Advanced Programming in the UNIX Environment

Week 01, Segment 2: UNIX History

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UNIX History

https://www.bell-labs.com/usr/dmr/www/chist.html

UNIX History

http://www.unix.org/what_is_unix/history_timeline.html

- Originally developed in 1969 at Bell Labs by Ken Thompson and Dennis Ritchie.
- 1973, Rewritten in C. This made it portable and changed the history of OS
- 1975: Thompson, Joy, Haley and students at Berkeley develop the **B**erkeley **S**oftware **D**istribution (BSD) of UNIX
- two main directions emerge: BSD and what was to become “System V”

Notable dates in UNIX history

- 1984 4.2BSD released (TCP/IP)
- 1986 4.3BSD released (NFS)
- 1991 Linus Torvalds starts working on the Linux kernel
- 1993 Settlement of USL vs. BSDi; NetBSD, then FreeBSD are created
- 1994 Single UNIX Specification introduced
- 1995 4.4BSD-Lite Release 2 (last CSRG release); OpenBSD forked off NetBSD
- 2000 Darwin created (derived from NeXT, FreeBSD, NetBSD)
- 2003 Xen; SELinux
- 2005 Hadoop; DTrace; ZFS; Solaris Containers
- 2006 AWS (”Cloud Computing” comes full circle)
- 2007 iOS; KVM appears in Linux
- 2008 Android; Solaris open sourced as OpenSolaris

Some UNIX versions

More UNIX (some generic, some trademark, some just unix-like):

1BSD
4.4BSD Lite 2
AIX PS/2
AMiX
Atari Unix
BSD/386
Digital Unix
FreeBSD
HP-UX BLS
IRIX
Mac OS X
Minix
NeXTSTEP
QNX RTOS
RISC iX
SCO Xenix System V/386 SPIX
Trusted Xenix
Ultrix 32M
UNIX System V

2BSD
386 BSD
AIX/370
AOS Lite
BOS
BSD/OS
DragonFly BSD
GNU
IBM AOS
Linux
Mach
OPENSTEP
Plan 9
QNX/Neutrino
Security-Enhanced Linux
SunOS
Ultrix-11

3BSD
A/UX
AIX/6000
AOS Reno
BRL Unix
Darwin
Dynix
IBM IX/370
Lites
MERT
MIPS OS
mt Xinu
Open Desktop
QUNIX
SCO UNIX
Sinix
Tru64 Unix
UnixWare
Xenix OS

4BSD
Acorn RISC iX AIX/ESA
ArchBSD
BSD Net/1
Chorus
Debian GNU/Hurd
Dynix/ptx
HPBSD
MicroBSD
MirBSD
Open UNIX
OS/390 Unix
ReliantUnix
SCO UnixWare
Trusted IRIX/B
UNIX System III
UNIX System V Release 4
UNSW
Xinu

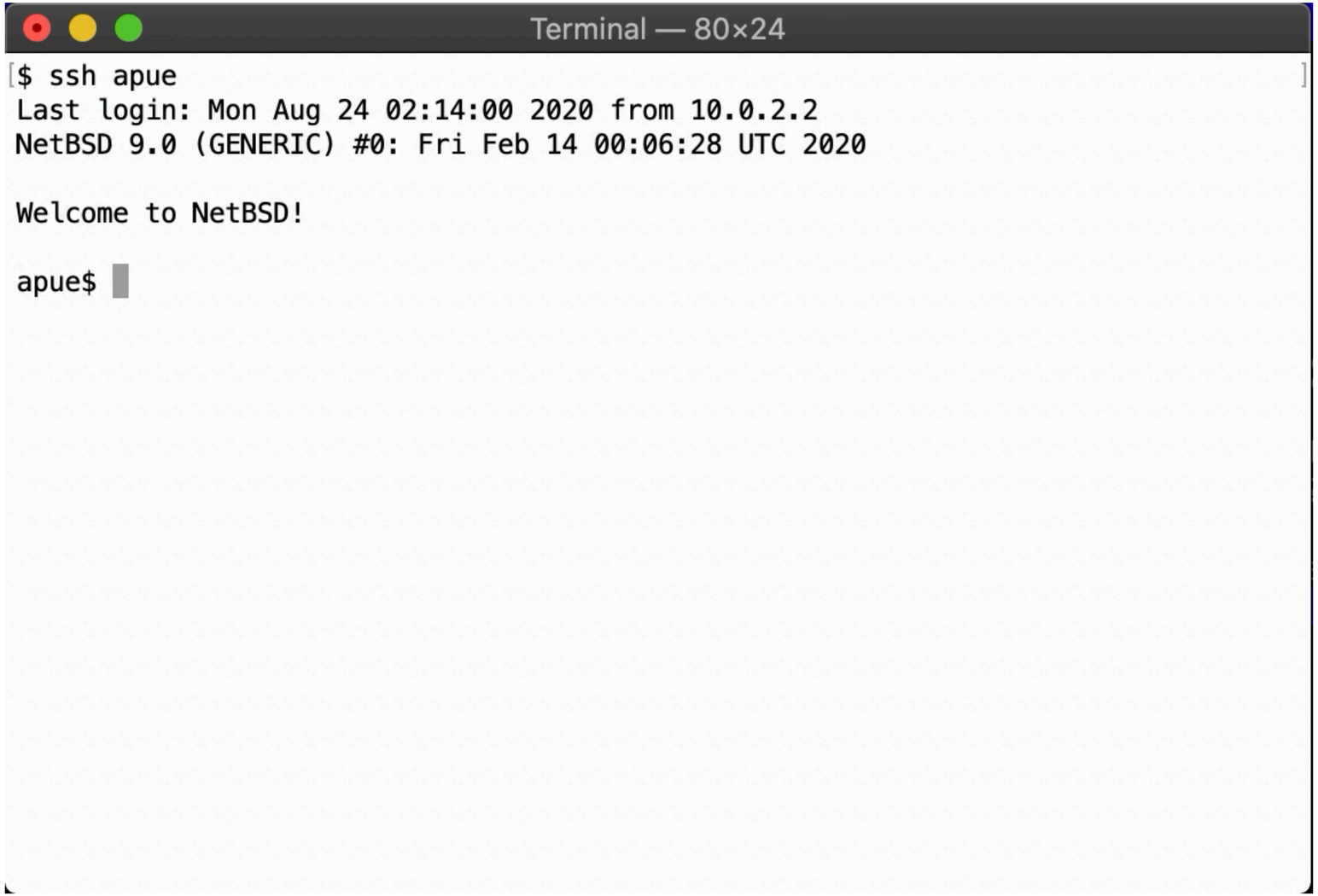
4.4BSD Lite 1
AIX
AIX/RT
BSD Net/2
Chorus/MiX
DEC OSF/1
HP-UX
Mac OS X
Mini
Linux
NetBSD
OpenBSD
OSF/1
QNX
SCO Xenix
Solaris
Ultrix
UNIX System IV
xMach

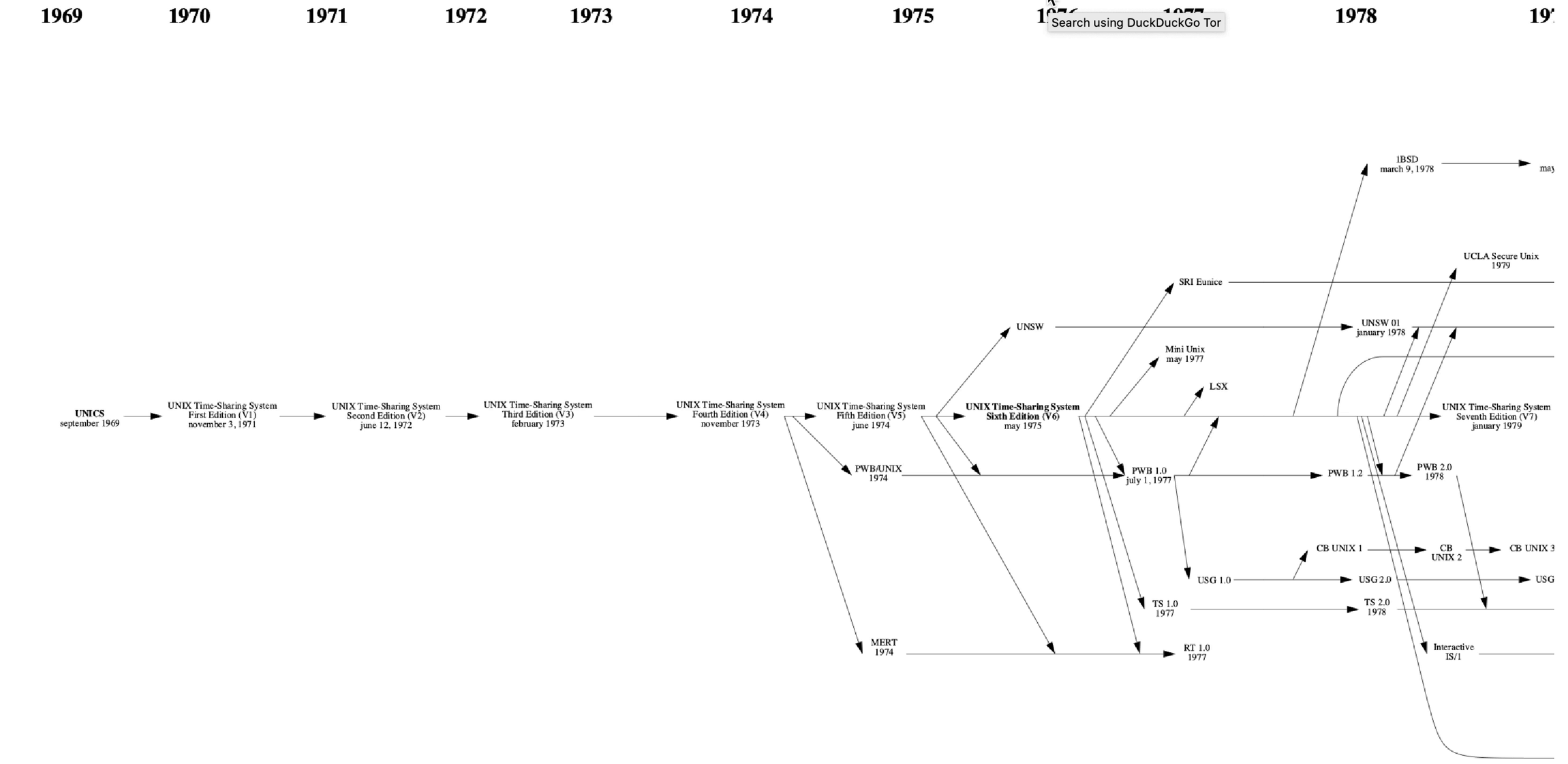
Some UNIX versions

A perhaps shorter list of Unix variants you are likely to encounter:

Linux	BSD	Other
RedHat Fedora CentOS Ubuntu Gentoo OpenSUSE Arch Slackware and about five thousand other distributions	FreeBSD OpenBSD NetBSD DragonFlyBSD	macOS Android ChromeOS Illumos Minix Oracle Solaris HP-UX AIX

Notable dates in BSD history




1969
1970
1971
1972
1973
1974
1975
1978
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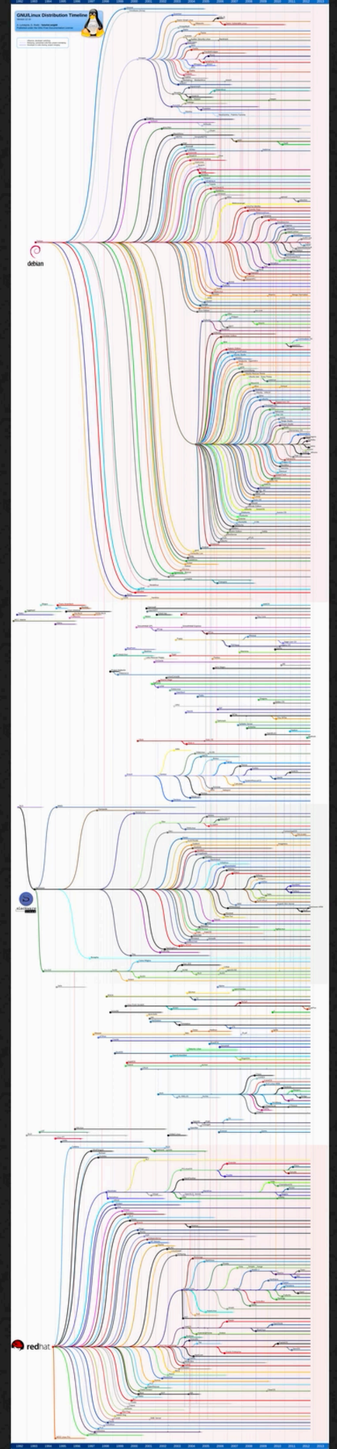
UNICS
september 1969
UNIX Time-Sharing System
First Edition (V1)
november 3, 1971
UNIX Time-Sharing System
Second Edition (V2)
june 12, 1972
UNIX Time-Sharing System
Third Edition (V3)
february 1973
UNIX Time-Sharing System
Fourth Edition (V4)
november 1973
UNIX Time-Sharing System
Fifth Edition (V5)
june 1974
UNIX Time-Sharing System
Sixth Edition (V6)
may 1975
UNIX Time-Sharing System
Seventh Edition (V7)
january 1979
1BSD
march 9, 1978
UNSW
UNSW 01
january 1978
SRI Eunice
UCLA Secure Unix
1979
Mini Unix
may 1977
LSX
PWB/UNIX
1974
PWB 1.0
july 1, 1977
PWB 1.2
PWB 2.0
1978
CB UNIX 1
CB
UNIX 2
USG 1.0
USG 2.0
TS 1.0
1977
TS 2.0
1978
MERT
1974
RT 1.0
1977
Interactive
IS/1
Open Systems
April 17, 2020
© Éric Lévénez 1998-2020
<http://www.levenez.com/unix/>
Note 1 : an arrow indicates an inheritance like a compat
Note 2 : this diagram shows complete systems and [mic
sometimes kernel versions are more appropriat



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UNIX Everywhere

Today, your desktop, server, cloud, TV, phone, watch, stereo, car navigation system, thermostat, door lock, etc. all run a Unix-like OS...

...with all the risks that entails.

In our next segment...

- UNIX basics inherent in the system's design
- Standard features of the C programming language
- Unix program design and philosophy

We'll write trivial versions of the ls(1), sh(1), and cat(1) programs

- and even curse a bit at buggy code.