

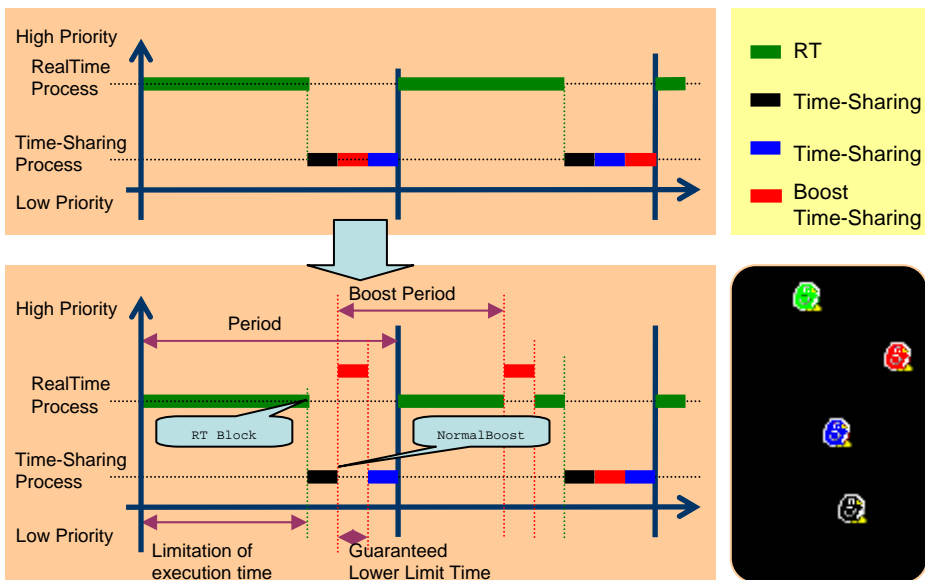


Linux Kernel CPU Resource Reservation

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What is demonstrated

Linux assigns higher priority to a real-time process than a Time-Sharing process so that no other processes could run if some real-time process would not release the CPU resource. In order to realize comfortable GUI in embedded systems like DTV which consists of real-time processes, interactive processes and background processes, we need to assign the CPU resource to a particular process which takes care of GUI. We implement CPU Resource Reservation Feature which specifies Upper Limit as well as Lower Limit of CPU usage for a process so that we could get response in acceptable time from a particular process.



Demonstration

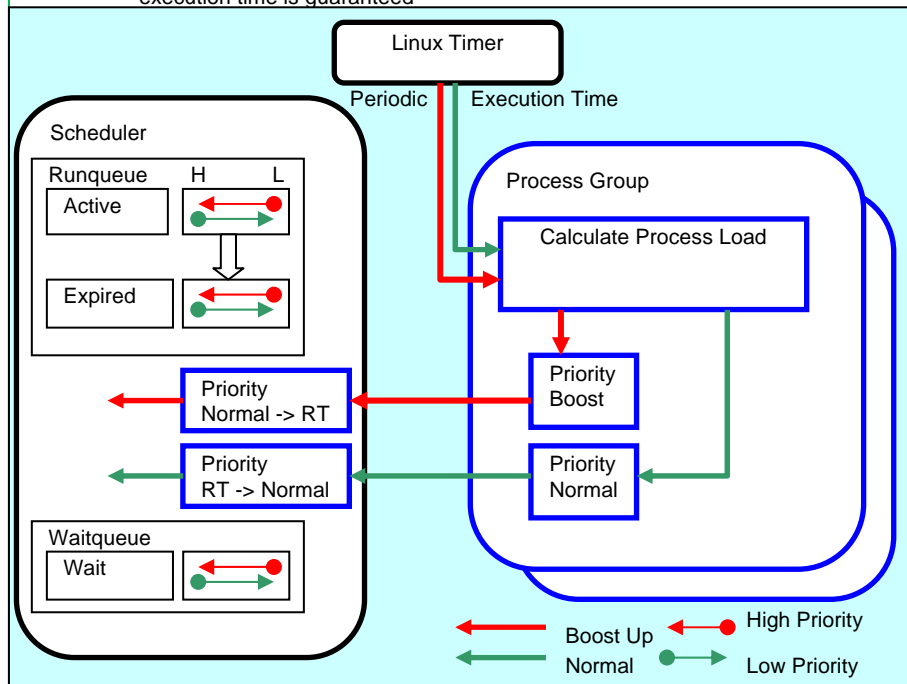
How was the Linux improved

Block of RT

RT processes are limited in maximum execution time in a defined period

Priority Boost Idea

Time-Sharing processes are boosted temporarily to RT processes, and minimum execution time is guaranteed



Patch (Source Code) Availability

The patch will be available in the CELF patch archive.

Hardware Information

Renesas RTS7751R2D

RealView Versatile ARM926EJ-S