

System Administration

Week 01, Segment 02:
The Job Of A System Administrator

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<https://stevens.netmeister.org/615/>

DEVELOPERS



DESIGNERS



PROJECT MANAGERS



QA



SYSADMINS



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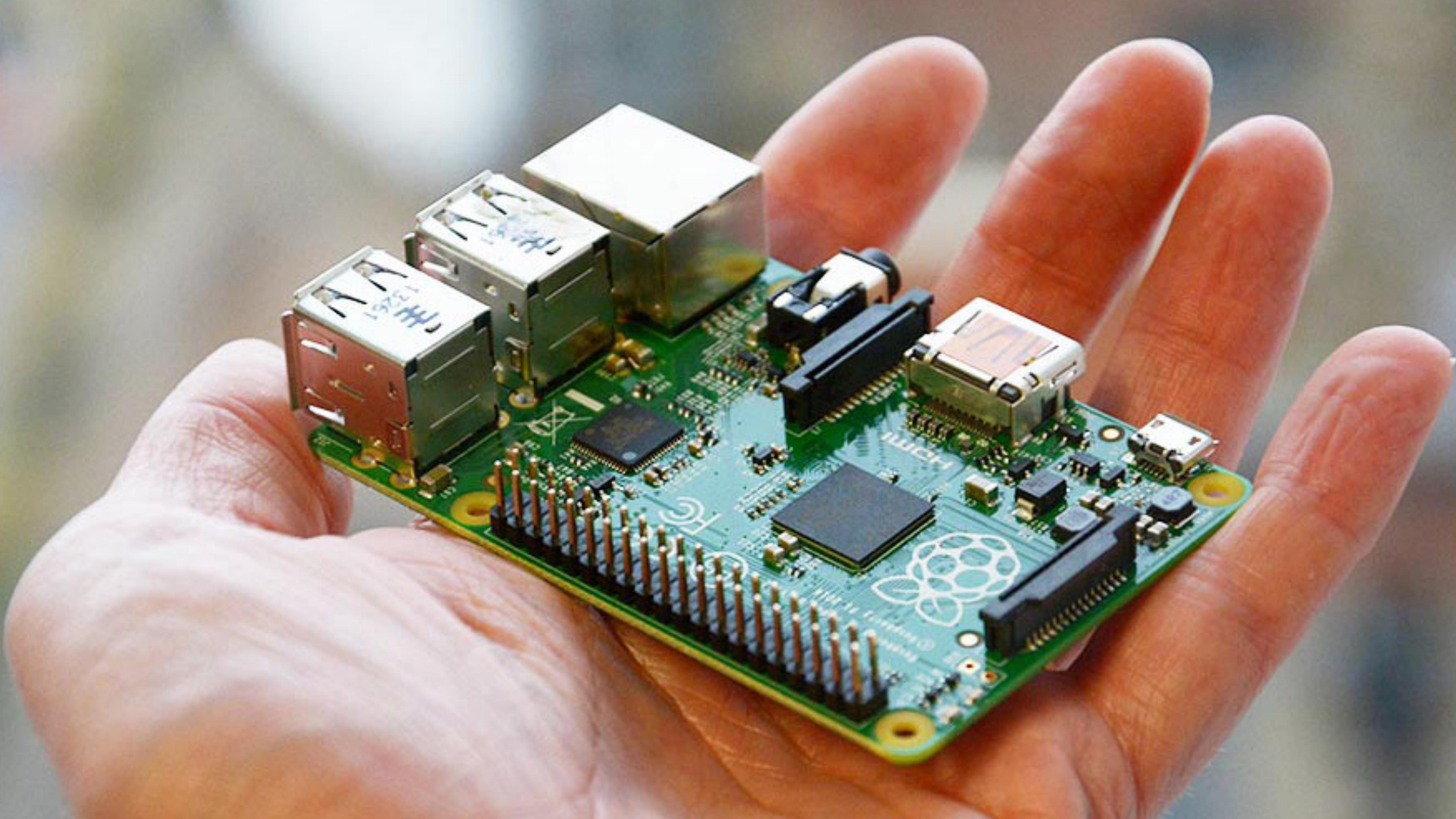
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“You gotta touch the banana” for Wi-Fi access,
says SysAdmin

<https://is.gd/8vKPh1>







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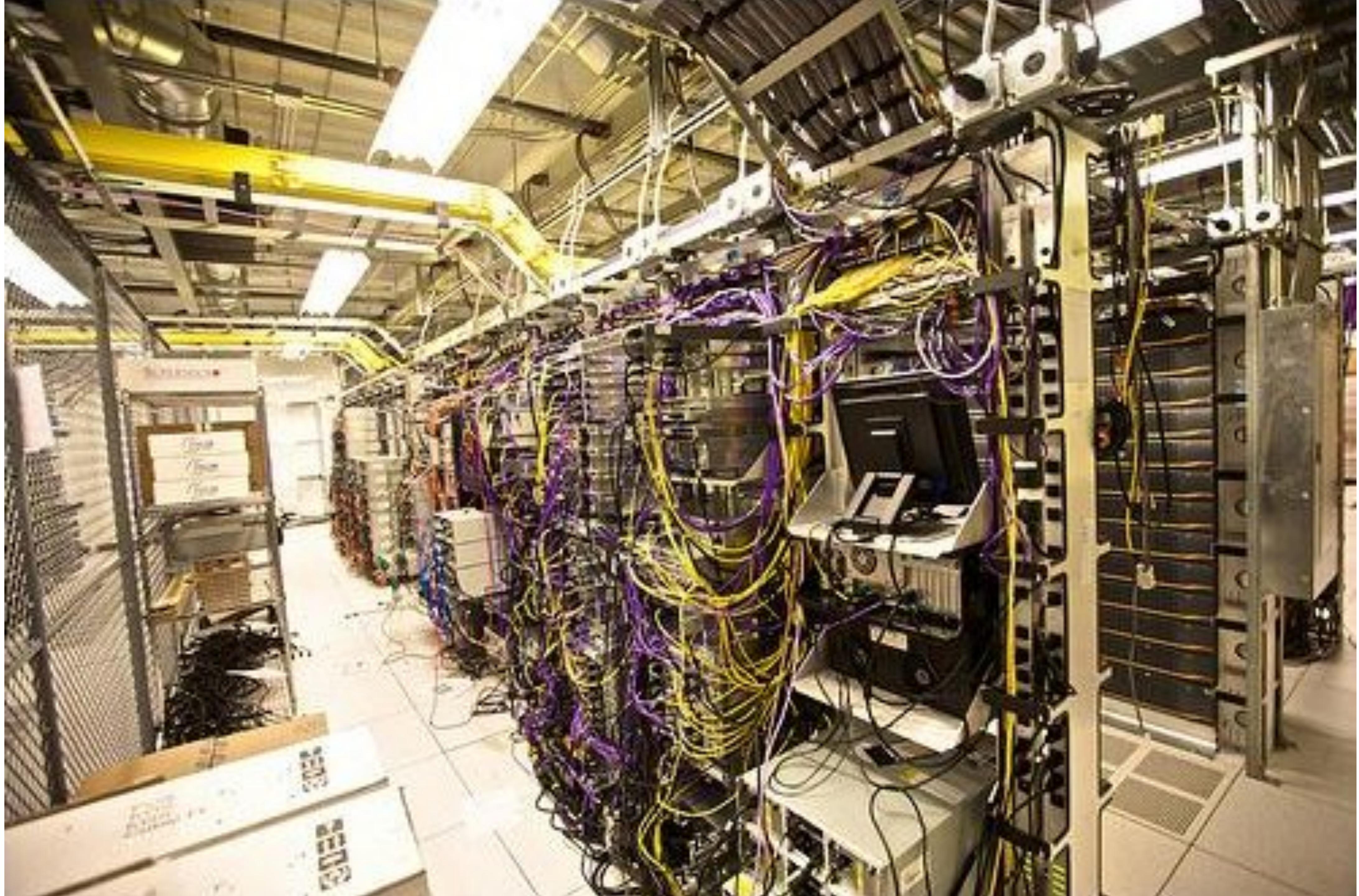
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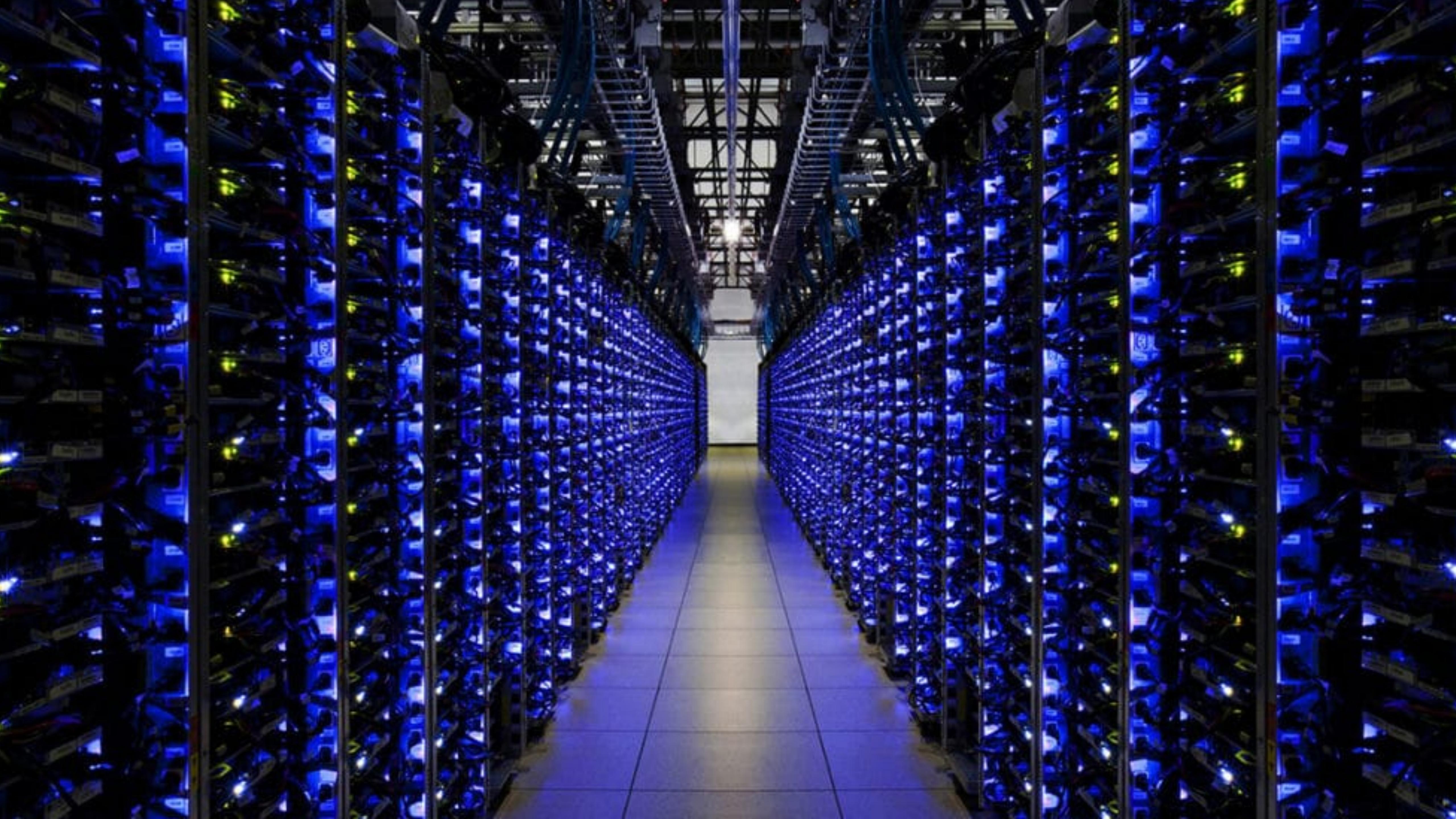


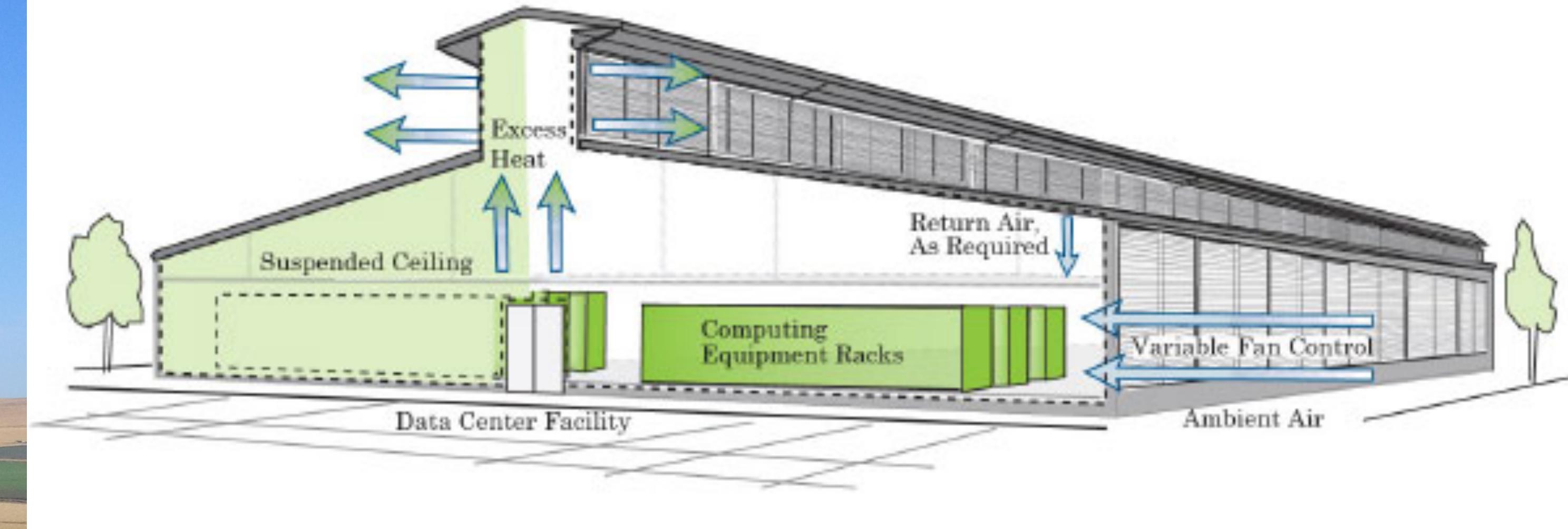
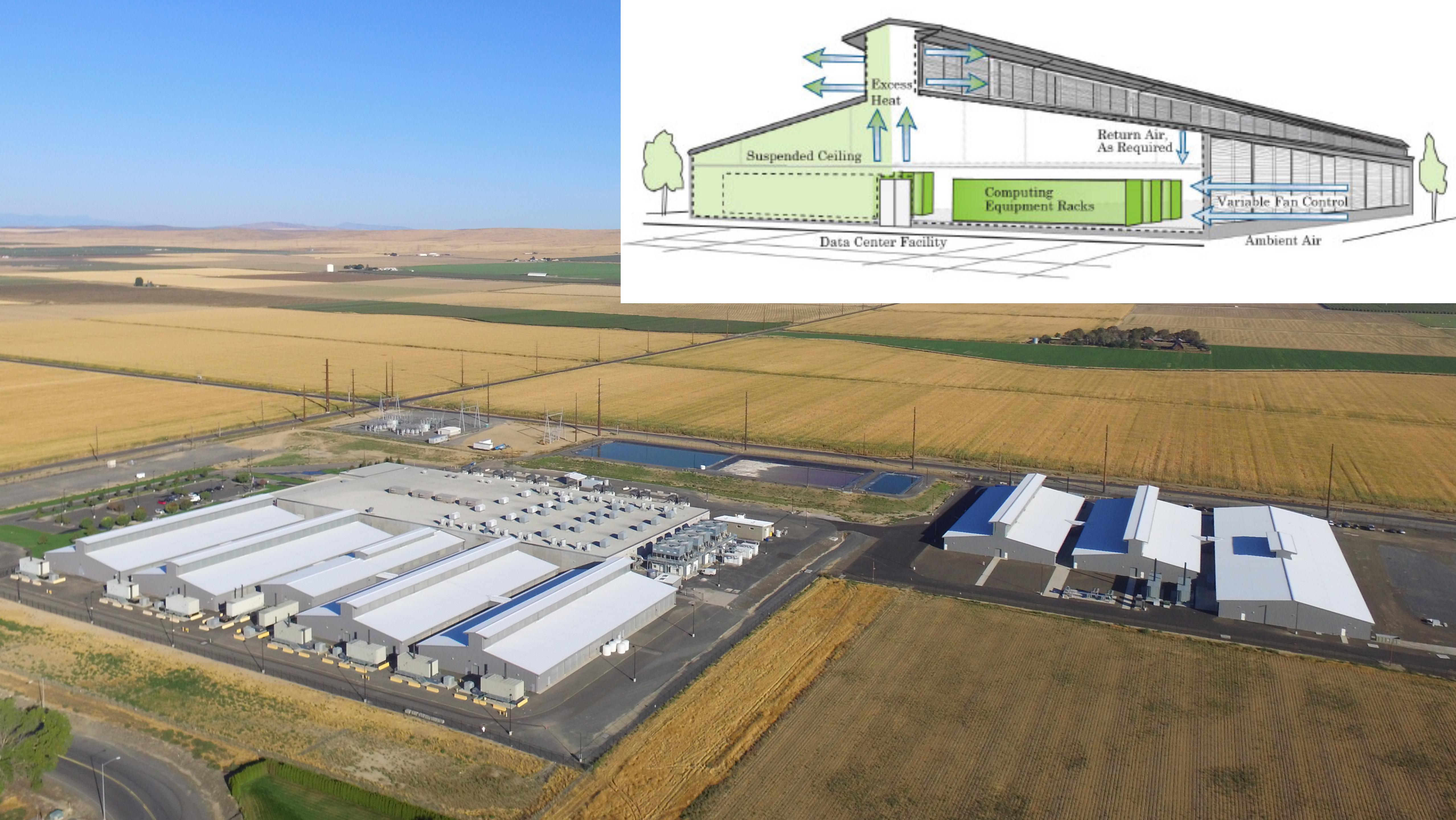




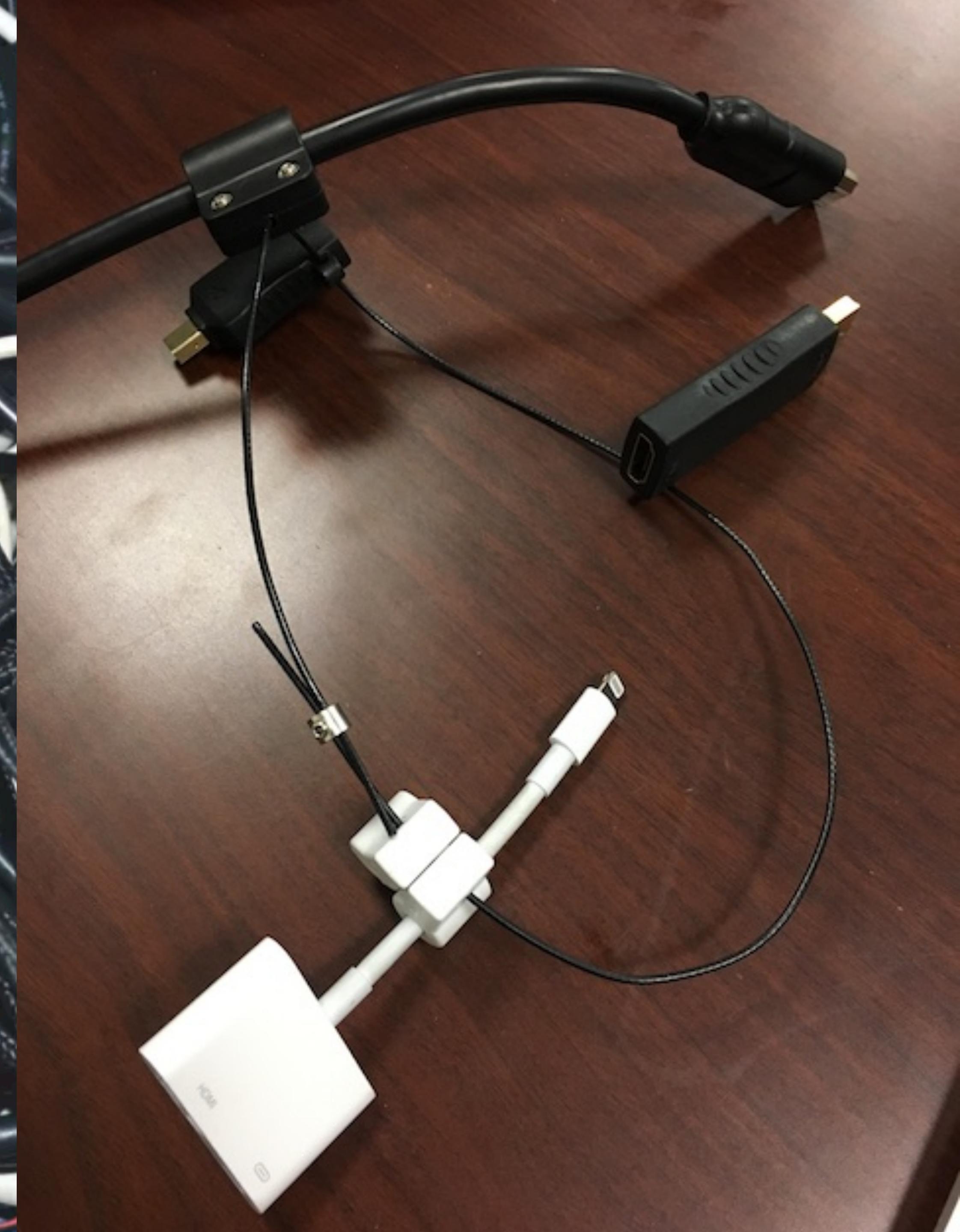
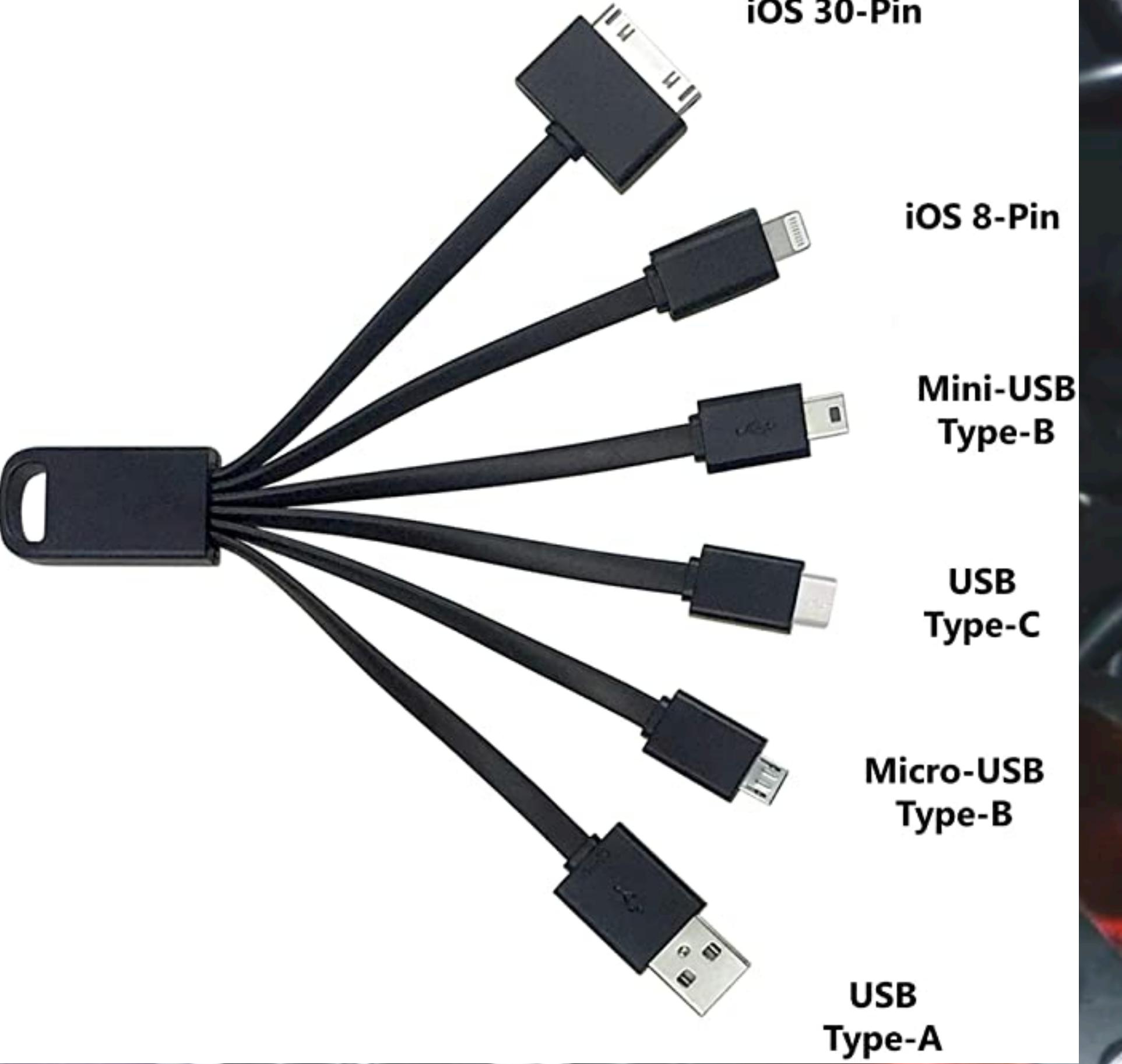


<https://www.reddit.com/r/cableporn/>











Free Wi-Fi
for everyone.*

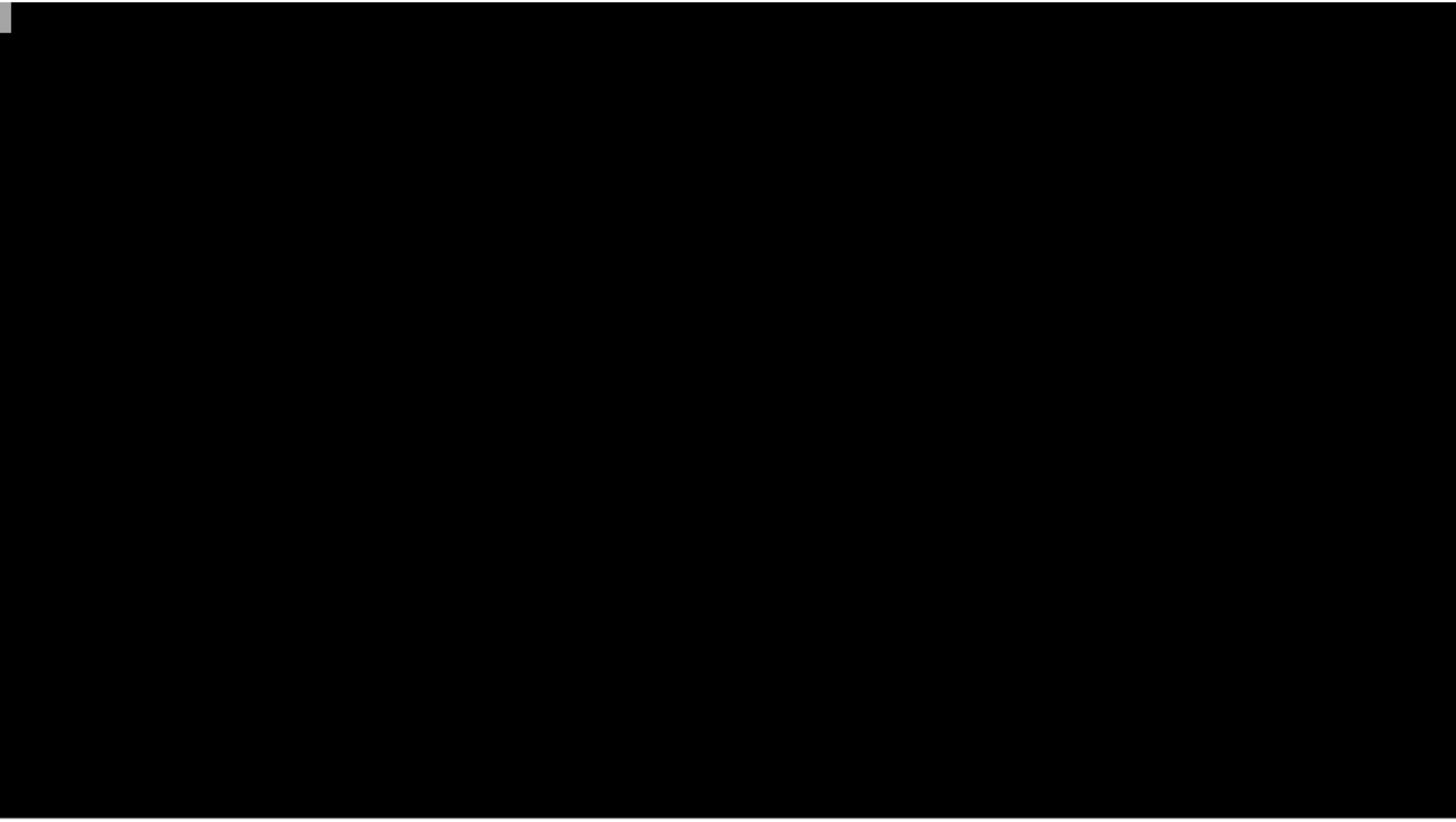
Now at Starbucks.

* unless it's for porn

Provided by **AT&T Wi-Fi**







Partial map of the Internet based on the January 15, 2005 data found on opte.org. Each line is drawn between two nodes, representing two IP addresses. The length of the lines are indicative of the delay between those two nodes. This graph represents less than 30% of the Class C networks reachable by the data collection program in early 2005. Lines are color-coded according to their corresponding RFC 1918 allocation as follows:

Dark blue: net, ca, us

Green: com, org

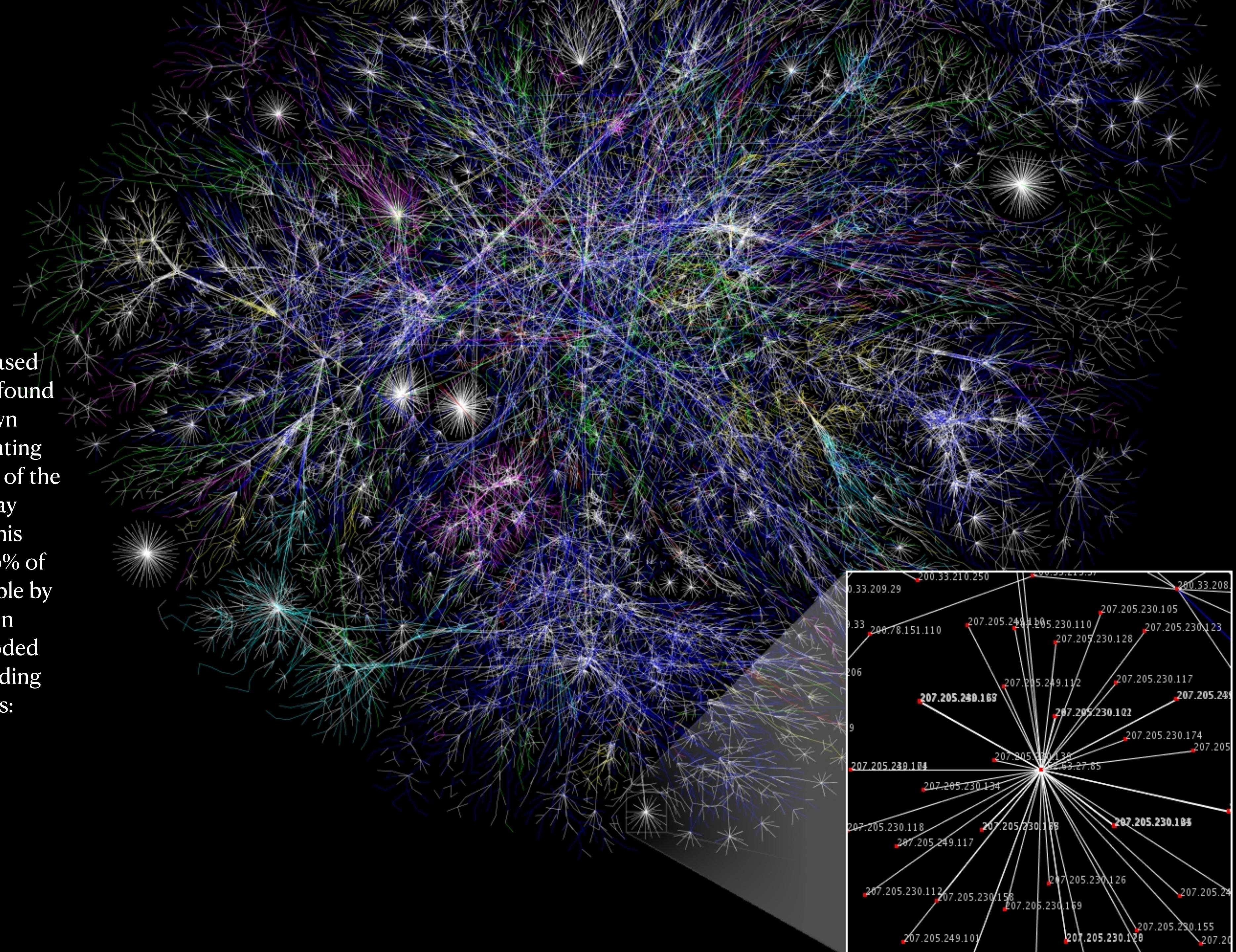
Red: mil, gov, edu

Yellow: jp, cn, tw, au, de

Magenta: uk, it, pl, fr

Gold: br, kr, nl

White: unknown





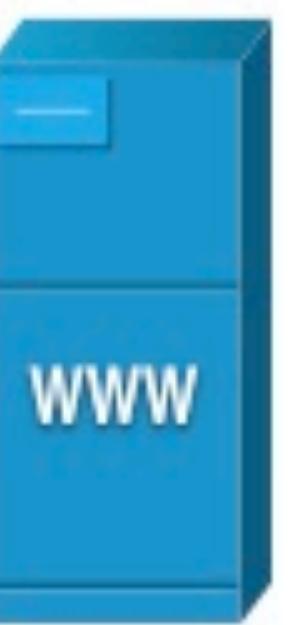




Webservice



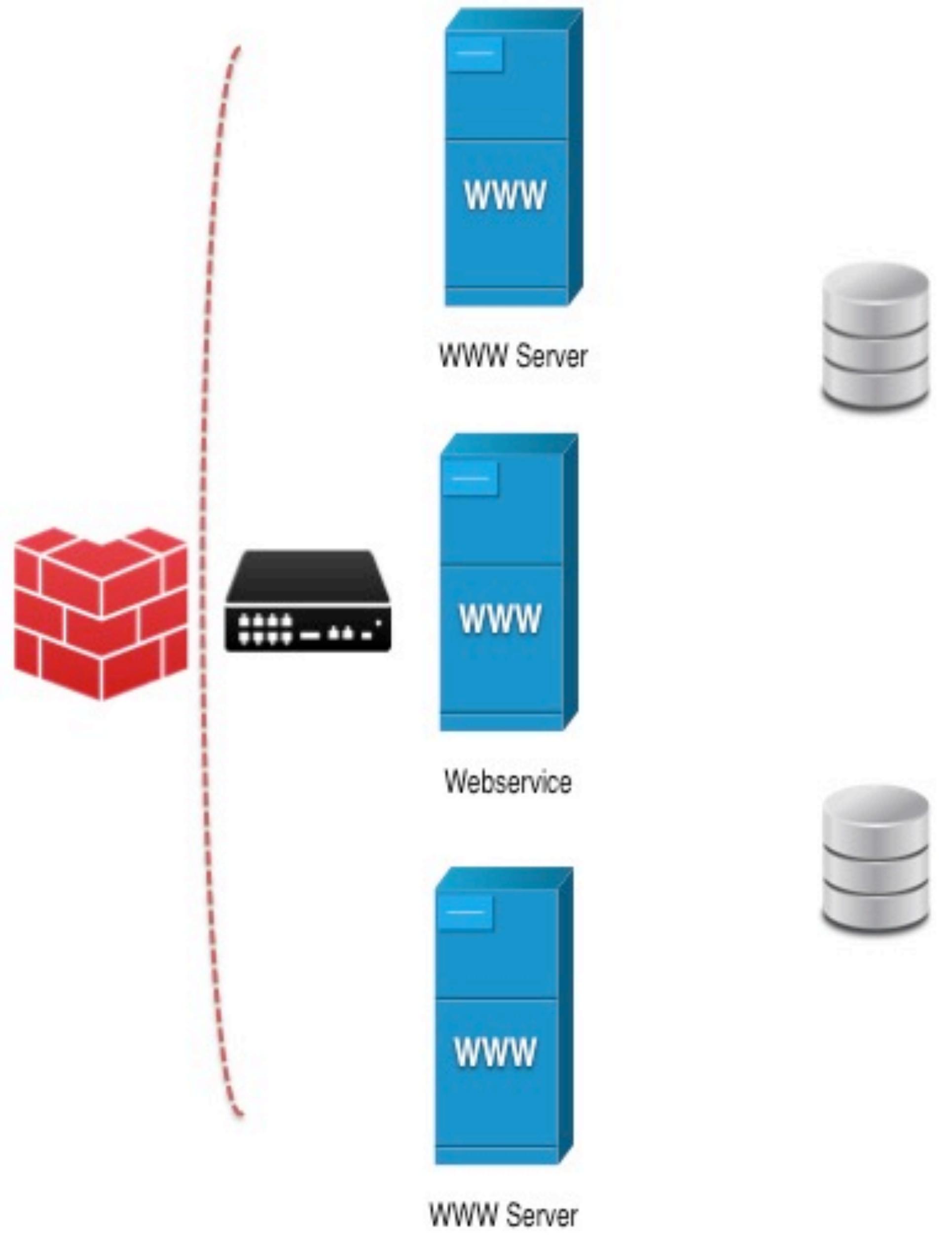
WWW Server

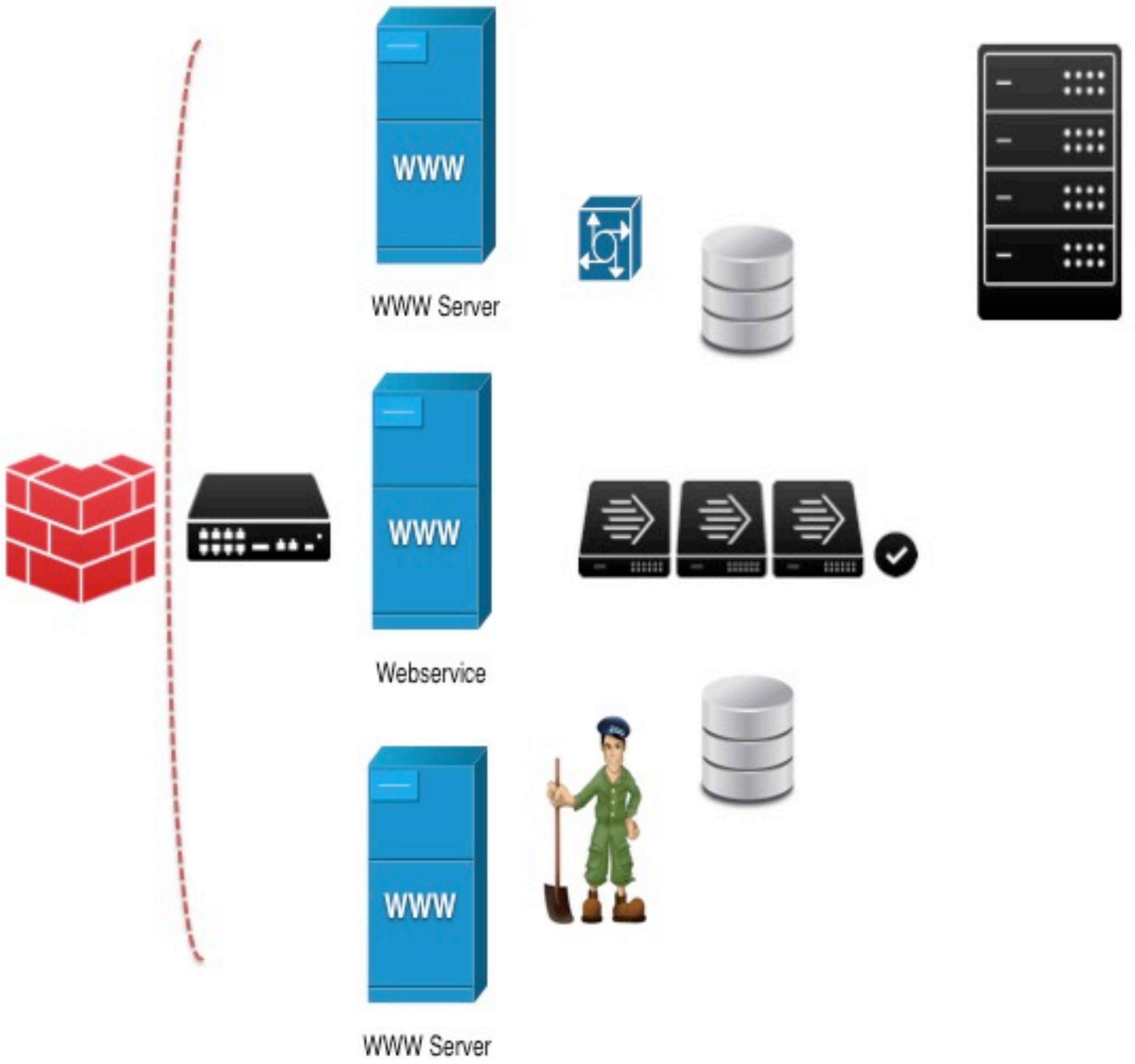


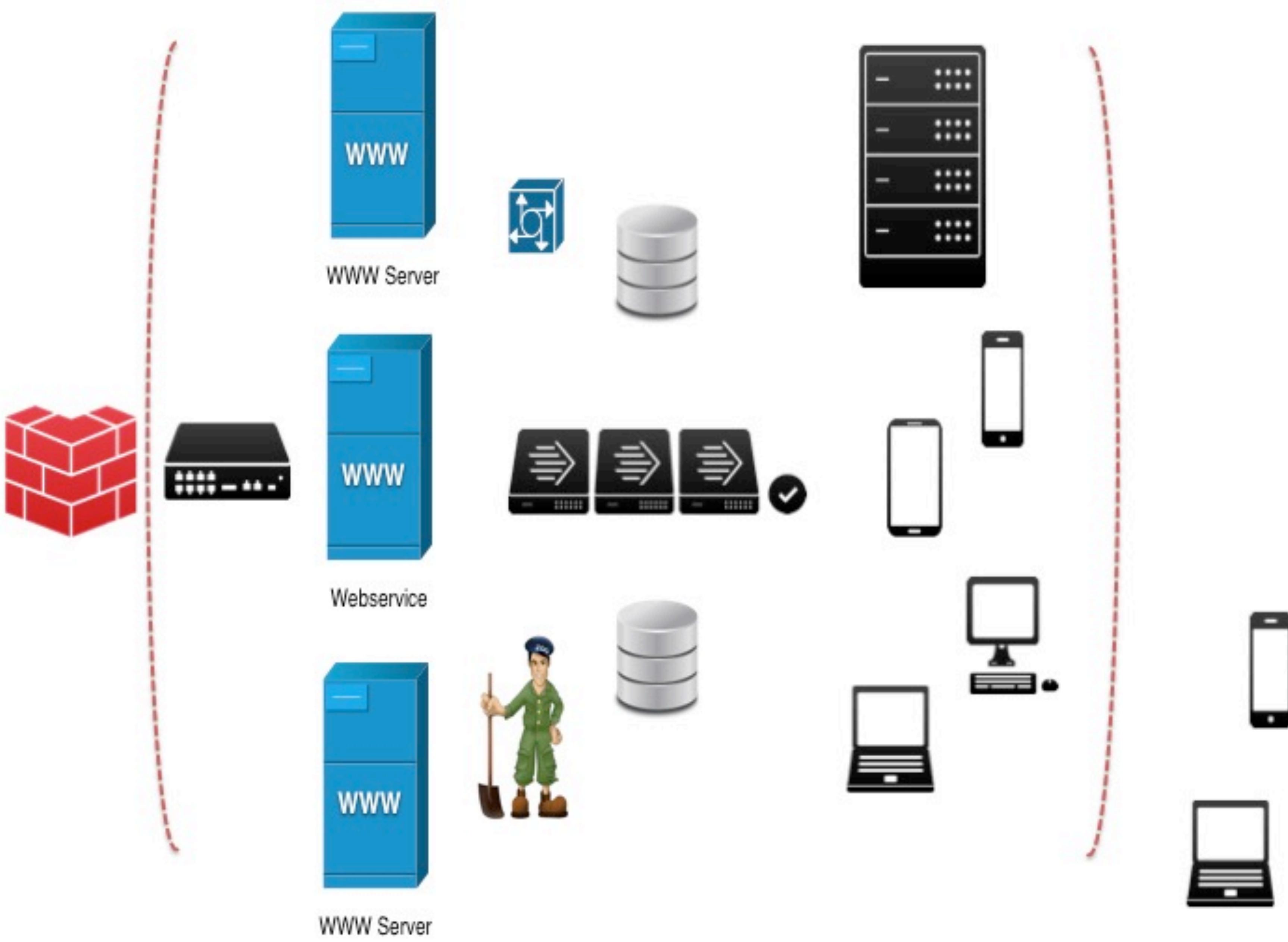
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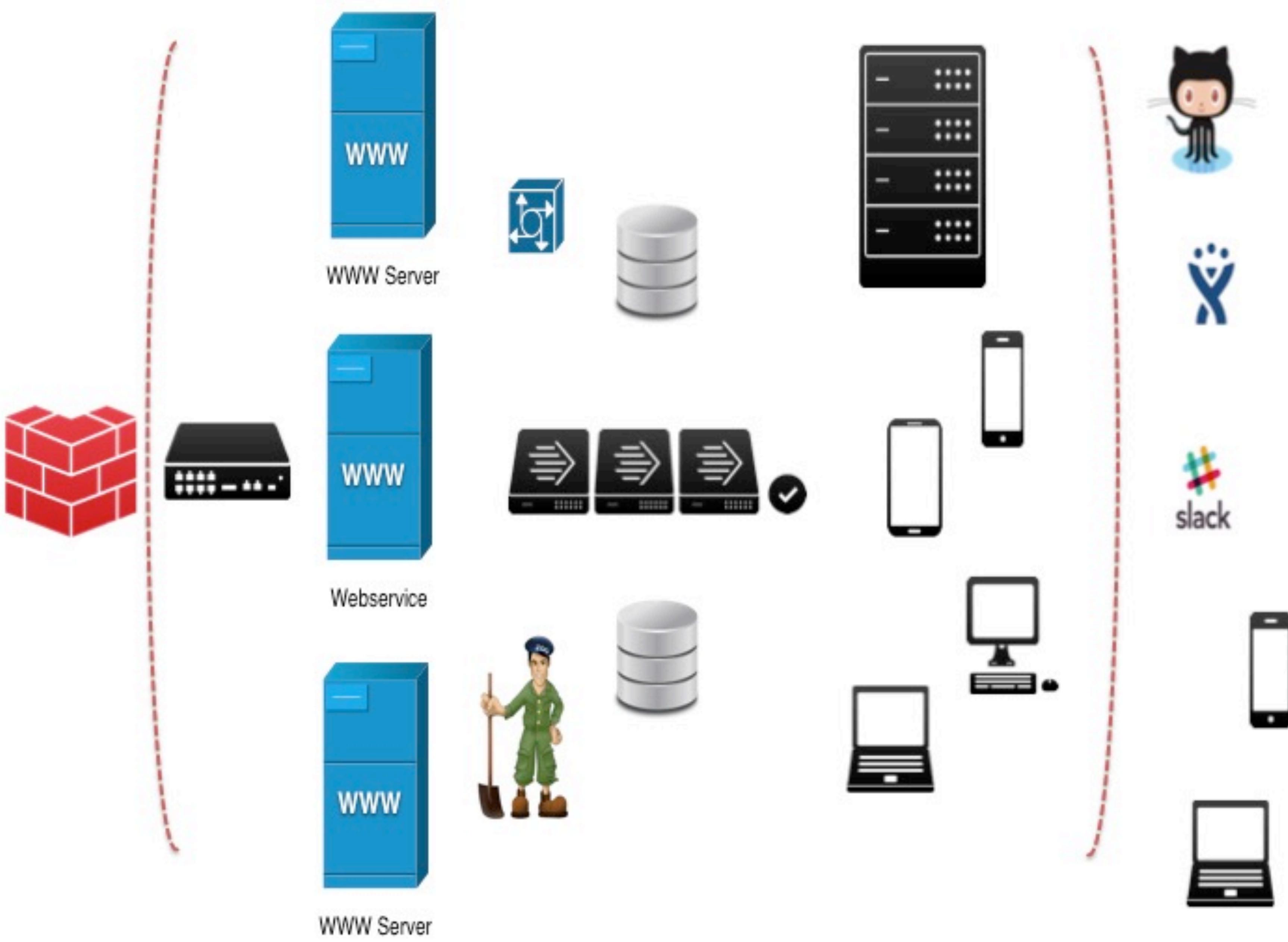


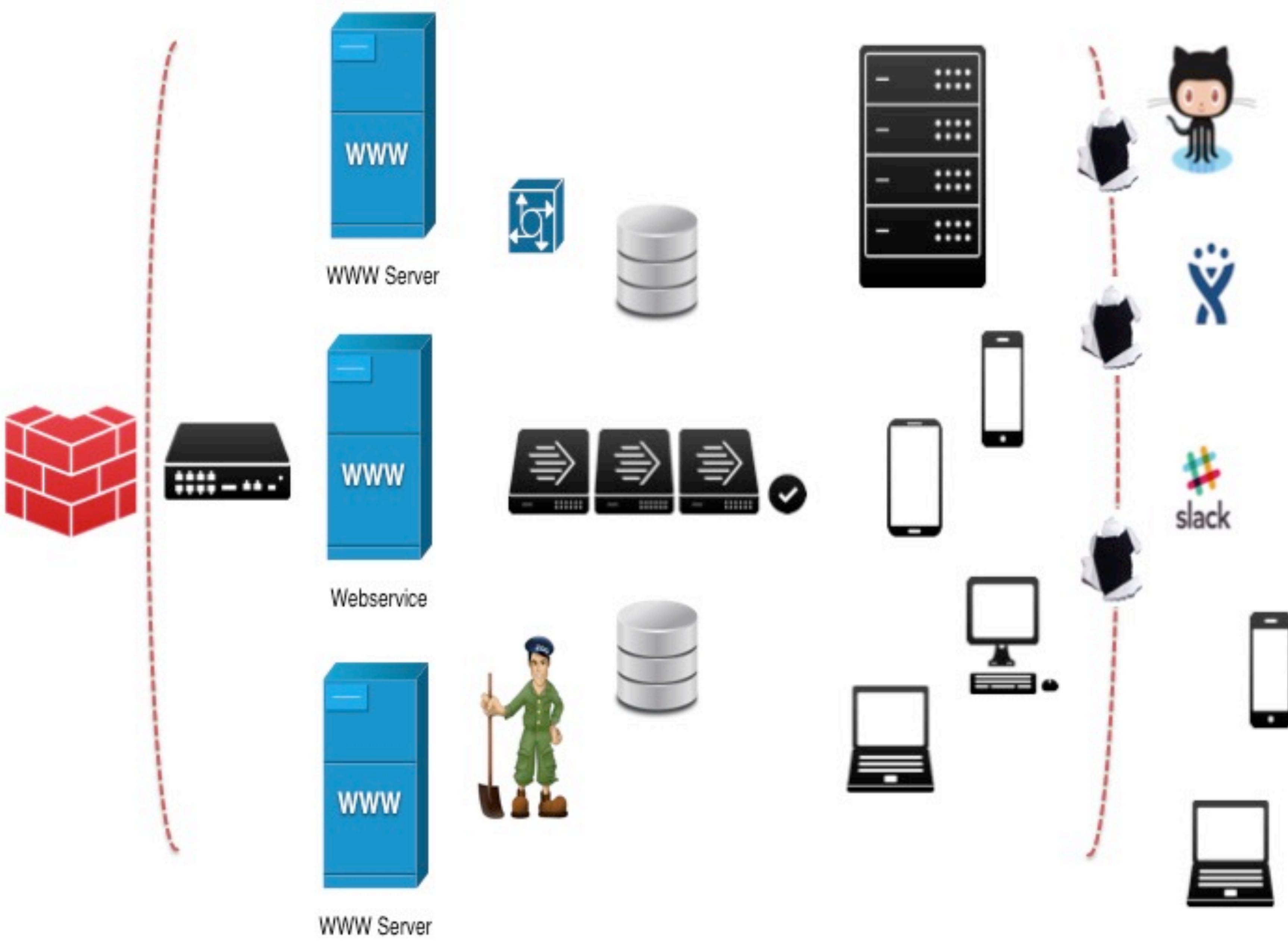
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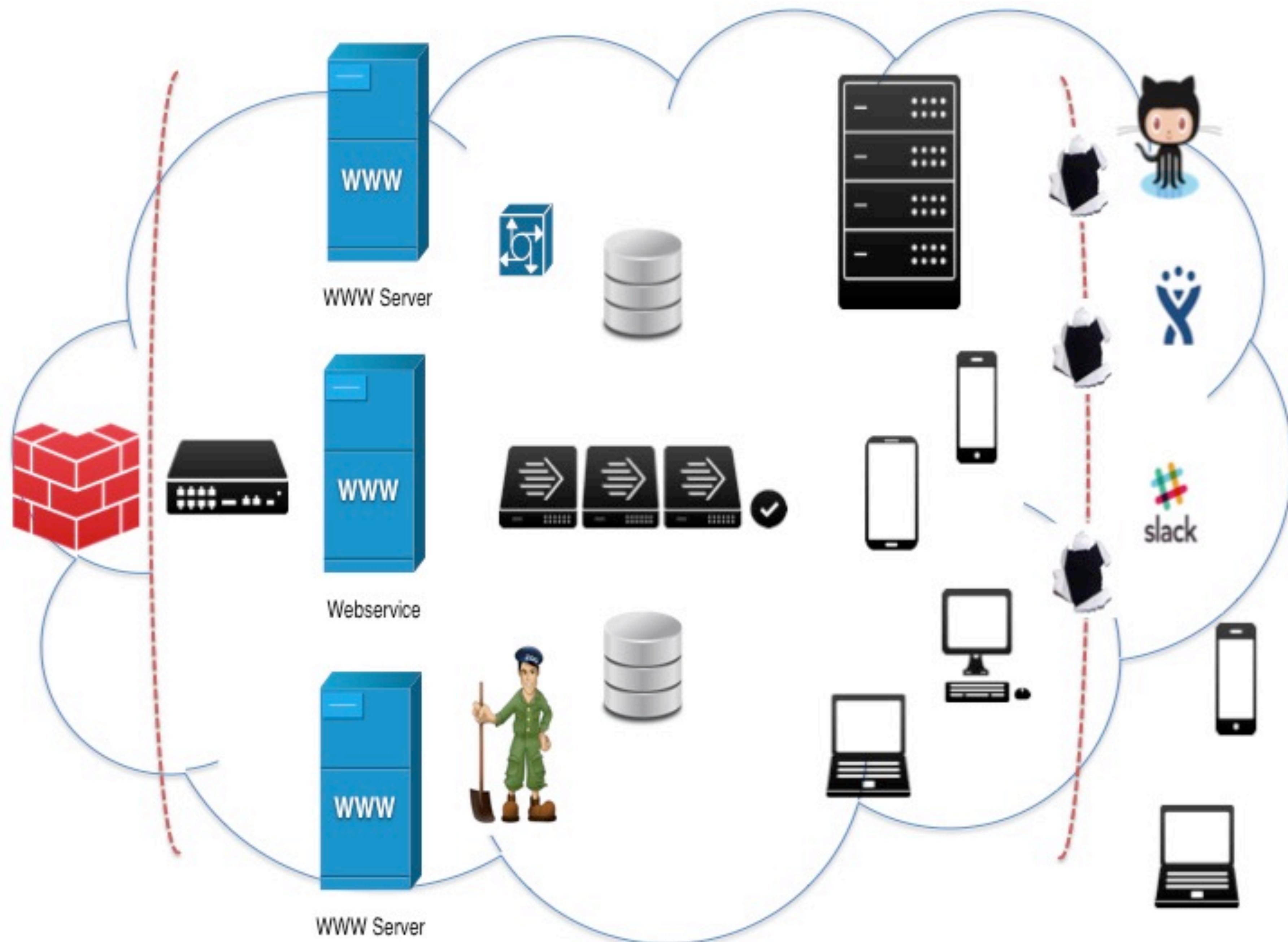


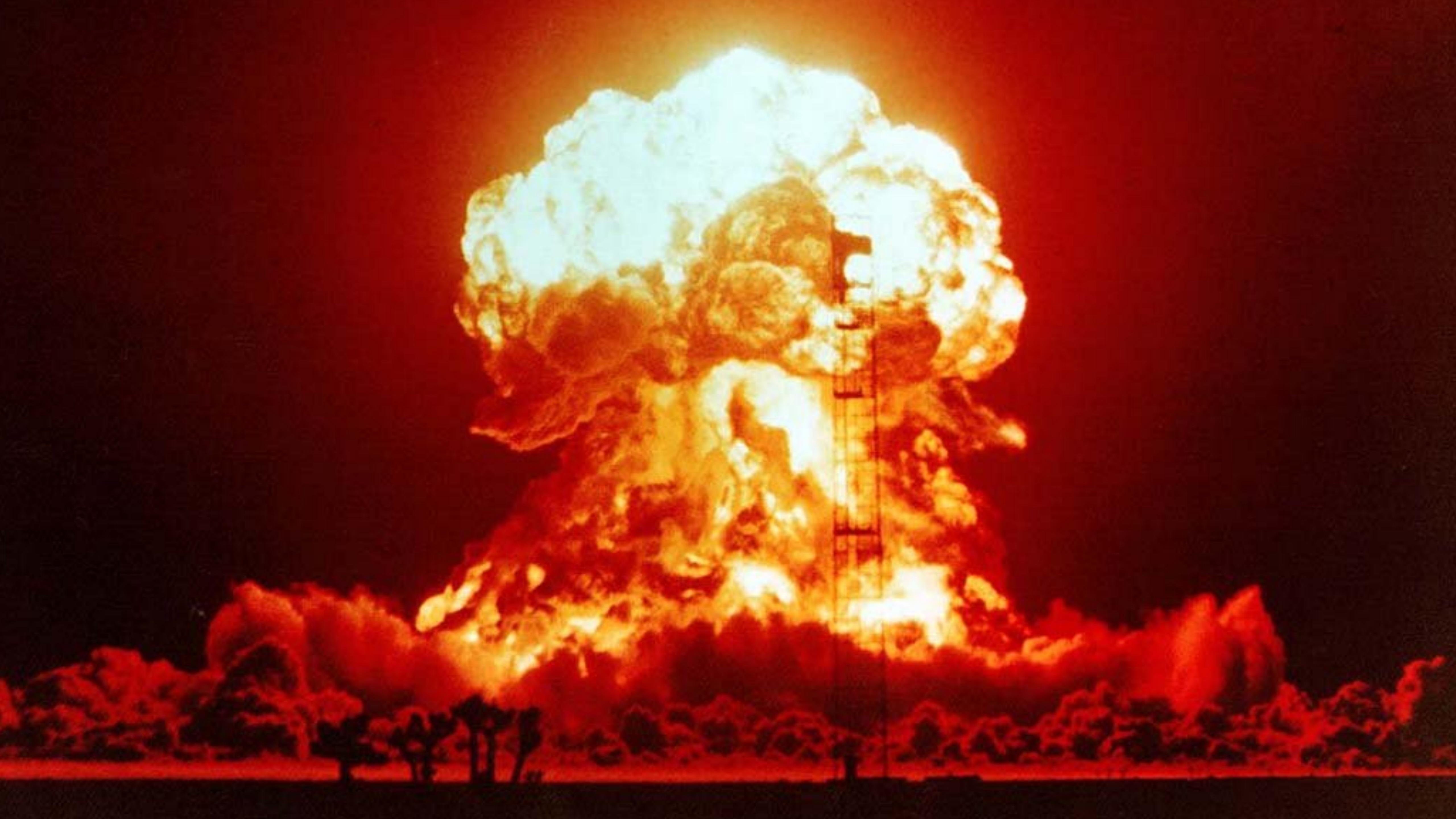








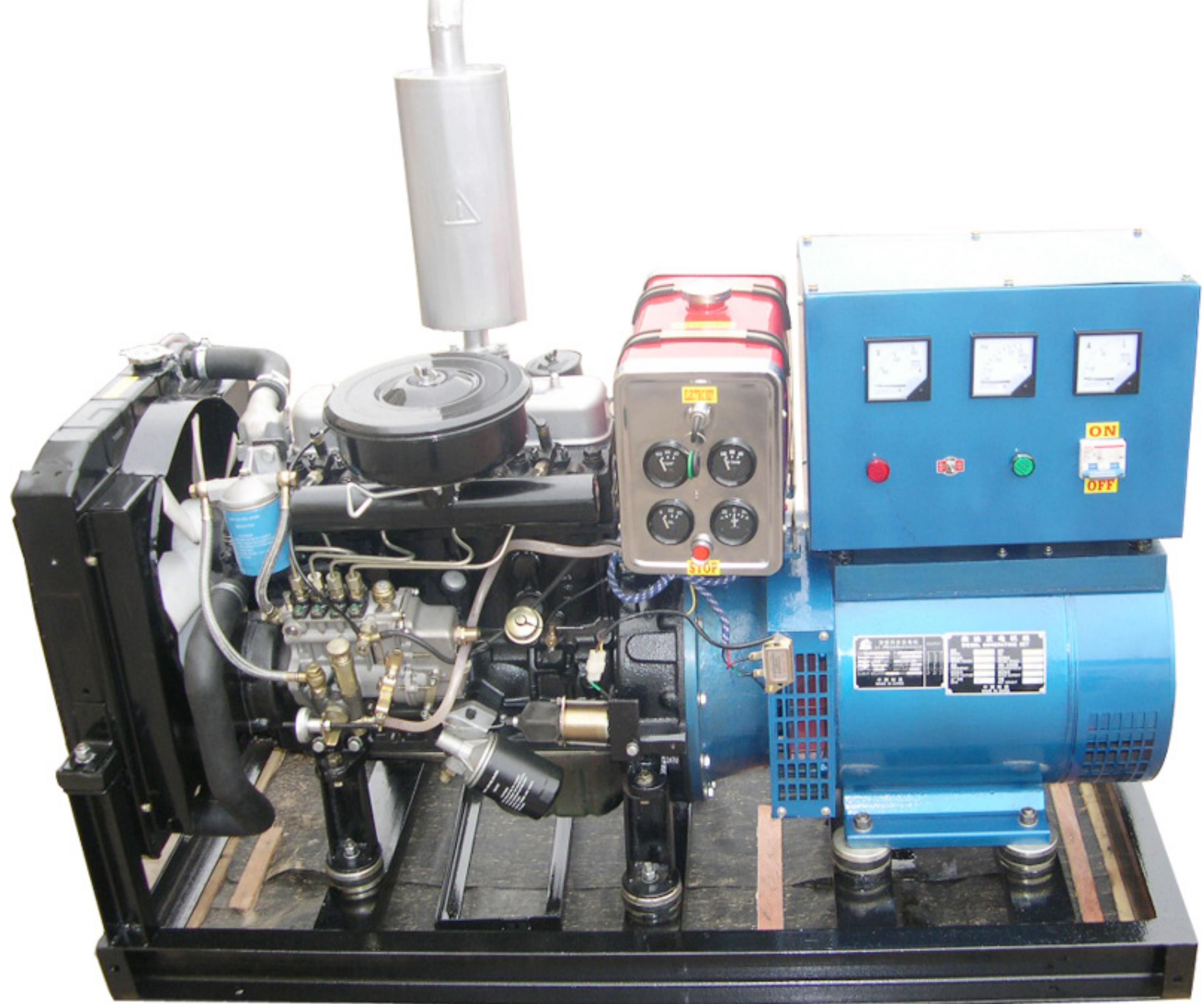






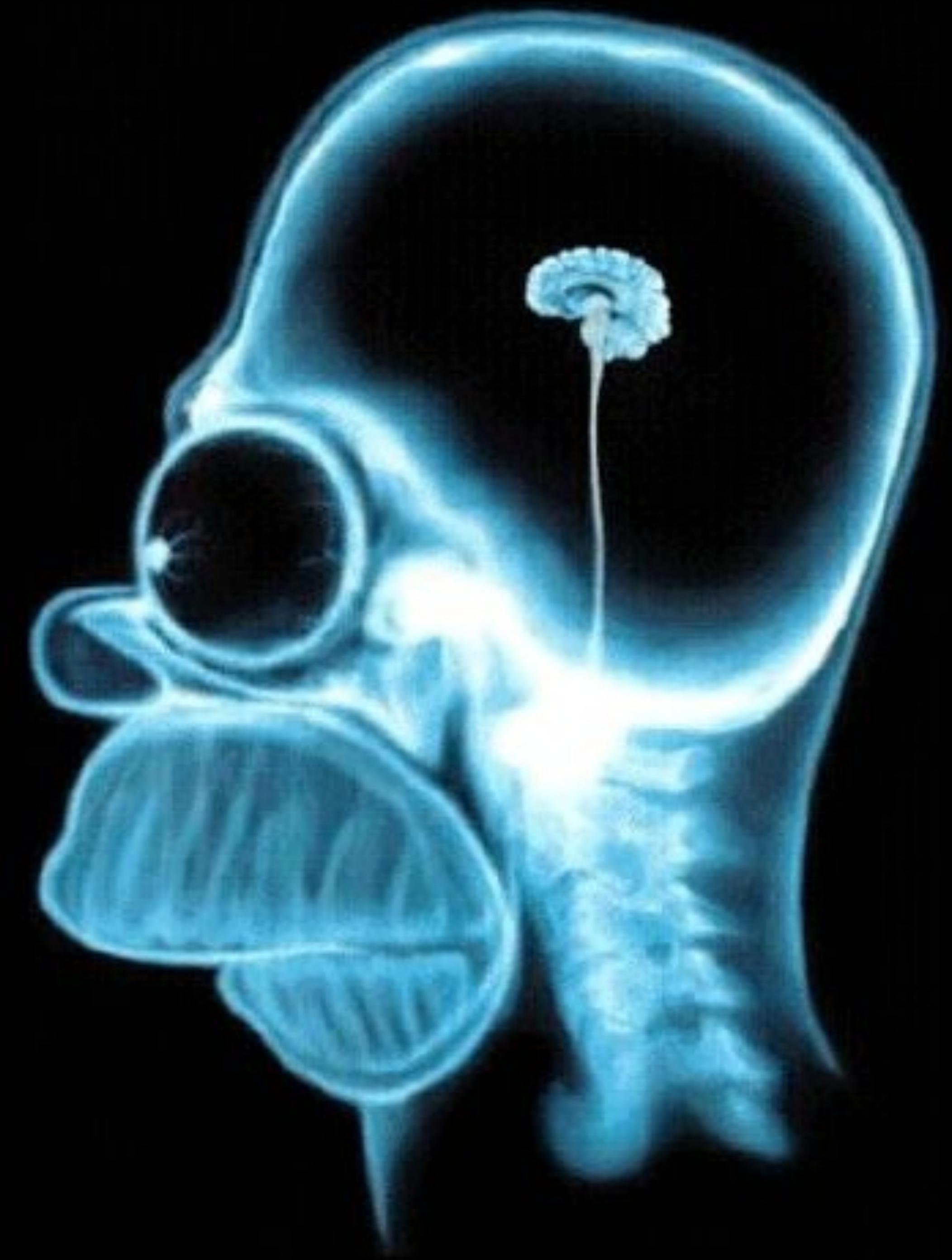


See also: <https://is.gd/WUezLL>





<https://www.netmeister.org/blog/duct-tape-and-wd40.html>



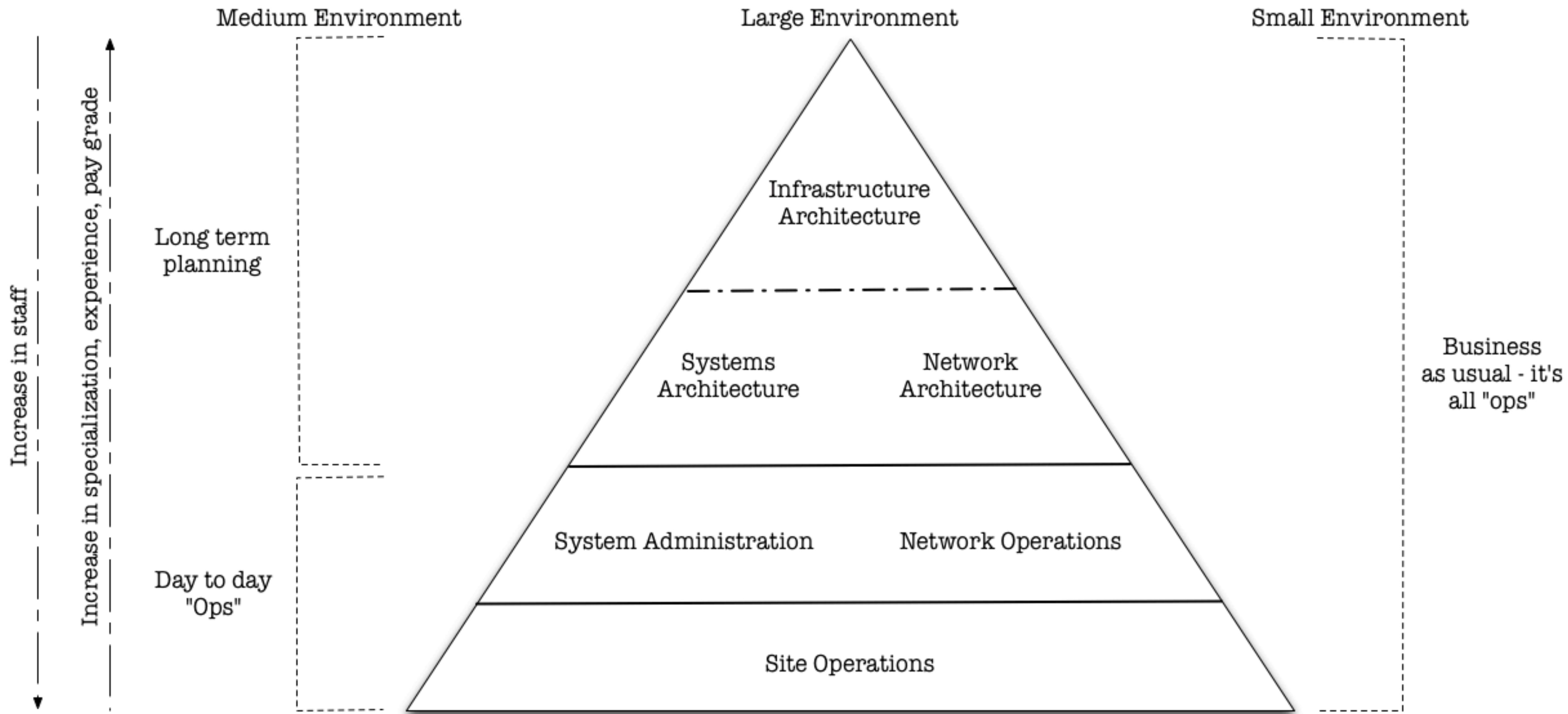
The Job of a System Administrator

What exactly does a System Administrator do?

- no precise job description
- often learned by experience
- “makes things run”
- work behind the scenes
- often known as IT Support, Operator, Network Administrator, System Programmer, System Manager, Service Engineer, Site Reliability Engineer etc.

The Job of a System Administrator

	"Traditional" SysAdmin	DevOp	SRE
Hardware	knows how to rack a box, run cables	what hardware? VMs, Cloud, Containers	docker
Javascript	is for hit counters and web tickers	pip install npm	docker pip install npm; npm install bower; bower install jquery
Format	ascii	markdown, erb	yaml, json
Editor	vi, emacs; can actually use ed	vim, ace	nano, eclipse
Productivity	mutt, irssi, gnupg, make	gmail, Slack, keybase	github pull requests, Slack
Go-to language	C, perl, bourne shell (not bash)	python, golang, nodejs, ruby	java, nodejs, ruby, rust
Common tools	tcpdump, [dks]trace, letherman, duct tape	curl, chef, puppet, homebrew	Chrome, git, jenkins, chef, splunk
Login shell	ksh	bash	zsh, fish
Login prompt	\$ or #, depending on euid	[user@hostname cwd]\$	git branch/status, newline, date/time, fqdn, newline, full path last exit status color code and unicode symbol, newline, some ascii art
Social media	Usenet	Twitter	Facebook





Terminal — 80x24

laptop\$

What is a System Administrator?

system administrator n.:

one who, as a primary job function, manages computer and network systems on behalf of another, such as an employer or client

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In the context of this class, we generally consider *computer-human systems* consisting of:

- the computer(s)
- the network
- the user(s)
- the organization's goals and policies

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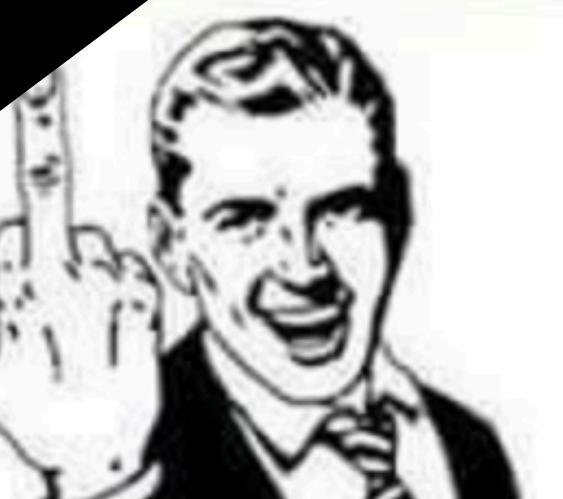
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SEE
SYSADM



This is not helping at all!!

**Computering, at its heart,
is a people problem.**

**A SysAdmin solves
people('s) problems by
computering harder.**

In our next segment...

- system design with a focus on Scalability, Security, and Simplicity
- a few important and immutable laws (as well as when to break them)
- why SysAdmins know that the internet does not look like

this:



but like this:



Links and Reading

“Principles of System Administration”, by Jan Schaumann

<https://www.netmeister.org/book/principles-of-system-administration.pdf>

“You gotta touch the banana...”: <https://is.gd/8vKPhl>

Yahoo Chicken Coop Datacenter Design: <https://is.gd/MjXRSF>

SysAdmin Tools: <https://is.gd/WUezLL>

Duct Tape and WD40: <https://www.netmeister.org/blog/duct-tape-and-wd40.html>

<https://www.reddit.com/r/cableporn/>