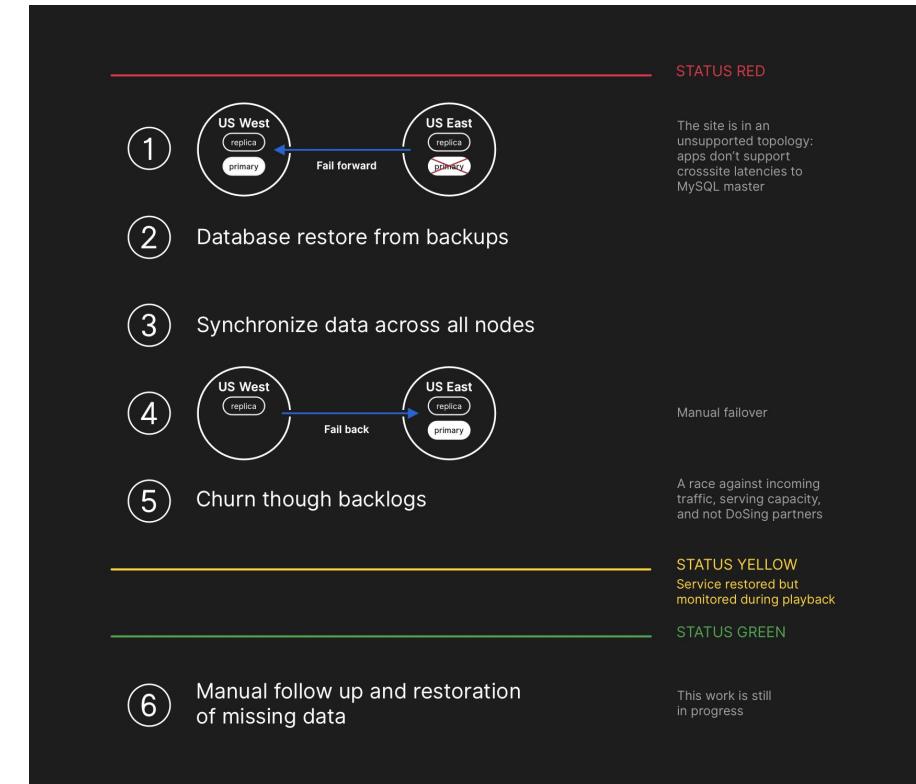
# Split-Brain



# GitHub



Schémas issus du blog post : [October 21 post-incident analysis](#)





---

## En bref

- SRE Blameless culture / With great power comes great responsibility
- QA / Chaos tests
- Former vos équipes : Game day / Wheel of Misfortune
- Tester fréquemment vos backups & hors d'un Drive pour les données médicaux ;-)
- CI/CD & DevSecOps pipelines
- Implémenter & monitorer les metrics importantes issues des incidents (GC Pause, etc)



# Wheel of Misfortune

Spin the Wheel!



Incident 1

Incident 2

Incident 3

Incident 4

Incident 5

Incident 6

Incident 7

Incident 8

SPIN

◀

Incident Actions



**ACKNOWLEDGE**

MITIGATE

TRIAGE

Incident Progress



0%

Timing Controls



00:00:00

   Lap

## Incident 6

You've received alerts of high HTTP 5xx error rate...



Capture d'écran de la "Roue de la malchance": <https://dastergon.gr/wheel-of-misfortune/>

Entreprise / Incident	Date
AWS / Drop database <a href="https://aws.amazon.com/message/680587/">https://aws.amazon.com/message/680587/</a>	24/12/2012
Gitlab / Drop database <a href="https://about.gitlab.com/blog/2017/02/10/postmortem-of-database-outage-of-january-31/">https://about.gitlab.com/blog/2017/02/10/postmortem-of-database-outage-of-january-31/</a>	31/01/2017
DigitalOcean / Drop database <a href="https://www.digitalocean.com/blog/update-on-the-april-5th-2017-outage/">https://www.digitalocean.com/blog/update-on-the-april-5th-2017-outage/</a>	05/04/2017
OVHCloud / Watercooling <a href="https://blog.ovh.com/fr/blog/hebergements-web-post-mortem-incident-29-juin-2017/">https://blog.ovh.com/fr/blog/hebergements-web-post-mortem-incident-29-juin-2017/</a>	29/06/2017
Criteo / Datalake HDFS limits + Friday night & New-comer on-call <a href="https://medium.com/criteo-engineering/40pb-per-year-the-challenge-of-data-growth-at-criteo-5d5b73ec5294">https://medium.com/criteo-engineering/40pb-per-year-the-challenge-of-data-growth-at-criteo-5d5b73ec5294</a>	18/02/2018
GitHub / DataBase Split Brain <a href="https://github.blog/2018-10-30-oct21-post-incident-analysis/">https://github.blog/2018-10-30-oct21-post-incident-analysis/</a>	30/10/2018
ElasticCloud / Proxy Layer+Zookeeper <a href="https://www.elastic.co/blog/elastic-cloud-january-18-2019-incident-report">https://www.elastic.co/blog/elastic-cloud-january-18-2019-incident-report</a>	18/01/2019
CleverCloud / Orages à Paris (Redondance/Dépendance au network provider) <a href="https://www.clevercloudstatus.com/incident/376">https://www.clevercloudstatus.com/incident/376</a>	22/06/2021
NewsBlur / Docker PROD DB exposé sur le net, sans mot de passe <a href="https://blog.newsblur.com/2021/06/28/story-of-a-hacking/">https://blog.newsblur.com/2021/06/28/story-of-a-hacking/</a>	23/06/2021
Slack / DNS, pas de post-mortem pour le moment <a href="https://status.slack.com/2021-09-30">https://status.slack.com/2021-09-30</a>	30/09/2021
Facebook / BGP operations <a href="https://engineering.fb.com/2021/10/04/networking-traffic/outage/">https://engineering.fb.com/2021/10/04/networking-traffic/outage/</a>	04/10/2021



[danluu / post-mortems](#) Public

Watch 516 Unstar 8.5k Fork 333

Code Pull requests 2 Actions Projects Wiki Security Insights

master 1 branch 0 tags

Go to file Add file Code

andygrunwald	Adding new post mortem: Removing all use...	... 3b2b386 9 hours ago	290 commits
.github/workflows	pass in github token to notfound workflow	3 months ago	
README.md	Adding new post mortem: Removing all users from githu...	9 hours ago	

README.md

## A List of Post-mortems!

### Table of Contents

- [Config Errors](#)
- [Hardware/Power Failures](#)
- [Conflicts](#)
- [Time](#)
- [Uncategorized](#)
- [Other lists of postmortems](#)
- [Analysis](#)
- [Contributors](#)



<http://github.com/danluu/post-mortems>

### About

A collection of postmortems.

Sorry for the delay in merging PRs!

[danluu.com/postmortem-less...](#)

debugging

post-mortem

hacktoberfest

← → ⌂ Not Secure | danluu.com/postmortem-lessons/

Readme

### Reading postmortems

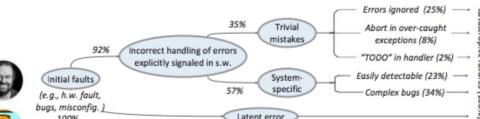
I love reading postmortems. They're educational, but unlike most educational docs, they tell an entertaining story. I've spent a decent chunk of time reading postmortems at both Google and Microsoft. I haven't done any kind of formal analysis on the most common causes of bad failures (yet), but there are a handful of postmortem patterns that I keep seeing over and over again.

### Error Handling

Proper error handling code is hard. Bugs in error handling code are a major cause of *bad* problems. This means that the probability of having sequential bugs, where an error causes buggy error handling code to run, isn't just the independent probabilities of the individual errors multiplied. It's common to have cascading failures cause a serious outage. There's a sense in which this is obvious -- error handling is generally regarded as being hard. If I mention this to people they'll tell me how obvious it is that a disproportionate number of serious postmortems come out of bad error handling and cascading failures where errors are repeatedly not handled correctly. But despite this being "obvious", it's not so obvious that sufficient test and static analysis effort are devoted to making sure that error handling works.

For more on this, Ding Yuan et al. have a great paper and talk: [Simple Testing Can Prevent Most Critical Failures: An Analysis of Production Failures in Distributed Data-Intensive Systems](#). The paper is basically what it says on the tin. The authors define a critical failure as something that can take down a whole cluster or cause data corruption, and then look at a couple hundred bugs in Cassandra, HBase, MapReduce, and Redis, to find 48 critical failures. They then look at the causes of those failures and find that most bugs were due to bad error handling. 92% of those failures are actually from errors that are handled incorrectly.

### Contributors 86



# Vouchers



## ESSAI GRATUIT PUBLIC CLOUD

Profitez maintenant de 30 € de crédit offert\* avec le code : CLOUD

[Commencer](#)



## ESSAI GRATUIT AI NOTEBOOKS

Profitez d'un crédit offert\* de 70€ pour démarrer votre notebook Jupyter ou VS Code en quelques minutes ! **Code : AI-NTBK21**

[En profiter](#)

# Voulez-vous travailler avec David ?



Voici 3 offres dans l'équipe GIS :



IT Technical Leader



Développeur Python



Manager  
Database Opensource



---

## Avez-vous des questions ?

  N'oubliez pas de me donner votre avis sur cette session:

 <https://s.42l.fr/iaas>

 Rejoignez-nous sur <https://careers.ovhcloud.com>



# Slides

