[v2,00/17] RISC-V: support vector extension

11140355	mbox (/cover/11140355/mbox/)	series (/series/172559/mbox/)

Message ID	1568183141-67641-1-git-send-email-zhiwei_liu@c-sky.com
Headers	show
Series	RISC-V: support vector extension
Related	show

Message

LIU Zhiwei (/project/qemu-devel/list/?submitter=187957) Sept. 11, 2019, 6:25 a.m. UTC

```
Features:
  * support specification riscv-v-spec-0.7.1(https://content.riscv.org/wp-content/uploads/2019/
  * support basic vector extension.
  * support Zvlsseg.
  * support Zvamo.
  * not support Zvediv as it is changing.
  * fixed VLEN 128bit.
  * fixed SLEN 128bit.
  * ELEN support 8bit, 16bit, 32bit, 64bit.

Todo:
  * support VLEN configure from qemu command line.
  * move check code from execution-time to translation-time

Changelog:
V2
  * use float16_compare{_quiet}
  * only use GETPC() in outer most helper
  * add ctx.ext_v Property


LIU Zhiwei (17):
  RISC-V: add vfp field in CPURISCVState
  RISC-V: turn on vector extension from command line by cfg.ext_v
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  RISC-V: support vector extension csr
  RISC-V: add vector extension configure instruction
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  RISC-V: add vector extension fixed point instructions
  RISC-V: add vector extension float instruction part1, add/sub/mul/div
  RISC-V: add vector extension float instructions part2,
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  RISC-V: add vector extension reduction instructions
  RISC-V: add vector extension mask instructions
  RISC-V: add vector extension premutation instructions

 linux-user/riscv/cpu_loop.c             |     7 +
 target/riscv/Makefile.objs              |     2 +-
 target/riscv/cpu.c                      |     6 +-
 target/riscv/cpu.h                      |    30 +
 target/riscv/cpu_bits.h                 |    15 +
 target/riscv/cpu_helper.c               |     7 +
 target/riscv/csr.c                      |    65 +-
 target/riscv/helper.h                   |   358 +
 target/riscv/insn32.decode              |   373 +
 target/riscv/insn_trans/trans_rvv.inc.c |   490 +
 target/riscv/translate.c                |     1 +
 target/riscv/vector_helper.c            | 25701 ++++++++++++++++++++++++++++++
 12 files changed, 27049 insertions(+), 6 deletions(-)
 create mode 100644 target/riscv/insn_trans/trans_rvv.inc.c
 create mode 100644 target/riscv/vector_helper.c
```

Comments

Aleksandar Markovic (/project/qemu-devel/list/?submitter=183567)
Sept. 11, 2019, 7 a.m. UTC | #1 (/comment/22875851/)

11.09.2019. 08.35, "liuzhiwei" <zhiwei_liu@c-sky.com> је написао/ла:
>
> Features:
>   * support specification riscv-v-spec-0.7.1(
https://content.riscv.org/wp-content/uploads/2019/06/17.40-Vector_RISCV-20190611-Vectors.pdf
).

Hi, Zhivei.

The linked document is a presentation, outlining general concepts of the
instruction set in question, which is certainly useful and nice to have,
but, for review process, we need *specifications* (especially given that
they are in draft phase, and therefore "moving target"). Please provide
such link.

I also noticed lack of commit messages, and was really disappointed by
that. It looks to me you did not honor in entirety our guidlines for
submitting patches.

Yours,
Aleksandar

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> target/riscv/cpu_helper.c | 7 +
> target/riscv/csr.c | 65 +-
> target/riscv/helper.h | 358 +

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>
> --
> 2.7.4
>
>
```

Palmer Dabbelt (/project/qemu-devel/list/?submitter=177321)

Sept. 14, 2019, 12:59 p.m. UTC | #2 (/comment/22882027/)

On Wed, 11 Sep 2019 00:00:56 PDT (-0700), aleksandar.m.mail@gmail.com wrote:
> 11.09.2019. 08.35, "liuzhiwei" <zhiwei_liu@c-sky.com> је написао/ла:
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Here's the V spec repository

    https://github.com/riscv/riscv-v-spec

and the exact 0.7.1 specification PDF

    https://github.com/riscv/riscv-v-spec/releases/download/0.7.1/riscv-v-spec-0.7.1.pdf

In RISC-V land this constitutes an official draft -- there's a whole process
for getting a specification ratified, but that isn't done for these draft
specifications. The RISC-V QEMU maintainers agree that we'll take
implementations of drafts as long as there's a concrete definition we can point
at, like this one.

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patchwork (http://jk.ozlabs.org/projects/patchwork/) patch tracking system | version | about patchwork (/about/)