

Real Time Group

מרכז להכשרות מקצועיות והשמה בתעשיית ההייטק

-Q1

-a

.GPS, Network Router, Digital Camera, Missile, Calculator, Radar System

Items that don't appear in the above list, are not controlled by a CPU. Therefore, they can't be defined as embedded systems

-b

GPS : SRT : User can recalculate the direction to the target in case of un-matching coordinates

Router : SRT : Quality of service for traffic categories may vary on the fly. Lose of data is acceptable in some applications

Tolerance While downloading data. However, the router should be able to transfer data within the rates published

.by the manufacturer with a few deviations

.Digital Camera : One shot mode - NRT

.Frames and continuous operation - SRT

.Missile : HRT : Dead-lines at each step should be reached. Deviations are disallowed

Calculator : NRT : Accurate results. Unless specified by the manufacturer - time is not a factor

Radar System : HRT : Dead-lines at each step should be reached. Deviations are disallowed

-Q2

Cross platform development system is a system in which an executable image dedicated for one platform is built on some other platform

that contains the necessary development tools.

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-Q3

Both the Host and the Target systems comprise the Cross Platform Development System. The Target is the platform on which the built image

is running. The Host is the platform on which the image is built. Data transfer utilities should be used to transfer the image from the Host to the Target

-Q4

The code generated by the compiler contains unresolved symbols. Therefore, absolute addresses are not assigned

The code generated by the linker may consist of many compiled modules. The linker scans all the compiled modules in order to resolve symbols

unite code, data and bss segments and assign absolute addresses to them

-Q5

Data transfer using Serial or Ethernet interface : Requires that the file transfer utility on the host and the software module

on the target will be able to communicate according to the transfer protocol

JTAG : Needs a special JTAG utility of the host system. Doesn't require any running software on the target. Suitable for board-bring-up

-Q6

Boot part - Initialize Key hardware components. Checks for existence of components that must be used later on such as DRAM for

storage and UART for debugging. Copies fragments to the volatile memory in order to allow normal execution of complex code

Loader Part - Once the key hardware components were detected and initialized and the necessary fragments were copied to the volatile

memory, the running image is either waiting for a key stroke in order to issue a command from the user menu, or automatically

load another image already located on some other place. This "other" loaded image may be an operating system.

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-Q7

.Using NOR - code can be directly executed from it

Using NAND - code can't be directly executed from it. Code must be copied to some other device that allows direct execution

.and then the processor should proceed from the place to which the code was copied

.Both NOR and NAND require RAM for operation on variables

-Q8

The boot loader obviously has to deal with variables. In order to effectively modify variables, they must reside on volatile memory devices

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