HashiCorp

TeamSystem | **CUSTOMER CASE STUDY**

Teamwork makes the dream work

Leading European software developer uses Terraform to accelerate cloud-first strategy with automated infrastructure provisioning.

About TeamSystem

For nearly four decades, TeamSystem has helped European companies collect what's owed to them. Today, nearly 30% of companies in Italy and a host of others across the continent rely on the Italian software maker's ERP solutions to be the heartbeat of their operations.

2+ million mobile customers

450 million+ electronic invoices managed

Streamlined operations saving 10% of infrastructure costs

Standardized workflows shared Terraform modules reduced infrastructure

Enabled self-service, improving operational efficiency by 80%

Accelerated release timelines from twice per year to every 2 weeks

Custom products create general headaches

Over the years, the company has grown both organically and via acquisitions to build and service an expansive and diverse client roster. But in doing so, TeamSystem accumulated significant technical debt, as each company it acquired had its own products and existing TeamSystem teams created solutions for individual clients and markets.

"At one point we had hundreds of different products, each built for a specific market or customer. They were built in a variety of ways and in disparate environments," says Alessandro Poli, TeamSystem's Head of Cloud Operations . "We wanted to move to a cloud-first environment to improve the security and performance of existing services and accelerate the time-to-market of new ones. But we had far too many tools for typical cloud resource management services and needed a smarter approach to make the migration possible."

Challenges

Efficiently and cost-effectively migrating on-premise customer services to cloud deployments

Accelerating feature and update release schedules

Optimize infrastructure investment and reduce cloud waste

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New infrastructure strategy, unprecedented insights

Migrating from on-premises deployments to the cloud was such a large undertaking that it required TeamSystem to rethink how it built the underlying infrastructure to support the move. In particular, the company wanted to move away from its patchwork network of systems and tools to a more efficient, standardized, and predictable operating model.

"Starting from scratch, we wanted a declarative infrastructure provisioning solution that set parameters for how infrastructure is deployed without room for interpretation or mistakes," Poli explains. "Beyond that, we wanted a solution that would allow us to manage everything from a single point of view, enable easy onboarding for our staff, and offer expansive support and community engagement options."

After evaluating cloud provider-based solutions, TeamSystem adopted HashiCorp Terraform as the infrastructure as code solution of choice to provision and manage infrastructure. Terraform's easy-to-understand language, reusable code modules, and cloud- and platform-agnostic architecture are ideally suited to overcome common challenges in cloud transformations — and the specific ones TeamSystem faced.

When Poli's platform team first kicked off the cloud initiative with the company's first SaaS solution delivered via Azure, the team discovered that its various pre-Terraform environments were preventing other products from timely development and deployment.

There were individual environments for development, for testing, for demos, and then for production. Each one required understanding different languages, workflows, and documentation standards that added to every project unnecessary complexity, time, and risk of incompatible components breaking a system.

"With Terraform, we standardized workflows for both app development and infrastructure deployment by implementing reusable code modules built with specific security and operational parameters," Poli explains. "Now, our developers can now define the infrastructure their projects need, understand the cost implications on the overall project, and automatically provision it to any cloud with just a few clicks all on their own. It's a level of granularity and visibility we never had before."

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Knocking down obstacles to long-term growth

Incorporating Terraform has helped TeamSystem usher in a new era of growth and development. Poli says that as the company continues its cloud migration initiative, the ability to manage its entire cloud environment from a single place will pay dividends.

Specifically, Terraform's Sentinel policies ensure that all resources deployed meet the company's stringent security standards, an action Poli calls "platform hardening." Sentinel policies define rules that restrict the provisioning of resources between the plan and apply phases of a run, preventing out-of-policy infrastructure from being provisioned and unburdening the platform team from time-consuming manual management.

"Terraform eliminates many of the governance challenges we had before when we were trying to manage our work through different processes and tools," he says. "Now we can easily track who made changes to infrastructure, when, why, and how in every cloud instance. It gives us a digital audit trail to refer to any time there's a concern or an issue so we can make the necessary adjustments on the fly."

According to Poli, developers can now work independently and self-serve with the infrastructure their projects demand, enabling the team to release new features and capabilities exponentially faster than before.

"Because of the nature of our old workflows we limited feature releases to two times per year," Poli says. "By standardizing our processes and enabling greater self-service with Terraform, we can release new features every two weeks."

In addition to more streamlined operations, Poli says he and other leaders can focus more of their attention to more strategic pursuits — planning, go-to-market strategies, and other essential revenue-oriented tasks — because he's not tied down managing the minute-to-minute operational demands.

"Terraform makes it easy for our developers to work independently and self-serve the infrastructure their projects need to be successful," he says. "Now, I save at least a full week's worth of work every week that I can dedicate to other priorities instead of worrying about provisioning. It's been a huge and positive shift for

everyone and we're looking forward to bringing on other HashiCorp tools to further improve our operations and service to our customers."

Terraform Cloud also serves as an upskilling platform for developers, who can search the private registry for a solution that's been implemented by other colleagues. This not only helps developers hone their skill sets, but also fuels internal collaboration to share code and common approaches (i.e. InnerSource) across borders to other local Vodafone markets.

"Terraform Cloud gives us real agility without compromising innovation firepower because now we can experiment with serverless workloads and still support legacy applications, all with a code-first approach," Romano says. "We can manage via our monitoring primitives on third-party suppliers, our source code management (SCM) strategy, and developer permissions to help ensure compliance for over 14 different AWS accounts and hundreds of applications spanning more than 25 clusters. That would be impossible without decentralized ownership and infrastructure as code."

Outcomes

Increased feature release schedules from twice annually to every two weeks

Standardized internal workflows and software development processes for greater efficiency and cost-effectiveness

Enabled self-service, cut infrastructure provisioning from days to hours, improving efficiency by 80%

Created digital audit trails for every infrastructure change to improve troubleshooting and proactive security compliance

Solution

TeamSystem uses HashiCorp Terraform to give internal development teams the freedom to provision and manage cloud resources and infrastructure from a central point of control. The platform accelerates infrastructure provisioning while federating policies to help ensure service availability and security.

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TeamSystem Partner

Alessandro Poli
TeamSystem's Head of
Cloud Operations

Alessandro is the head of Cloud Operations focused on infrastructure and Platform Engineering. He started working on public and private clouds in 2011, developing Cloud Architectures and Cloud automation in the banking sector. Later, in 2016, he joined the TeamSystem group, where he held the Cloud Infrastructure Team Leader role.

Technology Stack

- **Infrastructure:** AWS (45%), Azure (45%), on-premises (bare metal) (10%)
- **Workload type:** Linux (70%), Windows (30%)
- **Container runtime:** containerd
- **Orchestrator:** Kubernetes
- **CI/CD:** GitLab Pipelines & ArgoCD
- **Data Service:** PostgreSQL, MongoDB, Elasticsearch, Azure SQL
- **Version Control:** GitLab
- **Provisioning:** Terraform Cloud