

## GICR\_INVLPIR, Redistributor Invalidate LPI Register

The GICR\_INVLPIR characteristics are:

### Purpose

Invalidates the cached configuration data of a specified LPI, causing the GIC to reload the interrupt configuration from the appropriate LPI Configuration table.

### Configuration

A copy of this register is provided for each Redistributor.

### Attributes

GICR\_INVLPIR is a 64-bit register.

### 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
V	RES0															vPEID															
INTID																															
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

#### **V, bit [63]**

**When FEAT\_GICv4p1 is implemented:**

Indicates whether the INTID is virtual or physical.

<b>V</b>	<b>Meaning</b>
0b0	Invalidate is for a physical INTID.
0b1	Invalidate is for a virtual INTID.

#### **Otherwise:**

Reserved, res0.

#### **Bits [62:48]**

Reserved, res0.

## **vPEID, bits [47:32]**

### **When FEAT\_GICv4p1 is implemented:**

When GICR\_INVLPIR.V == 0, this field is res0

When GICR\_INVLPIR.V == 1, this field is the target vPEID of the invalidate.

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#### **Note**

The size of this field is implementation defined, and is specified by the [GICD\\_TYPER2.VIL](#) and [GICD\\_TYPER2.VID](#) fields. Unimplemented bits are res0.

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### **Otherwise:**

Reserved, res0.

## **INTID, bits [31:0]**

The INTID of the LPI to be invalidated.

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#### **Note**

The size of this field is implementation defined, and is specified by the [GICD\\_TYPER.IDbits](#) field. Unimplemented bits are res0.

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#### **Note**

If any LPI has been forwarded to the PE and a valid write to GICR\_INVLPIR is received, the Redistributor must ensure it reloads its properties from memory and apply any changes by retrieving and reforwarding the LPI as required. This has no effect on the forwarded LPI if it has already been activated.

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## **Accessing GICR\_INVLPIR**

When written with a 32-bit write the data is zero-extended to 64 bits.

This register is mandatory when any of the following are true:

- [GICR\\_TYPER.Direct](#) is 1.

- [GICR\\_CTLR](#).IR is 1.
- GICv4.1 is implemented.

Otherwise, the functionality is implementation defined.

Writes to this register have no effect if either:

- The specified LPI is not currently stored in the local Redistributor.
- The INTID field corresponds to an unimplemented LPI.

**GICR\_INVLPIR can be accessed through the memory-mapped interfaces:**

Component	Frame	Offset	Instance
GIC Redistributor	RD_base	0x00A0	GICR_INVLPIR

Accesses on this interface are **WO**.

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