Panel: Electronic Voting Security

Dan S. Wallach (Rice University) – Moderator

Jim Adler (VoteHere)
David Dill (Stanford University)
David Elliott (Washington State, Office of Sec. of State)
Douglas W. Jones (University of Iowa)
Sanford Morganstein (Populex)
Aviel D. Rubin (Johns Hopkins University)

inside:

Focus Issue: Security
Guest Editor: Rik Farrow

USENIX

The Advanced Computing Systems Association

the bookworm

by Peter H. Salus

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Time for the December column again! And I gotta pick my annual holiday "best" list. Let me say here that it was no easy pick. I decided that Gibson, Stephenson, and Waldrop weren't eligible. That's like disallowing Eisenstein, Griffiths, and Kurosawa from a best director's list. Oh, well. How I suffer. (And I'm sure that many of you read *Pattern Recognition* and *Quicksilver* and *Custer's Last Jump* with as much pleasure as I did.)

But there is a consolation: I also get to list a bonus book. Most of the others are large: my bonus will go easily into your shoe (instead of that lump of coal) or into a stocking when furled. It's the latest from Illiad. What? You don't read "User Friendly"? Shocking! Learn how to generate static electricity by rubbing balloons against Dust Puppy.

But I do want to mention a few books before getting to the list.

(In)Security

Bruce Schneier has a machine that enables him to turn out good books with amazing regularity. *Applied Cryptography* (now in a second edition) and *Secrets & Lies* have been reviewed by me previously. Bruce's *Beyond Fear* is, quite simply, in a class by itself. This is not "merely" a book about computer security, it's about just how ineffective those waits in the airport are. It's about why ID cards will be absurd encumbrances and why ID checks are just worthless.

Beyond Fear is a must buy and a must read. If only there were a way to get someone like Tom Ridge or W to read it.

TCP/IP

Bill Fenner and Andrew M. Rugoff have done the networking field a real favor. They have edited and enlarged the first volume of Rich Stevens' standard *UNIX Network Programming*, volume 1. The first edition had 600 pages; the second was just 1000; this one has 946. They've revised what needed to be revised and added great gobs of stuff. And they've deleted where necessary. They've dropped T/TCP and XTI; they added three chapters on SCTP. Etc. It's a great job!

HLA

I'm not a great fan of assembler language, most likely because I've never needed to do a lot of low-level programming. But I can see the utility of it. HLA is "High-Level Assembler" – actually a compiler. Hyde has produced a readable book with a useful CD included.

Peter's Holiday List

This has been a strange year. And I'm breaking what was once a fixed and firm rule: not considering second and later editions. At the same time, there are several reissues I'm most likely slighting. And there are certainly several books of which I think quite highly that I'm not including.

But I do think that the volumes I'm listing are among the very best. For the nth year in a row, let me state that this list is not ordered by rank, nor is it alphabetical. But these are good books. Really good books.

Season's greetings!

Cricket Liu, *DNS and BIND Cookbook* (O'Reilly)

Matt Bishop, *Computer Security: Art and Science* (Addison-Wesley)

William R. Cheswick et al., *Firewalls and Internet Security* (Addison-Wesley)

Eric S. Raymond, *The Art of UNIX Programming.* (Addison-Wesley)

Marcel Gagné, *Moving to Linux* (Addison-Wesley)

Ellen Siever et al., *Linux in a Nutshell* 4th ed. (O'Reilly)

John Eilert, et al., *Linux on the Mainframe* (Prentice Hall)

David Jordan & Craig Russell, *Java Data Objects* (O'Reilly)

Bruce Schneier, *Beyond Fear* (Capricorn Books)

W. Richard Stevens et al. *Unix Network Programming, Volume 1: The Sockets Networking API,* 3rd ed. (Addison-Wesley)

Bonus Book:
J.D. Frazer, *Even Grues Get Full* (O'Reilly)

Nearly 20 Years Ago in U[SE]NIX

by Peter H. Salus

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At the beginning of 2002, I reminisced about the January 1987 USENIX Conference in Washington, DC. The second Washington snowstorm . . .

Ted Dolotta, a contributor to the -mm macros and one of the managers of USG, sent me these remembrances:

"The reason for this message is your "Fifteen Years Ago in USENIX" item in the February 2002 issue of *;login:* – in it you mention (in addition to the 1987 USENIX meeting) the 1984 USENIX meeting in DC, snowstorm and all. That started me reminiscing.

If my memory serves, the January 1984 USENIX meeting was also marked by another "storm:" there was a last-minute, surprise exhibitor at that show: Big Blue, which set up a dozen PC-ATs in a hotel suite (all regular exhibit space being already taken) running the Personal Computer Interactive Executive, PC/IX, a single-user UNIX running on the PC-AT and developed for IBM by my team at INTERACTIVE Systems. (I just looked at the User's Manual for PC/IX, and it says, smack in the middle of the title page, "by INTERACTIVE Systems Corporation," with the IBM logo relegated to the bottom of the page.)

IBM invited all the attendees to come up to their hotel suite and play with the system at will; there were no canned demos, no presentations – just UNIX and a bunch of IBM guys, and my folks, to answer questions. (Several of my guys had to buy, on short notice, their first adult suit; two among them actually asked me whether they could share a suit.)

And notwithstanding the fact that PC/IX eventually went nowhere, suddenly UNIX was no longer a Bell Labs/Berkeley/academia/hacker/nerdy thing – it was in the mainstream, endorsed by the largest computer company in the world. A heady day, indeed! The whole thing was just amazing (I know I'm biased).

As I said, PC/IX was not a commercial success; it was followed by VM/IX (UNIX as a guest on the VM/360 mainframe system) and IX/360 (native UNIX on a System/360 mainframe); both of these flopped as well. And then came AIX: UNIX on the PC-RT (a RISC chip), which IBM sells to date, albeit on much more modern hardware. These ports were done by my team at INTERACTIVE (another outfit whose name escapes me started the IX/360 port, but eventually INTERACTIVE was asked to finish it in collaboration with IBM/Germany). For AIX, that team consisted of 18 people, including the support staff – secretary, hardware guy, administrator, etc.; IBM had a team of 350+ people in Austin testing the stuff my folks built. IBM was very worried about keeping the project secret: we were not allowed to open the window shades in our offices, and the PC-RTs were chained to the walls. I did tell you about the AIX manual and their problems in a previous letter.

Speaking of manuals, I also explained in another letter about the various issues that arose in the context of creating UNIX manuals within the constraints of IBM's practices – it was essentially Mission Impossible; but to give the devil his due, IBM graphic design folks did a *great* job of designing the covers for the PC/IX and VM/IX documentation (whose content was *identical* except for the name of the system and for some SysAdmin stuff, since PC/IX was a *single-user*, native-mode system that ran on the PC-AT, while VM/IX was a *multi-user* system hosted on VM/360 – something I'm quite proud of to this day). Anyway, the PC/IX binders were pin-striped, very dark charcoal gray, with white type, and a bud vase with a *single* red rose, harking back to the original IBM PC ad campaign featuring "The Little Tramp" (Charlie Chaplin look-alike with a red rose); the VM/IX binders were *identical*, except for a vase with a *bouquet* of red roses. It was brilliant.

Today, IBM is into UNIX in a big way, with Linux mainframes and AIX systems (the latter, I suspect, will be around alongside Linux systems for a good long time), huge booths at Linux World, and a suit from SCO over alleged license and copyright infringements . . .

But it was at the 1984 USENIX meeting in Washington, DC, that IBM first publicly put its toe into the UNIX stream (no pun intended)."

Thanks, Ted. And a happy (appropriate) holiday to all of you. One wonders whether SCO realizes that INTERACTIVE Systems wrote the first UNIX port for IBM . . .

2004 marks a number of things: The ARPAnet/Internet and UNIX will both be 35; and Linux 1.0 will be ten. Lots of fodder for a historian.

I hope to celebrate these events live at Nordu in Copenhagen in January, at USENIX in Boston in July, and at SANE in Amsterdam in September.