

# Rahul Amaram

## Resume

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Developer, Free Software / Open Source  
Enthusiast, Technology Entrepreneur, Blogger

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### Summary

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A graduate from IIIT Hyderabad (B.Tech CSE 2004), my first year was with Infosys Ltd., after which I co-founded a technology startup Spinaxys Solutions where I worked in products ranging from SMS based personal profiling systems to bluetooth based proximity marketing solution. Going ahead, I joined Synovel, where I designed and lead the development of the open-source Collabsuite server. My latest stint was at Vizury, a startup in the advertising domain, where I lead the RTB platform pipeline and helped build scalable systems by leveraging cloud computing. Areas of expertise include:

- Designing Horizontally scalable systems (my earlier product handled about 2,00,000 reqs/sec)
- Building extremely low latency applications (avg. response time < 10 ms)
- Multi-layered distributed caching systems
- Cloud Computing
- SOA & Restful APIs
- AWS/Network Security (VPN, Firewall, NACLs & Security Groups, VPC, Role-based credentials)
- Continuous Integration Systems (ex. Jenkins)
- Packaging & Release Management
- Setting up dev, test & production environments
- Monitoring & Alerting

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### Experience

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#### Consultant

January 2016 - Present

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#### Principal Software Engineer

April 2013 - October 2015

#### [Vizury Interactive Solutions Pvt. Ltd.](#)

(2 years 6 months)

- Primary activities include scaling, reducing costs, and ensuring stability and security of the RTB platform, which on an average handles 200,000 requests / sec across six different geographies
- Awarded TECHSTAR for an outstanding performance during the JFM 2015 quarter
- Driving RTB integration with FBX (thereby boosting company revenue immediately by 10%)
- Migration of cache servers from Memcached to Aerospike, a NoSQL database, which has helped reduce cache costs by 50%
- Mentoring migration of our RTB stack to make it more secure by using VPC, NACLs, Security Groups and Roles
- Explore, deploy and configure a monitoring framework for handling dynamic / adaptive thresholds using bischeck, a Nagios plugin
- Architect and implement real-time logging for processing about 200,000 log events / second that are generated by RTB bid servers
- Prototype and help deploy a platform across Vizury for QA to effectively test cross-component changes
- Introduce AWS cloud formation templates and mentor junior engineers in templating the entire RTB infrastructure
- Design a pre-production testing framework using TestNG which helps to identify bugs just before production release to greatly reduce the chances of things breaking in production

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#### Application Architect

June 2008 - December 2012

#### [Synovel Software Technologies Pvt. Ltd.](#)

(4 years 7 months)

- Architect and lead developer of the Collabsuite Server
- Improved scalability by profiling the product, implementing database and SSH connection pooling, and optimizing LDAP queries
- Deployed and setup Collabsuite at Customer premises, maintained Customer Support Systems and provided assistance to Customers
- Hired and inducted new recruits
- Deployed Nagios for Remote monitoring and integrated it with an in-house built SMS alerting service
- Designed and implemented remote support software for customers

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### Significant / Interesting Products & Projects

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#### Real-time Logging for Bid servers

Due to some requirement, we needed to make our bid servers stateless and therefore had to implement real-time logging. Under this implementation, log events get pushed to a Kafka broker as soon as they are generated in the bid servers. These log events are consumed continuously and written to files by a cluster of servers and uploaded to S3 for later processing by Analytics. We faced a lot of challenges in the bigger goes where at peak times, we have up to 50 bid servers, with each bid server pushing 4000 log events / second of avg. 500 bytes each. Cumulatively, this comes around to 100 MB of uncompressed log data to be processed every second. Through various optimizations such as compression, using flume, implementing a custom kafka partition rebalancer notifier, and resolving all the disk and network bottlenecks, we were finally able to implement a robust real-time logging architecture which ensured data buffering during broker downtime, no duplication of data and a horizontally scalable cluster of log processing servers. Blog: <https://www1.vizury.com/vizuryblog/implementing-real-time-logging/>

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#### FBX RHS And NewsFeed Integration

Integration with FBX had two major challenges - 1. A strict timeline of 4 weeks from FBX within which integration had to be completed and 2. The non-standard way of delivering ads by sending ad information in the bid-response itself. Meeting the deadline required stretching myself and the non-standard way of serving ads implied setting up the new feed infrastructure from end-to-end on the RTB side. FBX integration turned out to be the major revenue booster for the year. Here are some numbers which show the impact of the integration within a couple of months of it going live - 30%-40% revenue contribution in whichever campaigns it went live, avg. profitability of 55% compared to that of 38% for non-FBX and 45% of the total RTB impressions (40-50 million).

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### **Collabsuite Server (Product at Synovel)**

Extending my work done as a consultant earlier, I proceeded to convert a prototype into a full-fledged collaboration server. Running on Debian, the collaboration server integrates mail, instant messaging, and calendar services, and offers advanced features such as single sign-on (SSO), integration with Active Directory/CentOS Directory Server, and distributed services for scalability. I designed the product, evaluated and explored the features of various servers, integrated the various services, wrote the entire back-end for the remote web administration console in Python, and coded the first version of the web front-end for it in Dojo. Collabsuite sourceforge URL: <http://sourceforge.net/projects/collabsuite/>

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### **Calendarserver Debian Packaging (Free Software / Open Source Contribution)**

Patch contributor and currently Debian package maintainer for calendarserver. After contributing some patches to the Darwin Calendar Server, and building Debian packages for Synovel Collabsuite Server, I eventually took over the responsibilities from its former maintainer, Guido Gunther. Packages Overview: <http://qa.debian.org/developer.php?login=amaramrahul@users.sourceforge.net>

## ***Skillset***

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- Interests : Programming, System Administration, Network Security, System Design, Product Architecture, GNU/Linux Debian, NoSQL
- Languages : Java, Python, C/C++ (prior experience)
- Web : PHP, Dojo (prior experience)
- Administration : LDAP, Kerberos, Nagios, MySQL, Apache2, Postfix, Dovecot, Ejabberd, Calendar and Contacts Server, BackupPC, Active Directory, Iptables
- AWS : EC2, RDS, S3, Auto-scaling, ELB, SNS, SQS, IAM, AMI Creation, Cloud Formation