MOV (tile to vector, four registers)

Move four ZA tile slices to four vector registers

The instruction operates on four consecutive horizontal or vertical slices within a named ZA tile of the specified element size.
The consecutive slice numbers within the tile are selected starting from the sum of the slice index register and immediate offset, modulo the number of such elements in a vector. The immediate offset is a multiple of 4 in the range 0 to the number of elements in a 128-bit vector segment minus 4.
This instruction is unpredicated.

This is an alias of MOVA (tile to vector, four registers). This means:

- The encodings in this description are named to match the encodings of MOVA (tile to vector, four registers).
- The description of MOVA (tile to vector, four registers) gives the operational pseudocode, any constrained unpredictable behavior, and any operational information for this instruction.

It has encodings from 4 classes: 8-bit , 16-bit , 32-bit and 64-bit

8-bit

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
1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	V	Rs			0	0	1	0	0	0	off2			Zd		0	0
									size<1>	size<0>																					

```
MOV { <Zd1>.B-<Zd4>.B }, ZA0<HV>.B[<Ws>, <offs1>:<offs4>]
```

is equivalent to

```
MOVA { <Zd1>.B-<Zd4>.B }, ZA0<HV>.B[<Ws>, <offs1>:<offs4>]
```

and is always the preferred disassembly.

16-bit

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
1	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	V	Rs			0	0	1	0	0	0	ZAn	o1		Zd		0	0
									size<1>	size<0>																					

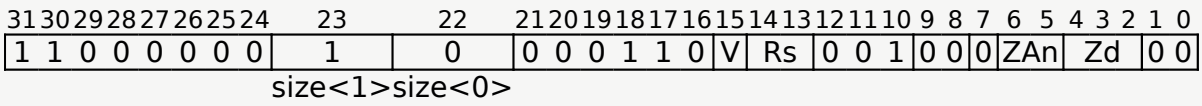
```
MOV { <Zd1>.H-<Zd4>.H }, <ZAn><HV>.H[<Ws>, <offs1>:<offs4>]
```

is equivalent to

```
MOVA { <Zd1>.H-<Zd4>.H }, <ZAn><HV>.H[<Ws>, <offs1>:<offs4>]
```

and is always the preferred disassembly.

32-bit



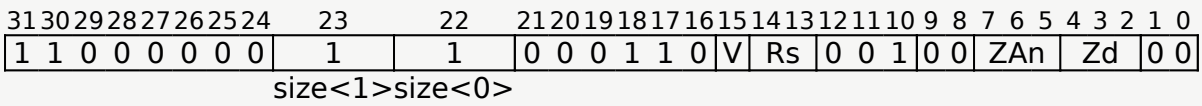

```
MOV { <Zd1>.S-<Zd4>.S }, <ZAn><HV>.S[<Ws>, <offs1>:<offs4>]
```

is equivalent to

```
MOVA { <Zd1>.S-<Zd4>.S }, <ZAn><HV>.S[<Ws>, <offs1>:<offs4>]
```

and is always the preferred disassembly.

64-bit




```
MOV { <Zd1>.D-<Zd4>.D }, <ZAn><HV>.D[<Ws>, <offs1>:<offs4>]
```

is equivalent to

```
MOVA { <Zd1>.D-<Zd4>.D }, <ZAn><HV>.D[<Ws>, <offs1>:<offs4>]
```

and is always the preferred disassembly.

Assembler Symbols

<Zd1>	Is the name of the first destination scalable vector register of a multi-vector sequence, encoded as "Zd" times 4.
<Zd4>	Is the name of the fourth destination scalable vector register of a multi-vector sequence, encoded as "Zd" times 4 plus 3.
<ZAn>	For the 16-bit variant: is the name of the ZA tile ZA0-ZA1 to be accessed, encoded in the "ZAn" field. For the 32-bit variant: is the name of the ZA tile ZA0-ZA3 to be accessed, encoded in the "ZAn" field. For the 64-bit variant: is the name of the ZA tile ZA0-ZA7 to be accessed, encoded in the "ZAn" field.

<HV>

Is the horizontal or vertical slice indicator, encoded in “V”:

V	<HV>
0	H
1	V

<Ws>

Is the 32-bit name of the slice index register W12-W15, encoded in the "Rs" field.

<offs1>

For the 8-bit variant: is the slice index offset, pointing to first of four consecutive slices, encoded as "off2" field times 4.

For the 16-bit variant: is the slice index offset, pointing to first of four consecutive slices, encoded as "o1" field times 4.

For the 32-bit and 64-bit variant: is the slice index offset, pointing to first of four consecutive slices, with implicit value 0.

<offs4>

For the 8-bit variant: is the slice index offset, pointing to last of four consecutive slices, encoded as "off2" field times 4 plus 3.

For the 16-bit variant: is the slice index offset, pointing to last of four consecutive slices, encoded as "o1" field times 4 plus 3.

For the 32-bit and 64-bit variant: is the slice index offset, pointing to last of four consecutive slices, with implicit value 3.

Operation

The description of MOVA (tile to vector, four registers) 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 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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