Driving operational efficiency with Ternary: the Linux Foundation Story

About the Linux Foundation

The Linux Foundation is a nonprofit organization that facilitates the continued growth of open-source software. The company provides a trusted hub for developers and organizations to code, manage, and scale open technology projects and ecosystems. The Linux Foundation has a presence in more than 12 clouds, providing a neutral home for more than 900 projects.

Key benefits

- Enabled self-service FinOps with Ternary
- Decreased cloud spend-related inquiries by 30%
- Implemented a build and buy approach

Facing challenges with cloud cost management

The Linux Foundation embarked on their cloud journey in 2017, marking the beginning of a significant expansion in the company's cloud footprint. Over the subsequent seven years, the foundation has witnessed a rapid influx of new projects, each integrating into their ecosystem.

Rudy Grigar, Director of Cloud Services at the Linux Foundation, describes the company as "a small organization, with big organization problems." Grigar's extensive responsibilities encompass functions critical to the foundation's operations. These include onboarding new projects, handling escalations, supporting mission-critical internal systems, and managing cloud costs.

The Linux Foundation's unique structure adds complexity to managing cloud costs. Projects operate on a spectrum: Some have their own billing accounts, with cloud credit donations that must be kept separate, while others are part of a shared environment. Additionally, the Linux Foundation's IT team must navigate a lack of standardized naming conventions or tagging practices.

Without a dedicated FinOps team or specialized tooling, Grigar found himself manually tracking budgets across more than 50 projects. Managing this data on a spreadsheet with over 20 tabs quickly spiraled into a full-time job.

"Our cloud spend kept growing, the amount of projects kept growing, and the amount of time I was spending on this every month kept growing," said Grigar. He continued, "When the inevitable questions came in from various stakeholders around past charges, credits, discrepancies, spend forecasts, etc., answering those questions would be on a best-effort basis."

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Formalizing a FinOps practice

Exacerbating Grigar's struggle to manage cloud costs was the lack of a dedicated FinOps practice within the Linux Foundation's IT group. In 2023, Grigar made a compelling business case for developing one. He proposed creating a dedicated role, Cloud FinOps Manager, to establish and mature the foundation's FinOps practice. This role would involve driving organizational adoption of FinOps, establishing internal governance processes, and improving efficiency across the company.

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> **Rudy Grigar** | Director of Cloud Services
> Linux Foundation

At FinOps X 2023, Grigar deepened his understanding of the FinOps Framework and explored various tooling options available in the market. Shortly thereafter, he hired Shah Ahmadzai as Cloud FinOps Manager, and the foundation invested in Ternary as their multi-cloud FinOps platform.

Like Grigar, Ahmadzai had experienced firsthand the pain of logging into various cloud provider native consoles to consolidate data from multiple clouds and billing accounts. The decision to adopt Ternary was driven by the following factors:

- **Multi-cloud reporting.** Ternary offers robust support for multi-cloud environments, which is crucial for managing the Linux Foundation's diverse cloud landscape.

- **Persona-based insights.** Ternary provides tailored reports for different stakeholders, including technical and business-oriented roles.

- **Budget reconciliation and forecasting.** The Linux Foundation's use of donations and credits depends on accurate budget reconciliation and forecasting.

- **Integration and API capabilities.** Ternary's integration and API capabilities aligned well with the foundation's "build and buy" approach.

Enabling self-service FinOps with Ternary

While approximately 90% of the Linux Foundation's cloud spend is in Amazon Web Services, Microsoft Azure, Google Cloud Platform, and Oracle Cloud Infrastructure, their cloud environment spans more than 12 clouds. Ternary provides unified visibility across these clouds. "We're ingesting the majority of our cloud spend into Ternary, which is something that, prior to this, we've never done," Ahmadzai said. "Now we can look at one place, and see how much a project is spending across all of the different clouds and how that spend is trending." Thanks to Ternary, the Linux Foundation has reduced their reliance upon the spreadsheet and the need to access multiple consoles for billing data.

Before Ternary, cloud spend was managed almost entirely by Grigar's team. "We don't want to be the gatekeepers of cloud cost information. With Ternary, we're able to give teams access to their own billing data," noted Ahmadzai. "Now, Projects and teams have visibility into their historical spending, forecasts, and savings recommendations. Additionally, they can establish and act upon high-quality budget alerts." He concluded, "We're empowering teams to choose their own adventure." Armed with their Ternary onboarding guide, the Linux Foundation has streamlined their adoption of FinOps internally. Key to this approach is the ability to provide segmented data views by project. "We've built default dashboards to serve various personas and have made them available to all teams using Ternary Scoped Views," Ahmadzai explained.

Grigar praised Ternary's support throughout the process. "The Ternary team has been great to work with," he said. "From the early days of contract discussions to providing product feedback and requests, they act as an extension of our team. Being able to partner at that level is really beneficial to us." He continued, "Our partnership with Ternary has been successful from an ROI standpoint, because we don't have to invest in hiring a full-time team for FinOps." The foundation's use of Ternary offsets personnel costs, especially given their small team and reliance on volunteers.
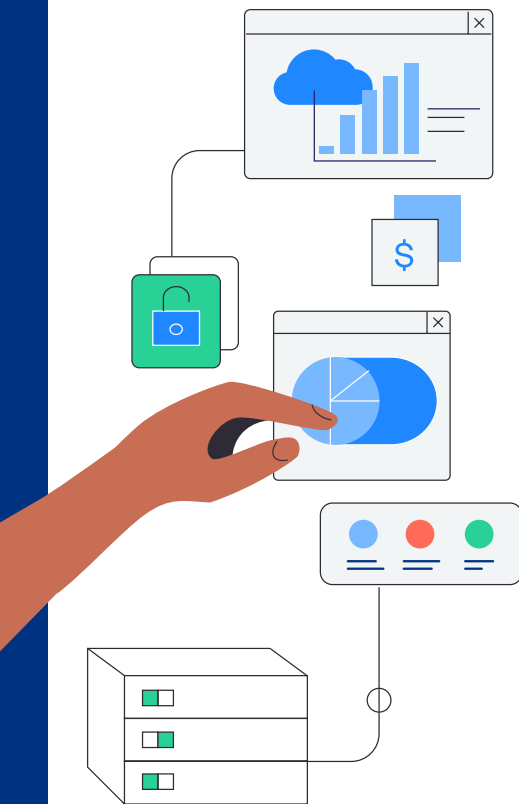
As a result of implementing Ternary, the Linux Foundation's IT team has seen more than a 30% decrease in cloud spend-related inquiries.

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Building on top of Ternary

Rewinding to 2019, the Linux Foundation's small IT team faced increasing pressure as the number of projects grew and IT requests surged. They needed an effective way to facilitate self-service experiences for these projects while managing the complexities of a growing cloud environment.

It was clear that the foundation needed a more structured approach. So, that year, it launched the ITX initiative. Named for IT automation middleware, this initiative streamlined processes, enabling projects to manage their needs independently and reducing the burden on the IT team.

Building on the success of the ITX initiative, the Linux Foundation introduced the Project Control Center (PCC), in 2021. PCC provides open-source project administrators with comprehensive self-service capabilities. It supports configuration for governance, membership, IT, developer and collaboration tools, as well as for documentation, and community roles.

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Linux Foundation

While continuously enhancing self-service capabilities for internal stakeholders, the Linux Foundation is focused on further integrating FinOps. Grigar outlines this objective: "Our next step is to map the data in Ternary back to our central source of truth within PCC. We plan to leverage Ternary's API endpoints and our IT middleware services to provide current and forecasted cloud spend to executive directors and program managers."

Reflecting on the Linux Foundation's FinOps journey, Grigar acknowledges the challenges faced. "The lack of tooling, people, and process was really a technical debt that we had to tackle and dig our way out of," he observed. "We're happy to now have the people, process, and technology in place to mature our FinOps practice." By implementing Ternary, the Linux Foundation took a significant step forward in their FinOps journey, enabling the foundation to drive operational efficiency.

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