FCVTZU (scalar, integer)

Floating-point Convert to Unsigned integer, rounding toward Zero (scalar). This instruction converts the floating-point value in the SIMD&FP source register to a 32-bit or 64-bit unsigned integer using the Round towards Zero rounding mode, and writes the result to the general-purpose destination register.

A floating-point exception can be generated by this instruction. Depending on the settings in *FPCR*, the exception results in either a flag being set in *FPSR*, or a synchronous exception being generated. For more information, see *Floating-point exception traps*.

Depending on the settings in the *CPACR_EL1*, *CPTR_EL2*, and *CPTR_EL3* registers, and the current Security state and Exception level, an attempt to execute the instruction might be trapped.

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
sf	0	0	1	1	1	1	0	ftype	1	1	1	0	0	1	0	0	0	0	0	0	Rn	Rd

rmode opcode

Half-precision to 32-bit (sf == 0 && ftype == 11)
(FEAT_FP16)

```
        FCVTZU  <Wd>, <Hn>
```

Half-precision to 64-bit (sf == 1 && ftype == 11)
(FEAT_FP16)

```
        FCVTZU  <Xd>, <Hn>
```

Single-precision to 32-bit (sf == 0 && ftype == 00)

```
        FCVTZU  <Wd>, <Sn>
```

Single-precision to 64-bit (sf == 1 && ftype == 00)

```
        FCVTZU  <Xd>, <Sn>
```

Double-precision to 32-bit (sf == 0 && ftype == 01)

```
        FCVTZU  <Wd>, <Dn>
```

Double-precision to 64-bit (sf == 1 && ftype == 01)

```
        FCVTZU  <Xd>, <Dn>
```

```
    if ftype == '10' then UNDEFINED;
    if ftype == '11' && !IsFeatureImplemented(FEAT_FP16) then UNDEFINED;

    integer d = UInt(Rd);
    integer n = UInt(Rn);

    constant integer intsize = 32 << UInt(sf);
    constant integer decode_fltsize = if ftype == '10' then 64 else (8 << UI
    FPRounding rounding;

    rounding = FPDecodeRounding(rmode);
```

Assembler Symbols

<Wd>	Is the 32-bit name of the general-purpose destination register, encoded in the "Rd" field.
<Xd>	Is the 64-bit name of the general-purpose destination register, encoded in the "Rd" field.
<Sn>	Is the 32-bit name of the SIMD&FP source register, encoded in the "Rn" field.
<Hn>	Is the 16-bit name of the SIMD&FP source register, encoded in the "Rn" field.
<Dn>	Is the 64-bit name of the SIMD&FP source register, encoded in the "Rn" field.

Operation

```
    CheckFPEnabled64();

    FPCRType fpcr = FPCR[];
    bits(decode_fltsize) fltval;
    bits(intsize) intval;

    fltval = V[n, decode_fltsize];
    intval = FPToFixed(fltval, 0, TRUE, fpcr, rounding, intsize);
    X[d, intsize] = intval;
```

Operational information

If FEAT_SME is implemented and the PE is in Streaming SVE mode, then
any subsequent instruction which is dependent on the general-purpose
register written by this instruction might be significantly delayed.