

Performance Testing Service Capability

What is Performance Testing?

A system should be able to handle expected production loads, as well as higher than normal loads. A system must be able to return to normal performance levels once load returns to expected levels. The point at which a system's performance will deteriorate to unacceptable levels must be known. The process of evaluating a system against these criteria is known as *Performance Testing*.

Why conduct Performance Testing?

Performance testing is about increasing stakeholder confidence in the system, by managing and mitigating risk. Performance risks come in all shapes and sizes, and they vary from environment to environment. The following are only a couple of risks that may need mitigation through performance testing:

- large user base;
- high data volumes;
- complicated system architectures;
- damage to data.

Services Offered

Test and Data Services (Pty) Ltd offer services in the various disciplines of performance testing, for example:

- **Load Testing** evaluates the system's stability, responsiveness and throughput under production or lower levels of load.
- **Stress Testing** establishes how the system will perform under abnormally high load conditions.
- **Resiliency Testing** determines how the system recovers once its performance has deteriorated under abnormally high loads.
- **Scalability Testing** determines at which load levels the system's performance deteriorates exponentially.

Approach

Test and Data Services' best practice approach to performance testing includes:

- **Strategy and Planning** - assist the client to establish performance testing objectives, and a performance testing approach that will fit in with the client's processes and accurately estimate test schedules.
- **Analysis and Design** - together with client business specialists, identify test cases that best represent client business processes. Establish test configurations through careful analysis that will accurately simulate predicted usage.
- **Implementation** - Test and Data Services' knowledge of a large number of performance-testing toolsets will eliminate the need for additional tool training. The latest techniques and best practices will be used to provide stable, optimised and adaptable performance testing scripts.

- **Benchmark Test Execution** - establish the client's current performance profile against which future evaluations can be compared. Benchmark testing is repeated to establish new baselines as performance is improved.
- **Result Analysis and Reporting** - accurate analysing and reporting of performance testing results.
- **Tuning and Optimisation** - system performance will be tuned and optimised to produce the best profile for the given resource definition.
- **Exploratory Testing** - assist in the creation of exploratory test cases where bottlenecks are elusive.
- **Continuous Production Monitoring** - assist the client to configure continuous performance monitoring and alerts - if performance deteriorates below expectation.

Tools

Test and Data Services (Pty) Ltd has knowledge of an extensive range of both vendor-specific and open-source tools that can be utilised to benefit client performance testing projects. This expertise includes both load generation and resource monitoring toolsets.

Service Delivery

Performance testing services can be supplied in the following ways:

- **Consulting:** Clients often experience difficulties that require the input of a performance testing consultant. Test and Data Services' consultants are experienced in providing advice and guidance on an ad hoc basis.
- **Resources:** It is often not possible to justify the appointment of dedicated fulltime performance testing resources. In addition, finding adequately qualified resources is becoming more and more challenging. Test and Data Services provides qualified and experienced performance testing resources to satisfy all your performance testing needs.

Contact

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