

BFCVT

Floating-point convert from single-precision to BFloat16 format (scalar) converts the single-precision floating-point value in the 32-bit SIMD&FP source register to BFloat16 format and writes the result in the 16-bit SIMD&FP destination register.

ID_AA64ISAR1_EL1.BF16 indicates whether this instruction is supported.

Single-precision to BFloat16 (FEAT_BF16)

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

BFCVT <Hd>, <Sn>

```
if !IsFeatureImplemented(FEAT_BF16) then UNDEFINED;
integer n = UInt(Rn);
integer d = UInt(Rd);
```

Assembler Symbols

- <Hd> Is the 16-bit name of the SIMD&FP destination register, encoded in the "Rd" field.
- <Sn> Is the 32-bit name of the SIMD&FP source register, encoded in the "Rn" field.

Operation

```
CheckFPEnabled64();
bits(32) operand = V[n, 32];
FPCRTYPE fpcr = FPCR[];
boolean merge = IsMerging(fpcr);
bits(128) result = if merge then V[d, 128] else Zeros(128);
Elem[result, 0, 16] = FPConvertBF(operand, fpcr);
V[d, 128] = result;
```