

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades, set against a clear blue sky. Overlaid on the right side of the image are several thick, curved lines in shades of purple, pink, and cyan, with circular nodes at their intersections, creating a network-like graphic.

**WHITE PAPER**

***Kumorai***

***– The world's first No-Code IaD  
(Infrastructure as Design) SaaS  
Platform***

**Simplify Multi-Cloud Infrastructure Management**

With technological advancements and the emphasis on digital transformation, enterprises are aggressively turning to public cloud services. Cloud infrastructure brings many benefits to enterprises, such as accessibility, high speed, quick deployment, and cost reduction, which allows them to innovate faster and test new markets. As per the survey by Flexera, 89% of enterprises today practice the multi-cloud strategy.

However, as the cloud infrastructure grows and gets more complex, it becomes difficult for enterprises to manage and secure their cloud infrastructure. It is due to multiple factors, such as each public cloud platform being unique, existing tools not being designed to address the cloud, and IT teams lacking the necessary skill set to manage the cloud environment.

This is where Kumorai comes in to streamline multi-cloud infrastructure management by providing a unified management plane.

This article will explore some of the challenges and business impacts of multi-cloud adoption and discuss how Kumorai helps alleviate these challenges.

## **Multi-Cloud Infrastructure Management Challenges**

As the demand for Cloud consumption increases, so does the struggle for IT, especially for the network and security teams. Some of the common challenges include:

### **1. Lack of Uniformity between Cloud Vendors**

Public cloud services, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud (GCP), are different and demand specific skills and experience to deploy.

### **2. Security Misconfiguration and Shadow IT**

Since different public cloud services have different security postures, there isn't one standard security policy for all. As a result, the network and security teams struggle to set security policies separately for each cloud service, making the whole process sophisticated, thereby leading to unintentional security misconfiguration. Also, shadow IT is a significant concern for organizations where application teams consistently bypass security teams to push their changes into the cloud.



### 3. Lack of Tools

The current technologies accessible to enterprises cannot support the multi-cloud environment, resulting in inefficient operations and poor infrastructure visibility. There is no centralized inventory for a multi-cloud configuration.

### 4. Shortage of Cloud Skills

Multi-cloud requires IT operations and engineering teams to be trained in each cloud. However, the unique nature of public clouds makes it difficult to learn, eventually causing development and deployment a big hassle—data released by Cloud reach highlights that 70% of surveyed IT leaders are concerned over cloud skills shortage.

### 5. API Integration

The API of each cloud provider demands custom integration and maintenance. As a result, it increases the IT team's workload. Which then further increases the organization's operational cost (OPEX).

### 6. Requires Coding

Due to the lack of the proper tools, the IT teams are forced to do extensive coding (IAC) and maintain complex CI/CD pipelines for deploying and maintaining multi-cloud infrastructures. However, coding is difficult, especially in sophisticated multi-cloud environments resulting in non-scalable, rigid solutions that are inflexible. This is one of the primary reasons why Network and Security teams are struggling today, as they are not coders by profession and need to adapt to business demands quickly.

### Business Impact

The challenges mentioned above results in higher OPEX cost for the enterprise, further offsetting the benefits expected from Cloud adoption; some of the critical business impacts include:

- **Monetary Loss:** Taking services from multiple public cloud providers is a hefty expense to bear, but human errors and misconfiguration can make things even worse.
- **Wasted Engineering Man Hours:** The network and security teams spend significant time developing, deploying, and maintaining multi-cloud networks.



- **Business Agility:** Network and Security teams are moving too slowly according to the DevOps team, which then causes an impact on business agility, hindering the organization's capability to respond to market changes or tap into emerging opportunities.

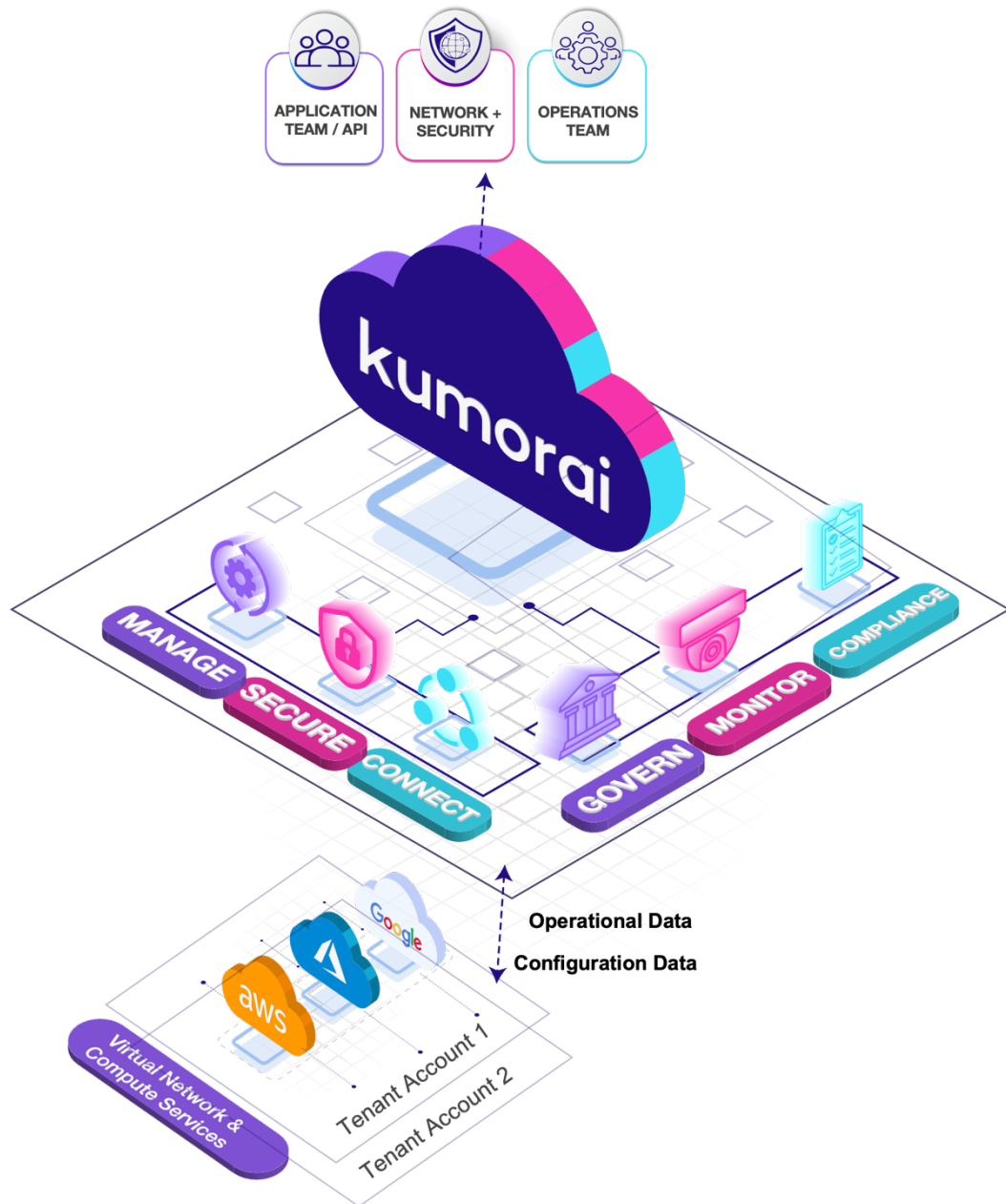
In summary, multi-cloud management challenges are real and starting to cause severe difficulties for IT leaders today. Let's look at how Kumorai multi-cloud automation platform assists with simplifying and unifying cloud infrastructure from different vendors such as AWS, Azure, GCP.

## **Kumorai – The One-Stop Solution to Simplify Multi-Cloud infrastructure management for Network, Security, and Application teams**

Kumorai is a no-code SaaS platform designed to simplify and unify multi-cloud infrastructure management. It allows IT teams to collaborate on network design, deployment, and security of applications across various cloud platforms such as AWS, Azure, and GCP.

Through its full suite of tools, Kumorai helps developers, network, and security engineers quickly build and operate consistent, standardized, multi-cloud application networks while providing a single portal to track all the changes.





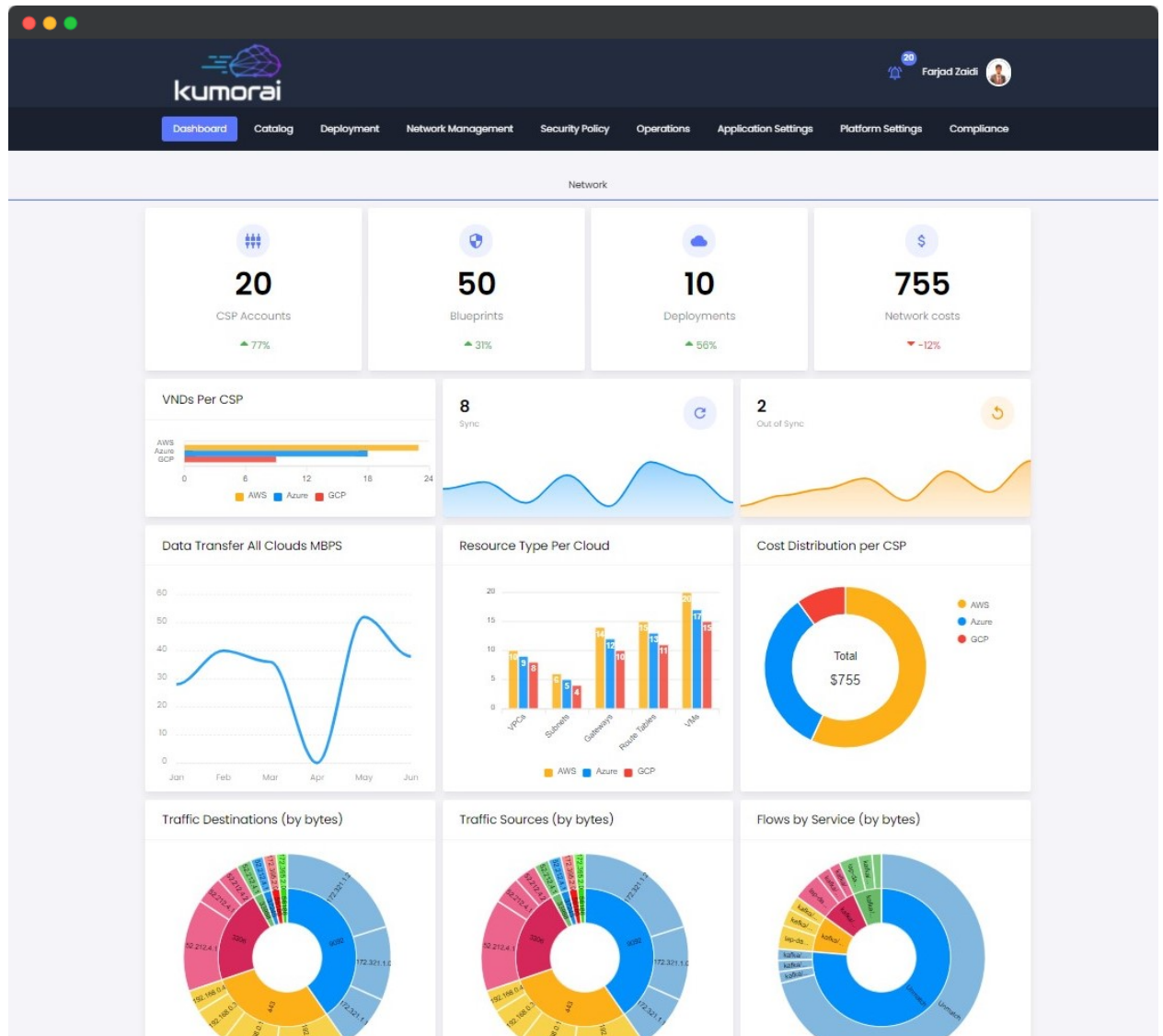
## Key Benefits with Kumorai

Kumorai addresses the challenges enterprises face with multi-cloud environments through an all-in-one SaaS platform. Some of the benefits for enterprises utilizing Kumorai are as follow:

### 1. Single Pane of Glass

Kumorai centralizes your organization's cloud infrastructure and network management into a single SaaS platform. It provides a unified portal and API to deploy and access operational and configuration data.





## 2. Reduced Deployment Time

Kumorai empowers infrastructure teams (Network and Security) to automate the deployment of secure and pre-approved application blueprints in minutes. The Kumorai marketplace also provides pre-configured application infrastructure blueprints for applications such as SAP or a generic 3 Tier app. This advanced approach enables teams to reduce deployment time by 95%.

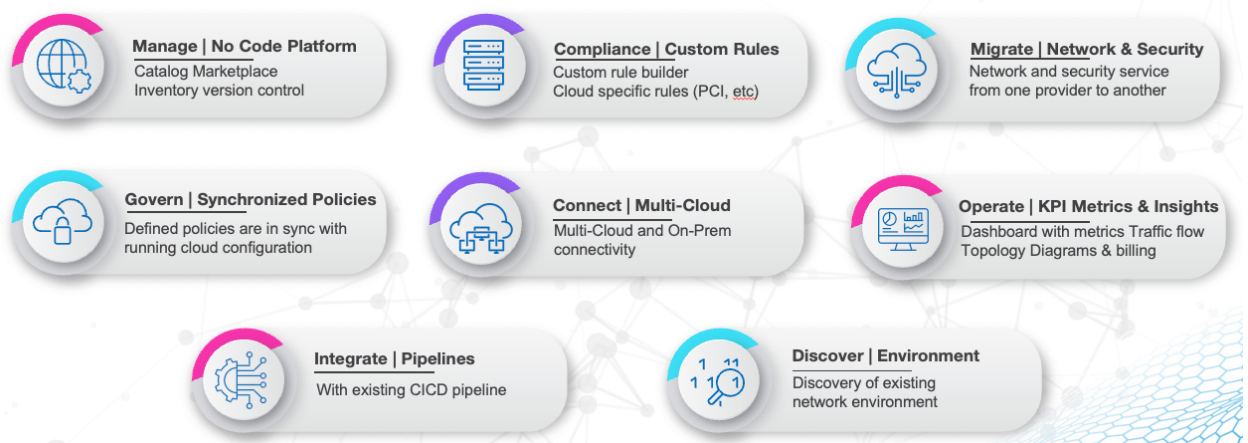
## 3. Reduced Operational Cost

Kumorai platform offers several capabilities to operations teams to proactively reduce and resolve outages, such as:

- **Multi-Cloud Inventory (CMDB):** Centralizes all cloud configuration and operational data. Users can quickly search configuration across any cloud platform through a single console or API without needing expertise in troubleshooting a specific cloud provider console.



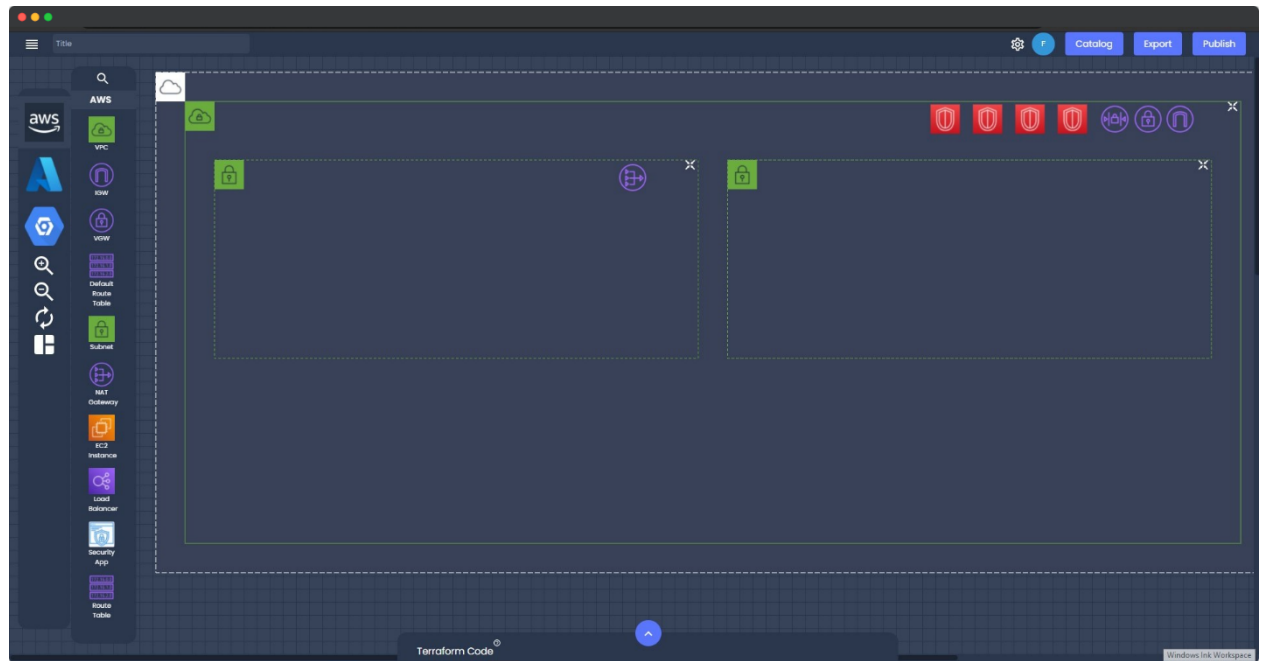
- **Version control:** Track changes to all cloud infrastructure and reverts to the previous version in case of an outage or failed change attempt
- **Backups:** Cloud configuration backups periodically and storing them in terraform code format for easy deployment
- **Automated Sync (Governance):** Actively sync with cloud accounts to ensure defined policies are in sync with the running cloud configuration. If Kumorai detects an out-of-band configuration change, it can alert the instance owner via Slack, teams, email, or text message.
- **Connectivity:** Automates connectivity across inter and intra-cloud, such as AWS to GCP or Azure to GCP. Our approach is to extend this capability to multi-vendor devices such as Palo Alto, Cisco, FortiGate, etc.
- **KPI Metrics and Insights:** Dashboard with metrics Traffic flow Topology Diagrams & billing
- **Discovery:** of existing brownfield application infrastructure, including security policies
- **Migration:** Automated cloud configuration migration from one cloud provider to another, such as AWS to Azure or GCP
- **Integration** with existing CICD pipelines such as Jenkins or Terraform



## 4. Eliminates Complex Coding Skills

Kumorai is a no-code platform offering an intelligent drag and drop designer and a guided wizard. It allows IT teams to build multi-cloud configurations without any coding knowledge quickly. We are coining this approach as Infrastructure as Design (IAD). This is a game changer, and we are the first ones in the market with this innovation. It can help teams with no coding skills to design topology and generate Terraform code, further accelerating business agility while reducing cost.





## 5. Centralized Multi-Cloud Security

Kumorai has taken a unique approach to multi-cloud security and has created a universal Application Security Blueprint, it simply abstracts the application security policy from the cloud platform. Regardless of which cloud platform the application resides on, the security policy moves with it. And it doesn't stop there before these policies are applied, they go through compliance rule validation and approval process, which makes it harder for the wrong policy to make it into the cloud.

To summarize, Cloud adoption is accelerating at an unprecedented rate and IT teams are not ready to tackle this shift. It is increasing cost for the business and impacting business agility.

Kumorai is an intelligent No-Code, SaaS platform designed to simplify and unify multi-cloud infrastructure management. It abstracts coding, multi-cloud management, security, and governance and provides an easy-to-use SaaS platform. Please visit [Kumora.io](https://kumora.io) today to learn more.

