



Maintaining Isar

Testing, CI and Experiences

Zhihang Wei

5 October 2026

Prague, Czech Republic

ilbers GmbH

Zhihang Wei

- ilbers GmbH
- Isar maintainer

ilbers GmbH

- Embedded software development: Boot loader, kernel, drivers, applications

- GitHub: Source code, security advisories

<https://github.com/ilbers/isar>

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fmoessbauer and zhihang-wel	kas: switch default build system to isar-ro...	d8a42c3 · 2 weeks ago	2,848 Commits
.github/workflows	ci: Add github workflow for building and deploying test-c...	5 months ago	
bitbake	bitbake: Remove custom exception backtrace formatting	7 months ago	
doc	kernel: use architecture specific names for kernels	last month	
kas	kas: switch default build system to isar-rootless	2 weeks ago	
meta-isar	raspios-bullseye-64: Pull bullseye from archive.d.o	3 weeks ago	
meta-test	make our internal chroots bit-by-bit reproducible	last month	
meta	bootstrap: do not include apt cache	2 weeks ago	
scripts	isar-check-rootless: check parent dirs are world searchable	2 weeks ago	
testsuite	test-container: Bump test-container version for kas 5.5	3 weeks ago	
.gitignore	CI: Add make world test case	last year	
.gitlab-ci.yml	kas: update kas and kas-container to 5.5	3 weeks ago	
template.d	add initial implementation	10 years ago	

About

Register for the Isar Community Meetup in Prague on 5th of October

eveno.com/isar2026

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253 stars
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23 tags

[Create a new release](#)

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	Felix Moessbauer 14	[PATCH 00/13] More build time reductions – Using the OE hash equival...	Oct 2	☆
	Felix Mo..., Zhiha... 10	[PATCH 0/6] Model isar-exclude-docs as rootfs feature – On Fri, 2026-1...	Oct 2	☆
	akarpovich 13	[v11 00/12] Improving base-apt usage – From: Aliaksei Karpovich <aka...	Oct 2	☆
	Badrike..., ... Zhiha... 3	[PATCH] image-postproc-extension: fix machine-id file being written emp	Sep 30	☆
	Felix Mo..., Zhiha... 31	[PATCH 0/8] Add support to cross-compile a dracut initramfs – Applied...	Sep 30	☆
	Felix Moe..., Zhiha... 2	[PATCH 1/1] rootfs: unconditionally clean isar-apt lists before deploying .	Sep 29	☆
	Felix Moe..., Zhiha... 2	[PATCH 1/1] isar-mounts: mount /run as tmpfs for systemd execution in	Sep 29	☆
	Felix Moe..., Zhiha... 4	[PATCH 1/3] isar-sstate: add well-known task for dpkg-source – Applie...	Sep 29	☆
	Felix Moessbauer	[PATCH 1/1] avoid use of bitbake syntax for argument variables – Whe...	Sep 28	☆
	Felix Moessbauer	[PATCH 1/1] bitbake: exclude GNUPGHOME from signatures – The GN...	Sep 28	☆
	Felix Moessbauer	[PATCH 1/1] fix(multiarch): do not double append variant suffix – We c...	Sep 25	☆

<https://lists.isar-build.org/isar-users/>

public inbox for isar-users@googlegroups.com

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```
[PATCH 0/6] Model isar-exclude-docs as rootfs feature
2026-10-02 10:03 UTC (10+ messages)
` [PATCH 1/6] rootfs: add feature to clean isar generated dpkg config
` [PATCH 2/6] image: add IMAGE_ROOTFS_FEATURES to set rootfs features of the image
` [PATCH 3/6] isar-exclude-docs: model via rootfs feature
` [PATCH 4/6] rootfs: also purge package changelogs on exclude-docs
` [PATCH 5/6] kas: port isar-exclude-docs to rootfs feature
` [PATCH 6/6] testsuite: replace isar-exclude-docs by "

[v11 00/12] Improving base-apt usage
2026-10-02 7:01 UTC (13+ messages)
` [v11 01/12] scripts: Add debrepo python script handling base-apt
` [v11 02/12] meta: Add debrepo bbclass handling base-apt prefetching
` [v11 03/12] meta: Always use base-apt repo in local mode
` [v11 04/12] meta: Use cached base-apt repo to bootstrap
` [v11 05/12] base-apt: Predownload packages to base-apt before install
` [v11 06/12] meta: Add cache-deb-src functionality in base-apt mode
` [v11 07/12] testsuite: Set ISAR_PREFETCH_BASE_APT by default
` [v11 08/12] Disable deb-dl-dir in base-apt prefetch mode
` [v11 09/12] kas: Add PREFETCH_BASE_APT config entry
` [v11 10/12] ci_build.sh: Install python3-apt if not installed
` [v11 11/12] debrepo: Add override for reprepro
` [v11 12/12] base-apt: Move bullseye-mipsel in separate dir

[PATCH] image-postproc-extension: fix machine-id file being written empty
2026-09-30 10:43 UTC (3+ messages)

[PATCH v3 0/8] Add support to cross-compile a dracut initramfs
2026-09-30 10:42 UTC (10+ messages)
` [PATCH v3 1/8] rootfs: generalize deployment of rootfs artifact
` [PATCH v3 2/8] dracut-module: make module-setup compatible with sysroot
` [PATCH v3 3/8] initramfs: move dracut logic to initrd-dracut class
` [PATCH v3 4/8] dracut: use fixed log level on generation for progress reporting
` [PATCH v3 5/8] dracut: enforce build of reproducible initrd
` [PATCH v3 6/8] add host-tooling chroot for generic host tooling
```

<https://lists.isar-build.org/isar-users/>

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2.55.0

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only message in thread, other threads: [~2026-09-28 10:49 UTC | newest]

Thread overview: (only message) (download: [mbox.gz](#) / follow: [Atom feed](#))

-- links below jump to the message on this page --
2026-09-28 10:48 [PATCH 1/1] avoid use of bitbake syntax for argument variables 'Felix Moessbauer' via

This is a public inbox, see [mirroring instructions](#)
for how to clone and mirror all data and code used for this inbox

- GitHub: Source code, security advisories
- Mailing List: Patch submission, review, discussion
- Patchwork: Patch status

<https://patchwork.isar-build.org/project/isar/list/>

Show patches with: State = Action Required | Archived = No | 136 patches

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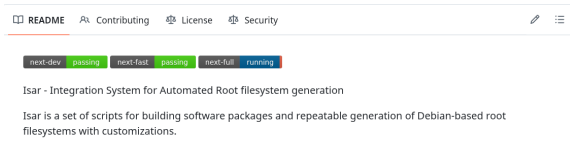
Patch	Series	S/W/F	Date	Submitter	Delegate	State
[v11,12/12] base-apt: Move bullseye-mipsel in separate dir	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,11/12] debrepo: Add override for reprepro	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,10/12] ci_build.sh: Install python3-apt if not installed	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,09/12] kas: Add PREFETCH_BASE_APT config entry	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,08/12] Disable deb-dl-dir in base-apt prefetch mode	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,07/12] testsuite: Set ISAR_PREFETCH_BASE_APT by default	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,06/12] meta: Add cache-deb-src functionality in base-apt mode	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,05/12] base-apt: Predownload packages to base-apt before install	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,04/12] meta: Use cached base-apt repo to bootstrap	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[v11,03/12] meta: Always use base-apt repo in local mode	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
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[v11,01/12] scripts: Add debrepo python script handling base-apt	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New
[1/1] avoid use of bitbake syntax for argument variables	[1/1] avoid use of bitbake syntax for argument variables	- - -	2026-09-28	MOESSBAUER, Felix		Under Review
[1/1] bitbake: exclude GNUPGHOME from signatures	[1/1] bitbake: exclude GNUPGHOME from signatures	- - -	2026-09-28	MOESSBAUER, Felix		Under Review
[1/1] fix(multilarch): do not double append variant suffix	[1/1] fix(multilarch): do not double append variant suffix	- - -	2026-09-25	MOESSBAUER, Felix		Priority Review
[1/1] native: fix unexpanded SSTATE_PKGARCH for -native variants	[1/1] native: fix unexpanded SSTATE_PKGARCH for -native variants	- - -	2026-09-25	MOESSBAUER, Felix		Priority Review
[6/6] testsuite: replace isar-exclude-docs by rootfs feature	Model isar-exclude-docs as rootfs feature	- - -	2026-09-24	MOESSBAUER, Felix		Under Review
[5/6] kas: port isar-exclude-docs to rootfs feature	Model isar-exclude-docs as rootfs feature	- - -	2026-09-24	MOESSBAUER, Felix		Under Review
[4/6] rootfs: also purge package changelogs on exclude-docs	Model isar-exclude-docs as rootfs feature	- - -	2026-09-24	MOESSBAUER, Felix		Under Review
[3/6] isar-exclude-docs: model via rootfs feature	Model isar-exclude-docs as rootfs feature	- - -	2026-09-24	MOESSBAUER, Felix		Under Review
[2/6] image: add IMAGE_ROOTFS_FEATURES to set rootfs features of the image	Model isar-exclude-docs as rootfs feature	- - -	2026-09-24	MOESSBAUER, Felix		Under Review

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Patchwork Isar Patches Bundles About this project							Login Register Mail settings	
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Patch	Series	S/W/F	Date	Submitter	Delegate	State		
[v11,12/12] base-apt: Move bullseye-mipsel in separate dir	[v11,01/12] scripts: Add debrepo python script handling base-apt	- - -	2026-10-02	akarpovich		New		
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- GitHub: Source code, security advisories
- Mailing List: Patch submission, review, discussion
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- Jenkins: CI testing

- GitHub: Source code, security advisories
- Mailing List: Patch submission, review, discussion
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- Read the patch
- Provide feedback
- Test on CI
- Report issue on CI

- `dev` Basic building, qemu image booting
- `fast` Several features: cross-build, locale, SBOM generation
- `full` More features and platforms coverage

Examples:

- `raspbian source`

raspbian source

```
Err:13 http://archive.raspberrypi.org/debian bookworm/main
      armhf initramfs-tools-core all 0.142+rpt4+deb12u3
      Temporary failure resolving 'archive.raspberrypi.org'
Err:14 http://raspbian.raspberrypi.org/raspbian bookworm/main
      armhf libargon2-1 armhf 0~20171227-0.3+deb12u1
      Temporary failure resolving 'raspbian.raspberrypi.org'
Err:15 http://archive.raspberrypi.org/debian bookworm/main
      armhf initramfs-tools all 0.142+rpt4+deb12u3
      Temporary failure resolving 'archive.raspberrypi.org'
Err:16 http://raspbian.raspberrypi.org/raspbian bookworm/main
      armhf dmsetup armhf 2:1.02.185-2
      Temporary failure resolving 'raspbian.raspberrypi.org'
Err:17 http://archive.raspberrypi.org/debian bookworm/main
      armhf raspberrypi-kernel armhf 1:1.20230405-1
      Temporary failure resolving 'archive.raspberrypi.org'
```

raspbian source

```
Err:16 http://raspbian.raspberrypi.org/raspbian bullseye/main
armhf libsystemd0 armhf 247.3-7+rpi1+deb11u8
Connection failed [IP: 185.41.106.155 80]
Err:27 http://raspbian.raspberrypi.org/raspbian bullseye/main
armhf dpkg armhf 1.20.13+rpi1
Could not connect to mirror.netzwerke.de:80 (185.41.106.155),
connection timed out [IP: 185.41.106.155 80]
Err:28 http://raspbian.raspberrypi.org/raspbian bullseye/main
armhf perl-base armhf 5.32.1-4+deb11u5
Unable to connect to mirror.netzwerke.de:
http: [IP: 185.41.106.155 80]
Err:40 http://raspbian.raspberrypi.org/raspbian
bullseye/main armhf libpam0g armhf 1.4.0-9+deb11u2
Unable to connect to mirror.netzwerke.de:
http: [IP: 185.41.106.155 80]
```

Examples:

- raspbian source
- ubuntu source

ubuntu source

```
Err:1 http://ports.ubuntu.com/ubuntu-ports resolute/main
      arm64 libcom-err2 arm64 1.47.2-3ubuntu4
      Could not connect to ports.ubuntu.com:80 (91.189.91.104),
        connection timed out
      Could not connect to ports.ubuntu.com:80 (91.189.91.102),
        connection timed out
      Could not connect to ports.ubuntu.com:80 (91.189.91.103),
        connection timed out [IP: 91.189.91.103 80]
Err:2 http://ports.ubuntu.com/ubuntu-ports resolute/main
      arm64 libext2fs2t64 arm64 1.47.2-3ubuntu4
      Unable to connect to ports.ubuntu.com:http: [IP: 91.189.91.103 80]
Err:3 http://ports.ubuntu.com/ubuntu-ports
      resolute/main arm64 libss2 arm64 1.47.2-3ubuntu4
      Unable to connect to ports.ubuntu.com:http: [IP: 91.189.91.103 80]
```

ubuntu source

```
Err:1 http://archive.ubuntu.com/ubuntu noble/universe amd64
      localepurge all 0.7.3.10
      Connection failed [IP: 185.125.190.81 80]
E: Failed to fetch
http://archive.ubuntu.com/ubuntu/pool/universe/l
  /localepurge/localepurge_0.7.3.10_all.deb
  Connection failed [IP: 185.125.190.81 80]
E: Some files failed to download
```

Examples:

- raspbian source
- ubuntu source
- <https://ftp.denx.de/pub/u-boot/u-boot-2025.10.tar.bz2>

`https://ftp.denx.de/pub/u-boot/u-boot-2025.10.tar.bz2`

```
ERROR: mc:de0-nano-soc-bullseye:u-boot-de0-nano-soc-2020.10-r0 do_fetch:  
Fetcher failure for URL:  
  'https://ftp.denx.de/pub/u-boot/u-boot-2020.10.tar.bz2'.  
Unable to fetch URL from any source.
```

Examples:

- raspbian source
- ubuntu source
- <https://ftp.denx.de/pub/u-boot/u-boot-2025.10.tar.bz2>
- <http://www.schweikhardt.net/samefile-2.14.tar.gz>

CI testing: Fetching issues

`http://www.schweikhardt.net/samefile-2.14.tar.gz`

`ERROR: mc:qemuamd64-bookworm:samefile-2.14-r0 do_fetch:`

`Fetcher failure for URL:`

`'http://www.schweikhardt.net/samefile-2.14.tar.gz'.`

`Unable to fetch URL from any source.`

Example: ti git source:

- - <https://git.ti.com/cgit/processor-firmware/ti-linux-firmware>
- + <https://github.com/TexasInstruments/ti-linux-firmware>

- Pulling docker container image
- Pulling archive
- Pulling public repo unauthenticated

- kas menu
- installer UI

Example: "Add support for dracut", developed by Quirin

- Testcase: Generate dracut-based initramfs
- [2/4] CI: add smoke-tests for switch to dracut in isar-image-ci

Adding new test cases: "Fix" patches

"Fix" patches solve issues that are probably not visible in CI.

Add a test case to:

- Recreate this issue
- Make sure it will not be silently broken again

Example: "Fix kernel build and propagation of linux-libc-dev" by Felix Mößbauer

- [v2,2/4] fix(kernel): restore building of linux-libc-dev
- [v2,4/4] testsuite: add test for KERNEL_LIBC_DEV_DEPLOY

- Next + Patch A: PASS
- Next + Patch B: PASS
- Next + Patch A + Patch B: FAIL

Example:

- A: [PATCH] rootfs: rework no-generate-initrd rootfs feature
- B: [PATCH] image: introduce IMAGE_INITRD, deprecate INITRD_IMAGE

A: [PATCH] rootfs: rework no-generate-initrd rootfs feature

- "generate-initrd" = No logic moved to rootfs.bbclass
- initramfs.bbclass inherits rootfs.bbclass
- Custom initramfs recipes inherit initramfs.bbclass
- "generate-initrd" = No by default for custom initramfs recipes

Released in May 2026

Developed by Felix Mößbauer

Traditionally, Isar use sudo for several operations:

- mount, chown, apt-get
- mmdebstrap, chroot

sudo: Security risk

Unprivileged building:

- Operate under unshare instead of sudo

Transparent to user:

- Switch between privileged and unprivileged building

New test-container by Jan Kiszka

- Isar source tree is mounted read-only
- Writable overlay as a workspace for building and testing

Testsuite execution speedup by Felix Mößbauer

Developed by Kasturi Shekar

- Separate installer frontend and backend
- Backend `sys_api.sh`: Structured API
- Frontend `installer_ui.sh`: User interaction
- Existing behavior remains unchanged
- Foundation for additional installer frontends

Defined in SECURITY.md

- Processed differently from regular patches
- Published on the list after merging
 - Fix has been tested and merged
 - Security advisory is ready
- Last 12 months: 2 CVEs published

Reported by Clara Kowalsky, fixed by Felix Mößbauer

- ISAR_APT_SNAPSHOT_TIMESTAMP: Snapshot timestamp used for package sources
- ISAR_APT_SNAPSHOT_DATE: Easier for user to use
- ISAR_APT_SNAPSHOT_TIMESTAMP[security]
- ISAR_APT_SNAPSHOT_DATE[security]

Reported by Clara Kowalsky, fixed by Felix Mößbauer

- ISAR_APT_SNAPSHOT_TIMESTAMP: not set
- ISAR_APT_SNAPSHOT_DATE: Set
- ISAR_APT_SNAPSHOT_TIMESTAMP[security]: not set
- ISAR_APT_SNAPSHOT_DATE[security]: not set

For ISAR_APT_SNAPSHOT_DATE[security]:

- Value in ISAR_APT_SNAPSHOT_DATE is ignored
- By default: SOURCE_DATE_EPOCH
- Could be a much older date

Reported and fixed by Felix Mößbauer

`/etc/apt/trusted.gpg.d` was manually created during bootstrap

- Ownership: the calling user, instead of root
- Alterable by another unprivileged user with the same ID

Solution:

- Set the directory ownership to root:root in setup step

Thank you!