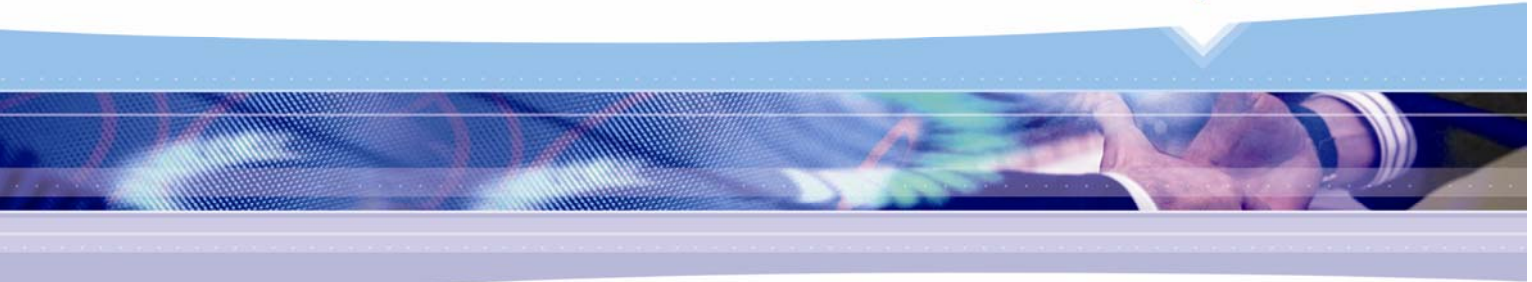


SLAMD Performance Testing



Client

Russian Government body

Industry

Government, Finance

Business Challenge

The client was designing and developing a new, mission-critical document management application to run on its widely distributed private network. Aside from more conventional and high bandwidth segments, the network also contained many segments that were carried by a relatively low bandwidth satellite network. The interaction of the new application with this network was therefore of great concern. Since the application had not been developed yet, the client was faced with the challenge of trying to understand this interaction without being able to test the real thing. The complex interaction architecture also negated the ability to use standard testing tools. Furthermore, access to the actual private network was not possible for testing purposes, since this would have interfered with business-critical activity.

Solution

Luxoft first developed a model, based on the application's functional requirements that could be used to simulate interactions with the communication channel. This involved analysis of expected usage patterns in the various offices and close collaboration with the client.

Project Facts:

- **Functional area**
 - Telecom
 - Performance Engineering
- **Business criticality**
Bandwidth sufficiency assessment for a mission-critical application
- **Domain skills**
SLAMD, Java, HTTP
- **User profile**
Local offices administrative staff
- **System geography**
Russia
- **Number of users**
NA
- **Relationships status**
Ongoing (Test procedure submitted for approval)
- **Team size**
Test Architect, PM, Performance Engineer
- **Duration**
3 months

Luxoft Case Study

Armed with the mathematical model, Luxoft then implemented simulation tests using the open-source SLAMD distributed stress testing and performance analysis tool. The resulting testing mechanism allowed simulation of the network load that would be generated by the application.

In the client's network, users in several Local Offices will interact with the application which is hosted in a Regional Office. Connectivity between Local and Regional offices is provided by a satellite network. It is this portion of the network which was of greatest concern. Because access to the actual network was not possible, Luxoft built a testing environment to simulate the structure of the client's private network. The structure of this network is shown below.

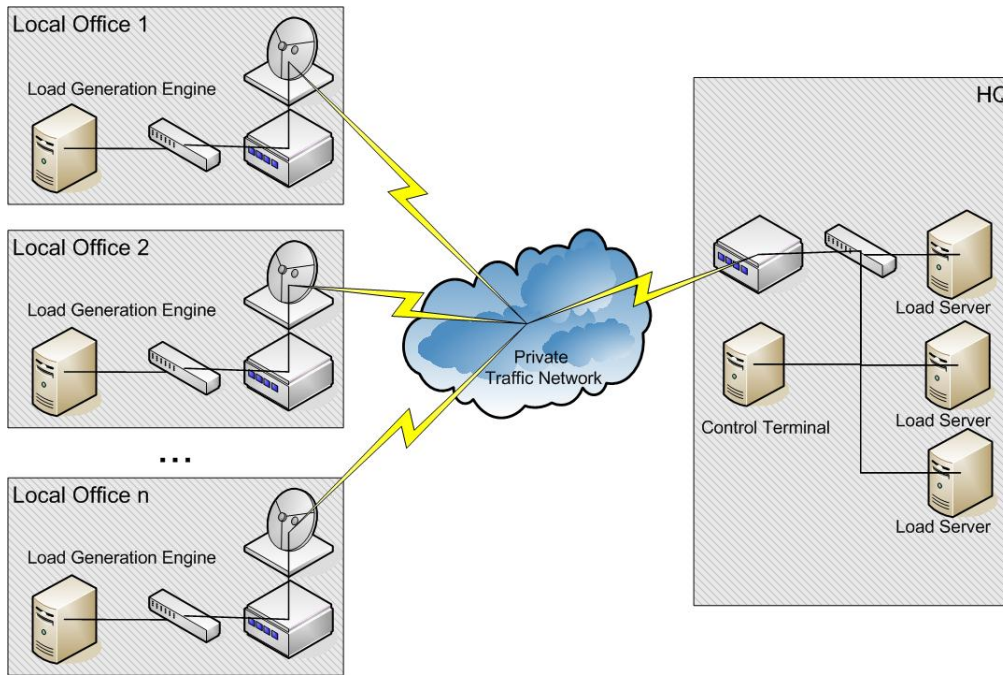


Figure 1: Simulation Environment

Simulations were then run on the test environment. This allowed the team to quantify the network load and estimate the requirements for the new application. The client then used this information to assess the feasibility of the new system by comparing with known specifications for the real network.

Benefits

- Proactive assessment of application feasibility without working code
- Cost-optimization through the use of open-source testing tools