

Krishnakumar Muthukrishnan Software Developer

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Work Experience

Tata Consultancy Services

IT Analyst June 2019 - March 2021 Chennai, India.

- Achieved an optimal design efficiency by enabling simultaneous 15k registered encrypted users under a single Call Server by performing Performance/memory optimization over the legacy C++ code base which essentially **increased the target customers & sales revenue** by adding mission critical sectors including the French and the Indian Army to the customer base.
- Supported cloud migration of the PABX communication ecosystem by applying AWS Services enabling ALE to offer public and private cloud solutions capable of configuring as either **fully cloud-based or hybrid** which put the ALE Rainbow suite as direct competitor to market leader Cisco's Unified solution.
- Efficient machine provisioning (for appliance servers & VMware) solution provided for virtualizing the firmware applications thereby reducing the dependency of hardware components and taking the product entirely virtual which allowed remote maintenance and cloud migration possible.

Tata Consultancy Services

Software Developer July 2015 - May 2019, Chennai, India

- Developed backend telephony applications in C++ for Alcatel-Lucent Enterprise (ALE) PABX systems within an Agile development process following the Object Oriented Principles.
- Designed Python API's to dump the memory in the processor at the failure point which potentially saved several man-hours of debugging.
- Automation of Firmware binaries production process applying the CI/CD tools - Jenkins, Jira and Docker registry/daemon resulting in the reduction of **600 billable man-hours** annually(approx.)
- Designed a IPv4 <-> IPv6 signaling translator providing the PABX system's Call Server the capability to communicate with IPv6 end-points and vice-versa thereby taking the legacy ALE PABX communication ecosystem among the top players in global **Internet Protocol Version 6** marketplace.

Education

MS-CS / SUNY Buffalo
2021 - 2022, New York, USA.
3.33 CGPA

B.Tech IT / Thiagarajar College of Engineering, Anna University.
2011 - 2015, Madurai, India.
3.33 CGPA

Skills

Tools: VScode . Remix . GitHub . Mercurial . Jenkins . PuTTY . WinSCP . Wireshark . Android studio . JIRA . VMware Esxi . KVM Manager . Klocwork Analyzer . Docker . AWS . gdb . valgrind

Protocols: TCP/IP . UDP . HTTPS . SNMP . DHCP . RTP . SSL/TLS . DTLS

Dev/Script Languages: C . C++ . React . HTML . CSS . Python . JavaScript . GNU Bash . Solidity

Database: SQL . MySQL . Firebase

Libraries/API: OpenMP . OpenMPI . PySpark . Pandas . NumPy . POCO . MVC . STL . BOOST . Django . OCCl . REST

Other notable Work

(TCS-ALE) DTLS based End-to-End Security Architecture providing the encryption capability to the PABX telephony end-points & server by incorporating the openssl algorithms over the existing application.

(TCS-ALE) License validation for the servers deployed over the cloud infrastructure.

(TCS-ALE) Migration of Media server applications from a 32 bit architecture to 64 bit to support the recent version of SuSe hosts.

(UB-CSE) Research in the area of High performance Parallel programming. Experimented several day-today scenarios starting from number crunching activity like sorting over a set of diverse hardware GPGPU's and documenting the performance with languages like C++ and API's like PySpark.

(UB-CSE) LUCID Vending- Mobile Application. (Android & IOS) - a dedicated app for making payments on the go for vending machine.

Misc

- Understanding & efficient usage of various Networking protocols.
- Basic configuration of Router & switches.
- VMware Management (Vcenter creation, ESXi installation, Licensing...)
- Not a stranger to 'Makefile' creation.
- Python & Shell scripting for data analysis tasks and application start-up in Linux environment.