

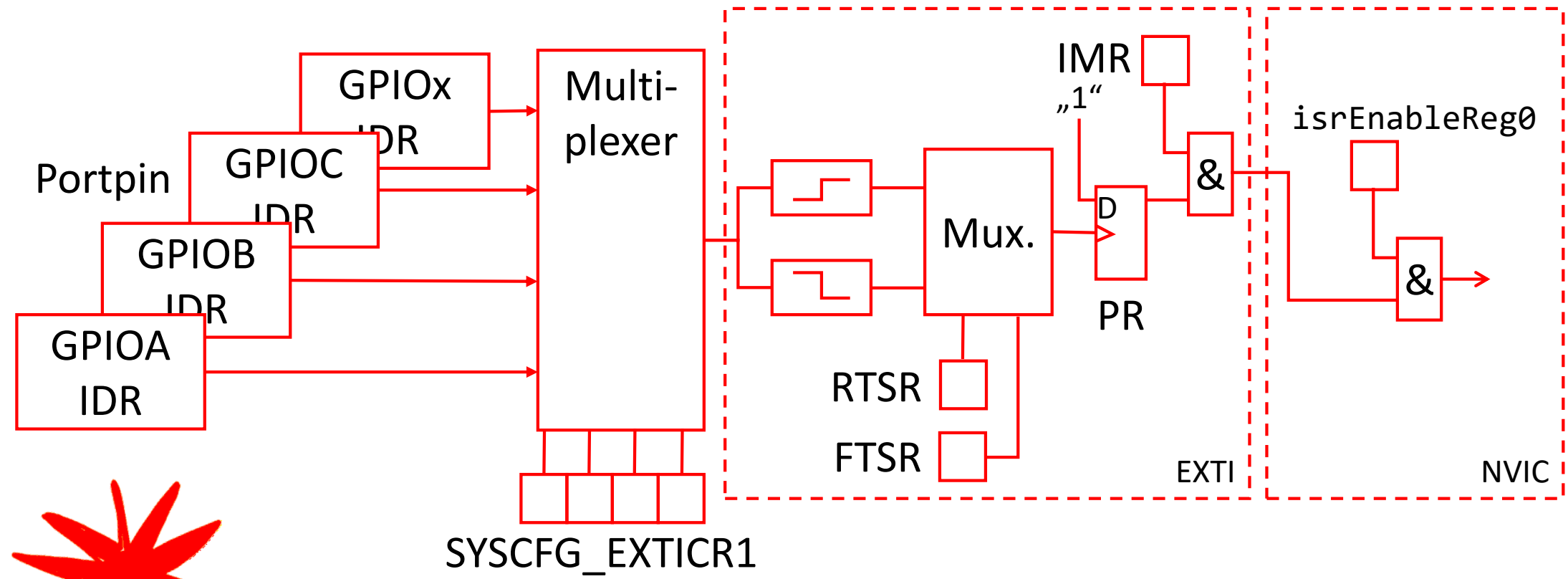
# Das Interruptsystem des STM32



Den Programmablauf mit der  
Hardware steuern



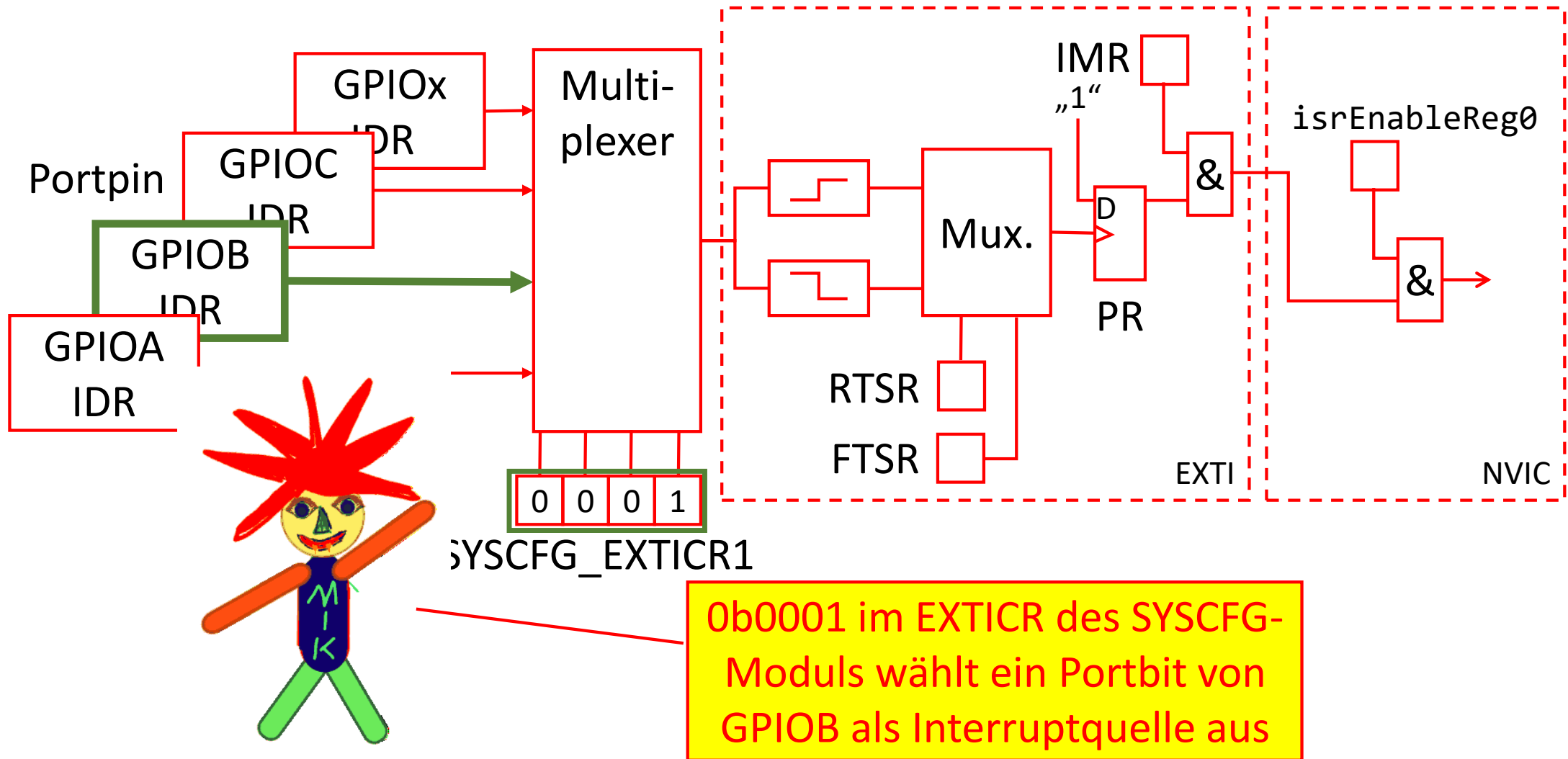
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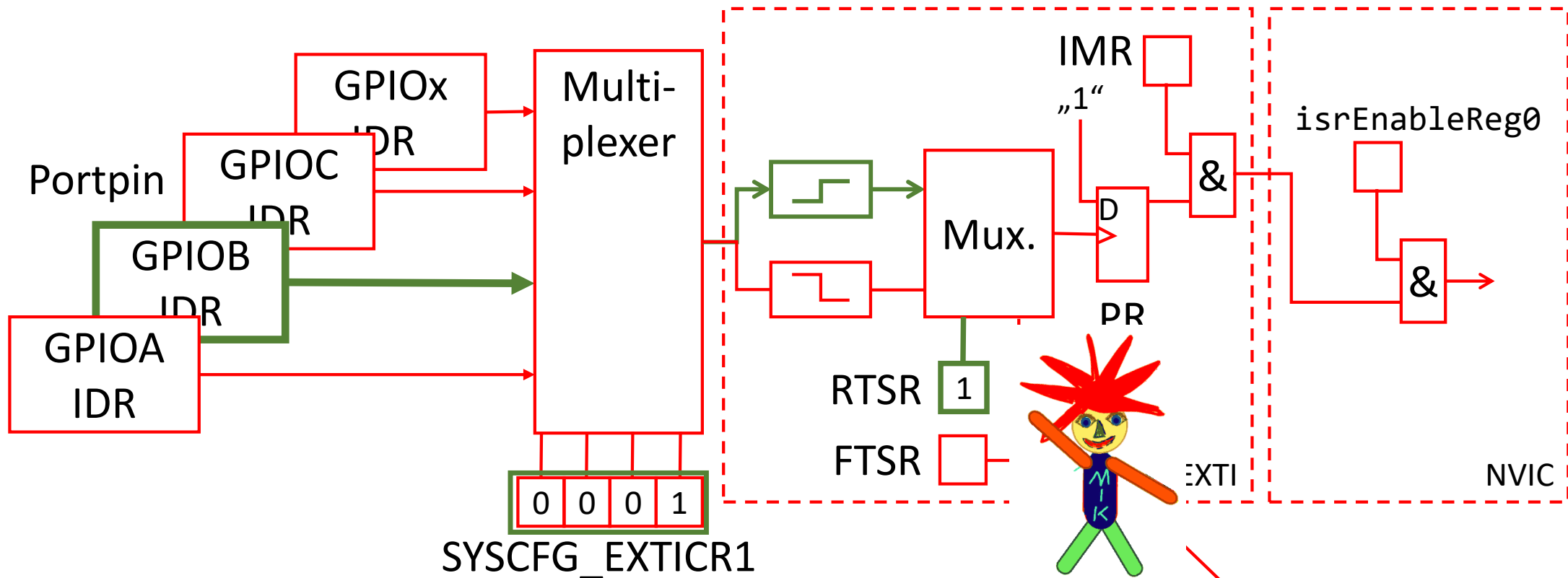


```
Ldr R4, =SysCFG
ldr R3, =0b0001000100010001
str R3, [R4, SYSCFG_EXTICR1]
```

```
//EXTI 3..0 GPIOB: PB3, PB2, Pb1, PB0
```



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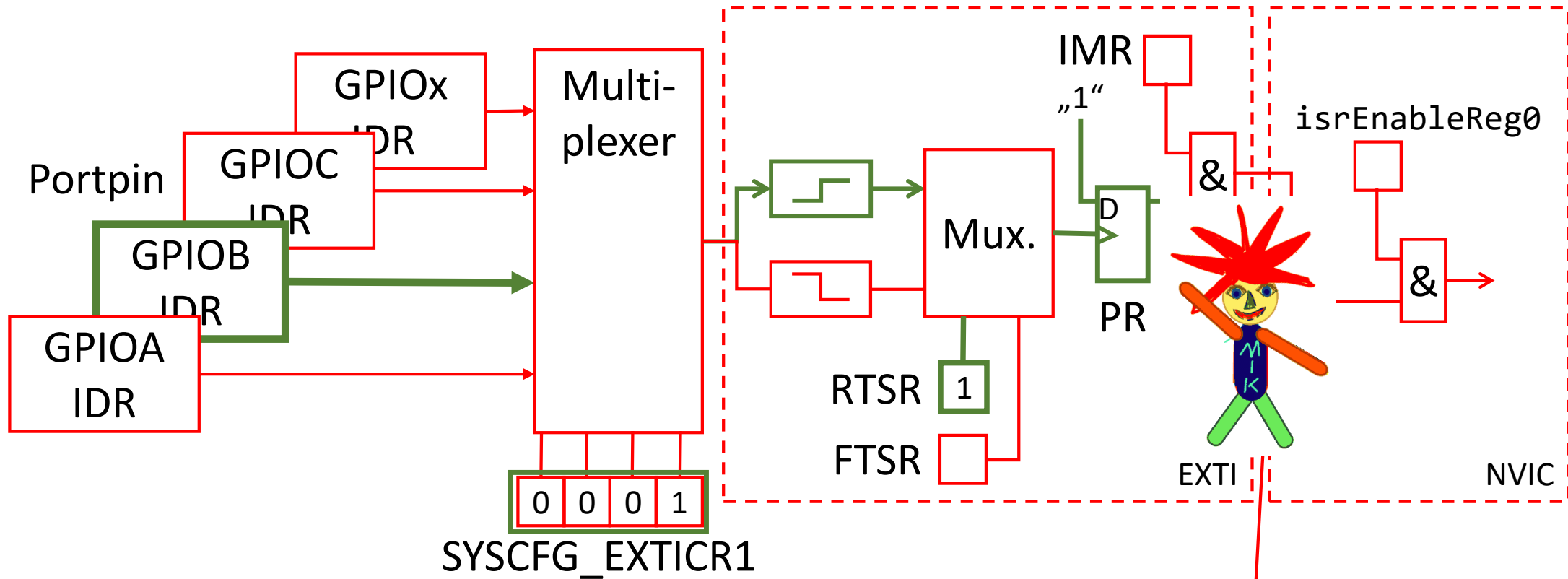


Eine 1 im Rising Transitions Register wählt die steigende Flanke aus

```
ldr    R4,=EXTI          //external Interrupt Controller
mov    R3,Bit0           //Bit0 = PB0 mit steigender Flanke
str    R3,[R4,RTSR]      //RTSR = Rising Transitions Register
```



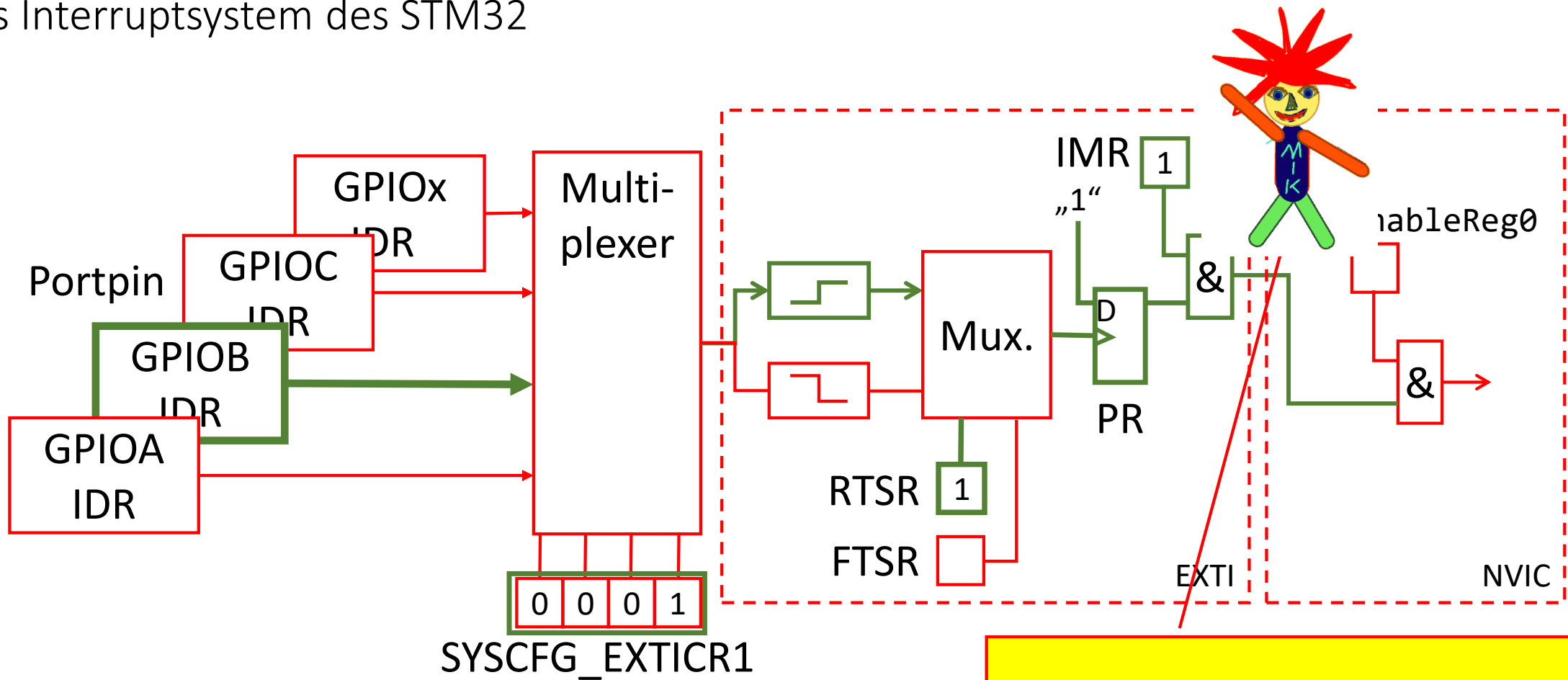
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Bei einer steigenden Flanke am GPIOB Portpin wird das Pendingregister gesetzt



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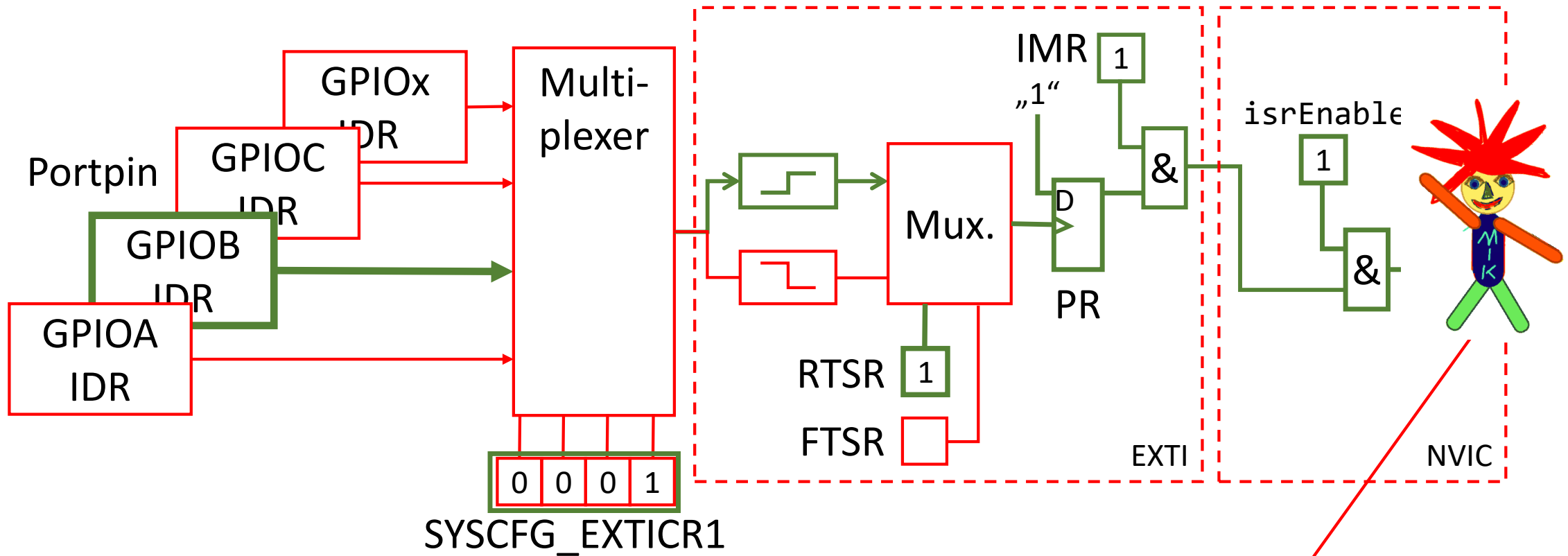


```
ldr    R4,=EXTI           //external Interrupt Controller
mov    R3,Bit0             //Bit0 = PB0 INterrupt freigeben
str    R3,[R4,IMR]         //IMR = Interrupt Mask Register
```

Wenn das Maskierungsbit im Interrupt-Mask-Register IMR gesetzt ist, wird der Interrupt an den NVIC weitergeleitet.  
(Nested Vector Interrupt Control)



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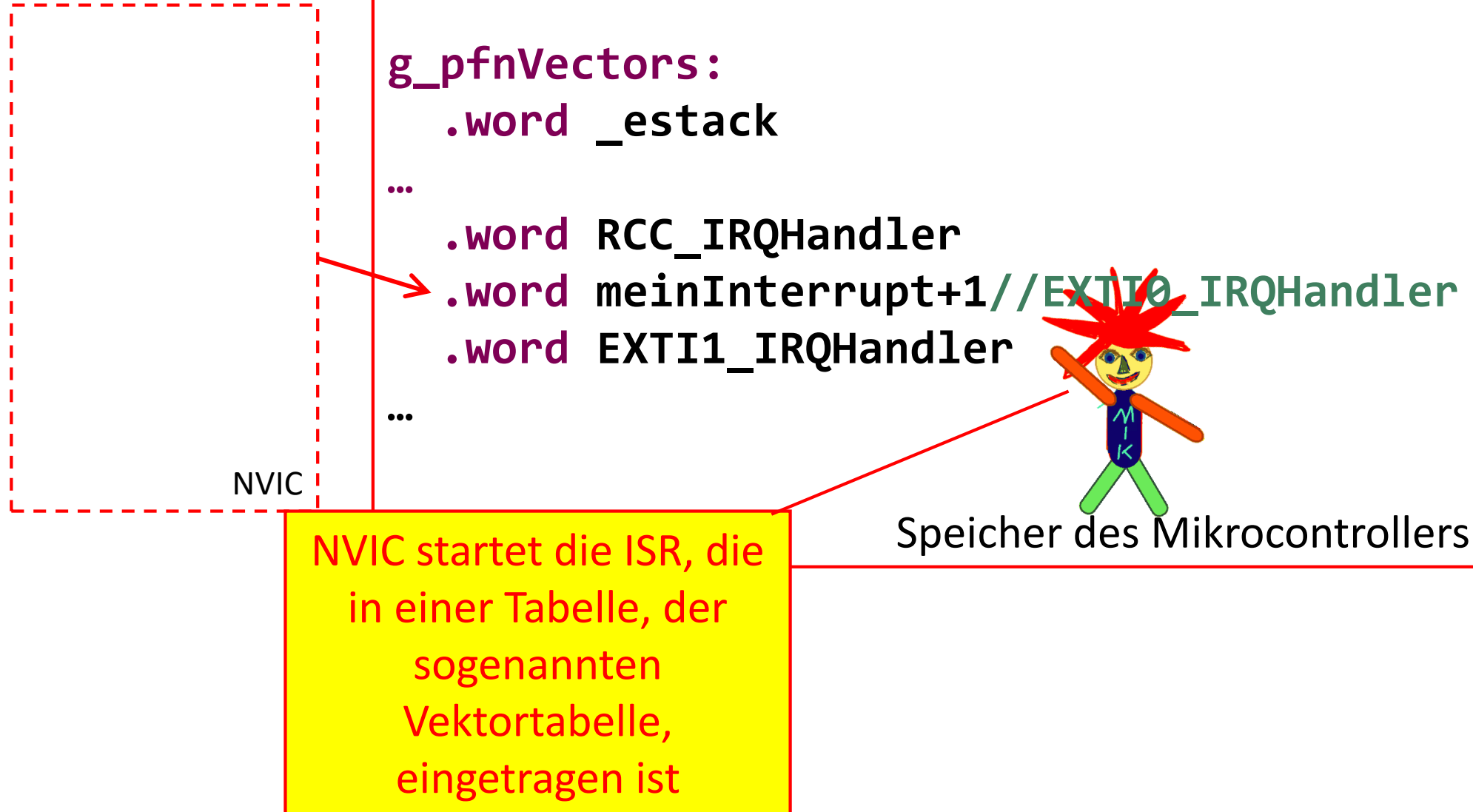


```
ldr R4,=nvic
ldr R3,=0xFFFFFFFF
str R3,[R4,isrEnableReg0]
str R3,[R4,isrEnableReg1]
```

Der Interrupt wird  
ausgeführt wenn er im  
NVIC freigegeben ist



# Das Interruptsystem des STM32





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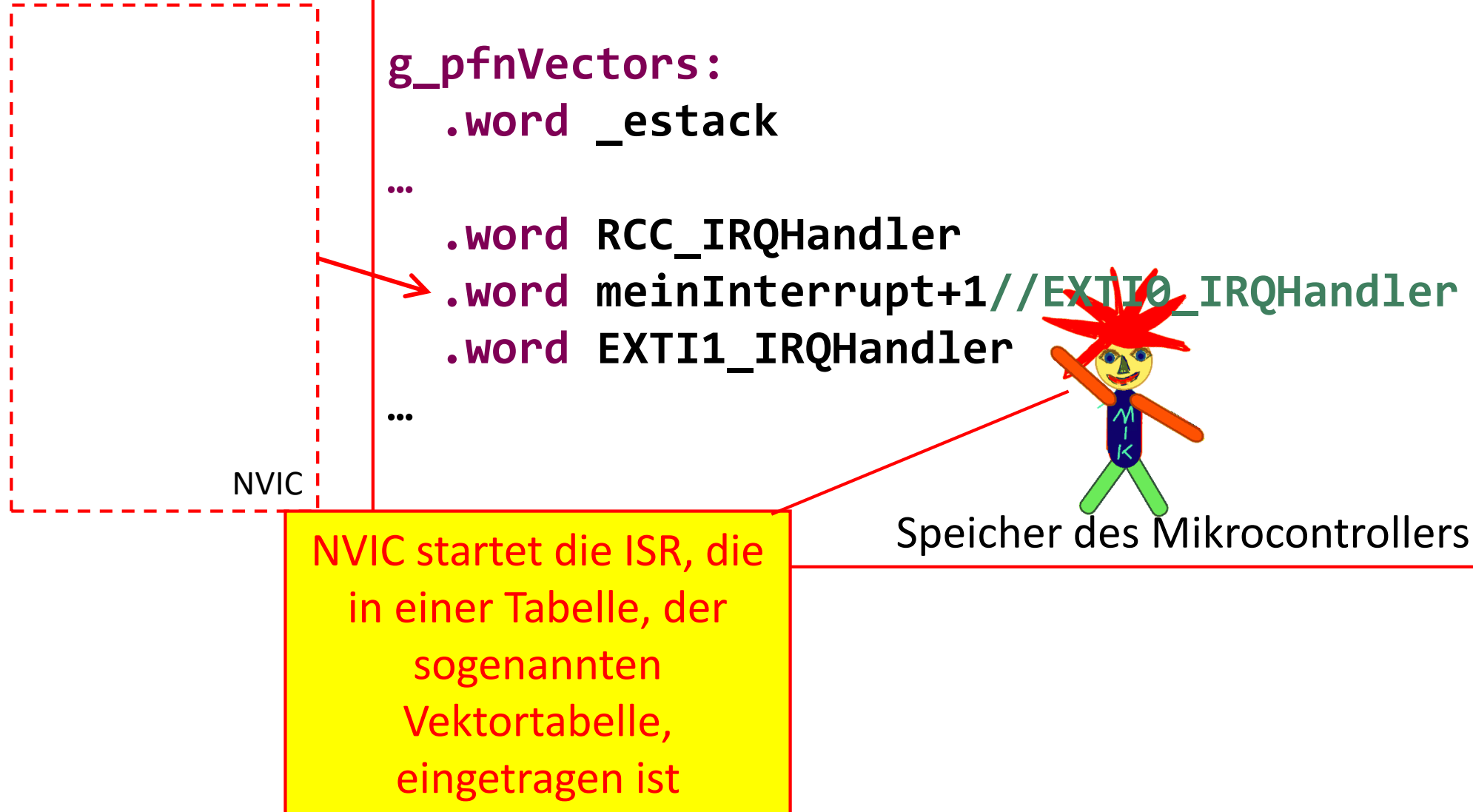


Table 51. Vector table (Cat.4, Cat.5 and Cat.6 devices)

Position	Priority	Type of priority	Acronym	Description	Address
-	-	-	-	Reserved	0x0000_0000
-	-3	fixed	Reset	Reset	0x0000_0004
-	-2	fixed	NMI_Handler	Non maskable interrupt. The RCC Clock Security System (CSS) is linked to the NMI vector.	0x0000_0008
-	-1	fixed	HardFault_Handler	All class of fault	0x0000_000C
-	0	settable	MemManage_Handler	Memory management	0x0000_0010
-	1	settable	BusFault_Handler	Pre-fetch fault, memory access fault	0x0000_0014
-	2	settable	UsageFault_Handler	Undefined instruction or illegal state	0x0000_0018
-	-	-	-	Reserved	0x0000_001C - 0x0000_002B
-	3	settable	SVC_Handler	System service call via SWI instruction	0x0000_002C
-	4	settable	DebugMon_Handler	Debug Monitor	0x0000_0030
-	-	-	-	Reserved	0x0000_0034
-	5	settable	PendSV_Handler	Pendable request for system service	0x0000_0038
-	6	settable	SysTick_Handler	System tick timer	0x0000_003C
0	7	settable	WWDG	Window Watchdog interrupt	0x0000_0040
1	8	settable	PVD	PVD through EXTI Line16 detection interrupt	0x0000_0044
2	9	settable	TAMPER_STAMP	Tamper, LSECSS and TimeStamp through EXTI line19 interrupts	0x0000_0048
3	10	settable	RTC_WKUP	RTC Wakeup through EXTI line20 interrupt	0x0000_004C
4	11	settable	FLASH	Flash global interrupt	0x0000_0050
5	12	settable	RCC	RCC global interrupt	0x0000_0054
6	13	settable	EXTI0	EXTI Line0 interrupt	0x0000_0058
7	14	settable	EXTI1	EXTI Line1 interrupt	0x0000_005C
8	15	settable	EXTI2	EXTI Line2 interrupt	0x0000_0060
9	16	settable	EXTI3	EXTI Line3 interrupt	0x0000_0064

Die  
Vektortabelle

