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Abstract

Telecommunications engineer with a high technical profile, extensive experience in public and private research (research, investigation and innovation), software development, networking and security. Consulting projects. Training companies. Experience in dealing with client and team coordination.

Studies

1994-2000 - Telecommunications Engineering degree (specialty telematics) – College of engineering in Bilbao (UPV/EHU).

Professional Experience

02/2007-Present: EXTERNAL, GRUPO VERSIA (Vizcaya) <http://www.grupoversia.com>

Collaboration with multiple environments (Linux, Web, Network Management, Consulting). Client: Eroski Group Systems. Data center corporate machines. Support, projects, software development and innovation.

Projects:

- **Development of network management agents** for Linux and AIX: inventory, alarms and performance. CA Unicenter integration.
- RENOHA project: **High availability** active-passive machines **script development**.
- ALARMFIRESTAT project: **postmortem analysis** agent development
- GEMINIS project: Participation and support in **migrating** a complete **data center**.
- RENOSAN project: Participation and support of system migration storage **cabinets**
- Application and database migration
- EROSCAN: Development of generic scanner for Linux and AIX machines. Automated reports.
- Universal boot CD for total and partial **disaster recovery**
- **Audits** of Linux and AIX machines: Creation of architecture for data collection, processing and presentation.
- Project consultancy GEOCUMA: Internal **consultancy** to meet the needs of **process management, integrated management and BI**
- Project consultancy ARQUITIL: Architecture and product selection for **ITIL** implementation
- **Automation projects (Development:** Architecture, analysis, design, programming and coordination):
 - Scanner: massive parallel programmable structured data capture for AIX and LINUX machines
 - Audits: Automatic generation of audit reports for Linux and AIX machines
 - Automated handling of Novell errors copies: Capturing information, analysis, detection and automated error reporting. Statistics. Integration with CA Unicenter incident tracker
 - Virtual systems operator: Architecture and software development to replace human operators in mechanical tasks.

Architectures 368, x86_64, IA64

Hardware: IBM, Intel, Blade, Bull, Novascale, Raritan, fiber optic cabinet EMC, Hitachi, QLogic

OS: Linux, AIX, Solaris

Tools: CA Unicenter, Nagios, LDAP, sar, backups (faubackup, legato ...), document management (mydms ...) code repository (subversion, trac ...) system-imager, snoop, sql server, tomcat, IAS, oc4j, MicroStrategy, liferay, php, apache, mysql, oracle, db2, GoogleSearch, jabber, virtualization, xen, qemu, linux virtual server; chroots, dns bind, sar, heartbeat, snmp, print queues, training on development issues. dns bind

Skills: Python, bash script, package building, disaster recovery

Certification Course Network Management Tool CA Unicenter

05/2005- 02/2007: PANDA SOFTWARE INTERNATIONAL - Bilbao - <http://www.pandasoftware.es/>

Design, architecture and programming of security software for Linux.

- Project **Desktop Secure for Linux** antivirus for Linux Desktop. **Firewall** module for same product. (TCP / IP, C and C + +, Snort, IPQ, Linux Kernel, Python, iptables). All network functions.
- Network **intrusion detection** module (C, C + +)
- **Optimization** software for Linux. Performance studies. (OProfile, gprof, vmstat ...)
- Concurrent programming, threads, sockets.
- Advanced **application detection** module for Linux firewall
- Library to send mail via SMTP

11/2004-05/2005: ABARTIA TEAM - Bilbao - <http://www.abartiateam.com/>

Responsible for communications area. Analyst, programmer and consultant in software, networking and security projects.

- Direction and management of software projects
- Dealing with customers
- Php + mysql web projects (eg <http://www.viajesargonauta.com/>)
- Consulting: distributed backup system for the IBM AS400
- Taught seminar for SAP programming in Visual Basic. (NSI)
- Distributed backup system among distant offices (Abartia Team)
- Web positioning monitoring system (Java, Perl, SOAP, Google API)
- Design of Linux-based products for SMEs
- Design and implementation of wireless networks

- Attendance at technology conferences and relationships with companies for cooperation on larger projects.
- Technical support to sales people.
- Systems: implementation and management of infrastructure.
- Computing infrastructure migration to Linux projects.
- CRM, Bug Tracker, CVS, development tools ...
- Communications projects (networking, PPTP tunnels, openvpn, routers)

2000 – 2005 GRUGEIN S.L. Bilbao <http://www.grugein.com/>

Freelance IT Consultant. Network deployment, training and infrastructure.

- Advice on purchase and procurement of services
- Deployment of communications infrastructure
- Systems management and remote maintenance and troubleshooting
- Training companies. Workshops on networking, Internet, intranet, utility, security, communications, telematics.

2000 - 2004 : COLLEGE OF ENGINEERING IN BILBAO - <http://det.bi.ehu.es/Bilbao>

Research in Telematics Engineering Group of the department of electronics and telecommunication.

- Participation as an investigator in several research projects related to issues of intrusion detection and network security.
- Web Application Programming in Java.
- Local and Network Management UNIX / Windows.
- Teaching. Seminars on programming. (JAVA, C ++...)
- Programming cryptographic functions.
- IPQ and LIBPCAP programming for traffic analysis
- Management tools and network monitoring (Nagios, Snort ...)

Project: "Distributed model for intrusion detection in large networks."

Research project funded by the Basque Government through the program INTEK 2000. The project though mainly theoretical, had a practical component was to develop a prototype intrusion detection sensor. For this purpose an OSKit kernel development kit was used, on which a version of Snort IDS software was adapted.

Project: Telematic Network Simulator

Research project for creating a software simulator of traffic networks. The simulator receives the definition of a network based on a description of topological and statistical parameters of its elements and is able to find through simulation mean values, points of congestion, etc.

Electronics project: opto-coupled amplifier

Electronic project intended to amplify a signal of certain frequency and dynamic range without physical contact between two electronic components using low cost components such as resistors and LED diodes.

Final degree project: SpyNet. Architecture and design of distributed system for capture and correlated analysis of network traffic based on a programmable network sensor capable of local capture and analysis

The project sought to build a complex architecture over network sensor with programmable capture capabilities and traffic analysis as ADVISER. There was an extensive study on network technologies and existing frameworks such as CORBA and XMLRPC to finally define the interfaces and elements of that architecture. We implemented a prototype of it on the prototype ADVISER and created several tools in terminal mode (ncurses) and web (CGI, PHP, JAVA) for data presentation.

Project: Migration to open platform of the tools used in practice and mathematical works of the department of signals and systems.

This study aimed to test the feasibility of replacing MathLab commercial tools with other open source tools as octave. Finally it was concluded that this was possible. They math libraries were extended wherever necessary.

Project: math library in C + + templates for generic algebra without loss of accuracy by truncation, rounding or ill-conditioned systems.

We conducted a library capable of solving math problems without loss of accuracy for representation of floating point numbers.

Development of artificial intelligence framework for games. Engine development for games like checkers or chess.

2002-2003: CAPTIVA SECURITY AND SOLUTIONS S.L. - Vizcaya - <http://www.captiva-sys.es/>

Researcher, programmer and system administrator:

- Researcher on development projects, integration and research.
- Designer and developer of applications on different platforms and environments (C / C ++, Visual Basic, . Net, Python, Mono, Bash script, perl, etc.).
- Web designer and database administrator in open and commercial platforms (MySQL, PostgreSQL ...)
- Windows Systems Administrator (NT/2000/XP/2003) and Unix (Linux - Debian / RedHat / Ubuntu, FreeBSD, Solaris 8 / 9)

Adviser Project (Administration Diagnosis and Intelligent Verification in Network Services)

Three-year project funded by the INTEK 2002 in collaboration with the Engineering School of Bilbao.

Project was intended to obtain pre-competitive prototype architecture based on generic network sensor from passive listening able to determine different traffic problems or make measurements. Designed to make products to measure / ensure quality of service in networks or provide security services such as IDS, antivirus, etc..

Sensor was concluded with XML configurable rules, written in C and integrated with other modules to provide further functionality, such as NetFlow collector (also in C) and web application in PHP to display graphical results from RRD database. Tasks undertaken in the project:

- Architectural design and various sensor modules
- Design of communication protocol between sensor and collector
- Web Application Development in PHP for graphics rendering RRD database
- Implementation and testing of prototype in real clients (Sarnet and Punto Radio)
- Development of high level tools for integration of network security products as ARGUS, ADVISER or NTOP.

Project: kiosk platform for mobile content distribution xonae

Consulting project for integrating components in touch-screen kiosk platform for mobile content distribution for establishments.

- Development of COM component in Visual Basic for simple communication with purse Münzprüfer WH EMP 500 via series Dietmar Trenner GmbH, after study of communication protocol of private enforcement by some reverse engineering.
- Developing COM communication component for communicating with Jofemar note reader.
- Study system and migration of Windows to Linux platform. Migration from Access to MySQL and ASP to PHP.

1994 – 2006: SEVERAL CUSTOMERS

Free-time freelance programmer for various clients

- Freelance webmaster.
- Custom software development in various languages (PHP, JavaScript, Visual C + +, Visual Basic ...)

Knowledge

Programming

- Very high knowledge in programming: Assembler x86, PIC assembler, C, C + +, Visual C + +, Java, C #, Python, Perl, Awk, Visual Basic, PHP, shell script (bash, sh ...), Java Script, VB Script ... Tools GNU, Unix, Borland Jbuilder, Eclipse, vim, emacs, anjuta, gdb, Microsoft Visual Studio, Borland C + +, GNU tools, autotools ...
- Distributed programming in the client side and server. RMI, SOAP, XMLRPC, Corba, RPC, sockets, TCP / IP, distributed models ...
- Cooperative programming, work groups (FOSS model, CVS, subversion, trac ...)
- Database programming Mysql, Sqlite, ADO, ODBC, JDBC, design and management of relational databases.
- Freelance WebMaster. Developing web pages with different technologies (php ...). Adherence to W3C standards. XML, XSL transformations. CSS, XHTML, DTD.
- Experience programming security tools: intrusion detection, cryptographic functions (OpenSSL).
- Advanced knowledge of the TCP / IP and Internet protocols (SNMP, SMTP ...). Knowledge of network programming libraries in low-level (IPQ, iptables ...)
- Programming PICs and microcontrollers in C and assembler.
- Programming in SAP environment
- Software Packaging (SUSE, Red Hat, Debian, rpm, deb ...)
- Optimization software: OProfile, gprof, vmstat

Systems

- OS: Windows 9x, Windows NT, Windows 2000, Windows XP, Linux, Unix, Solaris, FreeBSD, OpenBSD, NetBSD, AIX ... (Experience as administrator and developer).
- Server Management: mail (postfix ...), DNS (bind ...), Samba, NFS, Messaging (jabber), fax (hylafax ...) Databases (Mysql, Postgress ...), http (apache ...), application servers (tomcat, oc4j, IAS), network management (CA Unicenter, Nagios), LDAP, sar, backups (faubackup, legato ...), document management (mydms. ..) code repository (subversion, trac ...) system-imager, snoopy, sql server, tomcat, IAS, oc4j, MicroStrategy, liferay, php, apache, mysql, oracle, db2, GoogleSearch, virtualization, xen, qemu, linux virtual server; chroots, dns bind, sar, heartbeat, snmp printer queues.
- Experience in network security, attacks, compromises, hacking. Security tools (scanners, sniffers, tripwire, snort ...)
- Databases, SQL (Microsoft Access, Mysql, Postgress, SQL Server ...) administration and programming.
- Planning and Implementation of telecommunication networks: LAN, WAN. Configuration of routers, tunnels, firewall.

Electronics

- Simulation and design of analog and digital electronic circuits (OrCAD, PSpice, Workbench)
- Programming logic devices (VHDL, MaxPlusII)

Applications

- Mathematical and statistical applications. Digital Signal Processing (MathLab, Simulink, Mathematica, SPSS, Octave)
- Design: 3DStudio, Microstation.
- Programming of controllers with Step 7.0
- Advanced office applications (Microsoft Office VBA, Gnome Office, KDE Office, OpenOffice ...)

Hardware

- **Architectures** 386, x86_64, IA64, sparc
- **Hardware:** IBM, Intel, Blade, Bull, Novascale, Raritan, fiber optic cab Hitachi, EMC, Qlogic, SunBlade
- Installation and repair of PCs and servers.
- Electronic communications (RS-232, Ethernet, modem)

Other

- Teaching and training for companies.

Other Studies

- 2007 –Network Management Tool **CA Unicenter** Certification Course (80 hours)
- 2009 - **SQL Server Course.** (Programming, administration, transact SQL) (215 hours)

Observations

- Keen on open software, programming and new technologies. Because of my interest in the world of software, communications, telecommunication networks, computing, security and related areas I have the ability to learn new systems and programming languages in no time.
- Enjoy in team work and team coordination.

Other data

- Availability: Available for travel and relocation.
- Driving license: Driving license, class B. Own vehicle.
- Musical studies

Languages

- **Spanish:** Mother tongue
- **English:** High level written and spoken. Titles by the University of Cambridge and Spanish School of Languages. Periods of stay in the UK.
- **Euskera:** Medium level written and read