

HOSTING & SECURITY

Paddle Inspiratiedag – 19 september 2025 – Gent

LEVEL 27

Goedemiddag, ik ben Jeroen Moors







Automatisatie

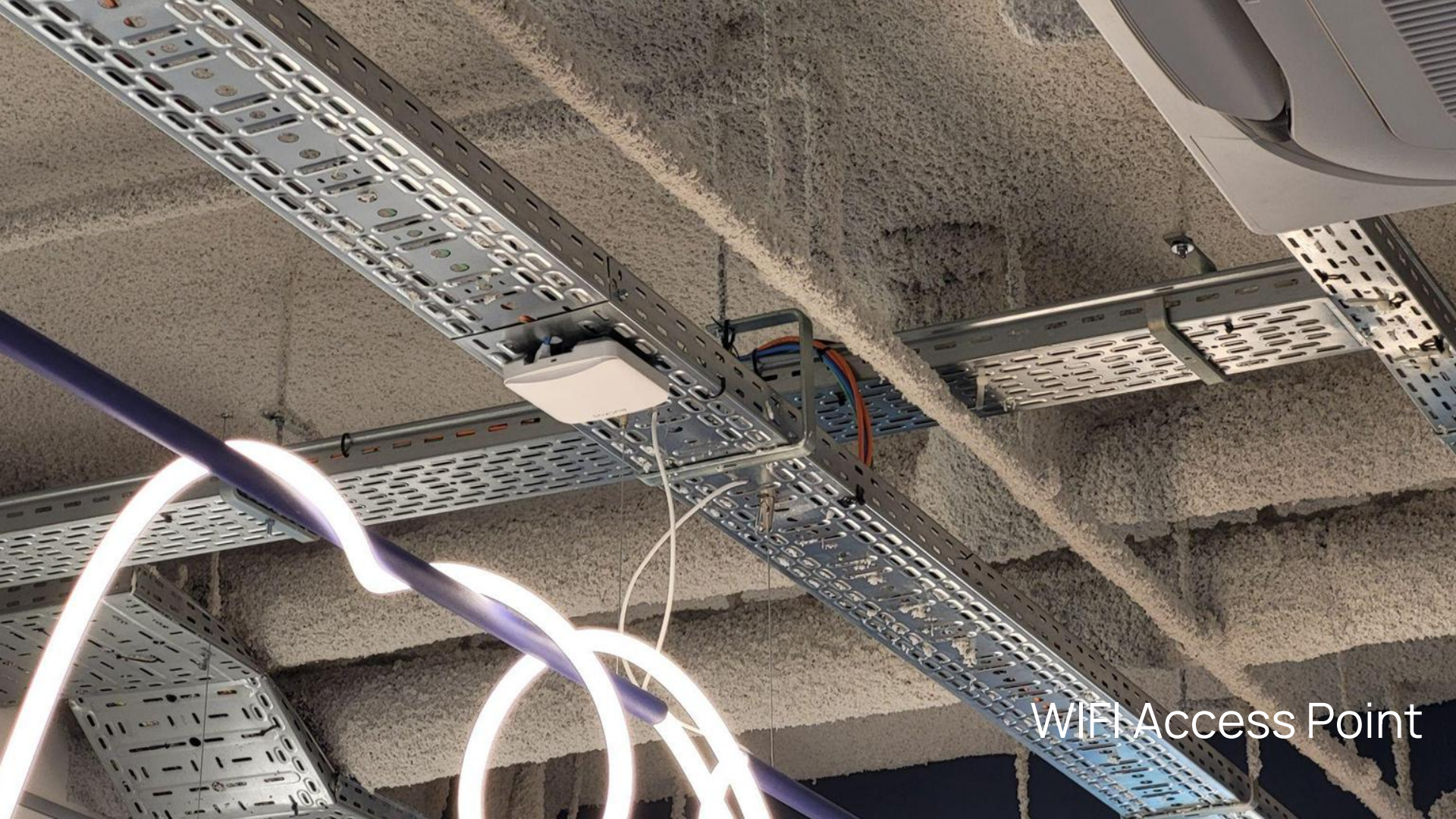
Virtuele servers

Fysieke servers

Datacenter

Internet

Naar het Internet



WiFi Access Point



Router & ONT - Optical Network Terminal



UTAC - Underground Telecommunications Access Chamber



Wijkkast



Ondergrondse glasvezel



LEX - Local Exchange



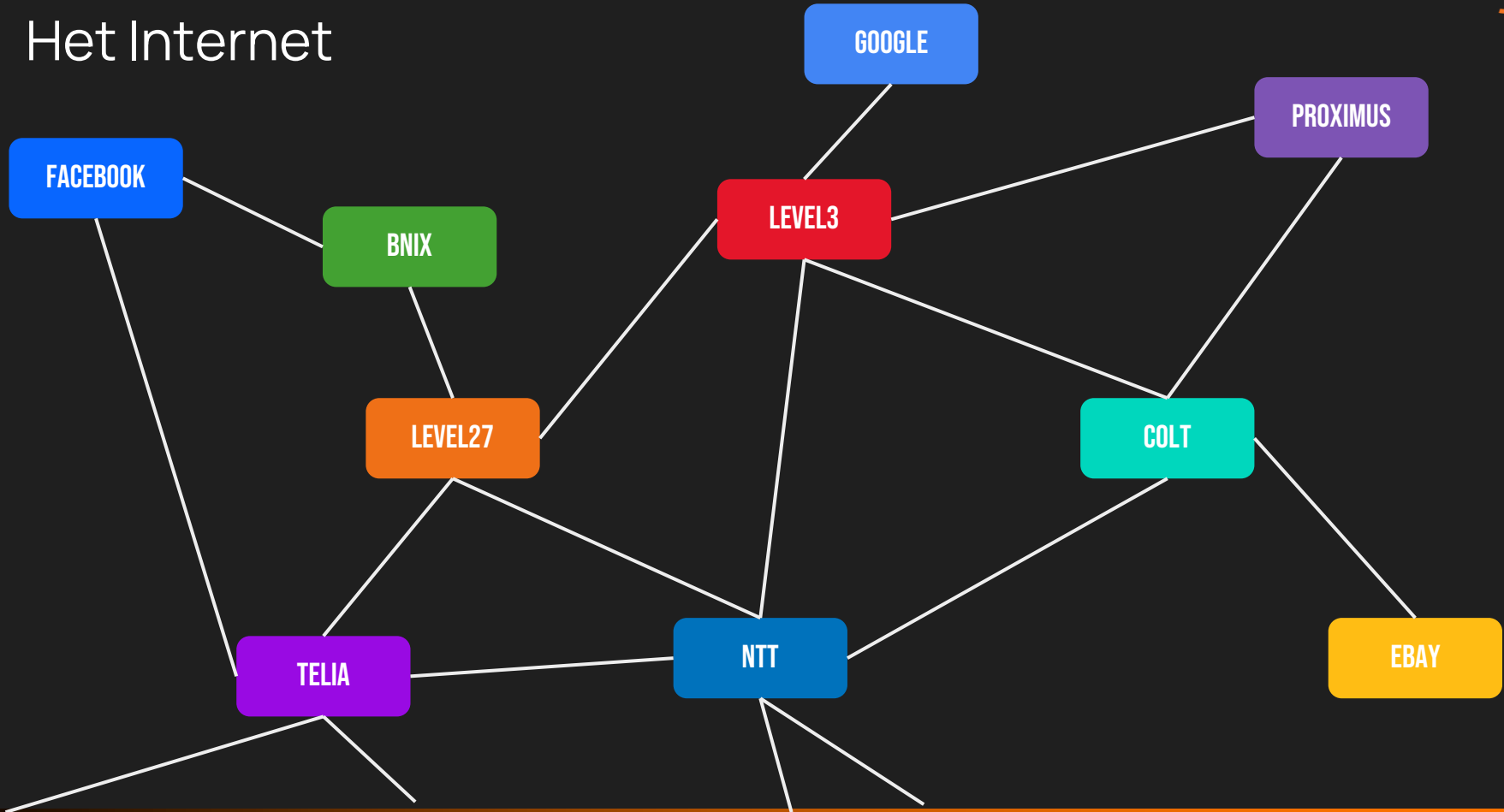
Net Center

Blue sign with a bicycle symbol and text.

Provider

Internet

Het Internet



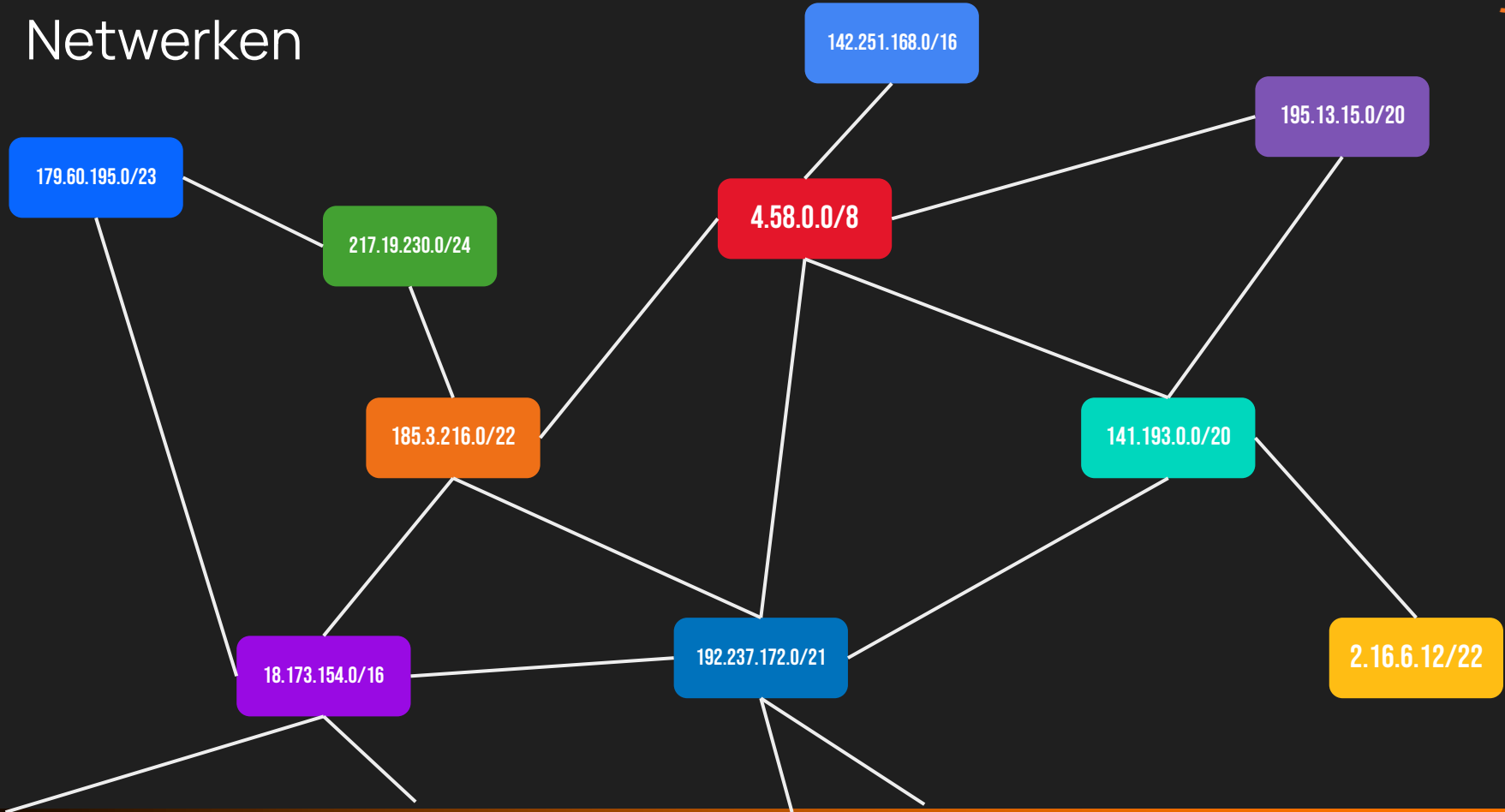


level27.be

IP

185.3.216.83

Netwerken



De weg vinden?



Datacenter



Datacenter



Datacenter

Fysieke beveiliging

Redundante stroom (ups + generator)

Aanwezigheid van vele operatoren

Redundante airco

Groene energie

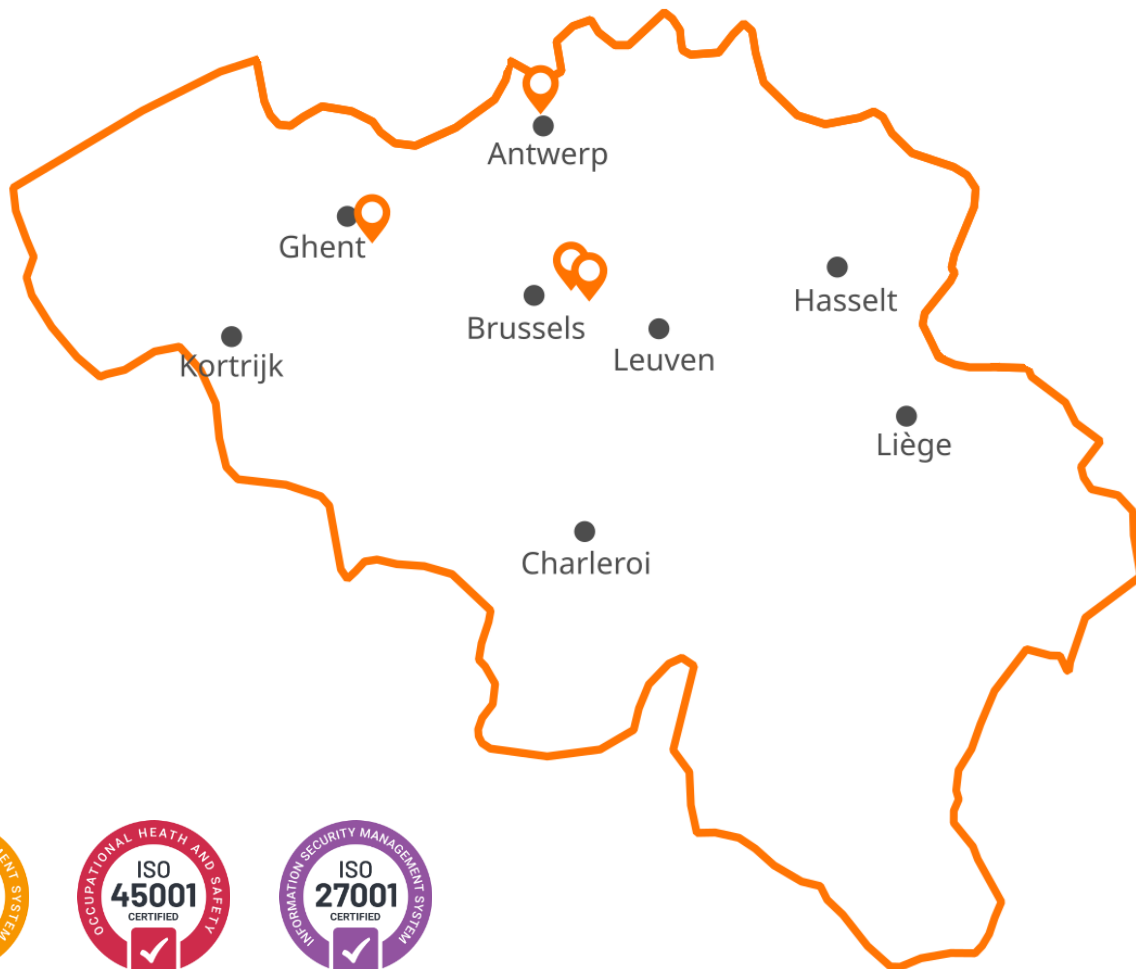
ISO & Uptime & Tier certificeringen

- > Perfecte thuis voor servers



Datacenters:

Antwerpen
Brussel - Diegem
Brussel - Zaventem
Ghent



Servers

server

Processor
=
Rekenkracht

=

Permanente
opslag

CPU + RAM + Disk

Werkgeheugen

En ledjes!





Virtuele Servers

```

hemant@hemant-VirtualBox: ~
hemant@hemant-VirtualBox:~$ sudo apt install imagemagick -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  imagemagick
0 upgraded, 1 newly installed, 0 to remove and 81 not upgraded.
Need to get 0 B/14.4 kB of archives.
After this operation, 126 kB of additional disk space will be used.
Selecting previously unselected package imagemagick.
(Reading database ... 190722 files and directories currently installed.)
Preparing to unpack .../imagemagick_8%3a6.9.10.23+dfsg-2.1ubuntu11.2_and64.deb ...
Unpacking imagemagick (8:6.9.10.23+dfsg-2.1ubuntu11.2) ...
Setting up imagemagick (8:6.9.10.23+dfsg-2.1ubuntu11.2) ...

```

```

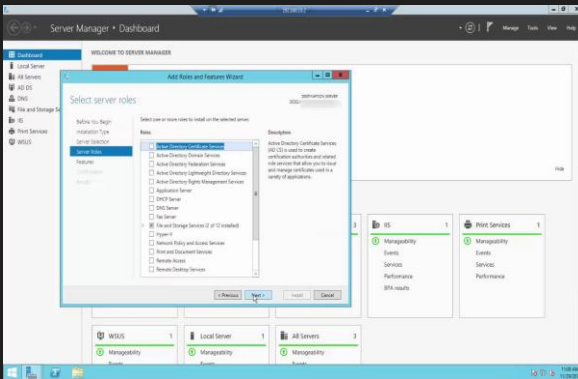
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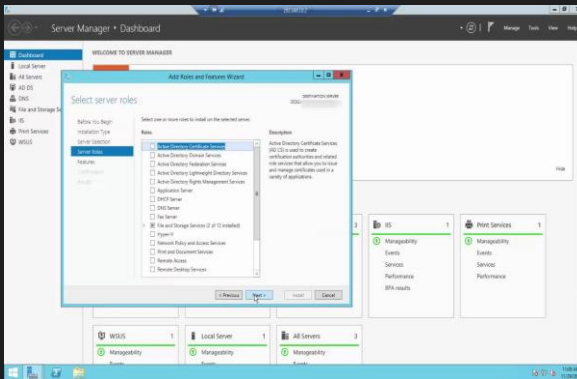
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```



Virtuele servers

Flexibiliteit

Kosteneffectief (< niemand heeft zoveel nodig)

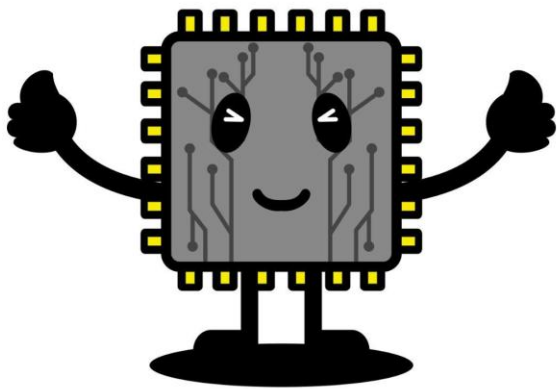
De disk is een bestand
(efficiënt voor backups en redundantie)

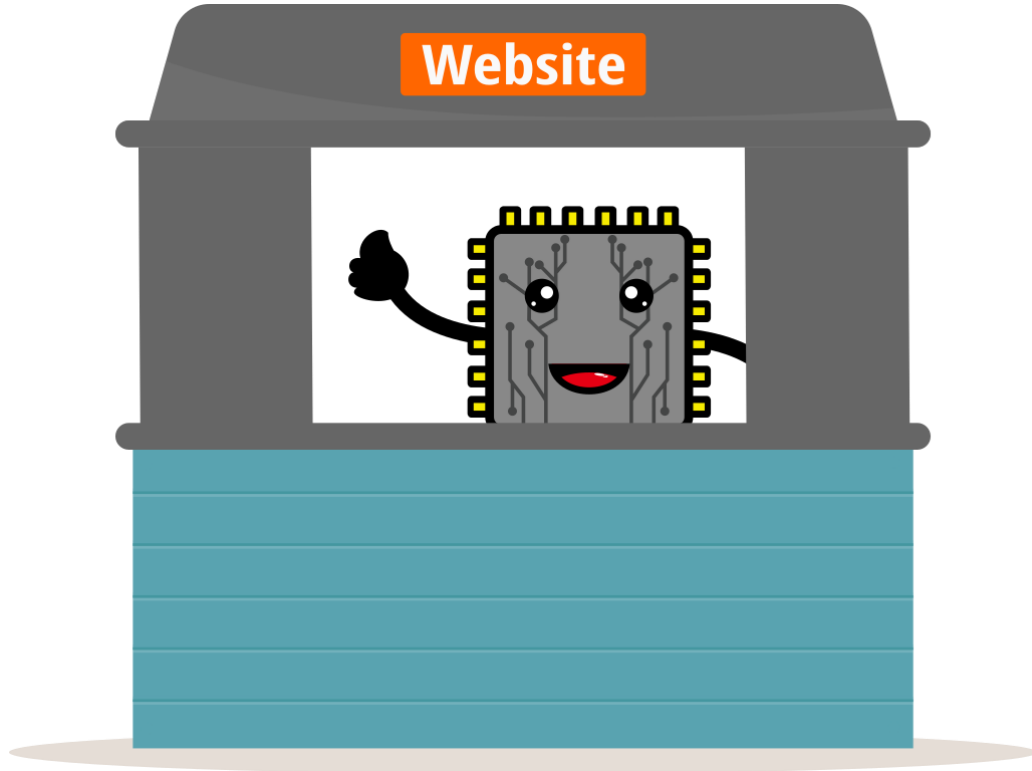
Ja, maar ondertussen is iedereen afgehaakt!

Kan je geen verhaaltje doen?

CPU

Hi Prosper Processor!



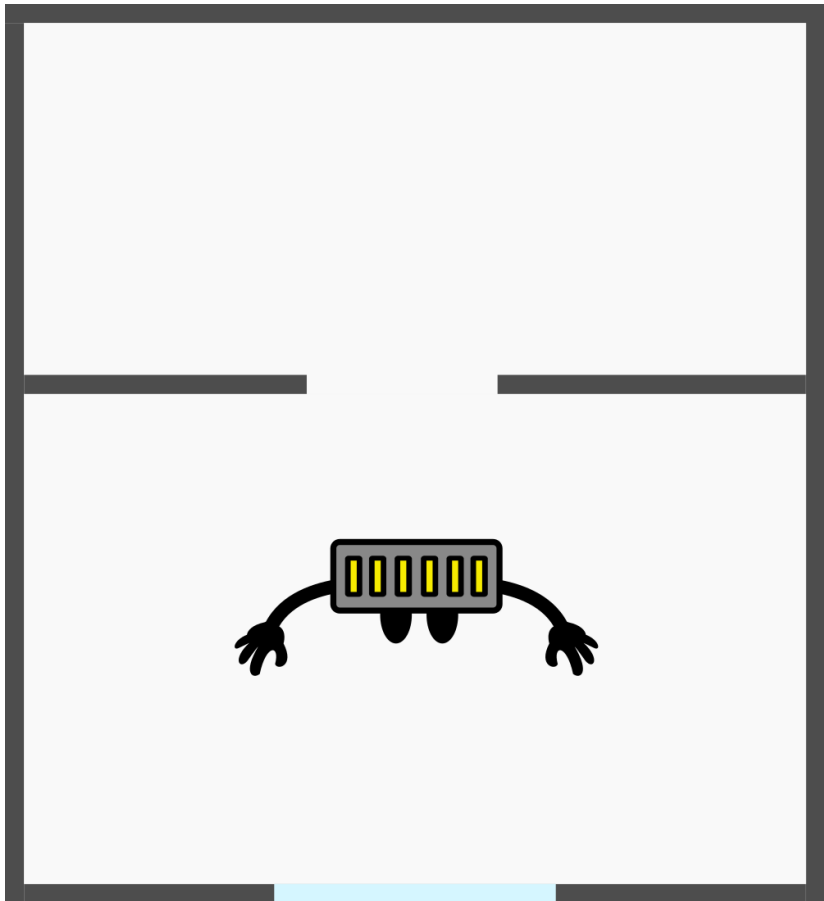


CPU

Super rekenaar

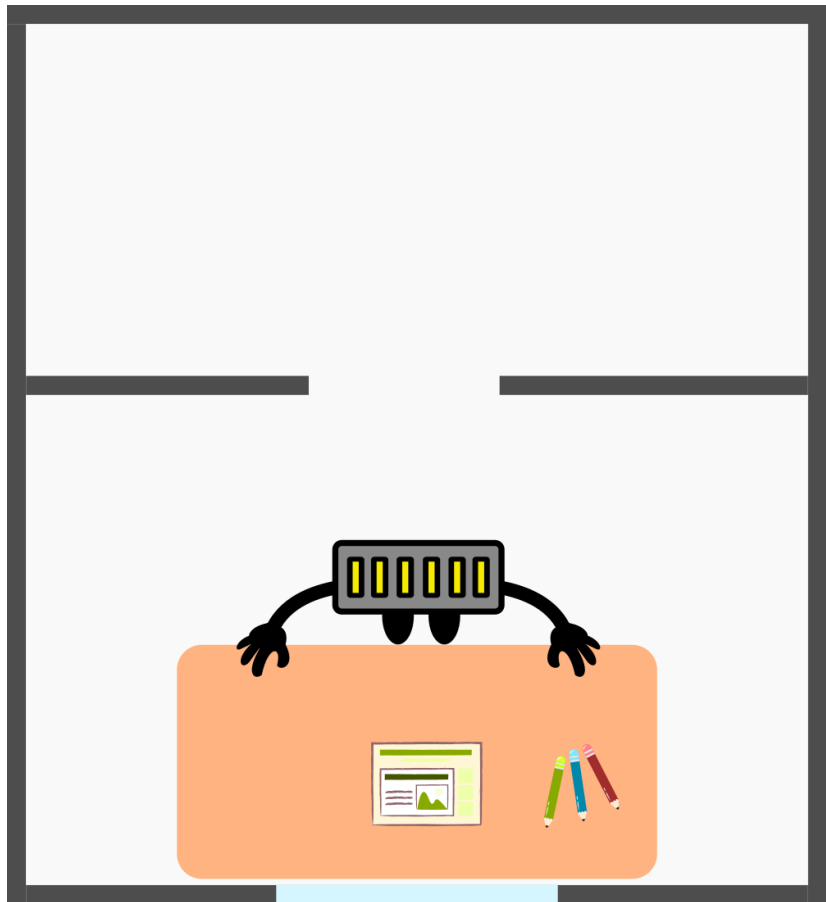
Zwart/wit denker

Hoog, maar
constant, tempo

Server

RAM

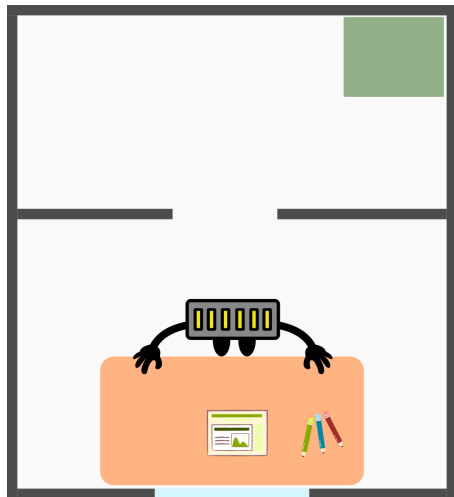
Werkzeuge

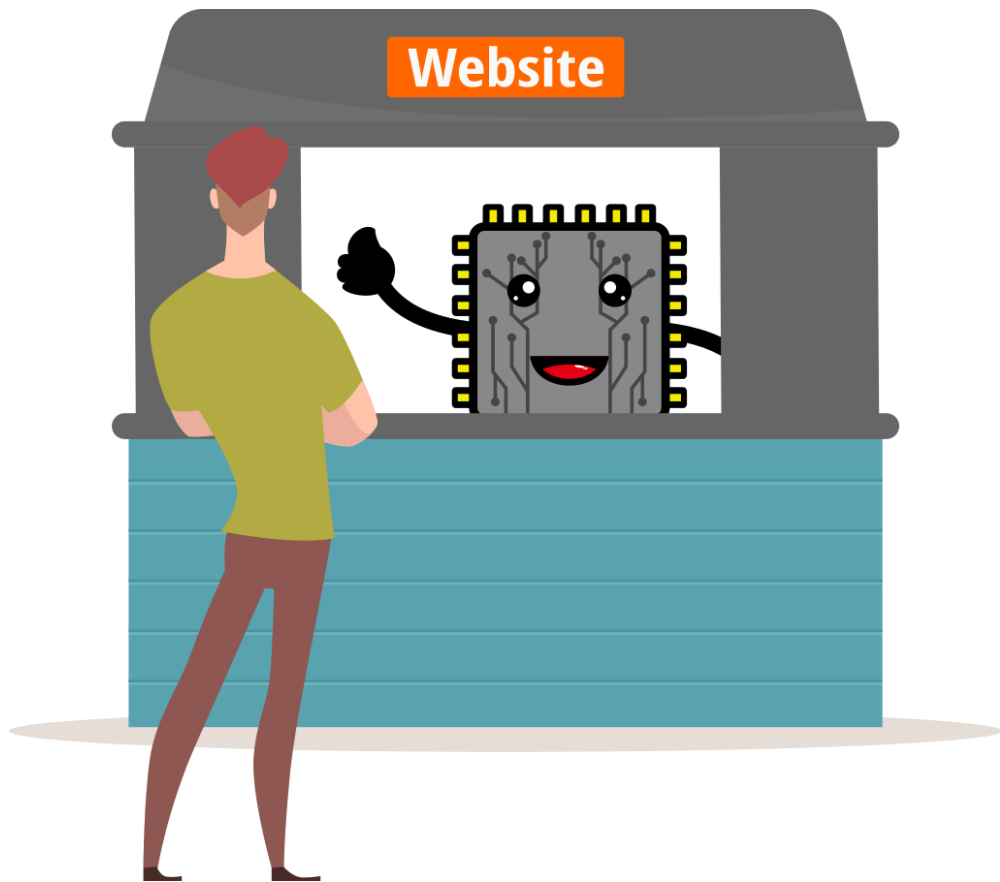


Database

Permanente
gestructureerde opslag

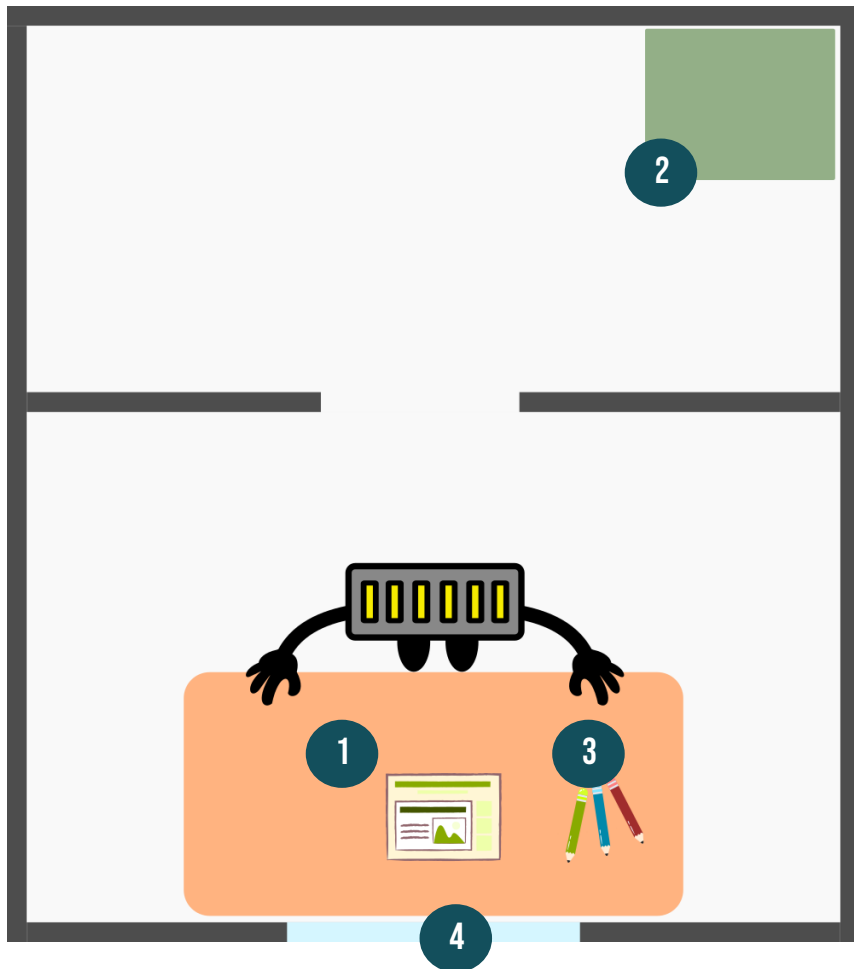
MySQL

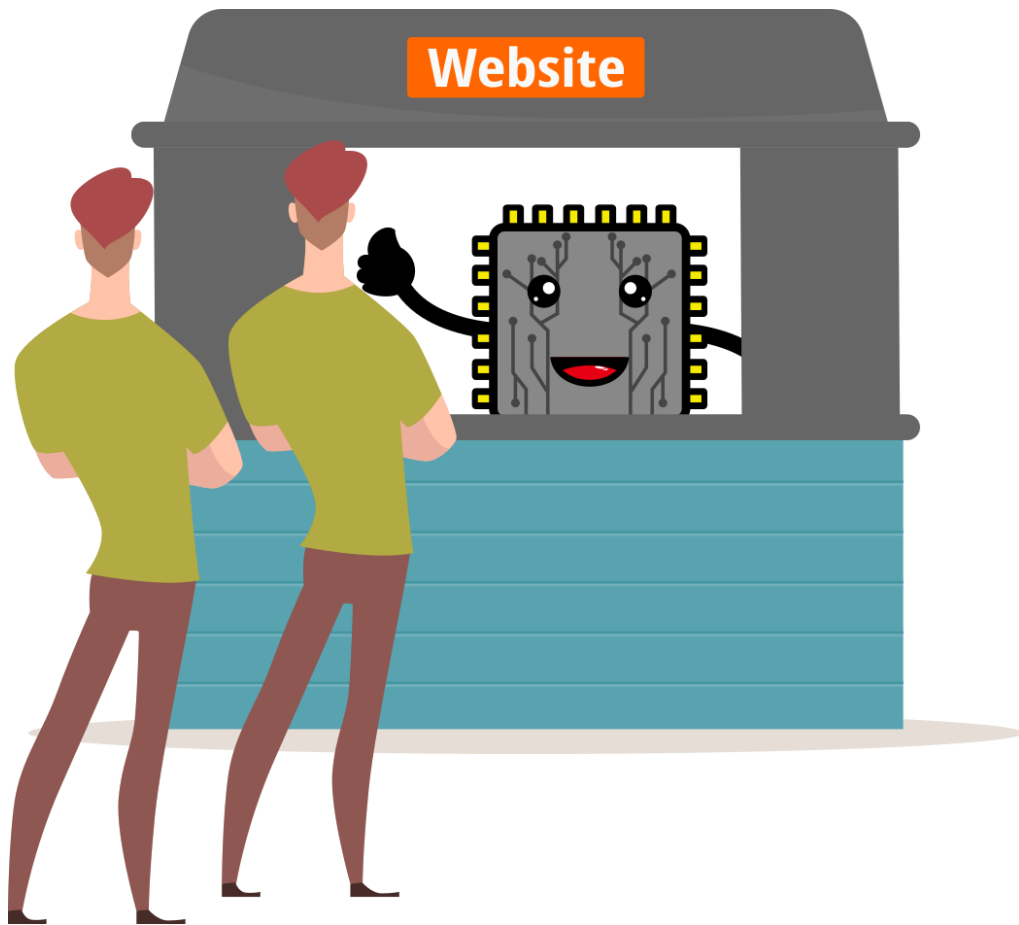


Page render

Page render

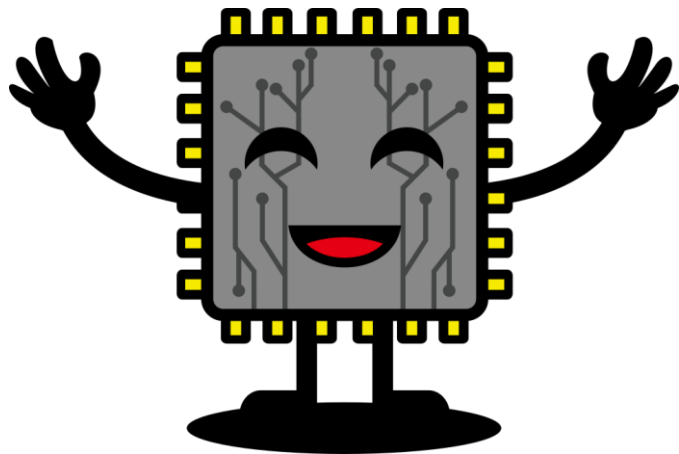
1. Code inladen in het RAM
1. Gegevens ophalen uit de databank
1. Verwerken gegevens
1. Afleveren pagina



Schalen

Schalen

Extra processor toevoegen

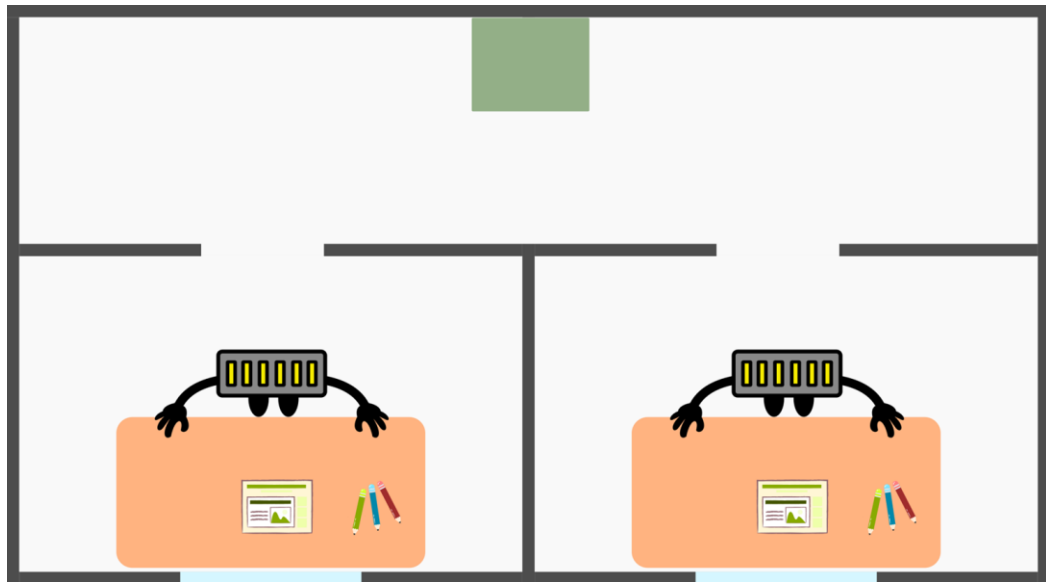


Schalen

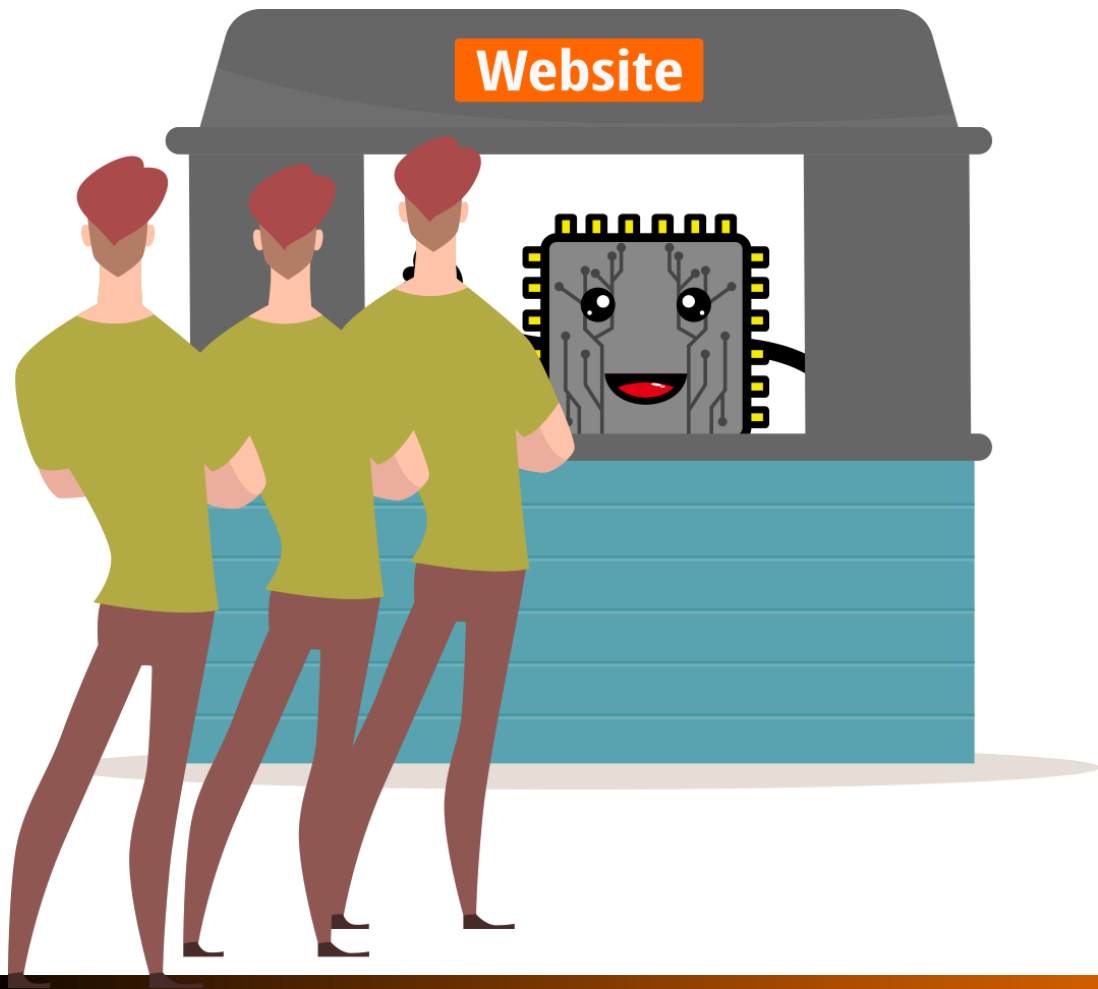
Extra processor toevoegen

Parallele verwerking

Wachtrij aan de databank



Frontend caching



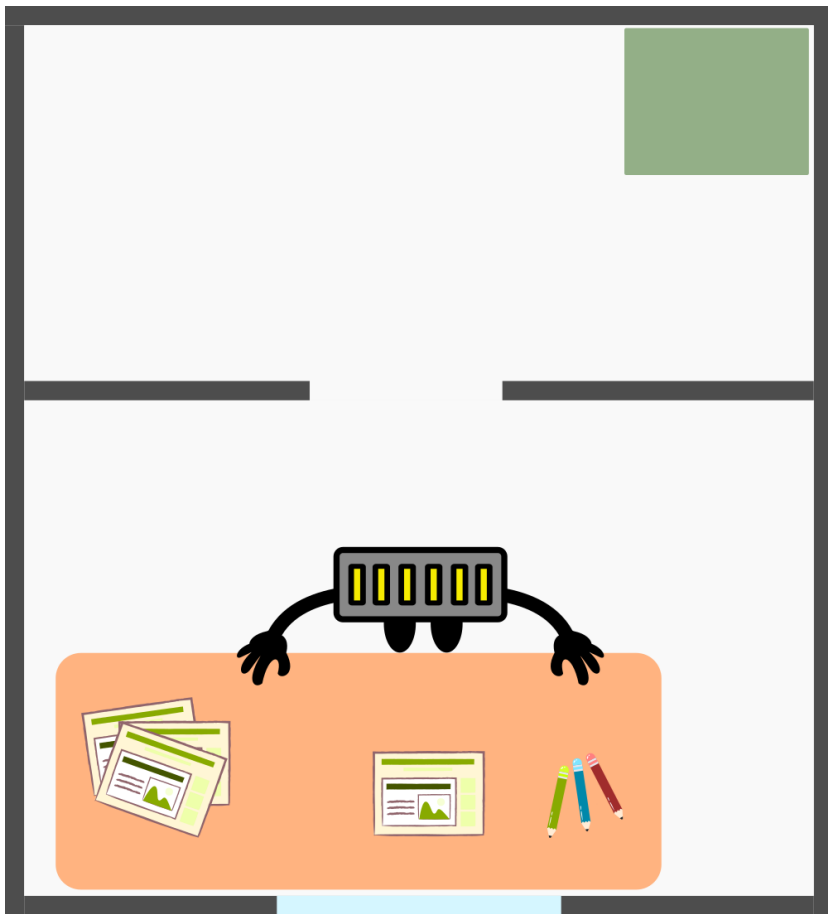
Frontend caching

Extra ram toevoegen

Kant en klare pagina's
bewaren

Geen werk, alleen afleveren

Varnish



Backend caching

Pagina's zijn niet identiek
voor alle gebruikers



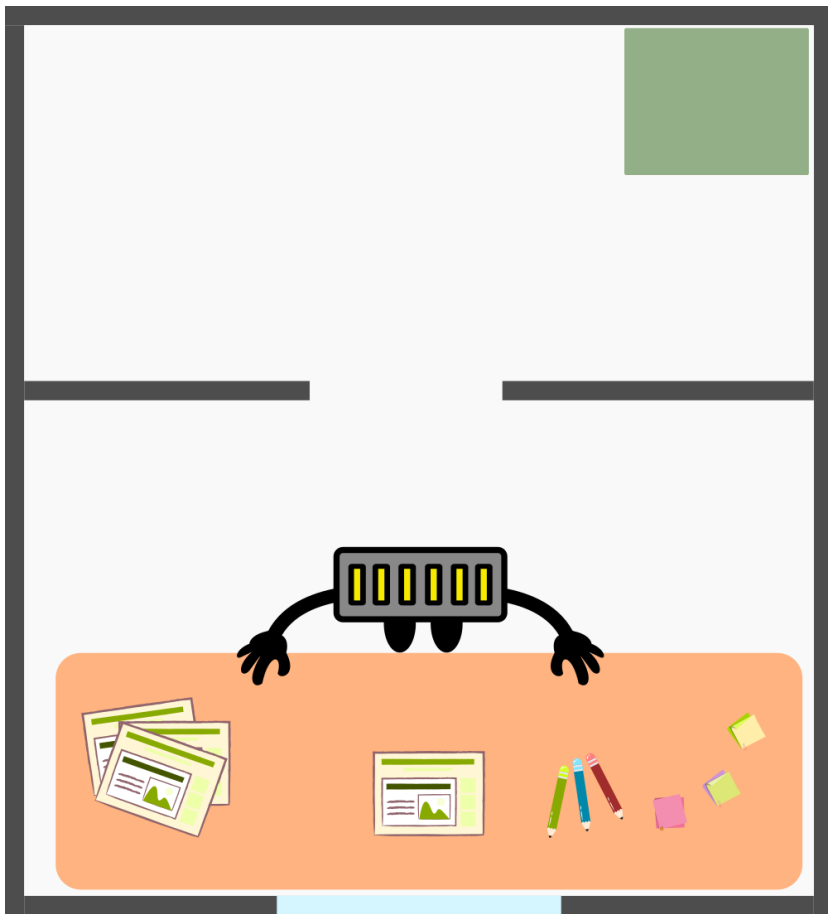
Backend caching

Pagina's zijn niet identiek voor alle gebruikers

Extra RAM toevoegen

Complexe berekeningen en veel gebruikte data in RAM bewaren

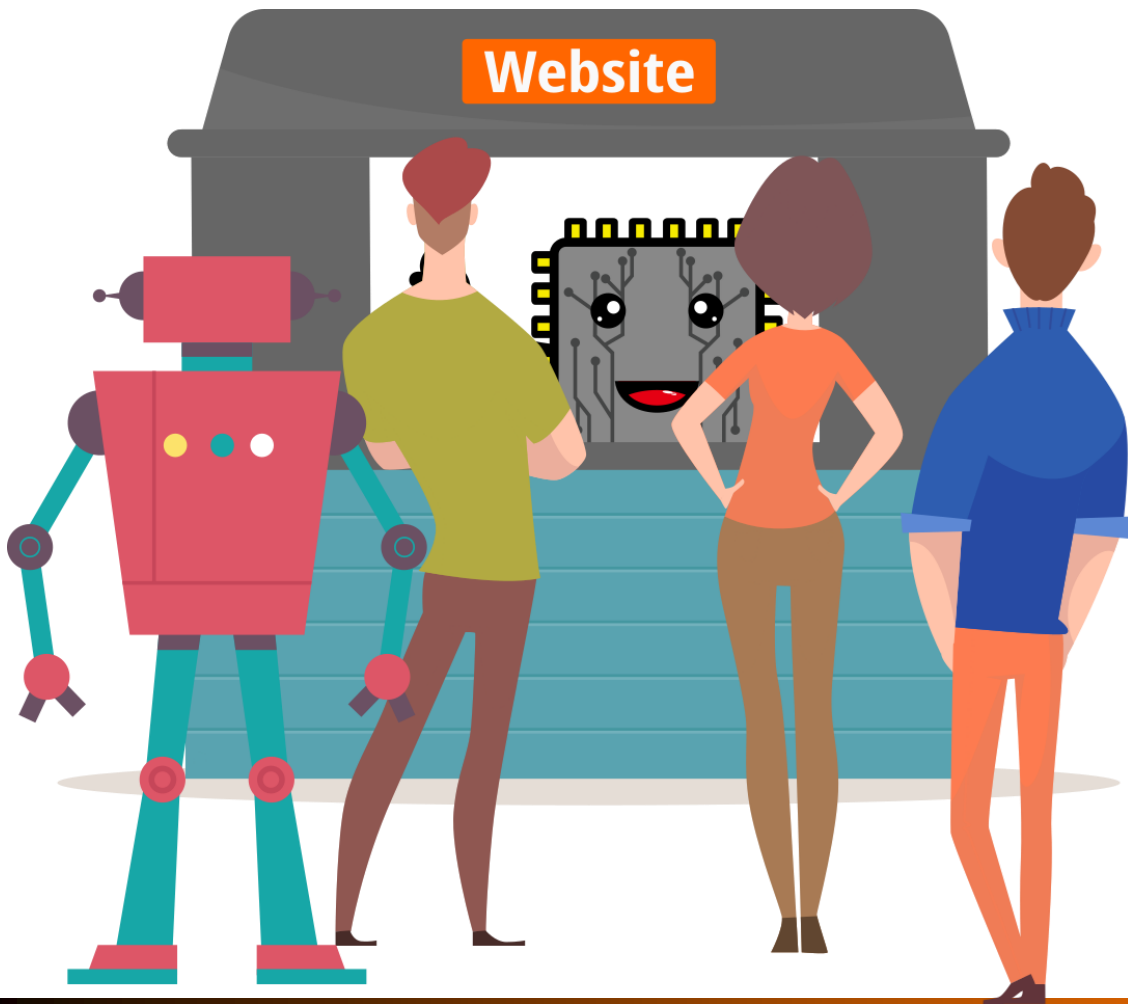
Redis

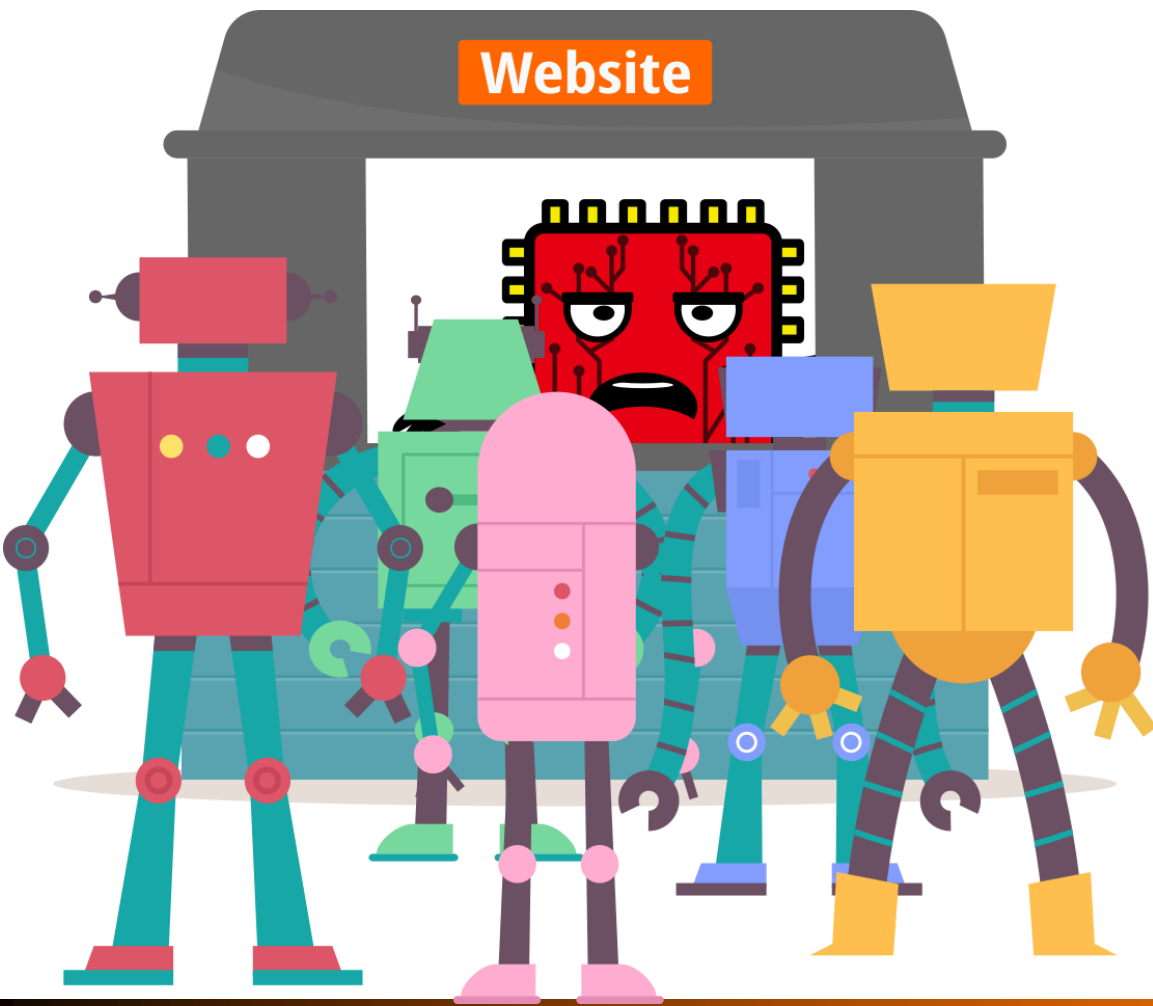


AI Bots

Tussen 18% en 80%
is AI verkeer

Bad bots vs Good bots
-> Web Application Firewall



An illustration showing a grey building with a sign that says 'Website'. In front of the building, a large red robot with a grumpy face and circuit-like details on its head is being surrounded by several smaller, colorful robots (pink, green, blue, and yellow). The robots appear to be attacking or blocking access to the website.

Website

DDoS

Distributed Denial of Service attack

Applicatieve aanval
Applicatie overbelasten

Volumetrische aanval
Netwerk of server
verzadigen met verkeer

DDoS

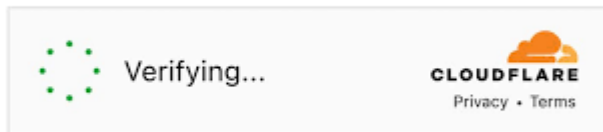
Applicatieve aanval

Cloudflare

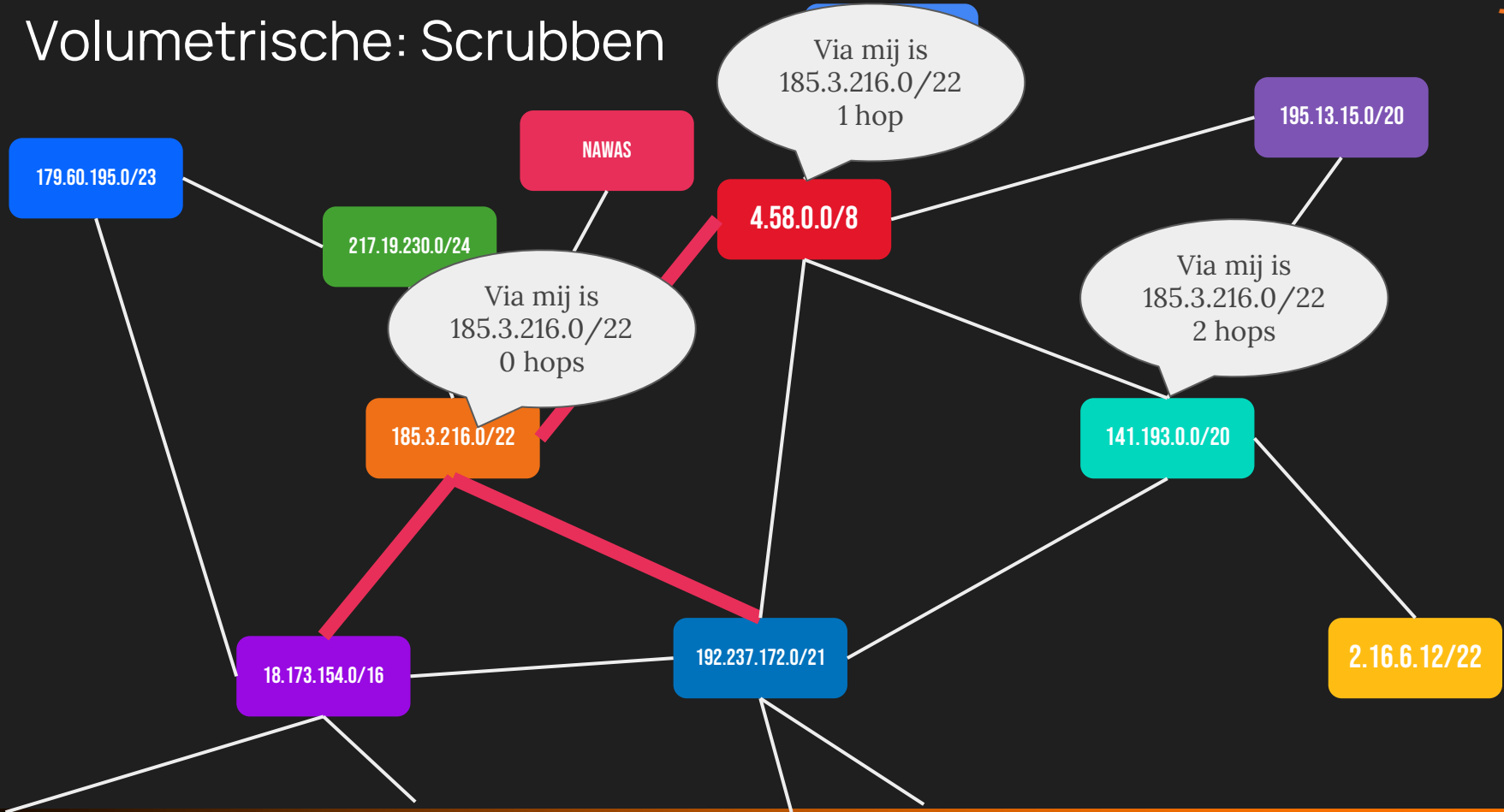
DNS update:

www.website.be -> IP webserver

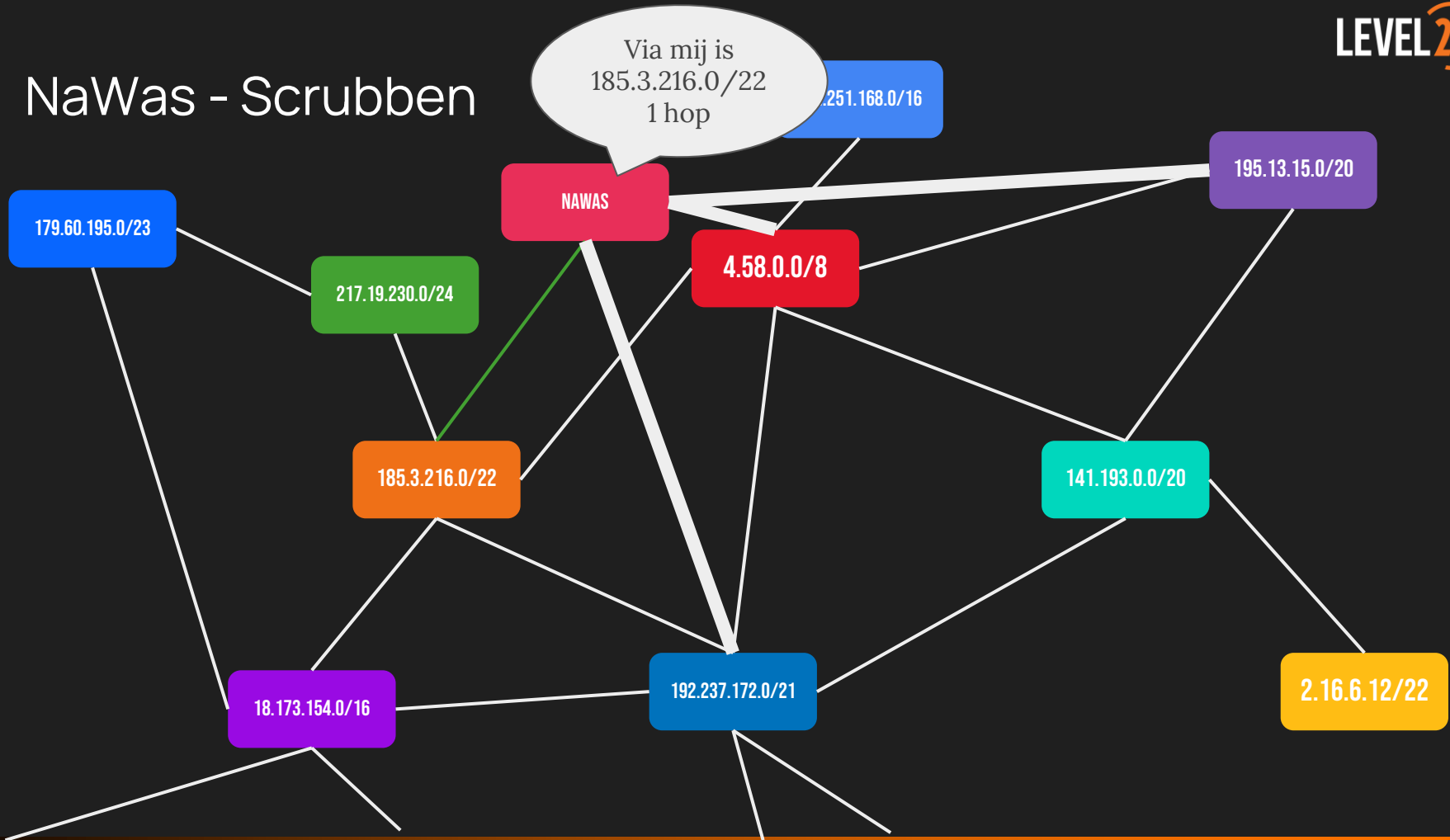
www.website.be -> IP Cloudflare



Volumetrische: Scrubben



NaWas - Scrubben



Website



Hackers

Fouten jagers (in software)

Criminelen

Hacktivisme

Scriptkiddies

White hat

