

# **Curriculum Vitae**

## **Rudi van Drunen**



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**Name** Rudi van Drunen  
**Function** Senior Unix Consultant / Architect  
**City** Oegstgeest  
**Year of birth** 1965

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**Specialism** UNIX/Linux-projects, Networking, Open Source Development-Deployment, Systems architecture, Medical (research) applications, Embedded hard and software projects

**Knowledge and experience**

**Operating systems**

|                       |               |
|-----------------------|---------------|
| Linux,                | Expert        |
| (Open/Free/Net) BSD   | Expert        |
| Solaris               | Expert        |
| HP-UX                 | Administrator |
| Irix                  | Expert        |
| MacOS X               | Expert        |
| Vax VMS               | User          |
| Windows (95.2003, XP) | Administrator |

**Networking**

**Technologies**

Ethernet (TCP/IP)  
Wireless (802.11a,b,g,n)

**Network filesystems**

NFS  
SMB (Samba)

**Identity services**

DNS  
DHCP  
NIS, NIS+  
LDAP  
PKI (CaCert)

**Security services**

RADIUS  
802.1x  
VPN (IPSec, SSL)  
Wireless security (WPA/WPA2)

**Other services**

SNMP  
NTP  
NNTP  
E-Mail SMTP (Postfix, Sendmail, IMAP, POP)  
SQL\*NET  
ODBC  
Routing protocols ; OSPF, BGP, RIP

**Programming languages**

Unix Shell  
Perl, Python, Ruby  
(PL) SQL  
C, C++  
Assembler  
Occam  
Java  
Pascal

Fortran, parallel Fortran  
Web design HTML  
JavaScript

## **Software**

Web server: Apache, Squid, tinyHTTPD  
Databases: MySQL, PostgreSQL, ORACLE  
Authentication: OpenLDAP, (free|open)radius  
Mail: Postfix, Sendmail, Qmail, Dovecot, procmail, Zimbra  
Spam: SpamAssassin/SpamD, DSPAM, postgrey  
Antivirus: ClamAV, Sophos F-prot  
Clustering: Linux Virtual Server, Heartbeat  
VPN: Cisco VPN, OpenVPN, IPSec (racoon, FreeSwan)  
Backup: tar, dump, amanda  
Virtualization: VMware (ESX Server, workstation), Solaris Zones  
DNS: Bind, nds  
Security: ipf, ipfw, pchains, iptables, openssl, tripwire  
Monitoring: Big Brother, Nagios, MRTG, RRDtool cacti

## **Hardware**

Sun fire systems  
HP PA-Risc systems  
SGI-systems  
x86 hardware  
Various SAN/NAS systems  
Embedded systems (x86, ARM, PIC, Atmel)  
Firewalls/routers/switches/Wireless (Cisco, Nortel, 3Com, Alvarion, m0n0wall)

## **Various**

- Computer hardware design, Embedded applications (Intel, Motorola processors).
- Design of digital and Analogue electronics (ao. RF design).
- VHDL language, mentor graphics design and simulation systems.
- Image Processing Research

## **Training and education**

1977-1983 HAVO Ommelander College Appingedam  
1983-1989 Ba. (F.H.) Electric and Electronic Engineering, HTS Groningen,  
Subdivision : Electronics and information technology  
Project : Design of an intelligent control system for biological  
fermentation processes

## **Professional experience**

2006-now

### **Competa IT, Senior Consultant**

-Developing new services and business models.

Projects:

-Building an Enterprise Ruby on Rails Deployment service.  
Competa IT is building a deployment facility for Enterprise Ruby on Rails applications to provide the rapid web application development community a way of deploying the applications, as this has proven to be difficult. I helped developing the concept, built and deployed the hardware and software facility.  
SUN SPARC / x86 servers, Solaris 10, Zones

- Apr 2007 Zorg en Zekerheid Leiden: Advice on installation of a third party software product  
On the system a third party reporting software product was installed. I checked and verified the environment and the installation of this product to enable the customer to effectively work with the software vendor to fix some issues  
SUN Solaris 10

- Feb 2007 Zorg en Zekerheid Leiden: Troubleshooting Solaris-10 / EMC Storage environment  
The Web portal services of Zorg en Zekerheid run on a replication based system using SUN Solaris and ORACLE. In order to replicate the data from the outside perimeter to the inside a system has set up. I investigated this environment in order to find a bug that resulted in intermittent errors in the replication process. Advised on fixing the bug.  
SUN Solaris 10, Ksh scripting, Networking, firewalls, ORACLE Database, EMC storage, Veritas Volume Manager

- Feb 2007 Lantor BV Veenendaal: Integration Troubleshooting and migration planning for SAMBA -3file and print services on Solaris 9. The company wanted to phase out the windows servers, so a service running on the UNIX infrastructure has to be designed and built to replace 8 Windows servers. A migration scenario has to be designed to move the applications and services from Wintel to Solaris.  
Sun Solaris 9, SAMBA 3.0.24, Active Directory, LDAP

- Dec 2006 NRS Arnhem: Building new backup environment for mission critical database services (Based on Sun 6800, Solaris 9)  
The NRS run their database and web services on logical domains on SUN 6800 machines. I set up a complete disaster recovery machine for the production environment on one of the boxes  
SUN Solaris 9, Veritas Volume Manager, Oracle, SUN SAN,

2006-2007

**CaCert / Ophaaga Foundation, Senior Consultant**  
Designing and Building CaCert infrastructure in the Netherlands  
CaCert, a free and web of trust based Certificate authority wanted to move their highly secure infrastructure to the Netherlands. I designed and built the hardware infrastructure environment in a highly secure datacenter, and am involved in maintaining the infrastructure.  
SUN 4200, Tunix firewalls, NetApp filer, Cisco Network Gear

2001-now

**USENIX/SANE foundation, Senior Consultant**  
-Teaching and developing courses in various UNIX and network related topics on USENIX (USA) and SANE (European) conferences for advanced computing systems research and Large Installations System Administration.

USENIX, the advanced computing association and Stichting SANE organize conferences and training for computing professionals mainly using the UNIX operating system. I am part of the organizing committee for various conferences peer-reviewing papers and organizing invited talks. Furthermore I give training classes at these conferences on advanced topics such as Wireless networks and security.

2002-now

**Wireless Leiden foundation, Senior Consultant/Founding Board member**  
-Building Netherlands first and leading wireless Community network.

- Organization development, knowledge management.
- Network topology, embedded software and hardware design.
- Open source development and deployment.

Sub Projects:

Design of the wireless Leiden Core Network Structure

In order to build a highly maintainable and large wireless network I designed the topology and Routing strategy.  
OSPF, BGP, UNIX, TCP/IP, ocaml

Design of the Wireless Leiden Network node

Design of the software and hardware environment of a wireless network node using embedded programming technologies. To enable a smooth rollout a system for automatically configuring the flash images had to be designed and built.  
802.11b, FreeBSD, scripting, hardware, RF Design

Organization development

A volunteer organization is by design difficult to manage. I was the focal point for all technical development and facilitated the design and roll-out of the network. Furthermore I managed the dissimilation of knowledge.

1998-2006

**Leiden Cytology and Pathology Laboratory, Head of IT-dept.**

- Manage the information technology department, developing new applications of IT to be used in (routine and scientific) pathology and cytology for cancer research. Image processing Neural Networks databases and data mining.
- Management of the Administrative, Research, and Production (computer, image processing, scanning) (server) systems.
- Create new solutions for the evaluation of microscopic images and workflow management, with as target the "Digital Pathology Lab" (Total employee count: approx. 80)

Sub Projects:

System and network management

Day-to-day management of all Non-Microsoft systems  
In order to keep the infrastructure up to date and running 24x7 I Designed, built and deployed a highly resilient system and managed it. Therefore the operation of the lab was secured  
Used: UNIX (various), TCP/IP, Storage (SAN/NAS), network monitoring tools

Information management

Building reporting tools for management information  
Management has, using these tools more direct knowledge of all processes within the company, using graphical representation  
Oracle, Solaris, apache, php

PALGA-Workflow

Designed, Built and deployed a workflow information management and reporting system  
Let the lab track and trace all specimens through the process, using barcode therefore reducing the number of errors and reducing process time. Make reports to include images of specimens.  
Linux, PALGA system, MySQL, Apache, perl, C, web services

Internet connectivity

Create secure Internet connectivity using layered security zones separated by firewalls.

Integrate different services into a portal to let customers track progress and retrieve results. More / better customer satisfaction and reduce phone inquiries, also integrate web access and Email. Security is very important as the information has privacy aspects FreeBSD, Open BSD, Solaris, Apache, Cisco, IPSEC, SSL

#### Image storage

Digitally Store and archive all (image) data for analysis  
The clinical people do not use the microscope, but they view the images from the scanning equipment on computer screens. This enhances the throughput, reproducibility and quality of the diagnoses

Linux, Solaris, HSM, Optical Jukebox, NFS

#### Image analysis

Create a diagnostic system comprised of a robot and image grabbers to take images from pap smears. Use neural networks to evaluate the images and present them to the pathologist. Reproducibility, quality and throughput of the diagnostic process is enhanced.

C, C++, Perl, Frame Grabbers, special purpose hardware, neural networks

#### Laboratory information and Management system

I managed a project to investigate the workflows in the lab and select and implement a Laboratory Information Management system (LIMS)

1997-1998

#### **Ideta (part of KBB Vendex), Senior Consultant**

-Advising the management on matters of IT policies and (technical) infrastructure for a computer centre as service organization for a number of department store chains. (Retail automation solution provider. total employee count of the computer centre 220).

#### Projects:

##### Branch office connect

Design of a new system to connect retail outlets offices to the computer center to save telecommunication costs and enhance accuracy of inventory information.

##### New POS back office

Managed a project to move from a windows based Point-of Sale system to a UNIX based one (back office)

1995-1997

#### **Chess Engineering, Project Engineer**

-Design and implementation of computer hardware (chip and board level) and (UNIX) system software for various projects ranging from ASIC design to Optical storage and retrieval systems for large image databases.

-System management of a 30 UNIX workstation environment.

-Project management.

-Low level software development in a UNIX environment.

#### Projects:

VME interface for DASA

Designed and programmed using VHDL a VME interface ASIC to be used in a radiation hardened system on board spacecraft. Commercial devices could not be used due to radiation restrictions. ALTERA, VHDL, Mentor Graphics design system

ISDN-30 Test device for KPN Research

Designed and Built a ISDN 30 (E1) interface test system based on Motorola VME boards running LynxOS. The system enabled the customer to test the ISDN 30 infrastructure for bit errors and jitter LynxOS, C, Motorola VME boards

Archiving System for Sony Music ISC

Project management, design, building and deploying an archiving system and infrastructure based on optical jukeboxes (daxarchiving.com) to manage the data and workflow at the digital graphics department of the customer. All digital assets (images) had to be stored on optical media to ensure longevity while the retrieval of any file had to be instantaneous. Also the customer should be able to open up the archive over the Web. SUN Solaris, SUN (SS 1000) hardware, Apple Mac, AIX, HSM systems, ORACLE database, Cisco

1989-1995

**University of Groningen, Researcher/Systems manager**

- Design and implementation of multi processor systems for advanced molecular dynamics calculations (Hardware and software (GROMACS)).
- Writing system software, applications and visualization software.
- Implementing an inter processor communication structure.
- System management of a large multi-platform network.
- Research on parallel computing special purpose architectures and processor design.
- Building and deploying a visualization system to display complex molecular structures

Sub Projects:

GROMACS Hardware development

To run molecular dynamics simulations of large systems we designed built and deployed 2 generations of a 32 processor Intel i860 based system. Both machines are built in-house.

GROMACS System Software

To connect the custom built hardware to the infrastructure, system software is needed to perform I/O. I wrote the UNIX system software to load, run and debug the software on the parallel machine.

Inter processor communication structure

The software was written for a distributed memory system using message passing in a ring structure. In order to communicate between neighbor processors I implemented the communication structure on our home-grown machines and later on clusters of workstations using PVM and MPI

Optimization of inner loop

As the computations performed were very floating point intensive I optimized the compiler output on assembly level to keep the floating point pipelines of the processors filled at all times.

Display and visualization

The front-end of the GROMACS machine consists of an X-windows interface to modify the parameters during simulation runs and

display the molecular configuration at any given time. I wrote the (X-lib and gl based) visualization software and provided interfaces to commercial visualization software and environments such as AVS, the immersion desk or CAVE running on various Silicon Graphics machines.

#### UNIX Systems management

Systems management of the departments network containing 40+ workstations and servers running different flavors of UNIX. Maintaining system services such as file serving and E-mail.

#### Accuracy-driven arithmetic

Research on methods to do arithmetic on chip level with different levels of accuracy to obtain performance enhancement. Some calculations can do with less accuracy. If the hardware supports this, speedup in computation can be accomplished.

1986-1989

#### **Bio intermediar/DSM Biologics, Technical Specialist**

-System Management.

-Electronic design of process control equipment.

#### **Various**

#### **Languages**

Dutch, English (both fluently), German and French (basic)

#### **Hobbies**

Photography, modern art, travel, Hardware Design (licensed Radio Amateur) Sailing

#### **Drivers License**

BE

#### **Memberships**

NLUUG, IEEE, USENIX

#### **Committees**

- NLUUG / SANE :

- Member of the NJ-1999 conference Program Committee
- Member of the SANE 2002 Program Committee
- Member of the SANE 2004 Program Committee
- Invited Talks Coordinator for SANE2006

- USENIX:

- Member of the program committee for LISA04
- Member of the program committee for LISA05
- Member of the program committee for LISA06
- Invited Talks coordinator for LISA07

- Board Member of the Wireless Leiden Foundation.

- TEAM-NL systems management member of Ophaaga Foundation

- Member of the evaluation and advisory committee of the OASE Open Source project (cooperation of the Dutch ministry of Economic Affairs and Syntens)

#### **Company**

Founder and CEO of XlexIT Technology BV (<http://www.xlexit.com>)

#### **Publications**

List at: [http://www.xs4all.nl/~rudi/public\\_html/publications.html](http://www.xs4all.nl/~rudi/public_html/publications.html)