

ADDVL

Add multiple of vector register size to scalar register

Add the current vector register size in bytes multiplied by an immediate in the range -32 to 31 to the 64-bit source general-purpose register or current stack pointer, and place the result in the 64-bit destination general-purpose register or current stack pointer.

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
0	0	0	0	0	1	0	0	0	0	1			Rn			0	1	0	1	0					imm6					Rd	

ADDVL <Xd|SP>, <Xn|SP>, #<imm>

```
if !HaveSVE() && !HaveSME() then UNDEFINED;
integer n = UInt(Rn);
integer d = UInt(Rd);
integer imm = SInt(imm6);
```

Assembler Symbols

<Xd SP>	Is the 64-bit name of the destination general-purpose register or stack pointer, encoded in the "Rd" field.
<Xn SP>	Is the 64-bit name of the source general-purpose register or stack pointer, encoded in the "Rn" field.
<imm>	Is the signed immediate operand, in the range -32 to 31, encoded in the "imm6" field.

Operation

```
CheckSVEEnabled();
constant integer VL = CurrentVL;
constant integer PL = VL DIV 8;
bits(64) operand1 = if n == 31 then SP[] else X[n, 64];
bits(64) result = operand1 + (imm * (VL DIV 8));

if d == 31 then
    SP[] = result;
else
    X[d, 64] = result;
```

Operational information

If FEAT_SVE2 is implemented or FEAT_SME is implemented, then if PSTATE.DIT is 1:

- The execution time of this instruction is independent of:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.

- The response of this instruction to asynchronous exceptions does not vary based on:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.

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