Effortless, Fast CI Built for Monorepos

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Contents

CI Challenges

Monorepos accelerate go-to-market velocity by streamlining feedback loops, enhancing communication among teams, and promoting code reuse. However, without the right tooling, CI can quickly become a bottleneck.

Speed

Rebuilding and retesting all projects in a monorepo gets slower as the repo grows. **Fast CI is required for high-performing teams.**

Complexity

Current CI providers aren't made for monorepos. They're low-level and static in their configuration. **Custom solutions** are complex, inefficient, and divert resources from your business objectives.
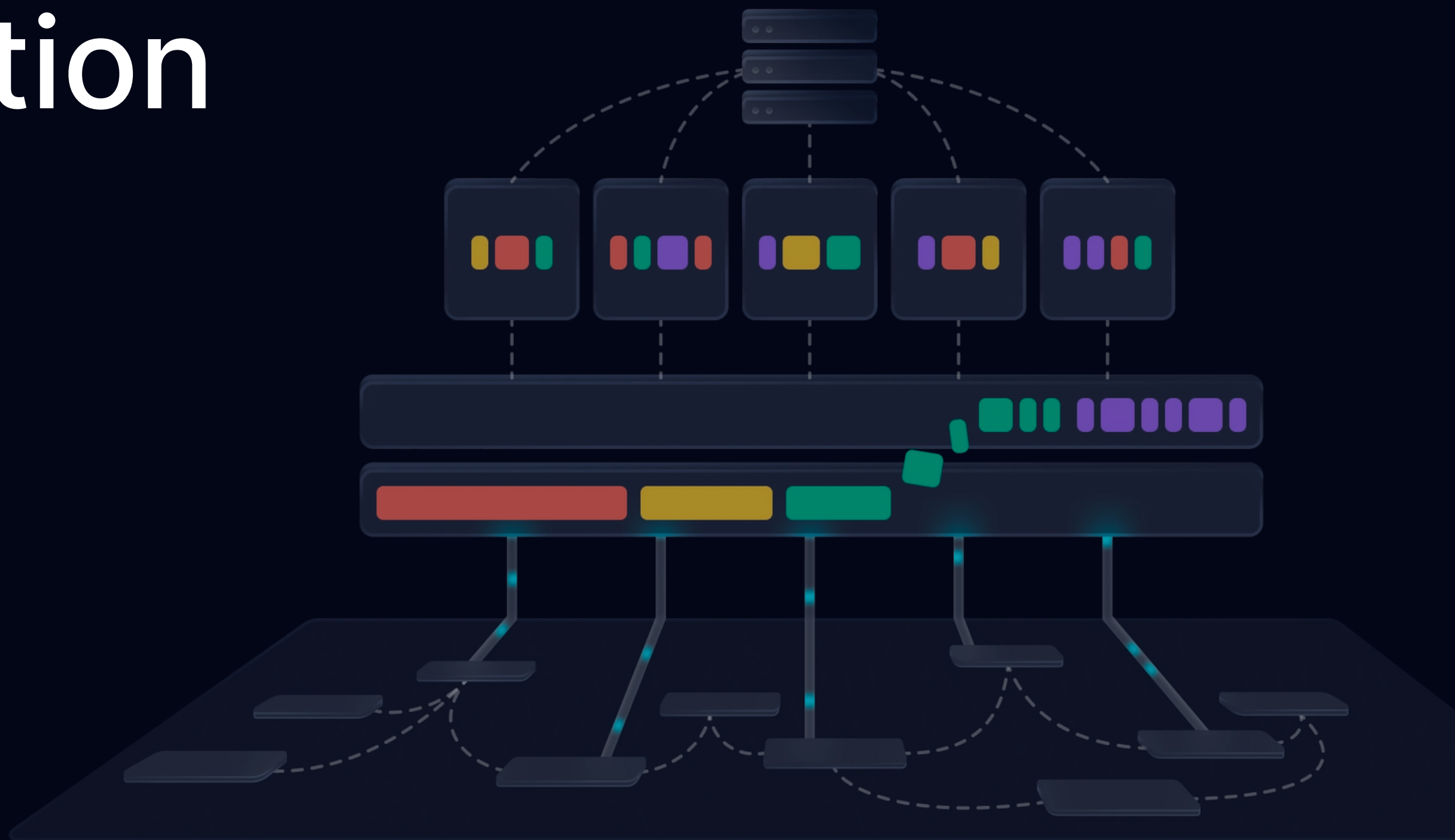
Compute Cost

In a monorepo some code changes affect a lot more projects than others. Because the current CI providers are static, you must allocate the necessary compute to handle large PRs, which results in excess costs for small ones.

Fast CI for monorepos shouldn't be this complicated.

Nx and Nx Cloud are engineered to integrate seamlessly, delivering an end-to-end solution that results in a **smart monorepo and fast CI**.

The **Nx Cloud** Solution

Seamless, Efficient, Fast CI

30 - 70%

FASTER CI
REPORTED BY ENTERPRISES USING NX & NX CLOUD
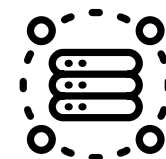
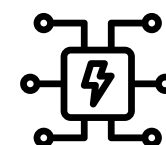CapitalOne   vmware   T   RBC

40 - 75%

REDUCTION IN CI COSTS
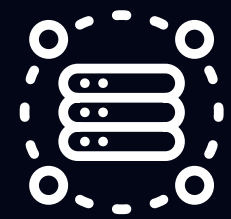BASED ON PRO AND STARTUP NX CLOUD USERS

How?

Nx Replay

Built-in local and remote caching to speed up your task by never running the same computation twice.

Nx Agents

Automatic distribution of tasks across fully managed machines, for maximum resource utilization, parallelization and speed.
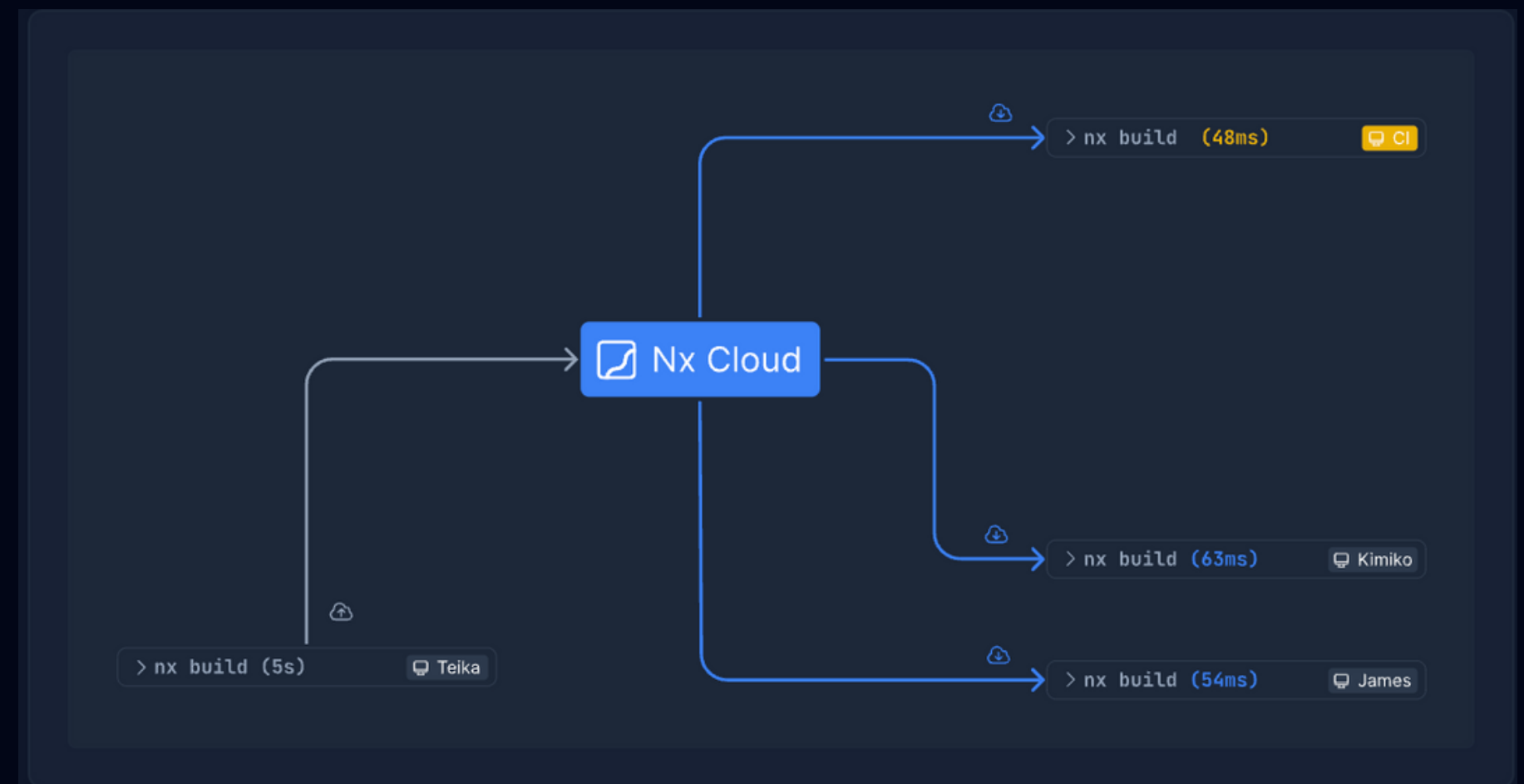
Nx Replay

Never run the same computation twice

Powerful remote caching

Nx Replay is a **secure** remote computation cache that lets you reuse task results from other CI executions and local command runs.

Plug and play

Nx Replay seamlessly integrates with your preferred CI provider. Connect your Nx workspace to Nx Cloud, and you're ready to go.
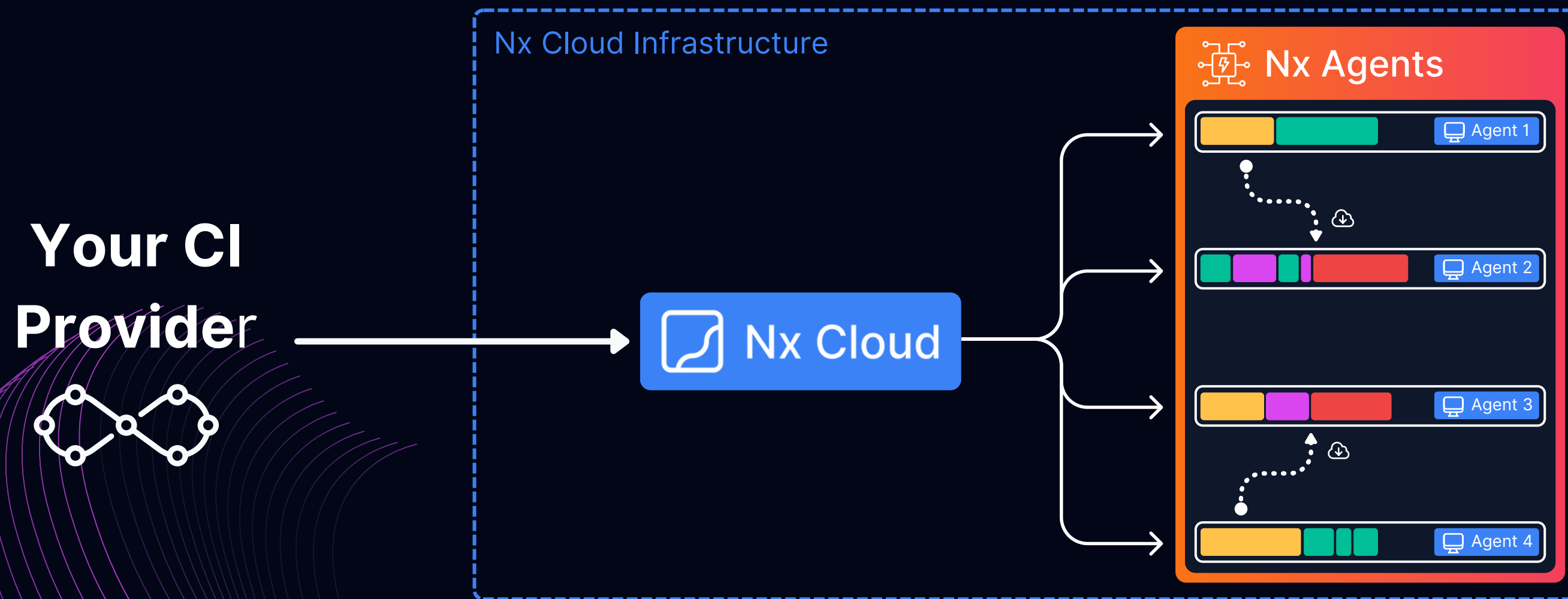
Nx Replay

3 YEARS

of computation saved in the last 30 days in **one monorepo**.

Nx Agents
Seamless Distribution, Faster CI

Your CI Provider

Nx Cloud Infrastructure

Nx Cloud

Nx Agents

Agent 1

Agent 2

Agent 3

Agent 4

Nx Cloud manages the agents, offloading complex machine provisioning from your CI provider. Trigger any Nx command on your CI provider and let Nx Cloud distribute it across agents - streamlining operations and enhancing cost efficiency.
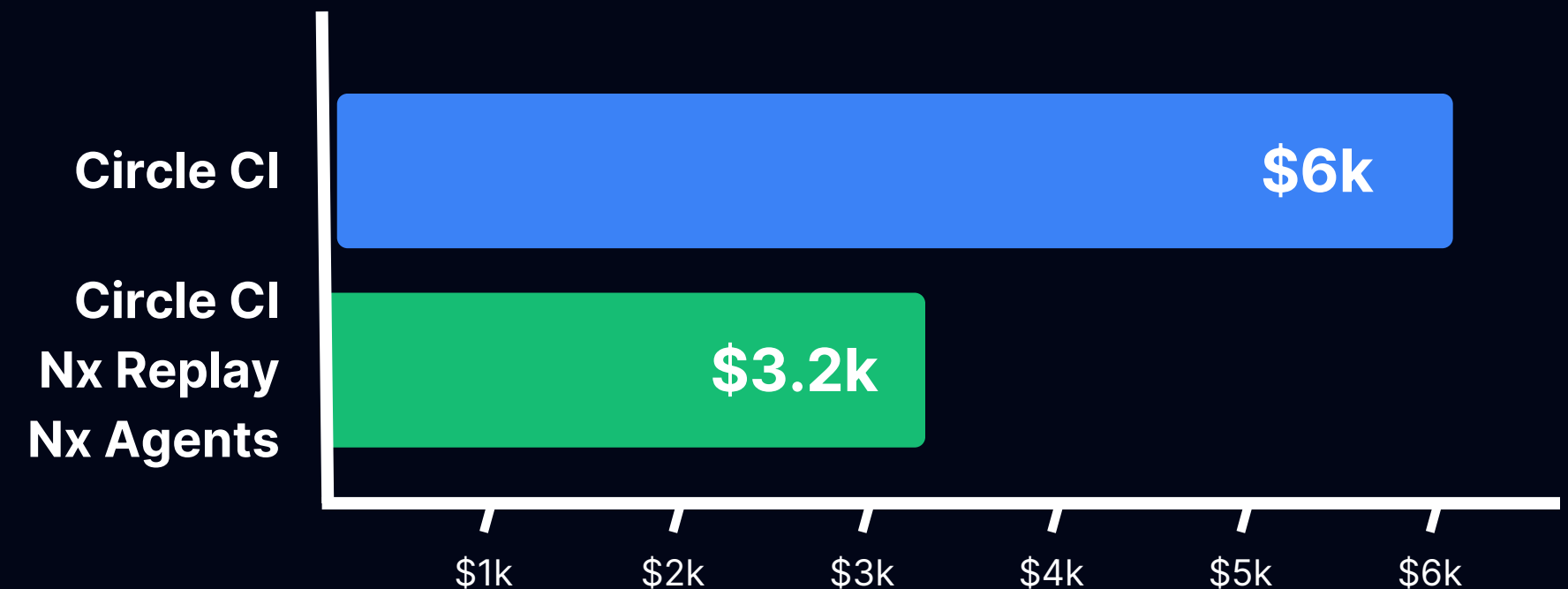
Both faster & cheaper

Just Circle CI (or equivalent provider)

CircleCI and similar platforms are powerful tools, but they don't always run as efficiently as they could.

Circle CI + Nx Replay + Nx Agents

CircleCI initiates execution, with Nx Agents managing efficient distribution and leveraging Nx Replay's remote caching on its own infrastructure, saving your team both time and money.

Halve your CI Bill

Circle CI	$6k
Circle CI Nx Replay Nx Agents	$3.2k

$1k $2k $3k $4k $5k $6k

Cost per month for CI compute. Data collected based on a typical month of CI runs measured on the Nx OSS monorepo. Note: Savings with GitHub Actions are even more substantial due to higher per-run costs.

"Since we are using NxCloud, we saw our CI times reduced by 83%! That means our teams are not waiting hours for their PR to be merged anymore, we reclaimed our productivity and are pretty happy about it."

Laurent Delamare
Senior Engineer at VMware

From 90 to 10 minutes

Making e2e tests fast on CI with fine-grained distribution and automated flakiness detection
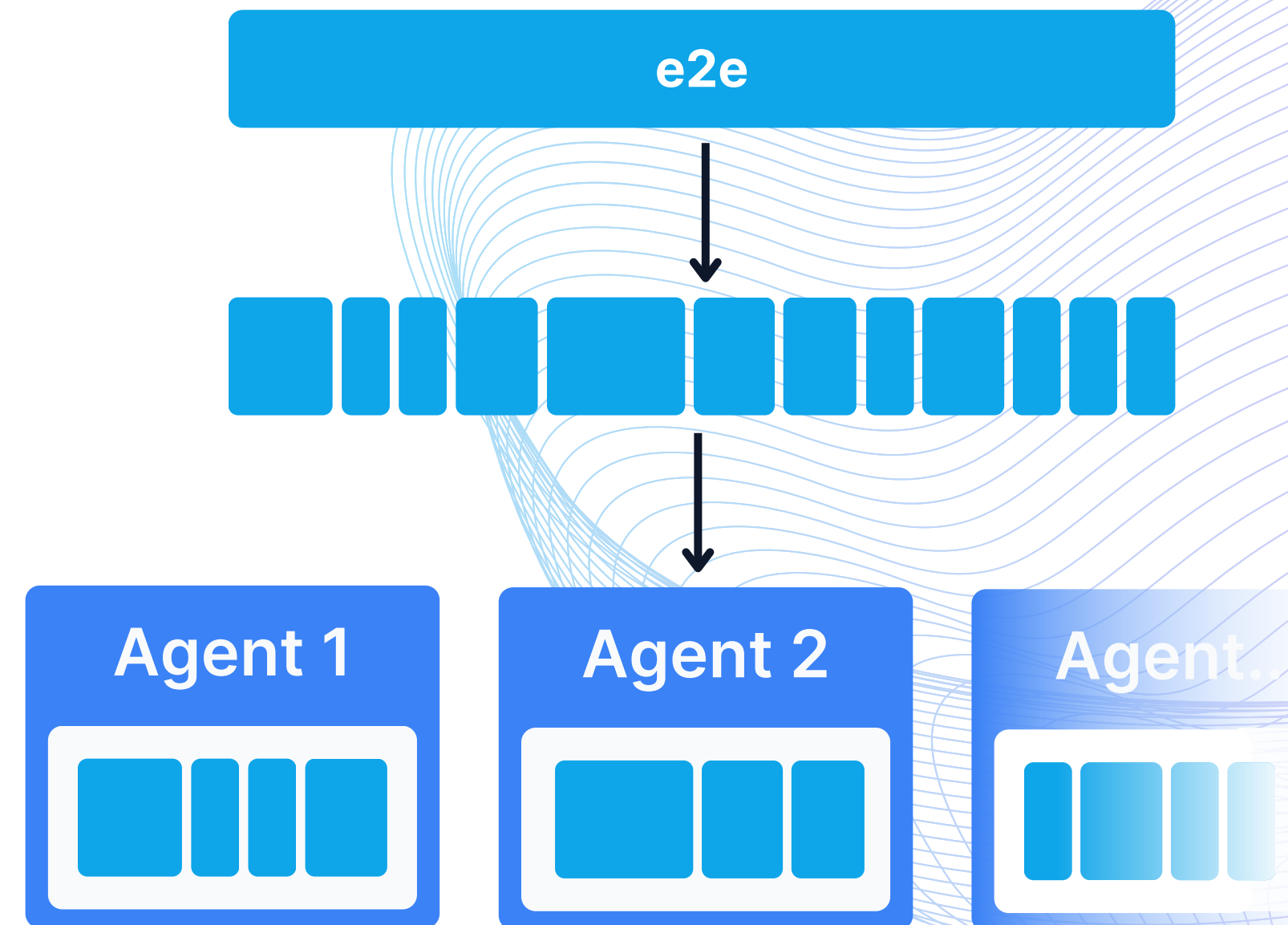
Solving e2e Tests

Test Atomizer

Nx Cloud's Test Atomizer splits large e2e projects into fine-grained test runs, enabling more efficient distribution and dramatically reducing CI times. For some users, e2e runs have been reduced from 90 minutes to under 10 minutes.

Flakiness Detection

Nx Cloud automatically identifies flaky e2e tests at the file level and re-runs those specific tests. This enhances developer experiences and reduces compute costs.
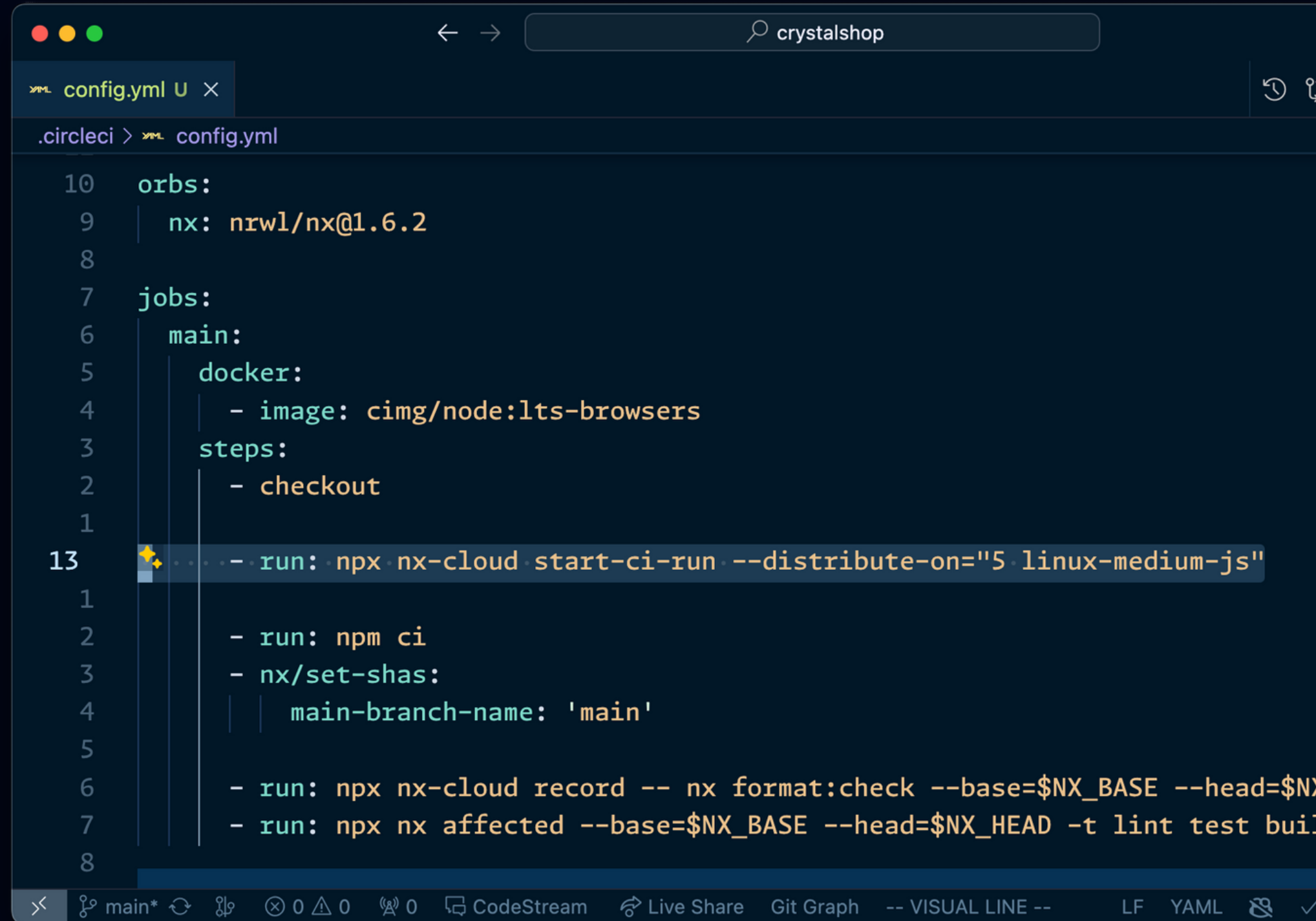
Simple and maintainable

What, not how

Nx Cloud simplifies CI configuration, emphasizing **which** tasks to execute over **how** with no need to tweak your CI scripts as your monorepo evolves. This simplified configuration cuts down on CI maintenance and increases stability, letting you focus on what matters for your users and clients.

A single line

Add a single line to your CI configuration to enable task distribution, remote caching, and deflaking e2e test splitting.


```yaml
orbs:
  nx: nrwl/nx@1.6.2

jobs:
  main:
    docker:
      - image: cimg/node:lts-browsers
    steps:
      - checkout

      - run: npx nx-cloud start-ci-run --distribute-on="5 linux-medium-js"

      - run: npm ci
      - nx/set-shas:
          main-branch-name: 'main'

      - run: npx nx-cloud record -- nx format:check --base=$NX_BASE --head=$NX
      - run: npx nx affected --base=$NX_BASE --head=$NX_HEAD -t lint test buil
```

Transform your CI today

Sign up for

Nx Cloud

https://nx.app