PMCCNTSVR_EL1, Performance Monitors Cycle Count Saved Value Register

The PMCCNTSVR_EL1 characteristics are:

Purpose

Captures the PMU Cycle counter, PMCCNTR_EL0.

Configuration

AArch64 System register PMCCNTSVR_EL1 bits [63:0] are architecturally mapped to External register PMU.PMCCNTSVR_EL1[63:0].

This register is present only when FEAT_PMUv3_SS is implemented. Otherwise, direct accesses to PMCCNTSVR_EL1 are undefined.

Attributes

PMCCNTSVR_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
CCNT																															
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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

CCNT, bits [63:0]

Sampled Cycle Count. The value of PMCCNTR_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 PMCCNTSVR_EL1

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

MRS <Xt>, PMCCNTSVR_EL1

op0	op1	CRn	CRm	op2
0b10	0b000	0b1110	0b1011	0b111

```
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] = PMCCNTSVR_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] = PMCCNTSVR_EL1;
elsif PSTATE.EL == EL3 then
    X[t, 64] = PMCCNTSVR_EL1;
```


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