# QEMU support for Xtensa

- Original git tree: http://jcmvbkbc.spb.ru/git/?p=dumb/qemu-xtensa.git;a=shortlog;h=refs/heads/xtensa
- Tree for submission to qemu mainline: http://jcmvbkbc.spb.ru/git/?p=dumb/qemu-xtensa.git;a=shortlog;h=refs/heads/xtensa-for-mainline

## Things to do

- core/basic opcodes implementation;
  - [+] and/or/xor/neg/abs;
  - [+] shifts;
  - [+] add[x*]/sub[x*]/add.n/addi.n;
  - [+] call0, callx0, j, b*;
  - [+] l32*, s32*;
  - [+] accurate SR write semantics;
  - [-] boolean registers/commands;
- windowed registers;
  - [+] call*/callx*, retw, rotw, rfwo, rfwu;
  - [+] simple overflow algorithm that's triggered from ENTER;
  - [+] accurate overflow triggering;
- [+] loop option;
- [+] extended L32R option;
- [-] floating point;
- MMU;
  - [+] no-mmu mode;
  - [-] region protection (with/without translation);
- gdbserver;
  - [+] xml register map, read/write register;
  - [-] correct SR mapping;
  - [+] debug exception, single step mode;
  - [+] hw/sw breakpoints;
- exceptions;
  - [+] debug (only external);
  - [+] window overflow/underflow;
  - [+] user/kernel (invalid insn, privileged insn, alignment, division by 0,...);
  - [+] relocatable vectors;
  - [+] external interrupts;
  - [+] timer interrupts;
- sample evaluation board;
  - [+] memory mapping, ELF loader;
  - [-] standard peripherals;
- [+] external configuration (a-la xtensa overlay)?
- [-] automatic regression test suite;

# Events

- 2011.04.20: C++ 'hello world' is working in qemu (stdio, stdlib, simcalls, windowed registers, loops, ext l32r) (:
- 2011.04.26: multithreaded ThreadX application is working in qemu (timer interrupts)
- 2011.04.30: preparation for qemu mainline submission started
- 2011.05.04: first RFC patchset sent to qemu-devel

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**http://wiki.osll.ru/doku.php/etc:users:jcmvbkbc:qemu-target-xtensa?rev=1304490379**

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