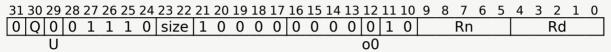
idex by	<u>Sh</u>
ncoding	<u>Pseuc</u>

### REV64

Reverse elements in 64-bit doublewords (vector). This instruction reverses the order of 8-bit, 16-bit, or 32-bit elements in each doubleword of the vector in the source SIMD&FP register, places the results into a vector, and writes the vector to the destination SIMD&FP register.

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.



```
REV64 <Vd>.<T>, <Vn>.<T>
```

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

constant integer esize = 8 << UInt(size);
constant integer datasize = 64 << UInt(Q);

constant integer csize = 64 >> UInt(o0:U);
if csize <= esize then UNDEFINED;

integer containers = datasize DIV csize;</pre>
```

### **Assembler Symbols**

<Vd>

Is the name of the SIMD&FP destination register, encoded in the "Rd" field.

<T>

Is an arrangement specifier, encoded in "size:Q":

size	Q	<t></t>
0.0	0	8B
00	1	16B
01	0	4 H
01	1	8H
10	0	2S
10	1	4S
11	Х	RESERVED

<Vn>

Is the name of the SIMD&FP source register, encoded in the "Rn" field.

# **Operation**

```
CheckFPAdvSIMDEnabled64();
bits(datasize) operand = V[n, datasize];
bits(datasize) result;
for c = 0 to containers-1
    bits(csize) container = Elem[operand, c, csize];
    Elem[result, c, csize] = Reverse(container, esize);

V[d, datasize] = 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.

BaseSIMD&FPSVESMEIndex byInstructionsInstructionsInstructionsInstructionsEncoding

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

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Sh Pseu