

# Murat Balaban

## Contact Information

Beylerbeyi, Istanbul, Turkey  
+90 532 556 65 57

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## Education

- 1997 - 2003  
BS, Bogazici University, Department of Management Information Systems [<http://www.mis.boun.edu.tr/>]
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## Technical Experience

### *Programming:*

- 5,5 years C, C++ UNIX System/Network Programming
- 1,5 years C, C++ Win32API and MFC Programming (Visual C++)
- 1,5 years Java
- Perl, PHP, Shell scripting (sh/bash, sed, awk)

### *Operating Systems:*

- 6 years \*BSD (FreeBSD, NetBSD, OpenBSD)
- 7 years Linux (Redhat)
- 5 years Solaris
- 2 years HP-UX

### *Networking:*

- Extensive theory and practice on TCP/IP
- Entrance level knowledge of Cisco routers and router configuration

### *Security:*

- Complete understanding of Secure Coding practices.
- Shellcode and exploit coding
- Advanced knowledge of security, secure internet/intranet services, firewalls
- Host-based security: OS hardening.

- Network Security: Intrusion Detection Systems, Firewalls, Sniffers.

**Software:**

- Rational Clearcase / CVS
- Several UNIX server tools (Apache, BIND, djbdNS, qmail, Postfix, OpenLDAP, Squid etc.)
- Ipfiler, IpFirewall, Snort.

**Database:**

- 3 years Oracle
- MySQL, PostgreSQL

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**Work History**

*July 2006 –*

**Researcher**

**TUBITAK UEKAE – <http://www.uekae.tubitak.gov.tr>**

**Job Description:**

Research, design and development of kernel-level (specifically BSD kernel) modules and algorithms for high performance networking applications.

*August 2003 – December 2005*

**Software Developer**

**Oyak Teknoloji A.Ş, Istanbul Turkey – <http://www.oytek.com.tr>**

**Job Description:**

Design and development of Debit/Credit Card Systems Host Switch Servers. (C, Oracle Pro\*C on HP-UX).

- Designed and developed *Oyabank(\*) Authorization Switch* which processes **1.000.000 transactions daily**.
- Designed and developed *Oyabank ATM socket gateway Switch* (manages socket connections for more than **1000** ATMs distributed all over Turkey)
- Designed and implemented the P.O.S. authorization system for **TSK-ID project (\*)**.
- Designed and developed *IEN Switch Server* for use within **TSK-ID project (\*)**.
- Designed and developed *Oyabank load-balancing HSM Switch*.
- Designed and developed a fast and robust **ISO8589** Financial Transaction Message Parser Library.
- Designed and developed *Oyabank GPRS POS socket gateway*

*Switch.*

- Designed and developed *Oyakbank IP POS socket gateway Switch* (LAN POS).
- Designed and developed *Oyakbank KIOSK Switch*.
- Designed and developed *Oyakbank SMS Switch*.
- Designed and developed several libraries for use with new switch servers. (e.g. misclib, configfile lib)
- Re-arranged all Credit/Debit switch server codebase.
- Developed new functionality for Oyakbank ATMs operating in NDC and DDC protocols (NCR, Diebold and Siemens).
- Designed and developed an ATM simulator for stress-testing current and new switch servers.
- Ongoing diagnosis, debugging of and curing for system failures.

**(\*) TSK-ID: Turkish Armed Forces ID-Card Project.**

**(\*) Oyakbank: One of the leading banks in Turkey.**

*August 2002 – August 2003*

**Senior Systems Administrator and Application Developer**

**O2.NET, Istanbul Turkey - <http://www.o2.net.tr>**

**Job Description:**

Development of system services and system administration and database interfaces. Administration and physical maintenance of large farm of FreeBSD, Linux and Solaris servers, including high-traffic Apache web servers, Oracle and mySQL database servers, qmail mail server.

- Wrote database and system administration interfaces in C, C++ and Java.
- Administered Oracle database servers
- Daily maintenance of the main Apache www, ftp, dns, proxy, FW and smtp servers
- Developed administration tools and procedures
- Internal technical support for other employees

*August 2001 – August 2002*

**Senior Software Developer**

**Vestelnet A. Ş., Istanbul Turkey - <http://www.vestelnet.com/>**

**Job Description:**

Developed C and C++ Applications for the use of over 150.000 dial-up users.

- Developed Veezy Internet Assistant for Linux, which is the first commercial Linux application to be provided in Turkey. (C++ Language, using Qt)
- Developed Veezy Internet Assistant for Windows. (C++ language,

pure WIN32 API)

*July 2000 – June 2001*

**Senior Systems Administrator and Developer**

**Verisoft A. Ş., Istanbul Turkey – <http://www.verisoft.com.tr>**

**Job Description:**

Unix Administration and physical maintenance of FreeBSD, Linux, HP-UX and Solaris servers

- Administered mySQL database servers
- Daily maintenance of the WWW, FTP, DNS, PROXY, FW and SMTP servers
- Developed administration tools and procedures
- Internal technical support for other employees

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**Training**

- Fast track to Power Builder 7.0 [Sybase Turkey. August 15 – 18, 2003]
- Oracle 9i: Programming with PL/SQL [Oracle Turkey. December 1 – 5, 2003]
- Rational Clearcase Fundamentals [Bildem. December 16 – 17, 2003]

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**Volunteer Work**

*2000 - present*

**Founder and Member, EnderUNIX Software Development Team**

**The EnderUNIX Team - <http://www.enderunix.org/>**

- Formation of <http://www.enderunix.org> which is largely-known for its support for BSD systems and for being the first open source development team in Turkey.

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**Projects**

- \*\*\* Developed [VoIPong](#), a sniffer, which detects and dumps G711 encoded voice conversations to wave files; supporting RTP, RTCP, H323, SIP and Cisco's Skinny Client Protocol. (May, 2003)
- Developed Smadmin (Sendmail Admin) for Turcom Holding. (<http://www.turcom.com.tr>)
- Establishment of a turn-key internet services platform which includes Firewall, Proxy Server, E-Mail Server, Intrusion Detection System, Web server, DNS Server, Ftp Server and Backup Server for "T.C. Kadinin Statüsü ve Sorunları Genel Müdürlüğü". <http://www.kssgm.gov.tr>
- Establishment of Firewalling and Web caching services for T.C. Umraniye Belediyesi. <http://www.umraniye-bld.gov.tr>
- Establishment of Firewall, Intrusion Detection System and a web caching engine

- for Teknoloji Holding. <http://www.teknoloji.com>
- Establishment of a virtual-user based mail server (Qmail) and DNS services for Planet Bilişim Teknolojileri Ltd. Şti. (May, 2001)
  - Implementation and application of a company-wide security audit and security policy for some companies. (Due to the nature of information security, I cannot give the names of the companies)
  - Developed QLDAPAdmin, which is a series of tools that controls the LDAP databases, which are used to store account information for qmail users. It is written in C++. <http://www.enderunix.org/qldapadmin/> (June, 2001)
  - Developed spamGuard, a very effective spammer activity monitor in C. (Jan, 2002) (<http://www.enderunix.org/spamguard/>)
  - \*\*Developed Aget, a multithreaded download accelerator, for Posix systems. (April, 2002) <http://www.enderunix.org/aget/>
  - \*Developed Isoqlog, the most popular log analyzer for mail servers, in C (<http://www.enderunix.org/isoqlog>)
  - \*\* Developed Hafıye, a fully customizable, multiplatform TCP/IP packet Sniffer. (June, 2002) <http://www.enderunix.org/hafiye/>
- \* Official FreeBSD and Debian package  
\*\* Official FreeBSD package  
\*\*\* Considered the most advanced open source VoIP sniffer available. Awarded the best project award by IBM Turk.

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## **Books**

- [Kurulum, Yönetim ve Ağ Servisleriyle FreeBSD İşletim Sistemi](#). Şubat 2004, Açık kod Yayınları, İstanbul.

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## **Papers**

- Hooking filters for fun and profit: PFIL\_HOOKS  
<http://www.enderunix.org/docs/pfil/pfil.html> [English]
- Designing Shellcode Demystified  
<http://www.linuxsecurity.com/content/view/117709/49/> [English]  
<http://www.enderunix.org/docs/sc.txt> [Turkish]
- Buffer Overflows Demystified  
<http://online.securityfocus.com/library/3637> [English]  
<http://www.enderunix.org/docs/bof.txt> [Turkish]
- C++ API for Mysql  
<http://www.freebsdidiary.org/mysql-capi.php> [English]  
<http://www.enderunix.org/docs/mysqlpp.html> [Turkish]
- RAW Socket Programming (IP Spoofing)  
<http://www.enderunix.org/docs/rawsocket.txt> [Turkish]
- IpFilter  
<http://www.enderunix.org/documents/ipfilter.html> [Turkish]
- OpenBSD Howto  
<http://www.enderunix.org/documents/OpenBSD-Howto.tar.gz> [Turkish]

- FreeBSD Demand Dial-Up Gateway Howto  
<http://www.enderunix.org/documents/bsd-gateway.html> [Turkish]
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### Awards

- IBM Turk Linux Prizes 2004 Winner (VoIPong project)
  - IBM Turk Linux Scholars Challenge 2002 Winner (Isoqlog project)
  - 2<sup>nd</sup> Turkey Free Software Festival best free software award (Isoqlog project) (2003)
  - Ranked 286 among over 300.000 students in the nationwide University Entrance Examination (1997)
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### Interests

- Operating systems concepts, design and implementation
  - Unix System and Network programming
  - FreeBSD and Linux Kernel Internals
  - Unix Vulnerabilities Research, coding shellcode and exploits for known and unknown UNIX vulnerabilities.
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### Personal Info

Birth Date: 08 March 1980  
Marital Status: Male, Single  
Military Status: Completed (December 2005 – May 2006)  
Foreign Languages: English – Good  
Hobbies: Reading books, traveling, listening classical music.

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### References

- <http://www.google.com/search?q=murat+balaban>
- **Turk.internet.com:**  
Spam mailleri Türk programı ile durdurun.  
<http://turk.internet.com/haber/yazigoster.php3?yaziid=3808>
- **Stargazete:**  
O2Net Genc bilisimcilerin yaninda  
<http://www.stargazete.com/index.asp?haberid=7713>
- **Bilisimcumhuriyeti.com:**  
EnderUNIX'ten "Acele Getir".  
<http://www.bilisimcumhuriyeti.com/?islem=hg&id=1409>
- **Turk.internet.com:**  
Açık kaynak kodu geliştiren bir grup; EnderUNIX.  
<http://turk.internet.com/haber/yazigoster.php3?yaziid=3809>
- **Turk.internet.com:**  
EnderUNIX'ten yeni haberler var  
<http://turk.internet.com/haber/yazigoster.php3?yaziid=4979>
- **Turk.internet.com:**  
O2NET Genc girisimcileri destekliyor

<http://turk.internet.com/haber/yazigoster.php3?yaziid=5528>

- **Bilisimcumhuriyeti.com:**

Spam'e ağır darbe.

<http://www.bilisimcumhuriyeti.com/index.php?islem=hg&id=918>

- **Teknoturk.org:**

EnderUNIX.ORG Nedir?

<http://www.teknoturk.org/docking/yazilar/tt000082-yazi.htm>

More available on request.