ARM A Series Processors

The suggested application is a DVR, for this without a doubt I would go with Linux + RT Extensions, this is a soft-real time system so undergoing the complexity that implementing networking, video decoding, dvd drivers, usb drivers, HDMI, and so on, using a cyclic executive or RTOS would be a huge challenge and would not make much financial sense.

CHOOSING A CPU

There are too many A series processors to list in a table, however we are looking for: Interrupts, DSP, multiple cores, ARM TrustZone (for security) and a Memory Management Unit. A Cortex-A9 would sound like a good choice.