



JAM STACK EFFECTIVENESS

Make Web sites great again!



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How the world wide web works



A website is a collection of web pages that are hosted on a server and can be accessed through the internet. When you type in a website's URL or click on a link, your web browser sends a request to the website's server, which then sends the webpage back to your browser to be displayed.



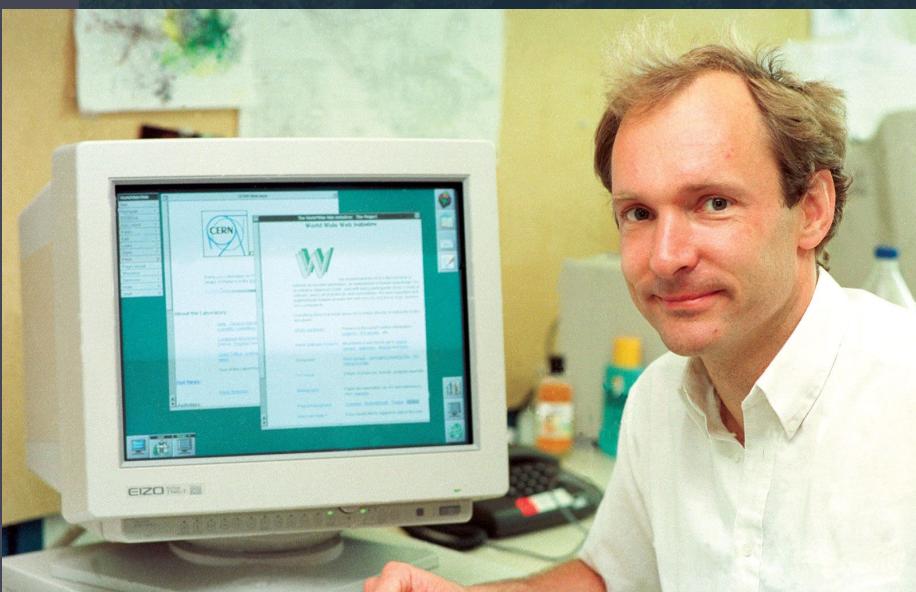
Here's a basic overview of how a website works:

1. You type in a website's URL (Uniform Resource Locator) or click on a link to access the website.
2. Your web browser sends a request to the website's server.
3. The server processes the request and sends back the HTML code for the webpage.
4. Your browser reads the HTML code and renders the webpage based on the instructions in the code, including any images, videos, or other content embedded on the page.
5. If the webpage includes any scripts or other programming languages, your browser executes them to add interactivity or other functionality to the page.

A website can also include server-side scripts or databases to dynamically generate content based on user input or other factors. In this case, the server processes the request and generates the HTML code on the fly before sending it back to the browser.

Overall, websites are built using a combination of HTML, CSS, JavaScript, and other programming languages and technologies. The design and functionality of a website can vary widely depending on its purpose and the skills and resources of its creators.

Sir Tim Berners-Lee



... but then client-side rendering came, and FE frameworks ate the cake

A screenshot of the old Telekom website (telekom.de/netz/glasfaser?wt_mc=ii_sososoxx_navi-glasfaser). The page title is "Häufig gestellte Fragen zum Thema Glasfaser". It lists several questions with dropdown arrows:

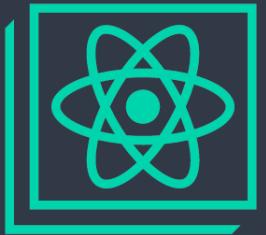
- Was ist Glasfaser?
- Welche Vorteile bietet Glasfaser?
- Was ist der Unterschied zwischen Glasfaser, DSL und Kabel?
- Für wen lohnt sich Glasfaser?
- Kann ich meinen Glasfaser-Tarif während der Laufzeit anpassen?
- Wie kann ich meinen Glasfaser-Tarif wechseln?

At the bottom, there is a link to "Zum Hilfe & Service Bereich".

VS

A screenshot of the new Vodafone newsroom website (newsroom.vodafone.de/themenspecials/glasfaser). The page features a large image of a construction worker in a white vest standing next to a red excavator. The text "THEMENSPECIAL" and "Glasfaser" is displayed. Below the image, a quote from Tanja Richter, Technik-Chefin, is shown: "„Der Hunger nach hohen Datenraten wächst in privaten Haushalten.“". Another image shows a worker with the text "Festnetz-Ausbau 2022 Modernisierung, Ausbau & Kooperationen für Mio. Menschen".

... causing HTML practically disappeared



Create React App

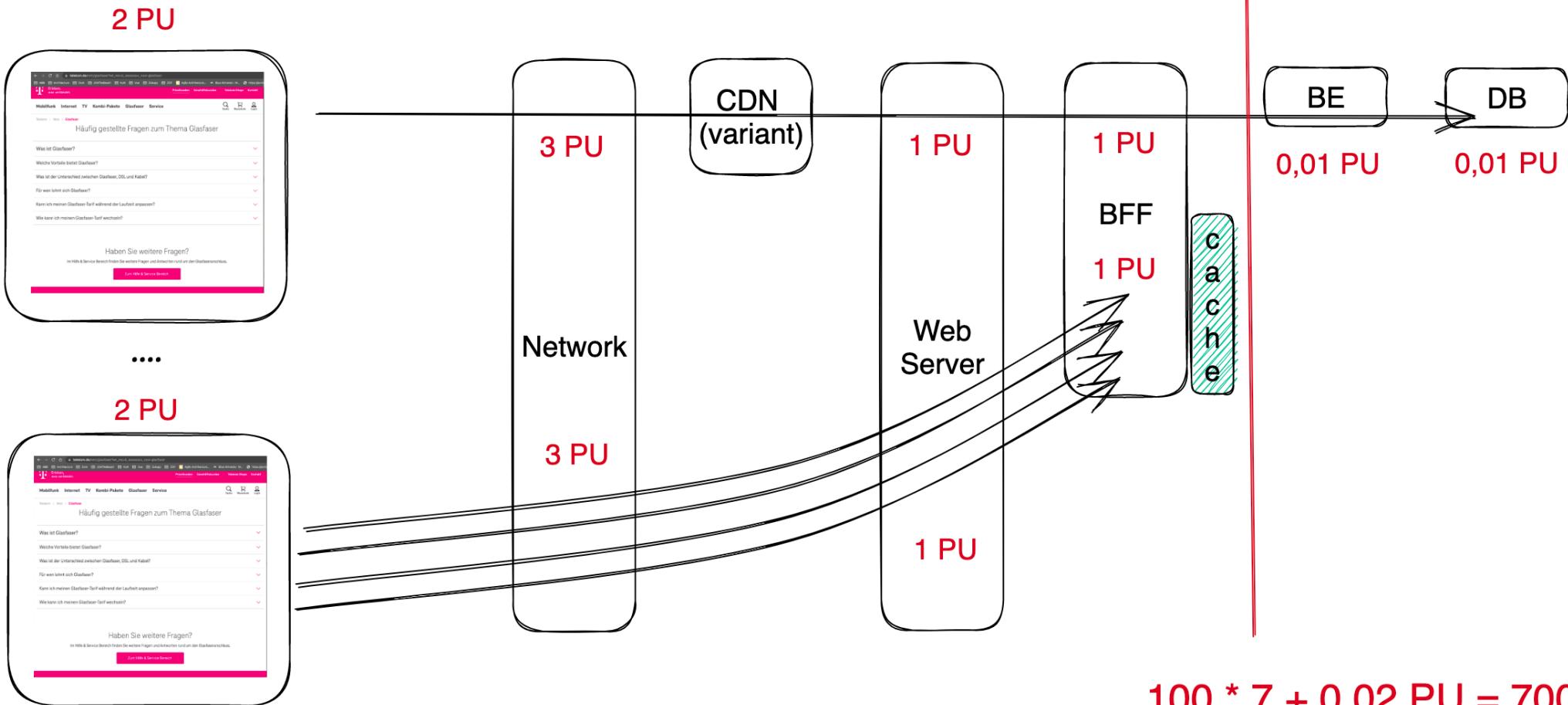
Set up a modern web app by running one command.

[Get Started](#)

<https://github.com/laszkie/jam-next/tree/develop/apps/jam-spa>

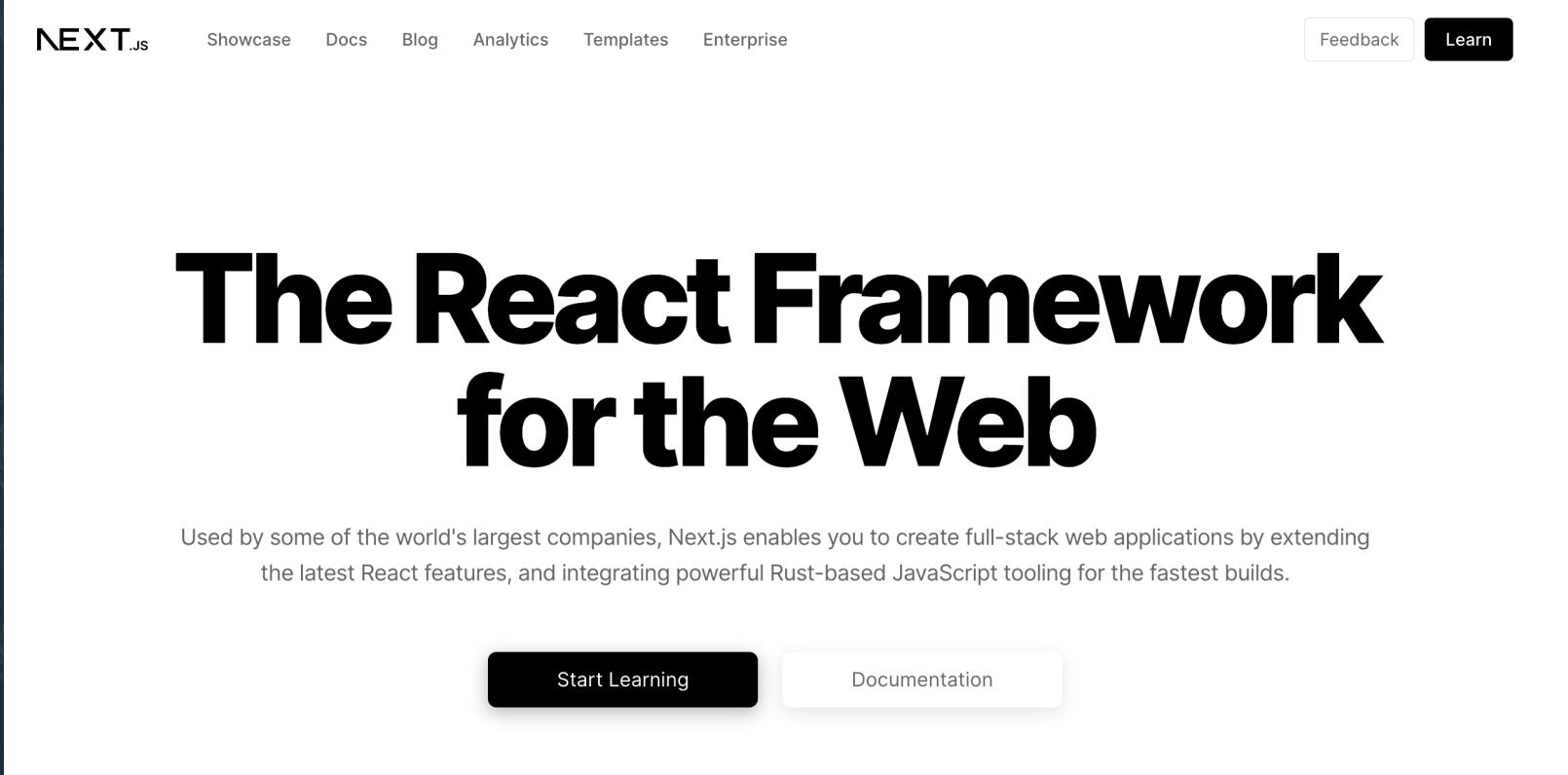
significantly increasing computation effort and load, by the way

Browser, client N (N = 100)



$$\text{ev. } 7 + 99 * 6 + 0,02 \text{ PU} = 601,02 \text{ PU}$$

But there is a player, who has cake and eats cake ;-)



The screenshot shows the official Next.js website. At the top, there's a navigation bar with links for Showcase, Docs, Blog, Analytics, Templates, and Enterprise. To the right of the navigation are two buttons: 'Feedback' (white background) and 'Learn' (black background). The main title 'The React Framework for the Web' is displayed in a large, bold, black font. Below the title is a descriptive paragraph: 'Used by some of the world's largest companies, Next.js enables you to create full-stack web applications by extending the latest React features, and integrating powerful Rust-based JavaScript tooling for the fastest builds.' At the bottom of the page are two buttons: 'Start Learning' (black background) and 'Documentation' (white background).

NEXT.js

Showcase Docs Blog Analytics Templates Enterprise

Feedback Learn

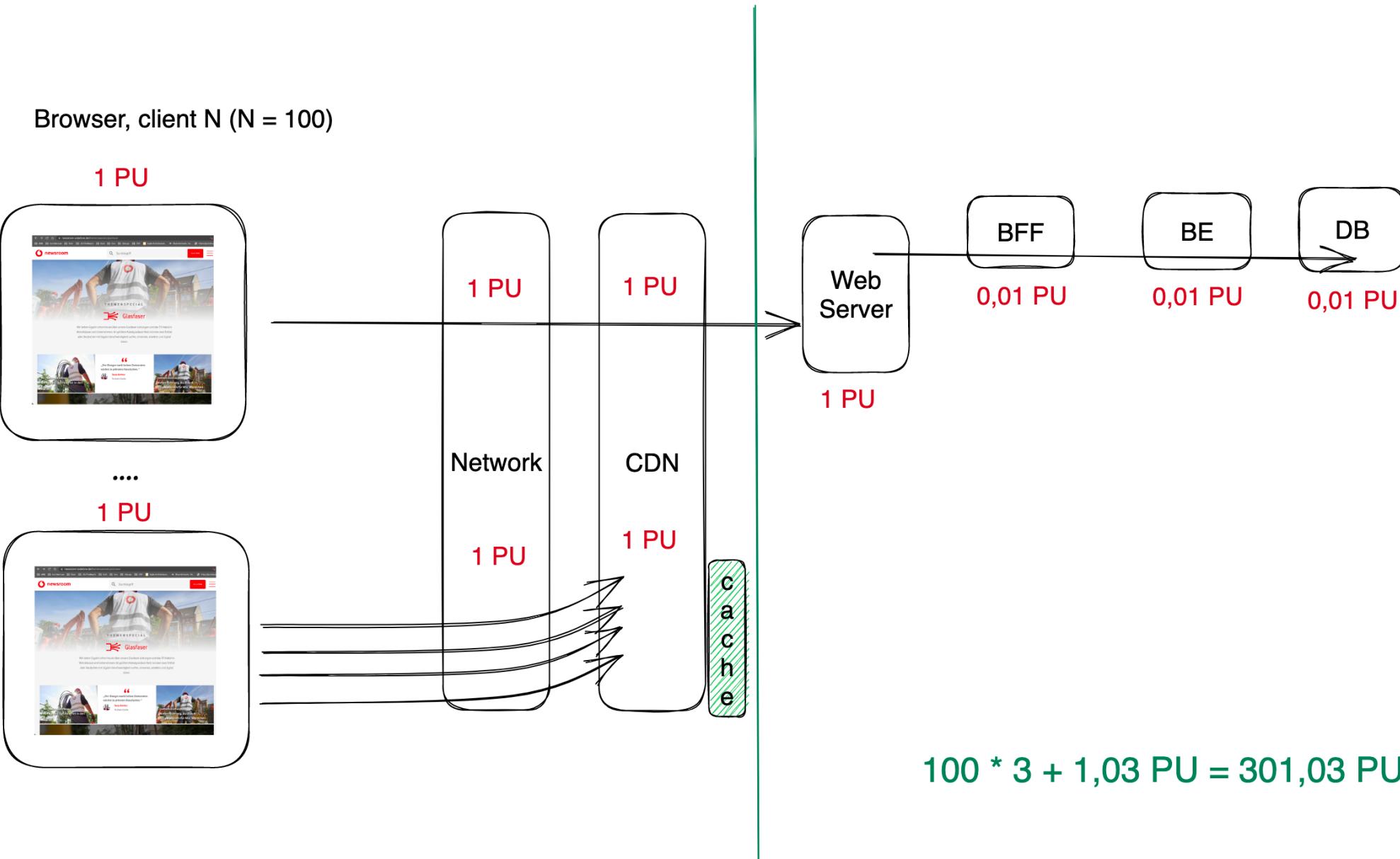
The React Framework for the Web

Used by some of the world's largest companies, Next.js enables you to create full-stack web applications by extending the latest React features, and integrating powerful Rust-based JavaScript tooling for the fastest builds.

Start Learning Documentation

<https://github.com/lkaszkie/jam-next/tree/develop/apps/jam-next>

significantly decreasing computation effort and load, by the way



JAM stack

JavaScript

APIs

Markup

JAM

JavaScript

Dynamic functionalities are handled by JavaScript. There is no restriction on which framework or library you must use.

APIs

Server-side operations are abstracted into reusable APIs and accessed over HTTPS with JavaScript. These can be third party services or your custom function.

Markup

Websites are served as **static HTML files**. These can be generated from source files, such as Markdown, using a Static Site Generator.

Practical training how to transform a SPA to JAM

[GitHub: jam-next](#)

Mountain-o-Pedia

[Aconcagua](#)

[Denali](#)

[Mont Blanc](#)

[Mount Everest](#)

[Mount Kilimanjaro](#)

[Vinson Massif](#)

[Mount Kosciuszko](#)

MOUNT KOSCIUSZKO



Mount Kosciuszko is mainland Australia's highest mountain, at 2,228 metres above sea level. It is located on the Main Range of the Snowy Mountains in Kosciuszko National Park, part of the Australian Alps National Parks and Reserves in New South Wales.

Height

2,228 m

Continent

Australia

- [00-initial](#): project structure like generated initially by `nx`
- [01-start](#): enhancements like: db server, scripts,
- [02-csr](#): `jam-spa` application ported as client side rendered app,
- [03-rsc](#): server components introduced for fetching data,
- [04-image](#): image optimization done with `next/image`,
- [05-site-generation](#): pre-rendering site markup for known content
- [06-client-component](#): client features (active links),
- [07-site-export](#): exporting whole site for 100% static hosting,
- [08-unit-testing](#): unit testing with Jest

At the end-of-the-day you may not only:

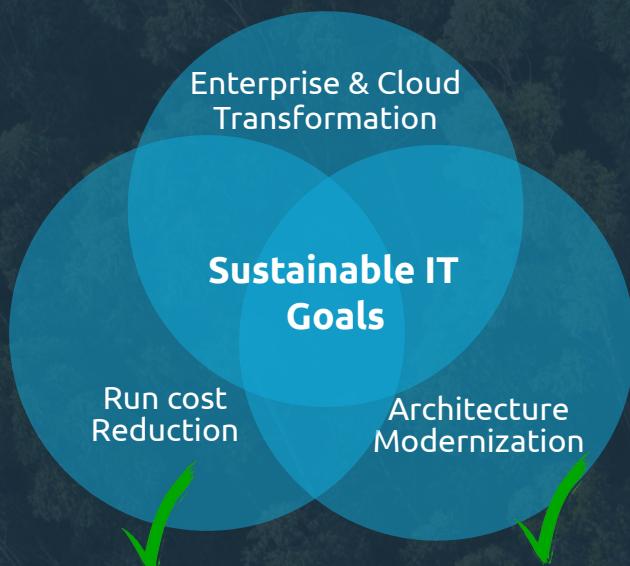
- Improve UX
- Modernize tech stack
- Restore website effectiveness
- Reclaim SEO
- Maximise technological fitness

but also ... green it!



Sustainable IT and the benefits for the IT organization

Topics that contribute to sustainable IT:



Cost Savings

Savings between 20 and 40 % through modern applications, less energy-intensive servers and responsible IT policies.



Market presence

31%¹ of consumers expect companies to act in line with social and environmental issues.



Efficient operation

A "lean" operation that follows principles of economy, rationalization and sharing will facilitate operations.



Employer attractiveness

Being able to make a positive environmental contribution promotes employee motivation and loyalty.

JAMSTACK ✓



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Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 270,000 team members in nearly 50 countries. With its strong 50 year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fuelled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2020 global revenues of €16 billion.

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