

Rashidul Hasan

3/9 Auchterlonie Cres	Mobile:	+61 411 647 995
Churchill	Email:	rashidul.hasan.md@gmail.com
VIC 3842	Homepage:	http://www.rashidulhasan.com/
Australia	Citizenship:	Australian

PROGRAMMING SKILLS *Programming Languages:* C, C++, C#.NET, Java (SimJava2), Python, MATLAB.
Database: MySQL, Oracle (11g), MS SQL.
Web Technology: ASP.NET, HTML, CSS, JavaScript, PHP.

TECHNOLOGIES AND PROTOCOLS *Networking Protocols:* Wi-Fi, TCP/IP, UDP, ARP, DHCP, DNS, NAT/PAT, IPSec, Switching(VLAN, VTP, STP), Routing(RIP, EIGRP, OSPF, BGP).
Voice and Video: Voip, SIP, H.264 (video encoding, decoding).
Operating System: Solaris, Linux, Cygwin, Window server, MAC OS X.
Virtualisation: VMware vSphere, vCentre Server 5.x, Esxi, vSS, HA, vMotion.
Network Simulator: ns-2, OPNET, SimJava2, GNS3, Packet Tracer.

SOFTWARE DEVELOPMENT **Wi-Fi Prototype Development (Object Oriented C/C++)** 2010-2012
Implemented core IEEE 802.11 Wi-Fi protocol and modified it to incorporate the concept of *software defined radio* (SDR) network. Due to the uncertainty of channels in SDR, it is important to know the overall capacity and its impact on the quality of services in real time data like video. Features such as back off timer, scheduler, packet queueing and delay estimation were implemented using object oriented C/C++ programming.

Video Encoder Decoder (C++) 2008-2009
Implemented video encoding and decoding standard H.264 where encoder generated a sequence of bit stream from a given video feed and decoder decoded received bits to reconstruct the video image. Complex features like motion detection from successive frames, *Discrete Cosine Transformation* (DCT), *Code Adaptive Variable Length Encoding* (CAVLC) were developed using C++. Features were tested and compared with standard data set for its accuracy.

Delay Estimation (C++based ns-2, Java based SimJava2,) 2009-2010
Implemented source nodes (mobile users), intermediate nodes (routers), sink node (destination) and join them with actively listening ports. Source generated data of various forms like continuous, intermittent, bursty were queued up in the intermediate nodes. Collected packet delay information and then processed and plotted to examine the nature of delay and jitter.

Website Development (ASP.NET, C#, MS SQL, Java Script) 2013-2014
Developed www.rashidulhasan.com and tried to apply various features using ASP.NET, C#, MS SQL, Java Script, HTML, and CSS. The further improvement of this site is under progress.

INDUSTRY EXPERIENCE **IT Support (Casual)** **JAV IT Pty Ltd.**
VIC, Australia Mar 2013 - Current

- **VicPolice IBM IT System Migration Project:** Currently working for this project.
- **Supported Active Directory Migration Process:** Supported windows Server 2008 Active Directory migration at Loyyang power station, configured new domain, VPN settings, restored applications, installed printer drivers, troubleshoot IP configuration, Proxy settings and IPv4 exception lists.
- **Upgraded Hardware Firmware:** prepared bootable USB drive for Seagate hard disk with appropriate Linux firmware version and upgraded firmware using appropriate steps for various HP customers.
- **Completed desktop roll out:** followed de-installation process of laptop and computer and kept record of current applications and printer drivers. Added new computer to the appropriate domain, changed computer name and installed printer driver.
- **Migrated user data for seamless operation:** backed up important user data including Outlook .PST and .nk2 file. Used command prompt e.g., outlook.exe /importnk2, gpupdate /force, to import auto complete of outlook address from cached addresses and to update group policy.

ICT Graduate Researcher (Full Time) **Information Technology, Monash University**
VIC, Australia Jun 2008 - Dec 2012

- **Researched and Developed Prototypes:** researched a wide range of technical challenges for data communications in *software defined radio* (SDR) networks and analysed scope of improvements through different traffic engineering process. Designed algorithms, produced process flow and then developed solutions in network simulator ns-2 and SimJava2, and OPNET. Using C/C++, Matlab and Java, developed video encoding-decoding block, specialised Wi-Fi protocols, queuing method and reporting tools to support research framework.
- **Formed Network Simulator Lab:** created lab environment by installing and configuring VMware workstation 8, Hypervisor, windows OS, Unix OS. Utilised knowledge of switching, routing protocols and IPv4 in configuring simulation scenario. Modified various header and class files in OPNET, ns-2 and SimJava2 to simulate properties of TCP/IP, UDP, WiFi, routers, switches, and wireless networks communications.
- **Scripting and Automation:** connected various data sources with Python and AWK, then read data, checked data consistency, did data modifications, discarded data if necessary, and finally generated reports. This automation reduced time to get results.
- **Analysed Data:** applied probabilistic model including exponential, geometric, uniform and other random models to finding fitness of collected data. Utilised numerical analysis technique for deriving solution point.
- **Address Anomalies Through Change Management Process:** identified gap between expectation and simulated data, investigated root cause and developed further action plan to minimise the gap. The new plan was adopted, monitored and the whole process was iterated until there were solid outcomes.
- **Collaborated, Documented and Published:** collaborated research issues across team members, participated in research expos, seminars and poster presentations. Research outcomes were documented in professional format and published in international conferences including IEEE WCNC, NCA and PIMRC.

System Engineer/Senior System Engineer (Full time) **Grameenphone Limited**
Dhaka, Bangladesh Jan 2005 - Jun 2008

- **Developed Business System Intelligence:** worked with marketing team to translate business requirements into billing system. Analysed available features in the APIs (Application Programming Interfaces), produced algorithm for business process, then worked with in-house development team for completed software development.
- **Scripting and Automation:** scripted with Python and PHP to automate provisioning request from various sources including short message service centre and customer care module. Connected to MS SQL server, Oracle databases and Ericsson HLR for changing parameters. Queried through SQL languages to prepare batch file for further provisioning.
- **System Troubleshooting and Optimisation:** managed LAN and WAN features including VLAN, STP, VTP, routing protocols EIGRP, OSPF and allocated IPv4 address space based on the VLSM technique. Logged onto systems using TELNET or SSH, taking traces in LAN-WAN nodes and billing system to obtain packet details. Detected anomalies through post processing of traces and then tuned system parameters accordingly.
- **Administered and Integrated Multi-vendor Platform:** managed multi-vendor network systems that included Ericsson switching and Billing, Cisco, Unix/Solaris, Windows Server 2003 and Comverse platform. Troubleshoot and found inconsistency in system configurations, met and discussed with vendors and internal stakeholders to analyse all potential solutions and design ad hoc resolutions. Solved problems significantly increased customer satisfaction and retention rate.
- **Designed Enterprise Scale Networks:** knowledge of IPv4 allowed efficient use of IP blocks by appropriately assigning network mask with VLSM technique. Analysed user traffic statistics, planned network growth, designed distributed network capacity and assist system integrations during roll out phase.
- **Migrated 20 Million Users to New Billing System:** identified key challenges including protocol compatibility, load balancing, and fallback plan. Proposing and verifying new solutions through data backup and testing.

EDUCATION	PhD in Information Technology	Mar 2013
	Monash University Thesis Title: <i>Provisioning Quality-of-Services in Cognitive Radio Networks</i> Thesis Link: http://arrow.monash.edu.au/hdl/1959.1/848439	
	Bachelor of Science in Electrical and Electronic Engineering	Nov 2004
	Bangladesh University of Engineering and Technology CGPA 3.87 out of 4	
FURTHER QUALIFICATIONS	Python Programming	2014
	Coursera Online, University of Michigan	
	VMware Certified Professional VCP5-DCV	2014
	Lic VMW-00987711A-00421254	
	Cisco CCNA CCDA CCNA Security CCNP(switch, route)	2013
	Lic CSC011882284	
	Microsoft MCTS (Windows Server 2008 r2)	2013
	Lic E112-5543	
	Oracle 11g SQL Fundamentals	2014
PROFESSIONAL TRAINING	VMware VCP5-Data Centre Virtualisation	2013
	ITFutures, Melbourne	
	Switch Networks (MSC/VLR) configuration	2006
	Ericsson Education Centre, Malaysia	
	Advanced System Administration of Solaris Operating System	2005
	Sun Microsystems, Singapore	
	Visual C++	2003
	BUET, Bangladesh	
INDUSTRY PROJECTS	Prepaid Billing System Swap	2007-2008
	Grameenphone experienced huge customer growth which necessitated deploying new billing system. Supported designing, integrating, testing, and migrating user databases from old billing system to new billing system.	
	Fun Dial	2006-2007
	Fun dial replaces traditional ring back tone to personalised ring back tone. Whilst working as a project engineer at Grameenphone, I contributed in finalising project requirements, selecting vendor, and integrating to existing networks for live operation.	
	Common Provisioning System	2005-2006
	Due to huge customer growth at Grameenphone, it was a challenging situation to streamline user service provisioning request coming through SMS, web, and customer care interfaces. I contributed in analysing various system features, designing provisioning process flow, documenting and integrating services with multi-vendor environment.	
PUBLICATIONS	Published four papers in IEEE international conferences. Please visit my website to see the list of publications.	
VOLUNTEERING	Fundraising Program	April 2013
	Sold charity lunches around Gippsland area and raised fund for building collapsed victim in Bangladesh.	
	Judge for website development competition	2011 and 2012
	Ranked websites based on advanced IT features, business prospects, and user flexibility .	
	GAPS Treasurer	Nov 2008 - Nov 2009
	Organised student events and managed funds for Gippsland Association of Postgraduate Students at Monash University.	
REFERENCES	Prof Manzur Murshed (Research Supervisor) Head of School School of Information Technology Federation University, Australia Email: manzur.murshed@federation.edu.au Phone: +61 399 0264 67	K M Tariquzzaman (Previous Manager at Grameenphone) Head of Operations Grameenphone Ltd. Dhaka, Bangladesh Email: kmtariq@grameenphone.com Mobile: +880 1711 505 629