GCSSS2, Guarded Control Stack Switch Stack 2

The GCSSS2 characteristics are:

Purpose

Validates that the most recent entry of the Guarded control stack that is getting switched to contains an In-progress cap entry, stores a Valid cap entry to the Guarded control stack that is getting switched from, and sets Xt to the address of that Valid cap entry.

Configuration

This instruction is present only when FEAT_GCS is implemented. Otherwise, direct accesses to GCSSS2 are undefined.

Attributes

GCSSS2 is a 64-bit System instruction.

Field descriptions

63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32
Output address, for the outgoing Guarded control stack
Output address, for the outgoing Guarded control stack
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

Bits [63:0]

Output address, for the outgoing Guarded control stack.

Executing GCSSS2

Accesses to this instruction use the following encodings in the System instruction encoding space:

```
GCSSS2 <Xt>
```

op0	op1	CRn	CRm	op2
0b01	0b011	0b0111	0b0111	0b011

```
if PSTATE.EL == EL0 then
    X[t, 64] = GCSSS2();
elsif PSTATE.EL == EL1 then
    X[t, 64] = GCSSS2();
elsif PSTATE.EL == EL2 then
    X[t, 64] = GCSSS2();
elsif PSTATE.EL == EL3 then
    X[t, 64] = GCSSS2();
```

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