MOHSEN BANAN
Neda Communications, Inc.

3610 164th Place SE
Bellevue, WA 98008
TEL: +1-425-644-8026

http://mohsen.1.banan.byname.net/contact
http://mohsen.1.banan.byname.net
http://mohsen.1.banan.byname.net/resumes

Summary

I know the data communications industry from top to bottom. In over 20 years in the business I have done it all, from software coding all the way up to industry leadership and advocacy. And everything in between.

I consider myself to be: an engineer and a businessman; a tactician and a strategist; a team player and a tough manager; a software architect and a coder; a standards politician and a protocol guru; a student of the medium and a leader.

The result: an incomparable breadth of knowledge and experience spanning from the boardroom to the server room.

Technical Background

Project Management & Methodologies. Have managed medium size (10 to 15) teams of engineers and testers through the full systems developement life-cycle. Depending on specifics of project, team and environment have made effective use of eXtremeProgramming, Design Patterns, Refactoring, Agile and Scrum Methodologies.

Protocol Design and Implementation. Two published Internet RFCs (RFC-2188 and RFC-2524). Have played a role in the development and publication of several protocols through various standards organizations.

Data Communications. Expert level understanding of Layers 2 through 7. Extensive experience with SMTP, IMAP, POP, DNS, LDAP, HTTP, HTML, XML, PGP, S/MIME, X.509, X.500, ASN.1, CMIP, SNMP, RPC, TCP, T-TCP, IPv4, IPv6, Mobile-IP, IP-SEC, 802.1, 802.2, etc.

Telecommunications. Extensive experience with SS7, TCAP, SCCP, OMAP, IS-136, IS-41, ISDN, Telephony/POTS, VoIP.

The Mobile and Wireless Domain. One of the original and principal architects of the CDPD Specifications. Authored numerous wireless-related books, articles and technical papers. Extensive experience with CDPD, Wi-Fi (802.11), WiMAX (802.16), Bluetooth, GPRS, GSM, EDGE, 3GPP, LTE, SMS, CDMA, TDMA, AMPS.

Standards Processes. ITU, IETF, IESG, IAB, TIA, ANSI, NIST, W3C.

Management and Leadership Style. Responsibility oriented rather than authority oriented. Respect is to be earned rather than demanded. Politics takes a back seat to engineering. Pride in workmanship is the primary motivation. What makes sense takes priority over conventions, fear, and ego.

Software Development. Continually active through the past 20 years, in both a coding and designer capacity. Have maintained vertical continuity in the software development process. Expert level understanding and experience of C, C++, Lisp, Scheme, Bash/ksh/sh, CVS, Subversion, Git, Emacs, Unix system interfaces, Linux Kernel/Driver work. Familiar with JavaScript, Perl, Java and Python.

Platforms. Proficient with all major varieties of Unix (20+ years) including: Solaris (7+ years), Linux (10+ years; Debian, Ubuntu, Red Hat) and embedded Linux (ARM and OMAP) environments. Extensive experience with developing software for a variety of Linux based PDAs and handsets including: Maemo 4 (Nokia N810), Maemo 5 (N900), J2ME and Android.

Systems Administration and Operations. Webmaster, hostmaster and postmaster of more than a dozen networks for over ten years. Managed complex Layer 3 routing and security for mid-size networks. Managed ISP and ASP services for private and public user communities. Experience with configuration management tools similar to Puppet, Chef, and Cfengine. A strong proponent of development and operations continuity (DevOps) and Continuous Integration.

Virtualization. Experience with VirtualBox, KVM, Xen, VMware. Familiar with OpenStack and Software Defined Networks (SDN).

Open-Source Software. A proponent of Free and Open-Source Software (FOSS). Extensive experience with: qmail, Sendmail, Courier, SpamAssassin, imp, ezmlm, MHonArc, HylaFAX, SANE, Gimp, BIND, djbdns, daemontools, ucspi, Apache HTTP server, Ajax, JASON, Zope, Plone, Turbine, Tomcat, Jetspeed, Velocity, PostgreSQL, MySQL, Hibernate, Torque, Asterisk, Samba, CUPS, LaTeX, Emacs, bidi.

Security. Extensive experience with firewalls (iptables, Shorewall, Ferm), IP-SEC, TLS/SSL, PGP & gpg, S/MIME, PKCS, X.509, DNSSEC, tripwire, snort.

Multilingualization (m17n). Primary author of Emacs Persian/Farsi language facilities, including Persian Input Methods. Maintainer of persoarabic.org. Participant in efforts to make various open source software bidirectional (bidi aware).

Experience

Neda Communications, Inc. Bellevue, WA
Consultant, 1991–present

Started as a one-man consulting shop, which grew within 5 years to 12 employees and annual revenues of $1.2 million. Made a succesful transition from a pure consulting business to a consulting and internet services company.

Provided consulting and/or contract engineering services for numerous clients and projects. Satisfied clients include: Sierra Wireless, AT&T Wireless Data Division, CDPD Forum, Seattle Specialty Insurance, Electronic Mail Association, Emulex, Motorola, Microsoft, Precor, Research In Motion and US Department of Justice.

Notable assignment and projects include:

- Maintained a medium size boutique data center (LibreCenter) and provided co-location, hosting, web site developement and disaster recovery services. Customized web services at LibreCenter are primarily Plone, Zope and Python based large scale autonomous Content Management System platforms operating in the context of REST in Service-Oriented Architecture (SOA) model. Integrated various sophisticated JavaScript, JASON, Ajax based capabilities (e.g. Galleria) into Plone as ByStar features. Developed adaptations of these web services for parallel optimum behavior both in mobile devices and desktop environments. E-commerce services at LibreCenter are based on the Interchange platform. Worked with LibreCenter B2C clients to incorporate their end-customer's requirements into our open-source platform. [2004-Present]

- Added capabilities for safe booting and remote software upgrade process of Precor's embedded Linux based exercise equipment. The work involved Linux kernel module configuration and modifications, initramfs scripting and other low level customizations to the ARM and OMAP based embedded Linux system. Tools used for this project included: Gnu Cross Compilers toolchain, GDB, Jtag, Pandaboard. [2011-2012 — Client: Precor]
- Provided prior art determination and expert witness services in the defense against a number of patent assertion claims. [2005-2012 — Clients: Research In Motion, Seven, Howrey, Winston & Straw]
- Assisted the Technical Committee and the Department of Justice in monitoring Microsoft technical compliance with the Final Judgement. Advocated use of the model of Protocol Implementation Conformance Statement (PICS) Proforma as a verification method. [2006-2007]
- Provided liaison and advocacy for client interactions with several standards organizations. Particpated in activities of various working groups of TIA, ANSI and IETF/IESG/IAB. Managed to ensure publication of two internet protocols which were developed entirely outside of IETF through challenging the IESG/IAB and the RFC-Editor. [1994-Present]
- Managed a team of 4 software developers to design and implement a medium scale Document Management System (DMS) for Seattle Specialty Insurance. Integrated eFax, scanners and OCR with legacy databases. Provided off site hot standby disaster recovery services. The Java based portal technologies that were used to build this highly customized system included: Jetspeed, JBoss, Tomcat, Hibernate and PostgreSQL. [2003-2007 — Client: Seattle Specialty Insurance]
- Built a complete state-of-the-art Data Center from the ground up, including redundant stable power and backup generator and redundant Internet connections. The infrastructure of this Libre Data Center is based on 100% open-source and free software. [2000-2003]
- Designed a set of highly efficient protocols for use in narrowband wireless environments. Published the protocols as RFC-2188 and RFC-2524. Managed a team of 12 software engineers for implementation of these protocols in the context of a large scale message center which integrated SMS, email (imap, pop, smtp) and webmail for wireless environments. Coded some of the more critical components myself. These services have since evolved into ByStar's Libre Texting services. [1995-2002 — Clients: McCaw, AT&T Messaging Division]
- Managed a team of 3 software engineers in porting several Sierra Wireless protocol stacks to new embedded hardware platforms. [1998-1999]
- Performed technical due diligence and offered technology opinions for mergers and acquisitions and technology investments. [1994-1997 — Clients: McCaw, AT&T Wireless]
- Played a key role in the creation of the Cellular Digital Packet Data (CDPD) industry. Led the technical network architecture design for the CDPD specifications, and was directly involved in the planning, development and deployment of the network services for AT&T Wireless Services. Co-authored the monograph Internetwork Mobility – The CDPD Approach book published in 1996 by Prentice-Hall. [1992-1996 — Clients: McCaw, CDPD Forum, AT&T]

Notable activities and projects in support of Neda Internet Services include:

- Developed an evolving open business plan that articulates the strategy for making The Libre ByStar Digital Ecosystem widespread and profitable. [2000-Present]
- Developed the framework for ByStar Autonomous Libre Services such that the primary user of the service is the owner of the service and where the focus is on preserving privacy and autonomy by providing control over information to users with safe guards of functional transparency, information portability and non-retention controls. Existing implementations include: ByName.net,

ByAlias.net, ByMemory.net, ForSMB.net, ByAuthor, ByFamily, ByNumber, ByWhere.net and ByEvent. [2002-Present]

- Created the framework for ByStar Federation of Autonomous Libre Services. ByStar Federated Libre Services are layered above ByStar Autonomous Libre Services and focus on interactions amongst ByStar Autonomous Libre Services and facilitation of information aggregation amongst ByStar Libre Services. The ByStar Federated Services presently includes: ByContent, ByTopic, ByInteraction, ByLookup, ByHookup, BySource and ByBinary. [2004-Present]

Free Protocols Foundation Bellevue, WA
Founder and President, 2000–present
Founded the Free Protocols Foundation (FPF) as a U.S. tax-exempt 501(c)(3) organization. The FPF is an independent public forum dedicated to the support of patent-free protocols, software and services. Notable activities and accomplishments include:

- Created and maintained websites (www.freeprotocols.org) and other resources to support FPF activities. Formulated policies and procedures for maintaining patent-free protocols. [2000–Present]
- In a widely cited essay titled " The WAP Trap – An Expose of the Wireless Application Protocol" provided a detailed criticism of a set of specifications called the "Wireless Application Protocol", or WAP. We warned that WAP is entirely unfit to play the role of a Mobile industry standard. Facilitated transaltion of this essay into french. [2000-2003]
- Developed Libre Texting as an alternative to traditional SMS. Libre Texting emphasis functional transparency, efficiency, privacy and end-to-end autonomy. [2001-Present]
- Developed the concept of Libre-Halaal Software and created www.halaalsoftware.org and other resources for promotion of the concept and model of Libre-Halaal Software. [2011-2013]
- Developed the concept of Libre Services and created www.libreservices.org and other resources for promotion of the Libre concept and model. [2006-2007]
- Formulated and articulated the concept of The ByStar Applied Model Of Federations of Autonomous Libre-Halaal Services. The concept of Autonomous Libre-Halaal Services focuses on preserving privacy by providing control over information to users with safe guards of functional transparency, information portability and non-retention controls. [2007-Present]
- Supported development and maintenance of infrastructures for collaborative development of The Libre-Halaal ByStar Digital Ecosystem. [2004-Present]

Teknekron Communication Systems Bellevue, WA
Systems Architect & Project Manager, 1990–1991
Managed the architectural design and implementation of medium-scale Network Management systems of SS7 networks using SNMP and CMIP.

Boeing Computer Services Bellevue, WA
Systems Architect, 1989–1990
Responsible for standards tracking and strategic planning of Directory Services (X.500) in Boeing office. Chairman of North American MAP/TOP Directory Services Technical Committee. Represented Boeing in NIST-OIW and ANSI OSI standards committees.

Interconnections Bellevue, WA
Project Engineer, 1988–1989
Designed and implemented the network layer of XNS for Novell Netware VMS. Ported software to SCO Unix as a Kernel Streams Module.

Retix Santa Monica, CA
Project Engineer, 1986–1988
One of the original seven software engineers who developed the core technology for Retix. Lower layer work was focused on Transport Class 4, IP, LLC1 and 802.3 drivers. Upper layer work was focused on X.400. Ported Retix's lower layer software to various hardware platforms and operating systems.

Teltone Corporation Seattle, WA
Software Engineer, 1983–1985
Developed a local telephone call billing system for step-by-step and cross-bar central offices, in C, for custom embedded Teltone hardware. Worked closely with hardware engineers to ensure correct system functionality.

Education

University of Washington Seattle, WA
M.S. in Electrical Engineering, 1981–1982
Specialization in Digital Systems and Computer Engineering

Seattle University Seattle, WA
B.S. in Electrical Engineering, 1978–1981
Graduated Magna Cum Laude

Publications

The following is a sample list of publications. A more complete list is available at:
mohsen.1.banan.byname.net/publications.

1. M. Banan, J. Cheng, and M. Taylor. *AT&T/Neda's Efficient Short Remote Operations (ESRO) Protocol Specification Version 1.2.* Request for Comments (Informational) 2188. Neda Communications, Inc., September 1997. Available at ftp://ftp.isi.edu/in-notes/rfc2188.txt.
2. Banan, M. *Neda's Efficient Mail Submission and Delivery (EMSD) Protocol Specification Version 1.3.* Request for Comments (Informational) 2524. Neda Communications, Inc., February 1999. Available at ftp://ftp.isi.edu/in-notes/rfc2524.txt.
3. Mark S. Taylor, William Waung, and Mohsen Banan. *Internetwork Mobility: The CDPD Approach.* Prentice Hall, Inc., New Jersey, 1997. ISBN 0–13–209693–5.
Available at http://mohsen.1.banan.byname.net/PLPC/120021.
4. Mohsen Banan and Andrew Hammoude. *Libre Services: A non-proprietary model for delivery of Internet services.* Free Protocols Foundation, Bellevue, WA, 2007. Available at
http://www.freeprotocols.org/PLPC/100101.
5. Mohsen Banan and Andrew Hammoude. *Neda's Open Business Plan.* Neda Communications, Inc., Bellevue, WA, 2013. Available at http://www.neda.com/PLPC/180014.
6. Mohsen Banan. *The Libre-Halaal ByStar Digital Ecosystem – A Unified and Non-Proprietary Model For Autonomous Internet Services.* Neda Communications, Inc., Bellevue, WA, 2008. Available at http://www.neda.com/PLPC/180016.
7. Mohsen Banan and Andrew Hammoude. *Operation WhiteBerry.* Free Protocols Foundation, Bellevue, WA, January, 2000. Available at http://www.freeprotocols.org/PLPC/100006.
8. Mohsen Banan and Andrew Hammoude. *The WAP Trap: An Exposé of the Wireless Application Protocol* (French title *Le WAP à la trappe: Un exposé sur le Wireless Application Protocol*). Free Protocols Foundation, Bellevue, WA, January, 2000. Available at;
http://www.freeprotocols.org/PLPC/100014.
French version available at:
http://www.freeprotocols.org/PLPC/100015.

9. Mohsen Banan and Andrew Hammoude. *Free Protocols Foundation Policies and Procedures.* Free Protocols Foundation, Bellevue, WA, January, 2000. Available at http://www.freeprotocols.org/PLPC/100201.
10. Mohsen Banan. *Lightweight & Efficient Application Protocol (LEAP) Manifesto.* LEAP Forum, Bellevue, WA, January, 2000. Available at http://www.freeprotocols.org/PLPC/100012.
11. Banan et al. *Open C Platform.* Neda Communications, Inc., Bellevue, WA, October, 1996. http://www.neda.com/PLPC/110301.
12. Mohsen Banan. *Computer Telephone Interface.* Master of Science in Electrical Engineering Thesis. University of Washington, August, 1982. Available at http://mohsen.1.banan.byname.net/PLPC/120002.

Software

The following is a sample listing of software I have developed. Pointers for obtaining the software and a more complete list is available at:
http://mohsen.1.banan.byname.net/software.

All the following software is licensed under the GPL, LGPL or AGPL, and is freely available at the indicated URLs.

1. Libre Services Integration Platform (LSIP)
2. Efficient Mail Submission and Delivery Server Agent (EMSD-SA)
   – Server-side implementation of RFC-2524.
3. Efficient Mail Submission and Delivery User Agent (EMSD-UA)
   – Client-side implementation of RFC-2524.
4. Efficient Short Remote Operations (ESRO)
   – Client and Server implementations of RFC-2188.
5. Open C Platform (OCP)

Languages

French. Fluent. http://mohsen.1.banan.byname.net/french.

Farsi/Persian. Mother tongue. http://mohsen.1.banan.byname.net/persian.

English. http://mohsen.1.banan.byname.net.

Resume Revision

Access Page: PLPC-120003. Last Updated: July 2013.