*Satya Ranjan Mohanty*

*Member of Technical Staff*

*Juniper Networks*

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**Current Employment**

Member of Technical Staff, Routing Business Unit at Juniper Networks

**Career Interests and Skill summary**

My professional Interest is in Internet Routing Protocols, their design and Implementation

Protocols:                                          BGP, BGP Non-Stop-Routing (BGP NSR), MPLS, L3VPN, EVPN

L2VPN VPLS/VPWS, TCP/IP, RIP

Programming Language  Extensive multithreaded programming in C in Linux, 4.4 Free BSD, Solaris, Cisco

I0S-XR, strong knowledge of Unix Internals and synchronization primitives, Junos

Libraries:                                           Berkeley Sockets, GNU GMP, Crypto, Pthreads, and CSIM, LEDA

**Education**

PhD Computer Science,    University of California, Riverside, 2007

MS Computer Science, University of California, Riverside, 2006

MS Electrical Engineering,    University of Kentucky, 1999

B. Tech (Hon.) Electrical Engineering, Indian Institute of Technology, Kharagpur, 1995

**Work experience**

Juniper Networks Sunnyvale, CA (March 2011 – Current)

* Current Designation: Member of Technical Staff, Routing Business Unit (Core Junos). Working on Ethernet MPLS design technologies, participate in IETF Design discussions.
* Previously worked with the control plane in Data Center Business Group. Work involves layer 2 and layer 3 enhancements for control plane information propagation in a large distributed system, Qfabric
* Ethernet Switching Deamon, Convergence and Scale issues, Data Center Projects

Cisco Systems, Inc.   San Jose, CA (April 2007 – February 2011)

* Designation at exit: Software Development Engineer IV (Routing Protocols BGP)
* Primarily worked on the Border Gateway Protocol (BGP) and L3VPN technologies for both core and edge routers like the Carrier Routing System (CRS-1), C12K and ASR9000 routers running IOS-XR which is one of the most complex scalable distributed operating system
* Significant projects include BGP Non-stop Routing (BGP NSR), Designed and implemented BGP Auto-discovery and Signaling (both BGP and LDP) for L2VPN, VPLS, VPWS in IOS-XR, Selective VRF Download (SVD), iedge subscriber routing, v6 over v4 and DMZ enhancements for bandwidth selection
* Per Neighbor BFD feature
* Other internal enhancements associated with BGP, various bug fixing and triaging for several features, Customer issues for several ISPs

Nokia Internet Communications, Mountain View, CA: (2000 - 2001)

* Designation: Routing software development engineer with the Internet Protocol Routing Group
* Design and development of software enhancements for routing protocols RIP, OSPF, template conversions, RIP v2 authentication enhancements, OSPF hello timer robustness.
* Improved routing robustness by modifications to IPSO routing daemon and kernel. Investigated scalability issues.
* Operation and Deployment of routing protocols to develop insight into protocol data exchanges. Investigated conformance to RFC standards.
* Installed BSD/UNIX OS and configured Nokia IP series and Cisco 4000/7500 series routers.

Inara Networks, San Jose, CA (July 2001 to September 2001)

* Designation: Software Development Engineer
* Designed memory manager for Routing Protocol OSPF on VxWworks

Tata Electric Companies, Bombay, India (June 1995 till August 1996)

* Worked at Super thermal 500 MW power plant at India’s most modern power plant at that time
* Load dispatch, 500 MW and 150 MW Simulators, Supervisory Control and Data Acquisition Systems
* Undertook training and electrical maintenance work for different machines/drives, transformers, cable testing, Solid State and conventional relaying equipment.
* Computer Maintenance Division, Installing NIC cards and plugging to LAN.

**Internship experience (**Approximately ~1 year in networking area**)**

Intel Corporation, Santa Clara, CA June 2005 till September 30 2005

* Designation: Software Engineering Intern consultant
* Developed GUI and API for multi processor project
* Developed code to interface with driver code through USB
* Prototype implementation using VC++, managed and unmanaged code and .Net

Hitachi Storage Systems Inc., San Jose, CA: June 2004 to October 2004

* Designation: Software Engineering Intern consultant
* Prototype a Solution for disaster recovery in the Ethernet space
* Design of a network traffic analyzer for Hitachi HiPerf toolset by using features of Cisco Catalyst Product, mirror port, and packet capture library, libPcap.
* Project involved extensive programming in C, VC++, Perl and the packet capture library libPcap. Demonstrated proof-of-concept through Perl bindings to rrdtool, tcptrace, and Xplot.

IBM Corporation (Previously Data Beam), Lexington, KY :( August 1998 - Dec 1998)

* Designation: Quality Assurance Engineer Intern
* Test features of the Online Conference software – Lotus Sametime and NetMeeting.

Research Assistant:

* Electrical Engineering, University of Kentucky, Lexington [2001-2002]
* Comp. Science, University of California, Riverside [2002-2007]

Teaching Assistant:  Electrical engineering, University of Kentucky, Lexington [1996-2000]

**Sample Publications** (Computer Science and Engineering (Electrical Engineering Not Listed)

* “Max-Min Utility Fairness in Link Aggregated Systems” Accepted in IEEE High Performance Switching and Routing Workshop (HPSR `07), New York, May-June 2007
* “Lexicographic fairness in WDM interconnects”, Accepted in IEEE Annual Conference on Communications (INFOCOM 2007), Anchorage, May 2007
* “Adaptive max-min fair scheduling in Buffered Crossbar switches without speedup”, Accepted in IEEE Annual Conference on Communications (INFOCOM 2007), Anchorage, May 2007
* Fair Scheduling over multiple servers with flow dependent server rates”, IEEE Local Computer Networks (LCN 2006), Tampa Fl, November 2006
* “Guaranteed Smooth Switch Scheduling with Low Complexity”, IEEE Global Telecommunications Conference (GLOBECOM 2005), St. Louis Mo, December 2005
* “On fairness in Link Aggregated Internet Services”, 14th International Conference on Computer Communications and Networks (ICCCN 2005), October 2005
* “Fair Scheduling in Link Aggregated Internet Services”, submitted to Computer Networks, Elsevier
* “Loop Level analysis of security and network applications” Workshop on Computer Architecture Evaluation using Commercial Workloads (CAECW-03) held in Conjunction with IEEE High Performance Computer Architecture (HPCA-9), February 2003.
* 6 other publications in refereed conferences and 1 journal (Electrical Engineering)

**Honors**

* Certificate of Recognition from Intel Corporation for developing GUI and diagnostic software for advanced platform group
* Several Cisco Achievement awards (CAP Awards)
* University of California Dean’s Fellowship
* National Talent Search Scholarship (Govt. of India)
* Patent Filings under submission

**Reviewer of Journals and Conferences**

IEEE Transactions on Parallel and Distributed Systems

**IEEE Transactions on Computers**

**Computer Communications**

Security and Communication Networks

**IEEE International Conference on Communications, 2007, 2009, 2011**

**IEEE International Conference on Computer Communication Networks 2011, also served as Session chair**

International Conference on Computer Communications and Networks 2008

**International Conference on Information Technology 2009, also served as Tutorial Chair**

IEEE Communications Letters

**IEEE International Conference on Computer and Communication Technology 2010**

**MS** Electrical Eng: Optimal controller synthesis for a class of discrete event Process

**MS** Computer Science: Lexicographic Fairness in WDM Interconnects

**PhD** Computer Science: Quality of Service (Qos) Scheduling in Internet Routers and link aggregated systems

References furnished on request.