EXTQ

Extract vector segment from each pair of quadword vector segments

For each 128-bit vector segment of the result, copy the indexed byte up to and including the last byte of the corresponding first source vector segment to the bottom of the result segment, then fill the remainder of the result segment starting from the first byte of the corresponding second source vector segment. The result segments are destructively placed in the corresponding first source vector segment. This instruction is unpredicated.

SVE2

(FEAT_SVE2p1)

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	0	1	1	0	imm4				0	0	1	0	0	1	Zm					Zdn				

```
EXTQ <Zdn>.B, <Zdn>.B, <Zm>.B, #<imm>
```

```
if !HaveSVE2p1() && !HaveSME2p1() then UNDEFINED;
integer dn = UInt(Zdn);
integer m = UInt(Zm);
constant integer position = UInt(imm4) << 3;
```

Assembler Symbols

<Zdn> Is the name of the first source and destination scalable vector register, encoded in the "Zdn" field.

<Zm> Is the name of the second source scalable vector register, encoded in the "Zm" field.

<imm> Is the unsigned immediate operand, in the range 0 to 15, encoded in the "imm4" field.

Operation

```
CheckSVEEnabled();
constant integer VL = CurrentVL;
constant integer PL = VL DIV 8;
constant integer segments = VL DIV 128;
bits(VL) operand1 = Z[dn, VL];
bits(VL) operand2 = Z[m, VL];
bits(VL) result;

for s = 0 to segments-1
    bits(256) concat = Elem[operand2, s, 128] : Elem[operand1, s, 128];
    Elem[result, s, 128] = concat<position+127:position>;

Z[dn, VL] = result;
```

Operational information

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.

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.
- 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.

Internal version only: isa v33.64, AdvSIMD v29.12, pseudocode no_diffs_2023_09_RC2, sve v2023-06_rel ; Build timestamp: 2023-09-18T17:56