

BCAX

Bitwise clear and exclusive OR

Bitwise AND elements of the second source vector with the corresponding inverted elements of the third source vector, then exclusive OR the results with corresponding elements of the first source vector. The final results are destructively placed in the corresponding elements of the destination and first source vector. This instruction is unpredicated.

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	1	1	Zm			0			0	1	1	1	0	Zk			Zdn						

BCAX <Zdn>.D, <Zdn>.D, <Zm>.D, <Zk>.D

```
if !HaveSVE2() && !HaveSME() then UNDEFINED;
integer m = UInt(Zm);
integer k = UInt(Zk);
integer dn = UInt(Zdn);
```

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.
- <Zk> Is the name of the third source scalable vector register, encoded in the "Zk" field.

Operation

```
CheckSVEEnabled();
constant integer VL = CurrentVL;
bits(VL) operand1 = Z[dn, VL];
bits(VL) operand2 = Z[m, VL];
bits(VL) operand3 = Z[k, VL];

Z[dn, VL] = operand1 EOR (operand2 AND NOT(operand3));
```

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.

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.

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