HashiCorp

RED|VENTURES

RED|VENTURES | CUSTOMER CASE STUDY

Many Media Brands, One Workflow

Digital marketing leader uses HashiCorp Terraform Cloud to launch online comparison tools faster, while reducing costs

// Infrastructure Enables Innovation

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Red Ventures Summary

Founded in 2000, Red Ventures employs 3,000+ people in 10 cities across the U.S., Puerto Rico, Brazil, and the U.K. The company is made up of dozens of nimble business teams focused on raising the bar, giving back, and challenging what's possible.

Through their portfolio of influential brands, digital platforms, and strategic partnerships, they empower people to make confident decisions about things that matter most to them, whether it's strengthening their mental and physical health, investing, moving, pursuing higher education, traveling the world, or discovering new entertainment.

RED VENTURES FAST FACTS

1,500 workspaces spread across 300+ teams

400,000+ successful code runs to date

$20,000 saved in operating costs each month

25+ business groups

700 developers

Significant improvement in operational efficiencies

> **As long-time Terraform users, upgrading to Terraform Cloud made a lot of sense because we could offload the responsibility of having to run and manage different platforms and services ourselves without sacrificing the consistency and efficiency we'd built over the years with Terraform."**
>
> BEN CARTER,
> VICE PRESIDENT OF ENTERPRISE ARCHITECTURE, RED VENTURES

From one, many

From international travel and higher education to personal finance and healthcare, Red Ventures seems to have something for everyone. The company's portfolio of brands and digital platforms includes popular online destinations like The Points Guy, Bankrate, and Reviews.com that provide engaging and informative online experiences — all delivered by a complex mix of behind-the-scenes proprietary technology and deep digital expertise.

Providing their online marketing brands anything from tool and feature development to managing an entire online marketing presence demands extensive, reliable backend architecture. But keeping up with the ever-changing demands of the business — coordinating various data lakes, resources, and app features — requires a level of scale and agility beyond what the Red Ventures team had achieved before.

"We successfully ran a centralized engineering group for years that was responsible for handling all the changes or updates to our cloud infrastructure for all the development teams in the organizations," says Thomas Hopkins, Red Ventures' principal engineer. "But as we acquired more organizations, we needed a better way to allocate our resources to meet the specific needs and demands of each business while standardizing our infrastructure methodologies and technologies for maximum efficiency and responsiveness."

Self-managed became self-sabotage

For years, Red Ventures' cloud infrastructure team had used HashiCorp Terraform to simplify and standardize its infrastructure deployment efforts. The solution's easy-to-understand HCL language, robust automation tools, and multi-cloud capabilities made it a great alternative to more complex and more manual third-party and native cloud provider provisioning tools.

"[HashiCorp] Terraform has become something of a way of life for our entire organization," says Ben Carter, Red Venture's vice president of enterprise architecture. "Everyone we bring on board has some level of familiarity

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with it, which gives us incredible consistency, but operating a centralized team in a standardized way in a non-standardized environment created some additional challenges we needed to resolve."

Carter argues that while giving everyone the same tools and capabilities to provision essential infrastructure did simplify many operations, forcing workflows that required all changes to be reviewed by a dedicated resource before deployment created bottlenecks in the production pipeline. Occasionally, engineers might also apply changes, but forget to code them, which further delays spinning up new containers or servers when needed.

"Ultimately, supporting more than 700 developers across different brands and businesses with such a small team meant establishing a baseline standard for how we work and then providing a common language and the tooling teams at the edge needed to meet the needs of the individual brands — but without the unnecessary overhead expenses and production logjams," he says.

Challenges

Accelerating infrastructure deployment across various development teams

Eliminating production bottlenecks created by code check-in/check-out

Reducing operating costs and eliminating platform management internally

> ❝ The Terraform templates make it easy to spin up any new container or resource for any team by just feeding the values for the infrastructure so the engineer doesn't have to figure it out, while still giving them the flexibility to configure things individually to meet the specific needs of their brand."

THOMAS HOPKINS,
PRINCIPAL ENGINEER, RED VENTURES

On cloud nine

Carter, Hopkins, and other senior team members like Senior Engineer Mike Seraf determined the team's best course of action was to find a cost-effective, scalable, and easily maintained cloud infrastructure management tool the team could employ but not have to manage on their own.

"The reality is that cost is a big factor for us because we're a consumer-based company who needs to keep operating costs low and manage to our margins wherever possible," Carter says. "As long-time Terraform users, upgrading to Terraform Cloud made a lot of sense because we could offload the responsibility of having to run and manage different platforms and services ourselves without sacrificing the consistency and efficiency we'd built over the years with Terraform."

Terraform Cloud is a subscription-based SaaS version of Terraform that provides Red Ventures engineers and developers everything they need to create and collaborate on infrastructure and manage risks for security, compliance, and operational constraints. The platform's built-in single sign-on (SSO) capabilities replaces costly corporate identity management while maintaining the security and integrity of essential systems.

More importantly, this cloud-agnostic service helps to dramatically accelerate provisioning of essential infrastructure — containers, cloud servers, or other resources — by leveraging the team's own internal library of Terraform templates based on common patterns and featuring a range of helpful documentation to launch new infrastructure in AWS in a fraction of the time.

"The Terraform templates make it easy to spin up any new container or resource for any team by just feeding the values for the infrastructure so the engineer doesn't have to figure it out, while still giving them the flexibility to configure things individually to meet the specific needs of their brand," Hopkins notes. "At the same time, upgrading to the cloud version provides engineers end-to-end visibility into how their environment will look and proactively troubleshoot without having to wait on a team lead to review it."

Multi-cloud capabilities for a multi-cloud future

According to Carter, adopting Terraform Cloud has been a transformative experience for his organization, both operationally and financially. "Terraform Cloud has helped us create a true self-service operation across our organization," he says. "Modules that used to take us a week to set up internally can now be handled independently by teams in the different business units, which has improved our resource allocation, license management, and other cost factors that have cumulatively saved us more than $20,000 per month across the board."

In addition to the cost savings, the upgrade to Terraform Cloud has also dramatically boosted the organization's productivity. Hopkins notes that, to date, the organization has successfully launched more than 400,000 runs, automatically setting up infrastructure across nearly 1,500 workspaces to support more than 300 teams across the enterprise.

In the future, Carter expects their move to a hosted, multi-cloud provisioning solution to pay even bigger dividends, as the company expands beyond its current AWS-heavy environment. "We've been primarily an AWS shop for a while, but the momentum toward a multi-cloud environment is unstoppable and the reality is that our environment will have to expand as the business grows," he says. "HashiCorp solutions have been a foundational element of our success to this point and Terraform Cloud will certainly be a crucial part of our ability to thrive in the future."

Outcomes

Saved as much as $20,000 per month by improving resource allocation and team productivity

Achieved more than 400,000 successful code runs in nearly 1,500 workspaces spread across more than 300 development teams

Eliminated production bottlenecks to accelerate infrastructure deployment and enable faster delivery of enhanced features and applications for each of the firm's brands

Solution

Red Ventures uses Terraform Cloud to simplify and standardize infrastructure deployment processes across the enterprise and empower business unit development teams to deploy features, functionality, and new apps faster.

Red Ventures Partners
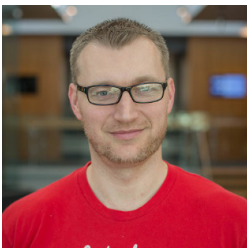
Ben Carter is the vice president of engineering at Red Ventures and a seasoned technology leader intent on challenging the status quo of how technology can be used to create revenue opportunities. He has extensive experience in programming, solutions architecture, and product design that have helped him create well-rounded, high-performing software engineering teams that support some of the best known brands on the web.

Ben Carter,
Vice President of Enterprise Architecture, Red Ventures
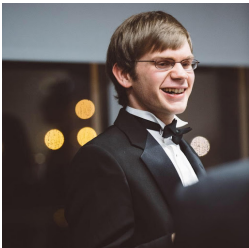
Thomas Hopkins is the principal software engineer at Red Ventures and the resident expert in AWS virtual infrastructure. Prior to joining Red Ventures as a software engineer and garnering multiple promotions during his tenure, Thomas previously served as a deployment engineer for a digital marketing agency.

Thomas Hopkins,
Principal Engineer, Red Ventures

Mike Saraf is a Senior Linux Engineer for Red Ventures. Prior to joining Red Ventures, Mike spent nearly 20 years perfecting his craft with a multinational computer hardware manufacturer and, later, with a leading consumer financial services firm. In his career, Mike has held various roles including QA Tester, software engineer, and Unix administrator before bringing his talents and expertise to the Red Venture team.

Mike Seraf,
Senior Linux Engineer, Red Ventures

Technology Stack

- Infrastructure: AWS (85%), GCP (5%), on-premises (bare metal) (10%)
- Workload type: Linux (90%), Windows (10%)
- Container Orchestrators: ECS Fargate, Kubernetes
- CI/CD: CircleCI, GitHub Actions, Jenkins
- Data Service: AWS RDS, S3, Redshift, DynamoDB, Athena
- Version Control: Git
- Provisioning: Terraform Cloud, AWS CloudFormation, AWS CDK