



YOUR PARTNER FOR  
DIGITAL TRANSFORMATION



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# THE POWER OF JAMSTACK

Overcoming the challenges of  
web speed, scalability and security

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**JAMSTACK IS A MODERN WEB DEVELOPMENT ARCHITECTURE AND STANDS FOR JAVASCRIPT, APIs AND MARKUP. IT'S A BEAUTIFUL UNION OF TECHNOLOGY, SOFTWARE-AS-A-SERVICE AND THE CORE FOUNDING LANGUAGES OF THE WEB. TWIM GMBH SUPPORTS YOU TO BRING THIS ARCHITECTURE INTO YOUR ORGANISATION.**

## **IT PROVIDES LASTING BUSINESS OUTCOMES:**

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- ▶ Simplified architecture with lower total cost of ownership (less devops, more secure)
- ▶ Improved developer workflows and efficiencies (faster time to market on projects, happy developers, hire frontend developers more easily)
- ▶ Faster websites (better UX and conversion rate)
- ▶ Higher scalability, availability, and reliability
- ▶ Reduced vendor lock-in

## TRADITIONAL WEBSITE

LAMPstack  
(Linux/Apache/MySQL/PHP,Python)

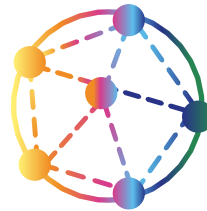


Sweaty ol' server

- ▼ **Slow and expensive:**  
Heavy compute to rebuild each page for each visitor
- ▼ **Insecure:**  
Web servers are the target for more than 90% of all malicious attacks
- ▼ **Poor scaling:**  
Sudden traffic spikes will slow down your website or even take your website offline

## MODERN WEBSITE

JAMstack by **twim**  
(Javascript/APIs/Markup)



Global edge nodes

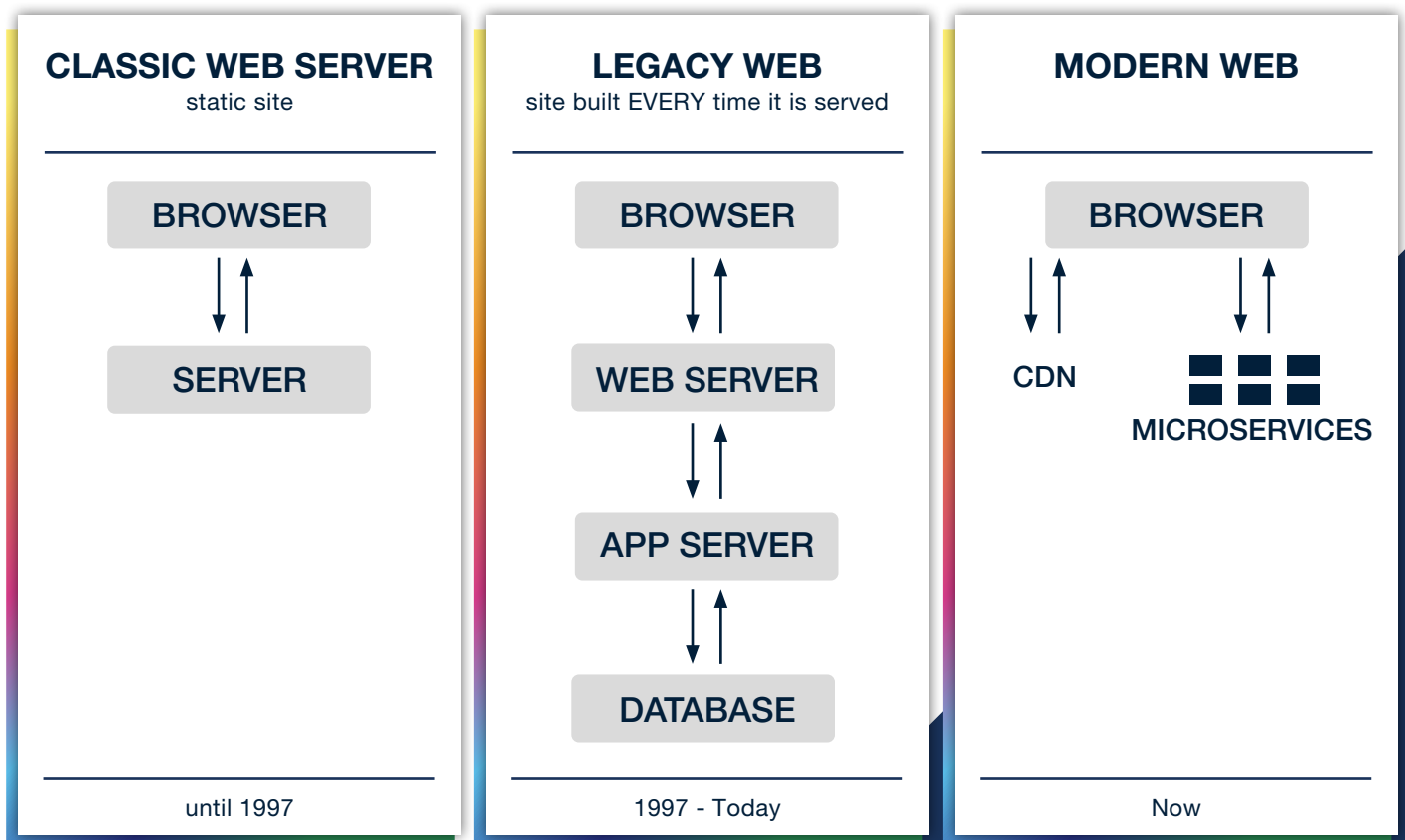
- ▲ **Fast and cost efficient:**  
No running web servers, prerendered content gets distributed globally
- ▲ **Ultra secure:**  
No running web servers or processes for attackers to exploit
- ▲ **Build for scaling:**  
Pages build in advance. Multiple nodes soak up traffic effortlessly

# Jamstack architecture is already used in many projects:

Marketing and corporate sites, landing pages and campaigns, high traffic sites and user portals are just a few examples of projects that can be realized with Jamstack.

Companies that successfully developed large scale Jamstack projects and ditched their legacy technologies include Adidas, Decathlon, Paypal, Citrix, Nike, Cornerstone, rbi (Burger King, Tim Hortons, Popeyes), Coca Cola and many more.

Their immediate benefits are reduced cost, record time launches, significantly improved page load time and overall enhanced UX for users as well as editors and developers.





## Limitations of server-based architecture and legacy code


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As websites and web applications get bigger, include more functionality, and become more dynamic, server-based architecture is increasing in complexity.

Additionally, security, data and performance requirements lead to further pieces in the architecture puzzle as well as increased maintenance, updating, and upgrading.

It drives companies further down the rabbit-hole of focusing on the wrong infrastructure and deployment problems, rather than adapting away from these dependencies which cause the pain-points.

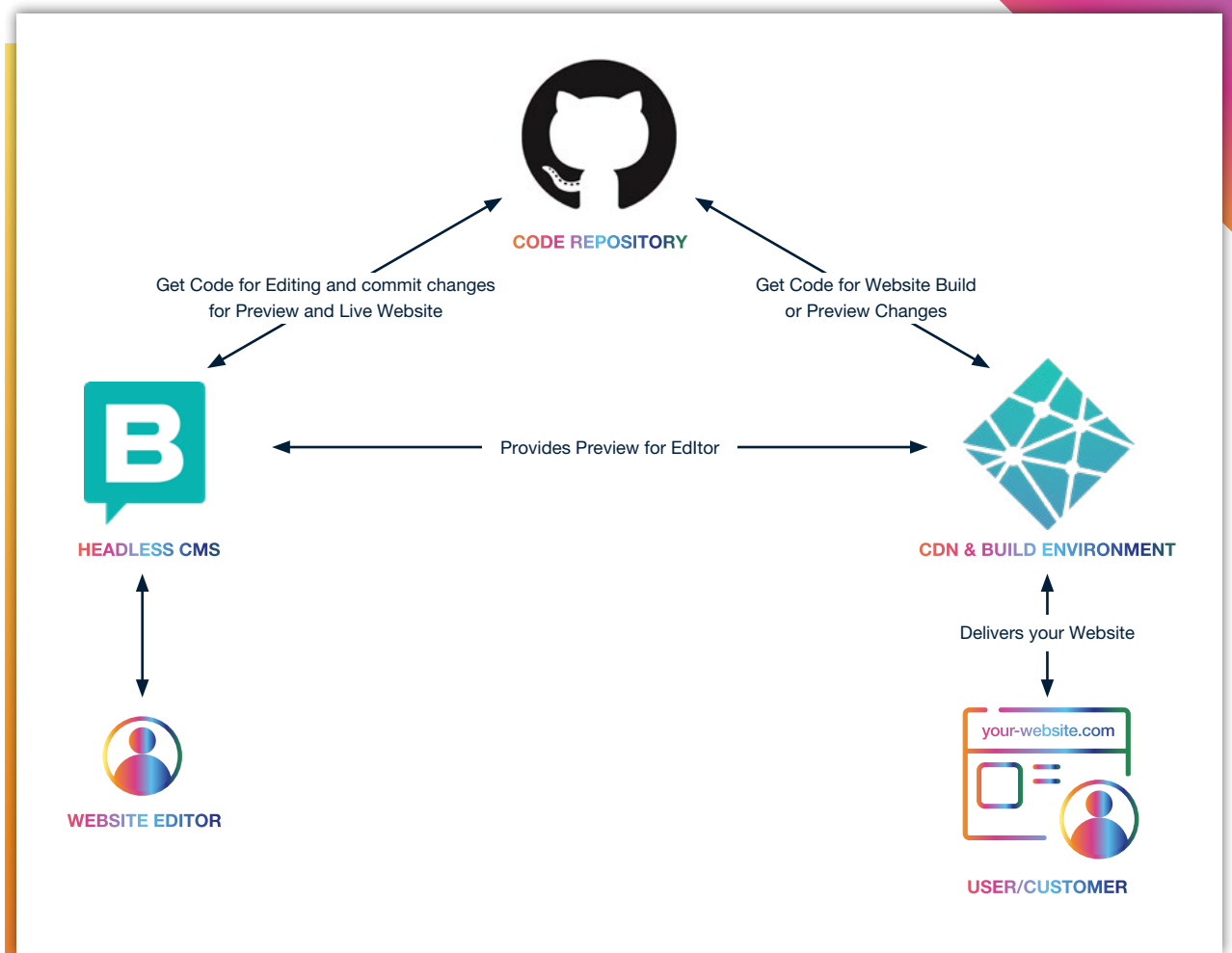
In today's tech, features are king, and the time spent working with a complex architecture is time away from features.



# Jamstack is the new development architecture

The Jamstack approach (JavaScript, API, and pre-rendered HTML markup) is just a few years old. It is a new method of creating websites and applications. Content is no longer processed and generated afresh on the server for every visitor. It is generated locally in the browser as Jamstack pages.

Dynamic applications can also be processed in the browser thanks to JavaScript and APIs.



# Why is Jamstack so fast & secure?

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## **SUPER FAST:**

### **PRE-RENDERING OF HTML MARKUP**

In the Jamstack approach, the website HTML is no longer generated by traditional frontend web servers, but rather the page is preconfigured, distributed via a Content Delivery Network (CDN) like Netlify, and displayed in the user's browser. All other activity takes place in the browser because the pages contain JavaScript code that accesses APIs and is executed after the page is rendered.

**This is why Jamstack is super fast compared to Lampstack architecture.**

## **ULTRA SECURE:**

### **RELOCATION FROM THE SERVER TO THE BROWSER**

The former principle of loading as much of the work as possible onto the web server is outdated. Today's user devices have more than enough resources to run web applications. This also includes mobile devices.

**As no web server is needed anymore, the architecture is ultra secure!**

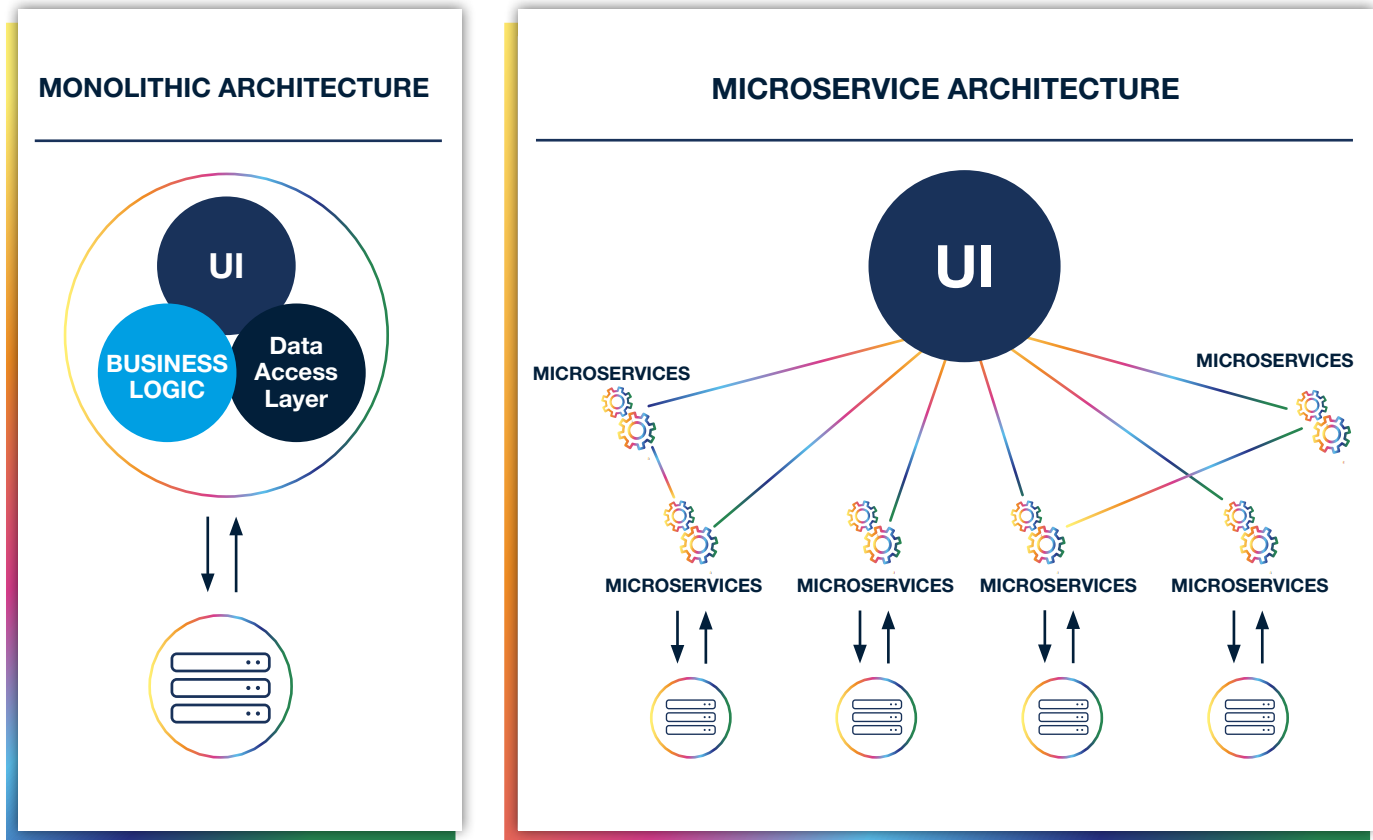
No more DDOS or other web server related attacks can cause headaches.

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## What is headless architecture?

The tasks carried out at the backend, such as creating, managing and saving content, are separated from the presentation on a frontend device (so the architecture is headless, or decoupled). Once it has been created, content can be used for any device. The functionality taking place in the frontend and the deployment of individual APIs can now be handled in isolation.

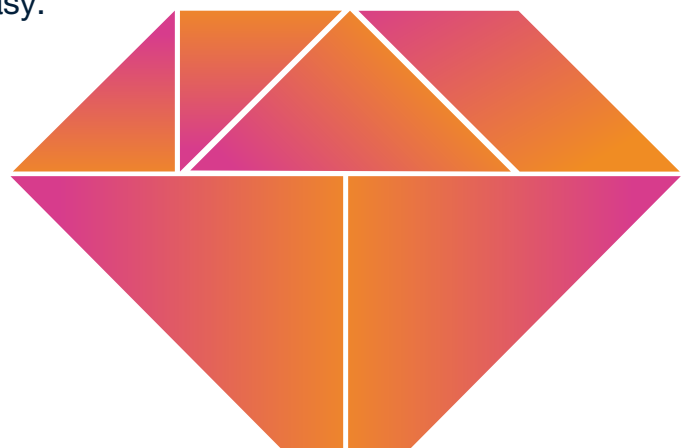
# The opportunities of microservices architecture



Because web functions no longer need to be managed in the server, websites can be designed around microservices. A microservice undertakes narrowly defined tasks which is initiated, carried out and terminated independently of other microservices.

We are quickly moving away from monolithic architecture in which changes of a service affects the whole system.

With microservices architecture changes will only affect the microservice itself, thus maintaining and building new services is more easy.





# The Power of Jamstack

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Software-as-a-service offerings have now changed the game with fully managed, supported, scalable solutions in the cloud and at a fraction of the cost. Storyblok is an example of a headless CMS that offers highly interoperable web APIs. This removes the need for specialised in-house skills and allows ease of integration from Jamstack or any language.

Jamstack is most powerful when complemented with a specialised hosting provider like Netlify. Netlify is a complete cloud platform for Jamstack that connects directly to your code repository. Each check-in can seamlessly version and deploy both your application and supporting cloud functions to a production ready environment within seconds.

In addition, it provides a built-in Content Delivery Network (CDN) for optimal performance and a wealth of other supporting value-add features you would otherwise have to build or configure yourself.

**It's essential for a business to understand the strategic landscape and leverage commodities where possible in order to reduce costs and avoid redundant effort in replicating these widely available resources internally and at greater cost.**

Commodities are when products become available at scale, high-volume and are highly standardised. Commodities are fit for a specific known purpose and evolve over time from replication and refinement of a product.

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## Why Jamstack:

- ▶ The Jamstack application has minimal moving parts or run-time dependencies for maximum performance, reliability, scale, and security.
- ▶ Enterprise solutions can be built using Jamstack with quicker speed-to-market and lower costs.
- ▶ Most of the Jamstack integration happens at build-time with a significantly reduced error rate.
- ▶ Jamstack utilises cloud services as a growing commodity.
- ▶ Software lock-in can be avoided with software-as-a-service offerings.



## In terms of Jamstack, it can leverage cloud commodities as follows:

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- ▶ Static file hosting over application servers
- ▶ Cloud-based deployment/integration over in-house capability
- ▶ Software-as-a-service partners over internally hosted third-party products
- ▶ On-demand serverless cloud functions over always-on backend servers
- ▶ Full-stack Javascript developers over multifaceted skills and languages



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## Summary

Jamstack is extremely powerful as a model to replace the traditional web development approach and allows a small agile team to move at pace. It removes the need to worry about infrastructure and servers. It also encourages integration with other software-as-a-service vendors using interoperable APIs and moves away from backend systems requiring additional specialist teams.

*Releasing, supporting and scaling Jamstack is trivial. This means high agility, fast speed-to-market, and better uptimes. Enterprise is slow moving and those that can adapt will get a competitive advantage.*

Deepak Kumar, CEO twim GmbH



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