Linux port for Xtensa

Phase 1

Goal: linux mainline contains the latest linux-xtensa updates, builds and works.

- compilable with latest GCC
- overlays to cover: FSF, dc232b, more TBD
- tests to pass: builds, boots, LTP
- boards to focus on: ISS, ML605
- configurations: UP, linux-next specific, more TBD

Plan

- Prepare for linux-next participation
  - [2/3] Make mainline build for ARCH=xtensa in defconfig, allnoconfig, allmodconfig
    - [+] fix remaining issues with allmodconfig
    - why there's no simdisk in the mainline?
    - qemu needs proper handling for guest ioctls triggered via simcalls
  - [+] Make built images work (qemu, FSF)
- [+] Build userspace
- Automated build/test scripts
  - [+] build/test status/logs
  - expect script to run LTP
- Analyse reference tree
  - proper bugfixes
  - new cores (dc233c, test_hifi_c3, s*)
  - new platforms (lx*, ml605, s*)
  - SMP and its fixes
  - XCC fixes
- Issues

Work items

SMP support

Support for Tensilica FPGA boards

Atomics (arch/xtensa/include/asm/atomic.h, bitops.h, spinlock.h) and check for S32C1I

TIE coprocessors

Highmem

Interrupt management

Medium level interrupts in less hacky way

Device trees support

MMU v3

ptrace (support latest GDB)

Support for building with XCC

simdisk

Various fixes made for debuggability

oprofile

Generic kernel_thread & friends

Cache aliasing aware mmap

From:
http://wiki.osll.ru/ - **Open Source & Linux Lab**

Permanent link:
http://wiki.osll.ru/doku.php/etc:users:jcmvbkbc:linux-xtensa?rev=1350820452

Last update: **2012/10/21 15:54**