



Building in the Cloud with Remote Development



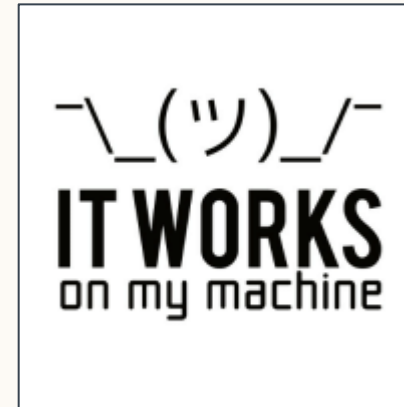
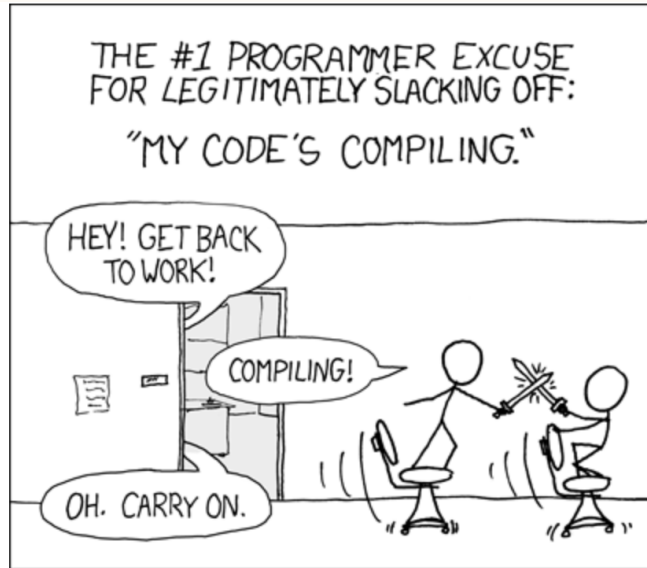
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Staff Software Engineer



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Staff Software Engineer

Developer Productivity & Happiness, LinkedIn

Problem Statement / Background





Agenda

- 1 Vision & Introduction
- 2 Our Journey
- 3 Architecture & Use Cases
- 4 Future Work

Vision



Predictable Fast Builds

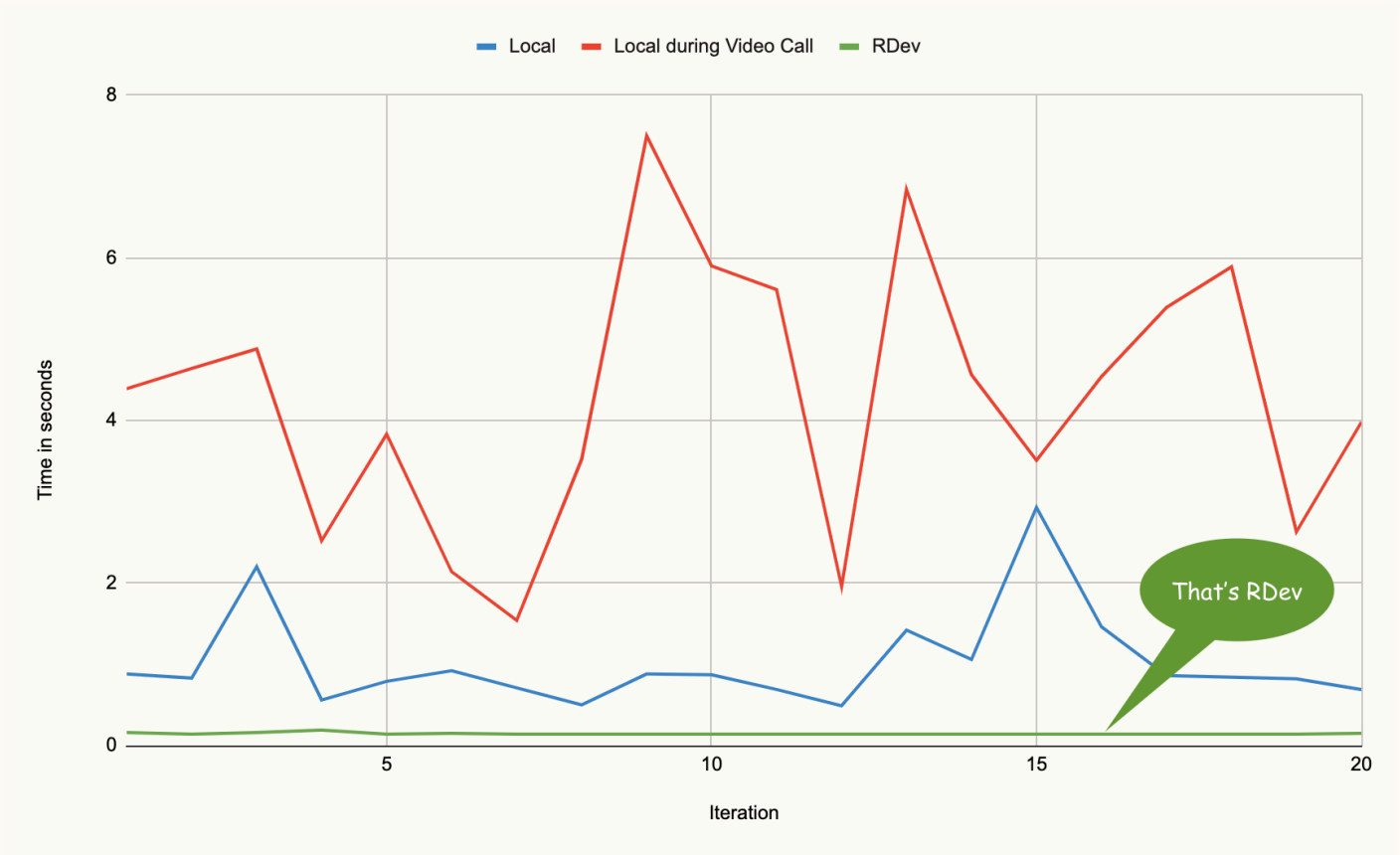


Easy Setup

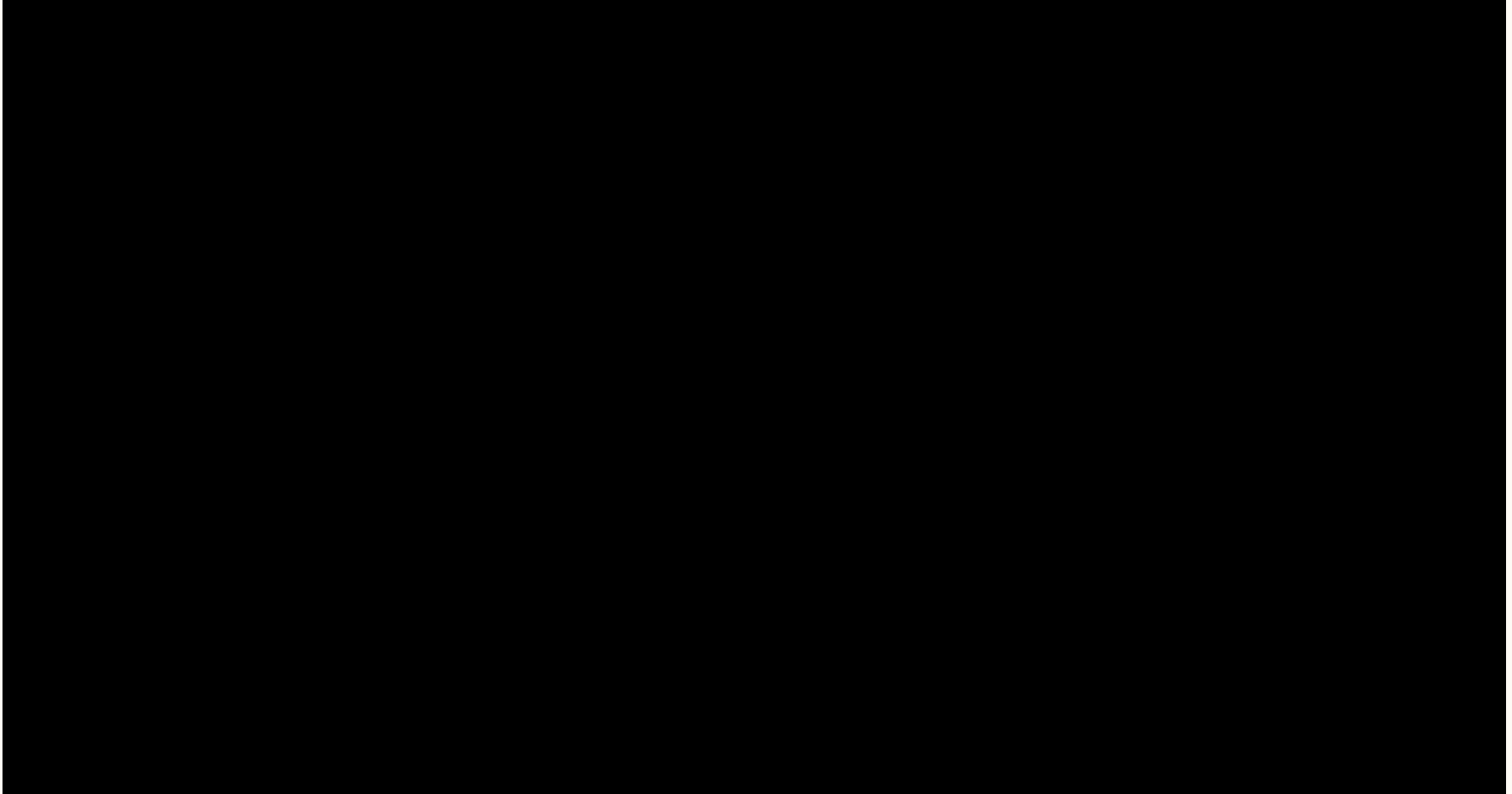


Consistent &
Reproducible Builds

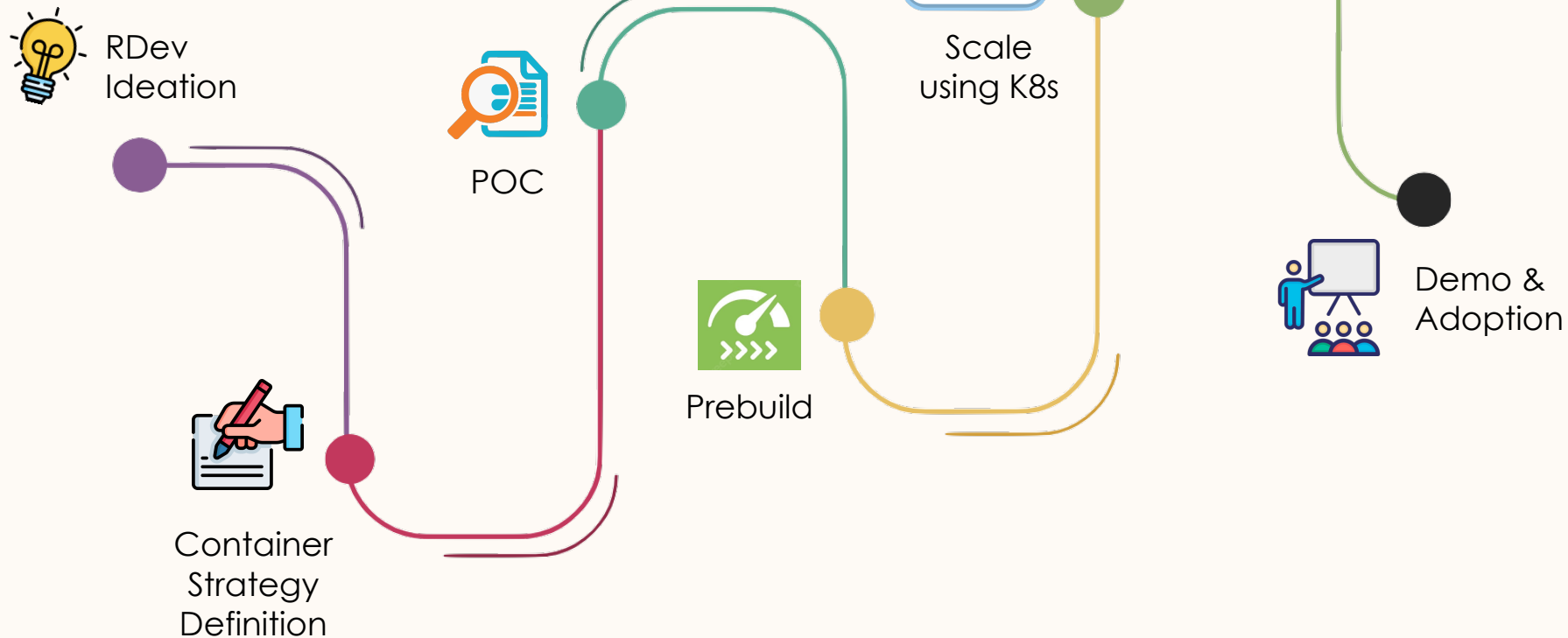
RDev – A containerized Remote Development Environment



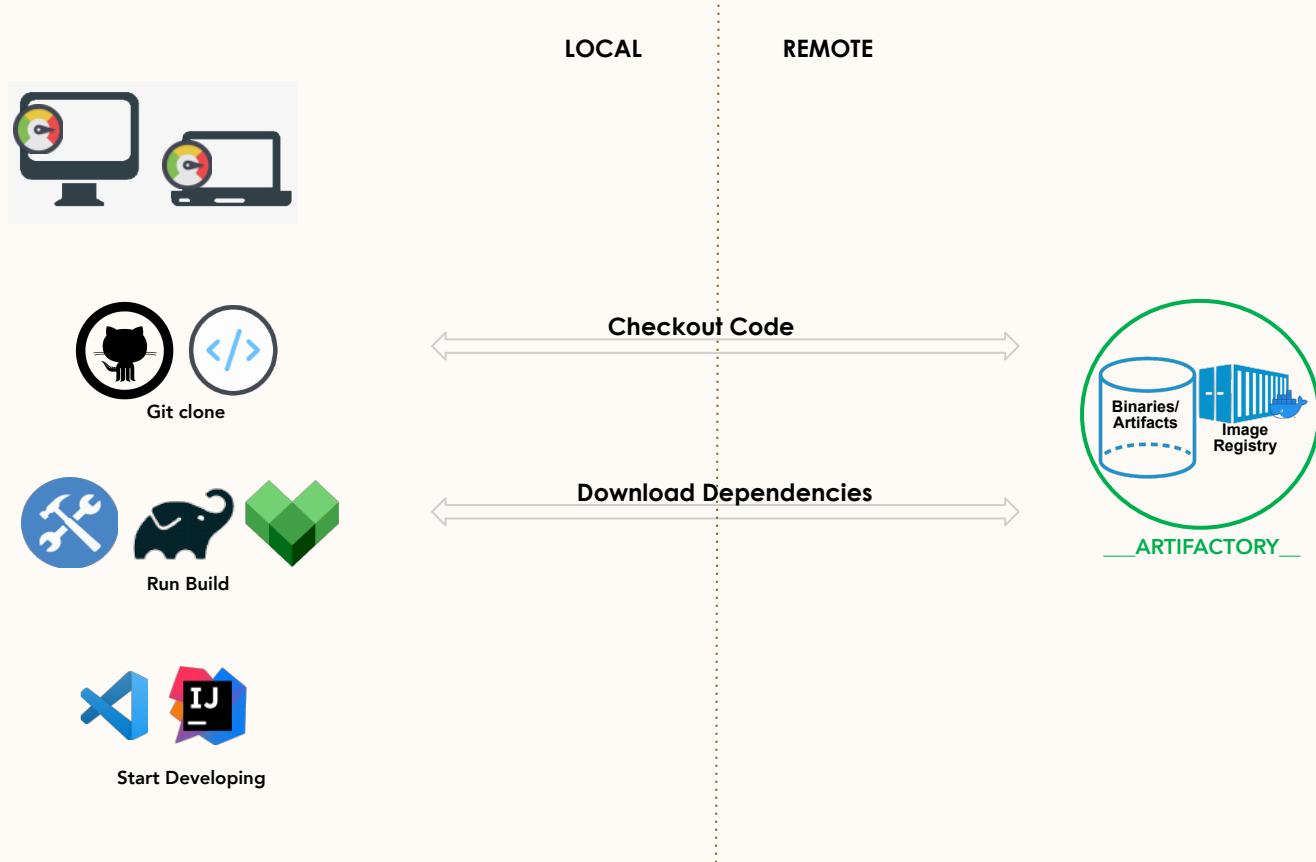
Demo



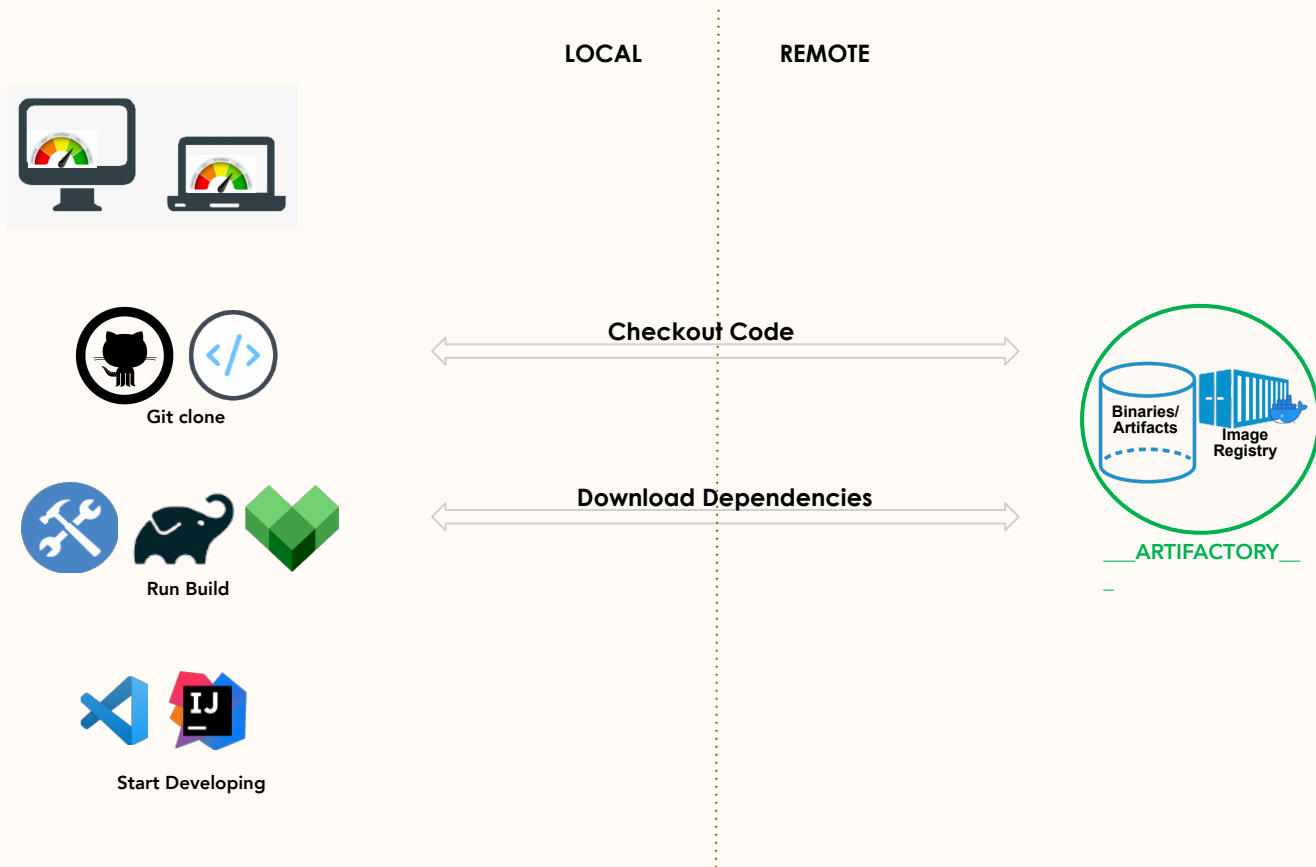
Our Journey



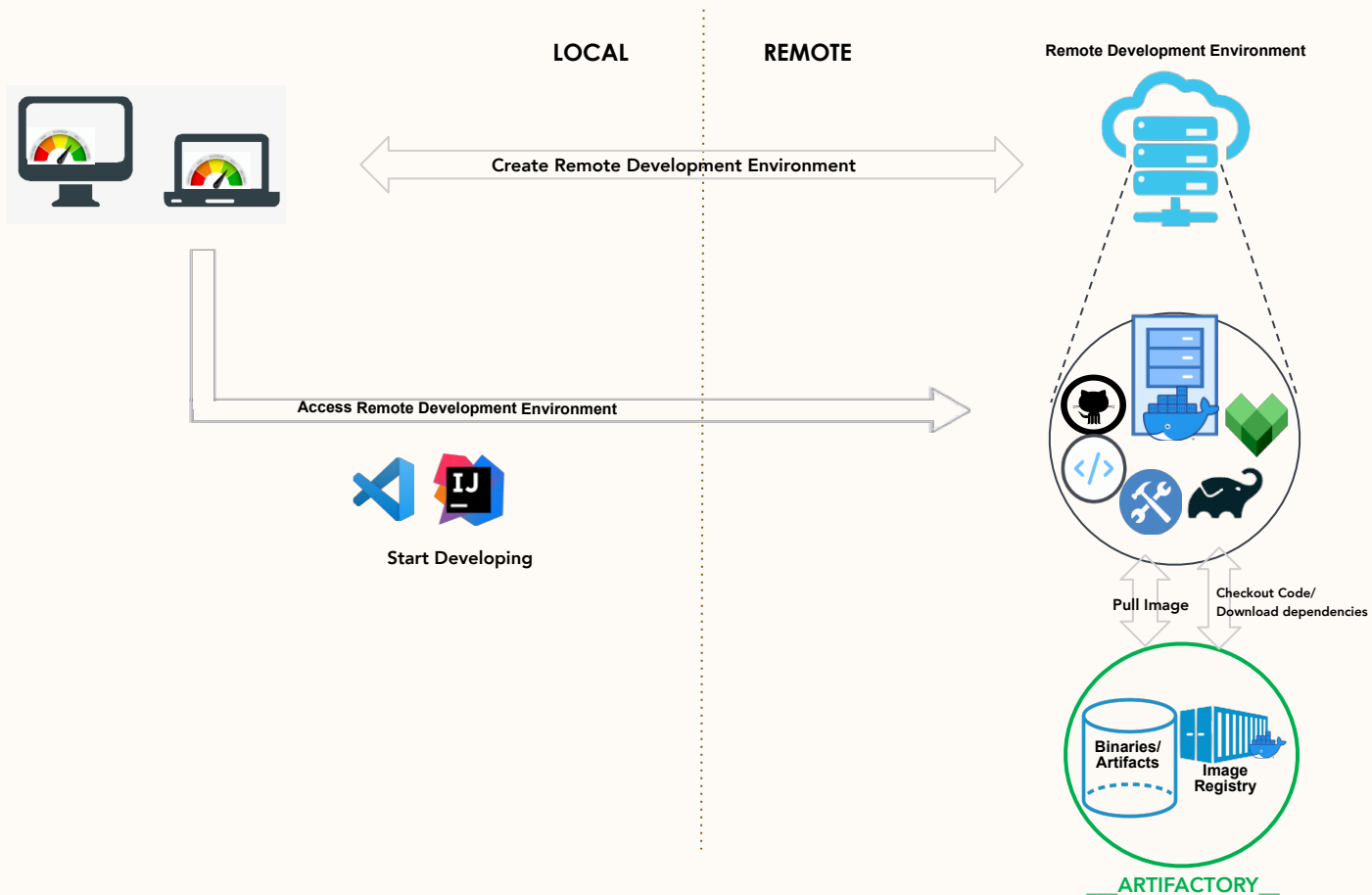
The Local / Desktop Workflow



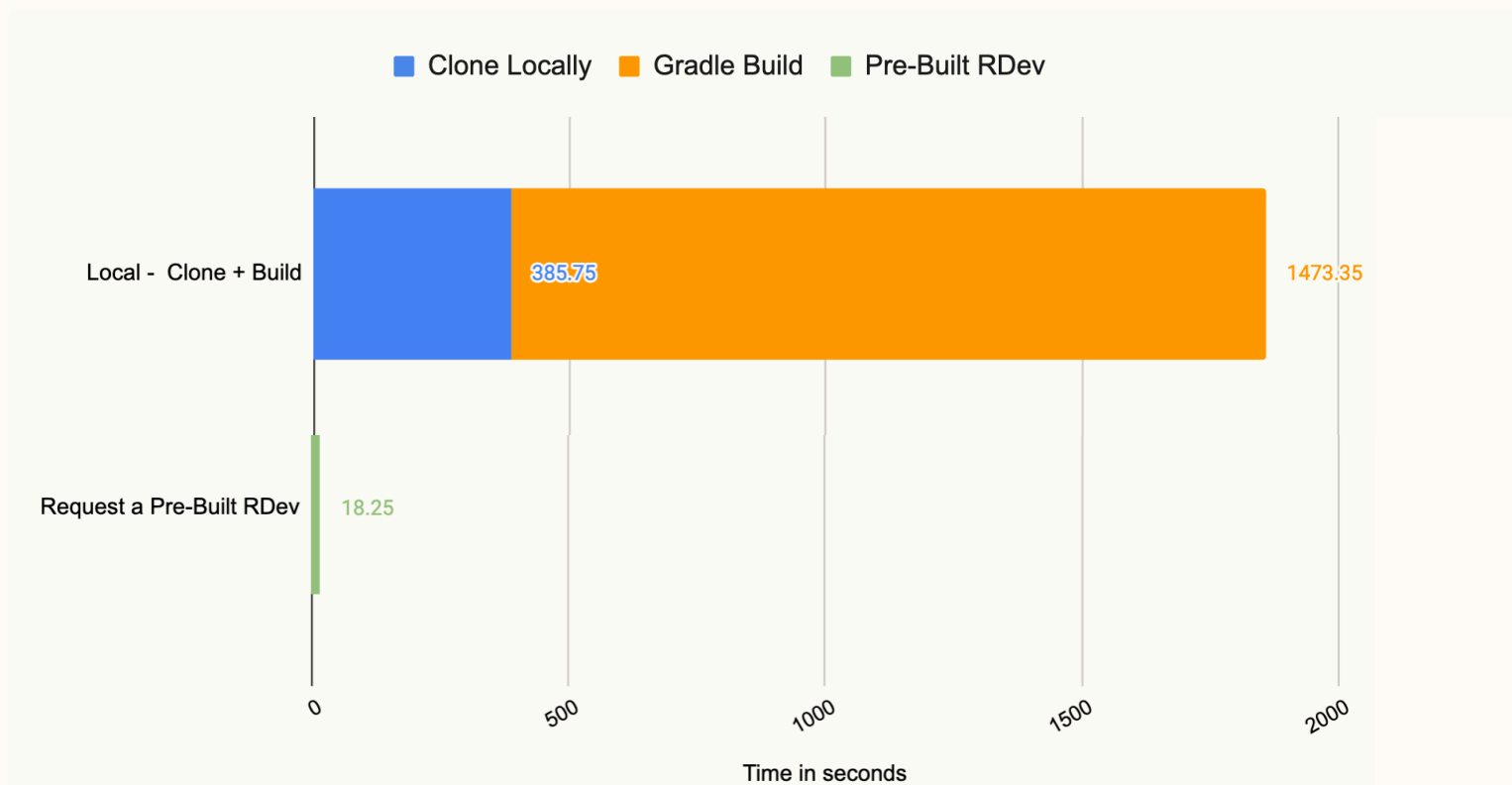
The Local / Desktop Workflow



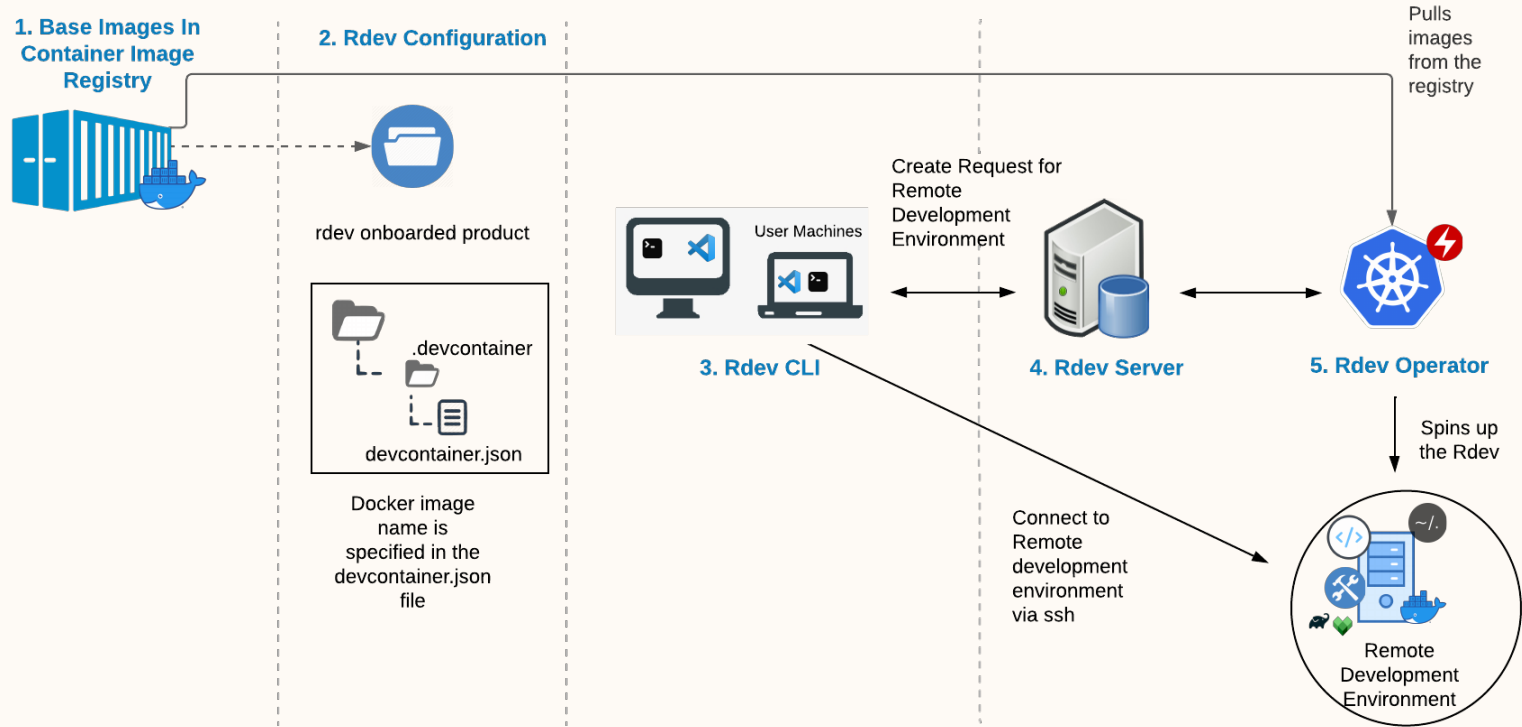
The Remote Development (RDev) Workflow



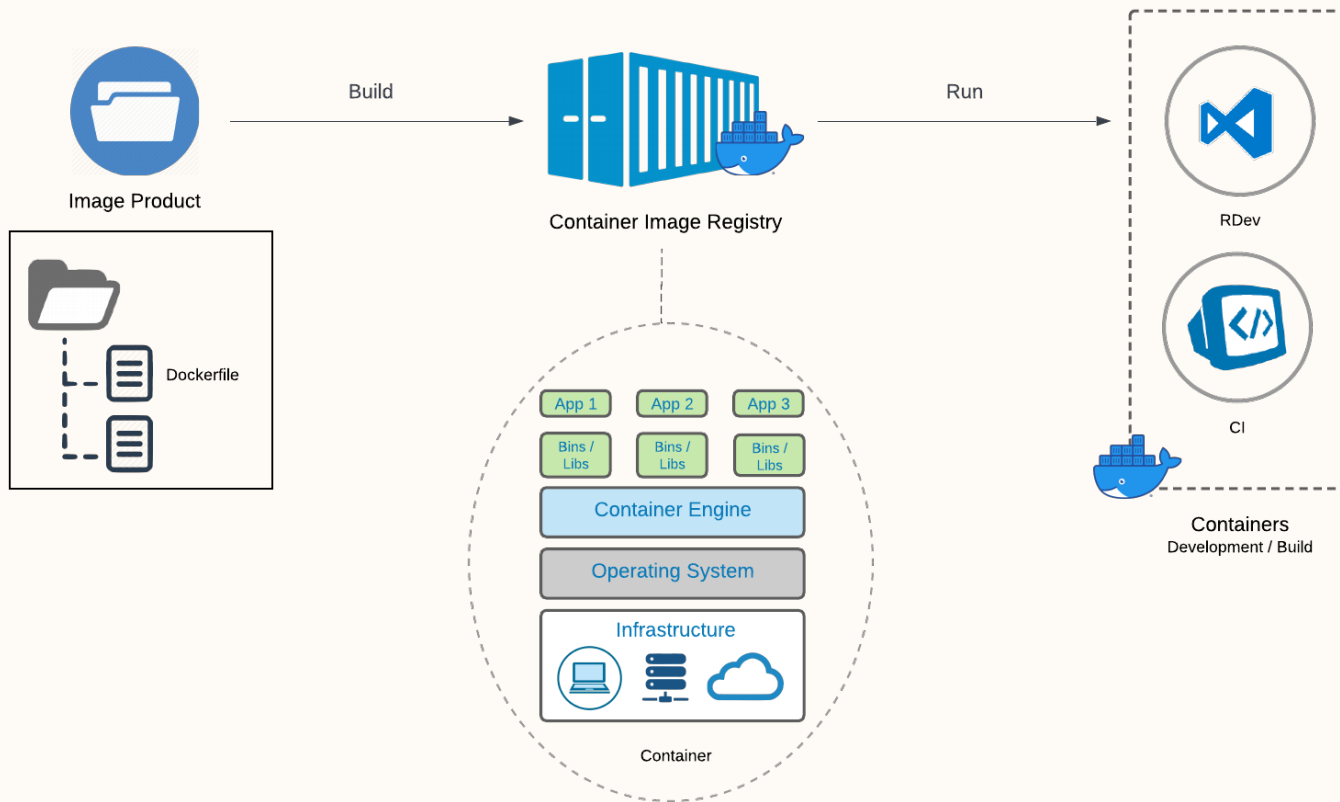
Local vs Pre-built RDev



RDev Architecture



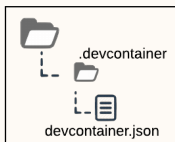
1. Container Image Infrastructure



2. RDev Configuration



rdev onboarded product



```
{
  "image": "<image>",
  "dockerFile": "Dockerfile",
  "context": ".",
  "forwardPorts": [4443],
  "settings": {
    "terminal.integrated.shell.linux": "/bin/bash",
    "git.path": "/export/apps/xtools/bin/git"
  },
  "containerEnv": {
    "SOME_KEY": "Some value"
  },
  "extensions": [
    "Atlassian.atlascode",
    ...
  ],
  "linkedin": {
    "exposedPorts": [
      {
        "name": "my-deployable-http",
        "port": 1473,
        "protocol": "TCP"
      },
      ...
    ],
    "buildLifeCycle" : {
      "url": "<Server URL>"
    }
  ]
}
```

3 & 4. RDev CLI & Server

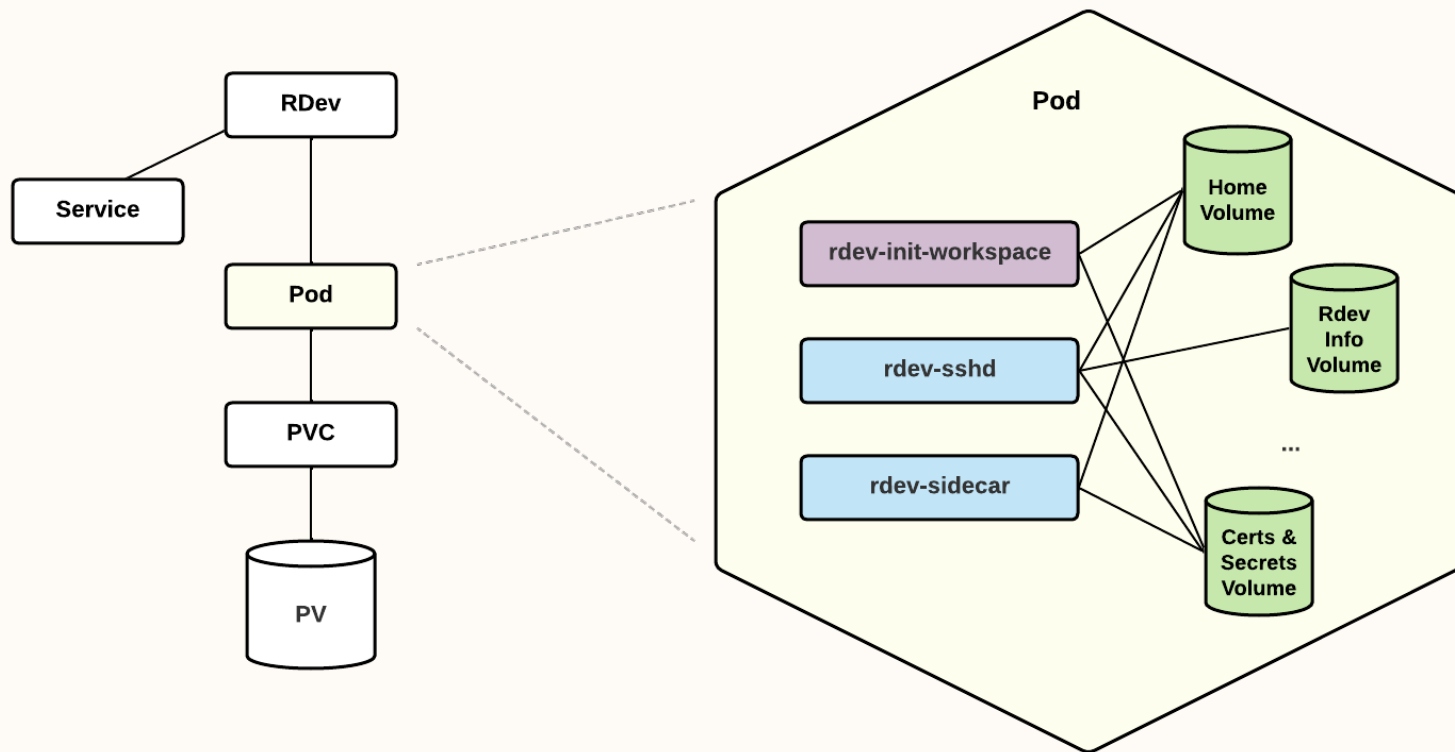


3. Rdev CLI

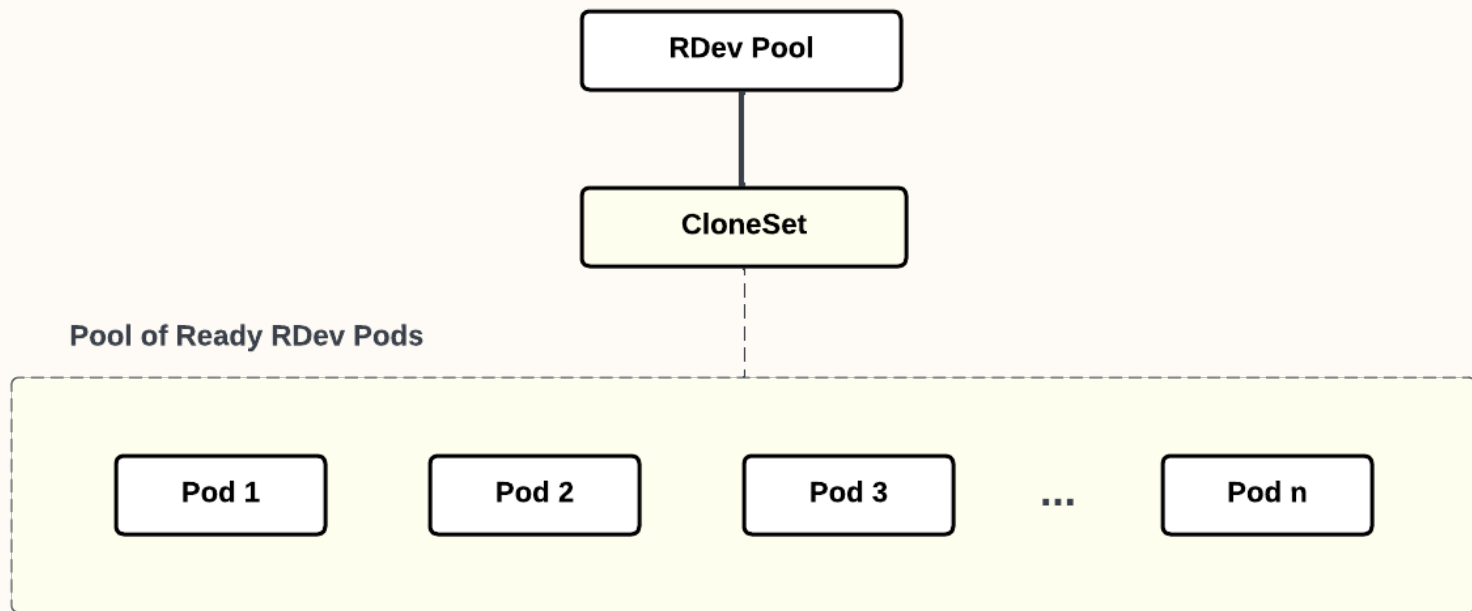


4. Rdev Server

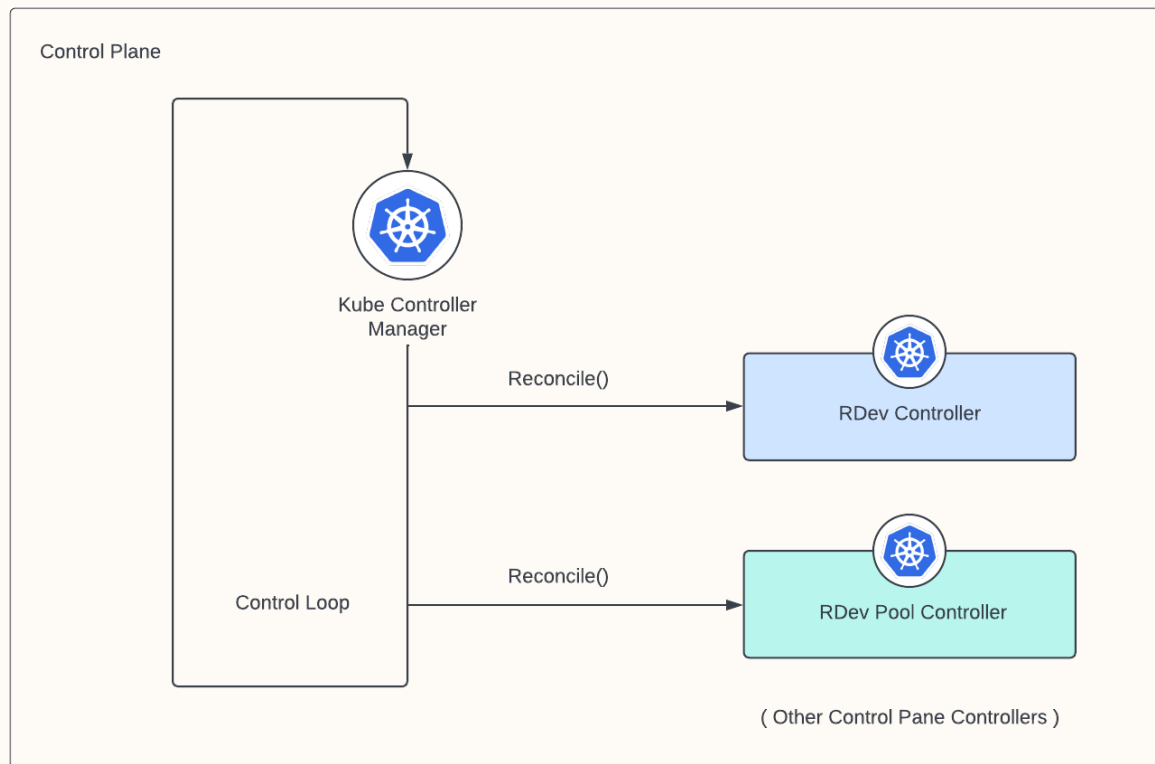
RDev



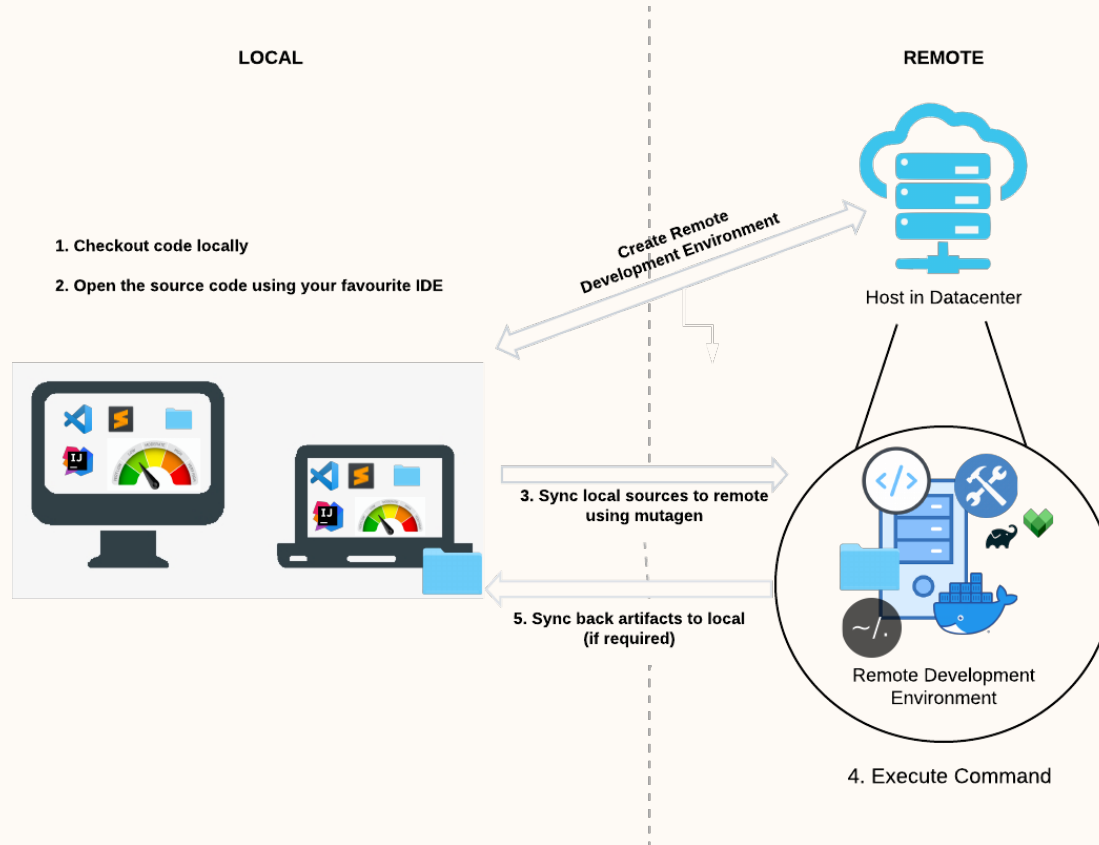
RDev Pool



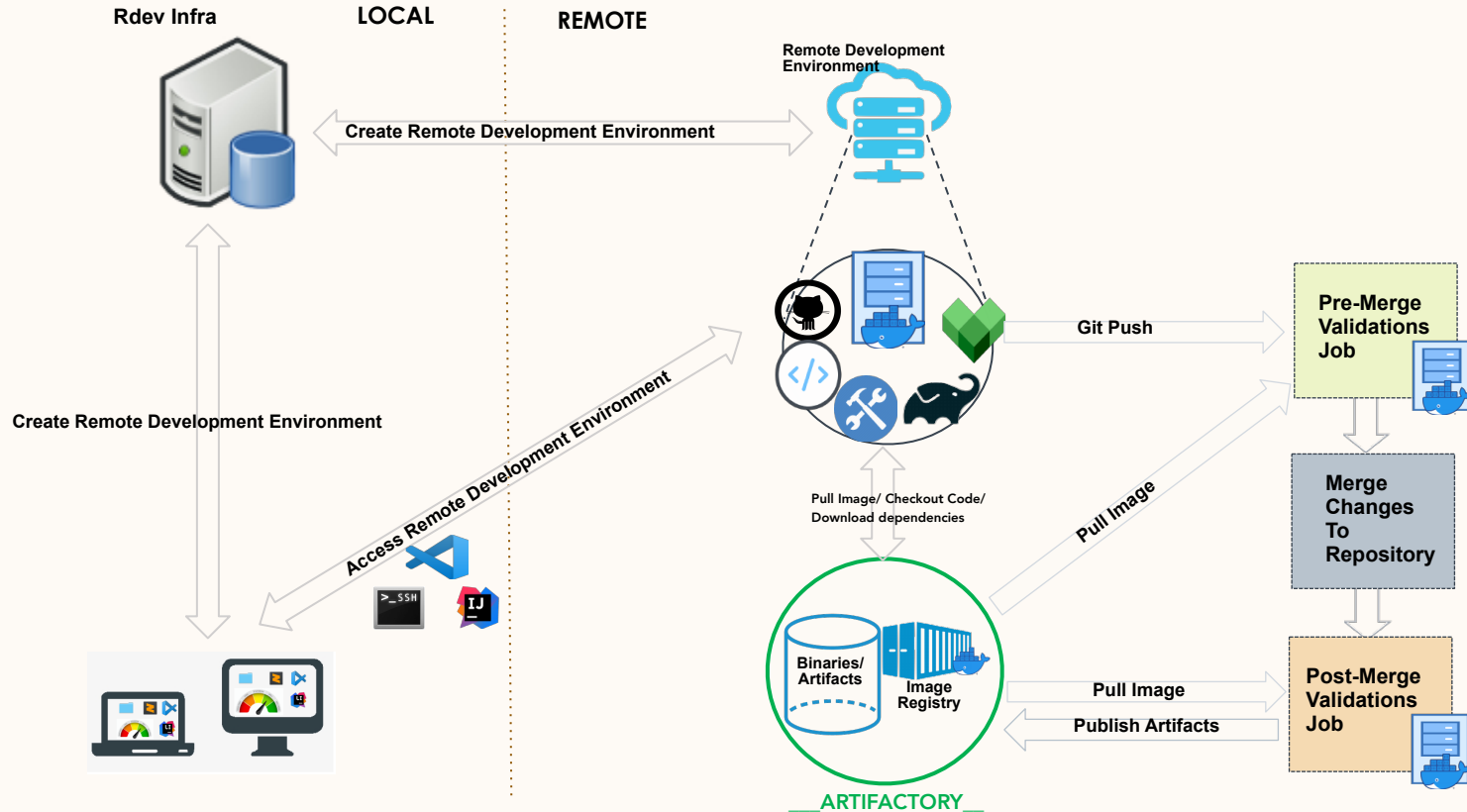
5. RDev Operator



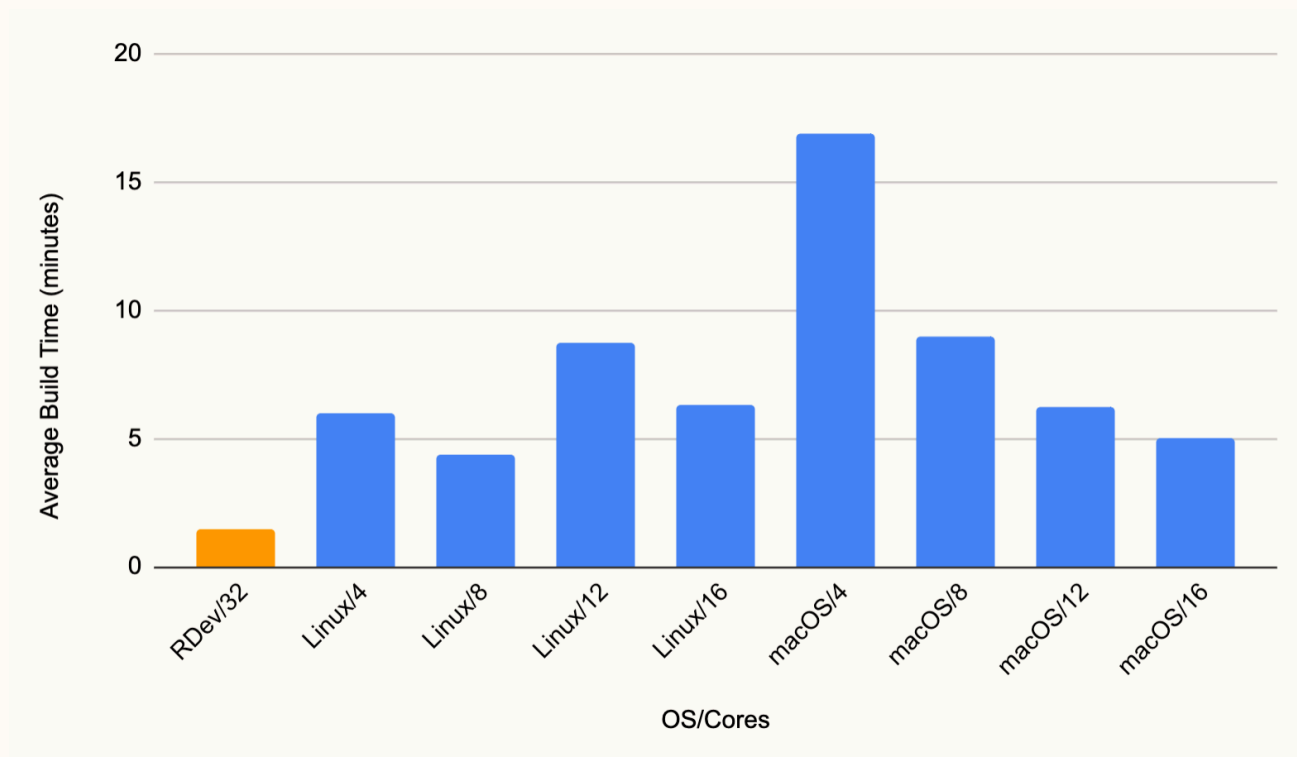
Use cases - Rexec



Use cases - Containerizing CI Builds



RDev vs Local/Desktop



Key Metrics



~28%

Percentage of Builds on
RDev

~39%

Percentage of
Developers using RDev

>70%

Percentage of improvement
in P90 Build Duration

Users Love RDev / Rexec 🎉



mvilleneuve < 1 minute ago



rdev is my favorite part of LinkedIn



slijack Jun 18th at 10:03 PM

Hello! First of all, huge thanks to the people who made this experience possible. When I tried **rdev** for the first time, I was blown away by how seamless (and fast!) it was 🥰



mcgalvin Today at 9:18 AM

Hi team! I've been using rdev for learning-web and voyager-web for a few weeks now and it works great! Definitely saves me a lot of time and my laptop doesn't have to have its fans running 24/7 like it used to! 🥰

remotely, I've been using **rexec**, **mint**, **precommit**.
it is a lot faster, thank you.



emudu

I've been

very

happy

with

it.

It's

super

fast

and

easy

to

use

it.

I

just

tried

rdev

for

voyager-web

and

it

works

great!

Definitely

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of

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laptop

doesn't

have

to

have

its

fans

running

24/7

like

it

used

to!

🥰



jcdean Today at 5:37 PM

👏 I just tried rdev for voyager-web super fast server up and running!!

the install failures, but all of the docs and logs were in place to make it super easy. Wish I could give the whole team a Bravo 🥳 (edited)

The build times got improved a lot. Remote development environment particularly for my regular development. It's been an amazing experience so far. Thank you for continuing to work with the team.

rdev is great!

yixiao 11 days ago

BTW I'm so happy with RDev. saves a lot of time for TF related works.

loving rdev as consistent environments to diagnose build speed issues and run quick experiments.

I build and deploy my... I can build in parallel... more than halved... I can listen to music in the background to boot... other work and listen to music in the background and productivity... This has improved my happiness and productivity significantly. kudos to the team for pulling this off, and I eagerly look forward to what's coming in the following quarters.

Looking Forward – GitHub Codespaces



GHAE Support
& Feature Gaps



Performance



Cost

Our Blog Post & Acknowledgements

<https://engineering.linkedin.com/blog/2021/building-in-the-cloud-with-remote-development>

LinkedIn Blog Posts

<https://engineering.linkedin.com/blog>



Q & A

Thank you!!