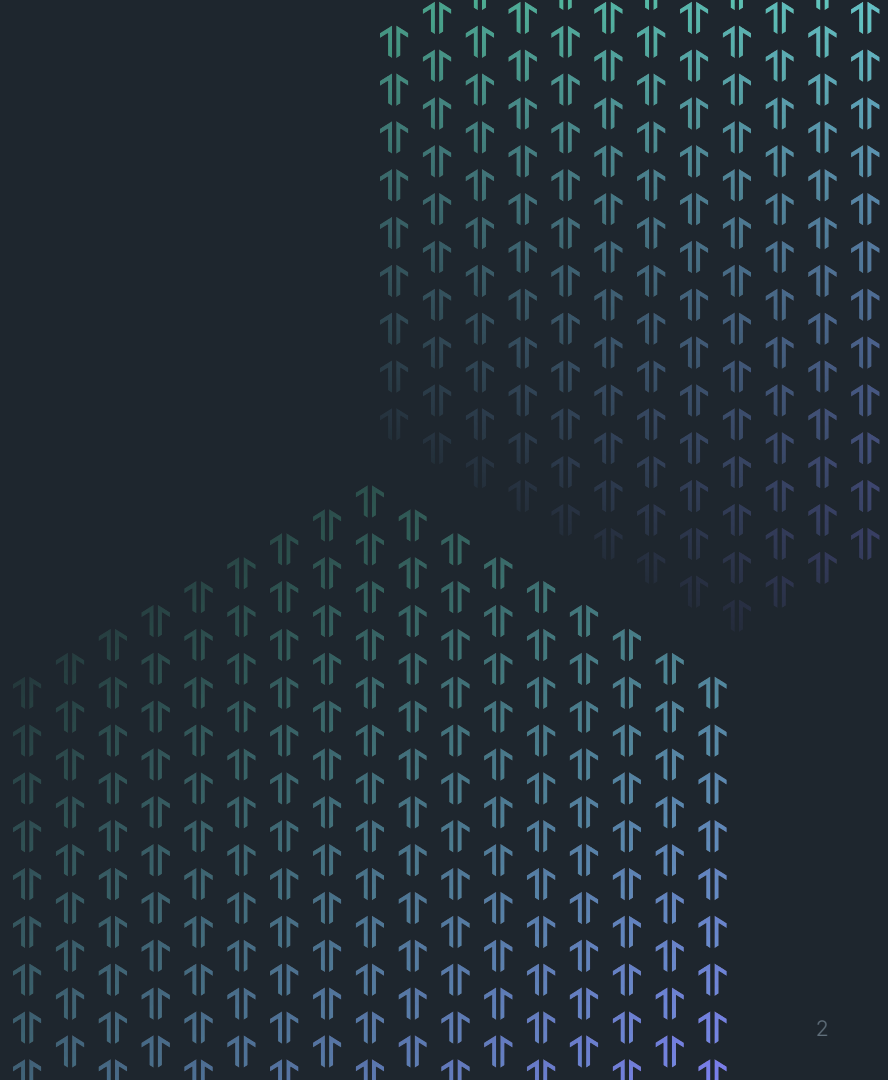# It's always DNS

May 21, 2025 - Live from Paulaner am Nockherberg, Munich
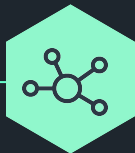
Andreas Decker
IT-Consultant
comNET GmbH

… unless it's not.

Who's who?

comNET GmbH

IT system house since 1991

Based in Hanover

Checkmk partner since 2014

Gold partner status
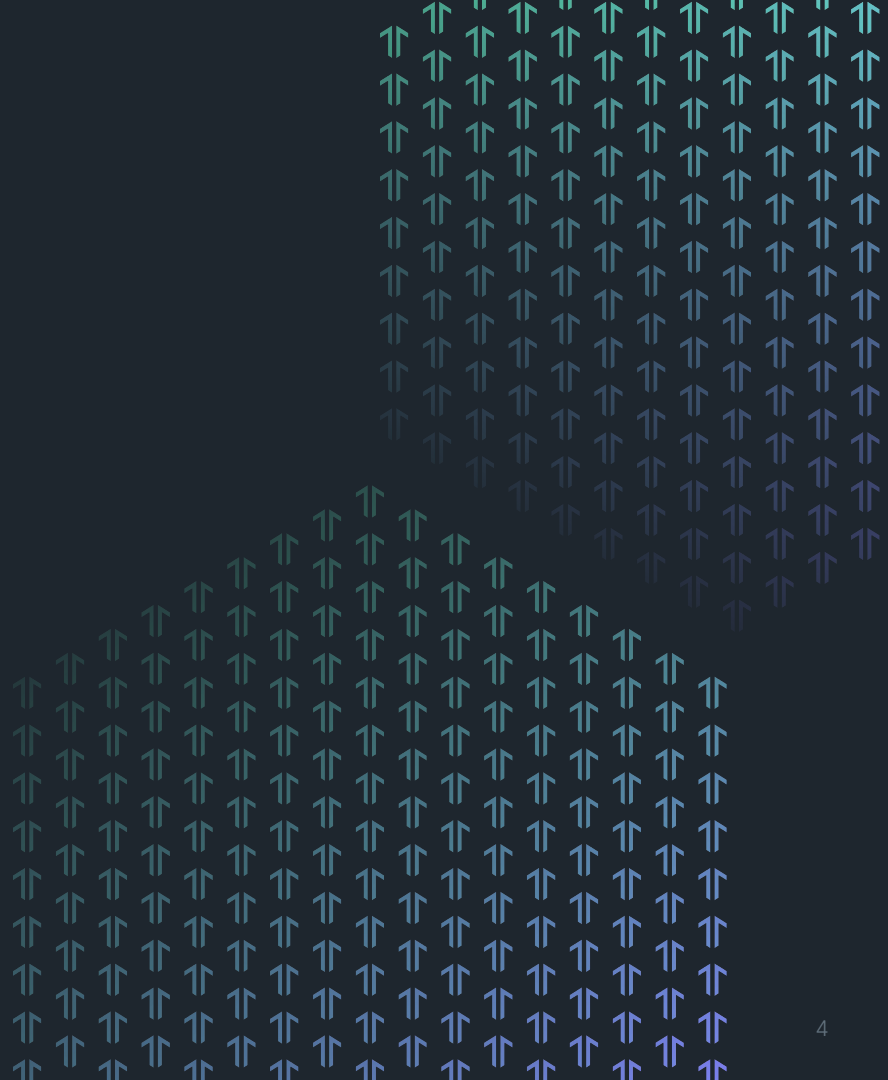
Andreas Decker

Psychology & IT

Software Development

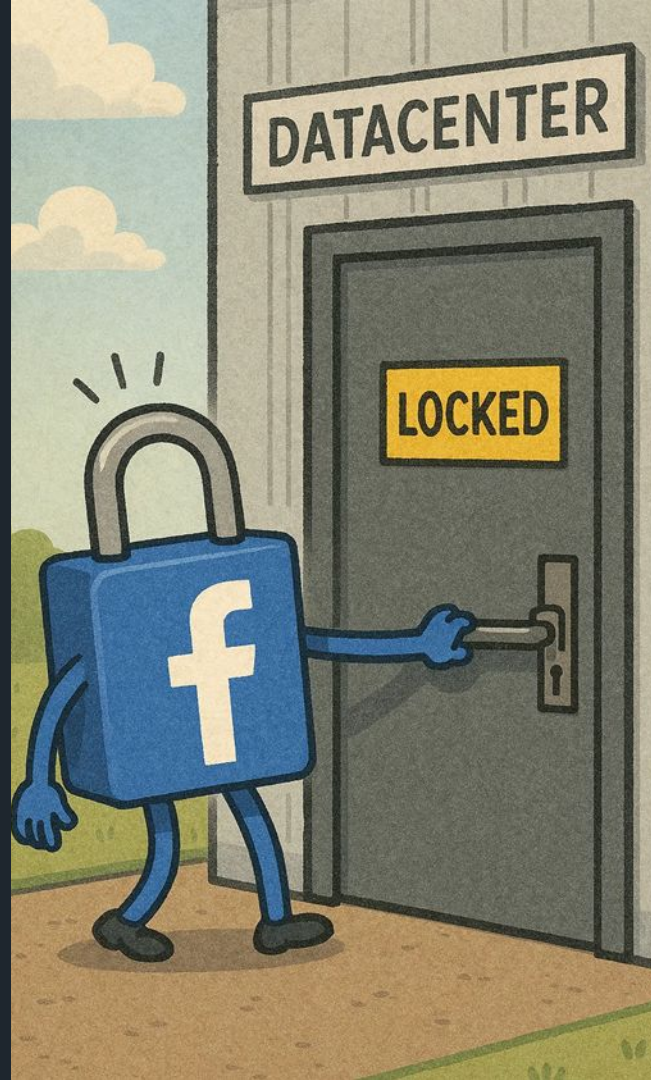IT Consultant OSS

Dungeon Master

The Wurst case:

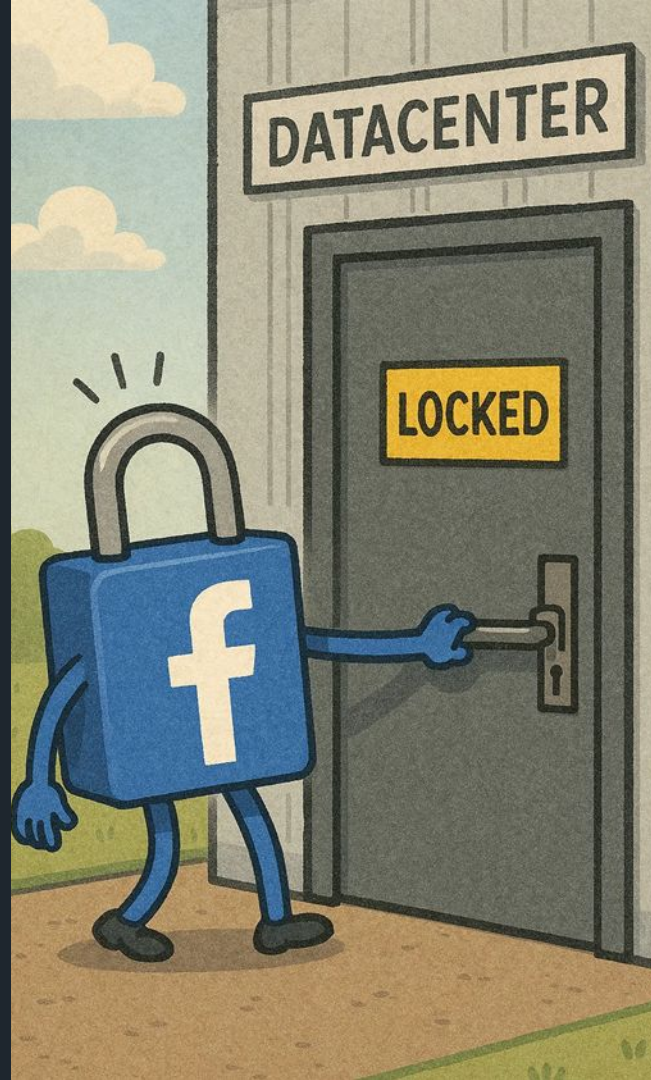# Large scale failures
No one is immune

- Anno 2021

- Your family's WhatsApp group is suspiciously quiet

- Insta is unreachable?

- Something's wrong :(

Large scale failures
No one is immune

- Facebook is experiencing a massive outage

- A routine maintenance command was executed

  ➡ disconnected all data centers

- DNS access severed

Impact of the failure

Badges

E-Mail

Tooling

Money

Struggles with DNS

Solving problems in larger environments is complicated

- Always a multitude of possible causes

  - High traffic

  - Firewall config

  - Plug pulled

  - Server crashed

  - DNS failure

- This is why we try to do monitoring well

COMNET x Checkmk Conference #11
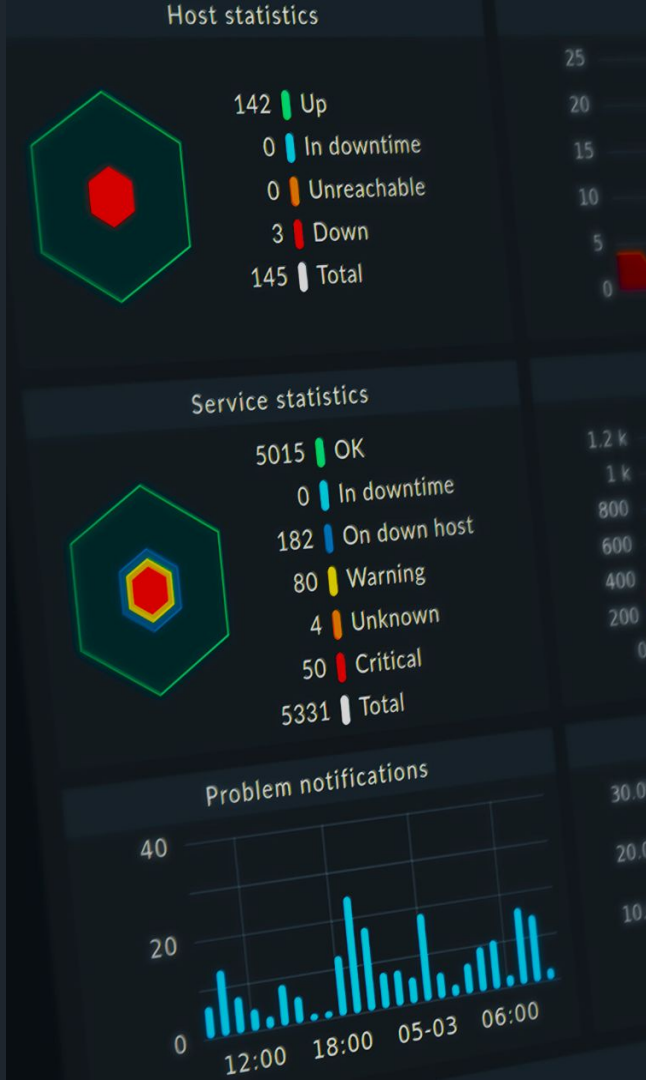
A story from our own experience

Mysterious Network Latency
Symptoms

- Customer: Large insurer in northern Germany

- SQL check has a latency of approximately 15 seconds

- Other Services **OK**

- Domain names resolvable

Mysterious Network Latency
Cause

- DNS dynamically configured

- One of the DNS failed in one zone

- Resolution worked elsewhere, monitoring with IP

- SQL Check used DNS and *timed out...*

- DNS was mostly working
  - ➡ Complicated debugging

The usual problems
Unreachable Hosts

- Customer reports issue

- Device unreachable

- Test: Reachable via IP

- **Cause**: DNS failure

It's a classic...

It can really happen to anyone!

How can monitoring help?

Checkmk built-in functionality

- Built-in active check

- Approach to pick DNS configurable

Limitations:

- Limited transparency

- Not suitable for dynamic DNS config

HTTP, TCP, Email, ...

Check DNS service

> ⌄ **Check DNS service**

Queried host name or IP address (required)

| checkmk.com |

☐ Alternative Service description

DNS Server

Use the address of the host for which the service is gen... ▲

Use the address of the host for which the service is generated

Specify DNS Server

Use the default DNS server(s) specified in /etc/resolv.conf

☐ Expected response time
☐ Seconds before connection times out

Checkmk built-in functionality

- Built-in agent plugin

- Monitor various zones

Limitations:

- Too many agents create load on DNS

- Checking multiple DNS

‖‖‖ **Agent rules**

Local DNS resolving (Linux, Unix)

˅ **Local DNS resolving (Linux, Unix)**

Host names to resolve   ˅

comnet-solutions.de
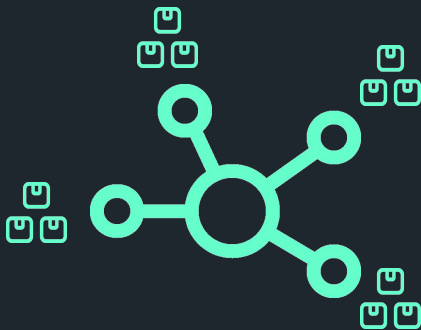
checkmk.com

guthib.com

So we built something

To make monitoring dynamic DNS easier

What it does

So you don't have to deal with it

- Looks dynamically for configured DNS and tests **ALL** of them

- Measures latency in resolution against **ALL** configured DNS
- In a graphable way (Historical Data)

- The target domains can be configured
- New DNS appear in monitoring!

Avg_Dns_Resolution_Time   2025-04-24 @ 1m

	Minimum	Maximum	Average	Last
Avg_Dns_Resolution_Time	44.7	556	83.5	67.8
Warning				100
Critical				500

The last 4 hours

The last 25 hours

The last 8 days

The last 35 days

The last 400 days

What does this mean for you?

Good News

It's available now!

Bad News

Your use-case may not be covererd

Good News

... yet!

We want to extend and are open for pull requests.

Thank you!

https://github.com/comnetgmbh/multi_dns

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