

Terraprove



Hosted Messaging Services Provider Application Performance Testing

Background

Our client runs a hosted messaging service supporting wired and wireless messaging protocols and devices, and has several million mailboxes to manage. The architecture of the messaging platform is Solaris based and very distributed; distinct servers support mail, address book and calendar functions, and there are a number of LDAP repositories which support authentication, white pages and mailbox location lookup. As part of a substantial upgrade of their messaging software architecture, our client wanted to understand the hardware requirements to deploy the new software architecture. Their existing systems environment consisted of clusters each supporting some number of mailboxes. Terraprove was retained to assist with the testing and system sizing.

Business Challenges

- **Hosted Messaging provider needs to deploy new messaging architecture**
- **Needs to understand current customer workload**
- **Needs to understand system sizing and performance characteristics for new software architecture**

Terraprove's approach was to access the current web and application logs on the existing cluster systems, and ascertain the prevalent workload mix. Based on this analysis we developed a workload model that prioritized the business functions used more than 95% of the time by their customers.

Terraprove Approach

- **Developed test agents that executed the main business functions – POP, SMTP and Web Mail**
- **Used the Terraprove Workload Generation Tool to provide the framework for performance and scaling tests, as well as data collection**
- **Executed a series of tests to demonstrate total throughput for each of the business transactions relative to system resource utilization.**

During the testing which was executed over a period of 8 weeks we identified performance anomalies with large inline text messages vs attached content. We reviewed the results with the client's engineering organization and this led to fixes that allowed the inline message to perform as well as an attachment

The results of the performance and scalability testing demonstrated to the client that they would require significantly less systems resource to manage their existing mailboxes on the new software architecture, and that the number of hardware clusters could be significantly reduced.

Value Proposition

- **Performance testing validated the new architecture under stress type operating conditions**
- **Established cost of ownership for the client**
- **Mitigated deployment risk for the new messaging protocols**

Since the test bed did not have the same hardware resources as the production configuration, Terraprove also utilized public domain SMP queuing models to extend the performance profile of the application. This allowed us to predict, within a limited range of risk, messaging performance on more cpus than available to the test environment.

Sample output from test run using the Workload Generation Tool:

