Performance Testing Mobile/Web Portal using Apache JMeter

The Client: A leading US based insurance company

The Requirement:
Needed to test the ability of the payment server to handle peak time transaction traffic.

- Multiple Web Services like Payment Submission, User data retrieval, Image upload needs to be tested for performance
- Ensure that the system has a Minimum Success rate of 99 percent
- Ensure that time taken by the server to respond to a load of request transactions are within the acceptable levels
- Throughput of the system should be as high as possible to ensure transaction traffic is handled efficiently
- Server architecture and Hardware should be more than adequate to handle the load

The Challenges:

- Test Data setup: A large amount of data was needed to be created to check the performance and to make the system more dynamic
- Perform access control and multi-privilege tests with users that have varied roles, different privileges and executing unique activities (simulating real life usage scenarios)

The Solution:

- Multiple open source tools were reviewed for performance testing
- Apache JMeter was chosen because of the flexibility and reporting capabilities that it offers
- Simple Object Access Protocol (SOAP) was used and load was simulated on the server by means of concurrent web service calls
- All available web services were performance tested to ensure Server stability in handling required quantity of load
- Load was applied on the server incrementally to identify weaknesses and vulnerabilities
- Observed weaknesses/vulnerabilities were resolved by improving server configuration and architecture
- Load was applied on the System beyond required levels to ensure stability of services in instances of unexpected amount of requests

Benefits:

- The configuration and architecture changes made after performance testing server transactions, there were significant improvements and the server was successfully able to handle peak load with minimal error