Dennis Periquet
60 Colonel Daniels Drive, Bedford, NH (603) 759-6012

System Integration and Test Engineer, Juniper Networks, June 2012 – Present

Test next generation broadband Edge software/hardware on MX series routers.

- Wrote regression tests (in Perl and tcl) to help maintain software stability during rapid development; these tests simulate broadband subscribers authentication via Steel Belted Radius using various subscriber access models.
- Setup and performed customer demos to show development progress to customers
- Helped development team find, track, fix, and re-test issues related to functionality, performance, and scalability.
- Evaluated 3rd party vendor test equipment, purchased, deployed it in such a way to make it available to entire group (e.g., through MRV layer-1 switch) for high level of sharing & utilization

My test methodology is such that the test scripts evolve as the software evolves allowing development team to write software quickly and with good quality during a startup-like development cycle without spending much time on build breaks. Extensive use of existing automation, and/or manual testing using Ixia/Agilent test equipment. I've also used NetPST as tcl interpretor with the Agilent Test API to develop scripts that allow me to speed up running of performance and scaling tests in a repeatable manner.

Technical Lead for Junosphere Virtualization Platform, Juniper Networks, May 2010 - June 2012

Oversaw periodic platform upgrades, setting up of 24x7 customer support system, directing System Testing deliverables, integration of third party virtualization solutions, development, integration, bug fixing

Prior to become the Technical Lead, I did System integration/Test and design of Juniper's platform for virtualization of Junos routers and network modeling platform, significant work in design of the platform that allows customers to create private network topologies accessible via secure VPN in a cloud. Topologies consist of one or more VJX1000 (virtual Junos), virtual Centos/Ubuntu Linux, other third party vendors' virtualization solutions. Environment uses kvm/qemu (open source hypervisor and processor emulation), VDE (Virtual Distributed Ethernet) for interconnection via virtual switches.

Systems Integration/Test for LN-1000v platform, Juniper Networks, 2008 - 2010

LN-1000v is a small form factor router featuring multi-core architecture, software forwarding plane, onboard DPI (Deep Packet Inspection), stateful/stateless firewall. Tested full customer solutions including pppoe, radio to router protocols, routing protocols, CoS testing with Agilent/Spirent traffic, Layers 4-7 application stateful firewall testing. My integration topology incorporated all customer functionality and found many bugs. Visited and worked with 3rd party vendors who built hardware/software that Juniper needed to integrate with. Used Network Protocol Simulation Tool (intellectual property owned by me) to simulate pppoe clients for testing radio to router protocols with radio vendors for military use; same simulations were used heavily by developers for unit testing.

Systems Integration/Testing, Juniper Networks, 2003 - 2008

Test Junos subscriber management platform using MX family of Juniper routers. Significant Perl work in automating creation of sample Junos configurations developers and testers used for testing. Setup developer lab environment; Perl scripting/automation.

Ran tests for Juniper E-series routers; this involved keeping 9 routers running 24x7 and running about 1100 test cases on them weekly every week. Also involved troubleshooting and reporting any issues that happened on the routers. Debugged the actual scripts and the test infrastructure and found several issues (false passing tests found for example). Rewrote most of the automation so it was more reliable allowing me time for more troubleshooting of routing protocols and hardware issues; generated weekly reports that allowed users to see past history of scripts to ascertain when a bug was introduced. In latter portion of this position, took formal training courses in Perl and configuration/troubleshooting of Junos routers.

QA Engineer, Snowshore Networks 2001 – 2002

Test Media Server for VOIP applications; developed simulation engine for scaling testing of SIP server. Developed scripts utilizing my NetPST intellectual property to implement security attacks including syn attack, ping of death as well as scaling tests for large numbers of SIP callers. System test and software teams used NetPST's SIP simulator (written in 1 week by me) to perform system level and unit level tests.

Principal Software Engineer, River Delta Networks, 1999 – 2001

Developed test tools for simulating large networks and build routing protocol test suites for test automation. The main tool was called NetPST (Network Protocol Simulation Tool). It was written in C/C++, tcl/itcl. It was built to run as a single process using mini-thread FSMs for simulating various routing protocol state machines. NetPST was designed to allow a developer or toolsmith to rapidly create protocol encoders and decoders and incorporate them into Finite State Machines to simulate the behavior of networking elements like routers and switches. NetPST is robust enough to design a full protocol stack (although it will not be as fast as an ASIC design). Using APIs and libraries, I was able to create several protocol simulations to perform scale testing for routers that run the BGP4 and OSPFv2 routing protocols. Using the simulations, we were able to scale to over 1,000,000 routes and hundreds of peers using a single PC all at a fraction of the cost of buying equipment from third party vendors including Agilent and Ixia Systems. The big win was in significant reduction in equipment expense and greater flexibility in customizing the protocol simulators to exercise the hardware/software as needed.

Principal Software Engineer, Avici Systems, 1997 – 1999

Wrote test tools for automating protocol testing for the BGP, OSPF, ISIS, and RIP routing protocols. Tool also allowed high speed packet generation and sniffing. These tools contributed significantly to customer demos, performance/scaling testing, and automated regression testing and network troubleshooting. It was called NUTcracker.

Senior Software Engineer, Bay Networks, 1994 – 1997

Systems Integrator for Customer Service group.
SQA Tools Engineer, writing software that simulated networking elements to create test topologies to enable test automation and network troubleshooting.

Senior Software Engineer, Digital Equipment Corp. 1989 - 1994

Compiler developer for BASIC, SCAN, and COBOL compilers.

Education

- **Southern NH University, MBA, Finance**, 1991 - 1993; earned in 2 years while working full-time
- **University of Colorado at Colorado Springs, BS, Computer Science**, 1984 - 1988; Electrical Eng/Math minor; awarded "Outstanding Senior of the Year" for graduating top of class