Disaster Recovery Testing at Booking.com

Paola Martinucci
Technical Program Manager
Mollie.com

Yoann Fouquet
Senior SRE Manager
Booking.com

Disasters do happen

Booking.com

A - CLI command

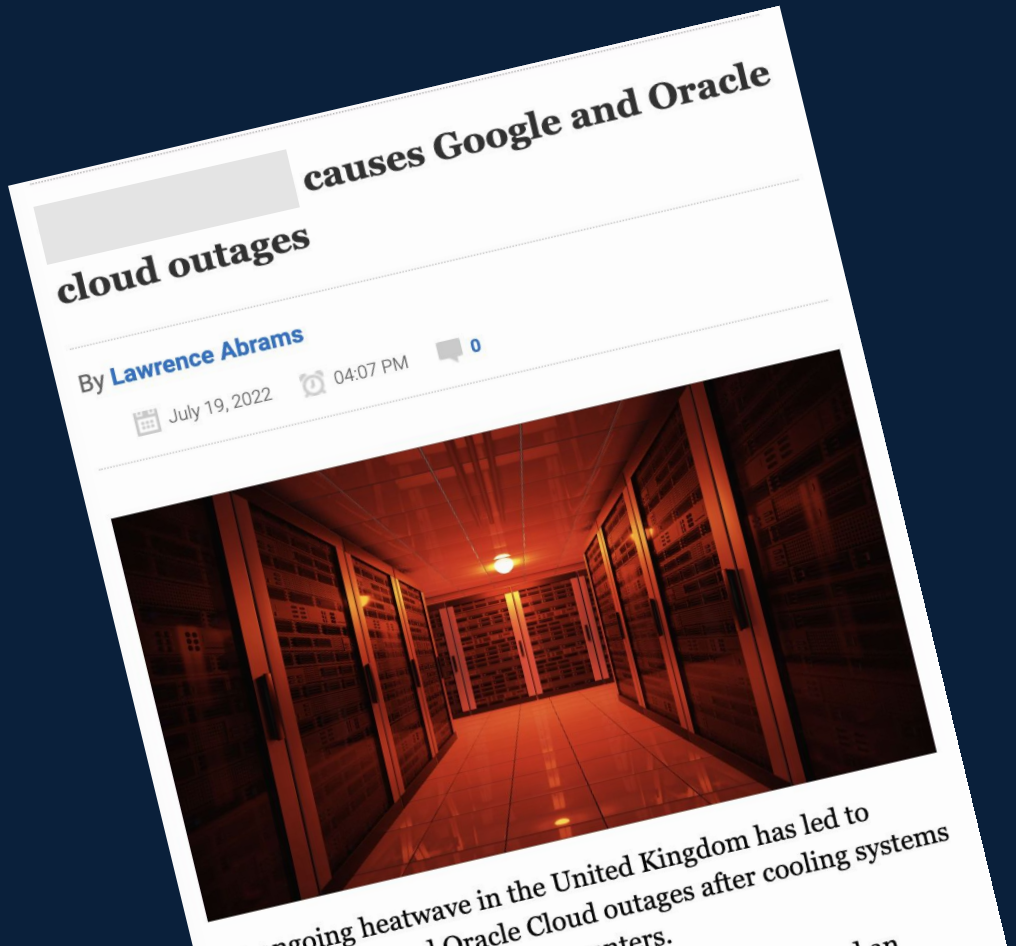
B - Power issue

Booking.com

A - CLI command

B - Power issue

Booking.com



causes Google and Oracle cloud outages

By Lawrence Abrams

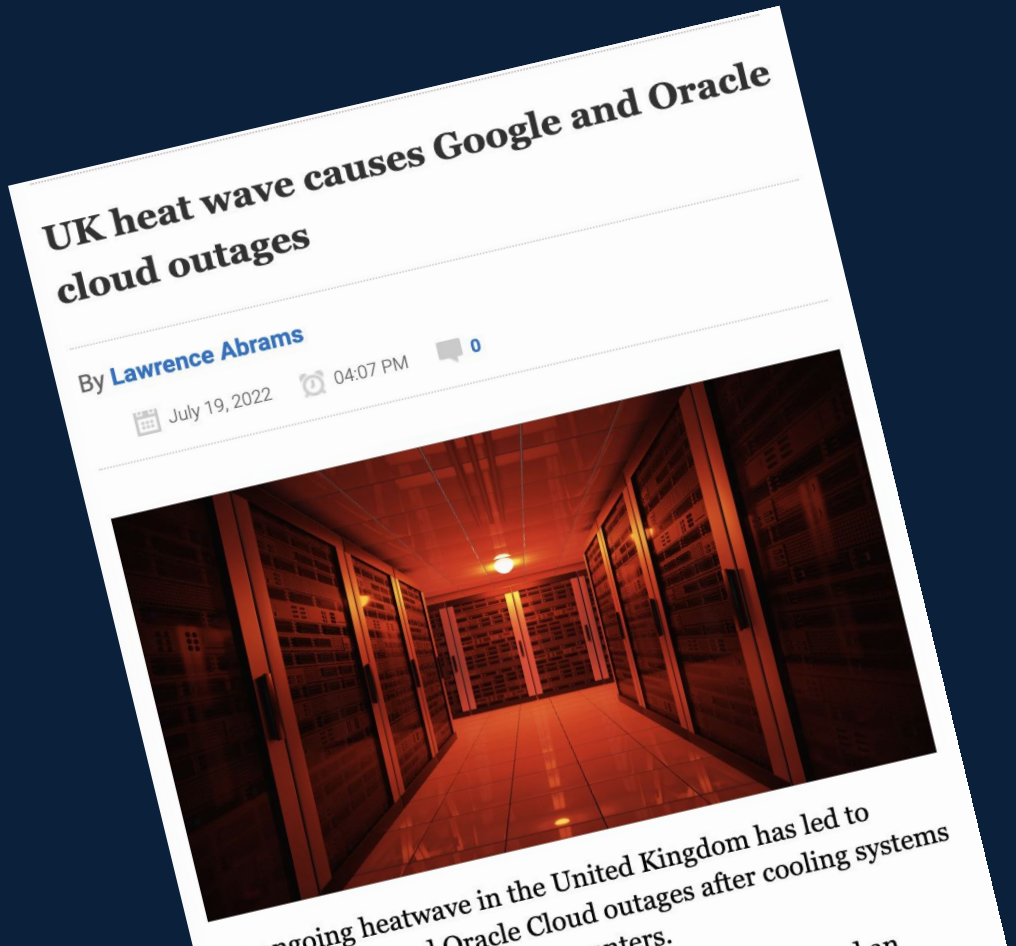
July 19, 2022 04:07 PM 0

ngoing heatwave in the United Kingdom has led to
Oracle Cloud outages after cooling systems
nters.

A - Network issue

B - Warm summer

Booking.com



A - Network issue

B - Warm summer

Booking.com

A - Animal issue

B - Flooding

Booking.com

A - Animal issue

B - Flooding

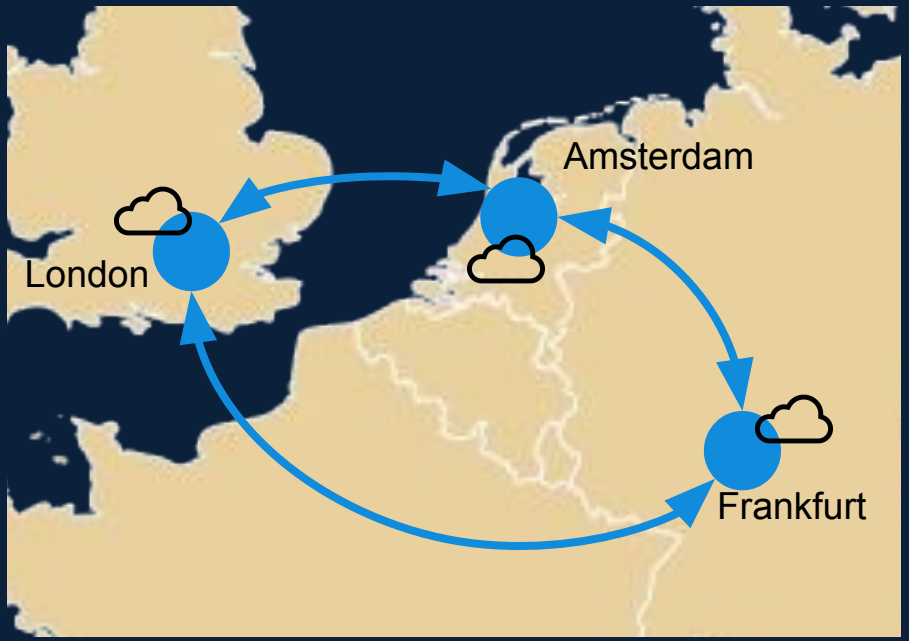
Booking.com

Booking.com is not different

Booking.com

In May 2018, a config change took down our main site entirely

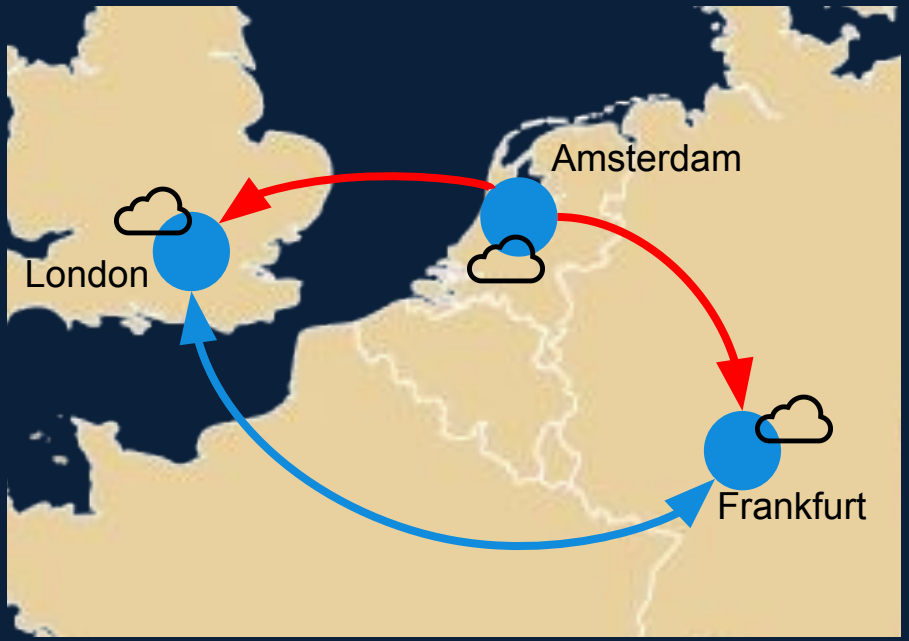
Booking.com



– Booking infra –

~80,000 servers
3 Core regions
5 Edge regions
2,000+ services

Booking.com



– First Disaster Recovery Test –

Evacuating traffic out of Amsterdam region

Booking.com

We have so much to do

Creating the Program

Booking.com

– Objective –

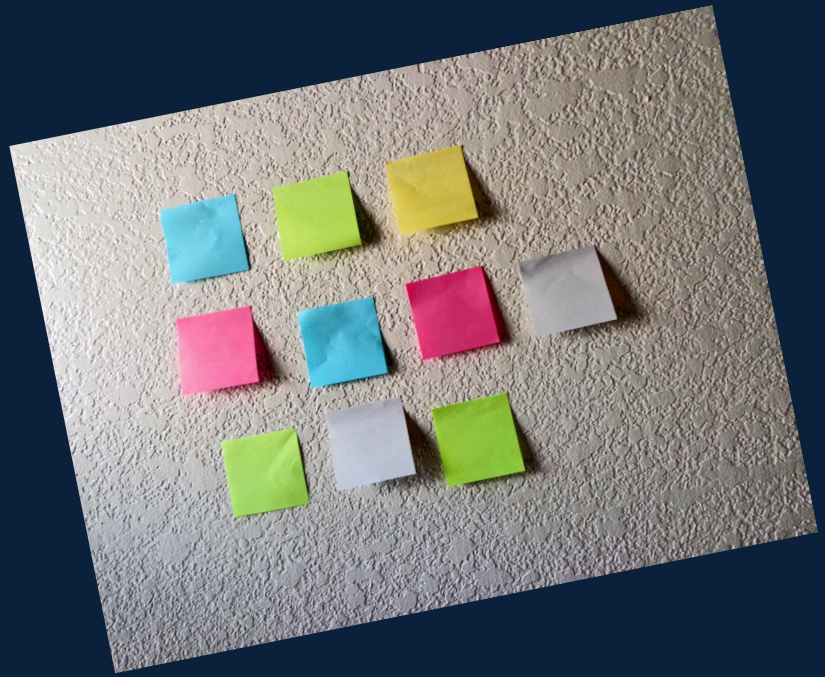
Full business continuity in case of loss of a region

Booking.com

– Challenges –

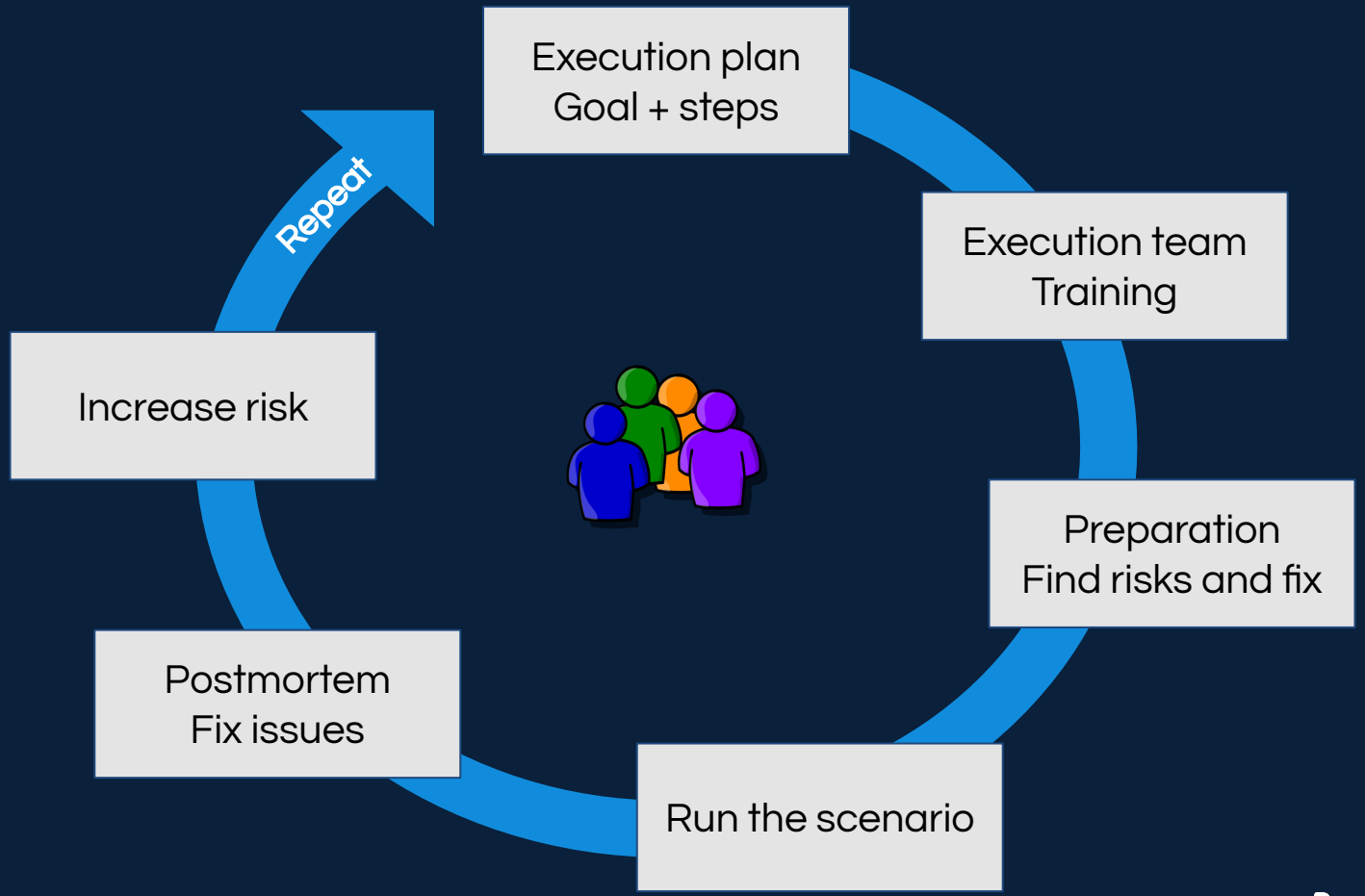
Risks / Impact
Investment / Cost
Behavior / Buy-in

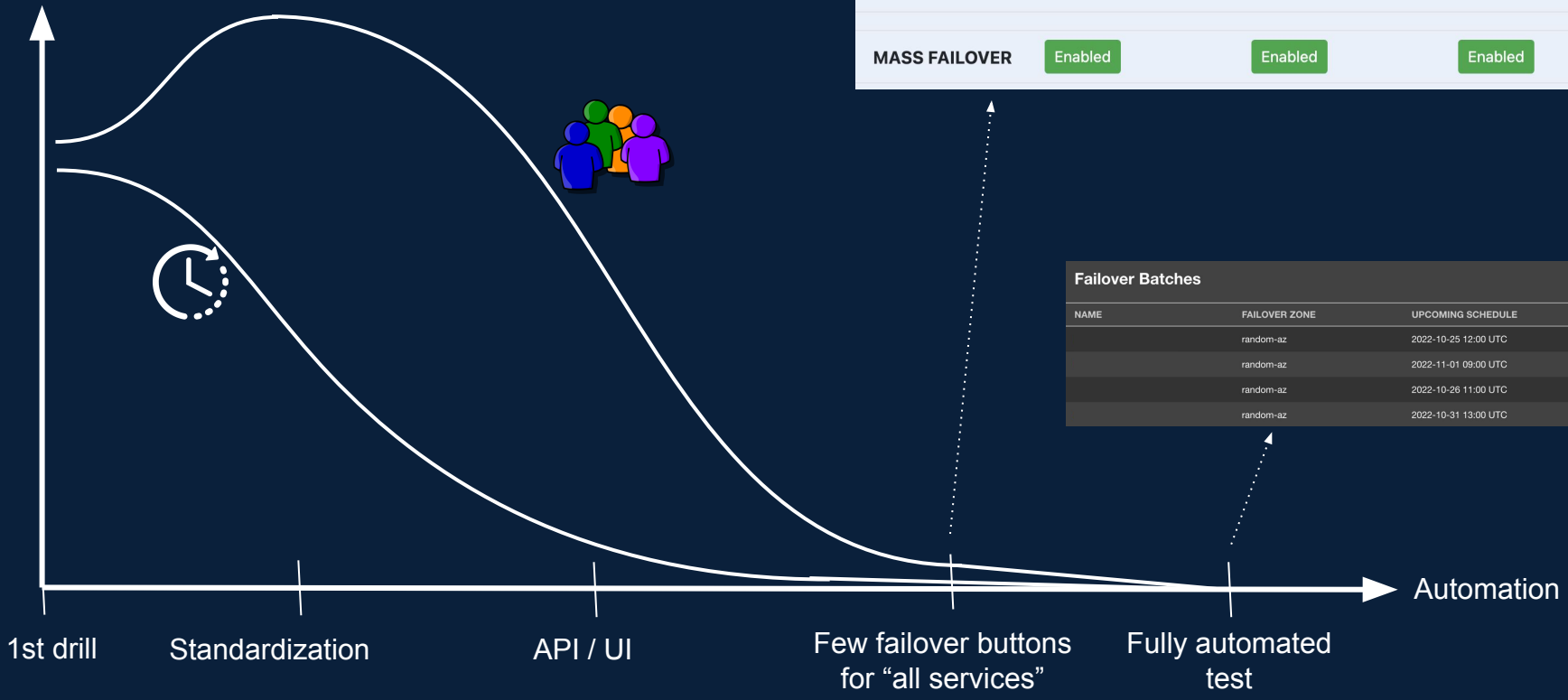
Booking.com



– Growing the program–

Roadmaps
Wide comms
Visibility & Alignment
Risk analysis / Risk Control
Cross functional collaboration


Execution plan
Goal + steps
Execution team
Training
Preparation
Find risks and fix
Run the scenario
Postmortem
Fix issues
Increase risk
Repeat



	bk-eu-central1-a Frankfurt	bk-eu-west1-a London	bk-eu-west2-a Amsterdam
MASS FAILOVER	Enabled	Enabled	Enabled

Failover Batches

Filter

NAME	FAILOVER ZONE	UPCOMING SCHEDULE	LAST 3 RUNS
	random-az	2022-10-25 12:00 UTC	● ● ●
	random-az	2022-11-01 09:00 UTC	● ● ●
	random-az	2022-10-26 11:00 UTC	● ● ●
	random-az	2022-10-31 13:00 UTC	● ● ●

Booking.com

Deployments & change of infrastructure made with more confidence

People trained - Rotation
Repeatable process

Behavioural Change

Booking.com

But what’s next?

Disaster Recovery Testing

Booking.com

Disaster

~~Recovery~~ Mitigation

Testing

Booking.com

~~Disaster~~ "Small" Incident

~~Recovery~~ Mitigation

Testing

Select your disaster

Network disruption

Difficulty

Risk

Learnings

Play

Booking.com

Select your disaster

Network disruption

Difficulty

Risk

Learnings

- Primary/secondary setup
- Data replication
- Timeouts!!

Select your disaster

Region isolation

Difficulty

Risk

Learnings

Play

Booking.com

Select your disaster

Region isolation

Difficulty

Risk

Learnings

- We lost our VPN!
- Health check (push/poll)
- MySQL group replication

Select your disaster

DC power failure

Difficulty

Risk

Learnings

Play

Booking.com

Select your disaster

DC power failure

Difficulty

Risk

Learnings

- Circular dependencies?
- Managing power surge
- Time to restore

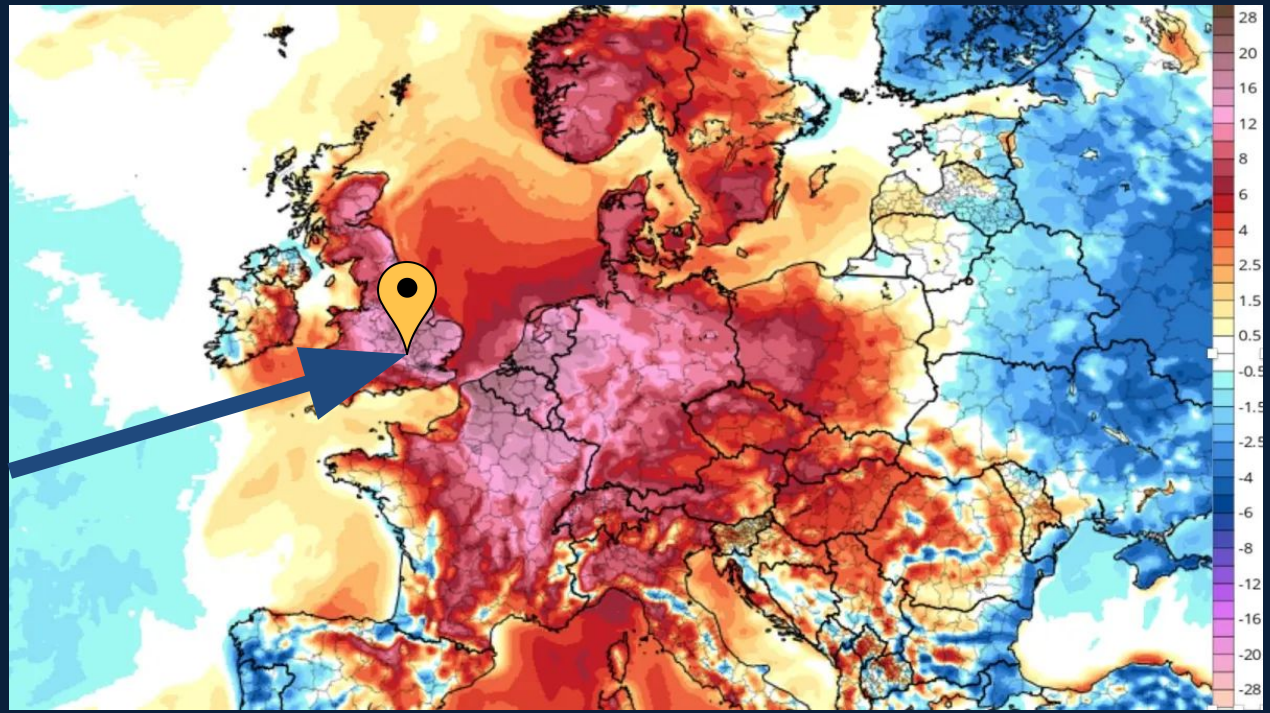
Booking.com

… and more scenarios

Okay, but what about real life incidents?

July 2022: 40°C/104°F in London

Our London datacenters



Booking.com

Learnings come while you **PREPARE** the Drill

Train **your PEOPLE**

Test **for DISASTERS**

Booking.com

Learnings come while you **PREPARE** the Drill

Train **your PEOPLE**

Test **for DISASTERS**

Booking.com

Thank you

Booking.com