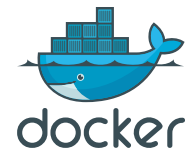


BBC News Slashes Continuous Integration Job Time over 60% with Docker



Delivering News to Millions of People in Every Corner of the World

People around the world trust the BBC as the unbiased source for up-to-the-minute reporting. BBC News, a division of BBC, delivers the latest news by posting more than 80,000 items online daily, and that's just in English. Multiply that out across 28 more languages and editorial teams and that is global scale reporting. The technology enabling the distribution of news is made up of roughly 150 servers focusing on JVM and PHP languages that 50 developers use to push updates every couple of weeks.

Waiting to Get into the Queue to Wait Some More

It was contentious with 10 different continuous integration (CI) environments running over 26,000 jobs that the over 500 developers across all of BBC had to share. Add to that the locked down nature of the CI environments making it extremely difficult to make changes. The jobs themselves could take up 30 minutes just to get your job scheduled, then another 30 minutes to run – if your job failed or if there was an outage, then you were back to the drawing board with another hour of lead-time. The jobs were run sequentially, one after another, so scheduling issues and failures were common leading a lot of wasted developer time.

This was particularly challenging as the tooling required by the developers was not installed in the CI environment. To circumvent this issue, the developers at the BBC News started a process called "Sideloaded" to create packages with languages and versions not in the CI environment. Although this allowed them to build and test with the right language stack, it could add a few days to the process before a job could even be scheduled or run. In addition, other teams were now using these Sideloaded packages putting a maintenance burden on the BBC News team.

The BBC Challenge

8,500
employees

60%
time savings

60+
minute-long tests

< 1 day
to deploy to Docker

150
global servers

"Something broke two years ago and during the company Christmas party. We had two people huddled in a corner with a computer, their food and drinks just trying to fix it and get the job scheduled to run again."

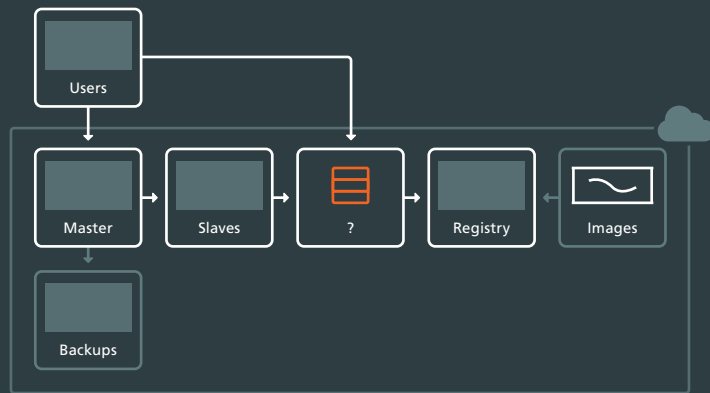
– Simon Thulbourn
Senior Software Engineer, BBC News

A Vision for Freedom and Control Through the Cloud

Operating at the scale of BBC drives a vast amount of technology innovation. The BBC News website alone receives over tens of millions unique requests a month from all around the world. With that in mind, BBC's technology vision aimed to empower their developers with more control over their environments while eliminating restrictions on the applications. This transformation included a migration to the cloud, building an internal CD tooling solution, consolidating CI environments and adopting Docker, the leading open platform for distributed applications allowing businesses to build, ship and run applications anywhere.

"Docker is a natural fit for us. We wanted testing environments that we could change easily and Docker handles this for us."

– Simon Thulbourn
Senior Software Engineer,
BBC News



Running More Jobs, Easier and Faster with Docker

As part of this transformation, BBC News started over with a new CI environment consisting of a single Jenkins master that could have as many slave nodes as needed. With the addition of Docker containers, BBC News eliminated the 30 minute wait time for scheduling and can now run multiple jobs in parallel. Having official container images eliminated the time consuming Sideload process as well and made maintaining language stacks a non-issue.

Faster, Better Continuous Integration for All

- **Slash job time from 1 hour to 10 minutes:** No more waiting to schedule jobs, jobs could run in parallel and each job ran over 60% faster
- **Empower Developers:** To control their application architecture and to use the right language and version for their application
- **Language Flexibility:** Containers isolate language stacks and eliminate the need to them while making it easy to use any language or version for a CI job
- **Standardization:** The new CI environment is open, reproducible, scalable, highly available and is the best practice that is now being adopted across the rest of BBC
- **Eliminate Multi-Day Sideload Process:** Containers helped to open the CI environment without adding risk