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GCSSS1, Guarded Control Stack Switch Stack 1

The GCSSS1 characteristics are:

Purpose

Validates that the stack being switched to contains a Valid cap entry, stores an In-progress cap entry on to the stack that is getting switched to and sets the current Guarded control stack pointer to the stack that is getting switched to.

Configuration

This instruction is present only when FEAT_GCS is implemented. Otherwise, direct accesses to GCSSS1 are undefined.

Attributes

GCSSS1 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

| Input address, for the incoming Guarded control stack |
| Input address, for the incoming 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]

Input address, for the incoming Guarded control stack.

Executing GCSSS1

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

GCSSS1 <Xt>

op0	op1	CRn	CRm	op2
0b01	0b011	0b0111	0b0111	0b010

```
if PSTATE.EL == EL0 then
    GCSSS1(X[t, 64]);
elsif PSTATE.EL == EL1 then
    GCSSS1(X[t, 64]);
elsif PSTATE.EL == EL2 then
    GCSSS1(X[t, 64]);
elsif PSTATE.EL == EL3 then
    GCSSS1(X[t, 64]);
```

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