

**MOHSEN BANAN**  
**Neda Communications, Inc.**

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**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.

**Keywords**

**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. Designer and author of [RFC-2188](#) and [RFC-2524](#).

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

**Wireless.** Extensive experience with CDPD, Wi-Fi (802.11), WiMAX (802.16), Bluetooth, GPRS, GSM, EDGE, 3GPP, LTE, SMS, CDMA, TDMA, AMPS. One of the original and principal [architects of the CDPD Specifications](#).

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

**Open-Source Software.** qmail, Sendmail, Courier, SpamAssassin, imp, ezmlm, MHonArc, Hy-laFAX, SANE, BIND, djbdns, daemontools, ucspi, Apache HTTP server, Zope, Plone, Turbine, Tomcat, Jetspeed, Velocity, PostgreSQL, MySQL, Hibernate, Torque, Asterisk, Samba, CUPS, LaTeX.

**Software Development & Methodologies.** Expert level understanding and experience of C, C++, Lisp, Korn Shell/Bash, Perl, Java, CVS, Subversion, GNATS, ANT, Emacs, CORBA, Unix system interface, eXtremeProgramming, Design Patterns, Refactoring, Scrum.

**Platforms.** Expert level understanding and experience of Linux (Debian, Ubuntu, Red Hat), Unix/Solaris, Windows, Windows CE, MacOS, Palm OS, J2ME, eCos, embedded environments. Hands on experience with a variety of Linux PDAs including: Maemo 4 (Nokia N810), Maemo 5 (N900) and Android.

**Operations and Deployment.** Have acted as 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.

**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.

- Recent Work**
- 2009-2010.** Extended **Operation WhiteBerry** into **By\* Libre Texting**. Ported EMSD to Linux PDAs (e.g. Nokia 810, Nokia 900) and created a complete end-to-end Libre mobile messaging service.
- 2007-2008.** Articulated **Libre Services** as a non-proprietary model for delivery of Internet services, including the **business model**. Created the **By\* Libre Services** as a real-world implementation. Created the By\* Libre User Environment for Debian, Maemo and Ubuntu based on the model of Free Software and Libre Services continuum.
- 2006.** Assisted the **Technical Committee** and the Department of Justice in monitoring Microsoft technical compliance with the **Final Judgement**.
- 2005.** Provided prior art determination and expert witness services in the defense against a number of patent assertion claims.

**Experience**

**Neda Communications, Inc.** Bellevue, WA  
*Owner/President,* 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 successful transition from a consulting business to a products and services company based on open-source and free software. All company protocols, software and services are now exclusively open-source.

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. Created numerous domains in support of the company's protocols, software, services, and business strategies. These include: [neda.com](http://neda.com), [ByName.net](http://ByName.net), [ByAlias.net](http://ByAlias.net), [ByMemory.net](http://ByMemory.net), [ForSMB.net](http://ForSMB.net), [emsd.org](http://emsd.org) and [esro.org](http://esro.org).

Provided consulting and/or contract engineering services for numerous clients and projects. Satisfied clients include: Sierra Wireless, AT&T Wireless Data Division, CDPD Forum, Data Critical, Electronic Mail Association, Emulex, Motorola and Microsoft.

From 1992 to 1995 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.

Provided liaison and advocacy for client interactions with various standards organizations including TIA, ANSI and IETF/IESG/IAB.

Participated in the strategic planning and protocol design for Mobile E-Mail and Paging services of AT&T Messaging Division.

**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. Created websites ([www.freeprotocols.org](http://www.freeprotocols.org)) and other resources to support FPF activities. Formulated policies and procedures for maintaining patent-free protocols. Developed the concept of Libre Services and created [www.libreservices.org](http://www.libreservices.org) and other resources for promotion of the Libre concept and model.

**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**

*Systems Architect,*

Bellevue, WA

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**

*Project Engineer,*

Bellevue, WA

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**

*Project Engineer,*

Santa Monica, CA

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**

*Software Engineer,*

Seattle, WA

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**

*M.S. in Electrical Engineering,*

Specialization in Digital Systems and Computer Engineering

Seattle, WA

1981–1982

**Seattle University**

*B.S. in Electrical Engineering,*

Graduated Magna Cum Laude

Seattle, WA

1978–1981

**Publications**

I have a large number of publications; what follows is only a small sample. A more complete list is available at the Publications section of my website at [mohsen.banan.1.byname.net/Publications](http://mohsen.banan.1.byname.net/Publications). Each of the following publications is available at the indicated URL.

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.banan.1.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, 2008. Available at <http://www.neda.com/PLPC/110002>.
6. Mohsen Banan and Andrew Hammoude. *Neda's By\* family of Libre Services: A Vision and a Cooperative Execution Plan*. Neda Communications, Inc., Bellevue, WA, 2008. Available at <http://www.neda.com/PLPC/110004>.
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.banan.1.byname.net/PLPC/120002>.

## Software

I have developed a large body of software; what follows is only a small sample. A more complete list is available at the Software section of my website at <http://mohsen.banan.1.byname.net/Software>. All the following software is licensed under the GPL or LGPL, and is freely available at the indicated URLs.

1. Libre Services Integration Platform (LSIP)  
Available at <http://www.neda.com/SW/lsip-pub>.
2. Efficient Mail Submission and Delivery Server Agent (EMSD-SA)  
Available at <http://www.neda.com/SW/emsd-sa-mul>.
3. Efficient Mail Submission and Delivery User Agent (EMSD-UA)  
Available at <http://www.neda.com/SW/emsd-ua-mul>.
4. Efficient Short Remote Operations (ESRO)  
Available at <http://www.neda.com/SW/esros-mulpub>.
5. Open C Platform (OCP)  
Available at <http://www.neda.com/SW/ocp-mul>.

## Languages

**French.** Fluent. <http://mohsen.banan.1.byname.net/French>.

**Farsi/Persian.** Mother tongue. <http://mohsen.banan.1.byname.net/Persian>.

**English.** <http://mohsen.banan.1.byname.net>.