

Akhilshwar Reddy Aendapally

Principal Architect

Cloud Infrastructure & Developer Platforms

Phone: 315-796-8392

Email: mailtheakhil@gmail.com



PROFESSIONAL SUMMARY

Strategic technology leader and Principal Architect with deep expertise in platform strategy, developer platforms, distributed systems and large-scale cloud infrastructure. Focused on translating complex business, regulatory, and engineering challenges into scalable, governance-aware platforms that improve productivity, reliability, security, and cost efficiency.

Trusted advisor to executive and engineering leadership, with a strong track record of driving enterprise platform transformations, influencing investment decisions, and mentoring high-performing technical teams.

Actively pursuing doctoral research focused on AI-driven developer platforms, autonomous infrastructure systems, and governance-aware automation.

PROFESSIONAL EXPERIENCE

Bloomberg LP, New York, NY.

Nov 2023 – Present

Title: Principal Architect, CTO Office

Public Cloud – Compute, Platforms and Services

As a Principal Architect in the CTO Office, I **own and drive the strategy and roadmap for Public Cloud Infrastructure and Platform Engineering**, with a focus on scalability, reliability, operational efficiency, and cost effectiveness. I **define architectural frameworks** that enable seamless deployment and management of cloud resources, delivering a streamlined and scalable developer experience. My **work centers on fostering innovation, optimizing platform performance, and enabling development teams to build, deploy, and scale applications effectively**.

- Designing and driving the evolution of **autonomous, policy-aware infrastructure systems using large language models, reinforcement learning, and AI-driven infrastructure automation with closed-loop feedback**. Actively implementing core concepts—such as intent-to-infrastructure translation, governance-embedded IaC generation, and self-optimizing infrastructure loops—both as part of my work in Bloomberg's CTO Office and through independent projects. This work aims to enable a next-generation developer platform where infrastructure builds, governs, and evolves itself based on application intent, compliance requirements, and real-time telemetry.
- **Authored and socialized** comprehensive design and vision documents addressing developer challenges in cloud resource management. **Introduced and championed a shift-left SDLC model** for Terraform module development, transitioning from HCL-based modules to CDK-based modules, and **established robust guardrails and controls**, securing executive alignment for the creation of a self-service platform.
- **Owned the strategy and roadmap for a self-service cloud platform** powered by APIs and Argo Workflows, simplifying and automating cloud resource management across AWS, Azure, and Google Cloud Platform. This platform enabled application-centric infrastructure requests, **driving a 30% improvement in developer productivity** by reducing approval wait times and a **27% reduction in operational overhead** for the cloud engineering team.
- **Defined and operationalized KPIs and OKRs for public cloud infrastructure and developer platforms**, aligning platform strategy with business outcomes across developer productivity, reliability, security posture, cost efficiency, and operational scalability. Established measurement frameworks and executive reporting to track progress, inform investment decisions, and drive continuous platform improvement.
- **Defined and drove a unified multi-cloud infrastructure and platform strategy across AWS, Azure, and GCP**, integrating foundational infrastructure, platform services, and cloud security governance. Standardized core infrastructure and platform primitives to support scalable application deployment, operational consistency, and developer productivity, while embedding continuous posture management and policy enforcement using CNAAP (WIZ) to improve risk visibility, misconfiguration detection, and compliance alignment across environments.

- **Identified and addressed systemic gaps** in Terraform-based resource deployments by analyzing cost and usage data to uncover unused resources embedded in standard modules. Directed a comprehensive cleanup initiative that improved the security posture and **delivered ~\$200K in monthly cloud cost savings**.
- **Led and influenced strategic engagements** with cloud service provider teams, analyzing Bloomberg's cloud utilization and spending patterns. Secured commitment-based discounts, resulting in a **35% reduction in overall cloud costs**, while aligning long-term capacity planning with business growth.
- **Partnered strategically with Data Platform and AI teams to shape AI/ML infrastructure** and operations strategy. Delivered a Gateway Kubernetes cluster for the Envoy AI Gateway, acting as a secure proxy for third-party LLM calls.
- **Established a learning series**, "Friday Frameworks: Mastering Systems Together," to **mentor and upskill public cloud engineers** on system design frameworks and platform engineering best practices.

Amazon Web Services, New York, NY.

Apr 2019 – Nov 2023

**Title: World-Wide Sr. Solutions Architect,
Advertising and Marketing Technology.**

As a World-Wide Sr. Solutions Architect, Specializing in Advertising and Marketing technology, responsible to have deep understanding on the current workloads and the new trends or innovations in Advertising industry and provide strategic direction to the AdTech customers across the globe on AWS. I understand the customer challenges and look for similar patterns across the industry and define technical solutions to solve those challenges.

- Crafted influential **strategic vision documents highlighting customer pain points and industry patterns**, driving **executive buy-in for investment in service development** at Amazon; These documents encompass comprehensive business cases, including the evaluation of potential customers and the assessment of the opportunity size.
- Authored **5 strategy documents** which include, **AWS Cleanrooms**, **AWS Entity Resolution**, **[S3 Existing object replication](#)**, **Provisioned NAT Gateway for AdTech (80% cheaper private offering)** and **AdTech Private Network (currently in beta)**. 2 more services in works to **be announced at AWS re: Invent'2023**.
- I play a pivotal role in **socializing the approved new services** with customers. This involves **engaging in meaningful discussions and gathering feedback to ensure alignment** with customer needs. **Define service beta requirements and drive adoption** among customers, ensuring a **seamless transition** to the new offerings.
- Architected **ML Pipeline and inference at scale** for brand and product insertion for CTV which lead to **74% faster video analysis** and **reduced manual interference by 40%**. [Blog with TripleLift](#).
- Built a **Real Time Bidding platform (RTB) which demonstrates best practices** to improve performance of RTB applications on AWS. As part of the benchmarking, the solution was able to **process 2 million bid requests per second** and **costed \$76 to process 1 billion requests, reduced latency by 93% and enhanced performance by 57%**. [Open source GitHub Repo](#).
- Spearheaded the **ideation and execution of a game-changing service** in partnership with AWS Product teams, resulting in an outstanding **55% reduction in compute utilization and Data Transfer costs**, revolutionizing the AdTech industry to thrive in a cost-efficient and environmentally sustainable cloud environment. Led a POC with 2 Demand Side (DSP) and 3 Supply Side/Exchanges (SSP) Platforms where DSPs were able **reduced Data Transfer costs up to 95% and 15% increase in revenue** for SSPs. [Blog with Sharethrough & Storygize](#).
- Architected **solutions to achieve <10ms latency** to meet the B2B SLA agreement using AWS OutPosts for contextual analysis workload – [Blog with GumGum Varsity](#).
- [CloudWatch Internet Monitor](#)
- **3X AWS re:Invent speaker**. [YouTube Video](#).
- Led **Technical Field Community (TFC) for Advertising and Marketing (AMT) on a global scale** within AWS providing weekly education sessions on AdTech use cases. **Mentored and guided 15 Solutions Architects** to become Area of Depth members in AMT TFC, contributing to their professional growth and promotions within their roles.
- Specialist in **Container & Networking TFC**, mentored Solutions Architects and helped customers with **Kubernetes networking** best practices.

Amazon Web Services, New York, NY.

Title: Sr. Solutions Architect,

Digital Native Business (Cloud Native).

Guided Enterprise and Digital Native Business clients in implementing AWS cloud solutions, utilizing AWS well-architected pillars to achieve operational excellence, cost optimization, and sustainability goals, resulting in tangible business benefits such as reduced operational costs, increased scalability, and improved resource utilization.

- Developed an opportunity identification document with customer challenge and business opportunity which influenced the Amazon S3 service team to build a feature for replicating existing S3 objects. Authored and published an impactful AWS blog, highlighting the unique approach and immense scalability of the solution, which has directly contributed to the replication of an unprecedented 44,000 petabytes of existing S3 objects, resulting in \$500M+ in AWS revenue as of July 2021. [AWS Blog.](#)
- Led architectural enhancements for a stock photography platform, optimizing content delivery pipeline through migration from Akamai to AWS CloudFront. Replaced NGINX reverse proxy fleet with inbuilt CloudFront capability, migrated from self-managed video transcoding & image resizing instances to AWS Elemental MediaConvert and Lambda at Edge, resulting in a 4X faster image resizing and 60% cost reduction.
- Led the migration of IBM BigFix to AWS Systems Manager and EC2 Image builder for patch management, AMI hardening.
- Worked with the AWS SSO service team to build APIs for new account assignments which automate multi-account access using SSO Permission sets. [AWS Blog.](#)
- Enabled major AdTech customers to successfully achieve long-term infrastructure roadmap, implementing various migrations and optimizations throughout the year. This included transitioning to new generation EC2 instances, adopting managed services like Aurora and Redis cache, leveraging 100% SPOT instances for compute, migrating DNS to Route53, enhancing security posture with Config, SecurityHub, and GuardDuty, and facilitated the adoption of a DevSecOps model. As a result, 19 core applications were modernized, security postured was enhanced, and operational cost and overhead were minimized.
- Systematized Architecture Discovery Plan for baselining customer cloud footprint which helped AWS sales teams (Solutions Architects) to understand how the customers are operating on AWS, identify gaps and act on fixing the issues. The initiative led to optimizing existing workloads and bringing in new workloads to AWS, which increased the revenue by 18% on average across 27 customers.

Slalom Consulting, New York, NY.

Jun 2018 – Apr 2019

Title: Solutions Architect

Client: NBCU – Data Governance Project

Led NBCU Data Governance team of 12 cloud engineers to migrate data warehouse workload from on premises to Microsoft Azure, establishing a modern data platform with data ingestion to Azure, ETL using Talend, and storage of curated data on Azure Data Lake Store and Snowflake.

- Successfully deployed the Talend ETL pipeline on Azure, integrated with GitHub for source control, Jenkins for automated builds and Azure Container Registry (ACR). Leveraged Azure Logic App, Automation, and Azure Kubernetes Service (AKS) to enable event-based architecture for running jobs based on new image events in ACR which **Optimized the data pipeline performance by 43% and reduced cost by 39%.**
- Established and led the Cloud Center of Excellence (CCoE) team, resulting in **30% cost savings** through resource optimization across **25 Azure subscriptions** and helped stabilize NBCU's Azure infrastructure from security vulnerabilities by implemented security measures for both Azure and on-premises systems.
- Architected **container networking for hybrid, multi-tenant and multi-regional Kubernetes deployments** using Istio and Cilium/Calico. Managed **160+ Clusters with 6600 Nodes, 5400 Namespaces, 62000 Pods and 1300 deployments per day** across **4 business units, 30 business segments** and **1200+ developers** using Kubernetes.
- **Implemented CI/CD model** using GitHub, Jenkins, Ansible, Terraform, ARM Templates.
- Architected end-to-end hybrid connectivity model involving **multi-cloud and on-premises deployments using SD-WAN and cloud native networking services.**

Attunix Corporation, Bellevue, WA.

Mar 2016 – Jun 2018

Title: Enterprise Cloud Solution Consultant/Architect.

As an Enterprise Cloud Solutions Consultant/Architect at Attunix Corporation, my focus was on delivering business solutions using Microsoft Azure Technologies. designed, developed, and **migrated 32 customers to Windows Azure.**

I was responsible for planning and implementing cloud migrations, disaster recovery, and backup solutions using Azure site recovery and backup services leveraging automation tools like PowerShell, PowerShell DSC, Azure CLI, and Azure Resource Manager Templates and **reduced the deployment time by 76%.**

Actively participated in pre-sales activities, gathering high-level requirements from clients, addressing concerns, and offering alternative solutions to facilitate a smooth transition to the cloud. collaborated with customers and executive management to analyze business needs, define Cloud/Hybrid products, roadmap, draft Statement of Work, and ensure successful project onboarding. Completed projects worth **\$8M in revenue** in a year.

Infosys Limited, Sammamish, WA.

Dec 2015 – Mar 2016

Title: Technology Analyst.

Collaborating with Microsoft as part of the New Generation Volume Licensing (NGVL) team, primarily focused on **migrating the Microsoft NGVL infrastructure consisting of 15,000 virtual machines hosted on Hyper-V to Windows Azure.** Responsibilities included network configuration, VM deployment, scaling, connectivity setup, identity management, database configuration, automation, backups, storage management, and application deployment, with an emphasis on security, monitoring, and alerting using Microsoft Operations Management Suite.

State University of New York, Utica, NY.

Aug 2014 – Dec 2016

Title: Graduate Student/Assistant (IT services).

Responsible for system administration tasks, system configurations, installations, and maintenance for academic labs, wireless access points, and library systems, while providing support for network-related issues and assisting undergraduate students in network lab modules.

Mindtree Ltd. Hyderabad, India.

Jun 2013 - Aug 2014

Title: Technical Specialist.

Client: Microsoft (Offshore Development Center).

Managed Windows Azure Offshore Development center and leading the Windows Azure Site Health Team of 40 Engineers responsible for maintaining the health state of clusters, tracking server statuses, collaborating with vendors and resolver groups, optimizing shift productivity, and automating processes to reduce errors in a critical production environment.

Sri Harsha IT Services, Hyderabad, India.

Jan 2012 - Jun 2013

Title: Server Support Engineer.

Managed remote and local infrastructure for SHPL as a Server Support Specialist, overseeing Microsoft Windows Server environment, network infrastructure, AD infrastructure, group policy management, server administration, backup management, and ILO configuration. Additionally, handled system deployment, monitoring, troubleshooting, and infrastructure management for many hosts and virtual machines, including planning and implementing virtual infrastructure projects, troubleshooting VMware and Hyper-V infrastructure, and resolving day-to-day issues.

EDUCATION:

Doctor of Philosophy (PhD), Computer Science – In Progress

Research focus: AI-Driven Developer Platforms, Platform Engineering, and Infrastructure Automation

Master of Science (Network and Computer Security) – State University of New York, Utica, NY.

Bachelor of Technology (Electronics and Communication Engineering) – JNTU-Hyderabad, India.