

# Handling Aperiodic Overloads in Real Time Operating System

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**Abstract**—Many industrial applications with real-time demands are composed of mixed sets of tasks with a variety of requirements. The use of dynamic real-time operating systems (RTOS) becomes more and more common in modern manufacturing, aircraft, industrial automation systems, and telecommunication systems. Tasks must be completed with correct results by specified deadlines in such systems. The real-time task that occurs at any random time is known as an aperiodic real-time task. Between two aperiodic real-time tasks the time interval maybe even be zero. Soft real-time tasks are generally aperiodic real-time tasks. It is also possible that these tasks may occur frequently or there might be a large time interval between two aperiodic real-time tasks. However, in practice, the workloads of real-time systems fluctuate often due to task arrivals, peripheral device failures and so on. The newly accepted tasks may generate system overload, causing some of the tasks already in the system to miss their deadlines. In this work, we look at the topic of aperiodic overloading and try to figure out how to deal with it in a real-time operating system.

## REFERENCES

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