KRISHNA KUMAR GATTUPALLI

AWS Certified Solutions Architect Associate : Validation Number 5XCBSDBKH1VQQ3W4

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TELECOMMUNICATIONS PROFESSIONAL

Detail oriented and highly adaptable Telecommunications professional with vast experience in E2E Network integration, testing, deployment Operations, & network troubleshooting of GSM/CDMA/UMTS/LTE/VoLTE/WIFI/5G Technologies.

CAREER EXPERTISE

- LTE, VoLTE, 5G, E911
- 5G ORAN IOT Testing
- 5G Platform Engineering – Design and Deployment
- Life Cycle Management
- Defect Management
- Network Management
- SDN/NFV, Open stack
- 5G CUPS/ NSA/SA
- Terraform (IaaC)
- Public Cloud (AWS,Azure)
- Root Cause Analysis

PROFESSIONAL SYNOPSIS

TECHNICAL SKILLS:

- Technical expertise with 20+ years of experience in Telecommunications portfolio with hands on experience in GSM/CDMA/UMTS/LTE/VoLTE/VoWIFI/5G technologies.
- Proven ability to manage and deliver complex projects and make sound design decisions that meet the objective requirements through direct and cross-functional teams, vendors and partners.
- Good Understanding of 5G- SA Architecture, hands on experience with 5G Nodes like gNB, AMF, SMF, and UPF with N1, N2, N3 and N4 interfaces and Validation of **5G ORAN Interoperability Testing**.
- Expert knowledge of 5G Core, key 5GC core components (AMF, SMF, UPF, UDM, AUSF, UDR, NRF, UDSF, NSSF.
- Working experience on LTE, VoLTE, WiFi, SS7 Protocols like S1AP, NAS, RRC, RLC, MAC, PDCP, GTP, UDP, SCTP, SIP & DIAMETER.
- Hands on Experience in deployment of Affirmed 5G Core on AWS platform with hybrid cloud architecture for Tech Mahindra **AWS Re-Invent 2019**
- Hands on experience on design and implementation of 4G and 5G features in Tech Mahindra Lab using AWS, OpenStack for different Customer POCs using Cisco/Affirmed/Metacore/Altiostar/HPE and many other telecom product vendors for VNF certification.
- Work with cross functional teams with multiple internal groups and network vendors to provide technical leadership regarding the 4G/5G system/call flow during planning, staging, first office operation, commercial deployment, and continued maintenance to fulfill complex business requirements.
- Good understanding and working experience on different platforms like OpenStack, AWS, AWS Out Post, Containers, Kubernetes.

LTE / 5G NF`s	eNB, MME, SPGW, PCRF, vPAS, APN DNS, OCG, HSS, TAS, AMF, UPF, gNB
Tools Knowledge	Wireshark monitoring, IXIA, Samsung LTE UE, Qualcomm LTE UE, Attenuator, GPS, QXDM, TEMs, Agilent Signal Generator and Analyzer, NetScout IRIS, JDSU packet trace
Operating System	Windows, Linux
Wireless/Telecom Protocols	5G, 4G, 3G, ISDN, PSTN, SS7, GSM (A interface, Abis interface), LTE, Wi-Fi
Protocol Knowledge	RLC, MAC, RRC, NAS, DIAMETER, PFCP, GTP, UDP, PMIP, IP, SCTP, X2AP, S1AP, SIP, SDP, RTCP, IMS

Testing Knowledge	Platform Testing, Node & Integration Testing, Feature & Functional Testing, Resiliency Testing, Geo Redundancy Testing, ORAN – Conformance / Interoperability / E2E Testing

PROFESSIONAL EXPERIENCE

Director - Technology Solutions **April 2024 - Current**

Invences Inc, Frisco, Texas

- Lead architecture and delivery of advanced telecom and cloud-native solutions focused on 5G, ORAN, private wireless networks, and enterprise digital infrastructure modernization.
- Direct product development of **Agentic AI for Telecom**, an intelligent automation framework integrating AI agents to optimize network assurance, SLA enforcement, self-healing, and RCA in 5G and cloud-native environments.
- Oversee lab architecture, system integration, and end-to-end testing for multi-vendor 5G ORAN IOT testing & deployments including Ericsson, Mavenir, Airspan, and Nokia—ensuring standards compliance and rapid onboarding.
- Design private 5G and IMS solutions with interoperability to Druid 5G Core, integrating hybrid cloud environments with secure CNF deployment models on Kubernetes using AWS, Azure, and OpenStack.
- Architect LTE/5G signaling gateways to support core interworking with ESMLC, LMF, HSS, and AMF, minimizing migration risk for carrier and enterprise deployments.
- Develop reusable and secure **Lab-as-a-Service (LaaS)** platforms for 5G Core, ORAN, and MEC validation with integrated automation pipelines (Terraform, Helm, GitOps, Jenkins) and observability stacks (Prometheus, Grafana, ELK).
- Lead customer engagement and solutioning efforts across public safety, manufacturing, utilities, and rural broadband, while coordinating with internal GTM, product, and engineering teams.
- Champion infrastructure security hardening for private cloud and edge deployments, including kernel tuning, firewall policies, compliance alignment (e.g., NIST/CISA), and container runtime isolation.

Key Achievements:

- Built and validated **Agentic AI** prototype for intelligent network operations, incorporating autonomous observability, anomaly detection, and decision-making agents into the telecom stack.
- Delivered successful 5G private network POCs using Druid 5G Core with radios from Airspan, Nokia, BTI and Ericsson, verified across signaling gateways and LMF/ESMLC interworking.
- Deployed turnkey Lab-as-a-Service platform enabling test automation and multi-domain orchestration for ORAN and 5GC validation.
- Supported migration of signaling gateway platforms from Cisco to Ericsson (SMF/UPF) for key clients, ensuring continuity and minimal disruption.

Technical Account Manager- North America **July 2023- March 2024**

Elisa Polystar, Frisco, Texas **Client: Bell, Eastlink – Canada**

Ericsson, Nokia, Viaero Wireless, US Cellular - USA

- Led the **solution design and deployment of Elisa Polystar's advanced service assurance and network analytics platform** for LTE, VoLTE (SIP), and 5G networks, leveraging **deep expertise in passive and active probe-based monitoring**.
- Worked extensively with **core and RAN probes**, ensuring accurate real-time KPIs, end-to-end call traceability, and signaling-level insights to enable precise fault localization and service performance measurement.
- Delivered **AI/ML-driven anomaly detection** solutions using Elisa's **vNOC/Automation suite**, correlating network events, subscriber QoE, and service-level issues across multi-vendor environments to enhance **Customer Experience Management (CEM)**.
- Architected **DataOps pipelines** integrating Elisa probes and external data sources into a centralized **service assurance framework**, enabling real-time dashboards, SLA tracking, and 360-degree visibility across the subscriber journey.
- Responded to RFPs and crafted tailored monitoring and automation solutions for Tier-1 and regional CSPs, covering **end-to-end service assurance lifecycle from onboarding, root-cause analysis to closed-loop automation**.
- Interfaced regularly with telecom operators' NOC and engineering teams to optimize monitoring configurations, define KPI baselines, and support **proactive service quality management**.
- Partnered with cross-functional teams including product, engineering, and sales to influence roadmap direction, integrate client feedback, and support custom use case enablement such as **inter-domain session correlation, 5G NSA/SA KPI breakdowns, and VoLTE call failure diagnostics**.
- Delivered account success via **quarterly business reviews**, upselling of new probe modules and positioning automation capabilities—driving revenue growth and stronger customer stickiness.
- Represented Elisa Polystar at **MWC Las Vegas 2024** and other strategic industry forums, showcasing innovations in **AI-based service assurance, real-time monitoring, and 5G network intelligence**, strengthening brand visibility and deepening client engagement.

Key Achievements

- **Secured $2.48M CAD** for Bell Canada's 2024 Capacity Expansion project, successfully leading to a purchase order (PO) received.
- **Closed $0.8M USD** project with US Cellular for 2024 Capacity Expansion & 5G SA deployment.
- **Delivered $1M USD** budgetary proposal for Viaero Wireless Service Assurance, focusing on a 3-year Total Cost of Ownership (TCO).
- **Developed a $0.1M USD** vNOC Proof of Concept (POC) for US Cellular, with the proposal submitted and strategic planning underway for $5M.
- **Facilitated $0.12M CAD** project for Eastlink Capacity Re-Dimensioning, achieving successful sales to service handover.
- **Managed $0.4M USD** opportunity with ANTEL in Latin America, with the project in progress (WIP).

HEAD OF LAB & TESTING ENVIRONMENT **Jan 2023-May 2023**

DISH NETWORK, Englewood, Colorado.

- Managing all the **5G Core / ORAN** test environments from local LAB, ISV labs, and Field Test Environments
- Design the plan and manage the **5G ORAN IOT (Interoperability)** testing platform with all the partners like Fujitsu, JMA, Samsung, Mavenir and Nokia. Also planned the lab availability and improvent plan.
- Process defining and implementation of change request (CR) with incident management with SNOW
- Establish 5G lab test environment blueprints and corresponding end to end configuration requirements as per the requirements of LAB testing requirements from all stake holders
- Collaborate with cross-functional teams, including AWS cloud team, Field Deployment team, PaaS team, Private Data Center team, technical SME's for various 5G project requirements
- Repurpose Lab instances by re-configuring them to meet ongoing Lab instance requests from Lab consumers and achieve operational savings by keeping high utilization rates for lab infrastructure

- Request/Requirements, Lab Entry/Exit level criteria, Lab test blueprints/configurations)
- Design and presented E2E LAB design document inclusive of technical and financial feasibilities.

5G Systems Engineer **May 2022-Jan 2023**
Glow Networks (CISCO) **Client: CISCO / T-Mobile**

- Validation and Configuration of SMF and UPF wrt to feature release and lab exit validations.
- Upgrades of SMF, UPF, CEE, SMI environments
- Troubleshooting and RCA at K8 POD level
- Define config audit process of SMF/UPF for the T-Mobile lab using Cisco NSO (network service orchestrator)
- and compare between LAB and Production config differences and generate MOP
- Define the Pre-check and Post check process for all upgrades in the LAB
- Coordination with Automation team to define and implement the Automation process for the entire LAB

Business Consultant **September-2015-May 2022**
Tech Mahindra Americas, USA. **Client: i) AT&T Labs, Redmond, WA**
Projects: ATT Consumer/FirstNet **ii) Comcast, Philadelphia**

1. **ATT LAB`s – Redmond,Atlanta,Warrenville and Dallas**
2. **ATT – 5G CUPS (option-3x)/ SA (option 2)**
3. **FirstNet – CCMI-Cross carrier messaging initiative**
4. **FN-Number Sync - Samsung Gear wearable**
5. **Comcast – 5G – SA LAB/Prod validation & deployment**

- Engaged with key stakeholders at AT&T Labs in Redmond, Atlanta, Warrenville, and Dallas to understand their specific needs in 5G CUPS (option-3x) and SA (option 2) deployments. Leveraged insights to tailored solutions that addressed AT&T's requirements in LTE, VoLTE, and 5G-CUPS/SA architectures, leading to successful project bids and the acquisition of contracts valued $12 M
- Collaborated with cross-functional teams, including RAN, EPC, IMS, and WiFi, to develop comprehensive responses to RFPs and RFIs for AT&T's Consumer and FirstNet projects. Played a key role in framing proposals that showcased the technical strengths and unique capabilities of our solutions, ultimately winning strategic contracts in 5G core network validations and FirstNet initiatives.
- Led the design, testing, and validation of WiFi Calling solutions, including OEM device certification for Samsung devices (e.g., MSP, AAA, Secured Entitlement Server). Successfully managed pilot projects that validated 5G core components (AMF, SMF, UPF, PCF) for Comcast, leading to further deployments and **$8M** in additional revenue.
- Conducted in-depth technical presentations and POC`s for AT&T and Comcast executives, focusing on the validation and troubleshooting of 4G/5G network nodes like AMF, SMF, UPF, PCRF, PCF, and MME. Demonstrated the effectiveness of our solutions in real-world scenarios, which directly contributed to securing deals worth **$5M+**.

POC (PROOF OF CONCEPTS) :

POC-1: AWS Re-Invent 2019 – Las Vegas
Use Case: To demonstrate E2E 5G CUPS Network architecture running on AWS public cloud infrastructure integrated with Tech Mahindra netops.ai Automation and hybrid orchestration solution

POC-2: Iaac – Facebook Project– Designed & Developed the three-tier architecture script using Terraform and successfully deployed on AWS

POC-3: Mobile World Congress (MWC) - Los Angeles 2019
Use Case: Deploying Metacore 5G NFs in Kubernetes platform and AWS edge data center.

POC-4: Mobile World Congress (MWC) -Barcelona 2021
Use Case: Tech Mahindra (TM) in collaboration with Amazon Web Services (AWS) has developed an End to End innovative, secure, and automated cloud platform "netOps.ai", powering Telco Networks on AWS to empower operators to accelerate digital transformation and enable rapid deployment of 5G Networks

Previous Experience

Technical Consultant — **April 2011-September 2015**
Tech Mahindra Limited, INDIA — **Client: ERICSSON, NSN-US Cellular, TELUS-Canada, Vodafone-India and Vodafone-UK, Myanmar-Telecom (MPT)**

Project Manager — **May 2009-April 2011**
Prithvi Information Solutions Ltd, INDIA — **Client: Huawei, Aircel, Reliance Communications Ltd**

Business Consultant — **Nov 2007-April 2009**
BARON ENTERPRISES, KENYA — **Client: ECONET, Safaricom**

Deputy Manager — **July 2004-Oct 2007**
Reliance Communications Ltd, INDIA

RF Consultant — **Aug 2003-Feb 2004**
UBC Services, NIGERIA — **Client: Intercellular, Nitel**

RF Engineer — **June 2002-July 2003**
Aster Teleservices Pvt Ltd, INDIA — **Client: Reliance Infocomm**

EDUCATION

Bachelor of Technology- Electrical and Electronics Engineering — **1996-2001**
Adichunchanagiri Institute of Technology, KUVEMPU UNIVERSITY
Chikmagalur, Karnataka, INDIA

Certifications:

AWS Certified Solutions Architect Associate : Validation Number 5XCBSDBKH1VQQ3W4

HashiCorp Certified: Terraform Associate (003)