

## Performance, Scalability and Reliability Engineering: Shift Left and Shift Right Approach

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**Abstract :** Ideally, a test-driven development (TDD) or agile or any other process should be able to define and implement performance, scalability, and reliability (PSR) of the product with a higher quality of service (QOS) and should have the ability to fix any PSR issues with lesser cost before it hits the production. Most PSR test strategies for new product introduction (NPI) include assumptions about production load requirements but never accurate. NPE (New product Enhancement) include assumptions for new features that are being developed whilst workload distribution for older features can be derived by analyzing production transactions. This paper talks about how to shift left PSR towards design phase of release management process to get better QOS w.r.t PSR for any product under development. It also explains the ROI for future customer onboarding both for Service Oriented Architectures (SOA) and Microservices architectures and how to define PSR requirements.

**Keywords :** component PSR, performance engineering, performance tuning, reliability, return on investment, scalability, system PSR

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