

# Ravikiran K.S.

ravikirandotks@gmail.com | +91.988.682.8569 | <https://www.linkedin.com/in/ravikiranks/>

*Curious programmer* who has **solved complex problems** under tight *deadlines*, and delivered **quality** software. Has **hands-on experience** of writing software for **network elements** like switch, router, gateway, load-balancer. Frequently **prototypes new ideas** on *latest technology trends* to identify and deliver new **competitive features**. He is obsessed with efficiency, **automates as hobby**, listens to understand, learns from failures, **gets job done**.

## Profile

Ravikiran K.S. is a software engineer, author, and freelancer residing in Bangalore. He has over **13 years** of *hands-on experience* in developing high-quality, scalable software solutions delivering line-rate performance.

- He is ranked **#1** with **82%** in Masters under faculty of Computer Science at RD University, Jabalpur.
- He is awarded **#6** times for timely delivery of products, solving critical problems, and help in design wins.
- He has delivered **#9** products till date, of which **#2 as sole developer**, which are commercially **successful**.

## Authored Articles

- **Increasing Carrier-Class High Availability** - TechOnline, PICMG-Embedded
- **Load balancing between server blades within ATCA platforms** - TelecomAsia, Radisys Blog.

## Core Competencies

Linux Containers . Kernel Programming . Platform Infra . Resiliency . Load Balancers . Open Source  
NXOS . JUNOS . DCN . VLAN . VNTAG . VEPA . VRRP . IS-IS . SCTP . MLAG . FCoE . LLDP . SAF  
Broadcom Trident2 . Netlogic XLR . Fulcrum Bali . 6Wind FastPath . Custom ASICs . Bonding Driver

## Professional Summary

Since 2015      *Storage Networks Developer* for **Cisco Systems, Inc.**

As Individual Contributor, delivers FCoE access features on both **N9000 Leaf/Spine & N7000 Core switches**. Features are FCoE support for Fabric Extender, FEX Active-Active, vPC/MLAG, Phy-Port vPC, and FabricPath. Also delivers Linux LXC container based NXOS ISSU support for FCoE services, KLMs on N9000 ToR switches.

- Develops innovative feature for system-wide runtime debug trace logging without affecting performance.
- Ravi is **invited for presenting it to NXOS Architecture Forum** and feature is used on all product lines.

2012 - 2014      *Core Router Developer* for **Juniper Networks, Inc.**

As Individual Contributor, develops control-plane infra, inter-chassis topology monitoring, chassis management and protocol role assignment for **PTX family** multi-chassis core router. Develops *the fault detection, isolation, and recovery framework* for high-speed SERDES based ASIC interconnects in **T-series standalone** products.

- Develops innovative method of **reusing IS-IS as loop-free topo-mgmt solution** without overhead of STP

2007 - 2011      *Network Solutions Developer* for **Continuous Computing, Ltd.**

As a Technical Leader, delivers **#2** carrier-grade and **#2** enterprise-grade solutions mentoring a **team of 6**.

- **FastPath SCTP** is a carrier-grade, highly optimized, stateful gateway solution. It gives bi-di throughput of **1M pps** of 1500B SCTP packets over 10G links. It extends 6Wind FastPath stack on NetLogic XLR NPUs. Ravi delivers complex zero-copy packet forwarding & scheduler, in-place IPSec, DMA and DNS support.

- **Layer2 HA** is an enterprise-grade network resilience solution. It gives **sub-msec** failover, weighted traffic mapping as hub-n-spoke, and faster convergence by VRRP enhancement. It is implemented as extension to Fulcrum ControlPoint on Switch and Bonding Driver enhancement on x86 Blades. Ravi delivers entire product, from ideation to deployment, pens white papers, customer support. It generates **>\$3M** revenue.
- **FlexBalance** is an enterprise-grade server load balancer. It does **statistical hashing** of traffic marked by **L4 flows**, MPLS tags, physical port-groups using DWRR & CBQ schedulers. It is implemented as pattern-match & scheduler enhancement using FFU, TCAM. Ravi delivers entire product from code to docs single handedly, works with architect and QA in different geographies, helps in deployment, customer support. Huge commercial success, generated **>\$8M** in revenue, and helped in more than **12 design wins**.
- **FlexTCA** is a carrier-grade, service availability product that pre-integrates Trillium stacks with GoAhead Saffire middleware to run out-of-box on ATCA chassis. It implements OAM interface over SNMP & Web, Compute blade resilience using SAF SAI, Protocol HA using DFTHA layer, Control plane HA using SAF checkpoint service, and Chassis management using SAF HPI. Ravi is responsible for design, code and testing of **complex SAF-Trillium integration layer** that represents core value-add of product offering.

2004 - 2006

*Freelance Developer* for **Lisle Technology Partners, Sakha Tech Info Systems**

Technology Consultant for **system software**, SBC solutions, mobile and **web application** development for Bangalore based startups.

## Open Source Contributions

- Ethernet Channel Bonding Driver enhancements
- OpenSAF bug-fixes
- OpenSolaris bug-fixes
- Misc Projects, Works

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**13 yrs** in industry, **3** blockbuster products, **>\$18M** revenue, **#1** in academia, **827+** bugs, **3** papers, ... counting

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