



Nix

Deployments

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- Dependencies:
 - ▶ Gedeeld
 - ▶ Moeilijk te identificeren
 - ▶ Hebben versies
- Upgrades:
 - ▶ Meestal niet atomic
 - ▶ Moeilijk om te downgraden

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Deployments

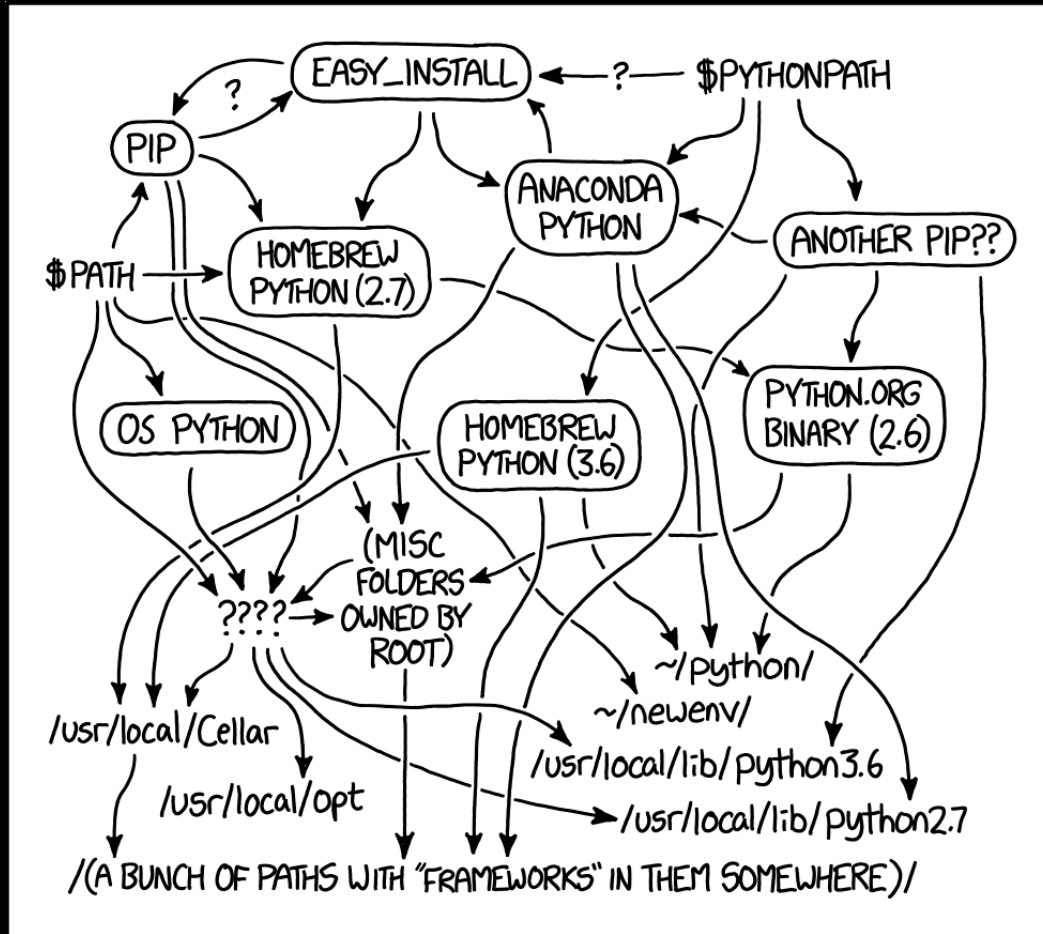
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- Extra: npm, cargo, pip, gem, go, conda, gradle, ivy, maven, nuget, yarn

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- Extra: npm, cargo, pip, gem, go, conda, gradle, ivy, maven, nuget, yarn
- Extra extra: nvm, rvm, rustup, pyenv, gvm, stack
- Extra extra extra: Zsh plugins, Neovim plugins, vscode plugins, Firefox add-ons, wordpress plugins, Home Assistant integrations, Caddy plugins, Thunar & Dolphin plugins, Hyprland plugins, Anyrun plugins, Tmux plugins, Minecraft plugins, OBS plugins, Ansible Collections



MY PYTHON ENVIRONMENT HAS BECOME SO DEGRADED THAT MY LAPTOP HAS BEEN DECLARED A SUPERFUND SITE.

Relevant xkcd (<https://xkcd.com/1987>)

HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:
THERE ARE
14 COMPETING
STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.

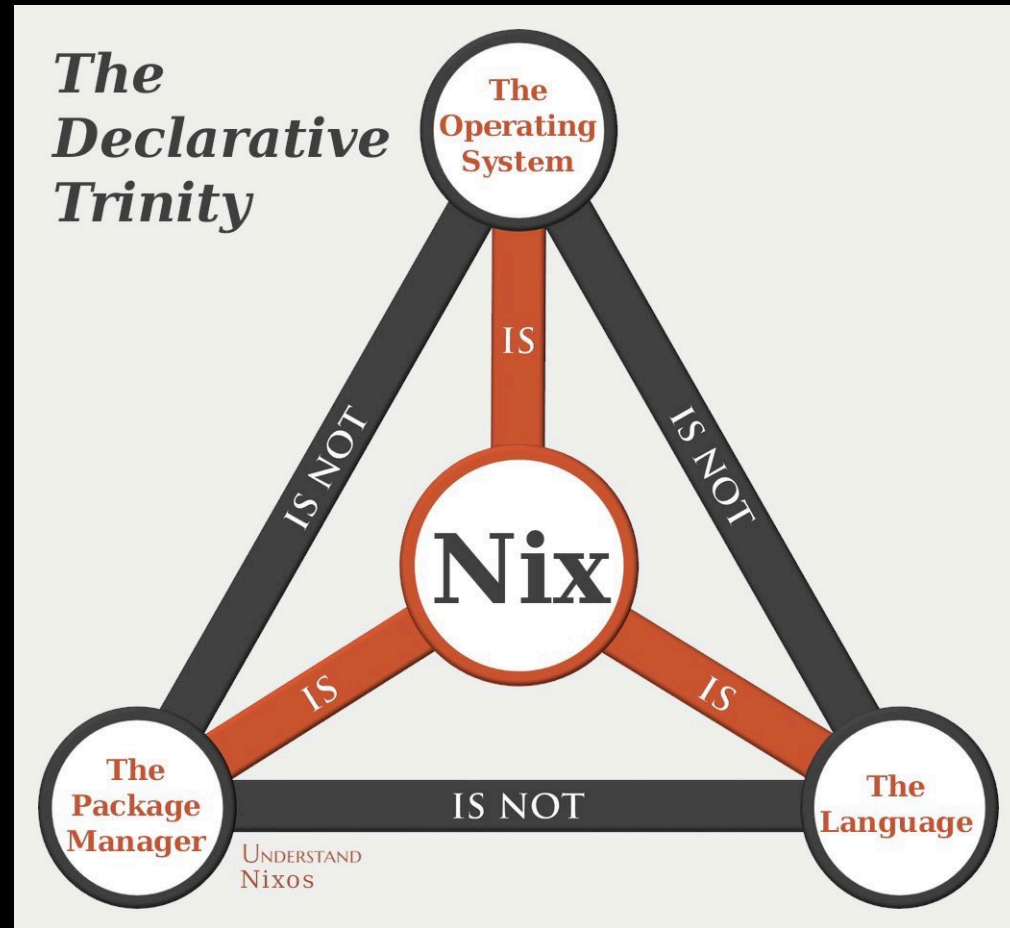


YEAH!

SOON:

SITUATION:
THERE ARE
15 COMPETING
STANDARDS.

Nix!



July 11, 2024 – August 11, 2024

Period: 1 month ▾

Overview


7,290 Active pull requests

991 Active issues

 5,772
Merged pull requests


 1,518
Open pull requests

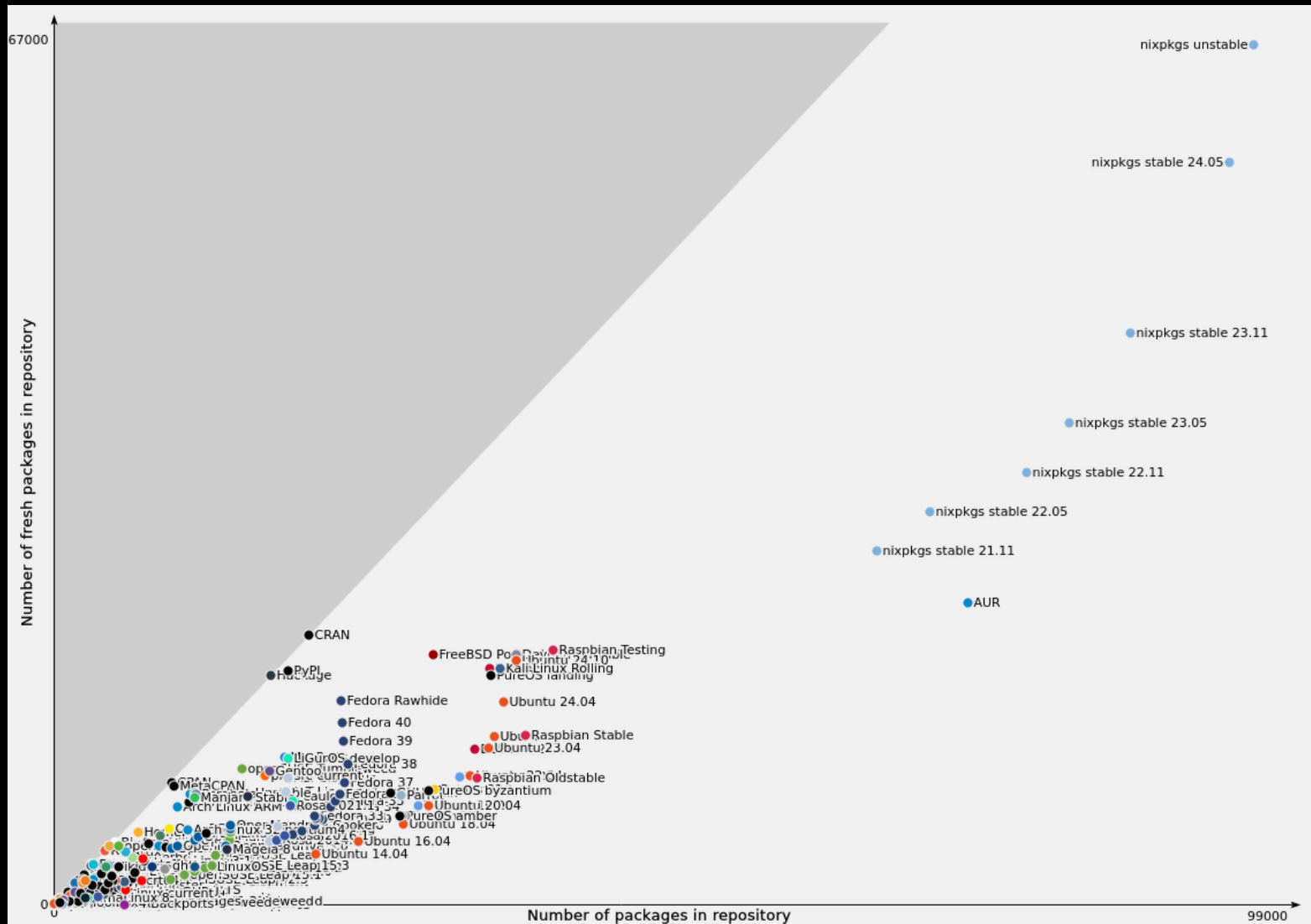
 560
Closed issues

 431
New issues

Excluding merges, **795 authors** have pushed **7,134 commits** to master and **8,219 commits** to all branches. On master, **10,226 files** have changed and there have been **271,712 additions** and **199,783 deletions**.



 5,772 Pull requests merged by 835 people



<https://repology.org/repositories/graphs>

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- `mkDerivation` → evalueert naar `.drv` file
 - ▶ Beschrijft het bouwen van de derivation
 - ▶ ``foo.nix`` → ``/nix/store/foo.drv`` → ``/nix/store/<hash>-foo``

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 - ▶ ``foo.nix`` → ``/nix/store/foo.drv`` → ``/nix/store/<hash>-foo``
- Nix store: gedeeld door alle users
 - ▶ ``/nix/store/h5sypx6sf7abwy9addp35nw9v7mg0vnb-fri3d-demo``
 - ▶ `-r--r--r--`

Demo 1

- `nix build --file demo1.nix`

```
with import <nixpkgs> {};
pkgs.stdenv.mkDerivation rec {
  pname = "hello";
  version = "2.12.1";
  src = fetchurl {
    url = "mirror://gnu/hello/hello-${version}.tar.gz";
    sha256 = "sha256-jZkUKv2SV28wsM18tCqNxoCZmLxdYH2Idh9RLibH2yA=";
  };
}
```

Demo 2

- Isolated builds: geen impliciete dependencies

```
with import <nixpkgs> {};
stdenv.mkDerivation {
  pname = "waylogout";
  version = "unstable-2023-06-09";
  src = fetchFromGitHub {
    owner = "loserMcloser";
    repo = "waylogout";
    rev = "f90e1b8b0f67a2694fafca7beb32828493f3f78e";
    hash = "sha256-YQtX4t6q2NybuKU3lVcn5XhC0nXcPfEbcXbuFmDZ0rw=";
  };
  nativeBuildInputs = [pkg-config meson ninja scdoc];
  buildInputs = [wayland wayland-protocols libxkbcommon cairo gdk-pixbuf];
}
```

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```
{
  description = "A very basic flake";
  inputs = {
    nixpkgs.url = "github:nixos/nixpkgs?ref=nixos-unstable";
  };
  outputs = { self, nixpkgs }: {
    packages.x86_64-linux.hello = nixpkgs.legacyPackages.x86_64-linux.hello;
    packages.x86_64-linux.default = self.packages.x86_64-linux.hello;
  };
}
```

Demo 3

```
{
  inputs = {nixpkgs.url = "github:nixos/nixpkgs/nixos-unstable";};
  outputs = {
    self,
    nixpkgs,
    ...
  }; let
    pkgs = nixpkgs.legacyPackages.x86_64-linux;
  in {
    packages."x86_64-linux".default = pkgs.stdenv.mkDerivation {
      # code van eerder
    };
  };
}
```


Devshells

- `nix develop .#<name>`

```
inputs.nixpkgs.url = "github:nixos/nixpkgs?ref=nixos-unstable";
outputs = { self, nixpkgs }: let
  pkgs = nixpkgs.legacyPackages.x86_64-linux;
in {
  devShells.x86_64-linux.my-cool-shell = pkgs.mkShell {
    packages = with pkgs; [git cmatrix
      (pkgs.writeShellScriptBin "fri3d" ''
        ${pkgs.lib.getExe' pkgs.coreutils "echo"} 'Fri3d camp is de max!' |
        ${pkgs.lib.getExe pkgs.cowsay} | ${pkgs.lib.getExe pkgs.lolcat}
        ''
      )
    ];
  };
};
```

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- Generations → perfecte rollbacks in de bootloader

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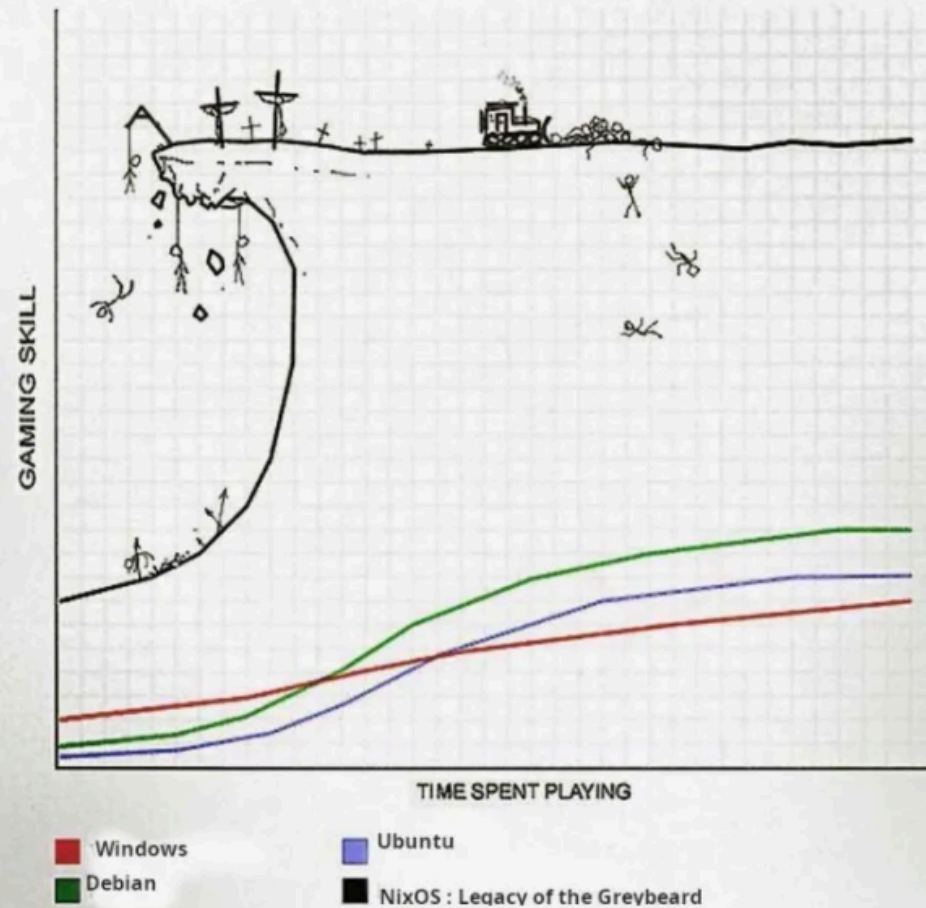
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- Flakes?

LEARNING CURVES OF POPULAR Operating Systems



If you need somebody else to tell you whether or not you need NixOS, you don't need NixOS. - hlissner

