



Fedora on RISC-V

RISC-V in servers everywhere?

Richard W.M. Jones rjones@redhat.com
Emerging Technologies, Red Hat
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fedora



FREEDOM.



FRIENDS.



FEATURES.



FIRST.

Fedora

Upstream developers



Fedora Rawhide



Fedora 28 (May 2018)

Red Hat Enterprise Linux

Fedora 18 (2013)



backports



Red Hat Enterprise Linux (RHEL) 7



CentOS 7

Upstream First



Closed to Open

PERMABIT



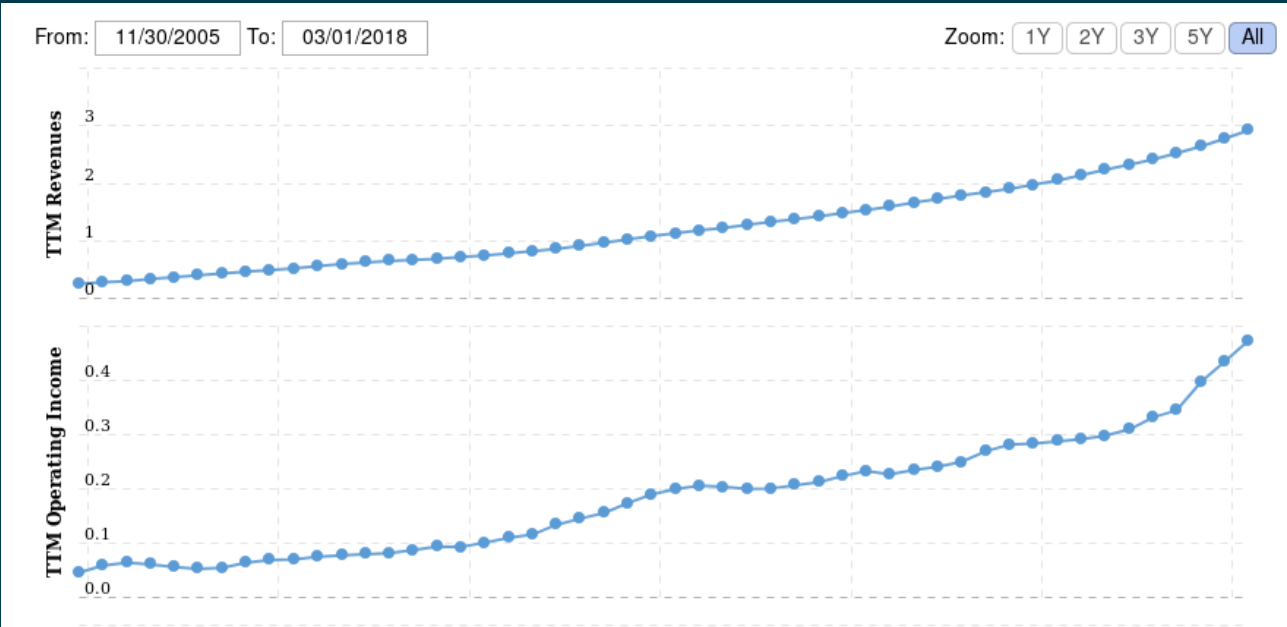
ANSIBLE



ManageIQ



Step 3 - profit



Fedora on RISC-V

Final bootstrap took 2 months

- 16,725 builds
- 12,785 binary packages

Current build farm:

- 2 x HiFive Unleashed boards
- 11 qemu instances on 4 Intel servers
- Fedora Rawhide & Fedora 28, plus “shadow Koji”

Bootable disk images widely used by developers experiencing RISC-V for the first time.

Fedora on RISC-V

- IRC: #fedora-riscv (FreeNode)
- <https://fedoraproject.org/wiki/Architectures/RISC-V>
- <https://fedorapeople.org/groups/risc-v/disk-images/>

RISC-V on the server



RISC-V on the server



Don't make these mistakes

- ✗ Require manual intervention to choose the right bootloader/kernel per vendor
- ✗ Out of tree drivers or patches
- ✗ No standards / constantly changing standards
- ✗ No organization providing direction on server standards
- ✗ Incompatible variants of the ISA
=> single kernel image cannot be made
- ✗ Breaking ABIs:
ISA | kernel | modules | glibc | libraries | ISV software
- ✗ Intimately tied to Linux, so other OS vendors are excluded
- ✗ Developer boards are too expensive for developers



THANK YOU

Search for "Fedora RISC-V"

Koji Fedora build system

fedora^f
buildsystem

Sat, 05 May 2018 12:42:35 CEST

Packages

Summary Packages Builds Tasks Tags Build Targets Users **Hosts** Reports Search

Hosts

State:

Hosts 1 through 15 of 15

ID	Name ▲	Arches	Enabled?	Ready?	Last Update
2	builder1.tranquillity.se	riscv64	✓	✓	2018-05-05 12:42:21
3	builder2.tranquillity.se	riscv64	✓	✓	2018-05-05 12:42:31
14	fedora-riscv-kojibuilder1.tranquillity.se	riscv64	✓	✓	2018-05-05 12:42:26
15	fedora-riscv-kojibuilder2.tranquillity.se	riscv64	✓	✓	2018-05-05 12:42:25
4	five.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:34
13	hifive.delorie.com	riscv64	✓	✓	2018-05-05 07:58:29
1	kojibuilder1.davidt.org	riscv64	✓	✗	2018-04-28 15:21:50
5	vm01.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:22
6	vm02.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:33
7	vm03.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:35
8	vm04.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:20
9	vm05.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:20
10	vm06.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:20
11	vm07.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:23
12	vm08.home.annexia.org	riscv64	✓	✓	2018-05-05 12:42:23

Hosts 1 through 15 of 15

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Koji Fedora build system

Summary Packages Builds **Tasks** Tags Build Targets Users Hosts Reports Search

Welcome to Koji Web

Recent Builds

ID ▼	NVR	Built by	Finished	State
24865	gcc-8.1.1-1.1.riscv64.fc29	davidlt		
24864	gcc-8.1.1-1.0.riscv64.fc29	davidlt	2018-05-05 02:53:06	
24863	hivex-1.3.15-3.fc29	rjones	2018-05-04 15:54:05	
24862	file-5.33-3.fc29	davidlt	2018-05-04 13:27:28	
24861	nano-2.9.6-1.fc29	davidlt	2018-05-04 13:48:59	
24860	mutt-1.9.5-4.fc29	davidlt	2018-05-04 13:38:15	
24859	sed-4.5-1.fc29	davidlt	2018-05-04 13:21:46	
24858	mailx-12.5-28.fc29	davidlt	2018-05-04 12:22:37	
24857	zlib-1.2.11-8.fc29	davidlt	2018-05-04 13:01:42	
24856	coreutils-8.29-10.fc29	davidlt	2018-05-04 14:30:37	

Recent Tasks

ID ▼	Type	Owner	Arch	Finished	State
727	build (f29-candidate, /rpms/gcc.git:273a6e3e21b0edabf0c0a2f4aae7d097e4eab35c)	davidlt	noarch		
725	distRepo (f29)	davidlt	noarch	2018-05-05 02:03:14	
723	distRepo (f29)	davidlt	noarch	2018-05-04 21:49:31	
721	distRepo (f29)	davidlt	noarch	2018-05-05 07:40:49	
718	build (f29-candidate, /rpms/gcc.git:b840e5963d9b3f1d7fbad779baf3bfa1c62cacc2)	davidlt	noarch	2018-05-05 02:53:07	
715	newRepo (rawhide)	kojira	noarch	2018-05-04 16:25:54	
714	newRepo (f29-build)	kojira	noarch	2018-05-04 16:23:06	
711	distRepo (f29)	davidlt	noarch	2018-05-04 19:20:52	
709	newRepo (rawhide)	kojira	noarch	2018-05-04 15:05:47	
707	newRepo (f29-build)	kojira	noarch	2018-05-04 15:06:20	

DJ's glibc development system

