

Muhammad Moinur Rahman | Moin

+880 (1819) 250 971 • moin@bofh.im • bofh.im
in mmoinurrahman

Experience

Professional

DZCRD Networks

Dhaka, Bangladesh/Dubai, UAE

Senior Network Engineer

2016–2020

This organization mainly works as Technical Partners or Sub Contractors for other organizations' Network Infrastructure.

- o Provide consultancy, design and deployment service to clients
- o Redesigned and deployed a large enterprise network in Aviation industry in UAE consisting of around 50 branch offices. Migrated all of their AWS hosted applications and Database Systems into on-premise Data Center. Interesting achievement was migrating from EIGRP to OSPF.
- o Designed, deployed and maintaining a large scale Campus Network in Defense Industry in Bangladesh consisting of around 120 branches.
- o Designed, deployed and maintaining a large scale storage system and backup for around 250 PB of raw storage for a EU Media Agency. Rather than proprietary Storage Solutions, we used commodity servers and Open Source OS (FreeBSD with ZFS) to achieve this capacity, lowering overall cost by 50%. Our main duty is to make sure that the data are periodically backed up, moved to SSD or HDD, based on requirements for computing or archiving.

1Asia Alliance Communication Ltd

Dhaka, Bangladesh

Head of Core Network

2012–2016

This organization was one of the few ITC(International Terrestrial Cable) licensee in Bangladesh allowed to do cross border optical communication in order to facilitate large scale Internet Distribution as an alternate to subsea cables.

- o Designed and budgeted the entire Optical Network, SDH Network and IP Network from ground up, including but not limited to Fiber layout across 300 kms (from Dhaka to Benapol border), through No Mans Land; PoP selection; hardware specs.
- o Maintained liaison with TATA Communications and Bharti Airtel from ground up for the cross border connectivity, circuit requests and circuit provisioning.
- o Based on initial traffic usage (analyzing through Netflow/sFlow/IPFix), identify best possible peering points and upstream. Based on the results, deployed new PoP in Singapore, London and New York to peer with other Tier-1 upstream like Level3, Cogent, Hurricane Electric, PCCW, and IX Points like Equinix, LINX.
- o Designed new templates for the configuration element of PE devices specially Cisco 12000 and ASR9000.
 - Initially deployed RPSL(Routing Policy Specification Language) for AS10102 for auto generating the BGP peer configurations from a local mirror of WHOIS server.
 - After the migration to IOS-XR wrote a Perl Script to generate the configuration and pushed them into router through Expect script.
 - Designed and deployed the Informational and Action BGP community for AS10102 to support Customers achieving their optimum routing decisions.
 - Deployed an ExaBGP RTBH(Remotely Triggered Black Hole) router for accepting customers' route/s to be blackholed in case of DoS/DDoS attacks.
 - Deployed an ExaBGP FlowSpec speaker to easily thwart through DoS or DDos attacks.
 - Deployed RoA(Route Origin Authorization) for route validation; lowering preferences of invalid routes.
 - Deployed MPLS-TE to load balance traffic across multiple unequal path.
- o Regularly monitored traffic utilization and Top-N AS to find out optimal Peering points and peer with the relevant peers.

- o Regularly update and maintain the labs, and tested configuration changes on the labs before committing them in live environment.
- o Used basic tools like ping, traceroute, mtr, hping, nmap, curl, netcat, telnet, tcpdump, Wireshark, scapy for extensive troubleshooting.

Telnet Communications Ltd

Dhaka, Bangladesh

Senior Engineer - Network and Systems

2007–2012

A nationwide ISP comprising of more than 60 PoPs, 150 Cisco Metro Ethernet Switches and 15 Cisco 7200 Routers serving Enterprise clients with Internet and Data Service in both Layer 2 and Layer 3.

- o Designed and deployed the MPLS/IP network from grounds up across multiple locations within Dhaka metropolitan City. Within 2 years enhanced and expanded the network across 40 districts and 60 PoPs around Bangladesh.
- o Gaining increasing responsibility, leading teams responsible for support and monitoring to ensure best practice, top performance and excellent client communication.
- o Monitoring entire Network Equipment and Server Farm for load capacity and plan for future expansion.
- o Utilizing a vast array of technology including:
 - Loop Avoidance using RSTP, MSTP; Backbone Capacity increment and Load Balancing using Etherchannel or LACP or PAGP or MC-LAG, Private/Public VLAN, QinQ, Layer 2 Tunneling Protocol for use in Service Provider Scenario.
 - RIP, EIGRP, OSPF, BGP for routing in both Service Provider Scenario and Client End Scenario.
 - MPLS with VRF-LITE, PE-CE Routing, Carrier Supporting Carrier using MP-BGP VPNv4, MPLS ATOM, MPLS TE for optimizing Backbone Traffic.
 - QoS in L2 Network and L3 Network using Policing/Shaping at L2 level while using Policing, Shaping, CBWFQ, NBAR in Layer3.
 - Cloud Network Overlay with VxLAN
- o Designing new templates for the configuration element of CPE and PE devices according to client specifications and reflecting current company network architecture.
- o Designing and modifying NMS to meet client revised requirements.
- o Monitoring the AAA system and policy to maintain almost 150 network devices for client connection.
- o Ensuring correct QoS and COS for individual nationwide PoP and Central NOC.
- o Planning and ensuring proper usage of IP addressing following APNIC Guidelines.
- o Distributing IP address scheme for use in a Nationwide Environment, making proper usage of IPv4 addressing without waste, while making a strong design and migration plan for IPv6.
- o Delegating work load among other junior staff reporting to respective departments.
- o Ensuring compliance with Corporate Change Management Policy with each and every network change, liaising closely with Documentation officer to ensure full documentation.
- o Ensuring high-grade incoming and outgoing security for the NOC lab, monitoring, analyzing and mitigating network based attacks using various open source tools.

Gallactic Information & Technology

Dhaka, Bangladesh

Engineer - Network and Systems

2006–2007

An IT service provider for Enterprise clients to address and meet the IT and Digital Transformation requirements.

- o Maintaining a reliable network between head office, branch offices and other sister organizations.
- o Working with network devices such as Cisco Routers, Cisco Switches, PIX firewalls, ASA devices, VPN termination points, access points and terminals connecting the branch offices.
- o Ensuring appropriate access and admission control throughout the office.
- o Undertaking scheduled maintenance of UNIX and Windows servers, running mail, DNS, gateway and CVS and file and print sharing.
- o Providing clients with consultation on result based software deployment.
- o Assisting clients with network and server set-up and management to enable smooth functionality according to intended design.
- o Assessing in house and client IT requirements and making recommendations for future expansion.
- o Visualizing probable IT growth and recommending appropriate actions and requirements.

Voluntary Contribution

APNIC

Brisbane, Australia

Community Trainer

2015–Present

APNIC is the Regional Internet Registry for APAC and often arranges training for their members through their dedicated training team or a pool of Local Community Trainers.

- o Conducted training in various topics including Routing, IPv6, MPLS, Linux System Administration, Network Security, Virtualization in various APNIC events.
- o Design and automate lab setup for classes to mimic real life scenario in virtualized environment.
- o "eTutorial: DNSSEC Fundamentals", APNIC, eTutorial, Virtual, 2021
- o "eTutorial: Packet Analysis", APNIC, eTutorial, Virtual, 2021
- o "eTutorial: DNS Fundamentals", eLearning Platform, Virtual, 2021
- o "Advanced System Administration and Network Security", bdNOG11, Dhaka, Bangladesh, 2020
- o "IXP Deployment", INNOG2, New Delhi, India, 2019
- o "Network Security", npNOG4, Kathmandu, Nepal, 2018
- o "Linux Server Administration", APNIC44, Taichung, Taiwan, 2017
- o "IPv4/IPv6 Routing and IXP Operation workshop, APNIC@MyIX, Selangor, Malaysia, 2017
- o "Introduction to MPLS", APNIC@MyIX, Selangor, Malaysia, 2016
- o "MPLS Deployment", APNIC40, Jakarta, Indonesia, 2015

The FreeBSD Project

Core Team Secretary

2020–Present

Open Source Unix Operating System

- o Documenting the work done by core, keeping track of the core agenda, communicating non-core members on behalf of core, and interfacing with the clusteradmin team.
- o Responsible for writing and sending out monthly status reports to the FreeBSD Developer community, containing a summary of core's latest decisions and actions.
- o Conflict resolution among the the senior members of the CORE Team

The FreeBSD Project

Ports Committer

2014–Present

Open Source Unix Operating System

- o Maintaining around 500+ FreeBSD ports. (bofh@FreeBSD.org)
- o Fix bugs and manage related tickets of the maintained ports which are submitted by other users in the Bug Tracking System(BugZilla).
- o Fix and manage other open tickets in the Bug Tracking System related to ports
- o Submit Code review for ports and codes maintained by other in the Code Review System(Phabricator); Based on approval, commit those changes to the system.
- o Make proper use of port tester (poudriere) to make sure all the newly changes are compatible with all current versions and architecture of FreeBSD.
- o Use Jenkins to manage the code changes and check that no current changes are breaking other ports.

bdNOG/SANOG/APRICOT

Member, Program Committee

2014–Present

Network Operator Group

- o Read and mark the papers submitted during various events. Communicate with the submitter to bring required changes to make it more appealing towards the audience.

Education

American International University - Bangladesh

Dhaka

B.Sc. in Computer Science

2003–2006

Technical Knowledge/Skills

Operating Systems: UNIX, Linux

DNS: unbound, NSD, BIND

NetOPS: NETCONF, Ansible, Vagrant, Terraform

Routing Engines: BIRD, exaBGP, OpenBGPD, fr

Programming/Scripting Languages: Perl, Expect, Python, POSIX Shell

Protocols: OSI Layer, TCP, UDP, IPv4, IPv6, BGP, OSPF, ISIS, MPLS, DHCP, Anycast Routing, BFD

Hardware: Cisco, Juniper

Virtual: Experience in working with Open Source SDN Controllers like RYU, Mininet; BGP eVPN, VxLAN; Segment Routing in virtual Lab Environment.

Publications

Workshop as Instructor

“Network Security.” (Aug. 2018). In: INNOG1 (New Delhi, India).

“Network Security.” (Aug. 2018). In: SANOG32 (Dhaka, Bangladesh).

“Network Security.” (Feb. 2018). In: APRICOT 2018 (Kathmandu, Nepal).

“DevOPS 101 for Network Engineers” (July 2017). In: SANOG30 (Gurgaon, India).

“IPv4/IPv6 Routing” (Jan. 2016). In: SANOG27 (Kathmandu, Nepal).

with, Martin Wilke (May 2016). “FreeBSD Port Writing”. In: FreeBSD PortsCamp 2 (Kuala Lumpur, Malaysia).

“Cloud Computing & Linux Shell Programming” (Nov. 2015). In: bdNOG4 (Sylhet, Bangladesh).

“Linux Admin & Network Management” (Mar. 2015). In: bdNOG3 (Dhaka, Bangladesh).

Tutorial

Practical Implementation of BGP Community with Geotags (Jan. 2019). SANOG33. Thimphu, Bhutan.

Practical Implementation of Large BGP Community with Geotags (June 2019). eNOG16. Tbilisi, Georgia.

Practical Implementation of Large BGP Community with Geotags (Feb. 2019). APRICOT2019. Daejeon, South Korea.

Importance of SSHFP And Configuring SSHFP for Network Devices (Feb. 2018). APRICOT 2018. Kathmandu, Nepal.

with, Philip Paeps (July 2017). *Hardening Webserver with FreeBSD*. SANOG30. Gurgaon, India.

Software Defined Networking: Primer (2016). SANOG27. Kathmandu, Nepal.

with, Simon Sohel Baroi (2016). *Network Operation: Tips and Tricks*. SANOG27. Kathmandu, Nepal.

Introduction to SDN (July 2015). SANOG26. Mumbai, India.

Introduction to SDN (July 2015). bdNOG3. Dhaka, Bangladesh.

IRR Toolset, RPSL (July 2015). SANOG26. Mumbai, India.

Practical Implementation of BGP Community with Geotags (July 2015). SANOG26. Mumbai, India.

IRR Toolset, RPSL (Mar. 2014). bdNOG1. Dhaka, Bangladesh.

RPKI, Live Configuration Demo (Mar. 2014). bdNOG1. Dhaka, Bangladesh.

Talks

pps Matters (Sept. 2020). APNIC50. Virtual.

pps Matters (July 2020). Networking from Home, East Asia. Virtual.

pps Matters (Jan. 2020). bdNOG11. Dhaka, Bangladesh.

FreeBSD is not Linux (2019). INNOG2. New Delhi, India.

Introduction to Blockchain (2018). APTLD73. Kathmandu, Nepal.
Blockchain - The future of Internet (2017). APNIC44. Taichung, Taiwan.
Blockchain - The future of Internet (2017). SANOG30. Gurgaon, India.
Blockchain - The future of Internet (2017). MyIX Peering Forum/MyNOG. Kuala Lumpur, Malaysia.
Blockchain - The future of Internet (2017). bdNOG7. Dhaka, Bangladesh.
FreeBSD - Primer (2017). Malaysia Open Source Conference. Kuala Lumpur, Malaysia.
Software Defined Networking: Primer (2016). MyIX Peering Forum. Kuala Lumpur, Malaysia.
Software Defined Networking: Primer (2015). bdNOG4. Sylhet, Bangladesh.