



.NET Conf 2022

Perché WebAssembly



Sponsors



With the support of:
<packt>





1989

Tim Berners-Lee

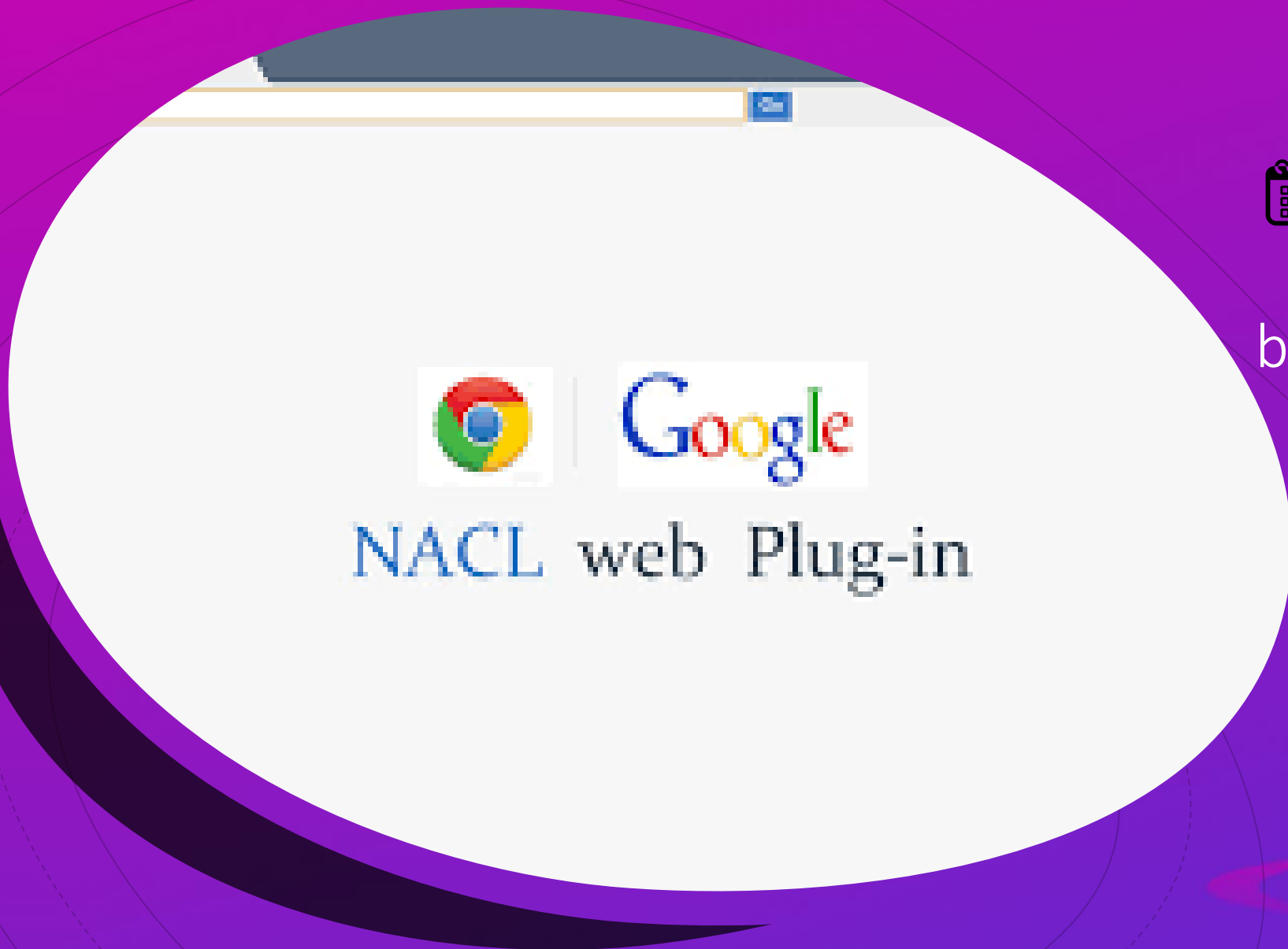




 1995 – *Bernard Eich*

JavaScript!
e nulla fu più come prima!





2011 - *Google*
Sul mio
browser funziona!





2013 - *Mozilla*

Asm.js

Forse ci siamo

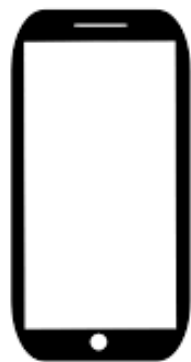




2015

Brendan Eich..
ancora!





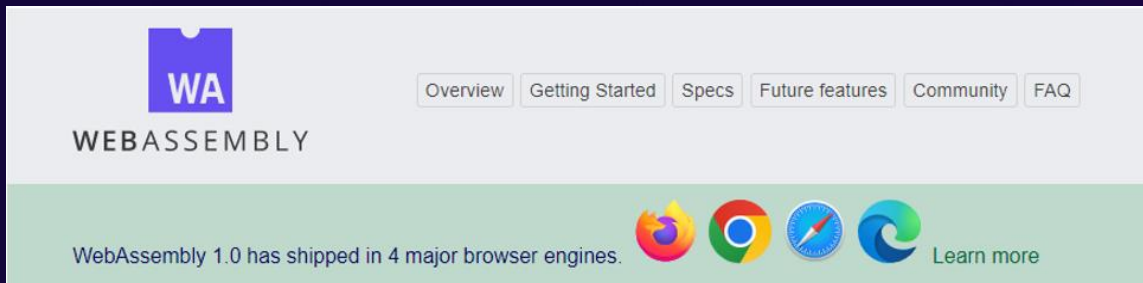
Chi ha bisogno di
WASM?





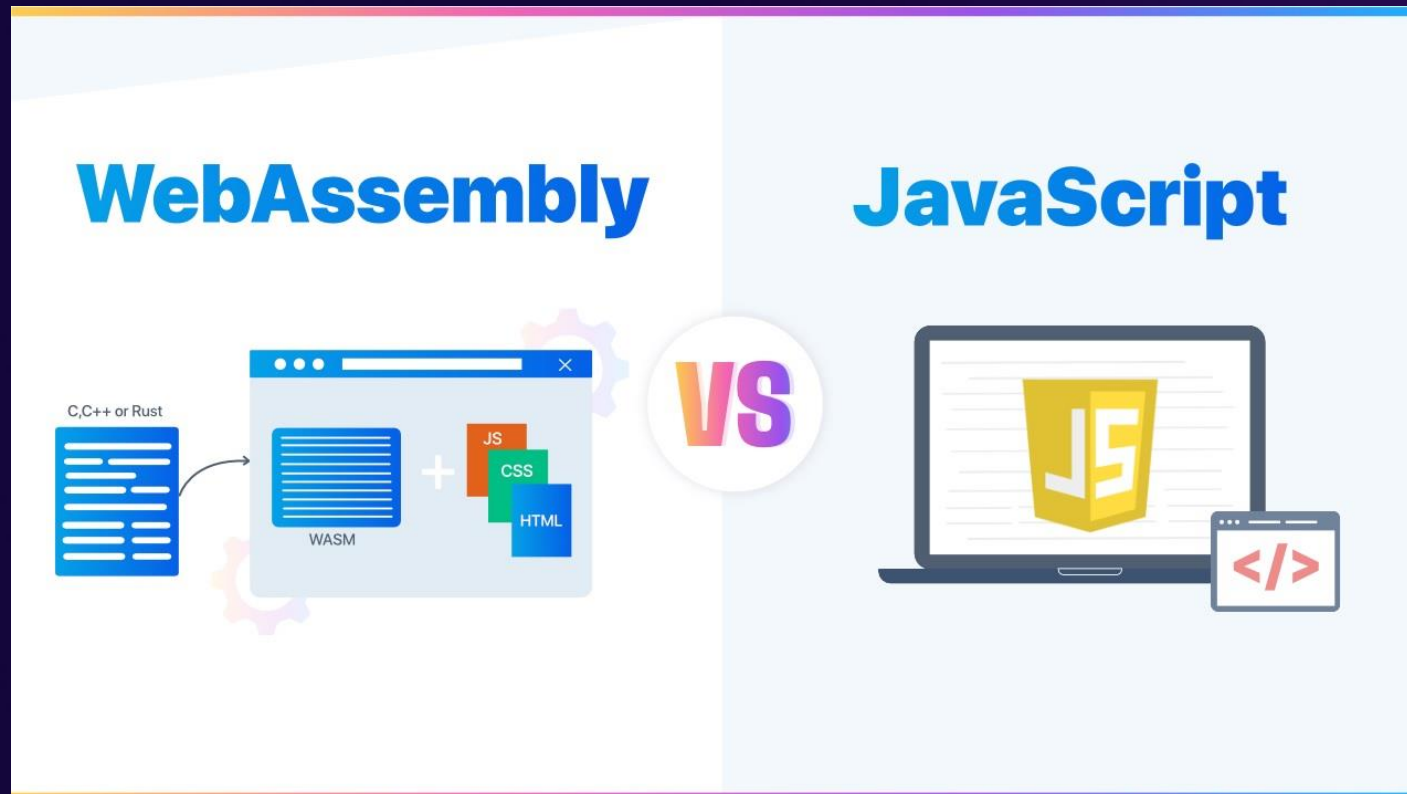
Chi ha bisogno di Wasm?

Cos'è WebAssembly?

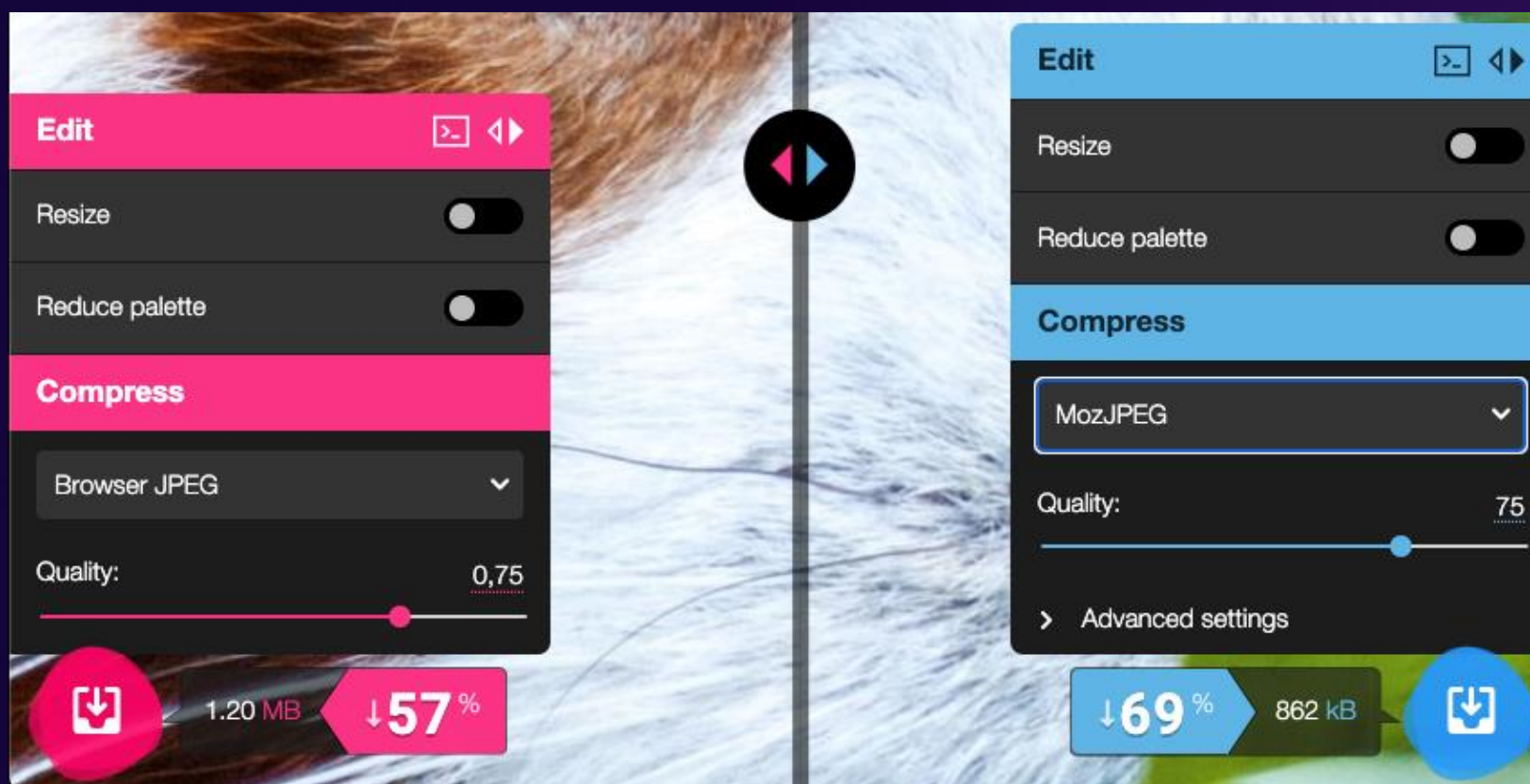


WebAssembly (abbreviated *Wasm*) is a binary instruction format for a stack-based virtual machine. Wasm is designed as a portable compilation target for programming languages, enabling deployment on the web for client and server applications.

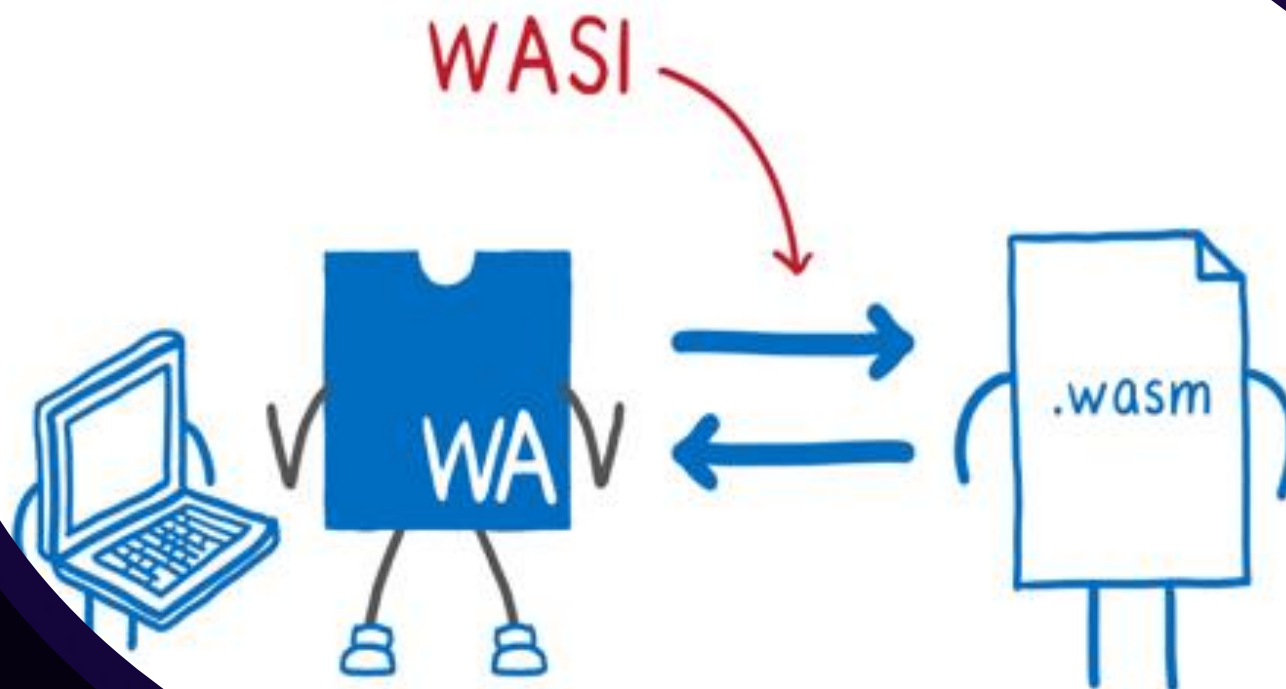
JavaScript is dead. Long live to JavaScript!



Use Case: Ottimizzazione Immagini nel Browser



WASI



WAGI



WebAssembly and .NET



- Enhanced debugging
- Hot reload improvements
- Expanded web crypto
- Improved JavaScript interop
- Multithreading (preview)

Demo



WebAssembly & Docker

 **Solomon Hykes**
@solomonstre

If WASM+WASI existed in 2008, we wouldn't have needed to create Docker. That's how important it is. WebAssembly on the server is the future of computing. A standardized system interface was the missing link. Let's hope WASI is up to the task!

 **Lin Clark** @linclark
WebAssembly running outside the web has a huge future. And that future gets one giant leap closer today with...

📢 Announcing WASI: A system interface for running WebAssembly outside the web (and inside it too)


[hacks.mozilla.org/2019/03/standa...](https://hacks.mozilla.org/2019/03/standards-for-webassembly/)

4:39 PM · Mar 27, 2019


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 **Solomon Hykes**
@solomonstre · [Follow](#)


"So will wasm replace Docker?" No, but imagine a future where Docker runs linux containers, windows containers and wasm containers side by side. Over time wasm might become the most popular container type. Docker will love them all equally, and run it all :)

 **Solomon Hykes** @solomonstre
If WASM+WASI existed in 2008, we wouldn't have needed to create Docker. That's how important it is. WebAssembly on the server is the future of computing. A standardized system interface was the missing link. Let's hope WASI is up to the task!

4:50 AM · Mar 28, 2019

❤️ 162 💬 Reply ↗️ Share

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Cloud Computing

- Virtual Machine (Heavyweight class)
- Containers (Middleweight class)
- Wasm (Lightweight class)





Usiamo WebAssembly per

- Avviare e arrestare microservizi che svolgano, ognuno, un semplice task (AWS Lambda, Azure Functions?)
- Mantengono il consumo di risorse al minimo
- Possono scalare rapidamente

Usiamo Docker per

- Mantenere lo stato e organizzare le comunicazioni tra diversi moduli WebAssembly
- Long Running Process (Saga)
- Processi con carichi prevedibili

Docker loves WebAssembly

“

The Docker+wasm announcement makes perfect sense. We no longer live in a single-runtime world: there are Linux containers, windows containers, and wasm containers. OCI can package them all, I should be able to build and run them all with @docker. — [Solomon Hykes](#), co-founder of Docker.

WASM
IS AWESOME

WHAT'S NEW

Docker + Wasm = Awesome!

Wasm is a new, fast and light alternative to the Linux/Windows containers you're using in Docker today — give it a try with the Docker+Wasm Technical Preview.

→ [Try it](#)

Demo



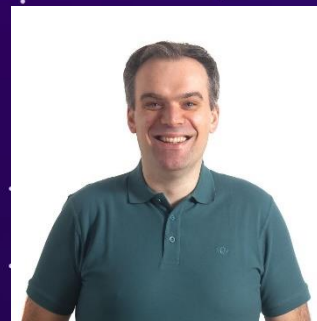
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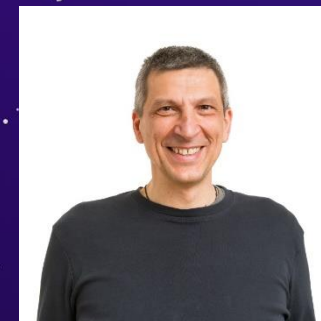
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INTR3

CLOUD

