## MOV (scalar, predicated)

Move general-purpose register to vector elements (predicated)

Move the general-purpose scalar source register to each active element in the destination vector. Inactive elements in the destination vector register remain unmodified.

This is an alias of CPY (scalar). This means:

- The encodings in this description are named to match the encodings of CPY (scalar).
- The description of CPY (scalar) gives the operational pseudocode, any constrained unpredictable behavior, and any operational information for this instruction.

| 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 1 | size | 1 0 1 0 0 0 1 0 1 | Pg | Rn | Zd |

```
MOV <Zd>.<T>, <Pg>/M, <R><n|SP>
```

**is equivalent to**

```
CPY <Zd>.<T>, <Pg>/M, <R><n|SP>
```

**and is always the preferred disassembly.**

### Assembler Symbols

<Zd> Is the name of the destination scalable vector register, encoded in the "Zd" field.

<T> Is the size specifier, encoded in “size”:

| size | <T> |
|---|---|
| 00 | B |
| 01 | H |
| 10 | S |
| 11 | D |

<Pg> Is the name of the governing scalable predicate register P0-P7, encoded in the "Pg" field.

<R>

Is a width specifier, encoded in “size”:

| size | <R> |
|---|---|
| 01 | W |
| x0 | W |
| 11 | X |

<n|SP>

Is the number [0-30] of the general-purpose source register or the name SP (31), encoded in the "Rn" field.

**Operation**

The description of CPY (scalar) gives the operational pseudocode for this instruction.

**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 operand registers when its governing predicate register contains the same value for each execution.
  - 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 operand registers when its governing predicate register contains the same value for each execution.
  - The values of the NZCV flags.

This instruction might be immediately preceded in program order by a `MOVPRFX` instruction. The `MOVPRFX` instruction must conform to all of the following requirements, otherwise the behavior of the `MOVPRFX` and this instruction is unpredictable:

- The `MOVPRFX` instruction must be unpredicated, or be predicated using the same governing predicate register and source element size as this instruction.
- The `MOVPRFX` instruction must specify the same destination register as this instruction.
- The destination register must not refer to architectural register state referenced by any other source operand register of this instruction.

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