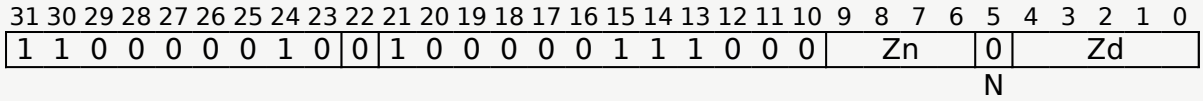
FCVT (narrowing)

Multi-vector floating-point convert from single-precision to packed half-precision

Convert to half-precision from single-precision, each element of the two source vectors, and place the results in the half-width destination elements.
This instruction follows SME2 floating-point numerical behaviors corresponding to instructions that place their results in one or more SVE Z vectors.
This instruction is unpredicated.

SME2
(FEAT_SME2)



FCVT <Zd>.H, { <Zn1>.S-<Zn2>.S }

```
if !HaveSME2() then UNDEFINED;
integer n = UInt(Zn:'0');
integer d = UInt(Zd);
```

Assembler Symbols

<Zd>	Is the name of the destination scalable vector register, encoded in the "Zd" field.
<Zn1>	Is the name of the first scalable vector register of a multi-vector sequence, encoded as "Zn" times 2.
<Zn2>	Is the name of the second scalable vector register of a multi-vector sequence, encoded as "Zn" times 2 plus 1.

Operation

```
CheckStreamingSVEEnabled();
constant integer VL = CurrentVL;
constant integer elements = VL DIV 32;
bits(VL) result;

bits(VL) operand1 = Z[n+0, VL];
bits(VL) operand2 = Z[n+1, VL];
for e = 0 to elements-1
    bits(32) element1 = Elem[operand1, e, 32];
    bits(32) element2 = Elem[operand2, e, 32];
    bits(16) res1 = FPConvertSVE(element1, FPCR[], 16);
    bits(16) res2 = FPConvertSVE(element2, FPCR[], 16);
    Elem[result, e, 16] = res1;
```

```
        Elem[result, elements+e, 16] = res2;

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

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