PMICNTSVR_EL1, Performance Monitors Instruction Count Saved Value Register

The PMICNTSVR_EL1 characteristics are:

Purpose

Captures the PMU Instruction counter, PMICNTR_EL0.

Configuration

AArch64 System register PMICNTSVR_EL1 bits [63:0] are architecturally mapped to External register PMU.PMICNTSVR_EL1[63:0].

This register is present only when FEAT_PMUv3_ICNTR is implemented and FEAT_PMUv3_SS is implemented. Otherwise, direct accesses to PMICNTSVR_EL1 are undefined.

Attributes

PMICNTSVR_EL1 is a 64-bit register.

Field descriptions

63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32
ICNT
ICNT
31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

ICNT, bits [63:0]

Sampled Instruction Count. The value of PMICNTR_EL0 at the last successful Capture event.

The reset behavior of this field is:

- On a Warm reset, this field resets to an architecturally unknown value.

Accessing PMICNTSVR_EL1

Accesses to this register use the following encodings in the System register encoding space:

MRS <Xt>, PMICNTSVR_EL1

op0	op1	CRn	CRm	op2
0b10	0b000	0b1110	0b1100	0b000

```
if PSTATE.EL == EL0 then
    UNDEFINED;
elsif PSTATE.EL == EL1 then
    if Halted() && HaveEL(EL3) && EDSCR.SDD == '1'
&& boolean IMPLEMENTATION_DEFINED "EL3 trap priority
when SDD == '1'" && MDCR_EL3.EnPMSS == '0' then
        UNDEFINED;
    elsif EL2Enabled() &&
IsFeatureImplemented(FEAT_FGT2) && HaveEL(EL3) &&
SCR_EL3.FGTEn2 == '0' then
        AArch64.SystemAccessTrap(EL2, 0x18);
    elsif EL2Enabled() &&
IsFeatureImplemented(FEAT_FGT2) &&
HDFGRTR2_EL2.nPMSSDATA == '0' then
        AArch64.SystemAccessTrap(EL2, 0x18);
    elsif HaveEL(EL3) && MDCR_EL3.EnPMSS == '0' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    else
        X[t, 64] = PMICNTSVR_EL1;
elsif PSTATE.EL == EL2 then
    if Halted() && HaveEL(EL3) && EDSCR.SDD == '1'
&& boolean IMPLEMENTATION_DEFINED "EL3 trap priority
when SDD == '1'" && MDCR_EL3.EnPMSS == '0' then
        UNDEFINED;
    elsif HaveEL(EL3) && MDCR_EL3.EnPMSS == '0' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    else
        X[t, 64] = PMICNTSVR_EL1;
elsif PSTATE.EL == EL3 then
    X[t, 64] = PMICNTSVR_EL1;
```