

9FRONT FREQUENTLY QUESTIONED ANSWERS



ACHTUNG! 9front dash1 manual is written by and for 9front users.

Those who can do, those who can't write and those who can't write make ezines.
— Sape Mullender

ACHTUNG! Information provided by this document is UNOFFICIAL and may be outdated or just plain WRONG. Use your brain. NO REFUNDS.

_sl's info is incorrect.
— anth_x

ACHTUNG! 9front is absolutely and unalterably opposed to racism, sexism, homophobia, transphobia, nationalism, ethnocentrism, religious fundamentalism, and oppressive and coercive power structures of all kinds.

Nobody wants 2 take the weight – The responsibility
— Prince,
Avalanche

ACHTUNG! Don't read too much into what you find here.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.
— FM34-60 COUNTERINTELLIGENCE



0 – Introduction to Plan 9

0.1 – What is Plan 9?

0.1.1 – Plan 9 is not UNIX

0.1.1.1 – Plan 9 is not plan9port

0.1.1.2 – Plan 9 is not Inferno

0.1.2 – Plan 9 is not a product

0.1.3 – Plan 9 is not for you

0.2 – Why Plan 9?

0.2.1 – What do people like about Plan 9?

0.2.1.1 – What do you use Plan 9 for?

0.2.2 – What do people hate about Plan 9?

0.2.2.1 – What is not in Plan 9

0.2.3 – Why did Plan 9's creators give up on Plan 9?

0.2.3.1 – Why did Plan 9's users give up on Plan 9?

0.2.3.2 – Why did CIA give up on Plan 9?

0.2.3.3 – Why did Rob give up on releasing tracks by The Residents, Wire, Lou Reed, and

Debby Harry on the Plan 9 CD-ROM?

0.2.4 – What is the deal with Plan 9's weird license?

0.2.4.1 – Richard Stallman hates the Plan Nine license (circa 2000)

0.2.4.2 – Theo de Raadt hates the Plan 9 license (circa 2003)

0.2.4.3 – Everyone hates the Plan 9 license (circa 2014)

0.2.4.4 – PRAISE FOR 9FRONT'S BOLD ACTION, RE: LICENSING

0.2.4.5 – Everyone loves the Plan 9 license (circa 2021)

0.2.4.6 – Plan 9 is a registered trademark of SouthSuite Inc.

0.3 – Further Reading

0.3.1 – Plan 9 papers

0.3.2 – Man pages

0.3.3 – Web pages

0.3.4 – Books

1 – Introduction to 9front

1.1 – What is 9front?

1.1.1 – Cirno

1.2 – On what systems does 9front run?

1.3 – Why might I want to use 9front?

1.3.0 – Why might I not want to use 9front?

1.3.0.1 – Why did 9front stop making fun of Nazis?

1.3.1 – New Features

1.3.1.1 – New Programs

1.3.1.2 – New Hardware Support

1.4 – Is 9front really free?

1.5 – How can I help support 9front?

1.6 – Who maintains 9front?

1.7 – When is the next release of 9front?

1.8 – What is included with 9front?

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

1.10 – Why is/isn't ProductX included?

1.11 – Fine, where can I get 9front?

1.11.1 – Mirrors

1.11.1.1 – 9front.iso

1.11.1.2 – git repository

2 – Getting to know 9front

2.1 – Web Pages

2.2 – Mailing Lists

2.2.1 – Mailing List Archives

2.2.1.1 – Unofficial Web Archives

2.2.2 – Other useful mailing lists

2.2.2.1 – Starfleet General Order 1

2.3 – Manual Pages

2.3.2 – How do I write my own manual page?

2.4 – Reporting Bugs

2.4.1 – Your bug report SUCKS

2.4.2 – How do I get more useful info for developers?

2.4.2.1 – Take a photo of the panic screen

2.4.2.2 – Make a stack trace of a crashed process

2.4.2.3 – Make a process snapshot

2.5 – Sending Fixes

2.5.1 – How do I write good patches?

2.5.2 – How do I send in my patches?

3 – Hardware

3.1 – Selecting Hardware

3.2 – Known Working Hardware

3.2.0 – Input Devices

3.2.0.1 – Mice

3.2.0.1.1 – IBM/Lenovo

3.2.0.2 – Keyboards

3.2.0.2.1 – IBM/Lenovo

3.2.0.2.2 – TEX Electronics

3.2.0.2.3 – MNT Research GmbH

3.2.1 – Audio

3.2.2 – Graphics

3.2.2.1 – AGP

3.2.2.2 – Integrated

3.2.2.3 – PCI Express

3.2.3 – Networking

3.2.3.1 – Ethernet

3.2.3.1.1 – Integrated

3.2.3.1.2 – USB

3.2.3.1.3 – PCMCIA

3.2.3.2 – WiFi

3.2.3.2.1 – Bridge (external)

3.2.3.2.2 – Mini-PCI

3.2.3.2.3 – Mini-PCI Express

3.2.3.2.3.1 – iwl

3.2.3.2.3.2 – wpi

3.2.3.2.3.3 – rt2860

3.2.3.2.4 – PCI

3.2.3.2.5 – PCMCIA

3.2.4 – Tablet Digitizers

3.2.4.1 – Serial

3.2.4.1.1 – Integrated

3.2.4.2 – USB

3.2.4.2.1 – Integrated

3.2.4.2.2 – External

3.2.5 – Desktop and Laptop Systems

3.3 – Virtual Machines

3.3.1 – Qemu

3.3.1.1 – Installation

3.3.1.1.1 – arm64 QCOW

3.3.1.2 – Post-Installation Booting

3.3.1.2.1 – Multiboot

3.3.1.4 – Networking

3.3.1.4.1 – Linux VDE

3.3.1.4.2 – OpenBSD TAP

3.3.1.4.3 – Windows TAP

3.3.1.4.4 – Linux TAP

3.3.1.5 – Audio

3.3.1.6 – Graphics

3.3.2 – Virtualbox

3.3.2.1 – Ethernet

3.3.2.2 – Audio

3.3.2.3 – Graphics

3.3.2.4 – Known Working Versions

3.3.3 – Virtio

3.3.4 – bhyve

4 – 9front Installation Guide

4.1 – Pre-installation Checklist

4.2 – Creating bootable 9front install media

4.2.1 – ISO image

4.2.1.1 – Creating on Plan 9

4.2.2 – USB drive

4.2.2.1 – Creating on Plan 9

4.2.2.2 – Creating on Linux

4.2.2.3 – Bootargs

4.3 – Performing a simple install

4.3.1 – boot

4.3.2 – bootargs

4.3.3 – user

4.3.4 – vgasize, monitor, mouseport

4.3.4.1 – Changing screen resolution

4.3.5 – inst/start

4.3.6 – configfs

4.3.6.1 – cwfs no-dump configuration

4.3.7 – partdisk

4.3.8 – prepdisk

4.3.9 – mountfs

4.3.10 – configdist

4.3.11 – confignet

4.3.11.1 – automatic

4.3.11.2 – manual

4.3.12 – mountdist

4.3.13 – copydist

4.3.14 – ndbsetup

4.3.15 – tzsetup

4.3.16 – bootsetup

4.3.17 – finish

4.4 – Encrypted Partitions

5 – Building the System from Source

5.1 – Why should I build my system from source?

5.2 – Building 9front from source

5.2.1 – Update sources

5.2.1.1 – hgrc

5.2.1.2 – git

5.2.2 – Building from source

5.2.2.1 – Cross compiling

5.3 – Building an ISO

5.4 – Common Problems when Compiling and Building

5.4.1 – Upgrading compilers

5.4.2 – Trouble upgrading the compilers

6 – Networking

6.1 – Before we go any further

6.2 – Network configuration

6.2.1 – Host name

6.2.2 – Identifying and setting up your network interfaces

6.2.2.1 – WiFi

6.2.2.1.1 – Interfaces

6.2.2.1.1.1 – wavelan

6.2.2.1.1.2 – wavelanpci

6.2.2.1.1.3 – iwl

6.2.2.1.1.4 – rt2860

6.2.2.1.1.5 – wpi

6.2.2.1.2 – WPA

6.2.2.1.3 – WiFi Roaming

6.2.2.1.4 – WiFi Debug

6.2.3 – IP address

6.2.4 – Default gateway

6.2.5 – DNS Resolution

6.2.5.1 – Caching DNS server

6.2.5.2 – DNS authoritative name server

6.2.5.2.1 – Troubleshooting DNS authoritative name server

6.2.6 – Network-wide configuration

6.2.7 – Activating the changes

6.2.7.1 – NIC

6.2.7.2 – cs

6.2.7.3 – dns

6.2.8 – Verifying network settings

6.2.8.1 – Checking routes

6.2.8.1.1 – Adding static routes

6.2.9 – Setting up your 9front box as a forwarding gateway

6.2.10 – Setting up aliases on an interface

6.3 – How do I filter and firewall with 9front?

6.4 – Dynamic Host Configuration Protocol (DHCP)

6.4.1 – DHCP client

6.4.2 – DHCP server

6.5 – PPP

6.6 – Setting up a network bridge in 9front

6.7 – How do I boot from the network?

6.7.1 – How do I tcp boot?

6.7.1.1 – Passing arguments to ipconfig at the bootargs prompt

6.7.2 – How do I boot using PXE?

7 – System Management

7.1 – Plan 9 Services Overview

7.1.1 – What is the kernel?

7.1.2 – What is the file server?

7.1.3 – What is the auth server?

7.1.4 – What is the cpu server?

7.1.5 – What is a terminal?

7.2 – Kernel configuration and maintenance

7.2.1 – How do I mount the 9fat partition?

7.2.2 – How do I modify plan9.ini?

7.2.3 – Kernel configuration file

7.2.4 – Kernel drivers

7.2.5 – How do I install a new kernel?

7.3 – Fileserver configuration and maintenance

7.3.1 – Adding users

7.3.2 – Configuring nvram

7.3.3 – Setting up a listener for network connections

7.3.3.1 – Stop cwfs from allowing user none to attach without authentication

7.3.3.1.1 – notes on user none

7.3.4 – Mounting a file system from userspace

7.3.5 – dump

7.3.5.1 – manually trigger the dump

7.4 – Auth server configuration and maintenance

7.4.1 – Configuring an auth server

7.4.1.1 – Avoiding an ndb entry for the auth server

7.4.2 – Adding users

7.4.3 – secstored

7.4.3.1 – Adding users to secstore

7.4.3.2 – Converting from p9sk1 to dp9ik

7.5 – Cpu server configuration and maintenance

7.5.1 – Configuring a cpu server

7.6 – Terminal configuration and maintenance

7.6.1 – Configuring a terminal

7.6.2 – Configuring a Terminal to Accept cpu Connections

7.6.3 – UTC Timesync

7.7 – Mail server configuration and maintenance

7.7.0 – tcp25

7.7.1 – smtpd.conf

7.7.2 – rewrite

7.7.3 – names.local

7.7.4 – remotemail

7.7.5 – SMTP over TLS

7.7.6 – IMAP4 over TLS

7.7.7 – Spam Filtering

7.7.7.1 – ratfs

7.7.7.2 – scanmail

7.7.8 – Troubleshooting the mail server

7.7.9 – Setting up a mailing list

7.7.9.1 – mlmgr

7.8 – Web server configuration and maintenance

7.8.1 – ip/httpd

7.8.2 – rc-httpd

7.9 – TLS certificates

7.9.1 – ACME protocol

8 – Using 9front

8.1 – rc

8.1.1 – Prompts

8.1.2 – /env

8.2 – rio

8.2.1 – The Pop-up Menu

8.2.2 – Window control

8.2.3 – Text in rio windows

8.2.4 – Scrolling

8.2.5 – Mouse Chording

8.2.6 – Keyboard Shortcuts

8.2.6.1 – No, really, keyboard shortcuts (and virtual desktops for free)

8.2.7 – Color scheme

8.2.8 – Why is rio like this?

8.2.9 – tips

8.2.9.1 – Taking a screenshot

8.2.9.2 – Prevent console messages from overwriting the screen

8.3 – Text Editors

8.3.1 – sam

8.3.1.1 – Scrolling

8.3.1.2 – Mouse Chording

8.3.1.3 – Why does sam have a separate snarf buffer from rio?

8.3.1.4 – Keyboard Shortcuts

8.3.2 – acme

8.4 – Internet

8.4.1 – Mail

8.4.1.1 – upasfs

8.4.1.1.1 – Reading gmail via IMAP

8.4.1.1.2 – Sending mail with gmail

8.4.1.1.3 – Reading mailboxes on remote Plan 9 file systems

8.4.1.2 – nedmail

8.4.1.2.1 – mother

8.4.1.2.2 – Nail

8.4.1.3 – nupas

8.4.2 – NNTP

8.4.3 – IRC

8.4.3.1 – ircrc

8.4.3.2 – irc7

8.4.3.3 – ircs

8.4.3.4 – wircrc

8.4.4 – FTP

8.4.5 – HTTP

8.4.5.1 – mothra

8.4.5.2 – abaco

8.4.5.3 – hget

8.4.5.4 – charon

8.4.5.5 – i

8.4.5.6 – NetSurf

8.4.6 – SSH

8.4.6.1 – ssh

8.4.6.1.1 – sshfs

8.4.6.1.2 – sshnet

8.4.6.5.1 – Mounting a remote u9fs share over SSH

8.4.7 – secstore

8.4.8 – drawterm

8.4.8.1 – Connect to Plan 9 from a mobile device

8.4.8.2 – drawterm behind firewalls

8.4.9 – Peer to Peer (P2P)

8.4.9.1 – Tinc

8.4.9.2 – Torrents

8.4.9.2.1 – ip/torrent

8.4.9.2.2 – torrent

8.4.10 – Remote Administration

8.4.10.1 – VNC

8.4.10.1.1 – vnc and vncs

8.4.10.2 – RDP

8.4.10.2.1 – rd

8.5 – Audio

8.6 – External Media

8.6.1 – Mount an ISO9660 CD-ROM

8.6.2 – Burn a CD-ROM

8.6.3 – Mount a FAT formatted USB device

8.7 – Emulation

8.7.1 – Linux Emulation

8.7.2 – Nintendo

8.7.3 – Sega

8.7.4 – Commodore

8.7.5 – PC

8.7.5.1 – Virtualization Using vmx(1)

8.7.5.1.1 Block Devices

8.7.5.1.2 Ethernet

8.7.5.1.3 OpenBSD

8.7.5.1.4 Linux

8.7.5.1.5 Windows NT

8.8 – Additional Software

8.8.1 – 9front sources server

8.8.2 – 9front contrib

8.8.3 – Other public 9p servers

8.8.4 – Advanced Namespace Tools for Plan 9

8.8.5 – Even More Additional Software

8.8.6 – Community Maintained Link For Additional Software

8.9 – Bootstrapping architectures not included on the ISO

8.9.1 – amd64

8.9.2 – Raspberry Pi

8.9.3 – arm64

8.10 – ACPI

8.10.1 – Enabling ACPI

8.12 – Revision Control

8.12.1 – cvs

8.12.2 – git

8.12.3 – Mercurial

8.12.4 – svn

8.13 – Video

8.13.1 – treason

8.13.2 – camv

8.14 – Keyboard Input

8.14.1 – Keyboard Maps

8.14.2 – Ktrans

8.14.2.1 – Japanese

8.14.2.2 – Chinese Pinyin

9 – Troubleshooting

9.1 – First

9.2 – Booting

9.2.2 – Break into a shell

9.2.3 – Editing plan9.ini

9.2.4 – Boot media not recognized

9.2.5 – I moved my hard drive between ports

9.3 – Graphics

9.3.1 – Rio fails to start

9.3.2 – VESA BIOS does not contain a valid mode

9.4 – Networking

9.4.1 – Networking is not working

9.4.2 – Cannot resolve domain names

9.4.3 – /mnt/web/clone does not exist

9.4.4 – PCMCIA WiFi stopped working after reboot

9.5 – USB

9.5.1 – Devices not recognized or not working

9.5.2 – System freezes after showing memory sizes

9.6 – auth

[illegible]

Appendix

B – Bounties

G – GSOC

J – Junk

L – Languages

T - TODO

Z – Getting Started With 9front

