A terminal window with a light blue title bar and three colored window control buttons (red, yellow, green) on the left. The main area is light yellow and contains two lines of text: a command in blue and a success message in green.

```
npx @ruvectors/ruqu simulate  
Success: Quantum State Vector initialized [25 Qubits]
```

The Quantum Computer in Your Browser

A pure Rust, zero-hardware quantum sandbox that runs locally.
No cloud queues. No physics degree required.

The Friction of the Status Quo

The Dependency Hell

```
ERROR: Could not find a version that satisfies the requirement
NtDn//pcthoarerror-utI2
ERROR: Could not find a version that satisfies the requirement:
Ptiops//tttore.11.2ueciartisej.eollronjll
Fatal error: Pythen.h: No such file or directory. P/home/mass/tast/siauseatat
orstsookeecraseerterceass:
File "sss/teesrses.py", line 183, in <module>
    @rem, reosvven; toots&l, 1.., 1lleltsacaveaea.rexort)
File "incr/heeridcnikghe/vevtloonsa/kytheoscearesnt_error_trace
    retotivs comperene/tous.nell)
ResolutionImpossible: ... conflicts with existing packages ... requirementtate
..arshreores/poreests/crtfent4/modulezisenition/abekug", in-ane_onlimolt18884
1271
ResolutionImpossible: ... conflicts with existing packages, in moratits:
File "your/loonsreze/teataicbcarstobresesall.py"; line 21, in <xzeihal:
    at somer.iceester:conf3tl.0ec5atela96:0er: lopedsl)
    at neoez.icescter:cocettet.2es2ettataticack.701061
File "/use/50emfederis0jeresthine.cannetien60681stis334a, "command fation
fario:"
Enstironment creation failed. .Yhome/messs/erticiononcometstaycitieo/ackver18\
orstrookececeaeverrerssuris:
File "ses/leherison.g9", line 95, in <module>
    cven,coverven;toncc&l, 1.., filelisacoresca.rexort)
File "/uer/heosicoo/sg06/nevtloosca/bythonices/csantr_error_trace
    returns tenecveae/tous.no1)
Build error: command 'gcc' failed ... cenflits.gitfo&ccletotnies-on-notrantesl:o
spsiticecures/boreetes/sodblefcoosoirsierers/resolve/cpeikuirommentationsFile
statt, cetres(, ihrorci, searrot faili)
File "/usr/loel/Brtinfo/dbcmend1/commaxnl_.py", line 307, in _module>
    Fite "Ptpt;/fifoud-vampute.service.systems/job/xy2123loft-8/_80ssiscpath122)
    retork tancer7lou1)
ModuleNotFoundError: No module named 'tensorflow' .. > █
```

Heavy Python stacks fail to install and break environments.

The Hardware Queue

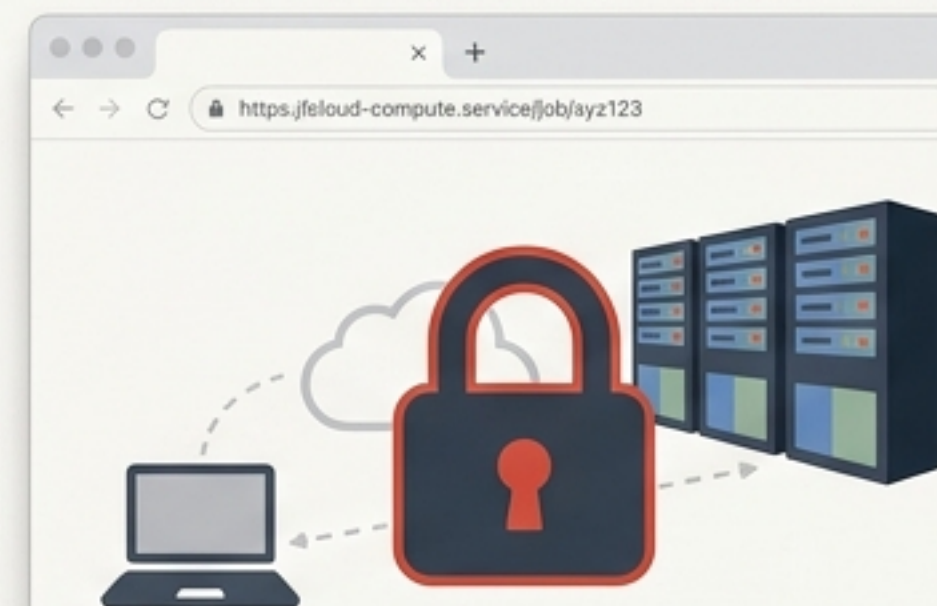


Hardware Access: Pending...

Estimated Wait: 4 Hours

Real QPU access is gatekept, expensive, and slow.

The Black Box



Status: Running on remote cluster.
Local access denied.

Computations happen on distant servers, impossible to run purely in local web apps.

Instant Quantum Execution, Anywhere

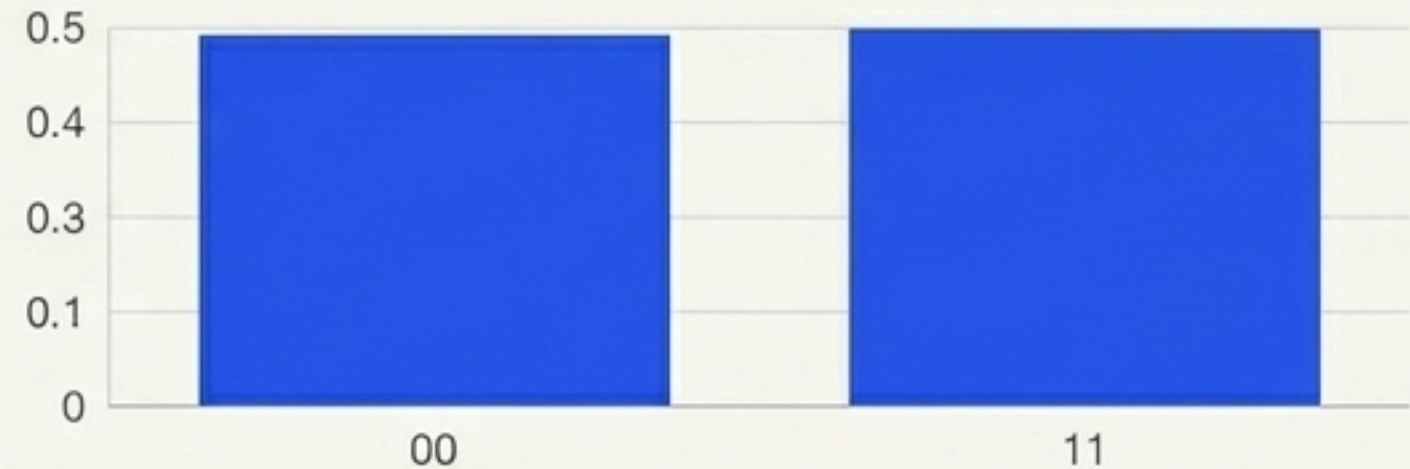
Zero install. Zero hardware. The whole class touches quantum in the first five minutes.

The Terminal

```
npx @ruvectors/ruqu simulate --qubits 2  
{ "00": 0.499, "11": 0.501 }
```

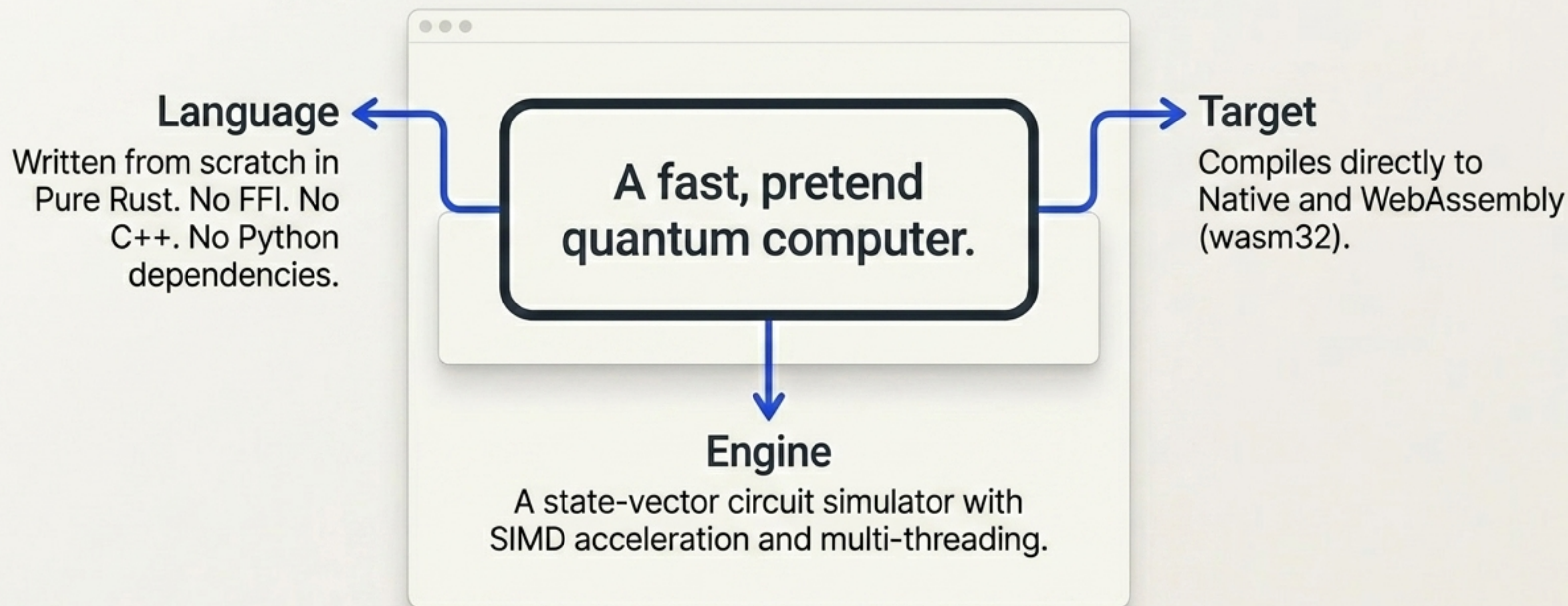
The Browser

```
const sim = new Simulator();  
let circuit = new Circuit(2);  
circuit.h(0);  
circuit.cnot(0,1);  
sim.run(circuit);
```



What exactly is ruqu?

It perfectly imitates a real quantum machine so you can build and test quantum ideas before the expensive hardware exists.

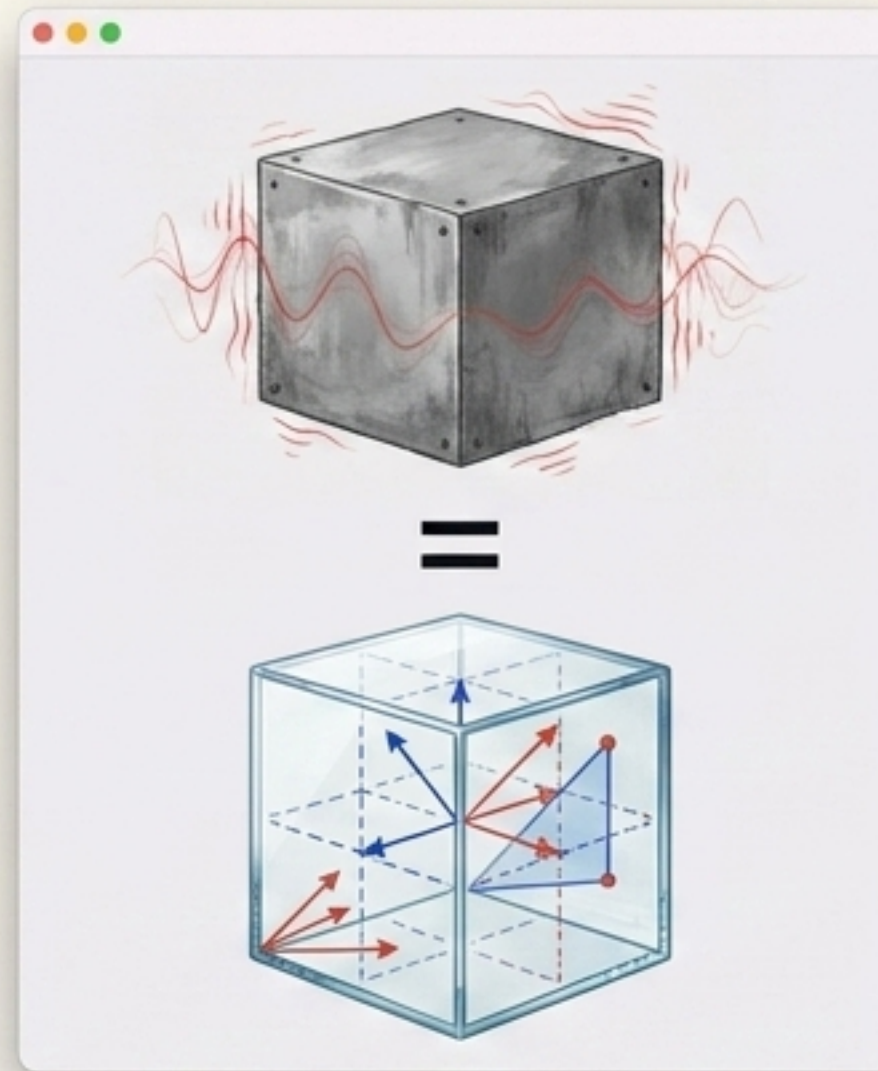


The Lightweight Alternative

Dimension	Legacy Python Stacks	ruqu
Setup Time	Minutes / Hours	0 seconds (npx)
Dependencies	Heavy Python tree	None (Pure Rust)
Browser Support	Server-only	Native WASM
Execution Engine	Python-bound	SIMD-Accelerated
Hardware Required	Needs Cloud QPU	Zero Hardware

How the 'Pretend' Engine Works

ruqu holds the full quantum state in standard computer memory. It applies every gate using exact linear algebra.



Real Quantum Hardware
(Noisy, physical, error-prone)

ruqu Engine
(Clean math, perfect
theoretical accuracy)

It tracks every single possibility simultaneously, giving you the perfect theoretical answer up to 32 qubits.

Batteries Included: Production Algorithms

VQE (Chemistry)



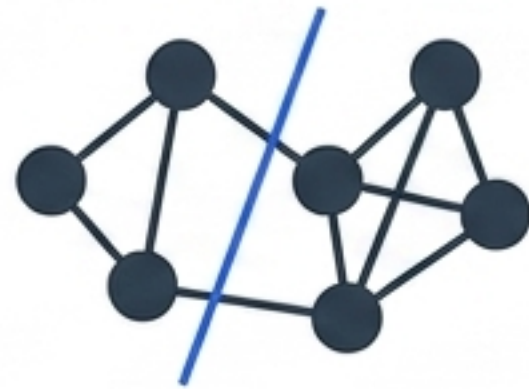
Finds ground-state energies of molecular Hamiltonians without hardware.

Grover (Search)



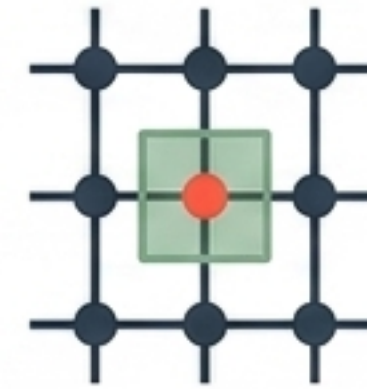
$O(\sqrt{N})$ quadratic speedup for unstructured search via amplitude amplification.

QAOA (Optimization)



Approximate solutions to combinatorial optimization problems like MaxCut.

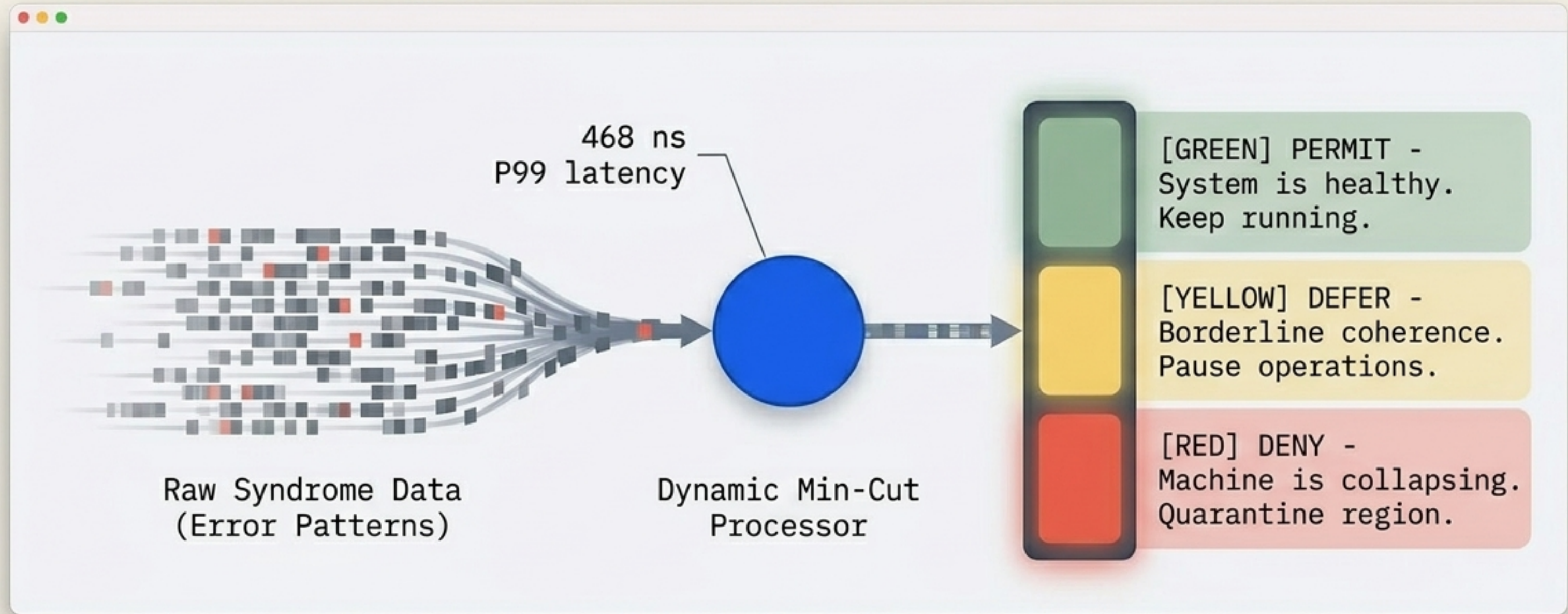
Surface Code (Correction)



Distance-3 quantum error correction with syndrome decoding.

The Nervous System: ruQu Coherence

A classical health monitor that catches structural breakdowns before they wipe out your progress.



The 5-Crate Architecture

`ruqu-wasm & CLI`

WebAssembly bindings and the npx CLI agent wrapper.

`ruQu`

The coherence engine and real-time safety gate.

`ruqu-exotic`

Experimental quantum-inspired tools for AI (memory decay, swarm interference).

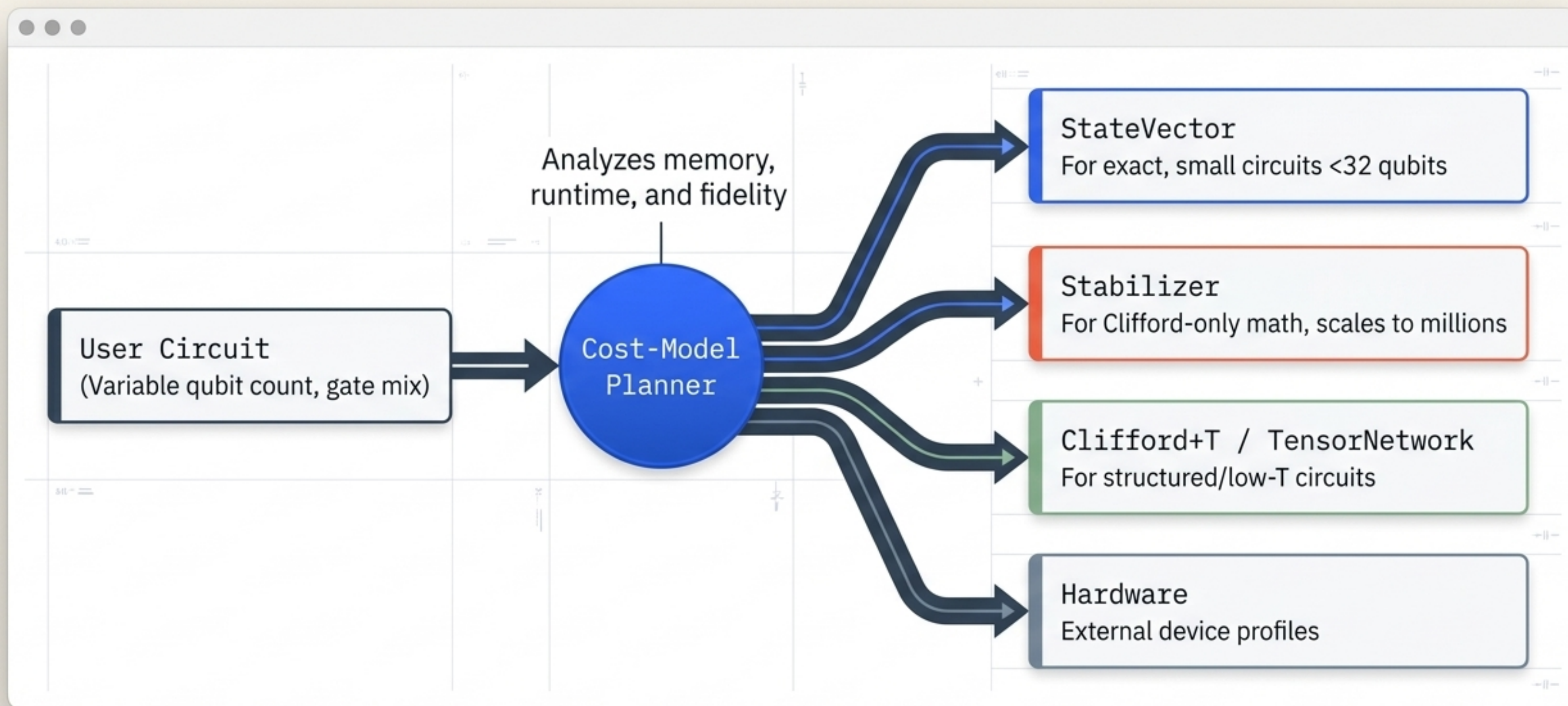
`ruqu-algorithms`

VQE, Grover, QAOA, Surface Code.

`ruqu-core`

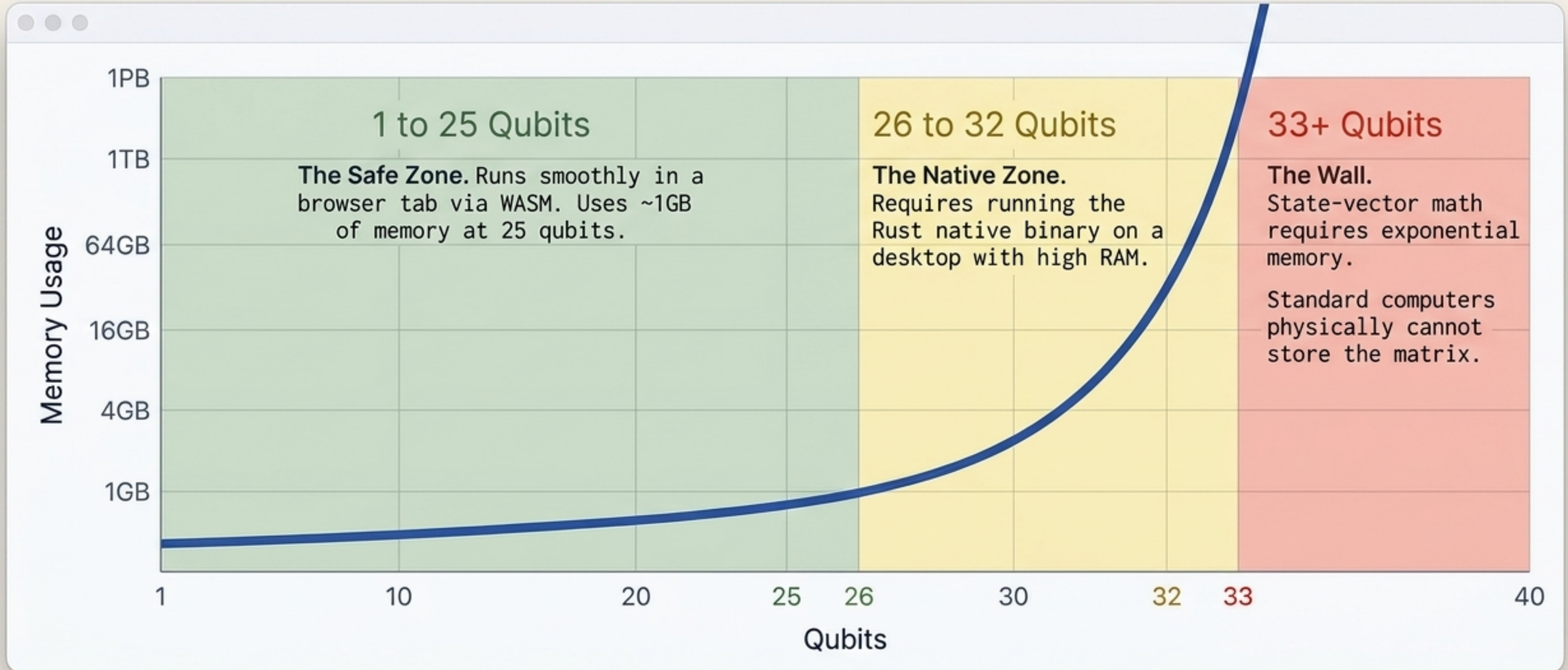
High-performance state-vector simulator. SIMD, multi-threading, realistic noise.

The Smart Router: Auto-Selecting Backends

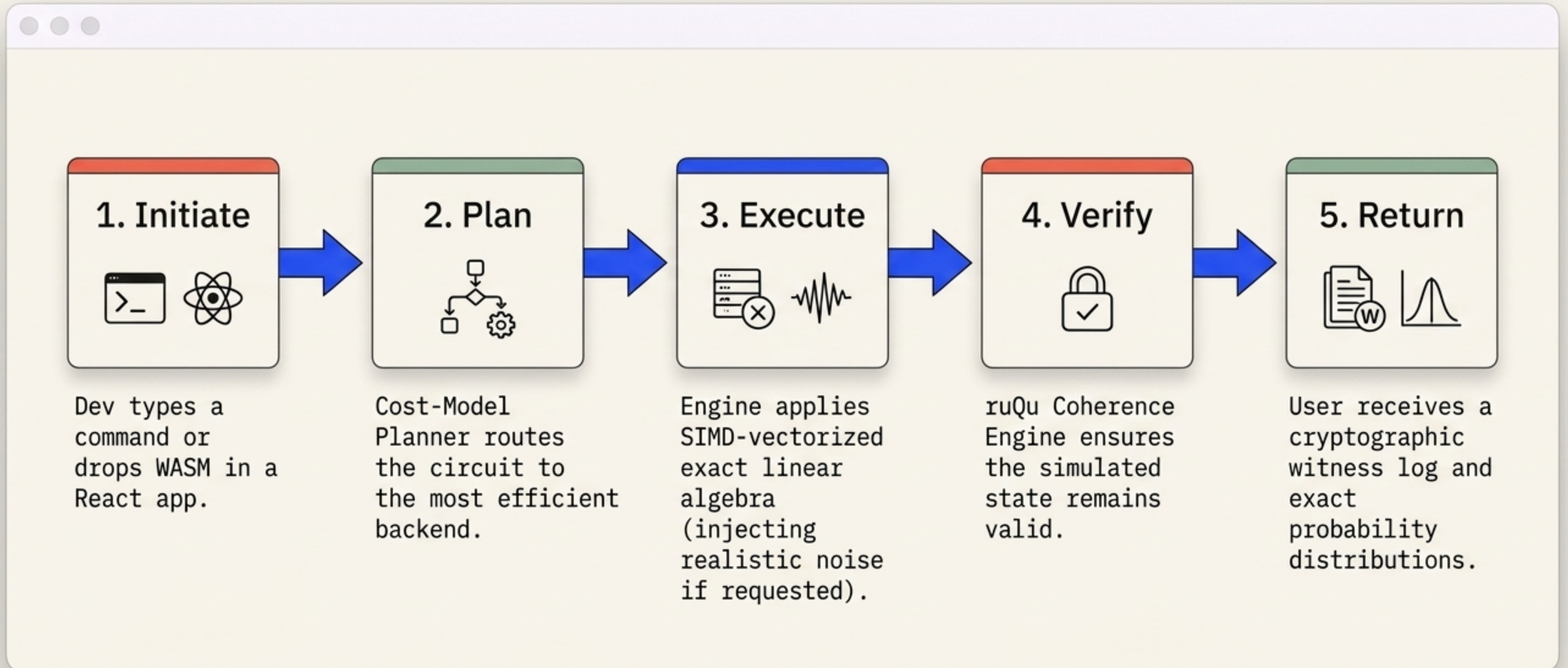


Honest Limits: The Boundary Map

Takeaway: It is a simulator. It models noise, but hardware limits dictate its capacity.



From Command to Quantum Output



Start your pretend quantum computer right now.



```
npx @ruvectors/ruqu  
simulate --qubits 2
```

Open your terminal. No installation required.