Lawrence J. Karnis B.Sc., I.S.P.

UNIX/Linux Advocate, Infrastructure Consultant, Author and Instructor

---

Industry Designations & Certifications

VMware – Certified Professional (VCP)
VMware – Certified Instructor (VCI)
RedHat - *Redhat Certified Examiner* (RHCX)
RedHat - *Redhat Certified Instructor* (RHCI)
RedHat - *Redhat Certified Engineer* (RHCE)
Linux Professional Institute - LPI Certified, Level 1
SCO - *Master Advanced Certified Engineer* (UNIXWare 2, UNIXWare 7, OpenServer 5)
Hewlett Packard - *Certified IT Professional* (CITP on HP-UX)
Hewlett Packard - *Certified Systems Administrator* (CSA on HP-UX)
Canadian Information Processing Society - *Information Systems Professional* (ISP).
Learning Tree: *UNIX Programming Certified Professional*
Learning Tree: *UNIX Systems Certified Professional*

Author/Technical Editor

RedHat Certified Engineer Linux Study Guide. Syngress 2001. Contributing author.
HackProof Linux. Syngress, 2001. Technical Editor.
Advanced Solaris System Administration. Global Knowledge, 2001. Author.
Introduction to Solaris System Administration. Global Knowledge, 2001. Technical Editor
Apache Web Server. Learning Tree International, 1999
Migrating From UNIX to Windows NT. CBT for Learning Tree International, 1997
Applied C, Strawberry Software/Prentice Hall, 1987. Contributing Author.

Synopsis

I am computer Systems Analyst and Consultant with over 20 years of experience. I have a diverse set of professional skills and experiences including:

- Help client understand, plan for, deploy, manage, and secure virtual servers
- Help clients migrate from expensive, proprietary systems to Linux.
- Systems analysis, design and implementation on all major UNIX/Linux platforms
- C programming and product development using C on UNIX, DOS and Windows.
- UNIX and Linux system management and administration including Best Practices.
- Networking, Internetworking and the Internet, including security.
- Web Servers and services using UNIX, Apache, PHP, mySQL and SSL.
- System architectures and design including distributed client/server systems
- Capacity, performance and disaster planning
- Computer system security including policy, procedure and audit

My first exposure to UNIX was January 1981. Since then, I have worked with most UNIX and Linux versions and it's variants including products from HP, IBM, Sun, SCO, RedHat and SGI.

Professional Experience

I have worked as an employee or contract/consulting resource for organizations of all sizes including mid-size to Fortune 500 businesses, crown corporations, government organizations and professional services firms. I have worked as a technician, a technical manager and as a project manager. Some of my past duties have included:

- Systems Analyst for VMware Corporation. Help clients understand and work with server virtualization technologies. Include planning, deployment, best practices, high availability, clustering and troubleshooting.
- Systems analysis, design and implementation services for Global Knowledge and it's clients
- Develop procedures, practices including best practices for managing UNIX and Linux based systems
- Consult to Global Knowledge and it's clients in 'Best Practices' for high availability, security and performance
- Install and configure UNIX/Linux servers including HP, Sun, SCO and Redhat systems
- Provide UNIX oriented consulting services including capacity and performance analysis & tuning, security, and disaster planning and recovery services.
- Provide emergency support services for IT service outages (server failures, etc.).
- Provide Internet oriented security services
- Install QAD's MFG/Pro ERP software. I have also provided custom configurations, programming and support for MFG/Pro and Progress.
- Install, configure and tune Progress databases for best performance and resource utilization. Various Progress work including, databases recovery.
- Local and wide area TCP/IP networks using ISDN, xDSL and T1/T3 services.
- Internet Service Provider including Web Hosting, FTP, News and other services using both UNIX/Linux and IIS.
- Ongoing web development and programming using PHP. Includes web forms, web based database access (mySQL), session tracking and more. I started working with PHP in 1999.
- Internet based service consulting including firewalls, mail servers, web servers, Internet security, reliability, performance and monitoring.
- A team member in a design review of the Toronto Stock Exchange Equity Floor Closure system; a distributed, high availability automated trading system based on Oracle and the Tuxedo Transaction Processing monitor.
- Installed, configured and managed TCP/IP based services including NFS, SMB and proprietary products and protocols to link.
- I have done extensive programming in the C language on both DOS and UNIX platforms, including distributed client/server TCP/IP applications.
- I designed, programmed and worked as a project leader on a significant C language software project.
- I have provided UNIX consulting services to a top-three multi-national accounting firm, two premier multi-national UNIX computer companies and two major multi-national systems integrators. I often do work for the clients of these organizations.

VMware Corporation – Duties

I work as a contract resource for VMware Corporation. I work with VMware Corporation staff and clients in all phases of Virtual Server planning, deployment and administration. Typical activities include:

- Helping clients make the transition from physical to virtual computing
- Assist with service migration from physical to virtual environments
- Provide guidance on high-available computing including clustering
- Help devise strategies for on-line back up of running Virtual Machines
- Provide troubleshooting and recover services

Global Knowledge - Duties

I work as a contract resource for Global Knowledge both in the United States and in Canada. Global Knowledge is a high technology company specializing in imparting Best-Practice and Standard-of-Practice to its clients.

My job at Global Knowledge involves:

- Assist in the identification and positioning of new technology opportunities
- Help codify areas of practice within a branch of technology
- Identify the most effective and efficient methods for delivering IT services for that branch
- Develop a Standard of Practice for these services
- Help clients implement procedures that conform to this Standard
- Audit and verify compliance with the Standard
- Assist clients in expanding the scope of their practice based on corporate objectives
- Grow the Body of Knowledge (BoK) to include generalizations to the Standard
- Provide training on the above
- Provide general consulting services for UNIX, Linux, Solaris and Internet technologies

Detailed UNIX, Linux and Internet Experience

Disaster Planning & Recovery

- Provide clients with disaster planning services to help ensure business continuity in the event of an IT service outage.
- Recommend configuration and hardware upgrades to introduce redundancy with the objective of improving availability.
- Recover systems after catastrophic failures. In the past, I have successfully recovered systems (and data) after lightning strikes, disk failures (including boot disk failures), hardware failures, environmental disasters and administrative failures. In many cases, I was able to successfully restore systems that were otherwise considered unrecoverable.
- Implemented, tested and used data archiving and back up system to ensure system recoverability in the event of either a catastrophic failure or data loss.

Systems Management

- Perform requirements analysis including detailed system configuration to help clients purchase just the hardware needed for their immediate needs.
- Instituted system management practices to help ensure availability, security, etc.
- Introduced proactive monitoring to help identify problems as early as possible

Programming

- Over 20 years experience in programming in C
- Experience programming in PHP for dynamic, server side content delivery.
- Some experience programming in C++ and Java
- Familiar with standard UNIX tools for software development including compilers, debuggers, execution trace tools, automation construction tools and software version management, scripting tools and more.

Security

- Over 13 years of experience conducting security audits for both internal production servers and Internet connected servers.
- Helped establish security standards for a number of companies
- Performed contract security audits looking for vulnerabilities that could compromise system integrity.
- Used *netfilter* based firewall tools to help harden UNIX/Linux systems from the Internet. This includes the use of Network Address Translation to map private to public IP address, defining rules to restrict the type of network traffic that a system will accept, using Plugable Authentication Modules (PAM) to implement access restrictions and developing log monitoring capabilities to help audit the system.

Teaching Experience

I have over 13 years experience as an adult technology trainer. My experience includes teaching for Global Knowledge, Learning Tree International and University of Toronto.

Global Knowledge

As part of my duties with Global Knowledge, I am occasionally called on to teach:

- Solaris System Administration 1
- Solaris Administration 2
- UNIX I - Introduction to UNIX
- UNIX II - Advanced UNIX for Users
- Introduction to Linux System Administration
- Advanced Linux System Administration

Learning Tree

From 1989 through to 2000, I worked as a contract instructor for Learning Tree International. After completing the instructor qualification process, I took on their entire UNIX/Linux curricula. By the time I left the company, I had completed 104 course events and earned an average instructor rating of 3.78 (out of 4) with an average course rating of 3.65 (out of 4). I taught the following classes for Learning Tree:

- Introduction to C Programming
- Advanced Programming in C
- Introduction to Client/Server Systems
- Hands On Client/Server
- UNIX Tools and Utilities
- Korn Shell Programming
- Apache Web Server (course author)

- UNIX WorkStation Administration
- UNIX Server Administration
- Porting Programs from UNIX to Windows NT
- UNIX/Windows NT 4 Integration
- UNIX Security
- UNIX Network Programming
- Linux System Administration

University of Toronto

I worked as a Teaching Assistant and Continuing Education instructor at U of T, where I taught; C programming, UNIX, and MS-DOS.

Expert Status

I have provided assistance in a number of legal matters involving Information Technology. The College of Nurses of Ontario (CNO) has affirmed my position as a Computer Systems Analysis and as a Management Consultant. On three occasions, I have been accepted by the Discipline Committee of the CNO as an expert witness in the field of computer technology and security.

The Tax Court of Canada has also recognized me as an expert in general computer knowledge.

I have assisted in matters involving:
- The loss of pharmaceuticals through an automated dispensing system.
- Privacy issues involving the use of a hospital computer system.
- Technology related to audio and video surveillance.

I am also registered as a subject matter expert in Linux and Open Source software by the Canadian Information Processing Society (CIPS) of Canada.

Publications

I either authored or significantly contributed to:

- *PC-STAR User's Manual*, an Investor Relations tool for the Toronto Stock Exchange.
- *Applied C*, Van Nostrand Reinhold Company, 1984.
- Technical Editor for: *Applied C*, Van Nostrand Reinhold Company, 1984.
- Authored: *B-Tree, a Programmers Tool Kit for Keyed Record Management*. This product was incorporated into applications from Symantec and MicroFocus.
- *UNIX/Windows NT 4 Integration Module 2*. A Computer Based Training CD published by Learning Tree International (1997).
- *Apache Web Server Course*. A four-day Learning Tree course for installing, configuring and administering the world's most popular web server (1999).
- *Solaris Administration II*. Course Author for Global Knowledge's 4 day course in advanced Solaris 8 system administration (2000).
- *Solaris Administration I*. Technical editor for Global Knowledge's 4 day course in introductory Solaris 8 system administration (2000).
- *RedHat Certified Engineer Linux Study Guide*. Syngress Osborne McGraw Hill 2001. Contributing author and Technical Editor.
- *HackProof Linux*. Syngress Osborne McGraw Hill, 2001. Technical Editor.

Formal Education

Bachelor of Science, University of Toronto, 1984. Computer Science and Mathematics.

Continuing Education

RedHat 300/302 - RHCE Advanced Administration and RHCE Exam prep course. May 2001.
VMware ESX-1 – Introduction to Server Virtualization with VMware ESX. October, 2004
VMware ESX-2 – Advanced Server Virtualization with VMware ESX. October, 2004

Professional Associations

Member in good standing, Canadian Information Processing Society (since 1992).
Information Systems Professional (I.S.P.) designation granted by the Canadian Information Processing Society (chartered by the Government of the Province of Ontario), April 1992.

Vendor Certification Details

I have earned the following vendor designations:

- **RedHat Certified Examiner (RHCX),** January, 2004. I am certified to deliver both the RHCT and RHCE exams.
- **RedHat Certified Instructor (RHCI),** January, 2004. I am certified to teach all RedHat content up to and including RH300.
- **Linux Professional Institute Certified** - Level 1. (LPIC-1), November, 2003.
- **RedHat Certified Engineer** (RHCE), May 2000. RHCE Certificate Number 807001619803047. (Scored 96.7%)
- **Tarantella Advanced Certified Engineer** (ACE), October 2000.
- **SCO Master Advanced Certified Engineer** (ACE), SCO UNIXWare 7, May 2000.
- **SCO Master Advanced Certified Engineer**, SCO OpenServer 5, January 2000.
- **HP Certified Information Technology Professional**, Hewlett Packard, May 1999.
- **UNIX Programming Certified Professional**, Learning Tree International. Nov, 1998.
- **UNIX Systems Certified Professional**, Learning Tree International. May 1998.
- **SCO Advanced Certified Engineer**, SCO UNIXWare 2.1, May 1998
- **SCO Advanced Certified Engineer**, SCO OpenServer 5, January 1998

Contact Information

For more information on my professional experience, and myself please visit my personal website at **www.larrykarnis.com**.

> **Larry Karnis**, B.Sc., I.S.P.
> President and Senior Consultant
> XPMsoftware
>
> 15 Claypine Trail,
> Brampton, Ontario
> Canada. L6V 3L8

Phone	(905) 451-9488 x1#
Toll Free	(888) 451-3131 x1#
Mobile	(416) 712-0627
Facsimile	(905) 451-7823
Personal Web Site	www.larrykarnis.com
Company Web Site	www.xpmsoftware.com
E-Mail	lkarnis@xpmsoftware.com, larry@larrykarnis.com