



SchilliX

Creating an OpenSolaris distro

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What is SchilliX?

- **SchilliX was the first OpenSolaris based distro**
- **SchilliX is an OpenSolaris based Life CD**
- **SchilliX does currently not use Svr4 packages f. install**
- **SchilliX does currently include a simple GUI**
- **SchilliX does currently not allow to compile OpenSolaris as OpenSolaris is not yet complete enough**
- **SchilliX allows people to discover Solaris, to install Solaris on disk and to use it for development purposes**





The beginning

- **First ideas in December 2003 at Sun Network Conference in Berlin (discussions with Sun on a Solaris Life CD)**
 - **I askd Sun to start a Sun supported Life CD project**
 - **While discussing, Sun did implement many things**
- **September 2004 OpenSolaris Summit in Santa Clara**
 - **Sun will not pay for such a project**
- **September 2004 OpenSolaris Pilot started**
- **December 2004 CDDL published**
- **January 25th 2005 first buildable source**
 - **Fokus project SchilliX started with one payed student**



The beginning, part 2

- **March 2005 first pure OpenSolaris boots**
- **Working on the missing parts (libm,)**
- **May 2005 first OpenSolaris CD boots**
- **June 14th 2005 Real OpenSolaris published by Sun**
- **June 17th 2005 SchilliX-0.1 published**



Problems: gaps in the sourcecode

- **Libm – the math library**
- **Libxml2 – needed by smf**
- **Libz – used by various programs**
- **Netscape Portable Runtime – used by PAM**
- **bzip2/gzip – nice to have and need for bootadm**
- **Make – needed for all who like to compile**
- **Ksh – needed by smf & inetd**
- **Parts of SMF – needed for sys identification at start**
- **NIC drivers – use Masayuki Murayama's drivers**



How the gaps were filled for SchilliX

- **Libm – We did port libm from FreeBSD**
- **Libxml2 – a generic OpenSource library**
- **Libz – a generic OpenSource library**
- **Netscape Portable runtime – still not 100% ready**
- **bzip2/gzip – generic OpenSource projects**
- **Make – use smake**
- **Ksh – use a copy of /usr/xpg4/bin/sh**
- **SMF scripts – written from scratch**
- **NIC drivers – OpenSource for Solaris**



Problems that we had to deal with

- **Libm – more than one month of work to port the FreeBSD source**
- **Netscape Portable Runtime – still no automated makefiles to compile and install 64 bit AMD versions of the libs**
- **Ksh – It took a long time to find out why inetd did not work**
- **SMFscripts – need to find out how the rest of the framework expects things to work**
- **CD-ROM layout – how to do it at all**
- **CD-ROM – how to find / mount /usr from CD**



How SchilliX boots

- **SchilliX uses GRUB like Sun Solaris for x86**
- **GRUB loads a RAM-disk image and starts the kernel**
 - **The RAM-disk image may be UFS or ISO-9660+RR**
 - **ISO-9660+RR (readonly) is used for a normal boot**
 - **UFS is used for Sun install**
 - **SchilliX uses a UFS RAM-disk mounted rw**
- **Solaris loads all needed kernel modules to mount root using FS drivers from GRUB and dev drivers from BIOS**
- **SchilliX simply mounts UFS RAM-disk as root, this is done by the kernel**



SchilliX boot continued

- **SchilliX mounts /usr from CD if needed**
 - **If /.cdvolid exists, it contains the CD volume ID and a script tries to find the right device to mount from**
- **SchilliX remounts / read/write**
- **Auto-plumbing of all Network Devices is done**
- **Auto-DHCP on all network devices is started**
- **Normal multi-user startup is continued**



Creating a SchilliX install CD

- This is an example only, if you are interested, please ask me for help via e-mail
- Get <ftp://ftp.berlios.de/pub/schillix/README-kit>
- Get <ftp://ftp.berlios.de/pub/schillix/schillix-0.3-base-kit.tar.gz>
- Get <ftp://ftp.berlios.de/pub/schillix/b27.tar.bz2>
- Get <ftp://ftp.berlios.de/pub/schillix/gcc-3.4.3-csl-20050525.i386.tar.bz2>
- Get <ftp://ftp.berlios.de/pub/schillix/devpro-libm-bins-20051024.i386.tar.bz2>
- Get <ftp://ftp.berlios.de/pub/schillix/devpro-make-sccs-binaries.i386.tar.bz2>
- Get <ftp://ftp.berlios.de/pub/schillix/pkgutils.i386.tar.bz2>
- Unpack everything according to README-kit





Creating SchilliX install CD cont.

- Call `./makeiso-all SchilliX-0.3 27`
- The result (after ~ 10 Minutes) is a SchilliX CD image



The current state of SchilliX

- **Schillix currently auto-boots to multi user command line**
- **A SchilliX „kit“ allows to you create your own SchilliX**
- **Svr4 pkg database but not installed from Svr4 packages**
- **Call „startx“ to run X**
- **No automated installer**
- **No Sun Studio**
- **But GCC**
- **Not yet able to compile OpenSolaris sources**
- **Able to compile nearly all OpenSource projects from the wild**



Compatibility with SolarisExpress and others

- **SchilliX tries to be as compatible with Sun Solaris as possible. As Sun Solaris uses a lot of non-OSS software this is not always possible**
- **Libm now 100% compatible, Sun did OSS libm**
- **Make now 100% compatible, Sun did OSS make**
- **Blastwave packages depend on packages not present on SchilliX**
- **Blastwave packages would install if dummy packages were created**



Schillix highlights

- **All Schily tools on board:**
 - **Star** **standard tar program**
 - **Cdrecord** **CD/DVD recording**
 - **Pxupgrade** **Plextor Firmware upgrader**
 - **Ved** **easy to learn screen editor**
 - **Smake** **Highly portable make**



SchilliX currently...

- We are theoretical able to compile OpenSolaris on SchilliX
- We are halfway done with Svr4 pkg support
- After we have a Svr4 pkg based database and X on board we will be able to use all Blastwave packages
- We are trying to cooperate with MarTUX a currently sparc based OpenSolaris distribution from Berlin



The future of SchilliX

- **We need to allow to compile OpenSolaris on SchilliX**
- **Converting Schillix to be based Svr4 packages, currently using star archives to create the CD**
- **After we have a dummy Svr4 pkg database for packages expected by Blastwave, we will be able to install all Blastwave packages**
- **We need people who like to help with developing SchilliX**
- **SchilliX will support Sparc and PPC**



Unfortunately....

- **Fraunhofer-FOKUS sponsored project ended March 2006**
- **SchilliX needs help:**
 - **Help with X (any kind of help)**
 - **Help with converting the tar based kit to Svr4 packages**
 - **Help with the web pages**
 - **Do you have an idey where you may help?**

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X . systems . press



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ISSN 1611-8618
ISBN 3-540-29236-5



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SCHILLIX



Good Bye

