

PAWANKUMAR KAKANI

Director Technology - Altran

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Technical Architect | Wireless & Telecommunications | Cloud Technologies



Executive Profile

- Technical Architect with **over 18 years** of qualitative experience across telecom domain covering 5G, LTE, SIP, SS7 technologies.
- Excellent **Leadership, Ownership, Innovation, Coordination & Quality deliveries** across technology spectrum.
- Consistently** built high performance, highly scalable **Enterprise Grade** applications meeting **99.999% availability** requirements.
- Achieved high quality deliverables through **TDD/BDD** methodologies with exposure to frameworks like **Robot** and **Cucumber**.
- Key role in achieving above average customer satisfaction ratings with **Customer First** approach.
- Key Contributor to Altran's **innovation portfolio** in Test Automation and Test Environment Management framework.
- Core involvement in areas like LTE **Lawful Interception, SON, 5G AMF** and **UDR**.
- Well versed with **Deployment at Scale** using docker, kubernetes and AWS.
- Hands on expertise in areas like **Concurrent/Multithreaded** applications, **REST APIs, Microservices** architecture, CI/CD pipelines.
- Fluency in **C++/python/go** programming with keen interest and expertise in **end-to-end** system automation.
- Familiarity with **Full stack** development, Front end JS frameworks, Backend **SQL/NoSQL** databases.



Education & Credentials

- Masters in Computer Applications**, P.G. Department of Computer Science, Amravati University, Maharashtra.



Key Impact Areas

Leadership & Complete Ownership

Wireless Domain

Cloud/Virtualization Technologies

High Availability

Microservices Architecture

Enterprise Applications

Database Backends

Excellent Team Building

TDD/BDD Methodologies



Soft Skills

Effective Communicator

Team Player

Conflict Management



Organizational Experience

Since Jan'01: Aricent/Altran

Joined as a **Fresher**, **Currently Director Technology since last 3.5 years**

Role & Responsibilities:

- Liaising with Aricent Customers for Requirements Elicitation and evolving requirements specification
- Evolving product Architecture and Design in close collaboration with customers in line with requirements
- Defining the development toolchains, frameworks, COTS components and development methodology
- Prescribing work flows, collaboration tools, CI/CD pipelines
- Evolving automation strategy, product integration and deployment models
- Administering product quality, code reviews, quality metrics
- Incorporating high availability, scalability, performance, stability compliance
- Mentoring and coaching team members to groom in relevant areas
- Contributing to organizational learning and development activities



Technical Skills

TECHNOLOGIES

- 5G AMF, UDR, LTE EPC, SIP, SS7

MISCELLANEOUS

- Django, Docker, Kubernetes, AWS, NUMA Architecture

TOOLS

- Gcc, gdb, wireshark, oprofile, valgrind, netcat, iperf, tcp-replay, git, clearcase, Jenkins, vagrant, virtualbox
- C++/Python/Go
- TCP/UDP/SCTP
- ASN.1, YAML, JSON
- MySQL, Redis
- REST
- OOAD, UML



Personal Details

Languages Known: English, Hindi, Marathi

~ Refer to the **Annexure** for **Projects**.

Annexure



Projects Developed

~At Aricent:

Title	Period	Description
5G AMF and UDR development	Nov 2018 – Till date Role: Solutions Architect	Currently working on AMF and UDR NFs which are part of 5G Core network. This involved studying 5G core network architecture, understanding service-based architecture of various network functions, evaluating frameworks/coding language for the development etc. For AMF N1 and N2 interface development is ongoing. For UDR working on N35/N36 interfaces. Apart from this REST framework is being evolved to act as backbone for all service-based REST interfaces defined by 3GPP.
Test Automation and Test Environment Management (TANTEM) Framework	Nov 2017 – Oct 2018 Role: Solutions Architect	This framework provided users facility to model their test setups in TOSCA modelling, carrying out resource reservation, orchestrating deployments over openstack/vmware/aws. After deployment, this framework enables automated tests execution and reports/stats collection. This framework was part of Aricent's innovation portfolio.
Self-Optimizing Network(SON) feature for 4G LTE networks	Jan 2016 – Oct 2017 Role: Solutions Architect	This project involved implementing SON features like ANR, Energy Saving, Intercell interference coordination etc. for 4G LTE networks.
Lawful intercept for 3G/4G networks	Sep 2014 – Dec 2015 Role: Solutions Architect	This project involved intercepting 3G voice and 4G data traffic for designated IMSIs, extracting the voice AMR frames from RTP streams and enabling playback of voice calls. For 4G data sessions, it involved capturing entire data session and re-building it with XPlico tool.
SDM/OCUDR	Jul 2012 – Aug 2014 Role: Technical Lead	OCUDR platform provides a highly scalable, consolidated backend database for subscriber and profile data. It exposes its functionality through SOAP-XML and Diameter Sh interface. It can act as a generic data store for a plethora of applications in telecom domain.
Performance Intelligence Center (PIC/IXP)	Sep 2009 – Jun 2012 Role: Technical Lead	PIC/IXP is a network monitoring platform used for monitoring various network nodes in variety of networks. It provides capabilities to monitor various networks based on SS7, IP, UMTS, GPRS family of protocols. It generates XDRs from the captured data, which are then used by other applications for Billing verification, Fraud detection, Network performance/load analysis etc.
Integrated Message Feeder (xMF)	Sep 2007 – Aug 2009 Role: Technical Lead	xMF is a probing solution that captures traffic from live networks, applies filtering to capture right set of traffic, and provides this traffic to mediation entities for further analysis. xMF supports SS7 as well as IP networks with capabilities to support up to 20 Gbps of traffic utilizing multi core hardware.
Content Store for MMIM	Nov 2005 – Aug 2007 Role: Technical Lead	Content Store is a store and forward product for Next Generation Multimedia Instant Messaging solution. If mobile workstations are not available to accept messages destined to them, this product stores them and applies various policy based retry algorithms to attempt delivery.
Short Message Gateway	Jan 2005 – Oct 2005 Role: Technical Lead	Short Message Gateway is a SMS solution designed to offload the SMSC with SMS traffic generated towards SMPP networks. It achieves this by caching the addresses of SMPP entities and directly interacting with STP to capture any SMS traffic generated towards SMPP network.
Tekelec Sentinel	May 2003 – Dec 2004 Role: Senior Software Engineer	Sentinel is a flexible and scalable business intelligence platform providing facilities for signaling network surveillance, reliable data feeds and business intelligence applications. It enables this by capturing and correlating MSUs from monitored SS7 links.
Communications Convergence Engine (CCE)	Aug 2002 – April 2003 Role: Software Engineer	Communications Convergence Engine (CCE) is a broker layer on top of soft switch developed by HSS. CCE facilitates the easy plugging of new services and features on top of soft switch.
IN CS-2 features for ARM5000	Jan 2002 – Jul 2002 Role: Software Engineer	This project involved development of various IN CS-2 features for the ARM5000 switch, which is a Class 5 switch developed by Aricent.
Multi Service Switch Controller	Feb 2001 – Dec 2001 Role: Software Engineer	The project involved development of a programmable class 5 switch using programmable switching platforms.