OMGOVHBBQ

Or what happens exactly, when the cloud gets on fire.



C'est écrit en Français... le Français est une perte de temps...



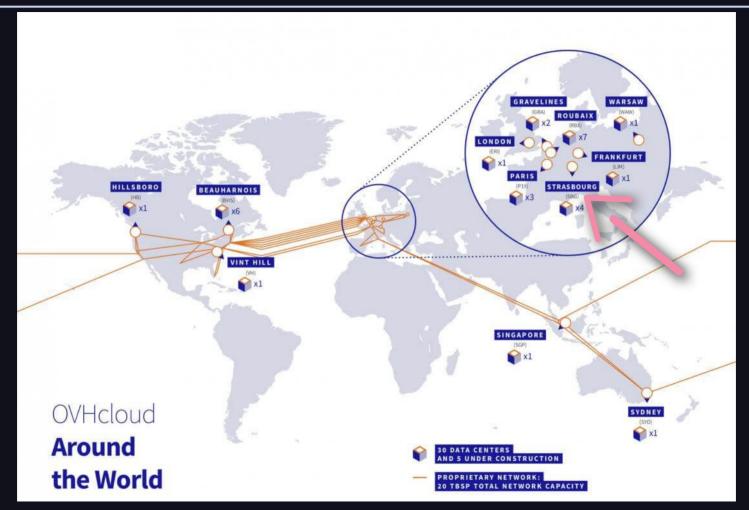
What's OVH anyway?

OVHcloud

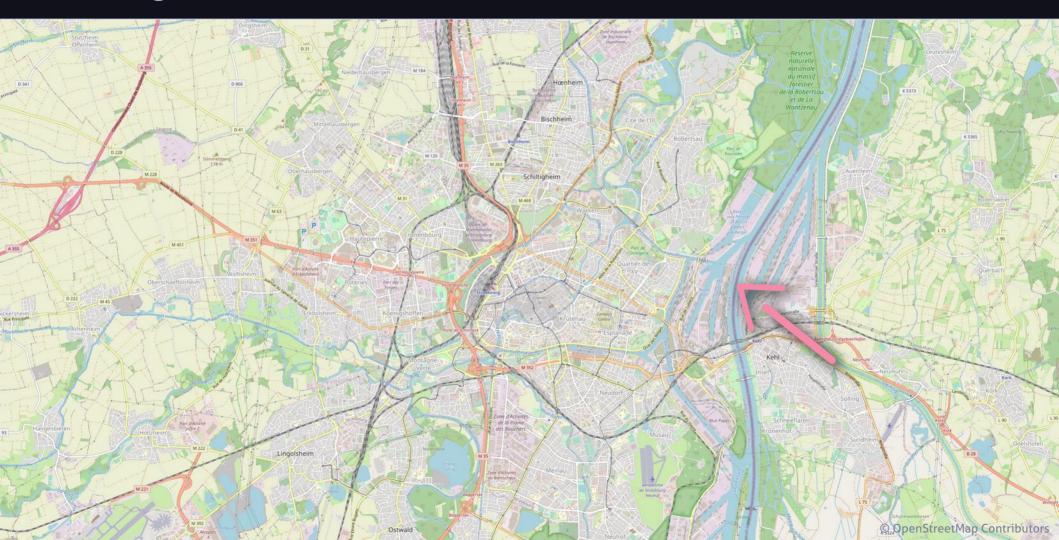
OVHCloud

- Founded in November 1999 by Octave Klaba
- Inspired from student surname « Oles Van Herman »
- Can also mean « On Vous Héberge » (We host you)
- Bare Metal / VPS / Domain Names
- Public Cloud / Cloud DBs / ISP

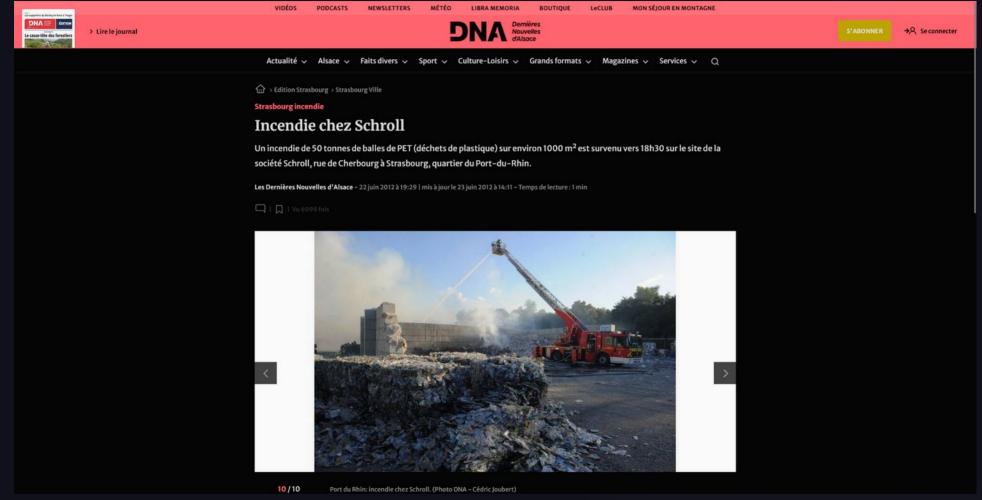
What's OVH anyway?



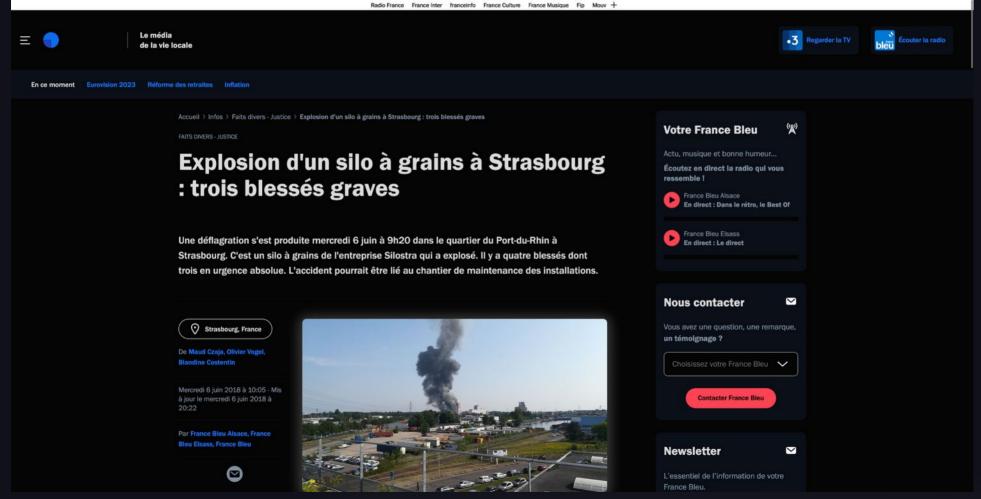
Strasbourg — Scale 1:45791



22 June 2012 Scholl (Recycling)

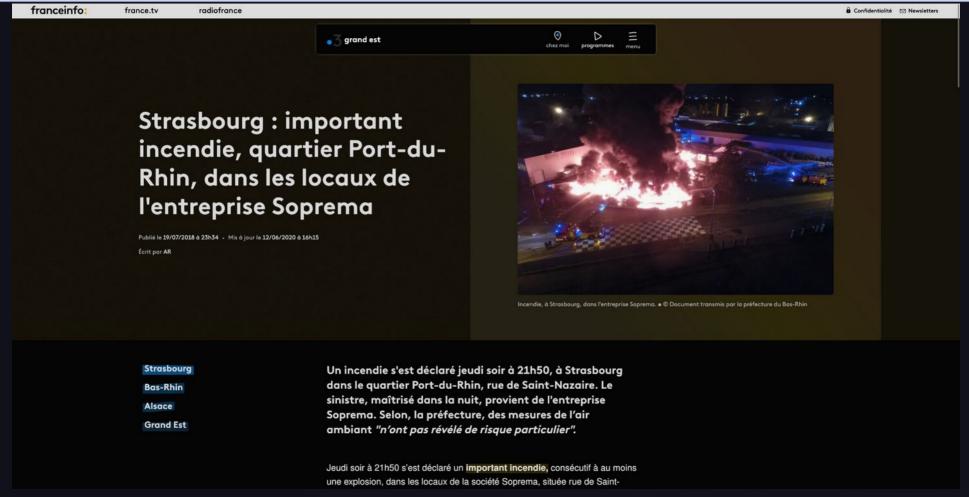


6 June 2018 Silostra (Grain silos)

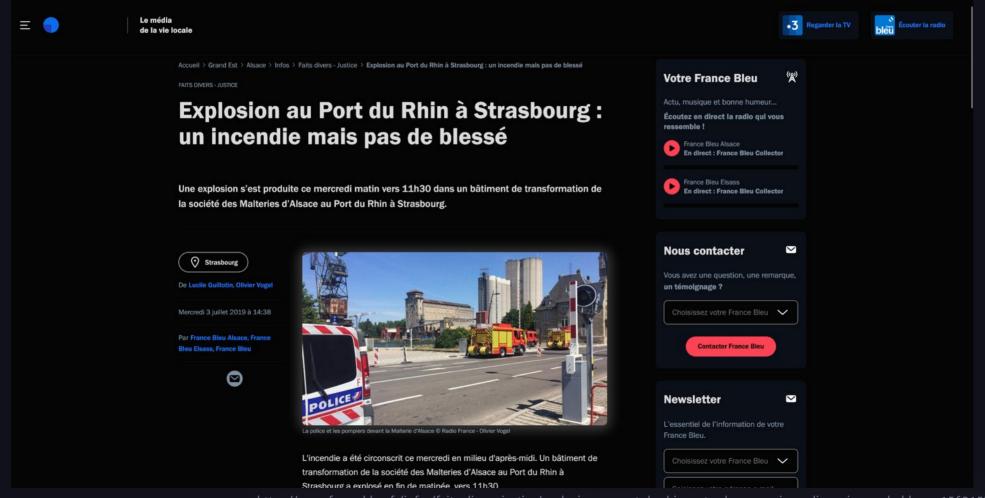


https://www.francebleu.fr/infos/faits-divers-justice/strasbourg-des-blesses-apres-une-explosion-au-port-du-rhin-1528272236

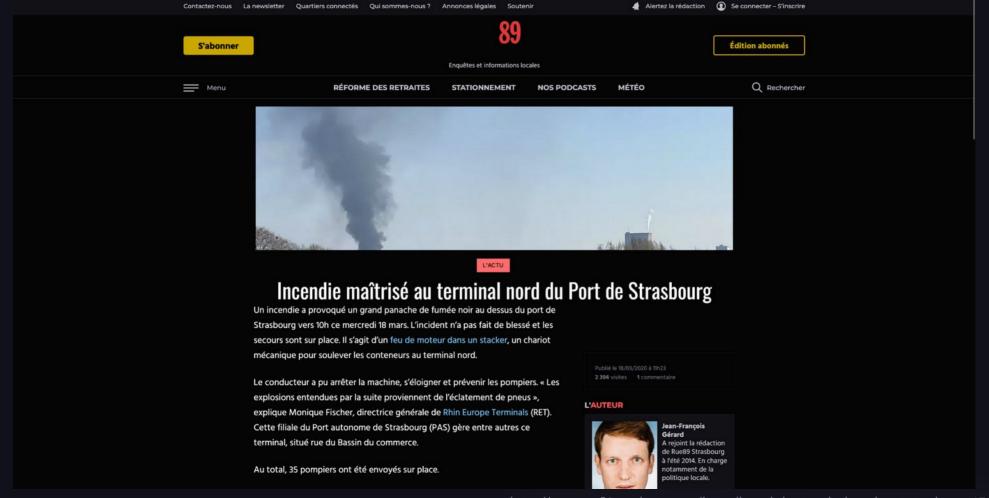
19 July 2018 Soprema (Polyurethane fabricant)



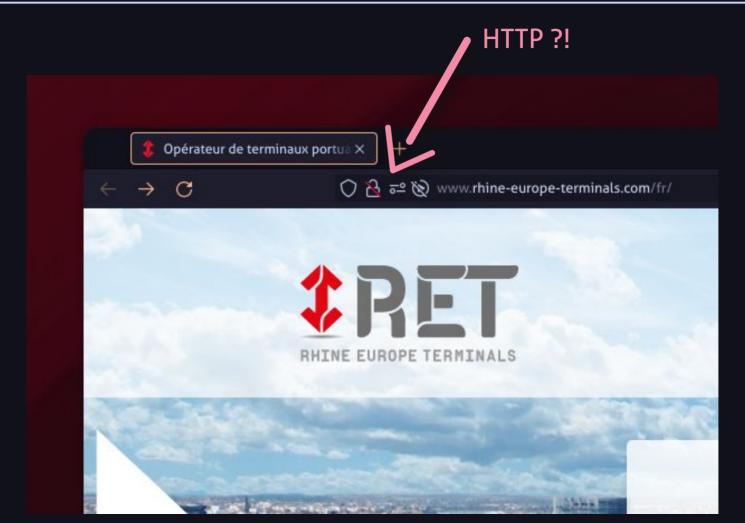
3 July 2019 Société des Malteries d'Alsace (Malt producer)



18 March 2020 Rhin Europe Terminals (Port logistics for Strasbourg and Lauterbourg)



18 March 2020 Rhin Europe Terminals (Port logistics for Strasbourg and Lauterbourg)

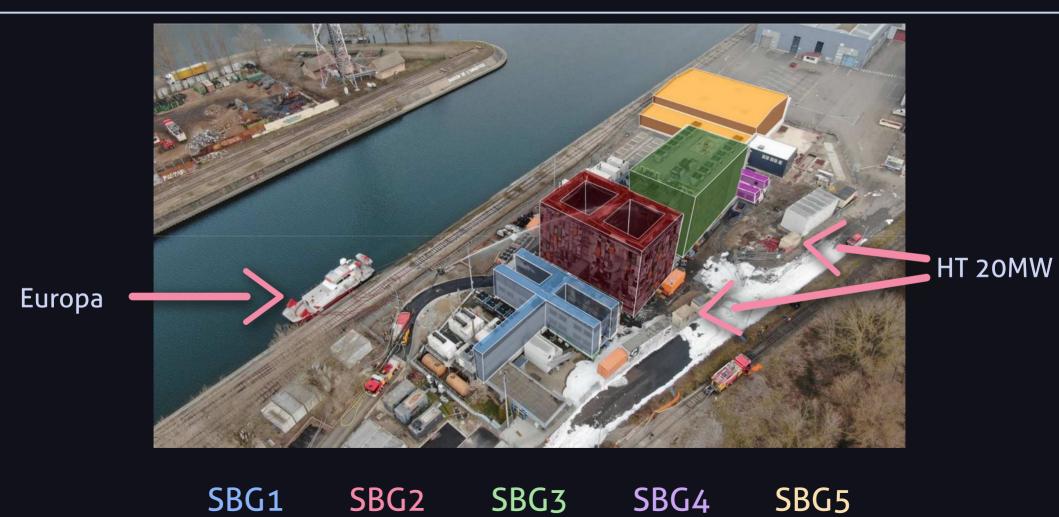


18 July 2022

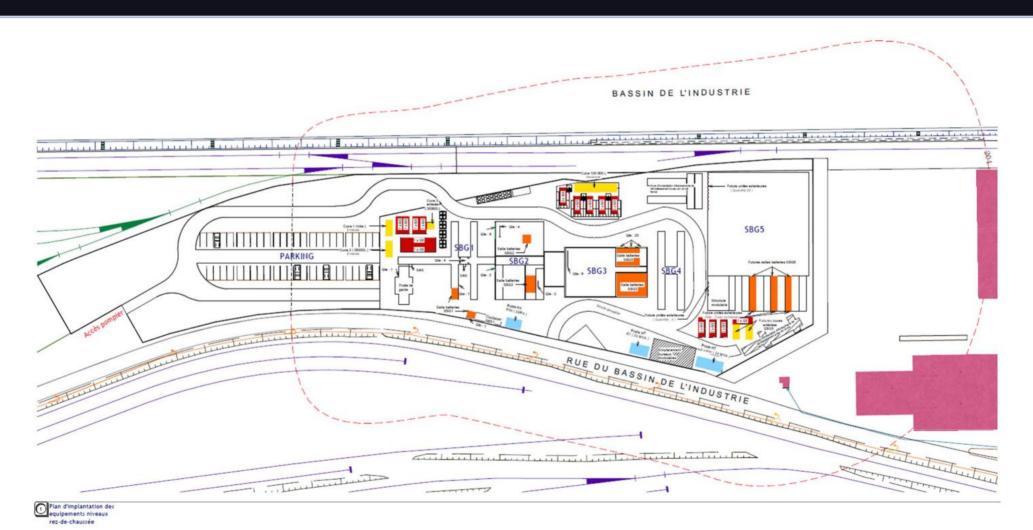
Sardi (Recycling company)



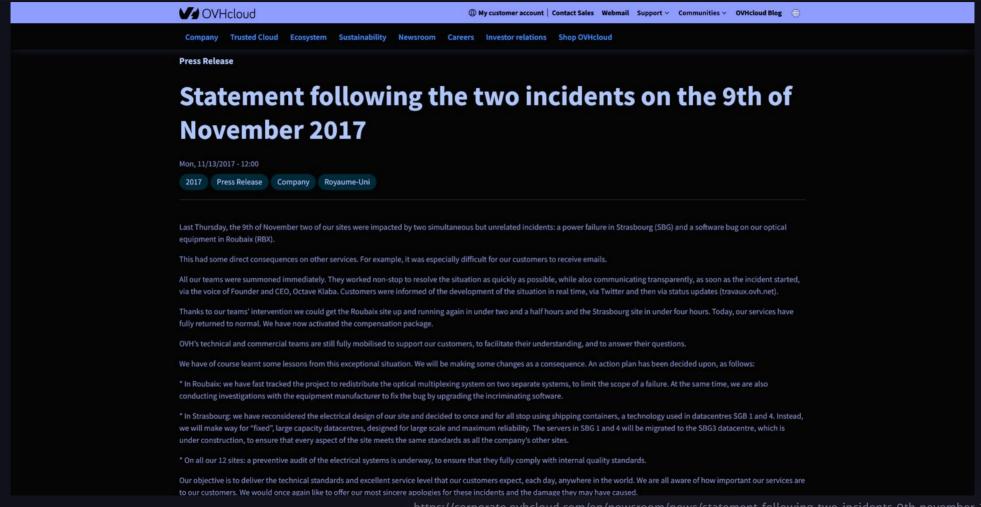
Buildings



Buildings



Hold on a sec, I thought these were decommissioned?

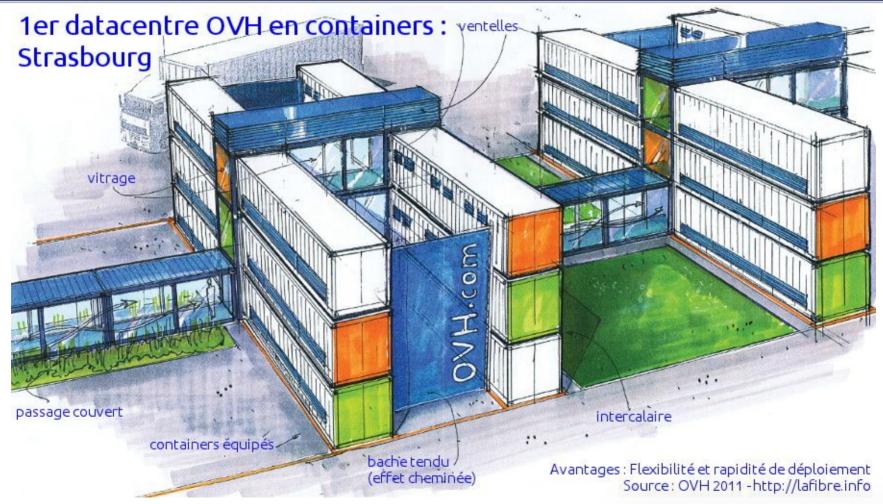


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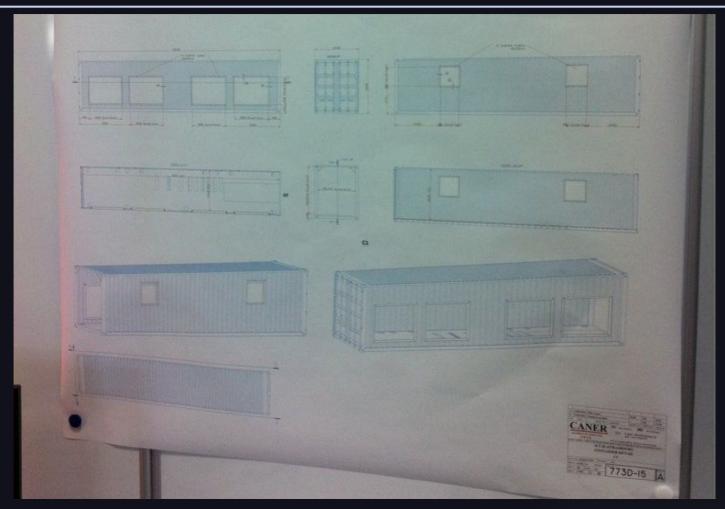
13 November 2017

• In Strasbourg: we have reconsidered the electrical design of our site and decided to once and for all stop using shipping containers, a technology used in datacentres SGB 1 and 4. Instead, we will make way for "fixed", large capacity datacentres, designed for large scale and maximum reliability. The servers in SBG 1 and 4 will be migrated to the SBG3 datacentre, which is under construction, to ensure that every aspect of the site meets the same standards as all the company's other sites.

Containers Plans — SBG1



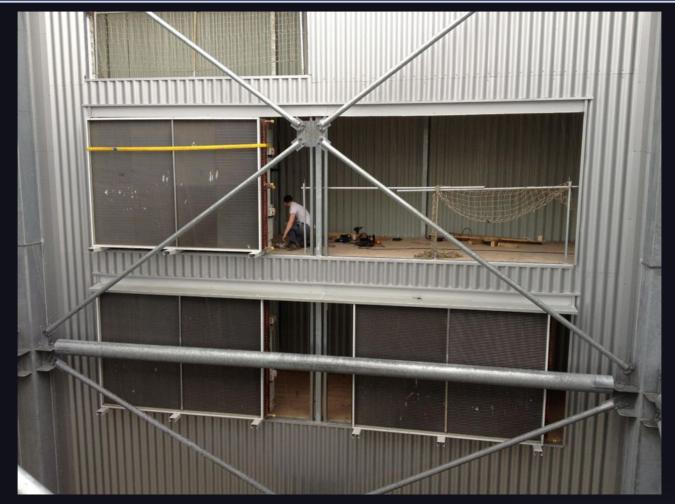
Containers Plans — SBG1



Containers Prototype — SBG1



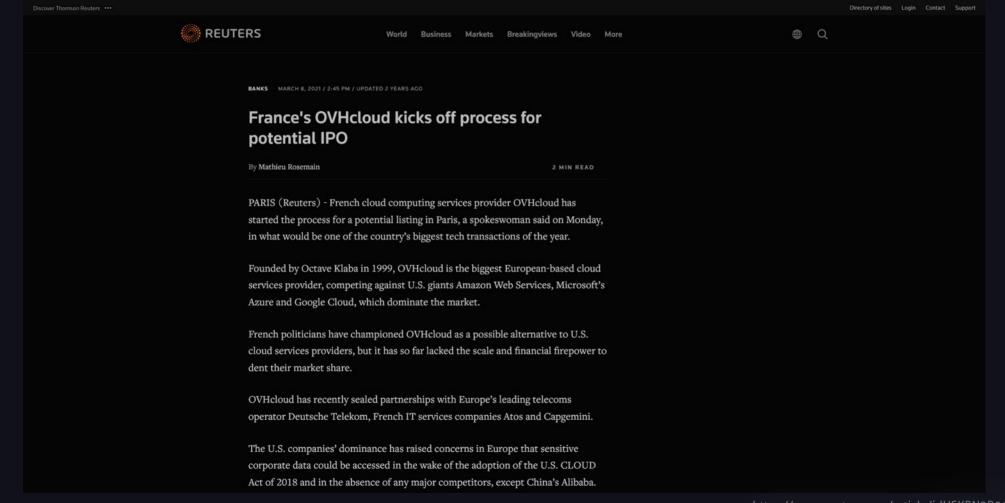
Containers Watercooling — SBG2



Containers Stacking up! — SBG2



Stonks! 8 march 2021



First spark 10 march 2021

00:37 +2

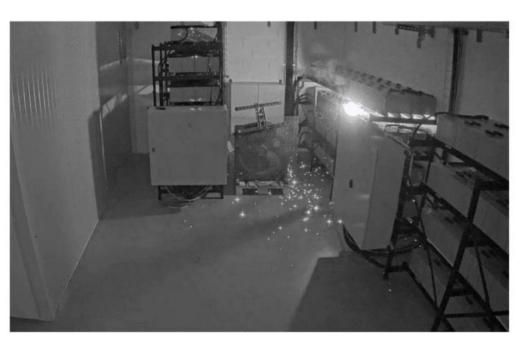
```
00:35
Alarm in the security station
```

SBG2: Guard enters the energy room (batteries & UPS) No 2 located on the ground floor, notices a thick black smoke.

00:39 +4 Building evacuated

00:42 +7
Fire brigade called (1 CdG / 2 FPTSR / 1 EPA)

First spark



Photographie 6 : 0h35, départ de feu dans le local à batteries (source : image extraite de la vidéosurveillance OVH)



Photographie 7 : 0h35, départ de feu dans l'ASI2 (source : image extraite de la vidéosurveillance OVH)

Water-cooling

00:59 +24

Fire brigade arrived and requested to shut down the electrical substation at Électricité de Strasbourg.

Thick black smoke appears at the ground floor and electrical arcs are forming at the door of the power room. (1m wide, flashes and bangs)

A water lance is deployed while waiting for the substations to be powered off.

Shut it down!

01:22 +47

```
01:13 +38
SBG2: Emergency power supply (diesel generators) turned off
```

01:18 +43
SBG1/SBG3/SBG4: Emergency power supply (diesel generators) turned off

Fire brigade attempts a recon on the power room (batteries & UPS). The thermographic camera records 400°C on the door.

Wait, that's not a CPU on peak load!



Why isn't it shutting itself off?!?!11!

```
01:27 +52
```

Strasbourg Électricité Réseaux arrives and won't turn off the client electrical substation.

The fire was spreading and it was ruled out that this was not possible anyway. Decision is made to cut off the distribution substation above.

01:40 +1:05

Temperature sensors on the second floor saturate.

01:50 +1:15

Strasbourg Électricité Réseaux : Remotely turned off electricity at a substation further away.

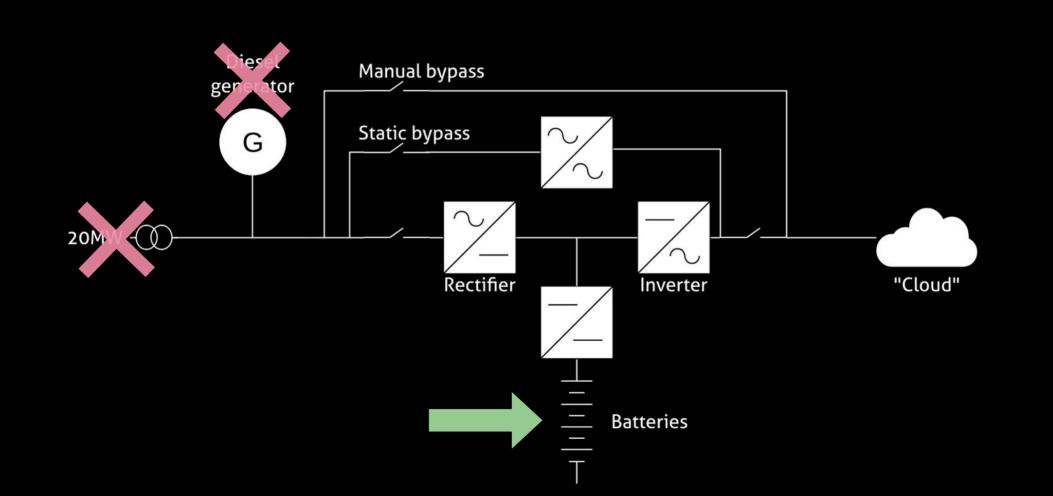
The servers are still powered on.

Why isn't it shutting itself off ?!?!11!



Why isn't it shutting itself off?!?!11!

Quick and dirty electrical diagram



[Fire intensifies]

```
02:14 +1:39
SBC2 : There
```

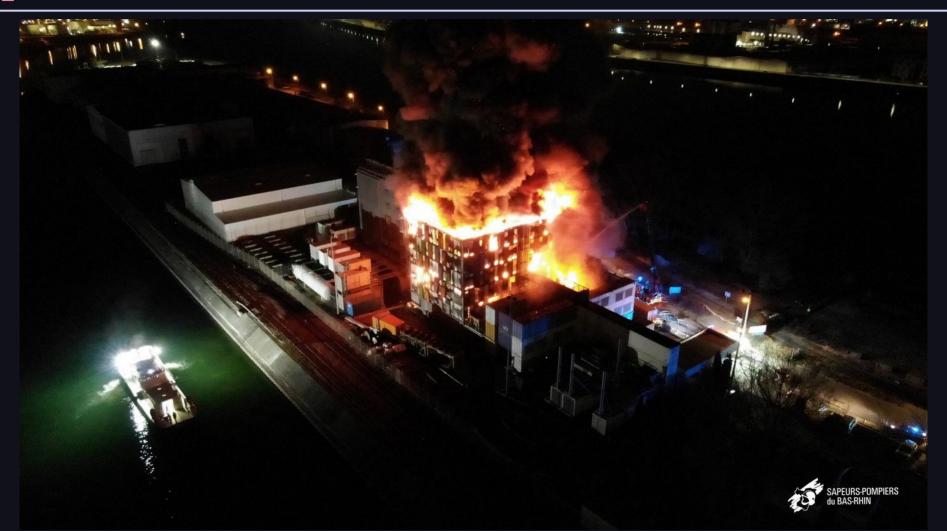
SBG2: There's still power and it is now totally burning.

The fire is propagating to SBG1.

```
02:57 +2:22
```

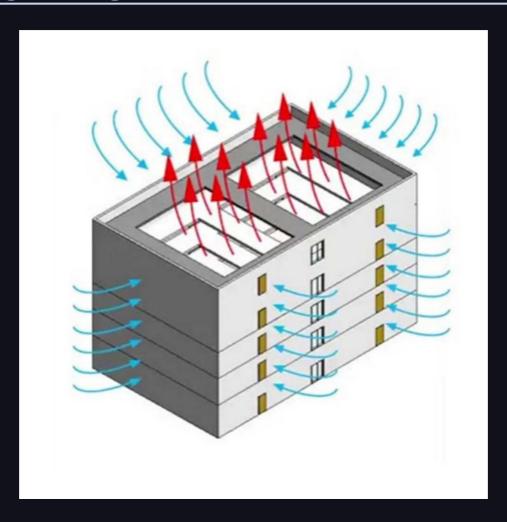
Europa arrives.

[Fire intensifies] SBG2



[Fire intensifies]

SBG2 — Passive cooling working as intended



[Fire intensifies] SBG1



Finally taming the beast

```
03:28 +2:53
The power is off.
```

```
06:45 +6:10 Fire under control, still impossible to enter in the building.
```

```
10:02 +9:27 Fire extinguished.
```

18:13 +17:38

Fire brigade intervention officially over.

Foam party!



Europa: 15 000 l / min

Fire hose: ×2 4500 l/min each

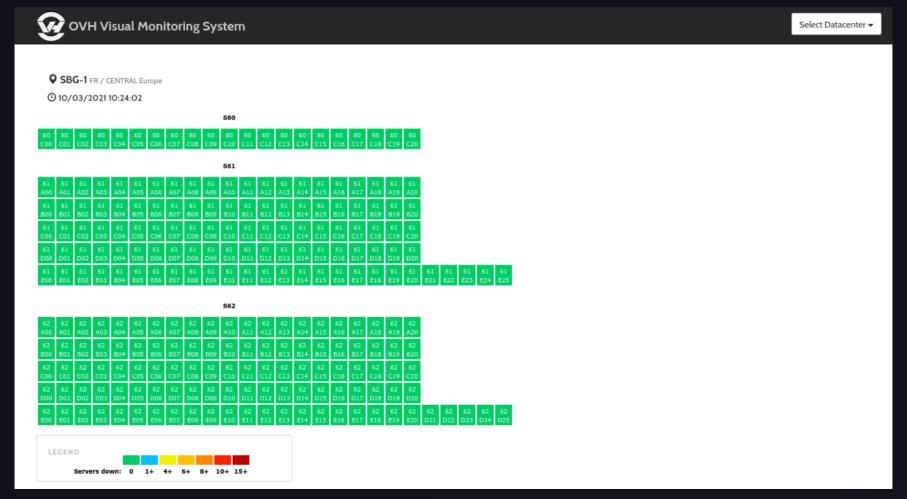
Total: 24 000 l /min

(water) (water and foam)

Contributing factors

- No automatic fire suppression system
- Fire doors were present between SGB2 and SGB3, but were kept open
- Electricity:
 - No easily accessible general emergency power-off switch
 - Electrical substations too close to the fire, making it impossible to operate
 - Diesel generators started despite the fire, crew had to stop them.
 - Batteries were still giving energy until they were flat
 - Added delay to power off at the high voltage substation

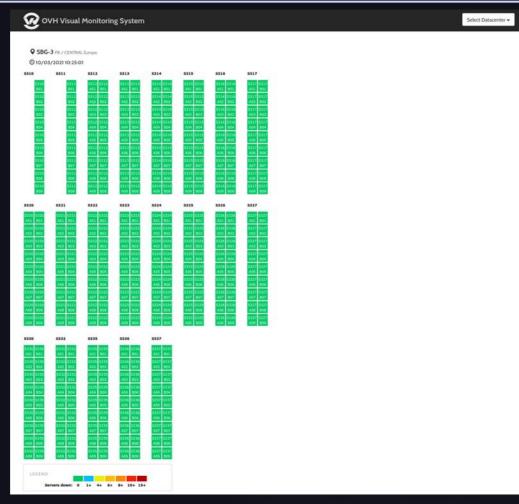
Monitoring? Everything is fine tho. SBG1 ≈ 10h later



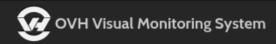
Monitoring? Everything is fine tho. SBG2 ≈ 10h later



Monitoring? Everything is fine tho. SBG3 ≈ 10h later



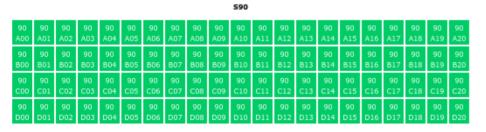
Monitoring? Everything is fine tho. SBG4 ≈ 10h later



Select Datacenter ▼

SBG-4 FR / CENTRAL Europe

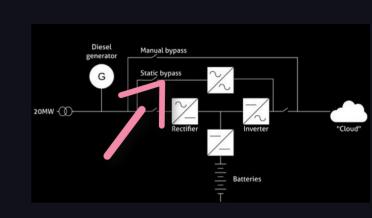
O 10/03/2021 10:26:01



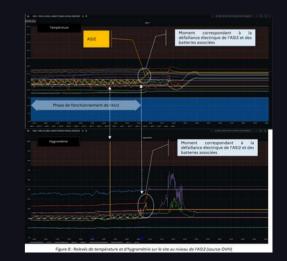


Spontaneous combustion?

Hypothesis one: The unexplained recurrent static bypass switching



Hypothesis two: Humidity peak starting at 23:15



Spontaneous combustion?



Impacted services Statistics (Netcraft)

Around 3.6 million websites across 464,000 distinct domains were taken offline after the major fire at an OVHcloud datacenter site in Strasbourg overnight.

More than 18% of the IP addresses attributed to OVH in Netcraft's most recent Web Server Survey — which took place two weeks ago — were no longer responding at 06:00-07:15 UTC this morning.

Unsurprisingly for a French hosting company, the most affected country code top-level domain (ccTLD) is .fr, which had 184,000 knocked-out websites spread across 59,600 distinct domain names – these account for 1.9% of all .fr domains in the world. In comparison, there were only 24,100 .uk websites hosted in the affected datacenters, across just 8,700 unique domains. Most of the affected websites use the generic .com top-level domain, amounting to 880,000 websites across 180,000 domains.

Impacted services France

Governemental organisations

- Défenseur des droits (Defender of Rights), including antidiscriminations.fr
- Numerous towns (Arras, Cherbourg, Colmar, Saverne, Vichy)
- data.gouv.fr (Open Data)

Transportation

- Tarbes & Lourdes (Bus), Dijon (Bus & Tramway), Nancy (Bus & Tramway)
- Cityscoot (Rent a Scooter)
- Strasbourg-Entzheim Airport

Virtual Learning Environment for lycées (Île-de-France) & collèges (Hauts-de-France)

Webradios stopped streaming

Various sport organisations

Centre Pompidou (Museum)

Impacted services International

Wordpress plugins:

- WP Rocket (Caching)
- Imagify (Image Optimization)

VeraCrypt (Encryption)

Lichess.org (Chess)

eeNews Europe (B2B Electronics news)

Trustbank.dz (Algerian bank)

www.vehicle-certification-agency.gov.uk

Impacted services International CYBER Crimes!



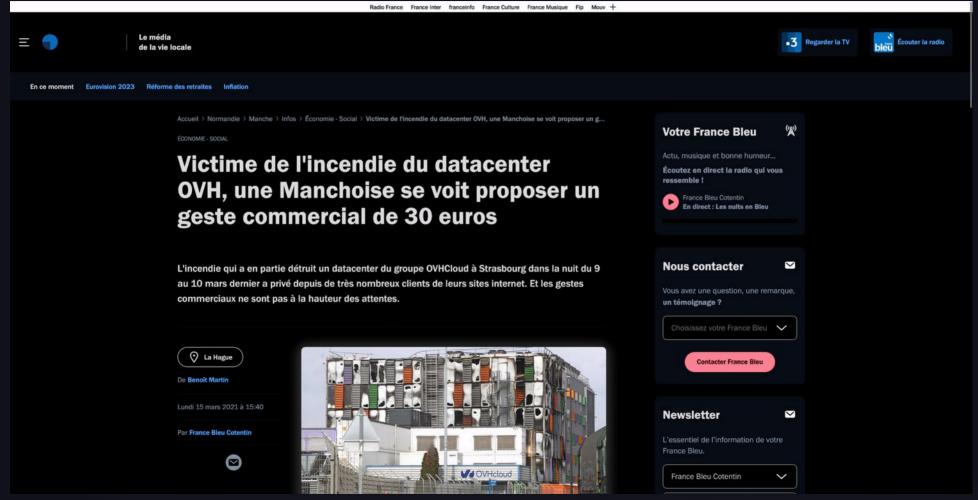
Impacted services Dating website for basement dwellers (and memes)



Kein Backup kein Mitleid



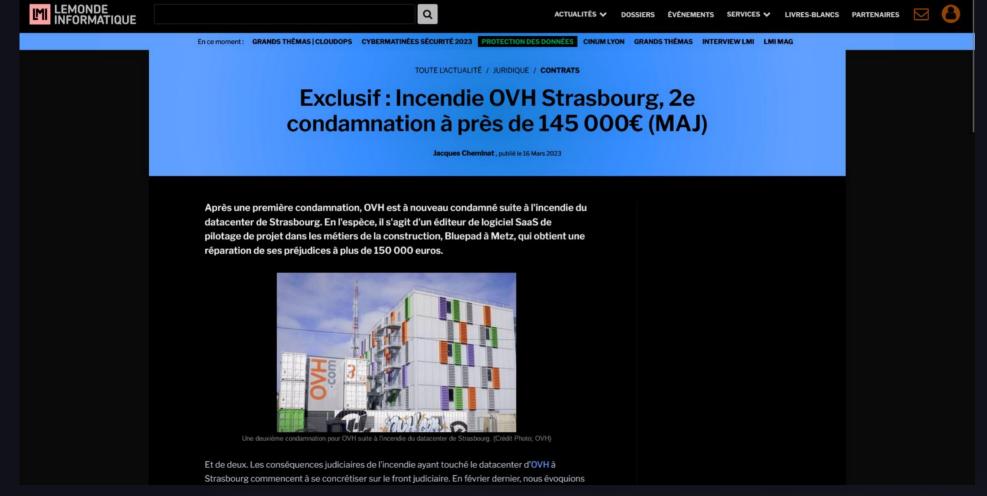
Kein Backup kein Mitleid



And even if you were smart enough for backups... 6 February 2023



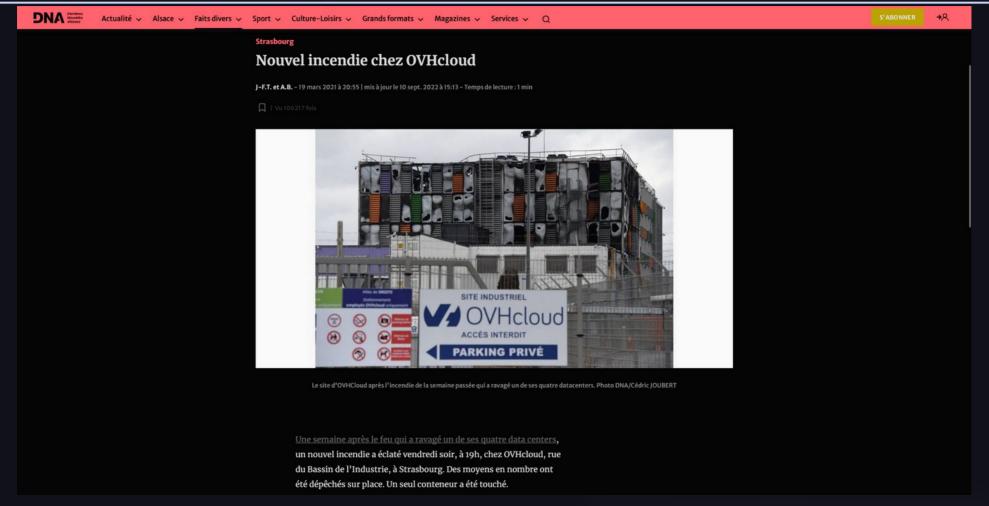
And even if you were smart enough for backups... 8 March 2023



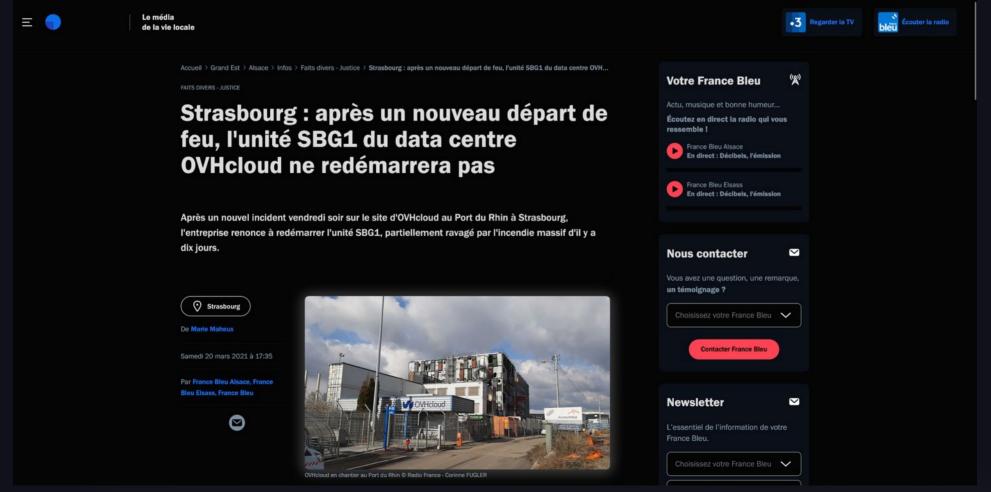
Damn, I forgot about this thing...



Second fire 20 March 2021 — SBG1



Second fire 20 March 2021 — SBG1

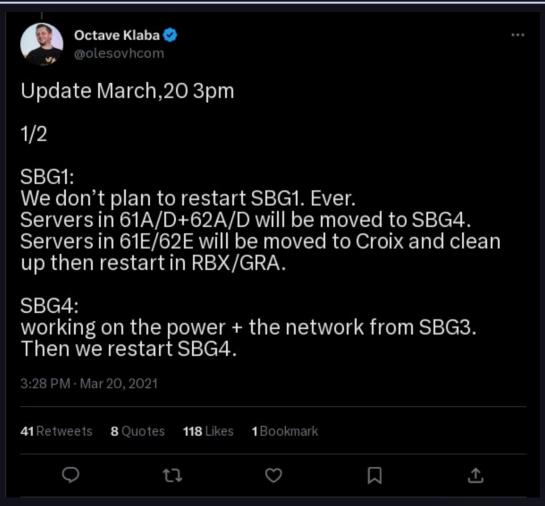


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Hold on a sec, I thought these were decomissionned? ...right?!



Have you learned your lesson, son? Inauguration of SGB5

IT Rooms

Limited number of racks (200 T3 or 100 T4).

2h fire-rated concrete walls.

Dual Very Early Smoke Detection Apparatus (VESDA).

Auto. fire suppr. (inert gaz or sprinklers).

Hallways

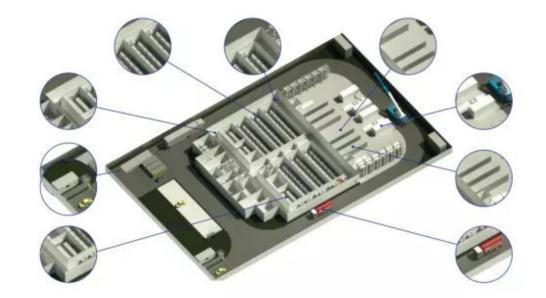
Corridors surrounding critical areas, creating a physical separation with the outside. Smoke detection.

Battery Rooms

2h fire-rated outdoor containers. Dual Very Early Smoke Detection Apparatus (VESDA). Auto. fire suppr. (inert gaz or sprinklers).

Building shell 2*2h fire-rated concrete building structure.

Telco chambers Telco pulling chambers located on opposite sides of the data center segregating 2 telco routes.



Generators

Outdoor gensets.

Double-walled fuel tanks + retention pond.

Manual safety valve for shutting fuel supply.

Waterproofed distribution and transfer area,
with oil separator.

Energy Rooms

2h fire-rated outdoor containers with UPSs, PDCs, PDCUs and a separated transformer. Dual Very Early Smoke Detection Apparatus (VESDA). Auto. fire suppr. (inert gaz or sprinklers). 2N for dual-powered (T4) servers. N+1 for single-powered (T3) servers.

Network Rooms

2 separated Network Rooms (=2N). 2h fire-rated concrete walls. Dual Very Early Smoke Detection Apparatus (VESDA). Auto. fire suppr. (inert gaz or sprinklers).

Access road

Peripheral firefighters access road surrounding the building.

Dimensions compliant with local rules.

https://corporate.ovhcloud.com/en-gb/newsroom/news/SBG5-opening/

And by the way, are ya winning, son? Not stonks.



Documentation



situé à Strasbourg (67) le 10 mars

2021.

Rapport d'enquête sur l'incendie au sein du centre de stockage de données OVH situé à Strasbourg (67) le 10 mars 2021. Investigation report on the fire in the OVH data storage center located in Strasbourg (67) on March 10, 2021.

Published: 24 May 2022 / 43 Pages

Bureau d'enquêtes et d'analyses sur les risques industriels Industrial risk investigation and analysis office

Depends of the Ministry of Ecological Transition

Documentation



Partage d'expérience Experience sharing

Published: February 2022 / 3 Pages

Service d'incendie et de secours du Bas-Rhin Fire and rescue service of the Bas-Rhin

Merci beaucoup!

Website

https://garfieldairlines.net

Fediverse (Calckey)

https://ableppo.net/@garfieldairlines

Twitter

https://twitter.com/@garfieldair

DECT

2428 (CHAT)

