

AMEVCNTVOFF1<n>_EL2, Activity Monitors Event Counter Virtual Offset Registers 1, n = 0 - 15

The AMEVCNTVOFF1<n>_EL2 characteristics are:

Purpose

Holds the 64-bit virtual offset for auxiliary activity monitor events.

Configuration

This register is present only when FEAT_AMUv1p1 is implemented.
Otherwise, direct accesses to AMEVCNTVOFF1<n>_EL2 are undefined.

Attributes

AMEVCNTVOFF1<n>_EL2 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
Virtual offset																															
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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

Bits [63:0]

Virtual offset.

The reset behavior of this field is:

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

Accessing AMEVCNTVOFF1<n>_EL2

Note

[AMCG1IDR_EL0](#) identifies which auxiliary activity monitor event counters have a corresponding virtual offset implemented.

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

MRS <Xt>, AMEVCNTVOFF1<m>_EL2 ; Where m = 0-15

op0	op1	CRn	CRm	op2
0b11	0b100	0b1101	0b101:m[3]	m[2:0]

```
integer m = UInt(CRm<0>:op2<2:0>);

if m >= NUM_AMU_CG1_MONITORS then
    UNDEFINED;
elseif !IsG1ActivityMonitorOffsetImplemented(m) then
    UNDEFINED;
elseif PSTATE.EL == EL0 then
    UNDEFINED;
elseif PSTATE.EL == EL1 then
    if EL2Enabled() && HCR_EL2.<NV2,NV> == '11' then
        X[t, 64] = NVMem[0xA80 + (8 * m)];
    elseif EL2Enabled() && HCR_EL2.NV == '1' then
        AArch64.SystemAccessTrap(EL2, 0x18);
    else
        UNDEFINED;
elseif PSTATE.EL == EL2 then
    if Halted() && HaveEL(EL3) && EDSCR.SDD == '1'
    && boolean IMPLEMENTATION_DEFINED "EL3 trap priority
when SDD == '1'" && CPTR_EL3.TAM == '1' then
        UNDEFINED;
    elseif Halted() && HaveEL(EL3) && EDSCR.SDD ==
'1' && boolean IMPLEMENTATION_DEFINED "EL3 trap
priority when SDD == '1'" && SCR_EL3.AMVOFFEN == '0'
then
        UNDEFINED;
    elseif HaveEL(EL3) && SCR_EL3.AMVOFFEN == '0' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    elseif HaveEL(EL3) && CPTR_EL3.TAM == '1' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    else
        X[t, 64] = AMEVCNTVOFF1_EL2[m];
elseif PSTATE.EL == EL3 then
    X[t, 64] = AMEVCNTVOFF1_EL2[m];
```

MSR AMEVCNTVOFF1<m>_EL2, <Xt> ; Where m = 0-15

op0	op1	CRn	CRm	op2
0b11	0b100	0b1101	0b101:m[3]	m[2:0]

```

integer m = UInt(CRm<0>:op2<2:0>);

if m >= NUM_AMU_CG1_MONITORS then
    UNDEFINED;
elseif !IsG1ActivityMonitorOffsetImplemented(m) then
    UNDEFINED;
elseif PSTATE.EL == EL0 then
    UNDEFINED;
elseif PSTATE.EL == EL1 then
    if EL2Enabled() && HCR_EL2.<NV2,NV> == '11' then
        NVMem[0xA80 + (8 * m)] = X[t, 64];
    elseif EL2Enabled() && HCR_EL2.NV == '1' then
        AArch64.SystemAccessTrap(EL2, 0x18);
    else
        UNDEFINED;
elseif PSTATE.EL == EL2 then
    if Halted() && HaveEL(EL3) && EDSCR.SDD == '1'
    && boolean IMPLEMENTATION_DEFINED "EL3 trap priority
    when SDD == '1'" && CPTR_EL3.TAM == '1' then
        UNDEFINED;
    elseif Halted() && HaveEL(EL3) && EDSCR.SDD ==
    '1' && boolean IMPLEMENTATION_DEFINED "EL3 trap
    priority when SDD == '1'" && SCR_EL3.AMVOFFEN == '0'
    then
        UNDEFINED;
    elseif HaveEL(EL3) && SCR_EL3.AMVOFFEN == '0' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    elseif HaveEL(EL3) && CPTR_EL3.TAM == '1' then
        if Halted() && EDSCR.SDD == '1' then
            UNDEFINED;
        else
            AArch64.SystemAccessTrap(EL3, 0x18);
    else
        AMEVCNTVOFF1_EL2[m] = X[t, 64];
elseif PSTATE.EL == EL3 then
    AMEVCNTVOFF1_EL2[m] = X[t, 64];

```

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