OVP Guide to Using Processor Models

Model Specific Information for variant MIPS64_I6400

Imperas Software Limited
Imperas Buildings, North Weston
Thame, Oxfordshire, OX9 2HA, UK
docs@imperas.com

Author	Imperas Software Limited
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1 Overview

This document provides the details of an OVP Fast Processor Model variant.

OVP Fast Processor Models are written in C and provide a C API for use in C based platforms. The models also provide a native interface for use in SystemC TLM2 platforms.

The models are written using the OVP VMI API that provides a Virtual Machine Interface that defines the behavior of the processor. The VMI API makes a clear line between model and simulator allowing very good optimization and world class high speed performance.

Most models are provided as a binary shared object and also as source. This allows the download and use of the model binary or the use of the source to explore and modify the model.

The models are run through an extensive QA and regression testing process and most model families are validated using technology provided by the processor IP owners.

There is a companion document (OVP Guide to Using Processor Models) which explains the general concepts of OVP Fast Processor Models and their use. It is downloadable from the OVPworld website documentation pages.

1.1 Description

MIPS64 Configurable Processor Model

If you need other variants, these models can be obtained from www.OVPworld.org/MIPSuser.

1.2 Licensing

Usage of binary model under license governing simulator usage. Source of model available under Imperas Software License Agreement.

1.3 Limitations

If this model is not part of your installation, then it is available for download from www.OVPworld.org/MIPSuser.

Cache model does not implement coherency

1.4 Verification

Models have been validated correct as part of the MIPS Verified program and run through the MIPS AVP test programs

1.5 Features

MIPS64 Instruction set implemented

MMU Type: Dual VTLB and FTLB

FPU implemented

L1 I and D cache model in either full or tag-only mode implemented (disabled by default)

Vectored interrupts implemented

2 Configuration

2.1 Location

The model source and object file is found in the VLNV tree at:
imgtec.ovpworld.org/processor/mips64/1.0

2.2 GDB Path

The default GDB for this model is found at:
$IMPERAS_HOME/lib/$IMPERAS_ARCH/gdb/mips-sde-elf-gdb

2.3 Semi-Host Library

The default semi-host library file is found in the VLNV tree at :
mips.ovpworld.org/semihosting/mips64Newlib/1.0

2.4 Processor Endian-ness

This model can be set to either endian-ness (normally by a pin, or the ELF code).

2.5 QuantumLeap Support

This processor is qualified to run in a QuantumLeap enabled simulator.

2.6 Processor ELF Code

The ELF code supported by this model is: 0x8

3 Other Variants in this Model

Table 1. All variants in this model

Variant
P6600
.P6600Guest
I6400
.I6400Guest
MIPS64R6
.MIPS64R6Guest
I6500
.I6500Guest

4 Bus Ports

Table 2. Bus Ports

Type	Name	min	max
master (initiator)	INSTRUCTION	37	59
master (initiator)	DATA	37	59

5 Net Ports

Table 3. Net Ports

Name	Type	Description
reset	input	CMP reset
dint	input	Debug external interrupt
int0	input	GIC external interrupt
int1	input	GIC external interrupt
int2	input	GIC external interrupt
int3	input	GIC external interrupt
int4	input	GIC external interrupt
int5	input	GIC external interrupt
int6	input	GIC external interrupt
int7	input	GIC external interrupt
int8	input	GIC external interrupt
int9	input	GIC external interrupt
int10	input	GIC external interrupt
int11	input	GIC external interrupt
int12	input	GIC external interrupt
int13	input	GIC external interrupt
int14	input	GIC external interrupt
int15	input	GIC external interrupt
int16	input	GIC external interrupt
int17	input	GIC external interrupt
int18	input	GIC external interrupt
int19	input	GIC external interrupt
int20	input	GIC external interrupt
int21	input	GIC external interrupt
int22	input	GIC external interrupt
int23	input	GIC external interrupt
int24	input	GIC external interrupt
int25	input	GIC external interrupt
int26	input	GIC external interrupt
int27	input	GIC external interrupt
int28	input	GIC external interrupt
int29	input	GIC external interrupt
int30	input	GIC external interrupt
int31	input	GIC external interrupt
int32	input	GIC external interrupt
int33	input	GIC external interrupt
int34	input	GIC external interrupt
int35	input	GIC external interrupt
int36	input	GIC external interrupt
int37	input	GIC external interrupt

int38	input	GIC external interrupt
int39	input	GIC external interrupt
int40	input	GIC external interrupt
int41	input	GIC external interrupt
int42	input	GIC external interrupt
int43	input	GIC external interrupt
int44	input	GIC external interrupt
int45	input	GIC external interrupt
int46	input	GIC external interrupt
int47	input	GIC external interrupt
int48	input	GIC external interrupt
int49	input	GIC external interrupt
int50	input	GIC external interrupt
int51	input	GIC external interrupt
int52	input	GIC external interrupt
int53	input	GIC external interrupt
int54	input	GIC external interrupt
int55	input	GIC external interrupt
int56	input	GIC external interrupt
int57	input	GIC external interrupt
int58	input	GIC external interrupt
int59	input	GIC external interrupt
int60	input	GIC external interrupt
int61	input	GIC external interrupt
int62	input	GIC external interrupt
int63	input	GIC external interrupt
int64	input	GIC external interrupt
int65	input	GIC external interrupt
int66	input	GIC external interrupt
int67	input	GIC external interrupt
int68	input	GIC external interrupt
int69	input	GIC external interrupt
int70	input	GIC external interrupt
int71	input	GIC external interrupt
int72	input	GIC external interrupt
int73	input	GIC external interrupt
int74	input	GIC external interrupt
int75	input	GIC external interrupt
int76	input	GIC external interrupt
int77	input	GIC external interrupt
int78	input	GIC external interrupt
int79	input	GIC external interrupt

int80	input	GIC external interrupt
int81	input	GIC external interrupt
int82	input	GIC external interrupt
int83	input	GIC external interrupt
int84	input	GIC external interrupt
int85	input	GIC external interrupt
int86	input	GIC external interrupt
int87	input	GIC external interrupt
int88	input	GIC external interrupt
int89	input	GIC external interrupt
int90	input	GIC external interrupt
int91	input	GIC external interrupt
int92	input	GIC external interrupt
int93	input	GIC external interrupt
int94	input	GIC external interrupt
int95	input	GIC external interrupt
int96	input	GIC external interrupt
int97	input	GIC external interrupt
int98	input	GIC external interrupt
int99	input	GIC external interrupt
int100	input	GIC external interrupt
int101	input	GIC external interrupt
int102	input	GIC external interrupt
int103	input	GIC external interrupt
int104	input	GIC external interrupt
int105	input	GIC external interrupt
int106	input	GIC external interrupt
int107	input	GIC external interrupt
int108	input	GIC external interrupt
int109	input	GIC external interrupt
int110	input	GIC external interrupt
int111	input	GIC external interrupt
int112	input	GIC external interrupt
int113	input	GIC external interrupt
int114	input	GIC external interrupt
int115	input	GIC external interrupt
int116	input	GIC external interrupt
int117	input	GIC external interrupt
int118	input	GIC external interrupt
int119	input	GIC external interrupt
int120	input	GIC external interrupt
int121	input	GIC external interrupt

int122	input	GIC external interrupt
int123	input	GIC external interrupt
int124	input	GIC external interrupt
int125	input	GIC external interrupt
int126	input	GIC external interrupt
int127	input	GIC external interrupt
ej_disable_probe_debug	input	GIC ej_disable_probe_debug
ejtagbrk_override	input	GIC ejtagbrk_override
ej_dint_in	input	GIC ej_dint_in
GCR_CUSTOM_BASE	output	Provides the least significant 32-bits of the value written to the GCR_CUSTOM_BASE register. Second half of GCR_CUSTOM_BASE_HI and GCR_CUSTOM_BASE output.
GCR_CUSTOM_BASE_UPPER	output	Provides the most significant 32-bits of value written to the the GCR_CUSTOM_BASE register. First half of GCR_CUSTOM_BASE_HI and GCR_CUSTOM_BASE output.
dint_CPU0_VP0	input	Debug external interrupt
hwint0_CPU0_VP0	input	External interrupt
hwint1_CPU0_VP0	input	External interrupt
hwint2_CPU0_VP0	input	External interrupt
hwint3_CPU0_VP0	input	External interrupt
hwint4_CPU0_VP0	input	External interrupt
hwint5_CPU0_VP0	input	External interrupt
nmi_CPU0_VP0	input	Non-maskable external interrupt
EICPresent_CPU0_VP0	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU0_VP0	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU0_VP0	input	External interrupt controller EICSS
EIC_VectorNum_CPU0_VP0	input	External interrupt controller vector number
EIC_VectorOffset_CPU0_VP0	input	External interrupt controller vector offset
EIC_GID_CPU0_VP0	input	External interrupt controller guest ID
intISS_CPU0_VP0	output	True when interrupt request is serviced
causeTI_CPU0_VP0	output	True when timer interrupt expires
causeIP0_CPU0_VP0	output	Raised for software interrupt request IP0
causeIP1_CPU0_VP0	output	Raised for software interrupt request IP1
si_sleep_CPU0_VP0	output	True when the VPE is in WAIT state
hwint0	input	External interrupt for compatibility
Guest.EIC_RIPL_CPU0_VP0	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU0_VP0	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU0_VP0	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU0_VP0	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU0_VP0	input	Guest External interrupt controller guest ID

Guest.intISS_CPU0_VP0	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU0_VP0	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU0_VP0	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU0_VP0	output	Raised for Guest software interrupt request IP1
dint_CPU0_VP1	input	Debug external interrupt
hwint0_CPU0_VP1	input	External interrupt
hwint1_CPU0_VP1	input	External interrupt
hwint2_CPU0_VP1	input	External interrupt
hwint3_CPU0_VP1	input	External interrupt
hwint4_CPU0_VP1	input	External interrupt
hwint5_CPU0_VP1	input	External interrupt
nmi_CPU0_VP1	input	Non-maskable external interrupt
EICPresent_CPU0_VP1	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU0_VP1	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU0_VP1	input	External interrupt controller EICSS
EIC_VectorNum_CPU0_VP1	input	External interrupt controller vector number
EIC_VectorOffset_CPU0_VP1	input	External interrupt controller vector offset
EIC_GID_CPU0_VP1	input	External interrupt controller guest ID
intISS_CPU0_VP1	output	True when interrupt request is serviced
causeTI_CPU0_VP1	output	True when timer interrupt expires
causeIP0_CPU0_VP1	output	Raised for software interrupt request IP0
causeIP1_CPU0_VP1	output	Raised for software interrupt request IP1
si_sleep_CPU0_VP1	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU0_VP1	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU0_VP1	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU0_VP1	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU0_VP1	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU0_VP1	input	Guest External interrupt controller guest ID
Guest.intISS_CPU0_VP1	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU0_VP1	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU0_VP1	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU0_VP1	output	Raised for Guest software interrupt request IP1
dint_CPU1_VP0	input	Debug external interrupt
hwint0_CPU1_VP0	input	External interrupt
hwint1_CPU1_VP0	input	External interrupt
hwint2_CPU1_VP0	input	External interrupt
hwint3_CPU1_VP0	input	External interrupt
hwint4_CPU1_VP0	input	External interrupt
hwint5_CPU1_VP0	input	External interrupt
nmi_CPU1_VP0	input	Non-maskable external interrupt
EICPresent_CPU1_VP0	input	Input signal SI_EICPresent per VPE

EIC_RIPL_CPU1_VP0	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU1_VP0	input	External interrupt controller EICSS
EIC_VectorNum_CPU1_VP0	input	External interrupt controller vector number
EIC_VectorOffset_CPU1_VP0	input	External interrupt controller vector offset
EIC_GID_CPU1_VP0	input	External interrupt controller guest ID
intISS_CPU1_VP0	output	True when interrupt request is serviced
causeTI_CPU1_VP0	output	True when timer interrupt expires
causeIP0_CPU1_VP0	output	Raised for software interrupt request IP0
causeIP1_CPU1_VP0	output	Raised for software interrupt request IP1
si_sleep_CPU1_VP0	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU1_VP0	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU1_VP0	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU1_VP0	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU1_VP0	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU1_VP0	input	Guest External interrupt controller guest ID
Guest.intISS_CPU1_VP0	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU1_VP0	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU1_VP0	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU1_VP0	output	Raised for Guest software interrupt request IP1
dint_CPU1_VP1	input	Debug external interrupt
hwint0_CPU1_VP1	input	External interrupt
hwint1_CPU1_VP1	input	External interrupt
hwint2_CPU1_VP1	input	External interrupt
hwint3_CPU1_VP1	input	External interrupt
hwint4_CPU1_VP1	input	External interrupt
hwint5_CPU1_VP1	input	External interrupt
nmi_CPU1_VP1	input	Non-maskable external interrupt
EICPresent_CPU1_VP1	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU1_VP1	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU1_VP1	input	External interrupt controller EICSS
EIC_VectorNum_CPU1_VP1	input	External interrupt controller vector number
EIC_VectorOffset_CPU1_VP1	input	External interrupt controller vector offset
EIC_GID_CPU1_VP1	input	External interrupt controller guest ID
intISS_CPU1_VP1	output	True when interrupt request is serviced
causeTI_CPU1_VP1	output	True when timer interrupt expires
causeIP0_CPU1_VP1	output	Raised for software interrupt request IP0
causeIP1_CPU1_VP1	output	Raised for software interrupt request IP1
si_sleep_CPU1_VP1	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU1_VP1	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU1_VP1	input	Guest External interrupt controller EICSS

Guest.EIC_VectorNum_CPU1_VP1	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU1_VP1	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU1_VP1	input	Guest External interrupt controller guest ID
Guest.intISS_CPU1_VP1	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU1_VP1	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU1_VP1	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU1_VP1	output	Raised for Guest software interrupt request IP1
dint_CPU2_VP0	input	Debug external interrupt
hwint0_CPU2_VP0	input	External interrupt
hwint1_CPU2_VP0	input	External interrupt
hwint2_CPU2_VP0	input	External interrupt
hwint3_CPU2_VP0	input	External interrupt
hwint4_CPU2_VP0	input	External interrupt
hwint5_CPU2_VP0	input	External interrupt
nmi_CPU2_VP0	input	Non-maskable external interrupt
EICPresent_CPU2_VP0	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU2_VP0	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU2_VP0	input	External interrupt controller EICSS
EIC_VectorNum_CPU2_VP0	input	External interrupt controller vector number
EIC_VectorOffset_CPU2_VP0	input	External interrupt controller vector offset
EIC_GID_CPU2_VP0	input	External interrupt controller guest ID
intISS_CPU2_VP0	output	True when interrupt request is serviced
causeTI_CPU2_VP0	output	True when timer interrupt expires
causeIP0_CPU2_VP0	output	Raised for software interrupt request IP0
causeIP1_CPU2_VP0	output	Raised for software interrupt request IP1
si_sleep_CPU2_VP0	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU2_VP0	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU2_VP0	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU2_VP0	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU2_VP0	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU2_VP0	input	Guest External interrupt controller guest ID
Guest.intISS_CPU2_VP0	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU2_VP0	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU2_VP0	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU2_VP0	output	Raised for Guest software interrupt request IP1
dint_CPU2_VP1	input	Debug external interrupt
hwint0_CPU2_VP1	input	External interrupt
hwint1_CPU2_VP1	input	External interrupt
hwint2_CPU2_VP1	input	External interrupt
hwint3_CPU2_VP1	input	External interrupt
hwint4_CPU2_VP1	input	External interrupt

hwint5_CPU2_VP1	input	External interrupt
nmi_CPU2_VP1	input	Non-maskable external interrupt
EICPresent_CPU2_VP1	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU2_VP1	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU2_VP1	input	External interrupt controller EICSS
EIC_VectorNum_CPU2_VP1	input	External interrupt controller vector number
EIC_VectorOffset_CPU2_VP1	input	External interrupt controller vector offset
EIC_GID_CPU2_VP1	input	External interrupt controller guest ID
intISS_CPU2_VP1	output	True when interrupt request is serviced
causeTI_CPU2_VP1	output	True when timer interrupt expires
causeIP0_CPU2_VP1	output	Raised for software interrupt request IP0
causeIP1_CPU2_VP1	output	Raised for software interrupt request IP1
si_sleep_CPU2_VP1	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU2_VP1	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU2_VP1	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU2_VP1	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU2_VP1	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU2_VP1	input	Guest External interrupt controller guest ID
Guest.intISS_CPU2_VP1	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU2_VP1	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU2_VP1	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU2_VP1	output	Raised for Guest software interrupt request IP1
dint_CPU3_VP0	input	Debug external interrupt
hwint0_CPU3_VP0	input	External interrupt
hwint1_CPU3_VP0	input	External interrupt
hwint2_CPU3_VP0	input	External interrupt
hwint3_CPU3_VP0	input	External interrupt
hwint4_CPU3_VP0	input	External interrupt
hwint5_CPU3_VP0	input	External interrupt
nmi_CPU3_VP0	input	Non-maskable external interrupt
EICPresent_CPU3_VP0	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU3_VP0	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU3_VP0	input	External interrupt controller EICSS
EIC_VectorNum_CPU3_VP0	input	External interrupt controller vector number
EIC_VectorOffset_CPU3_VP0	input	External interrupt controller vector offset
EIC_GID_CPU3_VP0	input	External interrupt controller guest ID
intISS_CPU3_VP0	output	True when interrupt request is serviced
causeTI_CPU3_VP0	output	True when timer interrupt expires
causeIP0_CPU3_VP0	output	Raised for software interrupt request IP0
causeIP1_CPU3_VP0	output	Raised for software interrupt request IP1

si_sleep_CPU3_VP0	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU3_VP0	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU3_VP0	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU3_VP0	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU3_VP0	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU3_VP0	input	Guest External interrupt controller guest ID
Guest.intISS_CPU3_VP0	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU3_VP0	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU3_VP0	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU3_VP0	output	Raised for Guest software interrupt request IP1
dint_CPU3_VP1	input	Debug external interrupt
hwint0_CPU3_VP1	input	External interrupt
hwint1_CPU3_VP1	input	External interrupt
hwint2_CPU3_VP1	input	External interrupt
hwint3_CPU3_VP1	input	External interrupt
hwint4_CPU3_VP1	input	External interrupt
hwint5_CPU3_VP1	input	External interrupt
nmi_CPU3_VP1	input	Non-maskable external interrupt
EICPresent_CPU3_VP1	input	Input signal SI_EICPresent per VPE
EIC_RIPL_CPU3_VP1	input	External interrupt controller RIPL (alias of hwint0 - 5 or 7)
EIC_EICSS_CPU3_VP1	input	External interrupt controller EICSS
EIC_VectorNum_CPU3_VP1	input	External interrupt controller vector number
EIC_VectorOffset_CPU3_VP1	input	External interrupt controller vector offset
EIC_GID_CPU3_VP1	input	External interrupt controller guest ID
intISS_CPU3_VP1	output	True when interrupt request is serviced
causeTI_CPU3_VP1	output	True when timer interrupt expires
causeIP0_CPU3_VP1	output	Raised for software interrupt request IP0
causeIP1_CPU3_VP1	output	Raised for software interrupt request IP1
si_sleep_CPU3_VP1	output	True when the VPE is in WAIT state
Guest.EIC_RIPL_CPU3_VP1	input	Guest External interrupt controller RIPL
Guest.EIC_EICSS_CPU3_VP1	input	Guest External interrupt controller EICSS
Guest.EIC_VectorNum_CPU3_VP1	input	Guest External interrupt controller vector number
Guest.EIC_VectorOffset_CPU3_VP1	input	Guest External interrupt controller vector offset
Guest.EIC_GID_CPU3_VP1	input	Guest External interrupt controller guest ID
Guest.intISS_CPU3_VP1	output	True when Guest interrupt request is serviced
Guest.causeTI_CPU3_VP1	output	True when Guest timer interrupt expires
Guest.causeIP0_CPU3_VP1	output	Raised for Guest software interrupt request IP0
Guest.causeIP1_CPU3_VP1	output	Raised for Guest software interrupt request IP1

6 FIFO Ports

No FIFO Ports in this model.

7 Parameters

Table 4. Parameters that can be set in the model, type: CMP

Name	Type	Description
cacheenable	Enumeration	Select cache model mode default=0 tag=1 full=2
cachedebug	Uns32	Cache debug flags
cacheextbiuinfo	Pointer	Pointer to platform-provided BIU cache info structure
mipsHexFile	String	Load a MIPS hex file (test-mode)
IMPERAS_MIPS_AVP_OPCODES	Boolean	Enable MIPS-specific magic Pass/ Fail opcodes (specific for AVP test termination)
cacheIndexBypassTLB	Boolean	When set, cache index ops do not generate TLB exceptions
MIPS_TRACE	Boolean	Enable MIPS-format trace output
supervisorMode	Boolean	Override whether processor implements supervisor mode
busErrors	Boolean	Override bus error exception behavior. When true, accesses of memory not defined by platform will cause bus error exceptions
fixedMMU	Boolean	Override the MMU type to fixed mapping when true (sets Config.MT=3, Config.KU/K23=2 and Config1.MMUSizeM1=0)
fixedDbgRegSize	Boolean	Enable applications to debug on P5600 with GDB version 2015.06-05 and prior
removeDSP	Boolean	Override the DSP-present configuration when true (sets Config3.DSPP/DSP2P=0)
removeCMP	Boolean	Override the CMP-Present configuration when true (sets Config3.CMGCR and GCR_BASE to 0)
removeFP	Boolean	Override the FP-Present configuration when true (sets Config1.FP to 0)
removeFTLB	Boolean	Override the FTLBEn configuration when true (disable FTLB)
isISA	Boolean	Enable to specify ISA model (reset address from ELF, all coprocessors enabled)
hiddenTLBentries	Boolean	Deprecated - Instead set config1MMUSizeM1 to maximum value to improve performance
ITCNumEntries	Uns32	Specify number of ITC cells present (MT cores only)

ITCNumFIFO	Uns32	Specify number of ITC FIFO cells in reference ITC implementation (MT cores only)
ITCFIFODepth	Uns32	Specify ITC FIFO cell depth. By default supports 4.
MTFPU	Uns32	Enable multi-threaded FPU (1:old mttc1 behavior, 2:new mttc1 behavior)
supportDenormals	Boolean	Enable to specify that the FPU supports denormal operands and results
VPE0MaxTC	Uns32	Specifies the maximum TCs initially on VPE0
segBits	Uns32	Override the number of address bits implemented for 64 bit segments (MIPS64 Only)
mpuRegions	Uns32	Number of regions for memory protection unit
mpuType	Uns32	Type of MPU implementation
mpuEnable	Boolean	Enable MPU2 segment control at reset
mpuSegment0	Uns32	Attributes for segment 0 in MPU2 SegmentControl_0 register
mpuSegment1	Uns32	Attributes for segment 1 in MPU2 SegmentControl_0 register
mpuSegment2	Uns32	Attributes for segment 2 in MPU2 SegmentControl_0 register
mpuSegment3	Uns32	Attributes for segment 3 in MPU2 SegmentControl_0 register
mpuSegment4	Uns32	Attributes for segment 4 in MPU2 SegmentControl_1 register
mpuSegment5	Uns32	Attributes for segment 5 in MPU2 SegmentControl_1 register
mpuSegment6	Uns32	Attributes for segment 6 in MPU2 SegmentControl_1 register
mpuSegment7	Uns32	Attributes for segment 7 in MPU2 SegmentControl_1 register
mpuSegment8	Uns32	Attributes for segment 8 in MPU2 SegmentControl_2 register
mpuSegment9	Uns32	Attributes for segment 9 in MPU2 SegmentControl_2 register
mpuSegment10	Uns32	Attributes for segment 10 in MPU2 SegmentControl_2 register
mpuSegment11	Uns32	Attributes for segment 11 in MPU2 SegmentControl_2 register
mpuSegment12	Uns32	Attributes for segment 12 in MPU2 SegmentControl_3 register

mpuSegment13	Uns32	Attributes for segment 13 in MPU2 SegmentControl_3 register
mpuSegment14	Uns32	Attributes for segment 14 in MPU2 SegmentControl_3 register
mpuSegment15	Uns32	Attributes for segment 15 in MPU2 SegmentControl_3 register
mvpconf0vpe	Uns32	Override MVPConf0.PVPE
mvpconf0tc	Uns32	Override MVPConf0.PTC
mvpconf0pcp	Boolean	Override MVPConf0.PCP
mvpconf0tcp	Boolean	Override MVPConf0.TCP
hasFDC	Uns32	Specify the size of Fast Debug Channel register block
licenseWarningDays	Uns32	Specify the number of days before a license expires to start issuing a warning. 0 disables warnings.
MIPS_UHI	Boolean	Enable MIPS-Unified Hosting interface
mipsUhiArgs	String	Specifies UHI arguments string seperated by spaces
mipsUhiJail	String	Specifies UHI jailroot
MIPS_DV_MODE	Boolean	Enable Design Verification mode
MIPS_MAGIC_OPCODES	Boolean	Enable MIPS-specific magic Pass/Fail opcodes
enableTrickbox	Boolean	Enable trickbox addresses (specific for AVP)
fpuexcdisable	Boolean	Disable FPU exceptions
TRU_PRESENT	Boolean	Disable or Enable based on TRU presence to control certain fields (e.x.perfCtl.PCTD
ucLLwordsLocked	Uns32	Numbers of words (4 byte) an uncached LL is locking. Maximum: 4K
cop2Bits	Uns32	Specifies width in bits of COP2 registers (32 or 64)
cop2FileName	String	Specifies COP2 dynamically-loaded object (.so/.dll) defining COP2 instructions
udiConfig	Int32	Specifies UDI configuration attribute
udiFileName	String	Specifies UDI dynamically-loaded object (.so/.dll) defining UDI instructions
vectoredinterrupt	Boolean	Enables vectored interrupts (sets Config3 VInt)
externalinterrupt	Boolean	Enables the use of an external interrupt controller (sets Config3 VEIC)

rootFixedMMU	Boolean	Override the root MMU type to fixed mapping when true (sets Config.MT=3 and Config.KU/K23=2)
rootMMUSizeM1	Uns32	Override the root MMUSizeM1 field in Config1 register (number of MMU entries-1)
srsctlHSS	Uns32	Override the HSS field in SRSCtl register (number of shadow register sets)
firPS	Uns32	Override the PS field in FIR register
firHas2008	Uns32	Override the Has2008 field in FIR register
simulateLite	Uns32	Run Simulation with no overhead. By default runs with disabled Forbidden slot for R6 cores when set to 1.
pridCompanyOptions	Uns32	Override the Company Options field in PRId register
pridRevision	Uns32	Override the Revision field in PRId register
globalClusterNum	Uns32	Override the ClusterNum field in GlobalNumber register
intctlIPTI	Uns32	Override the IPTI field in IntCtl register
intctlIPFDC	Uns32	Override the IPFDC field in IntCtl register
intctlIPPCI	Uns32	Override the IPPCI field in IntCtl register
numWatch	Uns32	Specify number of WatchLo/WatchHi register pairs
maxVP	Uns32	Specify maximum number of Virtual Processors present in a core
numVP	Uns32	Specify number of Virtual Processors to be present
numVPtoStart	Uns32	Specify number of Virtual Processors to be started
sharedTLBindex	Uns32	Specify first shared TLB Index between Virtual Cores
xconfigSpecified	Boolean	True if the configuration comes from a valid xconfig file
intctlIPTI_CPU0_VP0	Uns32	Override the IPTI field in IntCtl register for CPU0/VP0
intctlIPTI_CPU0_VP1	Uns32	Override the IPTI field in IntCtl register for CPU0/VP1
intctlIPTI_CPU0_VP2	Uns32	Override the IPTI field in IntCtl register for CPU0/VP2
intctlIPTI_CPU0_VP3	Uns32	Override the IPTI field in IntCtl register for CPU0/VP3

intctlIPTI_CPU1_VP0	Uns32	Override the IPTI field in IntCtl register for CPU1/VP0
intctlIPTI_CPU1_VP1	Uns32	Override the IPTI field in IntCtl register for CPU1/VP1
intctlIPTI_CPU1_VP2	Uns32	Override the IPTI field in IntCtl register for CPU1/VP2
intctlIPTI_CPU1_VP3	Uns32	Override the IPTI field in IntCtl register for CPU1/VP3
intctlIPTI_CPU2_VP0	Uns32	Override the IPTI field in IntCtl register for CPU2/VP0
intctlIPTI_CPU2_VP1	Uns32	Override the IPTI field in IntCtl register for CPU2/VP1
intctlIPTI_CPU2_VP2	Uns32	Override the IPTI field in IntCtl register for CPU2/VP2
intctlIPTI_CPU2_VP3	Uns32	Override the IPTI field in IntCtl register for CPU2/VP3
intctlIPTI_CPU3_VP0	Uns32	Override the IPTI field in IntCtl register for CPU3/VP0
intctlIPTI_CPU3_VP1	Uns32	Override the IPTI field in IntCtl register for CPU3/VP1
intctlIPTI_CPU3_VP2	Uns32	Override the IPTI field in IntCtl register for CPU3/VP2
intctlIPTI_CPU3_VP3	Uns32	Override the IPTI field in IntCtl register for CPU3/VP3
intctlIPTI_CPU4_VP0	Uns32	Override the IPTI field in IntCtl register for CPU4/VP0
intctlIPTI_CPU4_VP1	Uns32	Override the IPTI field in IntCtl register for CPU4/VP1
intctlIPTI_CPU4_VP2	Uns32	Override the IPTI field in IntCtl register for CPU4/VP2
intctlIPTI_CPU4_VP3	Uns32	Override the IPTI field in IntCtl register for CPU4/VP3
intctlIPTI_CPU5_VP0	Uns32	Override the IPTI field in IntCtl register for CPU5/VP0
intctlIPTI_CPU5_VP1	Uns32	Override the IPTI field in IntCtl register for CPU5/VP1
intctlIPTI_CPU5_VP2	Uns32	Override the IPTI field in IntCtl register for CPU5/VP2
intctlIPTI_CPU5_VP3	Uns32	Override the IPTI field in IntCtl register for CPU5/VP3
intctlIPTI_CPU6_VP0	Uns32	Override the IPTI field in IntCtl register for CPU6/VP0
intctlIPTI_CPU6_VP1	Uns32	Override the IPTI field in IntCtl register for CPU6/VP1
intctlIPTI_CPU6_VP2	Uns32	Override the IPTI field in IntCtl register for CPU6/VP2

intctlIPTI_CPU6_VP3	Uns32	Override the IPTI field in IntCtl register for CPU6/VP3
intctlIPTI_CPU7_VP0	Uns32	Override the IPTI field in IntCtl register for CPU7/VP0
intctlIPTI_CPU7_VP1	Uns32	Override the IPTI field in IntCtl register for CPU7/VP1
intctlIPTI_CPU7_VP2	Uns32	Override the IPTI field in IntCtl register for CPU7/VP2
intctlIPTI_CPU7_VP3	Uns32	Override the IPTI field in IntCtl register for CPU7/VP3
intctlIPFDC_CPU0_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP0
intctlIPFDC_CPU0_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP1
intctlIPFDC_CPU0_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP2
intctlIPFDC_CPU0_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP3
intctlIPFDC_CPU1_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP0
intctlIPFDC_CPU1_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP1
intctlIPFDC_CPU1_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP2
intctlIPFDC_CPU1_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP3
intctlIPFDC_CPU2_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP0
intctlIPFDC_CPU2_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP1
intctlIPFDC_CPU2_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP2
intctlIPFDC_CPU2_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP3
intctlIPFDC_CPU3_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP0
intctlIPFDC_CPU3_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP1
intctlIPFDC_CPU3_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP2
intctlIPFDC_CPU3_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP3
intctlIPFDC_CPU4_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP0
intctlIPFDC_CPU4_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP1

intctlIPFDC_CPU4_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP2
intctlIPFDC_CPU4_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP3
intctlIPFDC_CPU5_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP0
intctlIPFDC_CPU5_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP1
intctlIPFDC_CPU5_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP2
intctlIPFDC_CPU5_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP3
intctlIPFDC_CPU6_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP0
intctlIPFDC_CPU6_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP1
intctlIPFDC_CPU6_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP2
intctlIPFDC_CPU6_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP3
intctlIPFDC_CPU7_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP0
intctlIPFDC_CPU7_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP1
intctlIPFDC_CPU7_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP2
intctlIPFDC_CPU7_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP3
intctlIPPCI_CPU0_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP0
intctlIPPCI_CPU0_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP1
intctlIPPCI_CPU0_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP2
intctlIPPCI_CPU0_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP3
intctlIPPCI_CPU1_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP0
intctlIPPCI_CPU1_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP1
intctlIPPCI_CPU1_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP2
intctlIPPCI_CPU1_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP3
intctlIPPCI_CPU2_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP0

intctlIPPCI_CPU2_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP1
intctlIPPCI_CPU2_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP2
intctlIPPCI_CPU2_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP3
intctlIPPCI_CPU3_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP0
intctlIPPCI_CPU3_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP1
intctlIPPCI_CPU3_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP2
intctlIPPCI_CPU3_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP3
intctlIPPCI_CPU4_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP0
intctlIPPCI_CPU4_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP1
intctlIPPCI_CPU4_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP2
intctlIPPCI_CPU4_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP3
intctlIPPCI_CPU5_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP0
intctlIPPCI_CPU5_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP1
intctlIPPCI_CPU5_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP2
intctlIPPCI_CPU5_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP3
intctlIPPCI_CPU6_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP0
intctlIPPCI_CPU6_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP1
intctlIPPCI_CPU6_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP2
intctlIPPCI_CPU6_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP3
intctlIPPCI_CPU7_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP0
intctlIPPCI_CPU7_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP1
intctlIPPCI_CPU7_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP2
intctlIPPCI_CPU7_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP3
cdmmSize	Uns32	Override the cdmmsize reset value

configAR	Uns32	Enables R6 support
configBM	Uns32	Override the BM field in Config register (burst mode)
configDSP	Boolean	Override Config.DSP (data scratchpad RAM present)
configISP	Boolean	Override Config.ISP (instruction scratchpad RAM present)
configK0	Uns32	Override power on value of Config.K0 (set Kseg0 cacheability)
configKU	Uns32	Override power on value of Config.KU (set Useg cacheability)
configK23	Uns32	Override power on value of Config.K23 (set Kseg23 cacheability)
configMDU	Boolean	Override Config.MDU (iterative multiply/divide unit)
configMM	Boolean	Override Config.MM (merging mode for write)
configMT	Uns32	Override Config.MT
configSB	Boolean	Override Config.SB (simple bus transfers only)
configBCP	Boolean	Override Config.BCP (Buffer Cache Present)
MIPS16eASE	Boolean	Override Config1.CA (enables the MIPS16e ASE)
config1DA	Uns32	Override Config1.DA (Dcache associativity)
config1DL	Uns32	Override Config1.DL (Dcache line size)
config1DS	Uns32	Override Config1.DS (Dcache sets per way)
config1EP	Boolean	Override Config1.EP (EJTag present)
config1IA	Uns32	Override Config1.IA (Icache associativity)
config1IL	Uns32	Override Config1.IL (Icache line size)
config1IS	Uns32	Override Config1.IS (Icache sets per way)
config1MMUSizeM1	Uns32	Override Config1.MMUSizeM1 (number of MMU entries-1)
config1WR	Boolean	Override Config1.WR (watchpoint registers present)
config1PC	Boolean	Override Config1.PC (Performance Counters present)
config1C2	Boolean	Override Config1.C2 (Coprocessor 2 present)
config2SU	Uns32	Override the SU field in Config2 register

config2SS	Uns32	Override the SS field in Config2 register
config2SL	Uns32	Override the SL field in Config2 register
config2SA	Uns32	Override the SA field in Config2 register
config3BI	Boolean	Override Config3.BI
config3BP	Boolean	Override Config3.BP
config3CDMM	Boolean	Override Config3.CDMM
config3CTXTC	Boolean	Override Config3.CTXTC
config3DSPP	Boolean	Override Config3.DSPP
config3DSP2P	Boolean	Override Config3.DSP2P
config3IPLW	Uns32	Override Config3.IPLW
config3ISA	Uns32	Override Config3.ISA
config3ISAOnExc	Boolean	Override Config3.ISAOnExc
config3ITL	Boolean	Override Config3.ITL
config3LPA	Boolean	Override Config3.LPA
config3MCU	Boolean	Override Config3.MCU
config3MMAR	Uns32	Override Config3.MMAR
config3RXI	Boolean	Override Config3.RXI
config3SC	Boolean	Override Config3.SC
config3ULRI	Boolean	Override Config3.ULRI
config3VZ	Boolean	Override Config3.VZ
config3MSAP	Boolean	Override Config3.MSAP
config3CMGCR	Boolean	Override the CMGCR field in Config3 register
config3SP	Boolean	Override the SP field in Config3 register
config3TL	Uns32	Override the TL field in Config3 register
config3PW	Boolean	Override the PW field in Config3 register
config4AE	Boolean	Override Config4.AE
config4IE	Uns32	Override Config4.IE
config4MMUConfig	Uns32	Override Config4.MMUConfig field (interpretation depends on MMUExtDef value)
config4MMUExtDef	Uns32	Override Config4.MMUExtDef
config4VTLBSizeExt	Uns32	Override Config4.VTLBSizeExt
config5EVA	Boolean	Override Config5.EVA
config5LLB	Boolean	Override Config5.LLB (LLAddr supports LLbit)
config5MRP	Boolean	Override Config5.MRP (MaaR Present)

config5NFExists	Boolean	Override Config5.NFExists
mips32Macro	Boolean	Enables the MIPS32 SAVE and RESTORE macro instructions. Ignored if Config5.CA2 is not set)
config5MSAEn	Boolean	Override Config5.MSAEn
config5MVH	Boolean	Override Config5.MVH (enable MTHC0 and MFHC0 instructions)
config5DEC	Boolean	Override Config5.DEC (to test Dual Endian Capability)
config5GI	Uns32	Override Config5.GI (enable GINV)
config5CRCP	Boolean	Override Config5.CRCP (CRCP Present)
config6FTLBEn	Boolean	Override power on value of Config6.FTLBEn
config7AR	Boolean	Override Config7.AR (Alias removed Data cache)
config7DCIDX_MODE	Uns32	Override Config7.DCIDX_MODE
config7HCI	Boolean	Override Config7.HCI (Hardware Cache Initialization)
config7IAR	Boolean	Override Config7.IAR (Alias removed Instruction cache)
config7WII	Boolean	Override Config7.WII (wait IE/IXMT ignore)
config7ES	Uns32	Override the ES field in Config7 register (Externalize sync)
statusFR	Boolean	Override power on value in Status.FR (Floating point register mode)
fcsrABS2008	Boolean	Override FCSR.ABS2008 (ABS/NEG compliant with IEEE 754-2008)
fcsrNAN2008	Boolean	Override FCSR.NAN2008 (QNaN/ SNaN encodings match IEEE 754-2008 recommendation)
numMaarRegs	Uns32	Override number of MAAR registers (must be even)
wiredLimit	Uns32	Override Limit field of the Wired register
cdmmBaseCI	Boolean	Override CDMMBase.CI
ExceptionBase	Uns32	Specify the BEV Exception Base address. (use GCR_Cx_RESET_BASE on CMP processors)
UseExceptionBase	Boolean	Set to one to use ExceptionBase[29:12] as the corresponding BEV address bits
l1BufferCache	Boolean	L1 Buffer Cache
GCU_EX	Boolean	CMP system only: GCR custom block present

GIC_EX	Boolean	CMP system only: GIC unit present
CPC_EX	Boolean	CMP system only: CPC unit present
TIMER_ROUTABLE	Boolean	CMP system only: cpu timer interrupt routable within cluster
SWINT_ROUTABLE	Boolean	CMP system only: software interrupt routable within cluster
GCR_PCORES	Uns32	CMP system only: override GCR_CONFIG.PCORES (number of cores-1)
GCR_BASE	Uns64	CMP system only: override GCR_BASE.GCR_BASE (default GCR register address)
GCR_MINOR_REV	Uns32	CMP system only: override GCR_REV.MINOR_REV
GCR_MAJOR_REV	Uns32	CMP system only: override GCR_REV.MAJOR_REV
GCR_CACHE_MINOR_REV	Uns32	CMP system only: override GCR_CACHE_REV.MINOR_REV
GCR_CACHE_MAJOR_REV	Uns32	CMP system only: override GCR_CACHE_REV.MAJOR_REV
GCR_L2_ASSOC	Uns32	CMP system only: override GCR_L2_CONFIG.ASSOC
GCR_L2_SET_SIZE	Uns32	CMP system only: override GCR_L2_CONFIG.SET_SIZE
GCR_SYS_CONFIG2_MAX_VP_WIDTH	Uns32	CMP system only: override GCR_SYS_CONFIG2.MAX_VP_WIDTH
GCR_IOCU1_MINOR_REV	Uns32	CMP system only: override GCR_IOCU1_REV.MINOR_REV
GCR_IOCU1_MAJOR_REV	Uns32	CMP system only: override GCR_IOCU1_REV.MAJOR_REV
GCR_BEV_BASE	Uns32	CMP system only: override GCR_BEV_BASE
GCR_KX_BASE_MODE	Boolean	CMP system only: override BEV_BASE_MODE & RESET_BASE_MODE
GIC_NUMINTERRUPTS	Uns32	CMP system only: override GIC_SH_CONFIG.NUMINTERRUPTS
GIC_COUNTBITS	Uns32	CMP system only: override GIC_SH_CONFIG.COUNTBITS
GIC_MINOR_REV	Uns32	CMP system only: override GIC_SH_REVISION.MINOR_REV
GIC_MAJOR_REV	Uns32	CMP system only: override GIC_SH_REVISION.MAJOR_REV
GIC_NUM_TEAMS	Uns32	CMP system only: override GIC_SH_DBG_CONFIG.NUM_TEAMS
GIC_TRIG_RESET	Uns32	CMP system only: Zero value of GIC_SH_TRIG_[31_0, 63_32]

GIC_PVPES	Uns32	CMP system only: override GIC_SH_CONFIG.PVPE
CPC_MICROSTEP	Uns32	CMP system only: override CPC_SEQDEL.MICROSTEP
CPC_RAILDELAY	Uns32	CMP system only: override CPC_RAIL.RAILDELAY
CPC_RESETLEN	Uns32	CMP system only: override CPC_RESETLEN.RESETLEN
CPC_MINOR_REV	Uns32	CMP system only: override CPC_REVISION.MINOR_REV
CPC_MAJOR_REV	Uns32	CMP system only: override CPC_REVISION.MAJOR_REV
GIC_SH_GID_CONFIG31_0	Uns32	CMP system only: override GIC_SH_GID_CONFIG[31_0]
GIC_SH_GID_CONFIG63_32	Uns32	CMP system only: override GIC_SH_GID_CONFIG[63_32]
GIC_SH_GID_CONFIG95_64	Uns32	CMP system only: override GIC_SH_GID_CONFIG[95_64]
GIC_SH_GID_CONFIG127_96	Uns32	CMP system only: override GIC_SH_GID_CONFIG[127_96]
GIC_SH_GID_CONFIG159_128	Uns32	CMP system only: override GIC_SH_GID_CONFIG[159_128]
GIC_SH_GID_CONFIG191_160	Uns32	CMP system only: override GIC_SH_GID_CONFIG[191_160]
GIC_SH_GID_CONFIG223_192	Uns32	CMP system only: override GIC_SH_GID_CONFIG[223_192]
GIC_SH_GID_CONFIG255_224	Uns32	CMP system only: override GIC_SH_GID_CONFIG[255_224]
gicVirtualVPNum_CPU0_VP0	Uns32	Override the IPTI field in IntCtl register for CPU0/VP0
gicVirtualVPNum_CPU0_VP1	Uns32	Override the IPTI field in IntCtl register for CPU0/VP1
gicVirtualVPNum_CPU0_VP2	Uns32	Override the IPTI field in IntCtl register for CPU0/VP2
gicVirtualVPNum_CPU0_VP3	Uns32	Override the IPTI field in IntCtl register for CPU0/VP3
gicVirtualVPNum_CPU1_VP0	Uns32	Override the IPTI field in IntCtl register for CPU1/VP0
gicVirtualVPNum_CPU1_VP1	Uns32	Override the IPTI field in IntCtl register for CPU1/VP1
gicVirtualVPNum_CPU1_VP2	Uns32	Override the IPTI field in IntCtl register for CPU1/VP2
gicVirtualVPNum_CPU1_VP3	Uns32	Override the IPTI field in IntCtl register for CPU1/VP3
gicVirtualVPNum_CPU2_VP0	Uns32	Override the IPTI field in IntCtl register for CPU2/VP0

gicVirtualVPNum_CPU2_VP1	Uns32	Override the IPTI field in IntCtl register for CPU2/VP1
gicVirtualVPNum_CPU2_VP2	Uns32	Override the IPTI field in IntCtl register for CPU2/VP2
gicVirtualVPNum_CPU2_VP3	Uns32	Override the IPTI field in IntCtl register for CPU2/VP3
gicVirtualVPNum_CPU3_VP0	Uns32	Override the IPTI field in IntCtl register for CPU3/VP0
gicVirtualVPNum_CPU3_VP1	Uns32	Override the IPTI field in IntCtl register for CPU3/VP1
gicVirtualVPNum_CPU3_VP2	Uns32	Override the IPTI field in IntCtl register for CPU3/VP2
gicVirtualVPNum_CPU3_VP3	Uns32	Override the IPTI field in IntCtl register for CPU3/VP3
gicVirtualVPNum_CPU4_VP0	Uns32	Override the IPTI field in IntCtl register for CPU4/VP0
gicVirtualVPNum_CPU4_VP1	Uns32	Override the IPTI field in IntCtl register for CPU4/VP1
gicVirtualVPNum_CPU4_VP2	Uns32	Override the IPTI field in IntCtl register for CPU4/VP2
gicVirtualVPNum_CPU4_VP3	Uns32	Override the IPTI field in IntCtl register for CPU4/VP3
gicVirtualVPNum_CPU5_VP0	Uns32	Override the IPTI field in IntCtl register for CPU5/VP0
gicVirtualVPNum_CPU5_VP1	Uns32	Override the IPTI field in IntCtl register for CPU5/VP1
gicVirtualVPNum_CPU5_VP2	Uns32	Override the IPTI field in IntCtl register for CPU5/VP2
gicVirtualVPNum_CPU5_VP3	Uns32	Override the IPTI field in IntCtl register for CPU5/VP3
gicVirtualVPNum_CPU6_VP0	Uns32	Override the IPTI field in IntCtl register for CPU6/VP0
gicVirtualVPNum_CPU6_VP1	Uns32	Override the IPTI field in IntCtl register for CPU6/VP1
gicVirtualVPNum_CPU6_VP2	Uns32	Override the IPTI field in IntCtl register for CPU6/VP2
gicVirtualVPNum_CPU6_VP3	Uns32	Override the IPTI field in IntCtl register for CPU6/VP3
gicVirtualVPNum_CPU7_VP0	Uns32	Override the IPTI field in IntCtl register for CPU7/VP0
gicVirtualVPNum_CPU7_VP1	Uns32	Override the IPTI field in IntCtl register for CPU7/VP1
gicVirtualVPNum_CPU7_VP2	Uns32	Override the IPTI field in IntCtl register for CPU7/VP2
gicVirtualVPNum_CPU7_VP3	Uns32	Override the IPTI field in IntCtl register for CPU7/VP3

GCR_C0_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 0
GCR_C1_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 1
GCR_C2_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 2
GCR_C3_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 3
GCR_C4_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 4
GCR_C5_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 5
GCR_C6_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 6
GCR_C7_RESET_BASE	Uns32	CMP system only: GCR_CL_RESET_BASE for core 7
GCR_C0_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 0
GCR_C1_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 1
GCR_C2_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 2
GCR_C3_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 3
GCR_C4_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 4
GCR_C5_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 5
GCR_C6_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 6
GCR_C7_RESET_EXT_BASE	Uns32	CMP system only: GCR_CL_RESET_EXT_BASE for core 7
CPC_C0_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 0
CPC_C1_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 1
CPC_C2_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 2
CPC_C3_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 3

CPC_C4_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 4
CPC_C5_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 5
CPC_C6_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 6
CPC_C7_VP_EN	Uns32	CMP system only: CPC_VP_EN for core 7
EIC_OPTION	Uns32	Override the external interrupt controller EIC_OPTION
guestCtl0RI	Uns32	Override the RI field in GuestCtl0 register
guestCtl0MC	Uns32	Override the MC field in GuestCtl0 register
guestCtl0CP0	Uns32	Override the CP0 field in GuestCtl0 register
guestCtl0AT	Uns32	Override the AT field in GuestCtl0 register
guestCtl0GT	Uns32	Override the GT field in GuestCtl0 register
guestCtl0CG	Uns32	Override the CG field in GuestCtl0 register
guestCtl0CF	Uns32	Override the CF field in GuestCtl0 register
guestCtl0G1	Uns32	Override the G1 field in GuestCtl0 register
guestCtl0RAD	Uns32	Override the RAD field in GuestCtl0 register
guestCtl0DRG	Uns32	Override the DRG field in GuestCtl0 register
hasImpl17	Boolean	Enable read/write of Impl17 bit in Status register
hasImpl16	Boolean	Enable read/write of Impl16 bit in Status register
guestintctlIPTI	Uns32	Override the Guest IPTI field in IntCtl register
guestintctlIPFDC	Uns32	Override the Guest IPFDC field in IntCtl register
guestintctlIPPCI	Uns32	Override the Guest IPPCI field in IntCtl register
guestintctlIPTI_CPU0_VP0	Uns32	Override the IPTI field in IntCtl register for CPU0/VP0
guestintctlIPTI_CPU0_VP1	Uns32	Override the IPTI field in IntCtl register for CPU0/VP1
guestintctlIPTI_CPU0_VP2	Uns32	Override the IPTI field in IntCtl register for CPU0/VP2

guestintctlIPTI_CPU0_VP3	Uns32	Override the IPTI field in IntCtl register for CPU0/VP3
guestintctlIPTI_CPU1_VP0	Uns32	Override the IPTI field in IntCtl register for CPU1/VP0
guestintctlIPTI_CPU1_VP1	Uns32	Override the IPTI field in IntCtl register for CPU1/VP1
guestintctlIPTI_CPU1_VP2	Uns32	Override the IPTI field in IntCtl register for CPU1/VP2
guestintctlIPTI_CPU1_VP3	Uns32	Override the IPTI field in IntCtl register for CPU1/VP3
guestintctlIPTI_CPU2_VP0	Uns32	Override the IPTI field in IntCtl register for CPU2/VP0
guestintctlIPTI_CPU2_VP1	Uns32	Override the IPTI field in IntCtl register for CPU2/VP1
guestintctlIPTI_CPU2_VP2	Uns32	Override the IPTI field in IntCtl register for CPU2/VP2
guestintctlIPTI_CPU2_VP3	Uns32	Override the IPTI field in IntCtl register for CPU2/VP3
guestintctlIPTI_CPU3_VP0	Uns32	Override the IPTI field in IntCtl register for CPU3/VP0
guestintctlIPTI_CPU3_VP1	Uns32	Override the IPTI field in IntCtl register for CPU3/VP1
guestintctlIPTI_CPU3_VP2	Uns32	Override the IPTI field in IntCtl register for CPU3/VP2
guestintctlIPTI_CPU3_VP3	Uns32	Override the IPTI field in IntCtl register for CPU3/VP3
guestintctlIPTI_CPU4_VP0	Uns32	Override the IPTI field in IntCtl register for CPU4/VP0
guestintctlIPTI_CPU4_VP1	Uns32	Override the IPTI field in IntCtl register for CPU4/VP1
guestintctlIPTI_CPU4_VP2	Uns32	Override the IPTI field in IntCtl register for CPU4/VP2
guestintctlIPTI_CPU4_VP3	Uns32	Override the IPTI field in IntCtl register for CPU4/VP3
guestintctlIPTI_CPU5_VP0	Uns32	Override the IPTI field in IntCtl register for CPU5/VP0
guestintctlIPTI_CPU5_VP1	Uns32	Override the IPTI field in IntCtl register for CPU5/VP1
guestintctlIPTI_CPU5_VP2	Uns32	Override the IPTI field in IntCtl register for CPU5/VP2
guestintctlIPTI_CPU5_VP3	Uns32	Override the IPTI field in IntCtl register for CPU5/VP3
guestintctlIPTI_CPU6_VP0	Uns32	Override the IPTI field in IntCtl register for CPU6/VP0
guestintctlIPTI_CPU6_VP1	Uns32	Override the IPTI field in IntCtl register for CPU6/VP1

guestintctlIPTI_CPU6_VP2	Uns32	Override the IPTI field in IntCtl register for CPU6/VP2
guestintctlIPTI_CPU6_VP3	Uns32	Override the IPTI field in IntCtl register for CPU6/VP3
guestintctlIPTI_CPU7_VP0	Uns32	Override the IPTI field in IntCtl register for CPU7/VP0
guestintctlIPTI_CPU7_VP1	Uns32	Override the IPTI field in IntCtl register for CPU7/VP1
guestintctlIPTI_CPU7_VP2	Uns32	Override the IPTI field in IntCtl register for CPU7/VP2
guestintctlIPTI_CPU7_VP3	Uns32	Override the IPTI field in IntCtl register for CPU7/VP3
guestintctlIPFDC_CPU0_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP0
guestintctlIPFDC_CPU0_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP1
guestintctlIPFDC_CPU0_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP2
guestintctlIPFDC_CPU0_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU0/VP3
guestintctlIPFDC_CPU1_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP0
guestintctlIPFDC_CPU1_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP1
guestintctlIPFDC_CPU1_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP2
guestintctlIPFDC_CPU1_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU1/VP3
guestintctlIPFDC_CPU2_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP0
guestintctlIPFDC_CPU2_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP1
guestintctlIPFDC_CPU2_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP2
guestintctlIPFDC_CPU2_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU2/VP3
guestintctlIPFDC_CPU3_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP0
guestintctlIPFDC_CPU3_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP1
guestintctlIPFDC_CPU3_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP2
guestintctlIPFDC_CPU3_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU3/VP3
guestintctlIPFDC_CPU4_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP0

guestintctlIPFDC_CPU4_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP1
guestintctlIPFDC_CPU4_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP2
guestintctlIPFDC_CPU4_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU4/VP3
guestintctlIPFDC_CPU5_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP0
guestintctlIPFDC_CPU5_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP1
guestintctlIPFDC_CPU5_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP2
guestintctlIPFDC_CPU5_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU5/VP3
guestintctlIPFDC_CPU6_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP0
guestintctlIPFDC_CPU6_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP1
guestintctlIPFDC_CPU6_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP2
guestintctlIPFDC_CPU6_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU6/VP3
guestintctlIPFDC_CPU7_VP0	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP0
guestintctlIPFDC_CPU7_VP1	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP1
guestintctlIPFDC_CPU7_VP2	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP2
guestintctlIPFDC_CPU7_VP3	Uns32	Override the IPFDC field in IntCtl register for CPU7/VP3
guestintctlIPPCI_CPU0_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP0
guestintctlIPPCI_CPU0_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP1
guestintctlIPPCI_CPU0_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP2
guestintctlIPPCI_CPU0_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU0/VP3
guestintctlIPPCI_CPU1_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP0
guestintctlIPPCI_CPU1_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP1
guestintctlIPPCI_CPU1_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP2
guestintctlIPPCI_CPU1_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU1/VP3

guestintctlIPPCI_CPU2_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP0
guestintctlIPPCI_CPU2_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP1
guestintctlIPPCI_CPU2_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP2
guestintctlIPPCI_CPU2_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU2/VP3
guestintctlIPPCI_CPU3_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP0
guestintctlIPPCI_CPU3_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP1
guestintctlIPPCI_CPU3_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP2
guestintctlIPPCI_CPU3_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU3/VP3
guestintctlIPPCI_CPU4_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP0
guestintctlIPPCI_CPU4_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP1
guestintctlIPPCI_CPU4_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP2
guestintctlIPPCI_CPU4_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU4/VP3
guestintctlIPPCI_CPU5_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP0
guestintctlIPPCI_CPU5_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP1
guestintctlIPPCI_CPU5_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP2
guestintctlIPPCI_CPU5_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU5/VP3
guestintctlIPPCI_CPU6_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP0
guestintctlIPPCI_CPU6_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP1
guestintctlIPPCI_CPU6_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP2
guestintctlIPPCI_CPU6_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU6/VP3
guestintctlIPPCI_CPU7_VP0	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP0
guestintctlIPPCI_CPU7_VP1	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP1
guestintctlIPPCI_CPU7_VP2	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP2

guestintctlIPPCI_CPU7_VP3	Uns32	Override the IPPCI field in IntCtl register for CPU7/VP3
ISPRAM_SIZE	Uns32	Encoded size of the ISPRAM region (log2(<ISPRAM size in bytes>) - 11)
ISPRAM_BASE	Uns64	Starting physical address of the ISPRAM region
ISPRAM_ENABLE	Boolean	Set the enable bit of the ISPRAM region's tag (used to enable the ISPRAM region prior to reset)
ISPRAM_FILE	String	Load a MIPS hex file into the ISPRAM region prior to reset
DSPRAM_SIZE	Uns32	Encoded size of the DSPRAM region (log2(<DSPRAM size in bytes>) - 11)
DSPRAM_BASE	Uns64	Starting physical address of the DSPRAM region
DSPRAM_ENABLE	Boolean	Set the enable bit of the DSPRAM region's tag (used to enable the DSPRAM region prior to reset)
DSPRAM_PRESENT	Boolean	DSPRAM is present with SAAR
misalignedDataException	Enumeration	Select misaligned data access exception signaling: never, checkCCA or always never=0 checkCCA=1 always=2
commitTlbwErr	Boolean	Commit TLBWI/TLBRI on ECC; in MIPS_DV_MODE only

8 Execution Modes

Table 5. CPU modes implemented in the model, type: CMP

Name	Code
KERNEL	0
DEBUG	1
SUPERVISOR	2
USER	3
GUEST_KERNEL	4
GUEST_SUPERVISOR	5
GUEST_USER	6

9 Exceptions

Table 6. Exceptions handled by the model, type: CMP

Name	Code
Int	0
Mod	1

TLBL	2
TLBS	3
AdEL	4
AdES	5
IBE	6
DBE	7
Sys	8
Bp	9
RI	10
CpU	11
Ov	12
Tr	13
MSAFPE	14
FPE	15
Impl1	16
Impl2	17
C2E	18
TLBRI	19
TLBXI	20
MSADis	21
MDMX	22
WATCH	23
MCheck	24
Thread	25
DSPDis	26
GE	27
Prot	29
CacheErr	30

10 Hierarchy of the model

A CPU core may allow the user to configure it to instance many processors of a Symmetrical Multi Processor (SMP). A CPU core may also have sub elements within a processor, for example hardware threading blocks.
OVP processor models can be written to include SMP blocks and to have many levels of hierarchy.

Some OVP CPU models may have a fixed hierarchy, and some may be configured by settings in a configuration register. Please see the register definitions of this model.

This model documentation shows the settings and hierarchy of the default settings for this model variant.

10.1 Level 1: CMP

This level in the model hierarchy has 2 commands.

This level in the model hierarchy has no register groups.

This level in the model hierarchy has 4 children:

CPU0, CPU1, CPU2 and CPU3

10.2 Level 2: CPU

This level in the model hierarchy has 2 commands.

This level in the model hierarchy has no register groups.

This level in the model hierarchy has 2 children:

CPU0_VP0 and CPU0_VP1

10.3 Level 3: VP

This level in the model hierarchy has 20 commands.

This level in the model hierarchy has 10 register groups:

Table 7. Register groups

Group name	Registers
Core	33
FPU	34
DSP	9
Shadow	32
COP0	146
MSA	40
CMP_GCR	35
CMP_CPC	14
CMP_GIC	721

Integration_support	1

This level in the model hierarchy has no children.

11 Model Commands

11.1 Level 1: CMP

11.1.1 isync

specify instruction address range for synchronous execution

Table 8. isync command arguments

Argument	Type	Description
-addresshi	Uns64	end address of synchronous execution range
-addresslo	Uns64	start address of synchronous execution range

11.1.2 itrace

enable or disable instruction tracing

Table 9. itrace command arguments

Argument	Type	Description
-after	Uns64	apply after this many instructions
-enable	Boolean	enable instruction tracing
-instructioncount	Boolean	include the instruction number in each trace
-off	Boolean	disable instruction tracing
-on	Boolean	enable instruction tracing
-registerchange	Boolean	show registers changed by this instruction
-registers	Boolean	show registers after each trace

11.2 Level 2: CPU

11.2.1 isync

specify instruction address range for synchronous execution

Table 10. isync command arguments

Argument	Type	Description
-addresshi	Uns64	end address of synchronous execution range
-addresslo	Uns64	start address of synchronous execution range

11.2.2 itrace

enable or disable instruction tracing

Table 11. itrace command arguments

Argument	Type	Description
-after	Uns64	apply after this many instructions
-enable	Boolean	enable instruction tracing
-instructioncount	Boolean	include the instruction number in each trace

-off	Boolean	disable instruction tracing
-on	Boolean	enable instruction tracing
-registerchange	Boolean	show registers changed by this instruction
-registers	Boolean	show registers after each trace

11.3 Level 3: VP

11.3.1 isync

specify instruction address range for synchronous execution

Table 12. isync command arguments

Argument	Type	Description
-addresshi	Uns64	end address of synchronous execution range
-addresslo	Uns64	start address of synchronous execution range

11.3.2 itrace

enable or disable instruction tracing

Table 13. itrace command arguments

Argument	Type	Description
-after	Uns64	apply after this many instructions
-enable	Boolean	enable instruction tracing
-instructioncount	Boolean	include the instruction number in each trace
-off	Boolean	disable instruction tracing
-on	Boolean	enable instruction tracing
-registerchange	Boolean	show registers changed by this instruction
-registers	Boolean	show registers after each trace

11.3.3 mipsCOP0

query a COP0 register value using <register> <select>

Table 14. mipsCOP0 command arguments

Argument	Type	Description
-register	Int32	specify the COP0 register resource
-select	Int32	specify the COP0 register select

11.3.4 mipsCacheDisable

11.3.4.1 Argument description

Disables tag or full cache model

11.3.5 mipsCacheEnable

enable tag or full cache model

Table 15. mipsCacheEnable command arguments

Argument	Type	Description
-debug	Int32	set cache model debug flags
-full	Boolean	enable full cache model
-tag	Boolean	enable cache tag line only model

11.3.6 mipsCacheRatio

Report current hit ratio for selected cache

Table 16. mipsCacheRatio command arguments

Argument	Type	Description
-dcache	Boolean	report hit ratio for dcache
-icache	Boolean	report hit ratio for icache

11.3.7 mipsCacheReport

11.3.7.1 Argument description

Report current cache statistics

11.3.8 mipsCacheReset

11.3.8.1 Argument description

reset the cache model

11.3.9 mipsCacheTrace

Control the tracing of cache accesses

Table 17. mipsCacheTrace command arguments

Argument	Type	Description
-noartifact	Boolean	
-nocached	Boolean	
-nodcache	Boolean	
-noicache	Boolean	
-notrue	Boolean	
-nounchched	Boolean	
-off	Boolean	turn off the cache tracing
-on	Boolean	turn on the cache tracing

11.3.10 mipsDebugFlags

Set the mips model debug value

Table 18. mipsDebugFlags command arguments

Argument	Type	Description

-value	Int32	specify mips model debug flags

11.3.11 mipsReadRegister

Read processor register using <resource> <offset>

Table 19. mipsReadRegister command arguments

Argument	Type	Description
-offset	Int32	the register offset
-resource	Int32	the register resource

11.3.12 mipsReadTLBEntry

read a TLB entry specified by the index

Table 20. mipsReadTLBEntry command arguments

Argument	Type	Description
-index	Uns64	select the TLB entry

11.3.13 mipsTLBDump

11.3.13.1 Argument description

Dumps the current contents of the TLB

11.3.14 mipsTLBDumpGuest

11.3.14.1 Argument description

Dumps the current contents of the Guest TLB

11.3.15 mipsTLBDumpRoot

11.3.15.1 Argument description

Dumps the current contents of the Root TLB

11.3.16 mipsTLBGetPhys

Reports the entry(s) in the TLB that match the given virtual address and ASID

Table 21. mipsTLBGetPhys command arguments

Argument	Type	Description
-asid	Uns64	ASID
-va	Uns64	virtual address

11.3.17 mipsTraceGuest

control tracing of guest

Table 22. mipsTraceGuest command arguments

Argument	Type	Description

-off	Boolean	stop tracing
-on	Boolean	start tracing

11.3.18 mipsTraceRoot

control tracing on root processor

Table 23. mipsTraceRoot command arguments

Argument	Type	Description
-off	Boolean	stop tracing
-on	Boolean	start tracing

11.3.19 mipsWriteRegister

Write processor register using <resource> <offset> <value>

Table 24. mipsWriteRegister command arguments

Argument	Type	Description
-offset	Int32	the register offset
-resource	Int32	the register resource
-value	Uns64	the value to write to register

11.3.20 mipsWriteTLBEntry

Writes values to a TLB entry using the index, lo0, lo1, hi0 and mask fields

Table 25. mipsWriteTLBEntry command arguments

Argument	Type	Description
-hi0	Uns64	the TLB entry high address
-index	Uns64	the TLB entry index
-lo0	Uns64	the TLB entry low address 0
-lo1	Uns64	the TLB entry low address 1
-mask	Uns64	the TLB entry mask

12 Registers

12.1 Level 1: CMP

No registers.

12.2 Level 2: CPU

No registers.

12.3 Level 3: VP

12.3.1 Core

Table 26. Registers at level 3, type: VP, register group: 'Core'

Name	Bits	Initial value (Hex)		Description
zero	64	0	r-	constant zero
at	64	0	rw	
v0	64	0	rw	
v1	64	0	rw	
a0	64	0	rw	
a1	64	0	rw	
a2	64	0	rw	
a3	64	0	rw	
t0	64	0	rw	
t1	64	0	rw	
t2	64	0	rw	
t3	64	0	rw	
t4	64	0	rw	
t5	64	0	rw	
t6	64	0	rw	
t7	64	0	rw	
s0	64	0	rw	
s1	64	0	rw	
s2	64	0	rw	
s3	64	0	rw	
s4	64	0	rw	
s5	64	0	rw	
s6	64	0	rw	
s7	64	0	rw	
t8	64	0	rw	
t9	64	0	rw	
k0	64	0	rw	
k1	64	0	rw	
gp	64	0	rw	
sp	64	0	rw	stack pointer
s8	64	0	rw	frame pointer
ra	64	0	rw	
pc	64	ffffffffbfc00000	rw	program counter

12.3.2 FPU

Table 27. Registers at level 3, type: VP, register group: 'FPU'

Name	Bits	Initial value (Hex)		Description
f0	64	0	rw	
f1	64	0	rw	

f2	64	0	rw	
f3	64	0	rw	
f4	64	0	rw	
f5	64	0	rw	
f6	64	0	rw	
f7	64	0	rw	
f8	64	0	rw	
f9	64	0	rw	
f10	64	0	rw	
f11	64	0	rw	
f12	64	0	rw	
f13	64	0	rw	
f14	64	0	rw	
f15	64	0	rw	
f16	64	0	rw	
f17	64	0	rw	
f18	64	0	rw	
f19	64	0	rw	
f20	64	0	rw	
f21	64	0	rw	
f22	64	0	rw	
f23	64	0	rw	
f24	64	0	rw	
f25	64	0	rw	
f26	64	0	rw	
f27	64	0	rw	
f28	64	0	rw	
f29	64	0	rw	
f30	64	0	rw	
f31	64	0	rw	
fsr	64	c0000	rw	floating point status
fir	64	20f30320	r-	floating point information

12.3.3 DSP

Table 28. Registers at level 3, type: VP, register group: 'DSP'

Name	Bits	Initial value (Hex)		Description
lo	64	0	rw	
hi	64	0	rw	
lo1	64	0	rw	
hi1	64	0	rw	
lo2	64	0	rw	

hi2	64	0	rw	
lo3	64	0	rw	
hi3	64	0	rw	
dspctl	64	0	rw	DSP control

12.3.4 Shadow

Table 29. Registers at level 3, type: VP, register group: 'Shadow'

Name	Bits	Initial value (Hex)		Description
zero[0]	64	0	r-	constant zero
at[0]	64	0	rw	
v0[0]	64	0	rw	
v1[0]	64	0	rw	
a0[0]	64	0	rw	
a1[0]	64	0	rw	
a2[0]	64	0	rw	
a3[0]	64	0	rw	
t0[0]	64	0	rw	
t1[0]	64	0	rw	
t2[0]	64	0	rw	
t3[0]	64	0	rw	
t4[0]	64	0	rw	
t5[0]	64	0	rw	
t6[0]	64	0	rw	
t7[0]	64	0	rw	
s0[0]	64	0	rw	
s1[0]	64	0	rw	
s2[0]	64	0	rw	
s3[0]	64	0	rw	
s4[0]	64	0	rw	
s5[0]	64	0	rw	
s6[0]	64	0	rw	
s7[0]	64	0	rw	
t8[0]	64	0	rw	
t9[0]	64	0	rw	
k0[0]	64	0	rw	
k1[0]	64	0	rw	
gp[0]	64	0	rw	
sp[0]	64	0	rw	stack pointer
s8[0]	64	0	rw	frame pointer
ra[0]	64	0	rw	

12.3.5 COP0

Table 30. Registers at level 3, type: VP, register group: 'COP0'

Name	Bits	Initial value (Hex)		Description
sr	64	4400004	rw	CP0 register 12/0
bad	64	0	rw	CP0 register 8/0
cause	64	0	rw	CP0 register 13/0
index	64	0	rw	CP0 register 0/0
vpcontrol	64	0	rw	CP0 register 0/4
random	64	0	rw	CP0 register 1/0
entrylo0	64	0	rw	CP0 register 2/0
entrylo1	64	0	rw	CP0 register 3/0
globalnumber	64	0	rw	CP0 register 3/1
context	64	0	rw	CP0 register 4/0
userlocal	64	0	rw	CP0 register 4/2
debugcontextid	64	0	rw	CP0 register 4/4
pagemask	64	0	rw	CP0 register 5/0
pagegrain	64	c8000000	rw	CP0 register 5/1
wired	64	0	rw	CP0 register 6/0
hwrena	64	0	rw	CP0 register 7/0
badvaddr	64	0	rw	CP0 register 8/0
badinstr	64	0	rw	CP0 register 8/1
badinstrp	64	0	rw	CP0 register 8/2
count	64	0	rw	CP0 register 9/0
entryhi	64	0	rw	CP0 register 10/0
guestctl1	64	0	rw	CP0 register 10/4
guestctl2	64	0	rw	CP0 register 10/5
guestctl3	64	0	rw	CP0 register 10/6
compare	64	0	rw	CP0 register 11/0
guestctl0ext	64	80	rw	CP0 register 11/4
status	64	4400004	rw	CP0 register 12/0
intctl	64	e0000000	rw	CP0 register 12/1
srsctl	64	0	rw	CP0 register 12/2
srsmap	64	0	rw	CP0 register 12/3
guestctl0	64	c4c0080	rw	CP0 register 12/6
gtoffset	64	0	rw	CP0 register 12/7
epc	64	0	rw	CP0 register 14/0
prid	64	1a900	rw	CP0 register 15/0
ebase	64	ffffffff80000000	rw	CP0 register 15/1
cdmmbase	64	2	rw	CP0 register 15/2
cmgcrbase	64	1fbf800	rw	CP0 register 15/3
config	64	8000ca02	rw	CP0 register 16/0
config1	64	9eab5593	rw	CP0 register 16/1
config2	64	80000000	rw	CP0 register 16/2

config3	64	fc8031a9	rw	CP0 register 16/3
config4	64	d0fc0227	rw	CP0 register 16/4
config5	64	2c98	rw	CP0 register 16/5
config7	64	80000000	rw	CP0 register 16/7
lladdr	64	0	rw	CP0 register 17/0
maar	64	0	rw	CP0 register 17/1
maari	64	0	rw	CP0 register 17/2
xcontext	64	0	rw	CP0 register 20/0
debug	64	2030000	rw	CP0 register 23/0
depc	64	0	rw	CP0 register 24/0
perfctl0	64	80000000	rw	CP0 register 25/0
perfcnt0	64	0	rw	CP0 register 25/1
perfctl1	64	80000000	rw	CP0 register 25/2
perfcnt1	64	0	rw	CP0 register 25/3
perfctl2	64	80000000	rw	CP0 register 25/4
perfcnt2	64	0	rw	CP0 register 25/5
perfctl3	64	0	rw	CP0 register 25/6
perfcnt3	64	0	rw	CP0 register 25/7
errctl	64	0	rw	CP0 register 26/0
cacheerr	64	0	rw	CP0 register 27/0
itaglo	64	0	rw	CP0 register 28/0
idatalo	64	0	rw	CP0 register 28/1
dtaglo	64	0	rw	CP0 register 28/2
ddatalo	64	0	rw	CP0 register 28/3
idatahi	64	0	rw	CP0 register 29/1
ddatahi	64	0	rw	CP0 register 29/3
errorepc	64	0	rw	CP0 register 30/0
desave	64	0	rw	CP0 register 31/0
kscratch1	64	0	rw	CP0 register 31/2
kscratch2	64	0	rw	CP0 register 31/3
kscratch3	64	0	rw	CP0 register 31/4
kscratch4	64	0	rw	CP0 register 31/5
kscratch5	64	0	rw	CP0 register 31/6
kscratch6	64	0	rw	CP0 register 31/7
guestindex	64	0	rw	CP0 guest register 0/0
guestvpcontrol	64	0	rw	CP0 guest register 0/4
guestrandom	64	0	rw	CP0 guest register 1/0
guestentrylo0	64	0	rw	CP0 guest register 2/0
guestentrylo1	64	0	rw	CP0 guest register 3/0
guestglobalnumber	64	0	rw	CP0 guest register 3/1
guestcontext	64	0	rw	CP0 guest register 4/0
guestuserlocal	64	0	rw	CP0 guest register 4/2

guestdebugcontextid	64	0	rw	CP0 guest register 4/4
guestpagemask	64	0	rw	CP0 guest register 5/0
guestpagegrain	64	c8000000	rw	CP0 guest register 5/1
guestwired	64	0	rw	CP0 guest register 6/0
guesthwrena	64	0	rw	CP0 guest register 7/0
guestbadvaddr	64	0	rw	CP0 guest register 8/0
guestbadinstr	64	0	rw	CP0 guest register 8/1
guestbadinstrp	64	0	rw	CP0 guest register 8/2
guestcount	64	0	rw	CP0 guest register 9/0
guestentryhi	64	0	rw	CP0 guest register 10/0
guestguestctl1	64	0	rw	CP0 guest register 10/4
guestguestctl2	64	0	rw	CP0 guest register 10/5
guestguestctl3	64	0	rw	CP0 guest register 10/6
guestcompare	64	0	rw	CP0 guest register 11/0
guestguestctl0ext	64	0	rw	CP0 guest register 11/4
gueststatus	64	4400004	rw	CP0 guest register 12/0
guestintctl	64	e0000000	rw	CP0 guest register 12/1
guestsrsctl	64	0	rw	CP0 guest register 12/2
guestsrsmap	64	0	rw	CP0 guest register 12/3
guestguestctl0	64	0	rw	CP0 guest register 12/6
guestgtoffset	64	0	rw	CP0 guest register 12/7
guestcause	64	0	rw	CP0 guest register 13/0
guestepc	64	0	rw	CP0 guest register 14/0
guestprid	64	0	rw	CP0 guest register 15/0
guestebase	64	ffffffff80000000	rw	CP0 guest register 15/1
guestcdmmbase	64	0	rw	CP0 guest register 15/2
guestcmgcrbase	64	0	rw	CP0 guest register 15/3
guestconfig	64	8000ca02	rw	CP0 guest register 16/0
guestconfig1	64	9eab5593	rw	CP0 guest register 16/1
guestconfig2	64	80000000	rw	CP0 guest register 16/2
guestconfig3	64	dc003121	rw	CP0 guest register 16/3
guestconfig4	64	d0fc0227	rw	CP0 guest register 16/4
guestconfig5	64	2c98	rw	CP0 guest register 16/5
guestconfig7	64	0	rw	CP0 guest register 16/7
guestlladdr	64	0	rw	CP0 guest register 17/0
guestmaar	64	0	rw	CP0 guest register 17/1
guestmaari	64	0	rw	CP0 guest register 17/2
guestxcontext	64	0	rw	CP0 guest register 20/0
guestdebug	64	0	rw	CP0 guest register 23/0
guestdepc	64	0	rw	CP0 guest register 24/0
guestperfctl0	64	80000000	rw	CP0 guest register 25/0
guestperfcnt0	64	0	rw	CP0 guest register 25/1

guestperfctl1	64	80000000	rw	CP0 guest register 25/2
guestperfcnt1	64	0	rw	CP0 guest register 25/3
guestperfctl2	64	80000000	rw	CP0 guest register 25/4
guestperfcnt2	64	0	rw	CP0 guest register 25/5
guestperfctl3	64	0	rw	CP0 guest register 25/6
guestperfcnt3	64	0	rw	CP0 guest register 25/7
guesterrctl	64	0	rw	CP0 guest register 26/0
guestcacheerr	64	0	rw	CP0 guest register 27/0
guestitaglo	64	0	rw	CP0 guest register 28/0
guestidatalo	64	0	rw	CP0 guest register 28/1
guestdtaglo	64	0	rw	CP0 guest register 28/2
guestddatalo	64	0	rw	CP0 guest register 28/3
guestidatahi	64	0	rw	CP0 guest register 29/1
guestddatahi	64	0	rw	CP0 guest register 29/3
guesterrorepc	64	0	rw	CP0 guest register 30/0
guestdesave	64	0	rw	CP0 guest register 31/0
guestkscratch1	64	0	rw	CP0 guest register 31/2
guestkscratch2	64	0	rw	CP0 guest register 31/3
guestkscratch3	64	0	rw	CP0 guest register 31/4
guestkscratch4	64	0	rw	CP0 guest register 31/5
guestkscratch5	64	0	rw	CP0 guest register 31/6
guestkscratch6	64	0	rw	CP0 guest register 31/7

12.3.6 MSA

Table 31. Registers at level 3, type: VP, register group: 'MSA'

Name	Bits	Initial value (Hex)		Description
w0	128	-	rw	
w1	128	-	rw	
w2	128	-	rw	
w3	128	-	rw	
w4	128	-	rw	
w5	128	-	rw	
w6	128	-	rw	
w7	128	-	rw	
w8	128	-	rw	
w9	128	-	rw	
w10	128	-	rw	
w11	128	-	rw	
w12	128	-	rw	
w13	128	-	rw	
w14	128	-	rw	

w15	128	-	rw	
w16	128	-	rw	
w17	128	-	rw	
w18	128	-	rw	
w19	128	-	rw	
w20	128	-	rw	
w21	128	-	rw	
w22	128	-	rw	
w23	128	-	rw	
w24	128	-	rw	
w25	128	-	rw	
w26	128	-	rw	
w27	128	-	rw	
w28	128	-	rw	
w29	128	-	rw	
w30	128	-	rw	
w31	128	-	rw	
msair	64	320	r-	MSA implementation
msacsr	64	0	rw	MSA control and status
msaaccess	64	-	r-	MSA access
msasave	64	-	r-	MSA save
msamodify	64	-	r-	MSA modify
msarequest	64	-	r-	MSA request
msamap	64	-	r-	MSA map
msaunmap	64	-	r-	MSA unmap

12.3.7 CMP_GCR

Table 32. Registers at level 3, type: VP, register group: 'CMP_GCR'

Name	Bits	Initial value (Hex)		Description
GCR_CONFIG	64	3	r-	
GCR_BASE	64	1fbf8000	r-	
GCR_BASE_UPPER	64	0	rw	
GCR_CONTROL	64	40200000	rw	
GCR_REV	64	800	r-	
GCR_ERROR_CONTROL	64	13	rw	
GCR_ERROR_MASK	64	0	rw	
GCR_ERROR_CAUSE	64	0	r-	
GCR_ERROR_ADDR	64	0	r-	
GCR_ERROR_ADDR_UPPER	64	0	--	
GCR_ERROR_MULT	64	0	r-	
GCR_CUSTOM_BASE	64	0	rw	
GCR_CUSTOM_STATUS	64	0	r-	

GCR_GIC_BASE	64	0	rw	
GCR_GIC_BASE_UPPER	64	0	rw	
GCR_CPC_BASE	64	0	rw	
GCR_CPC_BASE_UPPER	64	0	rw	
GCR_GIC_STATUS	64	1	r-	
GCR_CACHE_REV	64	0	r-	
GCR_CPC_STATUS	64	1	r-	
GCR_ACCESS	64	3f	rw	
GCR_L2_CONFIG	64	84003507	rw	
GCR_SYS_CONFIG2	64	4	r-	
GCR_IOCU1_REV	64	400	r-	
GCR_BEV_BASE	64	bfc00000	rw	
GCR_CL_COHERENCE	64	0	rw	
GCR_CL_CONFIG	64	1	r-	
GCR_CL_OTHER	64	0	rw	
GCR_CL_RESET_BASE	64	bfc00001	rw	
GCR_CL_ID	64	0	r-	
GCR_CO_COHERENCE	64	0	rw	
GCR_CO_CONFIG	64	1	r-	
GCR_CO_OTHER	64	0	rw	
GCR_CO_RESET_BASE	64	bfc00001	rw	
GCR_CO_ID	64	0	r-	

12.3.8 CMP_CPC

Table 33. Registers at level 3, type: VP, register group: 'CMP_CPC'

Name	Bits	Initial value (Hex)		Description
CPC_SEQDEL	64	0	rw	
CPC_RAIL	64	0	rw	
CPC_RESETLEN	64	0	rw	
CPC_REVISION	64	0	r-	
CPC_CMD	64	0	rw	
CPC_STAT_CONF	64	b37203	rw	
CPC_CL_VP_STOP	64	0	rw	
CPC_CL_VP_RUN	64	1	rw	
CPC_CL_VP_RUNNING	64	1	r-	
CPC_CMD	64	0	rw	
CPC_STAT_CONF	64	b37203	rw	
CPC_CO_VP_STOP	64	0	rw	
CPC_CO_VP_RUN	64	1	rw	
CPC_CO_VP_RUNNING	64	1	r-	

12.3.9 CMP_GIC

Table 34. Registers at level 3, type: VP, register group: 'CMP_GIC'

Name	Bits	Initial value (Hex)		Description
GIC_SH_CONFIG	64	980f0007	rw	
GIC_Counter	64	0	rw	
GIC_SH_REVISION	64	500	r-	
GIC_SH_POL63_0	64	0	rw	
GIC_SH_POL127_64	64	0	rw	
GIC_SH_POL191_128	64	0	rw	
GIC_SH_POL255_192	64	0	rw	
GIC_SH_TRIG63_0	64	0	rw	
GIC_SH_TRIG127_64	64	0	rw	
GIC_SH_TRIG191_128	64	0	rw	
GIC_SH_TRIG255_192	64	0	rw	
GIC_SH_DUAL63_0	64	0	rw	
GIC_SH_DUAL127_64	64	0	rw	
GIC_SH_DUAL191_128	64	0	rw	
GIC_SH_DUAL255_192	64	0	rw	
GIC_SH_WEDGE	64	0	-w	
GIC_SH_RMASK63_0	64	0	-w	
GIC_SH_RMASK127_64	64	0	-w	
GIC_SH_RMASK191_128	64	0	-w	
GIC_SH_RMASK255_192	64	0	-w	
GIC_SH_SMASK63_0	64	0	-w	
GIC_SH_SMASK127_64	64	0	-w	
GIC_SH_SMASK191_128	64	0	-w	
GIC_SH_SMASK255_192	64	0	-w	
GIC_SH_MASK63_0	64	0	r-	
GIC_SH_MASK127_64	64	0	r-	
GIC_SH_MASK191_128	64	0	r-	
GIC_SH_MASK255_192	64	0	r-	
GIC_SH_PEND63_0	64	0	r-	
GIC_SH_PEND127_64	64	0	r-	
GIC_SH_PEND191_128	64	0	r-	
GIC_SH_PEND255_192	64	0	r-	
GIC_SH_MAP000_PIN	64	80000000	rw	
GIC_SH_MAP001_PIN	64	80000000	rw	
GIC_SH_MAP002_PIN	64	80000000	rw	
GIC_SH_MAP003_PIN	64	80000000	rw	
GIC_SH_MAP004_PIN	64	80000000	rw	
GIC_SH_MAP005_PIN	64	80000000	rw	
GIC_SH_MAP006_PIN	64	80000000	rw	
GIC_SH_MAP007_PIN	64	80000000	rw	

GIC_SH_MAP008_PIN	64	80000000	rw	
GIC_SH_MAP009_PIN	64	80000000	rw	
GIC_SH_MAP010_PIN	64	80000000	rw	
GIC_SH_MAP011_PIN	64	80000000	rw	
GIC_SH_MAP012_PIN	64	80000000	rw	
GIC_SH_MAP013_PIN	64	80000000	rw	
GIC_SH_MAP014_PIN	64	80000000	rw	
GIC_SH_MAP015_PIN	64	80000000	rw	
GIC_SH_MAP016_PIN	64	80000000	rw	
GIC_SH_MAP017_PIN	64	80000000	rw	
GIC_SH_MAP018_PIN	64	80000000	rw	
GIC_SH_MAP019_PIN	64	80000000	rw	
GIC_SH_MAP020_PIN	64	80000000	rw	
GIC_SH_MAP021_PIN	64	80000000	rw	
GIC_SH_MAP022_PIN	64	80000000	rw	
GIC_SH_MAP023_PIN	64	80000000	rw	
GIC_SH_MAP024_PIN	64	80000000	rw	
GIC_SH_MAP025_PIN	64	80000000	rw	
GIC_SH_MAP026_PIN	64	80000000	rw	
GIC_SH_MAP027_PIN	64	80000000	rw	
GIC_SH_MAP028_PIN	64	80000000	rw	
GIC_SH_MAP029_PIN	64	80000000	rw	
GIC_SH_MAP030_PIN	64	80000000	rw	
GIC_SH_MAP031_PIN	64	80000000	rw	
GIC_SH_MAP032_PIN	64	80000000	rw	
GIC_SH_MAP033_PIN	64	80000000	rw	
GIC_SH_MAP034_PIN	64	80000000	rw	
GIC_SH_MAP035_PIN	64	80000000	rw	
GIC_SH_MAP036_PIN	64	80000000	rw	
GIC_SH_MAP037_PIN	64	80000000	rw	
GIC_SH_MAP038_PIN	64	80000000	rw	
GIC_SH_MAP039_PIN	64	80000000	rw	
GIC_SH_MAP040_PIN	64	80000000	rw	
GIC_SH_MAP041_PIN	64	80000000	rw	
GIC_SH_MAP042_PIN	64	80000000	rw	
GIC_SH_MAP043_PIN	64	80000000	rw	
GIC_SH_MAP044_PIN	64	80000000	rw	
GIC_SH_MAP045_PIN	64	80000000	rw	
GIC_SH_MAP046_PIN	64	80000000	rw	
GIC_SH_MAP047_PIN	64	80000000	rw	
GIC_SH_MAP048_PIN	64	80000000	rw	
GIC_SH_MAP049_PIN	64	80000000	rw	

GIC_SH_MAP050_PIN	64	80000000	rw	
GIC_SH_MAP051_PIN	64	80000000	rw	
GIC_SH_MAP052_PIN	64	80000000	rw	
GIC_SH_MAP053_PIN	64	80000000	rw	
GIC_SH_MAP054_PIN	64	80000000	rw	
GIC_SH_MAP055_PIN	64	80000000	rw	
GIC_SH_MAP056_PIN	64	80000000	rw	
GIC_SH_MAP057_PIN	64	80000000	rw	
GIC_SH_MAP058_PIN	64	80000000	rw	
GIC_SH_MAP059_PIN	64	80000000	rw	
GIC_SH_MAP060_PIN	64	80000000	rw	
GIC_SH_MAP061_PIN	64	80000000	rw	
GIC_SH_MAP062_PIN	64	80000000	rw	
GIC_SH_MAP063_PIN	64	80000000	rw	
GIC_SH_MAP064_PIN	64	80000000	rw	
GIC_SH_MAP065_PIN	64	80000000	rw	
GIC_SH_MAP066_PIN	64	80000000	rw	
GIC_SH_MAP067_PIN	64	80000000	rw	
GIC_SH_MAP068_PIN	64	80000000	rw	
GIC_SH_MAP069_PIN	64	80000000	rw	
GIC_SH_MAP070_PIN	64	80000000	rw	
GIC_SH_MAP071_PIN	64	80000000	rw	
GIC_SH_MAP072_PIN	64	80000000	rw	
GIC_SH_MAP073_PIN	64	80000000	rw	
GIC_SH_MAP074_PIN	64	80000000	rw	
GIC_SH_MAP075_PIN	64	80000000	rw	
GIC_SH_MAP076_PIN	64	80000000	rw	
GIC_SH_MAP077_PIN	64	80000000	rw	
GIC_SH_MAP078_PIN	64	80000000	rw	
GIC_SH_MAP079_PIN	64	80000000	rw	
GIC_SH_MAP080_PIN	64	80000000	rw	
GIC_SH_MAP081_PIN	64	80000000	rw	
GIC_SH_MAP082_PIN	64	80000000	rw	
GIC_SH_MAP083_PIN	64	80000000	rw	
GIC_SH_MAP084_PIN	64	80000000	rw	
GIC_SH_MAP085_PIN	64	80000000	rw	
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GIC_SH_MAP227_VPE31_0	64	0	rw	
GIC_SH_MAP228_VPE31_0	64	0	rw	
GIC_SH_MAP229_VPE31_0	64	0	rw	
GIC_SH_MAP230_VPE31_0	64	0	rw	
GIC_SH_MAP231_VPE31_0	64	0	rw	
GIC_SH_MAP232_VPE31_0	64	0	rw	
GIC_SH_MAP233_VPE31_0	64	0	rw	
GIC_SH_MAP234_VPE31_0	64	0	rw	
GIC_SH_MAP235_VPE31_0	64	0	rw	
GIC_SH_MAP236_VPE31_0	64	0	rw	
GIC_SH_MAP237_VPE31_0	64	0	rw	
GIC_SH_MAP238_VPE31_0	64	0	rw	
GIC_SH_MAP239_VPE31_0	64	0	rw	
GIC_SH_MAP240_VPE31_0	64	0	rw	
GIC_SH_MAP241_VPE31_0	64	0	rw	
GIC_SH_MAP242_VPE31_0	64	0	rw	
GIC_SH_MAP243_VPE31_0	64	0	rw	
GIC_SH_MAP244_VPE31_0	64	0	rw	
GIC_SH_MAP245_VPE31_0	64	0	rw	
GIC_SH_MAP246_VPE31_0	64	0	rw	
GIC_SH_MAP247_VPE31_0	64	0	rw	
GIC_SH_MAP248_VPE31_0	64	0	rw	
GIC_SH_MAP249_VPE31_0	64	0	rw	
GIC_SH_MAP250_VPE31_0	64	0	rw	
GIC_SH_MAP251_VPE31_0	64	0	rw	
GIC_SH_MAP252_VPE31_0	64	0	rw	
GIC_SH_MAP253_VPE31_0	64	0	rw	
GIC_SH_MAP254_VPE31_0	64	0	rw	
GIC_SH_MAP255_VPE31_0	64	0	rw	

GIC_SH_EJTAG_BRK	64	0	rw	
GIC_SH_TEAMID_LO	64	0	rw	
GIC_SH_TEAMID_HI	64	0	rw	
GIC_SH_TEAMID_EXT	64	0	rw	
GIC_SH_DBG_CONFIG	64	70	rw	
GIC_SH_DINT_PART	64	0	rw	
GIC_SH_DEBUGM_STATUS	64	0	r-	
GIC_VPE_CTL	64	0	rw	
GIC_VPE_PEND	64	0	r-	
GIC_VPE_MASK	64	7f	r-	
GIC_VPE_RMASK	64	0	-w	
GIC_VPE_SMASK	64	0	-w	
GIC_VPE_WD_MAP	64	40000000	rw	
GIC_VPE_COMPARE_MAP	64	80000000	rw	
GIC_VPE_TIMER_MAP	64	80000005	rw	
GIC_VPE_FDC_MAP	64	80000005	rw	
GIC_VPE_PERFCTR_MAP	64	80000005	rw	
GIC_VPE_SWInt0_MAP	64	80000000	rw	
GIC_VPE_SWInt1_MAP	64	80000000	rw	
GIC_VPE_OTHER_ADDRESS	64	0	rw	
GIC_VPE_IDENT	64	0	r-	
GIC_VPE_WD_CONFIG	64	0	rw	
GIC_VPE_WD_COUNT	64	0	r-	
GIC_VPE_WD_INITIAL	64	0	rw	
GIC_VPE_Compare	64	ffffffffffffffff	rw	
GIC_VPE_EICSS00	64	0	rw	
GIC_VPE_EICSS01	64	0	rw	
GIC_VPE_EICSS02	64	0	rw	
GIC_VPE_EICSS03	64	0	rw	
GIC_VPE_EICSS04	64	0	rw	
GIC_VPE_EICSS05	64	0	rw	
GIC_VPE_EICSS06	64	0	rw	
GIC_VPE_EICSS07	64	0	rw	
GIC_VPE_EICSS08	64	0	rw	
GIC_VPE_EICSS09	64	0	rw	
GIC_VPE_EICSS10	64	0	rw	
GIC_VPE_EICSS11	64	0	rw	
GIC_VPE_EICSS12	64	0	rw	
GIC_VPE_EICSS13	64	0	rw	
GIC_VPE_EICSS14	64	0	rw	
GIC_VPE_EICSS15	64	0	rw	
GIC_VPE_EICSS16	64	0	rw	

GIC_VPE_EICSS17	64	0	rw	
GIC_VPE_EICSS18	64	0	rw	
GIC_VPE_EICSS19	64	0	rw	
GIC_VPE_EICSS20	64	0	rw	
GIC_VPE_EICSS21	64	0	rw	
GIC_VPE_EICSS22	64	0	rw	
GIC_VPE_EICSS23	64	0	rw	
GIC_VPE_EICSS24	64	0	rw	
GIC_VPE_EICSS25	64	0	rw	
GIC_VPE_EICSS26	64	0	rw	
GIC_VPE_EICSS27	64	0	rw	
GIC_VPE_EICSS28	64	0	rw	
GIC_VPE_EICSS29	64	0	rw	
GIC_VPE_EICSS30	64	0	rw	
GIC_VPE_EICSS31	64	0	rw	
GIC_VPE_EICSS32	64	0	rw	
GIC_VPE_EICSS33	64	0	rw	
GIC_VPE_EICSS34	64	1	rw	
GIC_VPE_EICSS35	64	0	rw	
GIC_VPE_EICSS36	64	0	rw	
GIC_VPE_EICSS37	64	0	rw	
GIC_VPE_EICSS38	64	0	rw	
GIC_VPE_EICSS39	64	0	rw	
GIC_VPE_EICSS40	64	0	rw	
GIC_VPE_EICSS41	64	0	rw	
GIC_VPE_EICSS42	64	0	rw	
GIC_VPE_EICSS43	64	0	rw	
GIC_VPE_EICSS44	64	0	rw	
GIC_VPE_EICSS45	64	0	rw	
GIC_VPE_EICSS46	64	0	rw	
GIC_VPE_EICSS47	64	0	rw	
GIC_VPE_EICSS48	64	0	rw	
GIC_VPE_EICSS49	64	0	rw	
GIC_VPE_EICSS50	64	0	rw	
GIC_VPE_EICSS51	64	0	rw	
GIC_VPE_EICSS52	64	0	rw	
GIC_VPE_EICSS53	64	0	rw	
GIC_VPE_EICSS54	64	0	rw	
GIC_VPE_EICSS55	64	0	rw	
GIC_VPE_EICSS56	64	0	rw	
GIC_VPE_EICSS57	64	0	rw	
GIC_VPE_EICSS58	64	0	rw	

GIC_VPE_EICSS59	64	0	rw	
GIC_VPE_EICSS60	64	0	rw	
GIC_VPE_EICSS61	64	0	rw	
GIC_VPE_EICSS62	64	0	rw	
GIC_VPE_EICSS63	64	0	rw	
GIC_VL_COFFSET	64	0	rw	
GIC_VL_VIRTUAL_VP_NUM	64	0	rw	
GIC_VPE_CTL	64	0	rw	
GIC_VPE_PEND	64	0	r-	
GIC_VPE_MASK	64	7f	r-	
GIC_VPE_RMASK	64	0	-w	
GIC_VPE_SMASK	64	0	-w	
GIC_VPE_WD_MAP	64	40000000	rw	
GIC_VPE_COMPARE_MAP	64	80000000	rw	
GIC_VPE_TIMER_MAP	64	80000005	rw	
GIC_VPE_FDC_MAP	64	80000005	rw	
GIC_VPE_PERFCTR_MAP	64	80000005	rw	
GIC_VPE_SWInt0_MAP	64	80000000	rw	
GIC_VPE_SWInt1_MAP	64	80000000	rw	
GIC_VPE_OTHER_ADDRESS	64	0	rw	
GIC_VPE_IDENT	64	0	r-	
GIC_VPE_WD_CONFIG	64	0	rw	
GIC_VPE_WD_COUNT	64	0	r-	
GIC_VPE_WD_INITIAL	64	0	rw	
GIC_VPE_Compare	64	ffffffffffffffff	rw	
GIC_VPE_EICSS00	64	0	rw	
GIC_VPE_EICSS01	64	0	rw	
GIC_VPE_EICSS02	64	0	rw	
GIC_VPE_EICSS03	64	0	rw	
GIC_VPE_EICSS04	64	0	rw	
GIC_VPE_EICSS05	64	0	rw	
GIC_VPE_EICSS06	64	0	rw	
GIC_VPE_EICSS07	64	0	rw	
GIC_VPE_EICSS08	64	0	rw	
GIC_VPE_EICSS09	64	0	rw	
GIC_VPE_EICSS10	64	0	rw	
GIC_VPE_EICSS11	64	0	rw	
GIC_VPE_EICSS12	64	0	rw	
GIC_VPE_EICSS13	64	0	rw	
GIC_VPE_EICSS14	64	0	rw	
GIC_VPE_EICSS15	64	0	rw	
GIC_VPE_EICSS16	64	0	rw	

GIC_VPE_EICSS17	64	0	rw	
GIC_VPE_EICSS18	64	0	rw	
GIC_VPE_EICSS19	64	0	rw	
GIC_VPE_EICSS20	64	0	rw	
GIC_VPE_EICSS21	64	0	rw	
GIC_VPE_EICSS22	64	0	rw	
GIC_VPE_EICSS23	64	0	rw	
GIC_VPE_EICSS24	64	0	rw	
GIC_VPE_EICSS25	64	0	rw	
GIC_VPE_EICSS26	64	0	rw	
GIC_VPE_EICSS27	64	0	rw	
GIC_VPE_EICSS28	64	0	rw	
GIC_VPE_EICSS29	64	0	rw	
GIC_VPE_EICSS30	64	0	rw	
GIC_VPE_EICSS31	64	0	rw	
GIC_VPE_EICSS32	64	0	rw	
GIC_VPE_EICSS33	64	0	rw	
GIC_VPE_EICSS34	64	1	rw	
GIC_VPE_EICSS35	64	0	rw	
GIC_VPE_EICSS36	64	0	rw	
GIC_VPE_EICSS37	64	0	rw	
GIC_VPE_EICSS38	64	0	rw	
GIC_VPE_EICSS39	64	0	rw	
GIC_VPE_EICSS40	64	0	rw	
GIC_VPE_EICSS41	64	0	rw	
GIC_VPE_EICSS42	64	0	rw	
GIC_VPE_EICSS43	64	0	rw	
GIC_VPE_EICSS44	64	0	rw	
GIC_VPE_EICSS45	64	0	rw	
GIC_VPE_EICSS46	64	0	rw	
GIC_VPE_EICSS47	64	0	rw	
GIC_VPE_EICSS48	64	0	rw	
GIC_VPE_EICSS49	64	0	rw	
GIC_VPE_EICSS50	64	0	rw	
GIC_VPE_EICSS51	64	0	rw	
GIC_VPE_EICSS52	64	0	rw	
GIC_VPE_EICSS53	64	0	rw	
GIC_VPE_EICSS54	64	0	rw	
GIC_VPE_EICSS55	64	0	rw	
GIC_VPE_EICSS56	64	0	rw	
GIC_VPE_EICSS57	64	0	rw	
GIC_VPE_EICSS58	64	0	rw	

GIC_VPE_EICSS59	64	0	rw	
GIC_VPE_EICSS60	64	0	rw	
GIC_VPE_EICSS61	64	0	rw	
GIC_VPE_EICSS62	64	0	rw	
GIC_VPE_EICSS63	64	0	rw	
GIC_VL_COFFSET	64	0	rw	
GIC_VL_VIRTUAL_VP_NUM	64	0	rw	
GIC_CounterLoUser	64	0	r-	
GIC_CounterHiUser	64	0	r-	

12.3.10 Integration_support

Table 35. Registers at level 3, type: VP, register group: 'Integration_support'

Name	Bits	Initial value (Hex)		Description
stop	64	0	rw	write with non-zero to stop processor

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