NIOS Peripherals System ID

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NIOS Peripherals – System ID

These slides describe the System ID peripheral for the NIOS system

Upon completion: You should understand the iperation of the System ID IP in a NIOS system

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NIOS Peripherals – System ID

- System ID
  - Hardware configuration validation module
  - A unique ID is created based on the NIOS configuration
    - Stored in a register in the System ID block
    - Checked when downloading a program to ensure the BSP matches the hardware
  - A timestamp value is created when the NIOS system is generated
    - Stored in a register in the System ID block
    - Verifies that the system has not been changed since the BSP was created

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NIOS Peripherals – System ID

- System ID

Table 419. System ID Core Register Map

Offset	Register Name	R/W	Description
0	id	R	A unique 32-bit value that is based on the contents of the Platform Designer system. The id is similar to a check-sum value; Platform Designer systems with different components, different configuration options, or both, produce different id values.
1	timestamp	R	A unique 32-bit value that is based on the system generation time. The value is equivalent to the number of seconds after Jan. 1, 1970.

```
#define IOADDR_ALTERA_AVALON_SYSID_QSYS_ID(base)          __IO_CALC_ADDRESS_NATIVE(base, 0)
#define IORD_ALTERA_AVALON_SYSID_QSYS_ID(base)            IORD(base, 0)

#define IOADDR_ALTERA_AVALON_SYSID_QSYS_TIMESTAMP(base)   __IO_CALC_ADDRESS_NATIVE(base, 1)
#define IORD_ALTERA_AVALON_SYSID_QSYS_TIMESTAMP(base)     IORD(base, 1)
```

```
/*
*  return values:
*    0 if the hardware and software appear to be in sync
*    1 if software appears to be older than hardware
*   -1 if hardware appears to be older than software
*/

alt_32 alt_avalon_sysid_qsys_test(void)
```


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