Spirent **MethodologyCenter**

Web Application for Network Answers

Features

- Web application offering a growing library of common, standardized test scenarios, such as RFC 2544, RFC 2889, RFC 3918, RFC 6349, Y.1564, BGP Route Reflector, QoS, Access, Routing, IPTV

- Intuitive and simple user interface for rapid test configuration and easy sharing of saved test configurations for later re-use

- Easy-to-read, interactive, real-time reports for finding the root cause of network problems

- Compatible with Spirent TestCenter hardware and virtual ports

- Unique NFV feature providing visibility into OpenStack resource utilization

Benefits

- Simplified testing experience

- Share expertise easily with novice users by publishing your own methodologies

- Application up and running with minimal investment through the use of virtual technology

- Compatible with existing Spirent hardware

Overview

Spirent MethodologyCenter is a web application that provides scenario-based testing for Spirent TestCenter hardware or virtual ports to get network answers faster without requiring detailed knowledge of the underlying test tool. With this flexible, easy-to-configure solution, test scenarios can be run from any popular browser.

MethodologyCenter test scenarios can be quickly configured and run on any Windows, Linux, or MacOS device including laptops and tablets, to answer your performance, scale, and network configuration questions. The methodologies are grouped into packages, such as benchmarking, Quality of Service, and compliance, with new scenarios and packages added regularly.
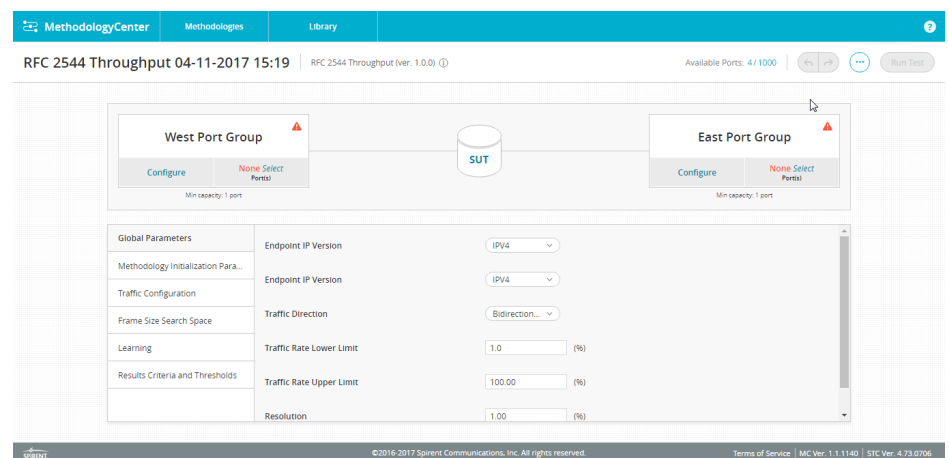

Figure 1 Configuring Spirent MethodologyCenter

Spirent Test Methodologies

Methodologies are available as test templates which can be quickly customized for specific test scenarios. MethodologyCenter offers over 50 methodologies covering the most common test scenarios including:

- RFC 2544 Forwarding Benchmarking (shown in Figure 1)
- RFC 2889 Switching Benchmarking
- Routing Protocol Scale and Performance
- Access Protocol Scale and Performance
- IPTV
- QoS
- RFC 3918 Multicast Benchmarking
- RFC 6349 TCP Throughput Performance
- Y.1564 SLA Validation
- RFC 6349 TCP Throughput Measurement

Reports

Real-time results are displayed both graphically and numerically while the test is running. After test completion, a detailed test report is generated with pass or fail, high-level results for the test as a whole, as well as drill-down details for specific iterations or sub-tests. Reports can be saved in PDF, XLS, or DOC formats for easy editing or sharing. Company logo or DUT image can be uploaded to customize reports.

Custom Methodologies

Custom methodologies bring efficiency and increased productivity into the testing ecosystem, where expert users create test configurations via the Spirent TestCenter interface. The new configuration is exported from Spirent TestCenter and imported into MethodologyCenter. The generated methodology can then be used from any browser to immediately execute the test, or modify various parameters such as port locations to run in a different environment.

This workflow is perfect for expert users who wish to pass on their Spirent TestCenter knowledge to novice users, whose primary role is to manually execute tests and review pass or fail reports.
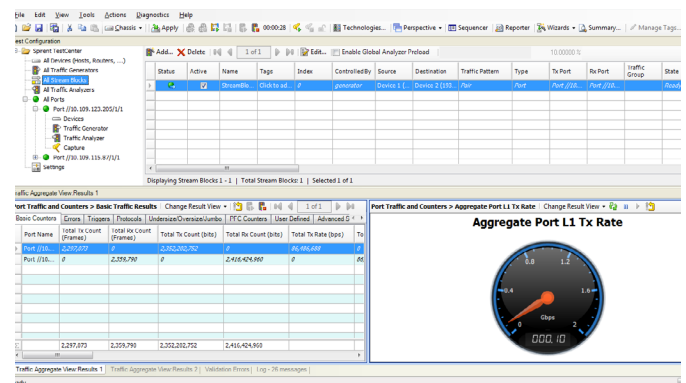

Figure 2 Using the STC GUI to produce methodologies.

Automation

Execution of methodology tests can be automated via the REST API available within MethodologyCenter. The supporting Temeva environment could also be automated using other languages including Python, Tcl and Perl among others.
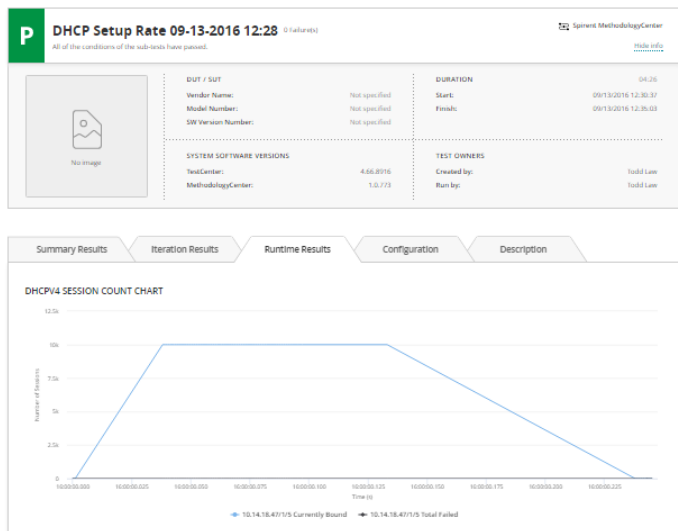

Figure 3 Example Report from MethodologyCenter

VNF Benchmarking

MethodologyCenter can be used to evaluate the performance of dedicated networking devices, as well as virtual network functions.

When used to evaluate virtual switches or VNFs in an OpenStack environment, MethodologyCenter can be optionally equipped with a unique NFVi Statistics feature which provides visibility into the underlying infrastructure. Specifically, metrics such as CPU utilization, memory utilization, cache hits, etc., are displayed while tests are running and in the end-of-test reports.

VNF NFVI Metrics: CPU Utilization, Memory Utilization, Network I/O for virtual interfaces, Cache hits, disk read request rate, disk write request rate, disk read requests, disk read writes, disk read request bytes, disk write request bytes

vSwitch NFVI Metrics: CPU Utilization, Network I/O for virtual interfaces

Host Metrics: CPU Utilization, Memory Utilization

Extended NIC DPDK Statistics

Fault Isolation

In addition to collecting numerous statistics for NFV, MethodologyCenter also automatically analyzes the metrics to assist with identifying correlations between such metrics and network performance.

Technical Specifications	
Methodology Packs	Methodologies
Utility	Ping
QoS	L2 QoS VLAN Scale L2 QoS VLAN Validation L3 QoS DSCP IPv4 Validation L3 QoS DSCP IPv6 Validation
RFC 2544	Back-to-Back Frame Loss Latency Throughput
RFC 2889	Address Caching Capacity Address Learning Rate Broadcast Frame Forwarding Broadcast Latency Errored Frames Filtering Forwarding Rate Forward Pressure Maximum Forwarding Rate
RFC 3918	Aggregate Multicast Throughput Multicast Latency Scaled Group Forwarding Matrix
RFC 6349	RFC 6349 TCP Throughput
vSwitch Benchmarking	vSwitch Benchmarking Flow Scale vSwitch Benchmarking Initial Packet Processing Latency vSwitch Benchmarking Performance Consistency vSwitch Benchmarking Throughput and Latency Profile
Y.1564	Y.1564 Service Configuration and Performance
Access	DHCP-PD over PPPoE Setup Rate DHCP-PD over PPPoE Session Scale DHCP Setup Rate DHCP Session Scale IPTV Multi-Channel PPPoL2TP v2 Session Rate PPPoL2TPv2 Scale PPPoE Session Rate PPPoE Session Scale SLAAC Setup Rate SLAAC Session Scale
BGP Route Reflector	BGP Route Reflector Import BGP Route Reflector IPv4 Route Import BGP Route Reflector IPv6 Route Import BGP Route Reflector IPv6 Route Scale
Convergence	ISIS Convergence ISIS SR TE Convergence
Routing	BGP (IPv4) Scale Benchmark BGP (IPv6) Scale Benchmark ISIS (IPv4) Scale Benchmark ISIS (IPv6) Scale Benchmark OSPFv2 Scale Benchmark OSPFv3 Scale Benchmark

About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks.

We help bring clarity to increasingly complex technological and business challenges.

Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled.

For more information, visit: www.spirent.com

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Ordering Information	
Description	Part Number
RFC 2544 Methodology Pack – 1 Year	TMV-MC-2544PACK-1YR
RFC 2544 Methodology Pack – Perpetual	TMV-MC-2544PACK-P
RFC 2889 Methodology Pack – 1 Year	TMV-MC-2889PACK-1YR
RFC 2889 Methodology Pack – Perpetual	TMV-MC-2889PACK-P
RFC 3918 Methodology Pack – 1 Year	TMV-MC-3918PACK-1YR
RFC 3918 Methodology Pack – Perpetual	TMV-MC-3918PACK-P
RFC 6349 Methodology Pack – 1 Year	TMV-MC-6349PACK-1YR
RFC 6349 Methodology Pack - Perpetual	TMV-MC-6349PACK-P
Access Methodology Pack – 1 Year	TMV-MC-ACCESSPACK-1YR
Access Methodology Pack – Perpetual	TMV-MC-ACCESSPACK-P
BGP Route Reflector Methodology Pack – 1 Year	TMV-MC-BGPRRPACK-1YR
BGP Route Reflector Methodology Pack – Perpetual	TMV-MC-BGPRRPACK-P
Convergence Methodology Pack – 1 Year	TMV-MC-CONVERGEN-CEPACK-1YR
Convergence Methodology Pack – Perpetual	TMV-MC-CONVERGENCEPACK-P
QoS Methodology Pack – 1 Year	TMV-MC-QOSPACK-1YR
QoS Methodology Pack – Perpetual	TMV-MC-QOSPACK-P
Routing Methodology Pack – 1 Year	TMV-MC-ROUTINGPACK-1YR
Routing Methodology Pack – Perpetual	TMV-MC-ROUTINGPACK-P
vSwitch Benchmarking Methodology Pack – 1 Year	TMV-MC-VSWITCHPACK-1YR
vSwitch Benchmarking Methodology Pack – Perpetual	TMV-MC-VSWITCHPACK-P
Y.1564 Methodology Pack – 1 Year	TMV-MC-Y1564PACK-1YR
Y.1564 Methodology Pack – Perpetual	TMV-MC-Y1564PACK-P
Forwarding Tier – includes TMV-MC-2544PACK-1YR, TMV-2889PACK-1YR, TMV-MC-3918PACK-1YR, TMV-MC-6349PACK-1YR, TMV-MC-QOSPACK-1YR TMV-MC-Y1564PACK-1YR	TMV-MC-FWDTIER-1YR
Forwarding Tier with NFVi Stats – includes TMV-MC-2544PACK-1YR, TMV-2889PACK-1YR, TMV-MC-3918PACK-1YR, TMV-MC-6349PACK-1YR, TMV-MC-QOSPACK-1YR, TMV-MC-Y1564PACK-1YR, TMV-MC-VSWITCHPACK-1YR and NFVi Statistics Feature	TMV-MC-FWDVNTIER-1YR
Control Plane Tier – includes TMV-MC-2544PACK-1YR, TMV-2889PACK-1YR, TMV-MC-3918PACK-1YR, TMV-MC-6349PACK-1YR, TMV-MC-QOSPACK-1YR, TMV-MC-Y1564PACK-1YR, TMV-MC-ACCESSPACK-1YR, TMV-MC-BGPRRPACK-1YR, TMV-MC-RTGCVG-PACK-1YR	TMV-MC-VNFTIER-1YR
Control Plane Tier with NFVi Stats – includes TMV-MC-2544PACK-1YR, TMV-2889PACK-1YR, TMV-MC-3918PACK-1YR, TMV-MC-6349PACK-1YR, TMV-MC-QOSPACK-1YR, TMV-MC-Y1564PACK-1YR, TMV-MC-VSWITCHPACK-1YR, TMV-MC-ACCESSPACK-1YR, TMV-MC-BGPRRPACK-1YR, TMV-MC-RTGCVGPACK-1YR and NFVi Statistics Feature	TMV-MC-VNFNSTIER-1YR