GITS_STATUSR, ITS Error Reporting Status Register

The GITS_STATUSR characteristics are:

Purpose

Provides software with a mechanism to detect:

- Accesses to reserved locations.
- Writes to read-only locations.
- Reads of write-only locations.
- Unmapped MSIs.

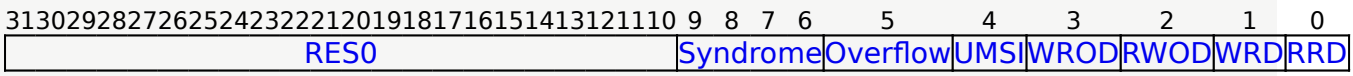
Configuration

There are no configuration notes.

Attributes

GITS_STATUSR is a 32-bit register.

Field descriptions



Bits [31:10]

Reserved, res0.

Syndrome, bits [9:6]

Syndrome for the MSI that set GITS_STATUSR.UMSI to 1.

Syndrome	Meaning
0b0000	Unknown reason.
0b0010	DeviceID out of range.
0b0011	DeviceID unmapped.
0b0100	EventID out of range.
0b0101	EventID unmapped.
0b0111	Collection unmapped.
0b1001	vPEID unmapped.

An implementation might not support reporting all syndromes, and might report `0b0000` for any cause.

This field is unknown when GITS_STATUSR.UMSI is 0.

Overflow, bit [5]

Reports whether an unmapped MSI has been received while GITS_STATUSR.UMSI is 1.

Overflow	Meaning
`0b0`	No unmapped MSIs have been received since GITS_STATUSR.UMSI set to 1.
`0b1`	At least one unmapped MSIs have been received since GITS_STATUSR.UMSI set to 1.

A software write of 1 to the bit clears it. A write of any other value is ignored.

If GITS_TYPER.UMSI is 0, this field is res0.

UMSI, bit [4]

Reports whether an unmapped MSI has been received

An unmapped MSI is defined as an MSI arriving at GITS_TRANSLATER for which there is insufficient mapping information for it to be forwarded to a Redistributor.

It is implementation defined whether an INT command can be reported as an unmapped MSI.

UMSI	Meaning
`0b0`	No unmapped MSIs have been received.
`0b1`	Unmapped MSI received.

A software write of 1 to the bit clears it. A write of any other value is ignored.

If GITS_TYPER.UMSI is 0, this field is res0.

WROD, bit [3]

Write to an RO location.

WROD	Meaning

0b0	Normal operation.
0b1	A write to an RO location has been detected.

When a violation is detected, software must write 1 to this register to reset it.

RWOD, bit [2]

Read of a WO location.

RWOD	Meaning
0b0	Normal operation.
0b1	A read of a WO location has been detected.

When a violation is detected, software must write 1 to this register to reset it.

WRD, bit [1]

Write to a reserved location.

WRD	Meaning
0b0	Normal operation.
0b1	A write to a reserved location has been detected.

When a violation is detected, software must write 1 to this register to reset it.

RRD, bit [0]

Read of a reserved location.

RRD	Meaning
0b0	Normal operation.
0b1	A read of a reserved location has been detected.

When a violation is detected, software must write 1 to this register to reset it.

Accessing GITS_STATUSR

This is an optional register. If the register is not implemented, the location is RAZ/WI.

GITS_STATUSR can be accessed through the memory-mapped interfaces:

Component	Offset	Instance
GIC ITS control	0x0040	GITS_STATUSR

Accesses on this interface are **RW**.

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