

## FQA 1 – Introduction to 9front



### 1.1 – What is 9front?

Plan9front (or 9front) is a fork of the Plan 9 from Bell Labs operating system. The project was started to remedy a perceived lack of devoted development resources inside Bell Labs,[citation needed] and has accumulated various fixes and improvements.

This FQA specifically covers only the most recent release of 9front.

#### 1.1.1 – Cirno



At some point, Cirno became associated with 9front. Details are sketchy.

**Pro**

- girl
- has magical powers
- associated with 9
- upsets kfx
- she is known to be the strongest

## Alternatives



### 1.2 – On what systems does 9front run?

9front runs on the following platforms:

- 386
- amd64
- arm
- mips

Read: *FQA 3.2 – Selecting Hardware*

### 1.3 – Why might I want to use 9front?

It is very likely that you do not.

New users frequently want to know whether 9front is superior to some other free UNIX-like operating system. Consider: The question is largely unanswerable. What are your criteria? Why are you even using computers in the first place? Exploring these questions and the implications that derive therefrom may help you sharpen your perceptions and eventually come to some sort of conclusion about which operating system you prefer to use for daily tasks.

Ultimately, whether or not 9front is for you is a question only you can answer.

#### 1.3.1 – New Features

The following list is not exhaustive:

- `/shr`, global mountpoint device `shr(3)`
- `/mnt` is provided by `mntgen(4)`
- `#A`, audio drivers for sb16, intel hd audio and ac97 (both playback and recording supported!) `audio(3)`
- New BIOS based boot loader `9boot(8)` featuring a console and support for FAT/ISO/PXE and being small (<8K)
- New EFI based boot loader `efi`
- Made kernel compliant to multiboot specification so it can be booted by `qemu` or `grub` directly.
- Interruptable kernel qlocks (`eqlock`)
- Deferred clunks (`closeproc`) for cached mounts
- New `rc` based `boot(8)` allows breaking into a shell at any time
- Default file system is an improved `cwfs(4)` (`cwfs64x`)
- New screen fonts: `dejavu`, `germgoth`, `vga`
- No central `replica`; source updates are done with `hg(1)` (Mercurial)
- Keyboard events with `/dev/kbd`. Read: `kbdfs(8)` and `rio(4)`
- `/lib/rob` and other new corpuses, suitable as fodder for `fortune(1)` and other rhetorical programs
- New `listen(8)` `-p maxprocs` option

- Always available network `aan(8)` support in `cpu(1)`
- MSI (message signalled interrupts), avoids problems with broken MP tables. Read: `icanhasmsi(8)`
- Legacy free ACPI support (aml interpreter `libaml`, mp interrupt routing, `scram`)
- Added `rio(1)` `-b` option (black window backgrounds) and `look` menu option
- USB CD-ROM boot/install
- USB drive boot
- Improved USB mouse support
- Support for USB ptp cameras
- Stable-across-machines USB device names
- VGA initialization done by interpreting the VESA BIOS with `realemu(8)`, working VESA screen blanking.
- `/dev/kbd` and clipboard charset support for `vnc(1)`
- New `webfs(4)` with HTTP1.1 and Keep-Alive support.
- Qemu/KVM virtio block device and ethernet drivers. Read: *FQA 4.5.1.3 – Virtio*
- Mouse wheel and chording support in `sam(1)`
- Elliptic curve cryptography `ec(2)`
- Working interrupt key (Del) in console
- Wifi support with `wpa/wpa2`
- SSE support
- System-wide support for internationalized domain names
- Unicode support in `vt(1)`
- `pc64`, kernel for amd64
- Numerous ciphers added and improvements made to `libsec`
- New `dpi9k` authentication protocol

### 1.3.1.1 – New Programs

- " and "" (print, repeat previous command)
- `alarm(1)` — timeouts in rc scripts
- `audio(1)` — mp3, ogg, flac, μlaw, wav
- `bullshit(1)` — print out a stream of bullshit
- `cifsd(8)` — CIFS/SMB server
- `cryptsetup(8)` — prepare an AES-encrypted partition to be used with the `fs(3)` device
- `derp(1)` — find changes between directories
- `feminize(1)` — replace sexist remarks
- `fplot(1)`
- New games: `doom`, `glendy`, `mandel`, `mines`, `mole`, `packet`
- `hg(1)` and `hgfs(4)` (Mercurial)
- `hget(1)` — rewritten in rc, now uses `webfs`
- `hpost(1)` — extract and post HTML forms
- `hold(1)` — simple text editor
- `icanhasmsi(8)` — print MSI configuration
- `ipserv(8)` — proxy servers `socksd` and `hproxy`
- `memory(1)` — check memory usage
- `mothra(1)` — Tom Duff's web browser, now uses `webfs`
- `netaudit(8)` — network configuration checker
- `newt(1)` — Usenet client
- `nietzsche(1)` — print out Nietzsche quote
- `nintendo(1)` — Nintendo emulators: `gb`, `gba`, `nes`, `snes`
- `page(1)` — zoom and enhance!
- `paint(1)` — drawing program
- `play(1)` — audio player
- `pstree(1)` — print tree-like map of current processes and sub-processes

- `ptrap(4)` — plumber(4) filter
- `rc-httpd(8)` — HTTP server
- `rcpu(1)` — replacement for legacy `cpu(1)` client, uses `dp9ik`
- `resize(1)` — fast but low quality image resampler
- `rotate(1)` — rotate or mirror a picture
- `scram(8)` — ACPI and APM shutdown
- `sega(1)` — Sega Megadrive/Genesis emulator: `md`
- `ssam(1)` — stream interface to `sam`
- `sysinfo(1)` — print hardware report
- `sysupdate(1)` — update the local hg repository
- `theo(1)` — print out insults from Theo de Raadt
- `tput(1)` — measure read throughput
- `troll(1)` — automated trolling
- `tap(1)` — follow the pipes of a process
- `tif(1)` — tiff decoder
- `tojpg(1)` — jpeg encoder
- `totif(1)` — tiff encoder
- `torrent(1)` — bittorrent client

### 1.3.1.2 – New Hardware Support

#### Audio

- AC97 — `/sys/src/9/pc/audioac97.c`
- HDA — `/sys/src/9/pc/audiohda.c`
- SB 16/ESS — `/sys/src/9/pc/audiosb16.c`

#### Ethernet

- ADMtek Pegasus — `/sys/src/cmd/nusb/ether/aue.c`

- Broadcom BCM57xx — `/sys/src/9/pc/etherbcm.c`
- Realtek RTL8150 — `/sys/src/cmd/nusb/ether/url.c`

## Wifi

- Intel Centrino Advanced-N 6205 (iwl-6005)
- Intel Centrino Ultimate-N (iwl-6000)
- Intel Centrino Wireless-N 100
- Intel WiFi Link 1000/4965/5100/5300/5350 AGN
- Intel PRO Wireless 3945ABG (wpi-3945abg)
- Ralink RT2860/RT3090

## Tablets

- Wacom WACF004, WACF008  
`/sys/src/cmd/aux/wacom.c`, `/sys/src/cmd/aux/tablet.c`

## Video

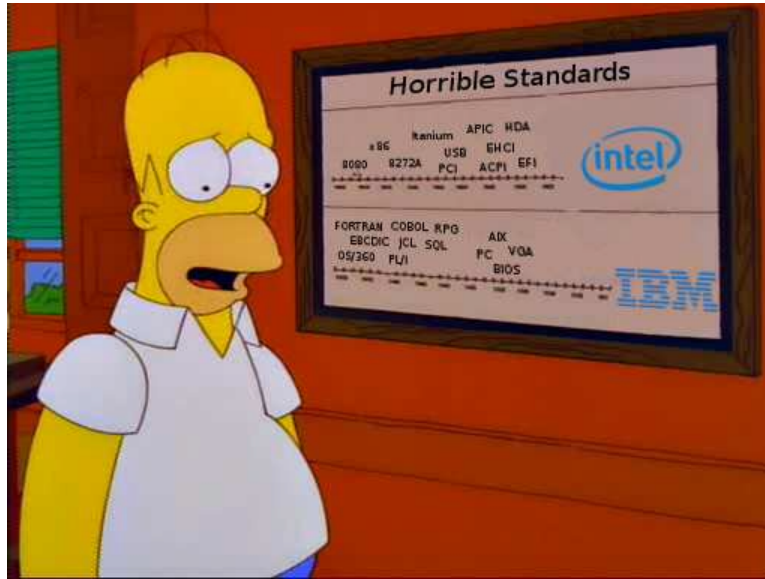
- AMD Geode LX driver  
`/sys/src/cmd/aux/vga/geode.c` `/sys/src/9/pc/vgageode.c`
- Intel G45 and Ivy Bridge driver  
`/sys/src/cmd/aux/vga/igfx.c` `/sys/src/9/pc/vgaigfx.c`

## SD Card

- Ricoh — `/sys/src/9/pc/pmmc.c`

Read: *FQA 3.2 – Known Working Hardware* for a list of complete machines known to work.





#### 1.4 – Is 9front really free?

Yes.

Read: *FQA 0.2.4 – What is the deal with Plan 9's weird license?*

#### 1.5 – How can I help support 9front?

We are greatly indebted to the people and organizations that have contributed to the 9front project. That said, the topic is complicated: The main developers refuse to accept donations (except when they do accept donations), and the people who do offer to make donations often disappear without further explanation or make strange demands that nobody feels like capitulating to. This complex, fluid, and at times contentious dynamic can best be navigated by joining #cat-v on freenode and asking strangers how to donate to the project.

When this fails, donations that help pay for the hosting of 9front.org and cat-v.org (including fqa.9front.org, the document you are reading right now) can be made at: <http://patreon.com/stanleylieber>.

#### 1.6 – Who maintains 9front?

9front is maintained by an East German intelligence officer who never sleeps but instead logs periods of inactivity staring straight into the soulless eyes of games/catclock. Occasional contributions are made by a diverse team of malcontents that is spread somewhat thinly across many different timezones and Internet providers. Most of them have dayjobs and in fact are not concerned with your demands. (Subsidized or not).

## 1.7 – When is the next release of 9front?

Soon.

The 9front team makes new releases on a regular, but unscheduled, basis. More information on the development cycle can be found on the 9front mailing list.

## 1.8 – What is included with 9front?

Some useful programs included with the operating system are:

- `acid` — Programmable symbolic debugger.
- `acme` — Text editor, window system, mail client and more.
- `ape` — ANSI/POSIX environment.
- `cwfs64x` — Cached-worm file server based on the original Ken's fs.
- `doom` — Science fiction horror-themed first-person shooter video game by id Software.
- `gs` — Aladdin Ghostscript (PostScript and PDF language interpreter).
- `hjfs` — A new, experimental fs.
- `mercurial` — Distributed source control management tool.
- `mk` — Tool for describing and maintaining dependencies between files.
- `mothra` — Web browser by Tom Duff.
- `newt` — NNTP client.
- `nintendo` — Nintendo Game Boy, NES, SNES and GBA emulators.
- `paint` — Drawing program.
- `page` — FAX, image, graphic, PostScript, PDF, epub, cbz viewer.
- `play` — Flac, ogg, mp3, sun, wav player.
- `plumber` — Mechanism for inter-process communication.
- `python 2.5.1` — Interpreted programming language. (needed for mercurial)
- `rc` — Shell by Tom Duff.
- `rc-httpd` — Web server written in rc.
- `rio` — Rectangle multiplexer/window system.
- `sam` — Text editor.

- `sega` — Megadrive/Genesis emulator.
- `torrent` — BitTorrent client.
- `troff` — Text processor/typesetter.
- `upas` — A simpler approach to network mail.

### 1.9 – Can I use 9front as a desktop system?

This question is often asked in exactly this manner—with no explanation of what the asker means by "desktop". The only person who can answer that question is you, as it depends on what your needs and expectations are.

Read: *FQA 1.3 – Why might I want to use 9front?*

### 1.10 – Why is/isn't ProductX included?

Two potential reasons:

- Nobody wanted it.
- Nobody wrote the code.

Many "features" and programs are missing from Plan 9 for a very good reason: They are terrible ideas expressed as terrible software. Other features are missing simply because no one has yet written the code to implement them. It is left as an exercise for the reader to determine which is which, and to apply the appropriate remedy.

### 1.11 – Fine, where can I get 9front?



If you simply cannot be dissuaded from trying 9front for yourself, obtain installation

media from the mirrors mentioned in the following section.

### 1.11.1 – Mirrors

#### 1.11.1.1 – 9front.iso

<http://9front.org/iso/>

<http://r-36.net/9front/>

[http://felloff.net/usr/cinap\\_lenrek/9front.torrent](http://felloff.net/usr/cinap_lenrek/9front.torrent)

#### 1.11.1.2 – Mercurial repository

<https://code.9front.org/hg/plan9front> (official)

**Good luck, you may need it.**

