**ABDUL BAQI**

**Senior Engineer (Starhub)**Bachelor of Engineering in Electronics and Communication

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With a proven track record in Packet core engineering spanning both 4G and 5G technologies, I bring extensive experience in solution design, architectural planning, operational efficiency, troubleshooting, and seamless integration. Throughout my career, I have excelled in managing technical records, overseeing project management activities, and consistently surpassing client expectations by strictly adhering to industry best practices. As a seasoned Mobile Core Engineer, I have played a pivotal role in delivering cutting-edge services for both 4G and 5G networks, contributing to the advancement of network architecture and ensuring top-notch performance and reliability.

# **Technical Skills**

Mobile Packet Core:

* In-depth Experience of Mobile Packet Core components such as EPC, MME, SGW, PGW, AMF, SMF, UPF, NRD,NSSF,AUSF-UDM,NRD,SCP and NEF.
* Hands-on experience in configuring, optimizing, and troubleshooting mobile packet core networks, ensuring smooth and reliable data transmission.

Networking Protocols and Analysis:

* Strong understanding of OSI model, TCP/UDP, DNS, HTTP, and SMTP protocols, enabling effective network troubleshooting and analysis.
* Proficient in analysing PCAP files for DNS, TCP, UDP, and HTTP traffic, extracting valuable insights to identify network issues and optimize performance.

Cloud Technologies and Virtualization:

* Extensive knowledge of OpenStack, Kubernetes, and Docker, enabling efficient deployment, scaling, and management of cloud-based applications.
* Experienced in deploying and maintaining NFVI/VIM/VNFM/NFVO, with a strong background in Data Centre network architecture.
* Familiarity with Software-Defined Networking (SDN), leveraging it to enhance network agility and simplify network management.

Commercial Architecture:

* Strong understanding of commercial architecture principles and practices, enabling the design and implementation of scalable and reliable enterprise systems.
* Experience in architecting solutions that meet business requirements, ensuring alignment with industry best practices and standards.

Linux Bash and Kubectl:

* Proficient in Linux Bash scripting and command-line operations, utilizing it for automation, system administration, and task execution.
* Experienced in working with Kubectl to deploy, manage, and scale applications within Kubernetes clusters, ensuring efficient container orchestration.

Network Security and Monitoring:

* Proficient in Palo Alto and Netguard Virtual firewall technologies, implementing robust security measures to protect networks and data.
* Skilled in utilizing monitoring tools such as Splunk, Grafana, and Prometheus to monitor network performance, identify anomalies, and proactively address issues.

Network Infrastructure and Troubleshooting:

* Comprehensive knowledge of LAN, WAN, and cloud environments, including network configuration, security, and troubleshooting.
* Skilled in managing routers, switches, and virtual firewalls, ensuring seamless connectivity and optimal network performance.

Audit and Security Compliance:

* Proven experience in conducting audits and ensuring compliance with industry standards and security best practices.
* Familiarity with regulatory frameworks and the ability to implement necessary security controls to safeguard data and systems.

Call Trace Analysis and Packet Analysis:

* Expertise in analysing call traces from an end-to-end perspective, identifying and resolving issues impacting voice and data services.
* Proficient in pcap analysis using tools such as Kalix, IRIS, and OSIX, extracting valuable insights to troubleshoot network performance and quality issues.

# **Experience & results**

Total Working Experience: **7 Years**

## **Starhub | Singapore** (Nov 2021 – Present)

### **Senior Engineer:**

* Designed and implemented 5G,SRAN core network architecture for the New projects, ensuring compliance with 3GPP standards and specifications.
* Worked closely with cross-functional teams to develop and deploy network slicing solutions, enabling efficient resource allocation and service differentiation.
* Optimized network performance by conducting thorough analysis of key performance indicators (KPIs) and implementing necessary enhancements.
* Collaborated with vendors and participated in product testing, validation, and acceptance activities for 5G core network elements.
* Assisted in troubleshooting and resolving critical issues in the 5G core network, ensuring minimal service disruption.
* Actively monitored industry trends and emerging technologies related to 5G core networks, providing recommendations for technology adoption and improvement.
* Proficient in 4G and 5G core network architecture and protocols (LTE, EPC, SBA, UPF, AMF, SMF, PCF, NRF,SCP,AUSF-UDM and NEF.)
* Strong knowledge of 3GPP standards and specifications related to 4G and 5G core networks
* Experience in network function virtualization (NFV) and software-defined networking (SDN)
* Expertise in network slicing, network orchestration, and service-based architecture
* Hands-on experience with cloud-native deployments and containerization technologies (Kubernetes, Docker)
* Skilled in troubleshooting and resolving issues in 4G and 5G core networks
* Implement and support new corporate customers, roaming IP connectivity applications, and new features.
* Ensure oversight of DC environments, supervising systems, identifying, logging, and reporting issues to superiors.
* Plan, implement, and monitor security measures to protect the packet core network from external attacks.
* Operate, administer, and maintain network elements such as cloud infrastructure, mobile backbone IP network, IP service gateway, and firewalls.
* Identify, isolate, correct, and assess the impact of faults in 3G/4G/5G networks that affect customers.
* Perform trend analysis to detect chronic issues, proactively working with cross-functional teams and vendors to develop and implement corrective action plans.
* Provide first-hand support in response to network alarms and customer complaints and offer 24x7 standby duties to assist in emergency restoration during outages and system failures.
* Participate in and drive software upgrades, tests, and system hardware projects.
* Perform regular security checks in Palo Alto.
* Provide support for projects involving network growth, integration of network elements, corporate networks, roaming network integration, and the implementation of new features and services.
* Proactively evaluate the network to minimize downtime and improve the quality of service for end-consumers.
* Plan, engineer, and monitor security arrangements for the protection of network systems.
* Prepare and configure new APNs or migrate from one data center to another, including removing or changing configurations according to customer requirements.
* Manage software customization and oversee the end-to-end delivery of cloud/NFVI projects, creating plans for timely and cost-effective project completion.
* Supported systems projects, including software patching and systems integration.
* Executed tests on software and systems to ensure their functionality.
* Worked and liaised with vendors and colleagues to coordinate project activities.
* Deployed changes during off-peak maintenance hours to minimize disruption.
* Tested system logic against business requirements to ensure accuracy.

### Network Security Engineer:

* Ensure high availability of 3G/4G/5G networks and design network elements, such as cloud infrastructure, mobile backbone IP network, IP service gateway, and firewalls.
* Troubleshoot connectivity issues within the server zones of the data center, including application servers, database servers, and web servers, as well as user requests and connectivity issues from various branch locations, office locations, and third-party sites to the data center.
* Ensure the application of standard operating procedures and systems security to support network infrastructure needs.
* Demonstrate excellent communication and negotiation skills through customer service interactions.
* Possess solid knowledge of information security principles and practices, as well as an advanced understanding of security protocols and standards. Install and configure encryption software to ensure data security.
* Monitor security events and incidents on the enterprise SIEM solution, resolving or escalating as necessary. Recommend preventive, mitigating, and compensating controls to ensure appropriate protection and adherence to information security strategy.
* Analyze IDS packet data with a comprehensive understanding of switching and routing.
* Have experience with network vulnerability assessment tools and policy and procedure development.
* Conduct risk and vulnerability assessments of planned and installed information systems to identify vulnerabilities, risks, and protection needs before deploying them into a production environment. Configure, maintain, and manage web proxies at an enterprise level. Perform checks and remediate findings on gateway and IMS devices to ensure compliance with local standards.
* Identify vulnerabilities, recommend corrective measures, and ensure the adequacy of existing information security controls.
* Assess and manage risks related to security threats to information systems, ensuring that security levels match the level of exposure to potential risks.
* Perform security assessments of online applications to identify vulnerabilities in different categories, such as input and data validation, authentication, authorization, auditing, and logging.
* Coordinate with the development team to ensure the closure of reported vulnerabilities by explaining the ease of exploitation and the impact of the issues.
* Schedule and complete risk assessment calls for different workstreams of the client based on planned releases/iterations.

## **Infosys | Singtel | Singapore (June 2021 – Nov 2021)**

### **Projects:**

* Singtel – IPLC Service Delivery

### **Networks Engineer:**

* Prepared and configured customer MUXes, making necessary changes or removals in configuration based on customer requirements.
* Conducted technical matching with overseas partners.
* Coordinated, tested, and performed acceptance for partner's circuit delivery.
* Migrated end customer's circuits and conducted end-to-end testing.
* Allocated DP (Distribution Point) for copper-based services.
* Monitored the network and performed hands-on provisioning using NMS (Network Management System) for Ethernet, SDH/Sonet, and protection schemes.
* Demonstrated troubleshooting skills, including end-to-end testing, circuit testing, and troubleshooting, as well as MUX installation and migration.

## **Efficient Networks | Ericsson | Nokia | Singapore (July 2020 – June 2021)**

### **Projects:**

* Singtel - SCFT, MOS Drive, Cluster Drive, Walk Test
* M1 – Walk test (L900 Technology) in 500+ Sites
* Etisalat- Mobile Data, voice Support (152H ,22H)

### **RF engineer: (Client – Ericsson, End client – Singtel)**

* Prepared reports on drive tests and walk tests using MapInfo, checking for network performance issues in the collected data.
* Conducted voice call testing for newly established and relocated sites in the Singtel 4G Drive Test project using TEMS, assisting in cell footprint tuning according to the predicted model.
* Monitored various radio parameters and channel-related parameters for each site.
* Validated end-to-end IP connectivity between SGSN-MME and end IP nodes such as RNC, GGSN, eNodeB, S-GW, DNS, OSS, etc.
* Conducted site selection, site survey, antenna tuning, verification, and acceptance testing.
* Checked for blocked calls, dropped calls, and optimized intra-cell and neighbour handover functionality for each site.
* Performed RF drive testing and data logging for HSPA+ and LTE, including signal verification and data collection using TEMS, Nemo, and ROMAS.
* Carried out network optimization from design to implementation, process improvement, and created drive routes for network testing and optimization.
* Collaborated closely with optimization engineers on post-drive data analysis using EDAT for network optimization.
* Prepared daily status reports and weekly pre/post-drive reports, as well as supervised and trained quality engineers for testing.
* Conducted post-processing and analysis of drive test and walk test log files.
* Optimized RF for 4G/5G sites and monitored performance.
* Analysed and resolved RF-related problems, troubleshooting, and identifying root causes for performance issues such as weak coverage, capacity congestion, pilot pollution, interference, overshooting, etc.
* Optimized LTE sites based on coverage RSRP quality and RSRQ.
* Verified drive data and made necessary corrections.
* Handled drive test tools such as TEMS, ROMAS, NEMO Outdoor, and NEMO Handy.
* Monitored and analysed KPIs using spectrum analysers, scanners, and site masters.
* Experience in 5G drive tests for bands N78 and N1.
* Provided appropriate E-Tilt and M-Tilt for coverage improvement.
* Knowledgeable in equipment installation, including baseband units, remote radio units (indoor and outdoor), cabinets, antennas, and cable routing in compliance with regulations.
* Ensured consistent, reliable, and efficient service performance in compliance with engineering standards, objectives, priorities, guidelines, and procedures.
* Proactively monitored systems to identify and address problems or maintenance needs.
* Collaborated with vendors on system design and implementation solutions while managing multiple work efforts throughout project lifecycles.
* Accompanied RF engineers from wireless telecommunications companies on site visits to provide guidance on proper locations, down tilts, and antenna orientations for cell sites.

## **Etisalat Telecom | Abu Dhabi** **(March 2016 –July 2019)**

### **Telecom field engineer:**

* Excellent knowledge of GSM, 3G, UMTS, CDMA, 4G and LTE Architecture Packet Core and Evolved Packet Core (EPC) and nodes including MME, SGW, PGW, HSS, PCRF, SGSN, GGSN.
* Managing and troubleshooting of AT&T network comprising of Ericsson, Alcatel Lucent, and Cisco equipment.
* Troubleshooting investigations, problem analysis and final resolution in Huawei, Ericsson, Nokia. (GSM, UMTS, LTE, NR)
* Coordinated activities related to installation, testing and commissioning, operations, and maintenance of respective network
* Guided team for Installation of equipment such as Base Band units, Remote Radio Units (Indoor and Outdoor), Cabinets, Antenna, Cable Routing as per Regulation
* Ensured services perform with consistency, reliability, and efficiency in compliance with the engineering standards, objectives, priorities, guidelines and procedures.
* Proactively monitored systems to identify and remedy problems or maintenance needs
* Managed and coordinated outside equipment network design and installation across several functional teams.
* Work with vendors on system design & implementing solutions while managing multiple work efforts throughout project lifecycles.
* Ensured safety measures are strictly implemented and are observed at all work sites.
* Installation, Integration and Commissioning for **Huawei, Nokia, Alcatel, Ericsson** Equipment’s Like BTS, RRU, RRH Contains **BTS3900L, APM30, OMB, Minitheater, LRO , LRI,RBS** and All kinds of Radio Units.
* Knowledge in Cabinet RBS6102, Radio unit 4499,AIR 6449 and More.

### **Service delivery executive:**

* Assisted Manager with incorporating the end-to-end deliverables of the service contract which includes engagement with customers and managing external and internal stakeholders' expectations and deliverables outcome.
* Delivering excellent engagement experience and Managing delivery in a single or multiple accounts according to service contract.
* Update Project Tasks/Milestones in Project management Software like OSS, BSS and Reporting to manager.
* Performed Quality review of documents, processed document change notices to completion (approval/release) for variety of document types like RFA – ISO, Checklist.
* Advanced Microsoft Excel functions used to track site progress (V-Lookup, Pivot Tables, etc.)
* Co-ordinate and manage on site and virtual teams to ensure they operate according to procedures, instructions, and best practices
* Provide data and analysis on actual operations and performance indicators to suggest improvement opportunities and initiatives to increase operational efficiency
* Coordinating with the Engineering Department on a regular basis to integrate the planned schedules
* Preparation and Verification BOQ line Items.
* Support in delivering business excellence initiatives to ensure they are completed on time and according to financial targets
* Review and deliver communications to other departments including outstations to ensure relevant information is accurately distributed in an efficient manner
* Maintenance of critical database and records for the scheduling system, monitoring, tracking, and identifying areas of key operational constraints
* Assist with file migrations and audits, and perform administrative tasks

# **Professional Training and Certification**

**Could Mobility Management Training, Nokia 2023**

**Palo alto Firewall Essentials EDU210,Dec 2021**

**Palo alto Firewall Troubleshooting EDU330, June 2022**

**Palo alto Panorama Advance EDU220, June 2022**

**5G core protocol in-depth analysis, Polystar 2022**

**Cloud Computing: Core Concept**

**Network Virtualization: SDN Overlay Solutions**

**PMP, November 2023  
Full stack Developer ,November 2023**

# **Education**

**Bachelor of Engineering in Electronics and Communication, May 2015**

Aalim Muhammad Salegh College of Engineering, Anna University, Chennai

**Diploma in Electronics and Communication Engineering, October 2011**

Annai College of Polytechnic, DOTE board, Kumbakonam, India

# **Personal details**

**Full Name as per FIN:** Mohamed Hussain Abdul Baqi

**Age:** 30

**Languages:** English, Tamil

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**Visa Type:** LTVP+ and Pre- Approved LOC holder.

**Nationality:** Indian