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MilaX - OpenSolaris small LiveCD distro

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opensolaris

CZOSUG & GUUG

developer conference

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Can Solaris become as small as DSL?



DSS 0.1 Feb 2008 CDDL v.1



MilaX 0.1, 0.1.1 Feb 2008



MilaX 0.2 Mar 2008



MilaX 0.3 May 2008



June 2008



MilaX 0.3.1

MilaX 0.3.1 server

Last version released June 10 2008

The screenshot displays a SunOS 5.11 desktop environment. In the top right corner, a terminal window shows system information: "SunOS 5.11 on i86pc alex @ milax", "Date: Monday, 09, June", "Time: 22:26:31", "Uptime: 8m 53s", "CPU Usage: 9%", and "Procs: 47 Running: 1".

On the left, a web browser window titled "Learn More About OpenSolaris - NetSurf" is open to the URL "http://www.opensolaris.org/learn.html". The page content includes the heading "Learn More About OpenSolaris" and text describing it as an operating system (OS) licensed under CDDL, with a "Quality Assurance" section and a "Who" section.

In the center, an XChat window titled "XChat: alexeremin @ FreeNode / #opensolaris (+fnc)" is active. The chat log shows a message from alexeremin: "Latest SXCE 90 || Latest ON 91 || Latest pkg repo 90 || Clipboard: f...". The message body contains several links and instructions, including "Clipboard: http://opensolaris.pastebin.ca || Asking questions? http://www.catb.org/~esr/faqs/smart-questions.html", "Topic for #opensolaris set by alanc at Mon Jun 9 13:19:10 2008", and "Handy URLs: 'The OpenSolaris Wiki' @ http://www.genunix.org/wiki, 'What is OpenSolaris?' @ http://whacked.net/what_is_opensolaris, and the #opensolaris IRC Channel log @ http://www.uwyn.com/drone/log/beyinbot/opensolaris. Download SXCE @ http://opensolaris.org/sxce_dvd (or http://opensolaris.org/sxce_cd for CD isos). For all other info, please visit the main OpenSolaris website at http://www.opensolaris.org". It also lists the website "http://www.opensolaris.org", the IRC channel "#opensolaris : http://www.opensolaris.org", and the FreeNode info channel "#opensolaris : [freenode-info] if you need to send private messages, please register: http://freenode.net/faq.shtml#privmsg".

Below the XChat window, a mail client window titled "Sylpheed 2.4.8" is open, showing an email with a subject line "From: Subject:". The email content includes a paragraph about hardware, "The system sports five built-in speakers, and has three headphone jacks to support 6-channel CD-quality surround sound. In addition, the DVD player/CD-ROM has 'Audio Dj' buttons to enable use of the system as a CD player when it is otherwise powered off. Once I managed to get the VideoLAN Client installed, DVD video discs played without a problem, looking good on the 17.5 inch screen.", and sections for "Networking" and "Connectivity".

The desktop taskbar at the bottom shows several open windows: "iceWM", "Learn More Abo...", "milax>/alex", "Sylpheed 2.4.8", "XChat: alexer...", and a system tray with a clock showing "22:26:31".

MilaX

LiveCD, LiveUSB



Virtualizing MilaX

LiveCD, LiveUSB



Qemu

VirtualBox

VMware

MilaX advantages

- Small size
- Fast boot
- Loading live image from RAM
- Booting from various storage devices
- People can try small Solaris without installing on the harddisk.
- All Solaris features: dtrace,zfs, zones,e.t.c
- Latest drivers and bugfixes
- Two versions: desktop and server



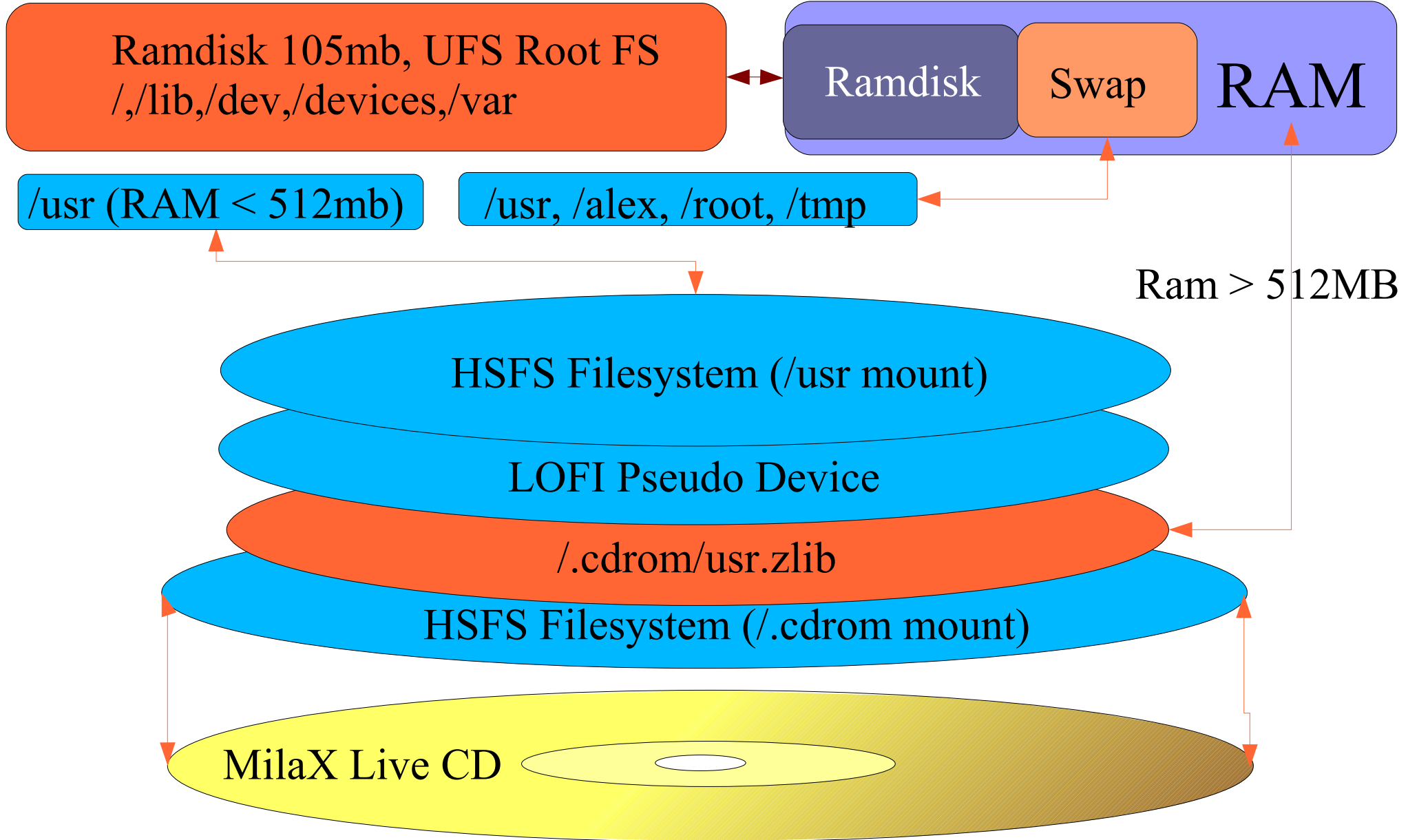


When MilaX is the best choice?

- Old PC's
- Not enough RAM
- Not enough free disk space
- Fast and small server (0.3.1 server)
- Fast developing (0.3.1 server)
- Virtual testing



MilaX Filesystem





Milax 0.3.1 Apps

Desktop version

- Gtk-Terminal, Beaver, Netsurf, Sylpheed, Midnight Commander, emelFM, XMMS, Xpdf, VNC viewer, Rdesktop, Nmap, gFTP, gPicview, Conky, XChat, Xpad.

Server version

- Apache, PHP, Samba and NFS servers, GCC, GMake, Midnight Commander, Pine, Mutt, Elinks, Lynx.

MilaX first boot

- Login to system as **alex** with pass: **alex**
- Access for root - through su with pass: **root**
- To manually start the X-Windows system use **startx** command.
- Switching X Keyboard Layout in runtime: **Alt-Shift** or click on a fbxb icon on the bottom right of IceWM panel.



Creating a Solaris partition

```
(alex@milax)# fdisk /dev/rdisk/c3d0p0
```

No fdisk table exists. The default partition for the disk is:
a 100% "SOLARIS System" partition

Type "y" to accept the default partition, otherwise type
"n" to edit the
partition table.

y



Creating a slice for the root fs

```
partition> p
```

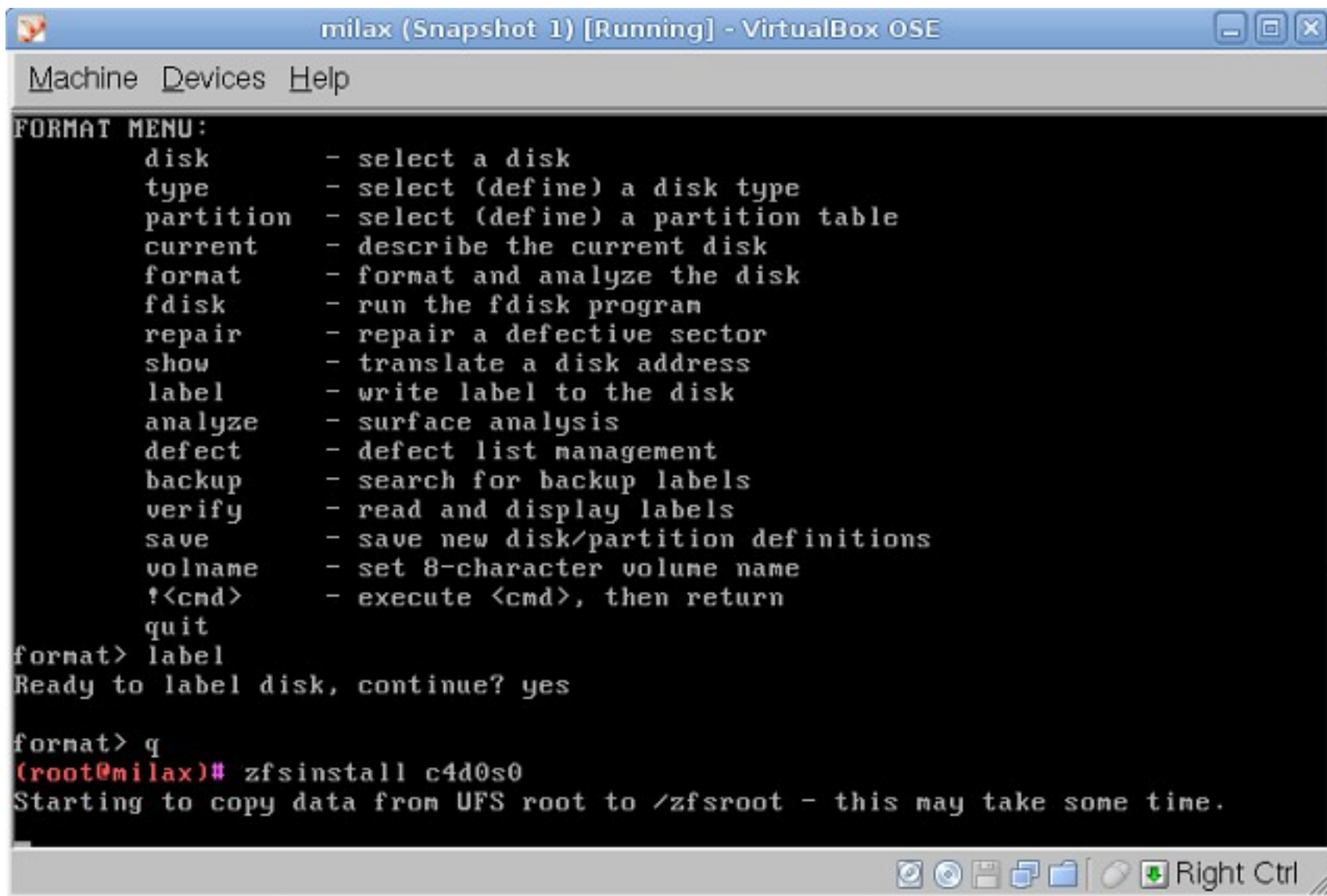
```
Current partition table (unnamed):
```

```
Total disk cylinders available: 1302 + 2 (reserved cylinders)
```

Part	Tag	Flag	Cylinders	Size	Blocks
0	unassigned	wm	3 - 264	2.01GB	(262/0/0) 4209030
1	swap	wm	265 - 395	1.00GB	(131/0/0) 2104515
2	backup	wu	0 - 1301	9.97GB	(1302/0/0) 20916630
3	unassigned	wm	0	0	(0/0/0) 0
4	unassigned	wm	0	0	(0/0/0) 0
5	unassigned	wm	0	0	(0/0/0) 0
6	unassigned	wm	0	0	(0/0/0) 0
7	unassigned	wm	0	0	(0/0/0) 0
8	boot	wu	0 - 0	7.84MB	(1/0/0) 16065
9	alternates	wm	1 - 2	15.69MB	(2/0/0) 32130

```
partition> label
```

ZFS-boot installation on HD



```
milax (Snapshot 1) [Running] - VirtualBox OSE
Machine  Devices  Help
FORMAT MENU:
  disk      - select a disk
  type      - select (define) a disk type
  partition - select (define) a partition table
  current   - describe the current disk
  format    - format and analyze the disk
  fdisk     - run the fdisk program
  repair    - repair a defective sector
  show      - translate a disk address
  label     - write label to the disk
  analyze   - surface analysis
  defect    - defect list management
  backup    - search for backup labels
  verify    - read and display labels
  save      - save new disk/partition definitions
  volname   - set 8-character volume name
  !<cmd>    - execute <cmd>, then return
  quit
format> label
Ready to label disk, continue? yes

format> q
(root@milax)# zfsinstall c4d0s0
Starting to copy data from UFS root to /zfsroot - this may take some time.
```



USB stick installation

```
(alex@milax)$ pfexec usbcopy milax03.usb
```

```
Found the following USB devices:
```

```
0: /dev/rdisk/c4t0d0p0 953.5 MB Kingston DataTraveler 2.0 1.00
```

```
Enter the number of your choice: 0
```

```
WARNING: All data on your USB storage will be lost.
```

```
Are you sure you want to install to
```

```
Kingston DataTraveler 2.0 1.00, 953 MB at /dev/rdisk/c4t0d0p0 ?(y/n) y
```

```
umount: warning: /dev/dsk/c4t0d0s0 not in mnttab
```

```
umount: /dev/dsk/c4t0d0s0 not mounted
```

```
Copying image to USB device
```

```
7744+0 records in
```

```
7744+0 records out
```

```
126877696 bytes (127 MB) copied, 57.9422 s, 2.2 MB/s
```

```
real 0m57.950s
```

```
user 0m0.011s
```

```
sys 0m0.304s
```

```
Installing grub to USB device /dev/rdisk/c4t0d0s0
```

```
Completed copy to USB
```

Apache2+PHP5 on MilaX server

Get HTTP Server in two minutes!

Boot 0.3.1 server Live CD or Live-USB.

Enable apache 2.2:

```
(alex@milax)$ pfexec /etc/init.d/apache stop;top
```

```
(alex@milax)$ pfexec svcadm enable http ...p
```

Enable ftp if needed:

```
(alex@milax)$ pfexec svcadm enable ftp
```





Next steps

- Sparc version
- Transition on IPS and creation of MilaX own pkg repository
- Live image size and booting speed reduction
- User interface improvements





Resources



- <http://www.milax.org>
- <http://www.genunix.org/distributions/dss/>
- <http://www.opensolaris.org/os/project/milax/>
- <http://www.opensolaris.org/jive/forum.jspa?forumID=210>
- <http://wiki.sun.com/display/BigAdmin/>

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Thank you!

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“open” artwork and icons by chandan:
<http://blogs.sun.com/chandan>

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