



Scapa[®] Test and Performance Platform

Scapa TPP testing in complex, real-world, system environments brings many business benefits; ensuring user experience, predicting system capacity etc. This case study relates how Mansystems used Scapa TPP to identify and fix a performance issue and increase system capacity for one of their customers.

This case study describes the how Mansystems, a long-standing Scapa Technologies Services Partner organization, used Scapa TPP to demonstrate system scalability and pinpoint performance issues for one of their customers.

Mansystems provides industry-leading Service Management software solutions, training, and consultancy services to a broad-range of customers throughout the Netherlands.

"Scapa TPP is a great flexible tool for performing load and stress tests in complex system environments...The tool helps us to troubleshoot performance issues as well as show the scalability of environments.."
– Bart Tolen, CTO,
Mansystems

Why Scapa TPP

Scapa TPP, the professionals' capacity planning tool of choice.

Scapa TPP is the only test tool with the power, flexibility and feature list required for proper and accurate performance, capacity and scalability testing of Virtual Applications, Virtual Desktop Infrastructure (VDI), and Desktop Virtualization solutions from Microsoft®, Citrix®, VMware® and others. With a highly scalable engine technology, tests can be scaled to hundreds of thousands of users, using any automated GUI scripting tool of choice – such as WinTask, AutoIT, .Net™ etc.

Business Scenario

Mansystems, is a long-standing Scapa Technologies Services Partner organization, which provides industry-leading Service Management software solutions, training, and consultancy services to a broad-range of customers throughout the Netherlands. One of their customers was experiencing serious performance issues with a specific application running on their system. Mansystems consultants had performed significant "traditional" diagnostic investigations, for example, looking at log files, Oracle® statement tuning and measuring CPU. However, the root cause of the problem was proving elusive.

The Mansystems consultants decided to rebuild the customer's system in a laboratory environment and started experimenting with Scapa TPP test scripts running against the application. These scripts were produced easily and the tests run quickly. A major focus for these tests centred around a known issue with one function of the application. End-user experience showed that the application was taking up to 30 seconds to respond, thereby making the application frustrating to use and impacting significantly on productivity.

Solution

However, despite the understandable focus on the application response issue, Scapa TPP tests demonstrated clearly that the root cause of the problem was more fundamental. In fact, the Scapa TPP tests had uncovered a serialization issue within the application. Scapa TPP testing had revealed that when a specific function was used, all end-users were exposed to severe delays because the system was unable to handle their responses.

At this stage, Mansystems engaged Scapa Technologies' Professional Services to verify the tests results and perform the same tests on both the laboratory system and the customer's environment.

Using Scapa TPP, the Scapa consultant ran some additional tests to collect information on the application's processes. These tests revealed that only a single thread of the application was utilising CPU resources, yet the running process was multi-threaded. Additionally, using Windows Memory Dumps, the Scapa consultant was able to identify that a multi-threaded compartment was communicating with a single-threaded compartment. This meant that the

whole application was forced to work as a single-threaded application.

This information was supplied to Mansystems who, in turn, informed the software vendor. In this way a significant software quality issue was highlighted to the application vendor - one that they could not ignore.

The Result

Once the Scapa consultant had identified the issue, the application vendor provided a fix within a day. The problem had been traced to an upgrade of the compiler where an alteration had caused their multi-threaded application to become a single threaded application in the new release. The makefiles were fixed and the application recompiled.

The performance improvement was instant, overall user experience became consistent and the capacity of the system increased by a factor of 5.9.

Benefits

Mansystems and its customer gained huge benefits from this experience of testing using Scapa TPP, including:

- Scapa TPP gave Mansystems the ability to create and execute tests quickly and easily, helping to bring a successful resolution to all parties within days.
- The customer benefitted from significant improvements in user experience of their business-critical application.
- Additional testing by the Scapa Technologies consultant led to an increase in system capacity by a factor of 5.9.
- With the additional testing completed by the Scapa Technologies' consultant, a third party software quality issue was uncovered, reported and fixed within days. The Scapa consultant's systems knowledge and understanding proved invaluable, not just to Mansystems and its customer, but also in helping the software vendor improve the performance of their application.

Top Ten Technical Advantages

There are many key differentiators with the Scapa TPP solution – the Top Ten are listed below:

- 1.** Performance and scalability characteristics are taken from the end user experience, in addition to the server side experience. Server side metrics and end user experience metrics are correlated within Scapa TPP to expose the performance and scalability of your system.
- 2.** The ability to define your a workload model to suit any particular workflow and application mix.
- 3.** Ability to run live interactive tests (user load can be increased and decreased during tests runs) with real time results in addition to predefined, scheduled 'canned' tests.
- 4.** Concurrent login capability with the Citrix, Microsoft and VMware View clients.
- 5.** Ability to login to Citrix (and View/RDS) sessions via the Web broker
- 6.** Distributable Engine technology establishes the client sessions and handles the control, messaging and synchronisation logic from multiple locations simultaneously.
- 7.** Highly scalable architecture with insignificant CPU requirements from the Scapa Engine load injector component.
- 8.** Small results storage space requirements – full access to all results via SQL to the embedded relational database.
- 9.** Highly scalable and optimized, multithreaded Engine technology built with C enables Scapa to be virtually CPU insignificant, on the client and server side, enabling tests to scale to hundreds of thousands of users.
- 10.** Extensible architecture: Scapa TPP has a generic, load generating, multithreading architecture, built on a mix of Java and C, enabling the tool to be highly dynamic in responding to changes in the underlying architectures of the systems under test.

Scapa Technologies (www.scapatech.com)

Scapa TPP is a best-of-breed performance testing tool for Virtual Desktop, Remote Desktop, Citrix® and BMC Software® Remedy® AR System®, with support for additional technologies (such as HTTP(s) protocols).

All of the functionality is available in a single product and can be applied in combination, allowing Scapa TPP to:

- Benchmark
- Prove the value of WAN Optimization
- Highlight bottlenecks
- Reveal the performance and scalability characteristics from the end user perspective.
- Function in virtual architectures of any complexity.
- Facilitate migration projects between physical or virtual architectures in any combination and of any complexity.

Scapa Test and Performance Platform has a unique level of integration with Remedy AR Server and ITSM™ architectures at the C API, Java API and the http layer, and via multiple other touchpoints.