

RAYMOND (RAY) P BURKHOLDER, B.Sc.

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Career Goal

Systems Integration involving software development, ip network engineering, and server management.

Summary of Qualifications

- Over 20 years experience in the technology field
- Broad background in LANs, WANs, software development & telecommunications
- Work well with peers, vendors, consultants, and customers.
- Good working knowledge of networks, wireless, VOIP, IP Telephony, Unified Messaging
- Proven experience in technology integration
- Well developed communication skills
- Ability to develop long term working relationships with customers
- Excellent troubleshooting and integration skills
- Able to handle multiple projects simultaneously
- Diversified Skill Sets: Microsoft Servers, Cisco AVVID, Open Source, SQL, C++, Perl

Links

Linked In: <http://www.linkedin.com/in/rayburkholder>

Blog: <http://www.oneunified.net/blog>

Professional Experience

October 2011 – Present, Digicel Bermuda (Digicel Acquired Transact)

Senior Systems Technologist

- Still managing ISP portion of Transact
- Implementing Cisco 7600's into the ISP portion of Transact
- In the operations side of Digicel Bermuda: re-architecting, performance tuning, implementing fault-tolerance, and enhancing a two site network, with Cisco 4500 switches, two clusters of VMWare servers licensed for Enterprise functionality, HP Lefthand Networks iSCSI SAN, HP EVA 4000 Fibre Channel SAN, and Symantec NetBackup with TB Enterprise licensing.

2008 – September 2011, Transact Limited, Bermuda

Manager, Network Operations, ISP

- Provided dedicated 24x7 on-call client support
- Level 3 support including shift work weekdays, weekends, and graveyard shift
- Training and ongoing support to level 1 and level 2 technicians
- Diagnosed and repaired network and service faults
- Performed capacity & reliability analysis & planning
- Built redundancy into new and existing services for superior availability.
- Configured and operated Cisco switches, routers, and firewalls
- Migrated EIGRP based network to BGP/OSPF/MPLS
- Implemented Cricket for SNMP monitoring, NfSen/NFDump for Netflow analysis, Rancid for version control
- Managed physical servers including a VMWare based host environment

- Managed local services, including Bind for DNS; CommuniGate for SMTP, IMAP, POP3; Apache for HTTP; FreeRadius for RADIUS; PostgreSQL and MySQL for SQL
- Customized Perl and Shell scripts to integrate BillMax (ISP Billing System) with FreeRadius (network Authentication/Authorization/Accounting server)
- Administered and maintained a mixture of Linux and FreeBSD based servers, operating systems, and services
- Provided Sales Engineering Support for recommending and designing appropriate solutions
- Liaised with local and international carriers for service improvements and upgrades
- Maintained network documentation
- Acquired IPv6 and additional IPv4 address space from ARIN
- Started implementation of IPv6 throughout Transact's Network

2004 – 2008, Systems Business Integration Ltd / Igitly Ltd, Bermuda

Senior Systems Technologist

- Bermuda Fire & Marine (On Bermuda Stock Exchange)
 - Assumed management of an existing Callmanager / Unity / AVVID solution
 - Improved VLAN arrangement, switch QoS of a thirteen 3550/3750 switch network
 - Reconfigured Callmanager to improve Calling Search Space and Partition arrangements in a multi-site calling solution
 - Upgraded Publisher/Subscriber to Callmanager 4.1.3
 - Implemented site-to-site VPN between three sites with QoS via IPSEC Tunnels
 - Running OSPF in-site and inter-site over VPN
 - Making use of VRF's across four sites to segregate and independently route voice traffic, data traffic, guest traffic, and BGP load balanced traffic
 - Implemented NBAR basic traffic classification
 - Using SAA/SLA for inter-site quality monitoring
 - Implemented Open Source monitoring tools including: Cricket, RANCID, NetDisco, & FlowTools, NTOP, and custom Perl code
 - Assisted with re-IPing the network to facilitate summary-routes and standardized VLAN assignments for each site
 - Converting Unity Exchange to Redundant Unity Notes (work in progress)
 - Testing IPCC in IT Help desk scenario (work in progress)
 - Implementing redundant 3750 layer 2/3 core (work in progress)
 - Designing & implementing wireless IP Telephony solution with LWAP (work in progress)
 - Providing network documentation
 - Working with four Internet Service Providers for carrier diversity
 - Designing eBGP and iBGP multi-homing infrastructure
- Axis Specialty (NYSE:AXS)
 - Installed 80 seat Cisco Callmanager 3.3 / Unity 4.0 IP Telephony solution with SRST integrated into Active Directory
 - Configured ten 3550 series switches in a Layer 2 QoS'd network through three buildings
 - Upgrading to Unity 4.0.5
 - Troubleshooting Active Directory and Exchange 2000/2003 issues in multi-national network
 - Integrating New York Callmanager cluster with Bermuda Callmanager cluster through intra cluster links
- Arch Re Insurance, a member of Arch Capital Group Ltd (Nasdaq:ACGL)
 - Implemented IDS solution based upon Snort/Base/PostgreSQL/BleedingSnort/oinkmaster
 - Integrating IDS into nAble Network Monitoring Software
 - Making recommendations on Active Directory integration
 - Implementing Open Source monitoring solution based upon Debian/NetFlow/FlowTools/Cricket/Mason/NetDisco/PostgreSQL/Perl
- Max Re Capital Ltd. (Nasdaq:MXRE)

- Converted network of daisy-chained 2950 switches to a star topology with a redundant core of Layer 3 3750's.
- Implemented Snort server and Network Monitoring server with Cricket, Nagios, Rancid & NetDisco
- Redesigned and re-iop'd network implementation with a VLAN structure
- Implement policy-based routing to route Citrix realtime traffic over dedicated link and Citrix printer traffic across higher bandwidth VPN tunnel
- Installing Open Source Master Shaper (work in progress)
- Bank of Butterfield (On Bermuda Stock Exchange)
 - Troubleshooting Microsoft SQL Server applications
 - Developing SQL Server applications with Microsoft Visual Studio/C#
 - Migrating data from Ingres database to MS SQL and writing Microsoft SQL Reporting Services reports.
 - Optimizing Butterfield Direct web server
 - Recommending best practices regarding application development, business continuity, security management, data base management, & network design
 - Designing dual SQL cluster with log-shipping for fail-over and load balancing
- Montpelier Re (NYSE:MRH)
 - Installing & Maintaining 75 seat Cisco Callmanager 3.3 / Unity 4.0 / Personal Assistant 2.0 IP Telephony solution with SRST
 - Installing & Configuring Microsoft Systems Management Server
 - Maintaining iSCSI SAN environment
 - Implementing IDS on DMZ using SNORT/BASE/BleedingSnort
 - Maintaining switched network with two 4506 switches, one 4006 switch, and a number of 3550's
- ACE (NYSE:ACE)
 - Configured ten 3550 switches in collocation facility for redundancy
 - Implemented MRTG for monitoring
- PXRE
 - Maintained a Cisco Callmanager 3.3 / Unity 4.0 / Domino IP Telephony solution
- Saltus Grammar School
 - Upgrading network Layer 2 and Layer 3 infrastructure in preparation for IP Telephony solution
 - Proposing replacement of existing 25 node wireless implementation with a Cisco LWAP wireless implantation
 - Performing wireless network survey with AirMagnet software
 - Monitoring network with Debian/Cricket/Rancid
 - Troubleshooting network issues with Ethereal
 - Implementing Multicast on network to facilitate Symantec Ghosting of student workstations
- Tucker's Point Club (Bermuda's Premier Golf Resort)
 - Designed and implemented campus wide switch network
 - Designed and implemented dual Callmanager 3.3 installation with Forced Authorization Codes
 - Integrated Nevotek's Hospitality Management solution in with Callmanager
- TeleBermuda
 - Implementing SNORT for monitoring border servers
- Quovadis
 - Tuning an Asterisk Open Source Telephone solution

2002 – 2003, 2005 Choice Communications, US Virgin Islands
Network Architect

- Managed the Internet Operations Department of a full service Internet and Television ISP
- Worked to reduce daily network incident rates
- Planned and budgeted for service improvements, new products, and network expansion
- Mentored a technical team of people with skills in Cisco router/switch/security technology, software development, Linux servers, and Microsoft products.

- Reduced dial-up issues
- Improved ISO Layer 1, Layer 2, and Layer 3 connectivity and reliability.
- Improved eBGP multihoming arrangements and internal OSPF routing configurations
- Implemented SNMP network management and monitoring with Cricket/NMIS/NAGIOS/RANCID
- Worked to improve wireline/wireless integration with BreezeCom, Alvarion, Hybrid, and AB Access radios.
- Troubleshooting DS3 and NTP network issues on a 7206VXR based network.

1995 - 2002, One Unified, Kitchener, Ontario

Project Manager, Technology Integration

- Cisco CallManager 3.2 multi-partition implementation over WAN, and integration into Unified Messaging/Communications system
- Open Source Asterisk IP Telephone consulting
- Unified Messaging/Unified Communication solution installations.
- ASP based Fax-To-Email services
- IVR (Interactive Voice Response) systems, Voice Recognition systems.
- Vovida/SIP/Linux Implementation
- Distributed IP Telephone System Design & Installation
- Network management & monitoring with Cisco Works 2000, Cisco Works for Windows 6, and WhatsUp Gold v7
- eCommerce development using 3-Tier techniques: ADO/SQL 2000 database, VB COM+ Components, ASP pages, Perl CGI scripting, C++ Coding
- Microsoft Exchange Server 2000 Installation, Configuration & Maintenance
- Windows 2000 Active Directory Installation, Configuration, & Maintenance.
- Cisco IOS router configuration packet filtering, EIGRP, RIP, OSPF, BGP4
- Familiar with routing technologies: RIP, IGRP, EIGRP, OSPF, BGP4
- Worked with Microsoft SMS Network Analysis/Sniffer Tool
- Cisco Switch/Router based VLAN and multi-layer switch configurations
- Cisco IPSEC based Router to Router virtual LAN over DSL, ISDN
- Cisco Dial Up solutions with W2K & CiscoSecure RADIUS authentication
- Wireless voice & data networks
- T1/PRI/DSL/BRI services selection and provisioning
- Firewall design & implementations with Cisco IOS/ IP/FW, MS Proxy.
- Certified installer for 3M Fibre, Hubbell Copper & Fibre
- TCP/IP, DHCP (Cisco & W2K), WINS, DNS (BIND & NT) integrated configurations
- Network Monitoring and alerting with CastleRock SNMPc, CiscoWorks, HP OpenView
- Linux, Unix, Windows 95, 98, 2000, XP

Example Projects with One Unified

2004 Vertex Works

- Implemented a 15 seat Asterisk based IP Telephone solution

2000 – 2002 One Unified

- Design multi-site network architecture for providing VoIP and Unified Communications services in an ASP (Application Service Provider) environment.
- Utilized Cisco Call Manager / AVIID architecture components (routers, switches, firewalls, gateways)
- Integrated with Microsoft Exchange Server 2000
- Custom 3-tier web site development with integrated credit card processing

1999 – 2002 ESG International

- Troubleshoot IP/IPX network connectivity issues
- Implement wide area VPN network with Cisco routers and switches
- Architect Windows NT multi-domain, multi-site network
- Design plan for migrating from Windows NT environment to Windows 2000
- Migrate Exchange 5.5 to Exchange 2000
- Installation & configuration of Coldfusion web server

2002 Compublox

- Install IP Centrex solution using Cisco Callmanager, Unity, Personal Assistant
- Troubleshoot Wide Area Connectivity issues

2001 Stack A Shelf

- Implement PIX firewall connectivity with parent company
- Audit Microsoft Exchange Server connectivity and backup scenarios
- Custom software development for accounting system conversion

2001 Outokumpu Mintec

- Designed and installed Cat 5e network/telephone cabling at new office location
- Assisted with moving, migrating, and connecting IP/IPX network to sister company's network
- Integrated wiring for use with PBX telephone network wiring

2001 Coldwell Banker

- Designed, documented, and presented a greenfield network infrastructure design utilizing Cisco AVVID networking technologies incorporating Call Manager products, Alexis Unified Communications services, and Microsoft Exchange Server capabilities.

2000 Digitized Solutions

- Migrate Windows NT network to Windows 2000 Active Directory
- Migrate Exchange 5.5 to Exchange 2000

1999 A Trinidad Consulting Company

- Presented a one day Year 2000 seminar to IT Professionals

1999 Armid Marketing

- Supervised the development and roll-out of an Envoy based IVR system
- Implemented user utilities for designing customized IVR scripts incorporating any combination of yes/no, numeric, and multiple choice entries
- Handled integration into accounting and reporting system
- Supervised two developers

1998 – 2000 Merck Medco Rx Services of Nevada

- Develop Microsoft Visual C++ application for interfacing packaging machine to VMS mainframe
- Utilized multithreaded, object oriented programming model
- Migrated ODBC database connectivity to OLE/DB/ADO architecture

- Handle communications between a VAX VMS system using DECNet & TCP/IP protocols and an Allen Bradley PLC5 using RS-Linx/OPC drivers.
- Worked with PLC programmers, mechanical designers, mainframe developers, and operations personnel

1997 Johnsonite Floor Coverings

- Implemented C program in a manufacturing environment for data-logging values from: Allen Bradley SLC/03 PLC using DH-485 protocols, a string of Euratherm temperature controllers over RS-422, and a LaserMike measuring system over RS-232.
- Supervised software developer.

1996 Bell Northern Research (Nortel), Angstrom Engineering

- Thin Film Vacuum Deposition Equipment Automation
- Designed and implemented a modularized, object-oriented, multi-threaded, Microsoft Visual C++ program to use process recipes for controlling thin film deposition under vacuum in a real time environment.
- Supervised software developer.

1985 – 1996 Limnoterra Atlantic, Inc.

- Embedded Systems Design, Software Development
- Provided full life-cycle design, development and support for Electronic Fish Measuring System, Electronic Ecobug Data Logger, Electronic Digital Calipers
- Designed, coded, and tested assembly language level embedded firmware which implemented a Forth-flavored token interpreter.
- Used Lex, YACC, and C to develop a tokenizer for translating Instrumentation Configuration Language source code into pseudo-code (p-code) instructions.
- Designed a general purpose hierarchical database engine. Engine field and record definitions were defined by a text based schema language read in by Lex/Yacc. The engine was used for controlling and validating Electronic Fish Measuring System collection sessions.
- Supervised test engineer and installation engineer.

Employment History

2009 - 2012	Manager, Network Operations, <u>Digicel/Transact</u> , Bermuda
2004 – 2008	Senior Systems Technologist, <u>Systems Business Integration/Igility</u> , Bermuda
2002 - 2003	Network Architect, <u>Choice Communications</u> , St. Thomas, USVI
1995 - 2002	Project Manager, <u>One Unified</u> , Kitchener, ON
1985 - 1995	Systems Architect, <u>Limnoterra Limited.</u> , Kitchener, ON
1984 - 1985	Systems Analyst, <u>Wilfrid Laurier University</u> , Waterloo, ON

Professional Affiliations & Certifications

Member of Association for Computing Machinery (ACM)
Member of The Institute of Electrical and Electronics Engineers (IEEE)

Education

BS Mathematics, 1986; Wilfrid Laurier University

Public Code

Genetic Programming: <https://sourceforge.net/projects/ougp/>
IQFeed Driver for SmartQuant: <https://sourceforge.net/projects/ousq/>