Ppc Processor Functional Description

This hardware component is a PPC405 processor core. This is only an ISS, which should be wrapped with an IssWrapper.

The simulation model is actually an instruction set simulator, organised as a two-stage pipeline:

- First stage: instruction fetch & execute with a possible access to the external data cache.
- Second stage: read memory access is written back to registers

The main functional specifications are the following:

- The floating point instructions are not supported
- There is no TLB, and no hardware support for virtual memory

Component definition

Available in source:trunk/soclib/soclib/lib/metadata/ppc405.sd

Usage

Ppc405 has no parameters.

```
Uses( 'ppc405')
```

Ppc405 Processor ISS Implementation

The implementation is in

- source:trunk/soclib/systemc/include/common/iss/ppc405.h
- source:trunk/soclib/systemc/include/common/iss/ppc405_ops.inc
- source:trunk/soclib/systemc/src/common/iss/ppc405.cc
- source:trunk/soclib/systemc/src/common/iss/ppc405_instructions.cc
- source:trunk/soclib/systemc/src/common/iss/ppc405_jump_tables.cc
- source:trunk/soclib/systemc/src/common/iss/ppc405_instructions.cc

Template parameters

This component has no template parameters.

Constructor parameters

```
Ppc405Iss(
     sc_module_name name,   //  Instance Name
     int  ident);   // processor id
```

Interrupts

Ppc405 defines two interrupt lines.

- 0: Critical interrupt
- 1: External interrupt

Ports

None, it is to the wrapper to provide them.