

## NICHOLAS JOSEPH RUSSO

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### SUMMARY OF QUALIFICATIONS

- Served three years as a decorated US Marine Corps (USMC) Communications Officer for two deployments.
- Senior network engineer; certified as CCIE Routing/Switching, CCIE Service Provider, and CCDE.
- Proven ability to design, build, and troubleshoot large-scale IP and MPLS networks with 7 years experience.
- Expert understanding of Cisco EIGRP, OSPF, BGP, RIP, IP-FRR, STP, QoS, PIM, MPLS (including L3VPN, L2VPN, RSVP-TE, TE-FRR, Segment Routing, and next-generation Multicast VPN), DMVPN, NAT, IPsec, VXLAN, OTV, LISP, and IPv6 (including technologies like 6rd, 6to4, and ISATAP tunneling).
- High proficiency in Cisco Unified and wireless communications, VMware vSphere 5/6, and Linux / UNIX.
- Knowledgeable utilizing several related technologies and tools: Java, C, C++, C#, and Python; Cisco ASA-OS and NX-OS; Juniper Junos; Palo Alto firewalls; Riverbed WAN accelerators; HAIPE network encryptors.

### RELATED PROFESSIONAL EXPERIENCE

#### **Cisco, Network Consulting Engineer (NCE)**

**Jan 2016 – Present**

*Responsible for designing advanced IP and IP/MPLS networks for a variety of US Army customers, including tactical and garrison deployments. Create detailed network assessments, designs, architectures, and recommendations summaries in accordance with customer requirements and business constraints.*

- Developed new QoS scheme for a customer with very stringent Service Level Agreement (SLA) constraints supporting low-speed, high-latency links. Scheme combines congestion management, congestion avoidance, IP telephony call admission control (CAC), and configuration extensibility suitable for user modification.
- Designed a statewide migration of BGP-based customer-edge to provider-edge (PE-CE) routing to a DMVPN phase 3 overlay using EIGRP and IPsec. Future migration phases could include migration to the Internet as an underlay with Cisco PfR used for Intelligent WAN (IWAN) path selection.
- Developed a complete carrier supporting carrier (CsC) design to connect globally dispersed points of presence (POPs) over a common MPLS transport network. The solution provides transparent extension of L3VPN, L2VPN, and multicast services for tactical customers. Security and QoS are integrated as well.
- Designed, tested, and documented two new WAN overlay options using Cisco's OTV and BGP over DMVPN phase 3. Performed detailed complexity analysis between all options for customer consideration.
- Designed, tested, and documented a comprehensive LAN security strategy in order to reduce the attack surface by introducing 802.1X, DHCP snooping, IP source guard, and dynamic ARP inspection.

#### **Netorian LLC (on behalf of US Army), Network Architect**

**Aug 2013 – Jan 2016**

*Responsible for all routing, unified communications, virtualization, transmission system, and security infrastructure within the US Army's largest tactical network program; Warfighter Information Network – Tactical (WIN-T) Increment 1. Responsible for reviewing all new design changes and network optimizations.*

- Single-handedly redesigned all unicast and multicast routing in the Regional Hub Node (RHN), increasing bandwidth between units by 200% and achieving sub-second IGP convergence. Design is currently under test.
- Designed and implemented an advanced BGP routing scheme to support converged transport of multiple Military Intelligence networks over existing WIN-T and other military black core networks via RHNs.
- Optimized unicast routing throughout the entire network architecture to introduce OSPF NSSA areas, summarization, filtering, and intelligent redistribution. Achieved a reduction of backbone area router and intra-area prefix counts by 70% and 90% respectively, reducing convergence times and network overhead.
- Introduced MPLS into the RHN aggregation layer for maximum flexibility and simplified BGP configuration.
- Enhanced existing LAN-side firewall architecture to reduce inspection complexity and policy rule count. Also designed hypervisor-supported high-availability and resource distribution supporting the virtual firewall.
- Developed the original System of Systems (SoS) Quick Reference Guide (QRG) containing detailed and accurate technical information on all component systems within the Capability Set. Single-handedly responsible for its development, deadlines, production, material procurement, publication, and distribution.

**Harris RF Communications Division, Network Engineer****Jan 2012 – Aug 2013**

*Responsible for designing, installing, and troubleshooting network architectures to support the AN/PRC-117G, AN/PRC-152A, Harris SideFalcon, and RF-6020 tactical router in support of the Joint Tactical Radio System (JTRS) program. Regularly traveled to customer environments in a network consulting capacity.*

- Served as Lead Engineer for Network Integration Evaluation (NIE) 12.2 and 13.1 within the first year of employment. Both exercises were multi-million dollar sales opportunities involving 550 operable systems.
- Authored company distributable documentation on many complex network-related topics: OSPFv2, NAT, SNMPv3, Adaptive Networking Wideband Waveform (ANW2), and Advanced IP / Black Core Networking.

**United States Marine Corps, Communications Officer, First Lieutenant****Jun 2008 – Dec 2011**

*Accountable for all communications matters within the 3d Battalion, 2d Marine Regiment. Primary duties included planning multi-channel radio, telephony, IP routed, multiplexing, and satellite network architecture.*

- Provided timely, reliable, and secure tactical voice, video, and data communications during multiple deployments: Operation Enduring Freedom 11.1 (Helmand Province, Afghanistan) from February to September 2011 and Operation Unified Response (Ouest Department, Haiti) from January to April 2010.
- Managed communications equipment, controlled items, electronics, and vehicles valued in excess of \$15M.
- Managed 9,900 square foot facility, supervised ten direct reports, and accountable for 55 subordinate Marines.
- Developed Standard Operating Procedures for Electronic Key Management System (EKMS) handling, communications security (COMSEC) accountability, and Information Assurance training / handling.

**Harris RF Communications Division, Software Integration/Test Programmer****Jul 2006 – Feb 2008**

*Responsible for validating software quality and requirements on the AN/PRC-152 and AN/PRC-117G radio sets as a cooperative employee. Assist with the creation, enhancement, maintenance, and documentation all related test scripting software used for automated testing.*

- Created fully comprehensive documentation for all methods used within the programming utility package in HTML format for easy access, browsing, and comprehension.
- Performed and documented full-spectrum software integration testing: manual, regression, and reliability.
- Assisted the floor supervisor in identifying, developing, and implementing alternative test scripts.

**FORMAL EDUCATION****Rochester Institute of Technology, Rochester, NY****Sep 2004 – May 2008**

*Bachelor of Science, Computer Science (Minor in International Relations) – High Honors – 3.51 / 4.00 GPA*

**ACTIVE CAREER CERTIFICATIONS**

- Cisco Certified Internetwork Expert – Routing/Switching (CCIE-RS), number 42518
- Cisco Certified Internetwork Expert – Service Provider (CCIE-SP), number 42518
- Cisco Certified Design Expert (CCDE), number 20160041
- Cisco Certified Network Associate – Voice (CCNA-V)
- Juniper Network Certified Associate – Junos (JNCIA-Junos)
- VMware Certified Professional 5 – Data Center Virtualization (VCP5-DCV)
- VMware Certified Professional 6 – Data Center Virtualization (VCP6-DCV)
- Linux Professional Institute Certification 1 (LPIC-1)
- SUSE Certified Linux Administrator (CLA)
- CompTIA Linux+
- CompTIA Security+
- Information Technology Infrastructure Library Foundations 2011 (ITIL-F 2011)

**PROFESSIONAL DEVELOPMENT AND ACHIEVEMENT**

- Professional author of more than 2,900 pages of highly technical published work, complete with configuration files and diagrams. Russo, N. J. (2016) *CCIE Service Provider Version 4 Written and Lab Exam Comprehensive Guide*. Aberdeen, Maryland: Leanpub [<https://leanpub.com/ccie-spv4-comp-guide>]
- Member of the IPv6 Forum as a Certified Gold Engineer [<http://www.ipv6forum.org>]
- Actively publishing Python code to a Git repository for public use [<https://github.com/nickrusso42518>]
- Armed Forces Communications-Electronics Association (AFCEA) Marconi Award winner (Dec 2009)
- Navy and Marine Corps Commendation Medal for meritorious achievement during OEF 11.1 (Sep 2011)
- LtCol Kevin M. Shea Memorial Award Recipient; Best USMC Communications Unit in 2011 (Apr 2012)