GICR_IPRIORITYR<n>E, Interrupt Priority Registers (extended PPI range), n = 8 - 23

The GICR_IPRIORITYR<n>E characteristics are:

Purpose

Holds the priority of the corresponding interrupt for each extended PPI supported by the GIC.

Configuration

This register is present only when FEAT_GICv3p1 is implemented. Otherwise, direct accesses to GICR_IPRIORITYR<n>E are res0.

A copy of this register is provided for each Redistributor.

Attributes

GICR_IPRIORITYR<n>E is a 32-bit register.

Field descriptions

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
Priority_offset_3B	Priority_offset_2B	Priority_offset_1B	Priority_offset_0B

Priority_offset_3B, bits [31:24]

Interrupt priority value from an implementation defined range, at byte offset 3. Lower priority values correspond to greater priority of the interrupt.

The reset behavior of this field is:

- On a GIC reset, this field resets to an architecturally unknown value.

Priority_offset_2B, bits [23:16]

Interrupt priority value from an implementation defined range, at byte offset 2. Lower priority values correspond to greater priority of the interrupt.

The reset behavior of this field is:

- On a GIC reset, this field resets to an architecturally unknown value.

Priority_offset_1B, bits [15:8]

Interrupt priority value from an implementation defined range, at byte offset 1. Lower priority values correspond to greater priority of the interrupt.

The reset behavior of this field is:

- On a GIC reset, this field resets to an architecturally unknown value.

Priority_offset_0B, bits [7:0]

Interrupt priority value from an implementation defined range, at byte offset 0. Lower priority values correspond to greater priority of the interrupt.

The reset behavior of this field is:

- On a GIC reset, this field resets to an architecturally unknown value.

For interrupt ID m, when DIV and MOD are the integer division and modulo operations:

- The corresponding GICR_IPRIORITYR<n> number, n, is given by n = (m-1024) DIV 4.
- The offset of the required GICR_IPRIORITYR<n>E register is (`0x400` + (4*n)).
- The byte offset of the required Priority field in this register is m MOD 4, where:
  - Byte offset 0 refers to register bits [7:0].
  - Byte offset 1 refers to register bits [15:8].
  - Byte offset 2 refers to register bits [23:16].
  - Byte offset 3 refers to register bits [31:24].

Accessing GICR_IPRIORITYR<n>E

When affinity routing is not enabled for the Security state of an interrupt in GICR_ISACTIVER<n>E, the corresponding bit is res0.

When GICD_CTLR.DS==0:

- A field that corresponds to a Group 0 or Secure Group 1 interrupt is RAZ/WI to Non-secure accesses.
- A Non-secure access to a field that corresponds to a Non-secure Group 1 interrupt behaves as described in Software accesses of interrupt priority.

Bits corresponding to unimplemented interrupts are RAZ/WI.

Note

Implementations must ensure that an interrupt that is pending at the time of the write uses either the old value or the new value and must ensure that the interrupt is neither lost nor handled more than once. The effect of the change must be visible in finite time.

GICR_IPRIORITYR<n>E can be accessed through the memory-mapped interfaces:

Component	Frame	Offset	Instance
GIC Redistributor	SGI_base	0x0400 + (4 * n)	GICR_IPRIORITYR<n>E

Accesses on this interface are **RW**.

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