

DPM Interrupts

Q

Which interrupt signals are related to DPM activity?

A

External DPM Interrupts

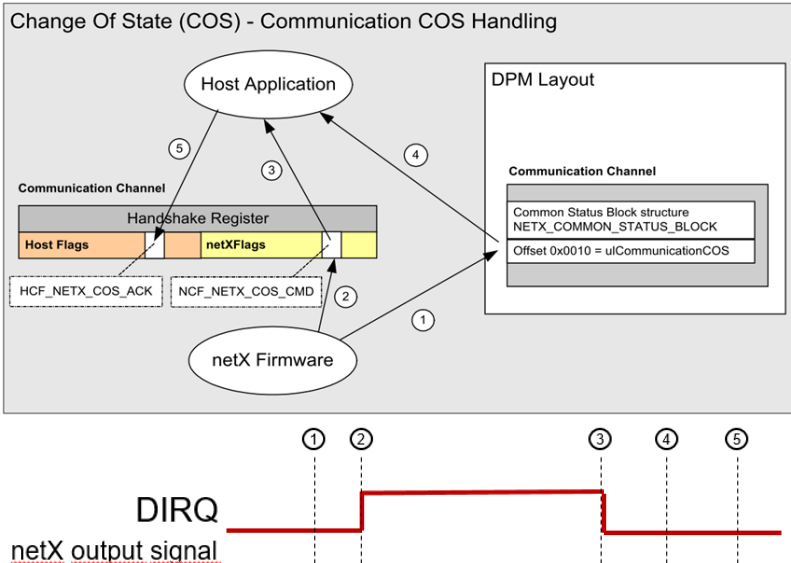
netX 90 features 2 external interrupt signals for all DPM channels: Signals DIRQ and SIRQ. Since SIRQ is unused in current Hilscher LFWs, there is actually only 1 interrupt signal related to the DPM activity

DPM_DIRQ / SPI_DIRQ signal

The DIRQ signal (depending on the used host interface parallel or serial) is triggered and reset automatically by DPM access

netX Firmware writes handshake flags: DIRQ activated

Host read handshake flags: DIRQ deactivated



The polarity of the DIRQ signal (high/low active) can be configured in the DPM hardware configuration. Details can be found inside the register description of register `dpm0_com.dpm_io_cfg_misc`. The signal can be enabled via the register bit `dpm0_com.dpm_pio_cfg1.sel_dirq_pio`.

Note 2021 July 1.: netXStudio supports for the serial DPM only the mode push / pull and active low. This limitation will be removed inside a future version of netXStudio.

DPM_SIRQ / SPI_SIRQ signal

currently not used by Hilscher LFWs (loadable firmwares)

See also...

- Using MMIO8 .. MMIO17
- Using 3 UART interfaces
- netX 90 peripheral drivers, driver examples, and protocol examples links
- Running waf build under Linux
- How to build an application firmware extension (NAE file)?
- "Resource does not exist" problem, when trying to start debugging the application firmware in netX Studio CDT.
- Hardware Watchdog
- Using a webserver or TCP/IP UDP based service on the Host Application side
- Memory Usage
- Boundary Scan (BSDL) Files
- BOD - Brown Out Detection
- Using the DDP service to set the MAC address
- DPM Interrupts
- 1.2V Core Voltage Supply
- Stack and Heap

Internal DPM Interrupts

The granularity of interrupts for the internal DPM is higher than for the external DPM.

Each handshake register, i.e. each DPM channel, features its own interrupt.

netx90_app.h

IR Q	Name		DPM channel mapping
..			
32	hsc0_IRQn	handshake cell 0	System Channel
33	hsc1_IRQn	handshake cell 1	Sync-Hanshake Flags
34	hsc2_IRQn	handshake cell 2	Communication Channel 0
35	hsc3_IRQn	handshake cell 3	Communication Channel 1
36	hsc4_IRQn	handshake cell 4	Communication Channel 2
37	hsc5_IRQn	handshake cell 5	
38	hsc6_IRQn	handshake cell 6	
39	hsc7_IRQn	handshake cell 7	
40	hsc8to15_IRQn	handshake cell 8..15	
..			