**Shankar Goud Vemula** – Technology Lead

**Contact No:** +1 8563941958 **Current Location:** Philadelphia, PA, USA

**Email id**: shankergoud.vemula@gmail.com **Role Designation and Job Level:** Technology Lead

**Summary**

* **11 years** of experience in development, design, analysis, automation, scripting in telecom and networking domain.
* Strong experience in C++ and knowledge of standard library, STL containers, and algorithms.
* Experience in working with client/server applications developed using Boost MSM library and event handling.
* Excellent Knowledge of C++ Concurrency concepts (Multi-threading, mutex, locks, condition variables, atomic variables).
* Knowledge of design patterns.
* Knowledge of the MySQL DB.
* Strong debugging knowledge for analyzing the coredump of application using the gdb.
* Experience in working with and debugging the networking protocols such as TCP/IP, IPV4/IPV6, UDP, DNS, DHCPV4/V6, SIP, DIAMTER.
* Very good hands on experience on development and debugging of applications on Linux OS.
* Very good knowledge of the Linux Commands including working with file system and networking debugging such as tcpdump, netstat, traceroute.. and editors such as Vi, and memory, disk utilization and thread related commands.
* Experience in working with shell scripts as well.
* Have very good of hands on and knowledge of the DevOps tools such as Ansible (playbooks and various modules), Kubernetes and Docker concepts.
* Experience in working with the applications like Redis and Rabbitmq.
* Knowledge of the Monitoring and debugging with the tools like Prometheus and Grafana.

• Knowledge of the AWS concepts.

* Good understanding of various software development models like Agile.
* Experience in working with the source code repos such as git (PRs, merging,

branching, tagging.) and SVN.

* Experience in debugging and fixing the bugs in the applications and doing POCs for the new features.
* Executed project events in Scrum, including Sprint Planning, Sprint Reviews, Sprint Retrospectives, Backlog Refinement sessions and Daily Stand-Up events
* Expertise on client interfacing, techno-functional documentation, leading team, offshore team management, and am an excellent team player. Possess written and verbal communication, presentation, strong interpersonal, teamwork, problem-solving, and multitasking skills.

**Key Domain and Technical Knowledge**

• Domain : Cable, Networking.

• Programming Languages : C++ , C, Core Java.

* Protocols : TCP/IP, UDP, NTP, DNS, DHCPv4 and DHCPV6, IPV4, IPV6,PTP, SIP, SDP, DIAMETER, RTP, A-interface, Abis-interface.
* Environments : UNIX, Ubuntu, Mac, AWS EC2 Instances.

• Tools : Eclipse, Android Studio, XCode, Svn, GitHub and Clear case

• Platform tools : Kubernetes, Docker, Ansible, Jenkins

* Logging and Monitoring tools : Wireshark, Elastic Search, Kibana, Prometheus, Grafana

**Academic Qualification**

* Bachelor of Technology in Electrical Engineering in 2008 from Jawaharlal Nehru Technology University, Anantapur, Andhra Pradesh, India.
* Intermediate from Board of Intermediate Education, Andhra Pradesh in MAR-2003.
* Secondary School Education from State Board of Secondary Education, Andhra Pradesh in MAR-2001.

**Certifications / Professional Awards:**

•. Certified in Core Java.

* Certified in IMS and SIP domain.
* Feather In Cap Awards in Wipro.
* Appreciations from client for debugging and fixing the issues.

**Company**: Infosys Limited **Period:** Dec2013 to till date

**Company:** Wipro Limited **Period:** July2009 to Nov2013

**Projects Information:**

**Project Title: Virtual CMTS (Next Generation Network Access)**

**Client : American multinational media company in broadcasting and cable service provider.**

**Duration: From March2017 to till date**

**Software:** C++, Shell Scripting, ONOS, Kubernetes, Docker, Ansible, Kibana, Elastic Search, Prometheus, Grafana.

**Environment:** HP Moon shot servers, Linux (Ubuntu OS), AWS Servers.

**Description**:

A Boost Multi threaded C++ application which is intended for the provisioning and configuring the Remotephy devices (of different Vendors) with the Video Configuration which has various frequencies and modulation techniques defined as per the Cable Labs remotephy specs.

This application maintains TCP connections to the more than 200+ RPHY Devices simultaneously and also provides the continuous Health checkup and read the data from these RPHY devices and send the same data to the Monitoring and logging tools such as the Kibana and Grafana. This monitoring the will help in debugging and alerting the operations teams for the Video Service related issues of the Cable Modems or CPEs and STBs.

This application is converted into a Containerized application (using Docker) so that it can be deployed on a platform with Ubuntu, Docker, Kubernetes s/ws, SDN which makes the application highly available and makes it auto recover in case of failures so that it provides a seamless and continuous support for the RPHY Devices. This complete end to end product is called VCMTS.

**Roles and Responsibilities:**

* Design and development of new features for this application Plane (as per the new updates or changes defined in the Cable labs RPHY Specifications.
* Design and development of the platform tools (such as Ansible, and Docker and Kubernetes) so that this application can be deployed and integrated in the Kubernetes, docker environment.
* Participating in design discussions and code reviews of team members.

•. Gathering of the requirements and Change Requests for the product from the client.

* Assigning the tasks to the team members and reviewing their work for both quality and on time deliverables.
* Application integration with external Components such as the Configmanager, bothriftserver and RLCM.
* Deploying this application in live sites and Supporting the post deployment activities.
* Develop scripts for the CI/CD tools, including Jenkins and Sonar Qube for the automatic build generation, deployment and Code Coverage.
* Monitoring the live performance of the application in the Production sites and acting on the alerts.
* Providing the detailed RCA for the bugs/issues in the application and fixing the same.
* Production support during the upgrades and deployment.

**Project Title: Comcast Voice2Go**

**Client: American multinational media company in broadcasting and cable service provider.**

**Duration: From Dec2013 to till date**

**Software:** Android SDK, Eclipse, Oracle VM Virtual Box, XCode, Android NDK, iTunes

**Environment:** Mac machine, Windows7 machine, Mobiles devices both Android and iOS s/w, Wifi server.

**Description:** This project involves the development of new features and providing support for Comcast Xfinity Mobile Application with a SIP Library & WebRTC Code, which provides Voice services and Video calling to its subscribers on mobile handsets running iOS and Android platforms.

SIP Library is based on PJSIP Stack. It is a multimedia communication library written in C language implementing standard based protocols such as SIP, SDP, RTP, STUN, TURN, and ICE. It is both compact and feature rich. It involves development and support for various features, such as audio, video, presence, and instant messaging etc.

WebRTC is a free, open project that provides browsers and mobile applications with Real-Time Communications (RTC) capabilities via simple APIs.

**Roles and Responsibilities:**

* Implementation of new features and fixing bugs in SIP Stack using C.
* Implementation of webrtc framework and fixing bugs using Java and Objective C Testing with the help of Android and iOS mobiles.
* Analyzing the issues reported by customer in Rally and working on fixes.
* Bugs reproduction with the mobiles and giving the patches for the fixes.
* Upgrading and compiling the code for different architectures.
* Responsible for verification of functionality of the android/iOS app like checking normal, conference calls, hold and Retrieve scenarios with the mobile devices (android & iOS).
* Participated in code and design reviews for new feature implementations and quality improvements.

**Project Title: CSCF Test Automation and BSC Testing**

**Client: Telecom Vendors**

**Duration: From Nov2009 to Dec2013**

**Software: TTCN3-Framework, Java, Wire Shark**

**Environment: IMS Nodes ISP-CSCF, HSS & AS, BSC, Solaris Protocol simulators**

**Description:** Ericsson IMS subsystem consists of different IMS labs involving IMS nodes like CSCF, HSS. The project involves verification of IMS nodes CSCF, HSS, AS and Charging entities functionality

w.r.to various features such as Registration, Registration Event, Default handling, Offline charging, Online charging.

NS BSC project involves the verification of the functionality of the BSC w.r.to layer3 messages of its interfaces Abis and A for the various types of call flows, power control and Handover scenarios.

NSN BSC is the core component of GSM/GPRS/EDGE, capable of handling TRXs.

The both above projects involve writing of the Automated TCs scripts for various functionalities using the TTCN2/TTCN3 framework and executing them in the System and validate the functionalities. It also involves logging bugs against the different components and reproducing the production issues and validating the fixes.

**Roles and Responsibilities:**

* Analyzing of the Test Spec document for the new features.
* Implementation and execution of TC Scripts using the TTCN3 framework.
* Implementation of TTCN3 framework written in Java.
* Capturing and analysis of the logs using Wireshark tool.
* Involves in code reviews & document reviews.
* Involves in issues resolution that came up during the regression, which is performed for each for each delivery package.
* Functional testing and Regression testing of NSN product S15 BSC with respect of radio resources management, handover and power control functionality with TTCN tool.
* Regression testing for the for new NSN BSC products.
* Setup, configuration and maintenance of Simulators, readiness of test bed.
* Making TTCN2 scripts with A and Abis interface layer3 signaling messages for test automation
* Test planning and test case designing based on new requirements and writing them in Quality Center.
* Test execution, analysis of results, debugging and reproducing of the customer issues & working with design team in fixing the bugs (Pronto Testing).

**Personal Information**

• Gender : Male

• Marital Status : Married

• Visa Details ( If any) : H1B Work Permit (2.5 years left).