CROSSXCHECK networks

SOAPSonar Enterprise Server Edition

Distributed Agent Performance Loading Guide

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INTRODUCTION

The Crosscheck Networks SOAPSonar product provides comprehensive features for client-based emulation and testing across functional, automation, performance, interoperability, and security testing of REST, SOAP, XML, and many other message types. One powerful feature of SOAPSonar is the performance testing capabilities. The SOAPSonar framework provides the means to control instances of distributed loading agents installed on other machines to increase the number of clients and requests that can drive performance testing.

This guide will describe how to configure and run tests for distributed performance loading.

List of Key Topics

- SOAPSonar Agent Installer Package and Deployment
- Allocating Agents to a Performance Test
- Reviewing Aggregated Performance Results

License Requirements

Distributed performance loading requires a SOAPSonar Server Edition license key. The license key comes enables with a certain number of Virtual Users (VUs). These virtual users can be allocated to the embedded local performance agent that comes with the SOAPSonar Server Edition installation, and also allocated to external SOAPSonar Agent instances which will be used in conjunction with the embedded agent to distribute the load across multiple machines. To learn more about SOAPSonar Server Edition features, please visit http://www.crosschecknet.com/products/soapsonardetails_server.php. You can increase the number of VUs by simply purchasing additional VU packs to add to your SOAPSonar Server Edition license. The SOAPSonar Agent installations themselves require no license and can be installed on as many instances as desired.

SOAPSonar Agent Prerequisites

In order to deploy the SOAPSonar Agents, there are some base requirements per operating systems and minimum specs for the machines themselves. SOAPSonar Agents can be deployed on traditional hardware, or on virtualized systems such as VMWare or Cloud instances.

Supported Operating Systems

Windows 2000 and later

Product Minimum Requirements

1 GB RAM, 1 GHz CPU, 250 MB Free Space

3rd Party Software Requirements

SOAPSonar Agents requires .NET Framework 2.0 (or later) to be installed.

Uninstall Instructions

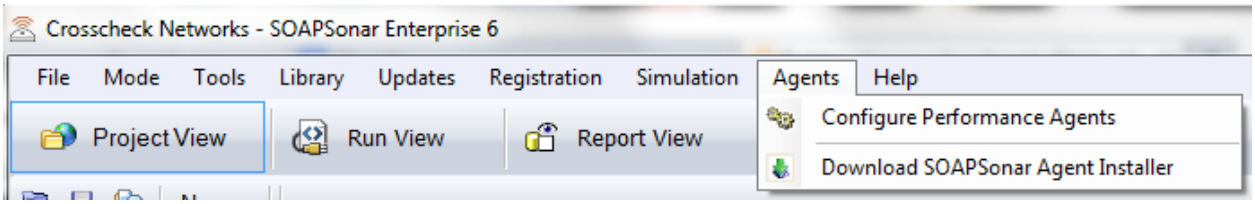
Use the add/remove programs menu to uninstall the product.

DISTRIBUTED PERFORMANCE TESTING

In order to be able to accomplish distributed performance testing, the SOAPSonar instances must be licensed as a SOAPSonar Enterprise Server Edition. Once licensed, the ability to deploy and allocate agents will be presented in Run View in Performance Mode.

1.1 Deploying the SOAPSonar Agents

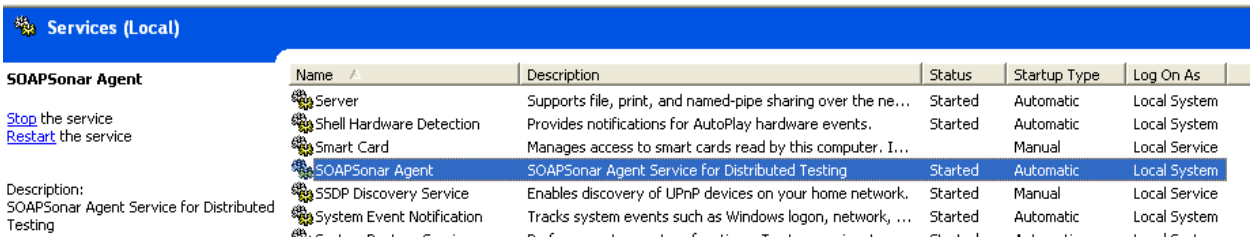
The SOAPSonar Agent installer can be downloaded by going to the Agents menu and selecting "Download SOAPSonar Agent Installer". This will launch a web page to the crosscheck web site and enable downloading of the applicable version of the SOAPSonar Agent installation package.



Once downloaded, simply go through the installation wizard to deploy the SOAPSonar Agent on as many target instances as desired. There is no license requirement to install the SOAPSonar Agents and there is no limit on the number of instances it can be installed on.

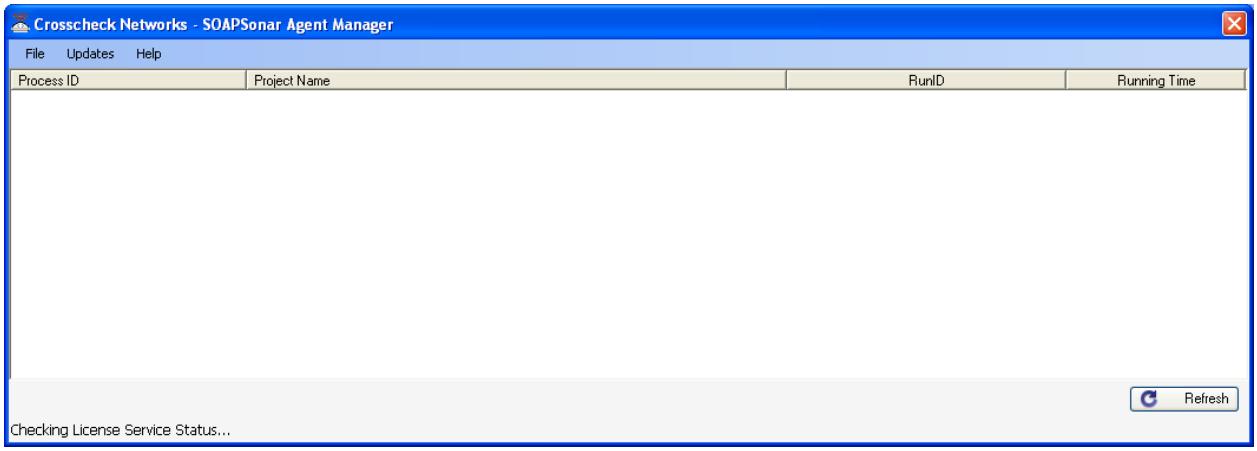
1.1.1 SOAPSonar Agent Service

Once installed, a new service will be created called SOAPSonar Agent Service. When this service is started it will listen on port 9570 (configurable) for test provisioning and execution requests from SOAPSonar Server Edition instances running tests.



1.1.2 SOAPSonar Agent Manager

The SOAPSonar Agent installation includes a SOAPSonar Agent Manager application which allows controlling the SOAPSonar Agent Service and also shows existing tests that are currently in progress.

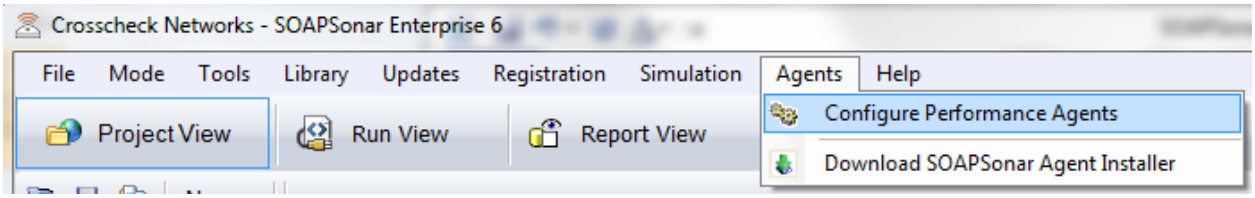


This utility also provides options for modifying the default control port 9570, enable debug logging, and check for latest SOAPSonar Agent versions.

2.1 Allocating Agents in SOAPSonar Server Edition Console

Agent definitions can be set up as a default set of agents from the main console menu. These definitions enable quick provisioning of agents on the Run View Test Suite Performance Settings.

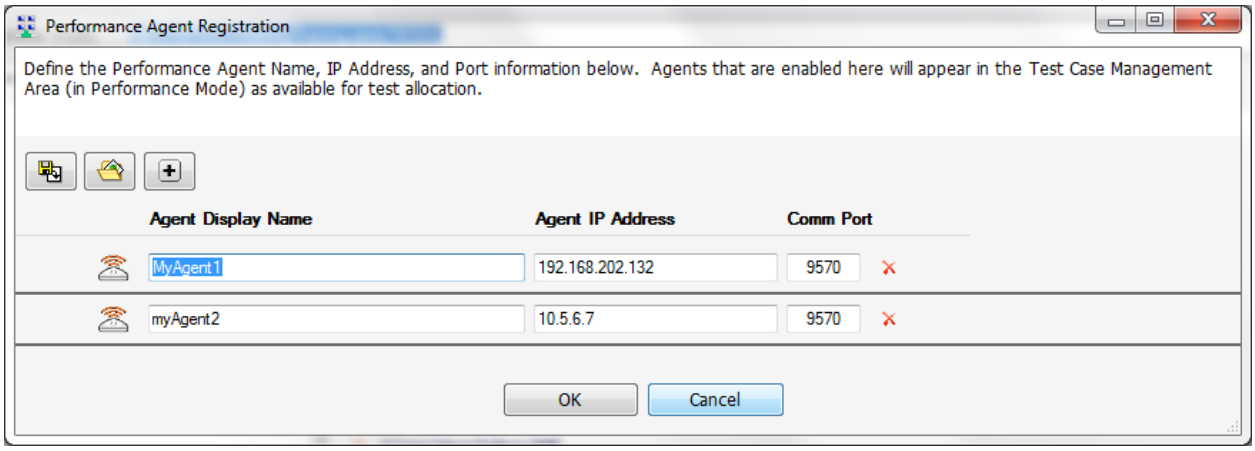
From the Agents menu, select the option “Configure Performance Agents”



This bring up the Agent Registration dialog. This dialog provides the following options:

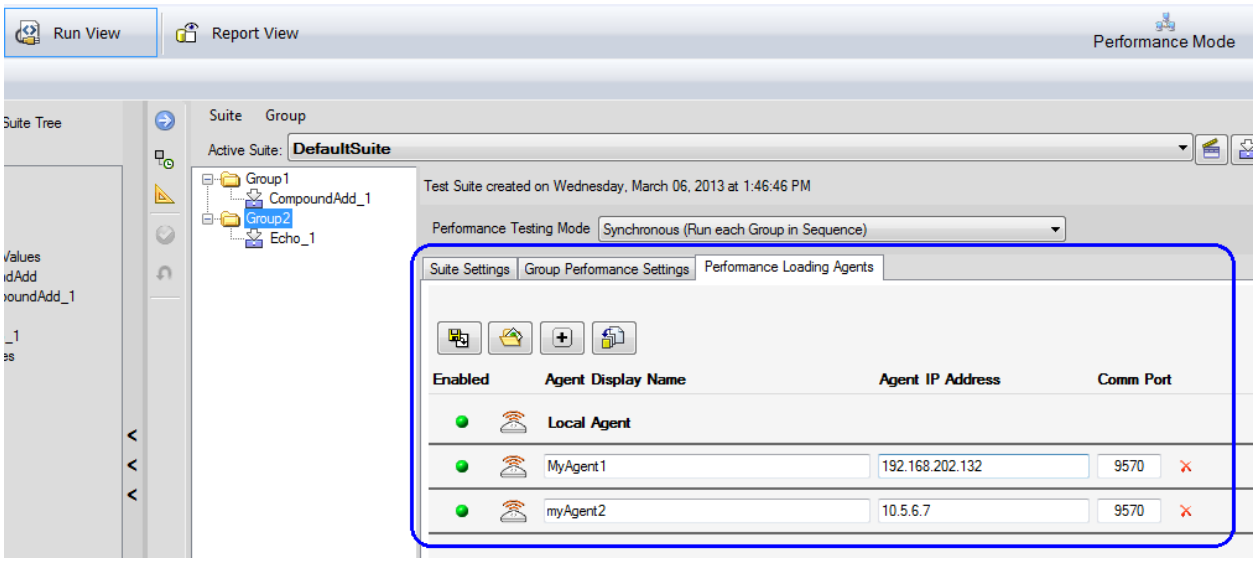
- **Export Agent Collection**
  - Exports the current agent configuration set to an XML file
- **Import Agent Collection**
  - Imports a configuration set from a previous export
- **Add New Loading Agent**
  - Create a new Agent definition entry.

Registering a new SOAPSonar Agent to be eligible for allocation to a test is a simple matter of providing a display name for the Agent, the IP address of the Agent and the Communication Port that is defined on that instance (default = 9570).



2.1.1 Adding Agents to a Performance Test

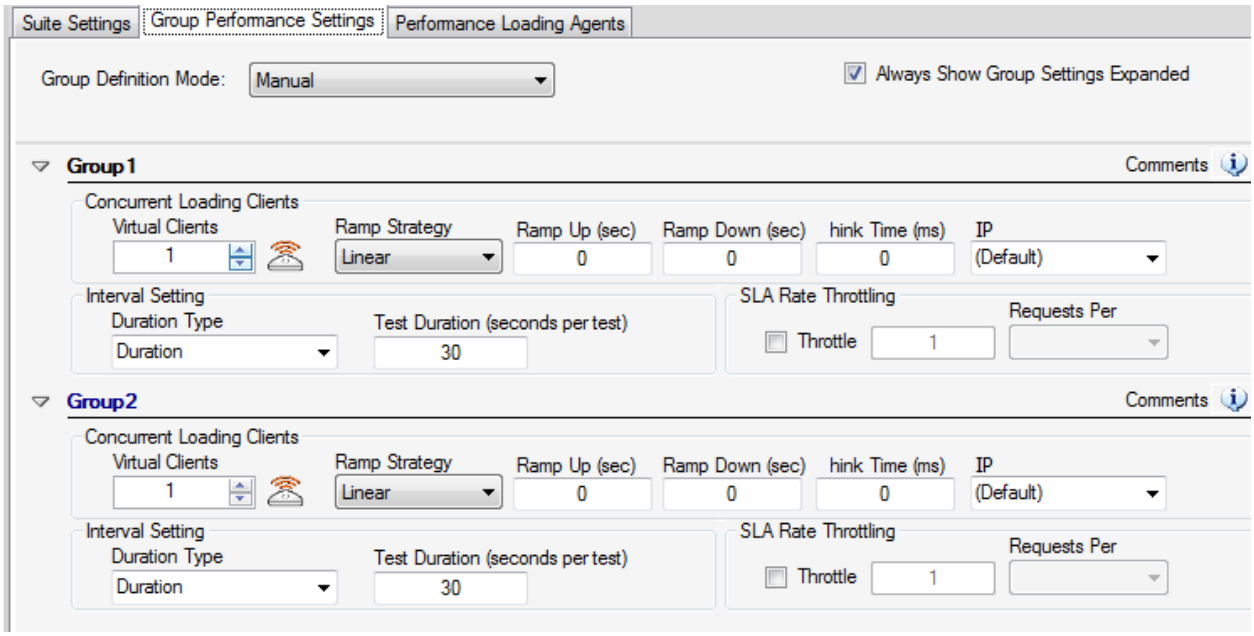
Agents can be added to a performance test from the Run View screen when in Performance Mode. The **Performance Loading Agents** tab presents the options to import, export, and add agent definitions and also to allocate the default Agent set defined from the "Agents->Configure Performance Agents" menu. The agents can be enabled and disabled from this view to determine whether they should be included in the loading distribution.



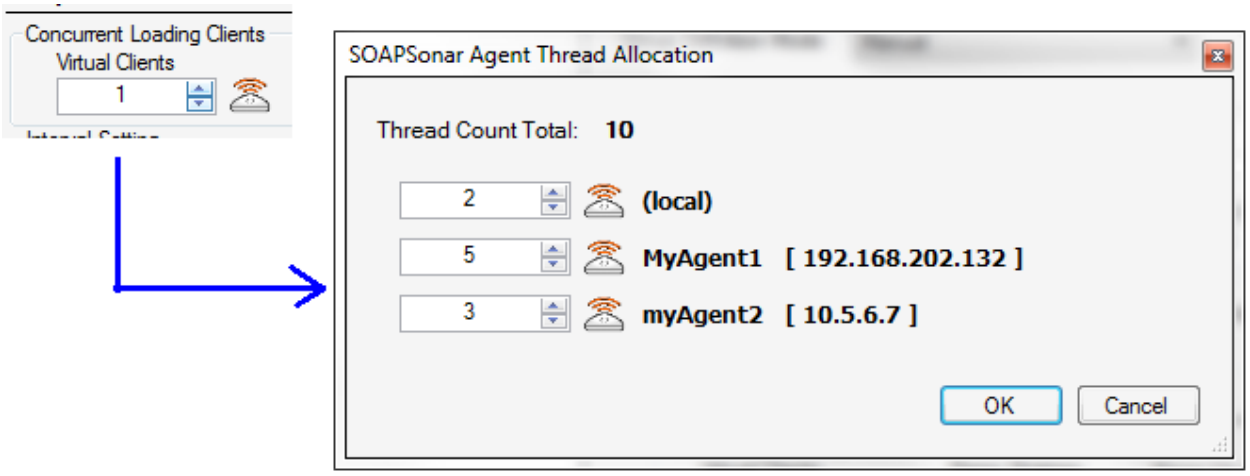
The default embedded agent is called "Local Agent" and is always included and enabled.

2.1.2 Allocating Virtual Users (threads) to the Agents

Virtual Clients (also referred to as Virtual Users) are allocated from the Group Performance Settings.



When there are distributed loading agents allocated and enabled for the current test suite, the Virtual Client settings are configured from the Virtual Clients configuration popup either by modifying the number, or by clicking on the “Allocate Agents per Thread” icon:

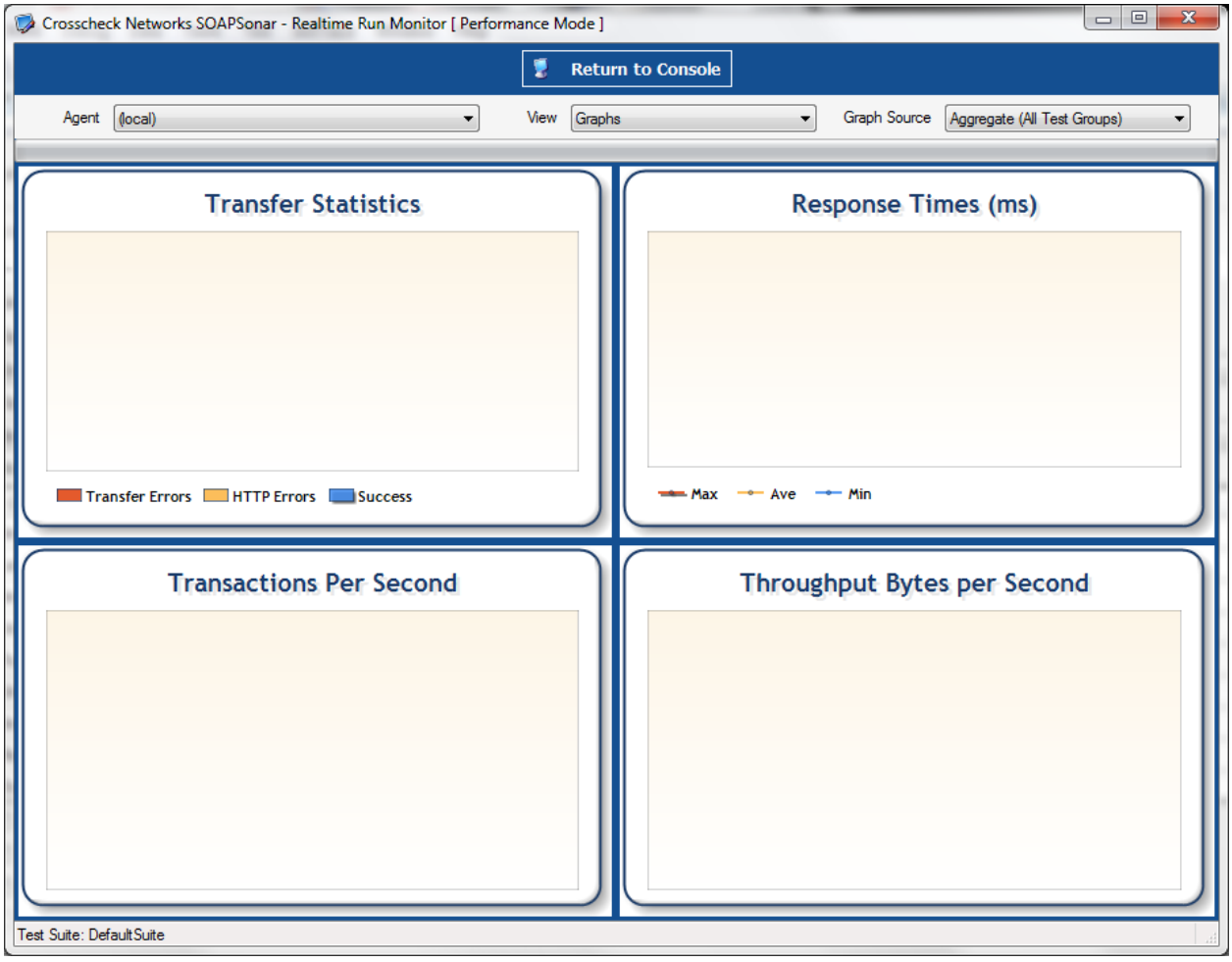


2.1.3 Realtime Run Monitor Statistics with Allocated Agents

When running tests with distributed agents, the Realtime Run Monitor will show options to enable viewing status and statistics by Agent, by Test Group, and also allow you to view information Graphs and Console outputs.

Options include:

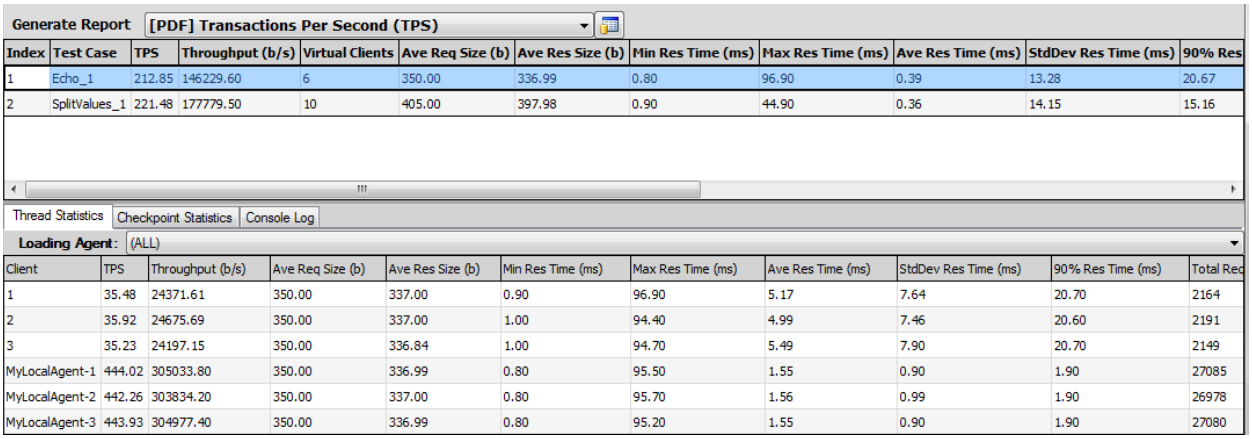
- **Agent**
  - Filter by results per Agent
- **View**
  - Show Graph information or Console Output
- **Graph Source**
  - Show aggregate results, or per Test Group results



2.1.3 Report View Statistics and Information from Distributed Agent Performance Run

After running a performance test with allocated loading agents, the aggregated results will appear in Report View. When viewing the performance test information, the details of each test are further broken down into the following categories:

- **Thread Statistics (Virtual Users)**
  - Individual metrics from each virtual user (thread)
- **Checkpoint Statistics**
  - Statistics from the test run as measured each checkpoint interval
- **Console Log**
  - The console output from each agent



Index	Test Case	TPS	Throughput (b/s)	Virtual Clients	Ave Req Size (b)	Ave Res Size (b)	Min Res Time (ms)	Max Res Time (ms)	Ave Res Time (ms)	StdDev Res Time (ms)	90% Res
1	Echo_1	212.85	146229.60	6	350.00	336.99	0.80	96.90	0.39	13.28	20.67
2	SplitValues_1	221.48	177779.50	10	405.00	397.98	0.90	44.90	0.36	14.15	15.16

Client	TPS	Throughput (b/s)	Ave Req Size (b)	Ave Res Size (b)	Min Res Time (ms)	Max Res Time (ms)	Ave Res Time (ms)	StdDev Res Time (ms)	90% Res Time (ms)	Total Req
1	35.48	24371.61	350.00	337.00	0.90	96.90	5.17	7.64	20.70	2164
2	35.92	24675.69	350.00	337.00	1.00	94.40	4.99	7.46	20.60	2191
3	35.23	24197.15	350.00	336.84	1.00	94.70	5.49	7.90	20.70	2149
MyLocalAgent-1	444.02	305033.80	350.00	336.99	0.80	95.50	1.55	0.90	1.90	27085
MyLocalAgent-2	442.26	303834.20	350.00	337.00	0.80	95.70	1.56	0.99	1.90	26978
MyLocalAgent-3	443.93	304977.40	350.00	336.99	0.80	95.20	1.55	0.90	1.90	27080

Grid information can be exported via right-click and selecting “Export to CSV”, “Export to Excel”, or “Export to HTML” options.