PRADEEP THANKAPPAN

Principal Architect

OBJECTIVE

Principal Architect skilled in designing scalable cloud solutions and Microservices on AWS, Azure and GCP. Expert in driving automation and middleware development to enhance business operations. Focused on delivering innovative technology strategies for enterprise success.

CONTACT

+91 -8056286774

pradeep.thankappan@gmail.com

Bengaluru, India

EDUCATION

BTech Bio-medical Engineering (1993-1997)

CORE COMPETENCIES

Enterprise Cloud Strategy

Scalable System Architecture

End-to-End Solution Design

Cross-Platform Integration

Business Process Modeling & Automation

Multi-Cloud Deployment & Management

API Lifecycle Management

Security Architecture & Compliance

Container Orchestration & Management

High Availability & Disaster Recovery

Performance Engineering & Optimization

Team Leadership & Technical Mentorship

Stakeholder Engagement & Communication

Innovation & Technology Roadmapping

CERTIFICATIONS

- GCP Certified Cloud Architect – Professional (2020)
- AWS Certified Solutions Architect – Professional (2018)
- AWS Certified Solutions Architect – Associate (2017)
- PMP-Project Management Professional (2008)
- CSQA – Certified Software Quality Analyst (2007)

PROFILE SUMMARY

- Accomplished **Principal Technology Architect with 27+ years of pioneering scalable**, high-performance cloud-native solutions across AWS, Azure, GCP, and hybrid environments, driving digital transformation for Fortune 500 clients.
- Expert in **architecting Enterprise microservices ecosystems**, leveraging container orchestration technologies (ECS, EKS, Kubernetes).
- Spearheaded complex platform transformations, including evolving monolithic Health Intelligence Platforms into **AI-powered microservices architectures**, enhancing functionality through Retrieval Augmented Generation (**RAG**) modules.
- Visionary leader in **designing enterprise middleware and workflow automation frameworks**, to enable seamless business process orchestration and cross-system integration.
- Proven track record in **designing secure, scalable API ecosystems with API gateways** (Tyk, Apigee) and resilient microservice communication models that ensure high availability and fault tolerance.
- Distinguished contributor to multimedia and telecom domains, architecting innovative solutions such as **Infosys Media Platform and interactive TV automation** tools that drive operational efficiency and elevate user experience.
- Thought leader guiding cross-functional, global teams through complex technical challenges, enforcing **architectural governance, software quality standards**, and fostering innovation across diverse industries including healthcare, media, and telecommunications.
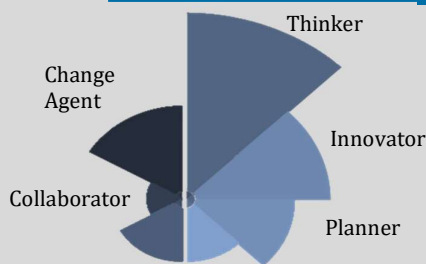
TECHNICAL SKILLS

- **Programming Languages**: Java, C++, C, UNIX scripts, Android (Java)
- **Frameworks & Libraries**: Spring Boot, Hibernate, Maven, Gradle, JPA, Apache CXF, OCR (Tesseract), Sikuli, TestNG, JBehave, QTP, Fitness, Gremlin Query Language
- **Cloud Platforms & Services**: AWS (EC2, ECS, EKS), Google Cloud Platform (App Engine, Compute Engine, Cloud Build, KMS), Kubernetes, Docker
- **Middleware & Integration**: Camunda BPM, Mirth, ActiveMQ, RESTful Web Services, SOAP Web Services, Apache Kafka (implied via middleware expertise)
- **API & Gateway Technologies**: Zuul, Eureka, Ribbon, Tyk Gateway, Apigee Gateway
- **Databases**: Oracle, MongoDB, MySQ, PostGres, JanusGraph (GraphDB)
- **DevOps & CI/CD:** Jenkins, Google Cloud Build, Docker, Kubernetes
- **Microservices & Architecture**: Microservices design and implementation, Service orchestration, Distributed system automation
- **Testing & Automation Tools**: Selenium, Sikuli, QTP, TestNG, JUnit, JBehave, VBScript
- **Others**: Swagger, Zuul, Eureka, Hystrix, LDAP, SMTP, Splunk, Jasper Reports, ActiveMQ, VBScript, PSOS

Responsibilities

- Designed and implemented scalable enhancements in Azure Functions and Mirth Connect for Digital House, enabling robust auto-scaling capabilities to **efficiently process up to 600 transactions per hour.**
- **Led enterprise AI architecture strategy** through seamless integration of advanced AI-driven modules—including **Retrieval Augmented Generation (RAG)** engines, OCR technologies (DocTR, Form Recognizer), and language models—establishing architectural blueprints and integration patterns for clinical and operational workflows across the enterprise ecosystem.
- **Spearheaded strategic architectural transformation** from monolithic systems to cloud-native microservices architectures, designing enterprise architectural frameworks and governance models while incorporating custom workflow engines with cross-platform adaptability for both cloud and on-premises environments..

PERSONAL DETAILS 🪪

Date of Birth: 1-Jan-1975
Languages: English, Hindi, Malayalam
Address: Seeganahalli, Whitefield
Bengaluru – 560067
Karnataka

- Enhanced **automation framework for end-to-end testing** and stringent patient data validation within healthcare platforms, ensuring regulatory compliance and data integrity.
- **Established enterprise observability architecture** with sophisticated health monitoring and telemetry systems across Azure services, Kubernetes clusters, Postgres, and Cosmos DB leveraging Kusto queries and Application Insights, creating architectural blueprints for proactive system diagnostics and enterprise-wide monitoring strategies.
- **Designed cross-cloud enterprise architecture** for media metadata and recommendation platforms by architecting integration patterns across AWS, GCP, and Azure services, complemented by strategic deployment of Camunda BPM workflow engines for optimized process orchestration and enterprise workflow governance..
- Directed design reviews and standardized architectural frameworks for multi-cloud environments **including AWS, GCP, OCI, VMware, and SDDC**, while providing expert consultancy to clients on IT transformation strategies and elevating team capabilities through skill development and cross-skilling initiatives.

💼 WORK EXPERIENCE

Employee- Genzeon Pvt Ltd
Principal Architect – **Sharecare** (Digital House) | **Mar 2024 – Present**
Principal Architect – **Genzeon** (Health Intelligence Platform) | **Mar 2023 – Feb 2024**

Employee- Infosys Technologies Ltd
Senior Technologist – **Infosys** (Infosys Helix) | **Dec 2021 – Feb 2023**
Senior Technology Architect – **Bell Canada** (New Program Fund) | **Jun 2021 – Nov 2021**
Senior Technology Architect – **Warner Brothers** (APO & Media Platform) | **Oct 2018 – May 2021**
Senior Technology Architect – **Altice** (MVNO, OrderEntry) | **Jun 2017 – Sep 2018**
Senior Technology Architect – **Comcast (**TQM Automation**) | Jan 2014 – May 2017**
Senior Technology Architect – **Comcast (**Service Provisioning/VOD **) | Jan 2012 – Dec 2013**
Senior Technology Architect – **Cablevision (**Field Services**) | Jan 2011 – Dec 2012**
Technology Architect - Infosys (Flypp for TV) | **Nov 2008 – Dec 2010**
Development Lead – **Comcast (**Video Search/rDVR**) | Jan 2007 – Oct 2008**
Development Lead– Verizon (SSP/Retail Express**) | May 2003 – Dec 2006**
Developer– Nortel (ERM/Service Analytics Platform**) | Nov 1997 – Apr 2002**

ANNEXURE

💼 PROJECTS

Digital House (Sharecare) \| Duration**: Mar 2024 – Present**
Employee: Genzeon Pvt Ltd
Cloud: Azure → AWS
Role: Principal Architect
Tech Stack: Java, Spring Boot, Azure Functions, Elasticsearch, Mirth, EventGrid, Postgres, GitHub, Application Insights
Highlights:

- Redesigned Azure Function architecture, increasing EMR processing throughput from 240 to 600 transactions/hour by shifting from timer-based to event-driven triggers.
- Optimized Mirth Connect system for horizontal and vertical scaling; re-engineered channels for improved performance and resource utilization. Developed reusable ElasticSearch library used across Digital House modules.
- Spearheaded migration of system from Azure to Sharecare's private AWS cloud.
- Designed automation and end-to-end testing strategy including mixed patient validation.
- Provided architectural leadership for features like Vendor Throttling, Async OneRecord, Bi-directional EPIC integration.
- Involved in DR strategy, performance tuning, and data analysis for production issues.

Health Intelligence Platform (Genzeon) | Duration**: Mar 2023 – Feb 2024**
Employee: Genzeon Pvt Ltd
Cloud: Azure
Role: Principal Architect
Tech Stack: Python, Postgres, DocTR, Form Recognizer, Azure App Insights
Highlights:

- Transformed monolithic HIP platform into enterprise grade microservices architecture: BFF, domain services, custom workflow engine.
- Enabled multi-tenant support (Noridian – on-prem, SlicedHealth – Azure).
- Integrated AI modules including Retrieval-Augmented Generation (RAG) into workflows.
- Developed deployment-agnostic framework for cloud and on-prem support.

Infosys Helix (Infosys) | Duration: Dec 2021 – Feb 2023
Employee: Infosys Technologies Ltd
Cloud: Azure
Role: Senior Technologist
Tech Stack: Java, Spring Boot, Kusto Queries, Kubernetes, Postgres, Azure KeyVault, Application Insights
Highlights:

- Core contributor to Infosys Live Enterprise Platform (LEP) supporting Infosys Helix healthcare SaaS.
- Led NSA (Nordstorm Architecture) integration team.
- Implemented platform health monitoring using Azure Kusto queries and App Insights.
- Designed secure key storage via Azure KeyVault and enforced DB encryption.
- Refactored monolithic schema to star schema/micro-DBs for performance.

New Program Fund (Bell Canada) | Duration: Jun 2021 – Nov 2021
Employee: Infosys Technologies Ltd
Cloud: AWS
Role: Senior Architect
Tech Stack: Java, Spring Boot, Oracle, Hibernate
Highlights:

- Designed budgeting module managing accounts and transactions.
- Developed reusable framework components for budgeting and reporting.

Accelerated Pre-Orders (Warner Brothers) | Duration: Oct 2018 – May 2021
Employee: Infosys Technologies Ltd
Cloud: AWS, GCP
Role: Senior Technology Architect
Tech Stack: Java, Spring Boot, Camunda, Kubernetes, MongoDB, JanusGraph, AWS Rekognition, GCP Video Intelligence
Highlights:

- Architected Enterprise Infosys Media Platform supporting APO metadata flow and media analysis.
- Integrated AI for media recognition and automated content tagging using AWS/GCP tools.
- Deployed cross-cloud Camunda workflows; implemented delegate/sub-processes.
- Administered EC2 instances and managed full deployment lifecycle.

Project Name MVNO EDP Customer API (Altice) May 2018 – Sep 2018
Employee: Infosys Technologies Ltd
Cloud: GCP
Role: Senior Technology Architect
Tech Stack: Java, Spring Boot, GCP, Tyk Gateway, Google App Engine, Cloud Build
Highlights:

- Built REST APIs for customer/account retrieval.
- Set up Tyk API Gateway on GCE; managed secure deployments via Cloud Build and KMS.

Direct Sales Automation (Altice) | Duration: Nov 2017 – Apr 2018
Employee: Infosys Technologies Ltd
Role: Senior Technology Architect
Tech Stack: Java, Spring, Hibernate, Apache CXF, Oracle
Highlights:

- Architected middleware server integrating with CVT, LDAP, OAL, and payment systems.
- Streamlined order processing and eliminated manual data entry for DSRs.

Project Name Altice Order entry (Altice) Jun 2017 – Oct 2017
Employee: Infosys Technologies Ltd
Role**: Senior Technology Architect**
Tech Stack**: Java, AngularJS, Spring Boot, Eureka, Zuul, Ribbon, Camunda**
Highlights**:**

- Designed and reviewed modules for optimum.net and backend middleware.
- Built order flow test framework and implemented domain-specific microservices.

Project: TQM Automation Client: **Comcast |** Duration: **Jan 2014 – May 2017**
Employee: Infosys Technologies Ltd
Role: *Automation Architect*
Technology Stack: **Java, Splunk, Selenium, Sikuli, TestNG, QTP, FitNesse, JBehave, FFMPEG, Jenkins, VBScript**
Key Contributions:

- Spearheaded the **design and evolution of automation frameworks** across multiple Comcast TQM video portfolios: **Next-gen X1/RDK STB**, **Legacy STBs**, **Video Platforms**, and **COMPASS systems**.
- Architected Jenkins-driven CI automation using **eCATS** integrating SNMP, TR-069 monitoring, OCR (Tesseract), log parsing, and distributed execution.
- Implemented **TestNG/QTP/Selenium** based test suites for DAC, DNCS, CASMR, DTACS, and encoder devices; developed video quality validation using **Sentry** and built custom reporting tools with **JasperReports**.
- Automated non-standard test scenarios like **audio presence verification**, **language recognition**, and **surround sound validation** using image/audio analysis.
- Designed and developed the **One-Touch Distributed DAC Automation Execution Platform**, enabling remote regression execution with centralized dashboards, Jenkins triggers, and VBScript-QTP integration.
- Maintained and extended automation for legacy Motorola/Cisco STBs and COMPASS systems (UDB, MMS, CEMP), using **Selenium, Sikuli, JBehave**, and custom tools like **PAID Checker** and **A7CV**.

Project: VOD Automation Test Framework (ATF) Client: **Comcast |** Duration: **Apr 2013 – Dec 2013**
Employee: Infosys Technologies Ltd
Role: *Senior Technology Architect*
Technology Stack: **Java, Spring, JBehave, JUnit, MySQL, Splunk**
Key Contributions:

- Contributed to **enhancement of ATF** for Comcast's NGVCP (Next Gen Video Control Plane), a BPM-based orchestration system for VOD session setups.
- Integrated automation modules with complex backend systems including **CEMP, UDB, MANSER**, and built simulators for system testing. Analyzed platform-level defects and extended **JUnit/JBehave** frameworks for behavioral testing.
- Led **code reviews and test framework optimization**, while managing technical communication with stakeholders for smooth integration cycles.

Project: Internet Service Provisioning Platform Client: **Comcast |** Duration: **Jul 2012 – Mar 2013**
Employee: Infosys Technologies Ltd
Role: *Technical Architect*
Technology Stack: **J2EE, Spring, MySQL, ActiveMQ**
Key Contributions:

- Designed and architected a **middleware provisioning platform** to activate Comcast email services by interfacing with **Zimbra, LDAP**, and other systems.
- Created a **layered architecture** with business handlers, retry scheduling (via ActiveMQ), and integration workflows for fault tolerance.
- Authored **performance testing scripts** and developed the performance test **strategy** to ensure SLA compliance under load.

Project: Field Services Mobility Client: **Cablevision |** Duration: **Jan 2011 – Jun 2012**
Employee: Infosys Technologies Ltd
Role: *Technical Architect and Development Lead*
Technology Stack: **Android, XML, Web Services, Oracle, JasperReports, Ehcache**
Key Contributions:

- Architected and led development of an **Android-based mobile field services app** for technicians, streamlining work order processing, payment capture, inventory tracking, and digital signatures.
- Engineered **middleware integration** between the app and MSO backend systems, including reporting and operational modules for supervisors.
- Resolved complex **performance bottlenecks** in image capture, caching, and network calls through profiling and optimization of mobile and server layers.
- Designed and implemented **batch archival and reporting subsystems** leveraging **JasperReports** and **Ehcache**.

Project: Flypp for TV Platform Client: **Infosys |** Duration: **Jun 2009 – Dec 2010**
Employee: Infosys Technologies Ltd
Role: *Technical Architect & Development Lead*
Technology Stack: **OCAP 1.0, EBIF (TVWorks), Java, Servlets, XML, Web Services, Oracle**
Key Contributions:

- Architected and engineered the **Flypp TV platform**, a multi-device middleware system enabling deployment of interactive applications across **OCAP**, **EBIF**, **IPTV**, and **mobile environments**.
- Designed the **core platform architecture**, orchestrating modular integration for services including communication (email, voicemail), care (bill payment), shopping (hot deals, coupons), and media sharing (video, photo, audio).
- Defined **product requirements**, created **UI wireframes**, and provided **UX consultation** for the initial launch interface.
- Oversaw **end-to-end delivery** of the OCAP/EBIF modules, managing cross-functional teams and tracking deliverables against tight product timelines.

Project: Interactive TV Application Test Automation Platform Client: **Infosys |** Duration: **Nov 2008 – May 2009**
Employee: Infosys Technologies Ltd
Role: *Technical Architect & Development Lead*
Technology Stack: **Java, AWT, XML**
Key Contributions:

- Conceptualized and built a **test automation framework** for end-to-end testing of interactive TV and video applications across **multiple STB (Set-Top Box) platforms**.
- Engineered the solution for **high configurability**, enabling support for diverse guide versions and execution of test scenarios via simple XML-based configuration changes. Led the team through the full **product lifecycle**—from requirement analysis and solution architecture to hands-on development and delivery.

Project: Video Search and Remote DVR (rDVR) Client: **Comcast |** Duration: **Jan 2007 – Oct 2008**
Employee: Infosys Technologies Ltd
Role: *Automation Lead*
Technology Stack: **Java, J2EE, JDBC, UNIX Shell Scripting**
Key Contributions:

- Managed **test automation and deployment pipelines** for Comcast's **Video Search & Discovery** platform and **Remote DVR (rDVR)** solution. Enabled users to remotely schedule/manage DVR recordings and facilitated **content discovery workflows** to drive adoption of Pay-Per-View and premium content.
- Maintained and supported **integration environments**, liaised with development and QA teams, and coordinated with customer stakeholders to ensure test readiness and stable deployments.

Project: Strategic Service Platform (SSP) Client: **Verizon |** Duration: **Jan 2004 – Dec 2006**
Employee: Infosys Technologies Ltd
Role: *Development Lead*
Technology Stack: **J2EE, Java, EJB, Servlets, JSP, CORBA, XML, XSL**
Key Contributions:

- Led the **Business Services module** for SSP, a next-gen OSS platform managing broadband, website, domain, and enterprise email offerings for a leading U.S. telecom provider.
- Translated **business and technical requirements** into scalable architecture and implemented high-volume transactional flows for provisioning and order management.
- Orchestrated **design, development, unit/integration testing**, and production rollout of multiple enhancements while managing **cross-team coordination** and customer communications. Ensured **adherence to architectural standards**, maintained SLAs, and contributed to the evolution of core OSS capabilities within the enterprise.

Project: Retail Express Client: Verizon | **Duration:** May 2003 – Dec 2003
Employee: **Infosys Technologies Ltd**
Role: *Developer Lead*
Technology Stack: Java, C++, CORBA, XML, XSL
Key Contributions:

- Spearheaded the **design, development, and deployment** of **Retail Express**, an enterprise-grade ordering system enabling broadband and communication service provisioning (DSL, ATM, Frame Relay) for a major U.S. wireline service provider.
- Engineered and integrated the core modules: **RxOrder Client**, **RxOrder Server**, and **RxFlow**, ensuring seamless orchestration between front-end order capture and backend processing.
- Directed all phases of the SDLC including **system testing**, **customer coordination**, and **project management**, ensuring on-time delivery aligned with client expectations.

Project: SuperSys – Element Management System Client: Capitel | **Duration:** May 2002 – Apr 2003
Employee: **Infosys Technologies Ltd**
Role: *Developer Lead & Technical Architect*
Technology Stack: C++, CORBA, Oracle
Key Contributions:

- Architected the complete solution framework for **SuperSys**, an **Element Management System (EMS)** supporting operations, fault management, configuration control, and security for **CDMA-2000 radio nodes**.
- Led the **design of subsystems and database schemas** across key product components—**BSS Manager**, **BSS Agent**, and **MCU Agent**.
- Conducted extensive **performance tuning and memory optimization**, ensuring real-time management and responsiveness under high-throughput conditions.

Project: Service Analytics System Client: Nortel | **Duration:** Feb 2000 – Apr 2002
Employee: **Infosys Technologies Ltd**
Role: *Module Lead*
Technology Stack: Java, J2EE, WebLogic, TopLink, JDBC, CORBA, JSP, OSSJ, XML
Key Contributions:

- Designed and implemented the **Negotiator** and **Reporting** modules for **Service Analytics**, a service-level management platform for **VPN, IP, and optical switches**.
- Optimized modules for **high performance and scalability**, addressing **memory leaks** and enhancing long-duration runtime stability.
- Played a dual role in **project management and technical delivery**, aligning stakeholder requirements with development execution.

Project: Event Record Manager (ERM) Client: Nortel | **Duration:** Jan 1999 – Jan 2000
Employee: **Infosys Technologies Ltd**
Role: *Developer*
Technology Stack: C++, RogueWave Tools.h++, Shell Scripting
Key Contributions:

- Collaborated in the **requirements analysis** and **use-case modeling** for ERM, a unified platform for managing fault, performance, and accounting data from Nortel's SDM.
- Developed core components including the **Collection Platform** and **Installation Module**, ensuring reliable data aggregation from distributed telecom nodes.
- Delivered a **web-enabled, operator-friendly interface**, simplifying event monitoring across DMS platforms.

Project: Network Applications Vehicle (NAV) Client: Nortel | **Duration:** Nov 1997 – Dec 1998
Employee: **Infosys Technologies Ltd**
Role: *Developer*
Technology Stack: C, C++, PSOS+
Key Contributions:

- Engineered the **Tokenizer System** and **T1 Service Supervisor**, forming the backbone of NAV—a **multimedia-processing and telecommunications control platform** built on an open hardware/software base.
- Programmed for **real-time telephony and signal processing**, integrating NAV with **VME-bus computing** hardware to support commercial-grade telecom applications.
- Contributed to **embedded systems development** for high-reliability, central-office deployment environments.